

# CONTA CLIP

## **CORD GRIPS**



## Your Reliable Partner...

Over the years, CONTA-CLIP has gained recognition as a leading manufacturer of innovative products which provide solutions for electrical and electronic interconnection applications. Today, as your global partner, CONTA-CLIP serves international markets offering a diverse Product Program of Control Components which is supplied and supported through our worldwide network of subsidiaries and agencies.

### **Cord Grips**

This catalog describes one of the most comprehensive selections of Cord Grips offered to industry. From standard to special applications, CONTA-CLIP can supply an unparalleled line of high quality Cord Grips to satisfy practically any requirement. Providing cable protection solutions that range from single cable straight through, bend and pull/bend protection, increased strain relief, flat and multi-cable to EMI/RFI protection. An extensive selection of accessories complement our Cord Grip program, providing additional possibilities for your applications.

### **Our Goal and Commitment**

CONTA-CLIP's goal is fundamental...provide our worldwide customer base with top quality products, back them with outstanding service and support and deliver these products on time to meet our customers' needs...all at fair prices.

To accomplish our objective, we form close relationships with customers and suppliers alike. We select and purchase only the very best raw materials from quality oriented suppliers. We utilize the most up-to-date manufacturing equipment and use advanced manufacturing methods, which are continuously monitored and verified by our strict quality control program. And, most importantly, we employ knowledgeable and well-trained personnel who are dedicated to achieving excellence in everything they do. Nothing can distract us from our primary commitment of addressing and satisfying the needs of our customers. This objective has motivated us since the founding of our company over 30 years ago; and, it continues to drive us today. In the future, it will ensure our success.

**Doing business with CONTA-CLIP,  
your reliable partner, will be a  
pleasant and rewarding experience.**

*CONTA-CLIP Manufacturing Plant*



## The Keys to Manufacturing Quality Cord Grips



Since our founding in 1977, an outstanding Quality Control Program has been the basis for our success. In 1994 CONTA-CLIP's Quality Management System received DIN EN ISO 9001 Certification. Meticulous quality control personnel and an advanced manufacturing system used to produce metal and non-metallic Cord Grips enables us to consistently meet or exceed our strict quality requirements.

Continuous product monitoring and testing combined with superior manufacturing translate into unsurpassed product quality.



We carefully select and purchase our raw materials only from quality oriented suppliers. The efficient flow of our production process starts with large stockpiles of plastic and metal raw materials. This enables us to call upon these resources whenever our customers experience unexpected peak demands and require quick turn-around production runs.

Our production facilities feature the most up to date injection molding machines, as well as highly advanced computer controlled multi-spindle lathes. Molding tools are designed, built and maintained in house to ensure precision manufacturing of every plastic part.



Our modern production equipment, skilled personnel and advanced manufacturing methods coupled with our ISO 9001 Certified Quality System enables us to deliver Cord Grips of unsurpassed quality at competitive pricing.

Partnering with  **PFLITSCH**



More than 800 components made from mass produced articles individual solutions for plant construction, equipment technology, data communication, traffic and building engineering.

Assembly aids, rational tools and machinery optimize how PFLITSCH products are made up and assembled.

Still more rationalization and cost transparency brings PFLITSCH into the sphere of services: From planning, make-up right up to assembly, users can configure their very own best possible economy solution.

Over 85 years of market experience stands behind PFLITSCH's innovations. A total of 12,000 system parts are the result of objective-oriented development and precise market observation. A good 150 highly qualified and well committed staff realize exactly fitting and rational results – together with the particular user concerned.



 **PFLITSCH**

Partnering with



Founded in Hamburg in 1919, WISKA Hoppmann & Mulsow GmbH is still to this day an independent family owned company. With over a hundred employees working here at our present headquarters in Kaltenkirchen, we develop and produce Cable Accessory Systems as well as Maritime Lighting & Electrical Equipment for an international clientele.

Our origins lie in shipbuilding. Ships throughout the world have been using WISKA products for 87 years now. Meaning that the standards by which we develop our products have been set by the rugged conditions of life at sea. Our products have to be capable of withstanding mechanical stress and must reliably protect electrical installations from damp and dirt. So that power can flow without hindrance.

Safety and user-friendliness take top priority in electrical installation. That is why WISKA products meet the most stringent stability and seal requirements. Proving we have some knowledge of the electrical engineering, we also supply innovative products whose practical details make the work of installation not only safer, but faster.

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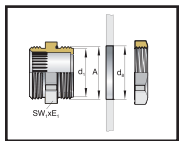
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## General Information

Cord Grips play a key role in the design of modern electrical/electronic products and control systems.

The Cord Grip designs and the alternate construction materials presented in this catalog represent the latest advances in Cord Grip Technology.

Cord Grips are used in combination with enclosures/housings and power, control and data cabling to:

- provide liquid-tight and dust proof seals at enclosures/housing entry points.
- secure cabling mechanically to an enclosure/housing.
- provide strain relief at termination points on components and devices.
- protect cabling from breakage or damage at entry points.
- provide EMI/RFI Emission and Immunity protection for shielded cables and enclosures/housings.

CONTA-CLIP's comprehensive Cord Grip Program provides users and specifiers with a broad range of selection choices and options. This ordering flexibility translates into the capability to select the Cord Grip Function that will satisfy specific application requirements and to optimize the Cord Grip Material Selection to meet the most severe ambient conditions.

CONTA-CLIP Cord Grips can help ensure that your product or control systems will meet or exceed its design objectives as well as helping to provide the long term reliability you are seeking.



**Straight Through**  
High Performance,  
Standard and Marine



**Bend Protection**  
High Performance  
and Standard



**Increased Strain Relief**  
High Performance  
and Standard



**Increased Strain Relief  
and Bend Protection**  
High Performance



**Flat Cable**  
High Performance



**Multi-Cable**  
High Performance  
and Standard



**EMI/RFI**  
High Performance,  
Standard and Marine



**90° Elbow**  
High Performance



**blueglobe®**  
High Performance

## Installation

No disassembly of the Cord Grip is required prior to installation except for High Performance, Standard and Marine EMI/RFI Cord Grips.

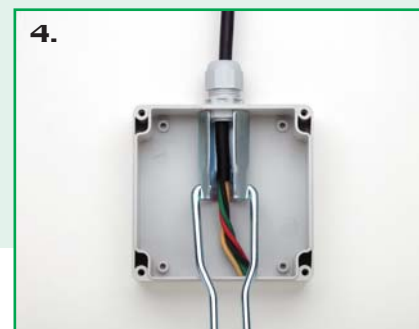
Cord Grips can be installed into threaded or non-threaded mounting holes. We have listed the required mounting hole diameter for Cord Grip installation into non-threaded mounting holes on each ordering page.

### Installation into non-threaded mounting holes:

1. Drill or machine required clearance hole into enclosure/housing.
2. Install Cord Grip into mounting hole.
3. Secure with Locknut and torque to recommended value.
4. Feed cable through Cord Grip and adjust length inside enclosure/housing to reach termination point. Tighten Dome Nut to recommended torque value.

### Note:

When Cord Grips are mounted into a threaded mounting hole, torque Cord Grip body to the recommended torque value for External Thread.



### High Performance

#### Body Materials

- Polyamide (PA)
- Polyvinylidene (PVDF)
- Nickel Plated Brass (NPB)
- Stainless Steel (SS)

#### High Performance Tubular Insert Materials

- Thermoplastic Elastomer (TPE)
- Thermoplastic Elastomer Cross Linked (TPE-V)
- Silicone (SIL)

#### Standard Body Materials

- Polyamide (PA)
- Nickel Plated Brass (NPB)
- Stainless Steel (SS)

#### Standard Insert Materials

- Thermoplastic Elastomer (TPE)
- Ethylene Propylene Caoutchouc (EPDM)
- Soft Rubber (SR)

#### Marine Body Materials

- Nickel Plated Brass (NPB)
- Chrome Plated Brass (CPB)
- Brass (BR)

### Marine Insert Materials

- Ethylene Propylene Caoutchouc (EPDM)

### Econolite Body Materials

- Polystyrene (PS)
- Nickel Plated Brass (NPB)

### Econolite Insert Materials

- Soft Rubber (SR)

### Protection Rating

- Up to IP68

### Pressure Rating

- Up to 15Bar (215psi)

### Temperature Rating

The temperature rating of our Cord Grips is determined by the Body and Insert materials used.

The temperature rating is listed on every ordering page.

### External Thread

Our Cord Grips are available in three different External Thread Sizes.

- Metric
- PG
- NPT

### Cable Diameter

Each Cord Grip accommodates a wide range of cable diameters. Please refer to the cable diameter column on each ordering page.

### Torque Recommendations

The recommended tightening torque for each Cord Grip is listed on page 327.

### External Thread Dimensions

The dimensions for Metric, PG and NPT External Thread Sizes are listed on page 326.

### Accessories

An extensive selection of accessories complement our Cord Grip program, proving additional possibilities for your applications. Accessories include:

- Locknuts
- Seal Rings
- Sealing Plugs
- Socket Wrenches
- Reductions
- Enlargers
- Adapters
- Threaded Plugs

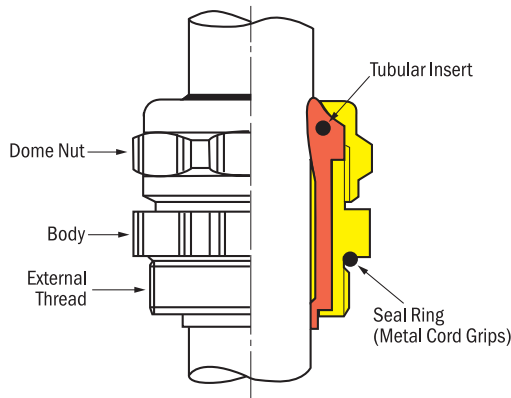
## High Performance Cord Grips

Engineers' Number One Choice for Demanding Applications, Tough Environments and Special Requirements

High Performance Cord Grips are outstanding performers, providing a superior liquid-tight seal in a variety of materials and functions to meet any requirement.

- Outstanding Performance
- Superior Liquid-Tight Seal
- 10 Functional Designs
- 4 Body/3 Insert Material Combinations

### High Performance Cord Grips Components



#### Specifications

##### Body Materials

Polyamide (PA)  
 Polyvinylidene (PVDF)  
 Nickel Plated Brass (NPB)  
 Stainless Steel (SS)

##### Insert Materials

Thermoplastic Elastomer (TPE)  
 Thermoplastic Elastomer Cross Linked (TPE-V)  
 Silicone (SIL)

##### External Thread Sizes

European Standard  
 Metric M6 to M120  
 European Standard  
 PG7 to PG48  
 US National Pipe Thread  
 NPT3/8" to NPT2"

##### Ratings

Protection: Up to IP68  
 (NEMA 4X)  
 Pressure: UP to 15Bar  
 (215psi)

#### Sealing Feature

Outstanding construction details not found in conventional Sealing Inserts mean the highest quality seal possible:

- Tubular Sealing Insert extends entire length of Body for Superior Liquid-Tight Seal.



- Tubular Sealing Insert outer surface is knurled to provide a tight interlock with knurled inner surface of Body to prevent rotation of Insert and Cable when the Cord Grip Dome Nut is tightened.



- Tubular Sealing Insert membrane has a reduced diameter to provide IP54 (NEMA13) Protection Rating even when the Cord Grip Dome Nut is not tightened.



## High Performance Cord Grip Functions

All High Performance Cord Grips provide superior liquid-tight seals and strain relief at cable entry points. Applications requiring special materials and functions can be met with our High Performance Cord Grip Series.

### Straight Through Metric & PG External Thread

Provide a liquid-tight seal and strain relief for round cables and cords.



### Increased Strain Relief Metric, PG & NPT External Thread

Provide a liquid-tight seal and resist higher pull-out forces. Use for round cables and cords.



### Bend Protection Spring Metric, PG & NPT External Thread

Provide a liquid-tight seal, strain relief and prevent sharp bending or kinking of round cables and cords.



### Multi-Cable Metric, PG & NPT External Thread

Provide a liquid-tight seal and strain relief for one or more cables and cords of the same or different diameters.



### Straight Through NPT External Thread

Provide a liquid-tight seal and strain relief for round cables and cords.



### Bend Protection Metric, PG & NPT External Thread

Provide a liquid-tight seal, strain relief and prevent sharp bending or kinking of round cables and cords.



### Pull Protection Metric, PG & NPT External Thread

Provide a liquid-tight seal and maximum strain relief for round cables or cords.



### Flat Cable Metric, PG & NPT External Thread

Provide a liquid-tight seal and strain relief. Inserts are available with rounded or oval corners to ensure the best possible seal.



### Straight Through *blueglobe*<sup>®</sup> Metric External Thread

Provide widest sealing range, maximum strain relief and exceptional liquid-tight seal for round cables and cords.



### Increased Strain Relief and Bend Protection Metric, PG & NPT External Thread

Provide a liquid-tight seal, resist higher pull-out forces and prevent sharp bending or kinking of round cables and cords.



### 90° Elbow Metric & PG External Thread

Designed to protect cables and cords when a 90 degree installation is required. They provide a liquid-tight seal and strain relief for round cables and cords.



### EMI/RFI Metric, PG & NPT External Thread

Provide a liquid-tight seal and shielding against electromagnetic and radio frequency interference. Use for round, shielded cables and cords.



## Straight Through – Metric External Thread

### Polyamide



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings and Locknuts Separately
- Standard Colors: Beige or Black

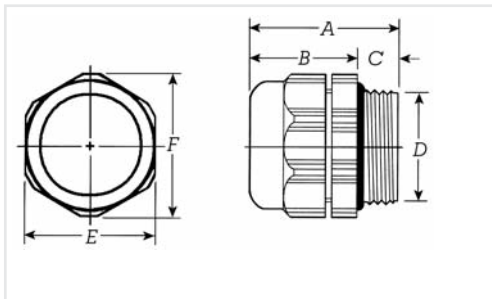
### Polyamide (PA) Beige



### With Thermoplastic Elastomer (TPE) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	25000.0
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	25001.0
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	25002.0
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	25003.0
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	25004.0
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	25005.0
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	25006.0
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	25007.0
M20x1.5	9.0-13.5	(.35-.53)	20.0	(.79)	50	Red	25008.0
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	25009.0
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	25010.0
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	25011.0
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	25012.0
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	25013.0
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	25014.0
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	25015.0
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	25016.0
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	25017.0
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	25018.0
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	25019.0
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	25020.0
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	25021.0
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	25022.0
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	25023.0
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	25024.0
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	Dark Gray	25025.0
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	25026.0
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	25027.0



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M12x1.5	30.0 (1.18)	22.0 (.87)	8.0 (.31)	12.0 (.47)	15.0 (.59)	16.2 (.64)
M16x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	16.0 (.63)	19.0 (.75)	21.0 (.83)
M20x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	20.0 (.79)	24.0 (.94)	26.5 (1.04)
M25x1.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	25.0 (.98)	30.0 (1.18)	33.5 (1.32)
M32x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	32.0 (1.26)	36.0 (1.42)	39.5 (1.56)
M40x1.5	45.5 (1.79)	34.0 (1.34)	11.5 (.45)	40.0 (1.57)	46.0 (1.81)	50.0 (1.97)
M50x1.5	48.0 (1.89)	34.0 (1.34)	14.0 (.55)	50.0 (1.97)	56.0 (2.20)	61.0 (2.40)

**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

Polyamide (PA)
Thermoplastic Elastomer (TPE)
-20 to 100°C (-4 to 212°F)
-40 to 130°C (-40 to 266°F)
Various

Sealing Insert Color	Cat. No. Black
Yellow	25040.1
Yellow	25041.1
Gray	25042.1
Black	25043.1
Yellow	25044.1
Gray	25045.1
Black	25046.1
Green	25047.1
Red	25048.1
Yellow	25049.1
Gray	25050.1
Black	25051.1
Green	25052.1
Red	25053.1
White	25054.1
Green	25055.1
Red	25056.1
White	25057.1
Blue	25058.1
Brown	25059.1
White	25060.1
Blue	25061.1
Brown	25062.1
Orange	25063.1
Light Yellow	25064.1
Dark Gray	25065.1
Light Blue	25066.1
Rose	25067.1

**Locknuts (PA)**



**Order Separately**

<b>Material</b>			
Polyamide (PA)			
<b>Temperature Range</b>			
-20 to 100°C (-4 to 212°F)			
<b>Color</b>			
Light Gray and Black			
	<b>Cat. No.</b>		<b>Std.</b>
<b>Size</b>	<b>L. Gray</b>	<b>Black</b>	<b>Pk.</b>
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25515.9	25725.9	50
M50x1.5	25516.9	25726.9	25

**Seal Rings (PET)**



**Order Separately**

<b>Material</b>		
Polyethylene (PET)		
<b>Temperature Range</b>		
-20 to 100°C (-4 to 212°F)		
<b>Color</b>		
Opaque		
	<b>Cat. No.</b>	<b>Std.</b>
<b>Size</b>		<b>Pk.</b>
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50
M50	25736.9	50

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

High Performance Cord Grips

## Straight Through – Metric External Thread Polyvinylidene (PVDF)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Order Seal Rings and Locknuts Separately
- Optional Centellen High/Low Temperature Seal Rings See Page 299
- Standard Colors: Opaque or Black

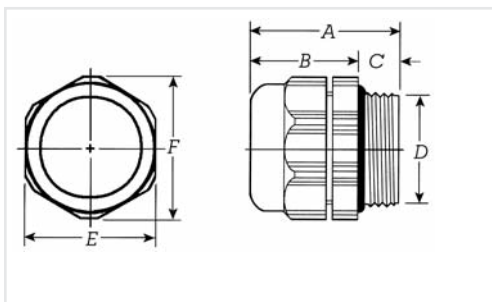
## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color		Cat. No.	
	mm	(in.)	mm	(in.)		Opaque	Black		
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	25160.4	25200.5	
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	25161.4	25201.5	
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	25162.4	25202.5	
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	25163.4	25203.5	
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	25164.4	25204.5	
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	25165.4	25205.5	
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	25166.4	25206.5	
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	25167.4	25207.5	
M20x1.5	9.0-13.5	(.35-.53)	20.0	(.79)	50	Red	25168.4	25208.5	
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	25169.4	25209.5	
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	25170.4	25210.5	
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	25171.4	25211.5	
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	25172.4	25212.5	
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	25173.4	25213.5	
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	25174.4	25214.5	
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	25175.4	25215.5	
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	25176.4	25216.5	
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	25177.4	25217.5	
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	25178.4	25218.5	
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	25179.4	25219.5	
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	25180.4	25220.5	
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	25181.4	25221.5	
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	25182.4	25222.5	
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	25183.4	25223.5	
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	25184.4	25224.5	
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	Dark Gray	25185.4	25225.5	
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	25186.4	25226.5	
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	25187.4	25227.5	



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M12x1.5	30.0 (1.18)	22.0 (.87)	8.0 (.31)	12.0 (.47)	15.0 (.59)	16.2 (.64)
M16x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	16.0 (.63)	19.0 (.75)	21.0 (.83)
M20x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	20.0 (.79)	24.0 (.94)	26.5 (1.04)
M25x1.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	25.0 (.98)	29.0 (1.14)	31.5 (1.24)
M32x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	32.0 (1.26)	38.0 (1.50)	42.0 (1.65)
M40x1.5	45.5 (1.79)	34.0 (1.34)	11.5 (.45)	40.0 (1.57)	46.0 (1.81)	50.0 (1.97)
M50x1.5	48.0 (1.89)	34.0 (1.34)	14.0 (.55)	50.0 (1.97)	56.0 (2.20)	61.0 (2.40)

### Polyvinylidene (PVDF)



With Silicone (SIL)  
Tubular Sealing Insert

Polyvinylidene (PVDF)

Silicone (SIL)

-40 to 150°C (-40 to 302°F)

-60 to 200°C (-65 to 392°F)

Opaque

**Cat. No.**

**Opaque**

**Black**

25320.4	25360.5
25321.4	25361.5
25322.4	25362.5
25323.4	25363.5
25324.4	25364.5
25325.4	25365.5
25326.4	25366.5
25327.4	25367.5
25328.4	25368.5
25329.4	25369.5
25330.4	25370.5
25331.4	25371.5
25332.4	25372.5
25333.4	25373.5
25334.4	25374.5
25335.4	25375.5
25336.4	25376.5
25337.4	25377.5
25338.4	25378.5
25339.4	25379.5
25340.4	25380.5
25341.4	25381.5
25342.4	25382.5
25343.4	25383.5
25344.4	25384.5
25345.4	25385.5
25346.4	25386.5
25347.4	25387.5

### Locknuts (PA)



Order Separately

**Material**

Polyamide (PA)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Light Gray and Black

**Cat. No.**

**Std.**

Size	L. Gray	Black	Std. Pk.
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25515.9	25725.9	50
M50x1.5	25516.9	25726.9	25

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

### Seal Rings (PET)



Order Separately

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Opaque

**Size**

**Cat. No.**

**Std.**

Size	Cat. No.	Std. Pk.
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50
M50	25736.9	50

## Straight Through – Metric External Thread

### Nickel Plated Brass (NPB)

### with Thermoplastic Elastomer (TPE) Insert



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Neoprene Seal Rings  
Factory Installed
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Order Locknuts Separately

Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M6x.75	2.5-3.0	(.10-.12)	6.0	(.24)	50	White	25431.6
M8x1.0	3.0-4.5	(.12-.18)	8.0	(.31)	50	White	26900.6
M10x1.0	2.0-3.0	(.08-.18)	10.0	(.39)	50	White	26901.6
M10x1.0	2.5-4.0	(.10-.16)	10.0	(.39)	50	White	26902.6
M10x1.0	3.5-5.0	(.14-.20)	10.0	(.39)	50	White	26903.6
M10x1.0	4.0-6.5	(.16-.26)	10.0	(.39)	50	Yellow	26904.6
M10x1.5	2.0-3.0	(.08-.18)	10.0	(.39)	50	White	26911.6
M10x1.5	2.5-4.0	(.10-.16)	10.0	(.39)	50	White	26912.6
M10x1.5	3.5-5.0	(.14-.20)	10.0	(.39)	50	White	26913.6
M10x1.5	4.0-6.5	(.16-.26)	10.0	(.39)	50	Yellow	25400.6
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	25401.6
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	25402.6
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	25403.6
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	25404.6
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	25405.6
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	25406.6
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	25407.6
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	25408.6
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	25409.6
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	25410.6
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	25411.6
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	25412.6
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	25413.6
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	25414.6
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	25415.6
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	25416.6
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	25417.6
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	25418.6
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	25419.6
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	25420.6
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	25421.6
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	25422.6
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	25423.6
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	25424.6
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	25425.6
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	White	25426.6
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	25427.6
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	25428.6
M50x1.5	36.0-40.0	(1.42-1.57)	50.0	(1.97)	5	White	25429.6

Continued on page 24.

### Locknuts (NPB)

### Seal Rings (SIL)



Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Silicone (SIL)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

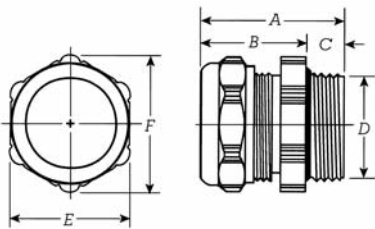
-60 to 200°C (-65 to 392°F)

**Color**

Red

Size	Cat. No.	Std. Pk.	Size	Cat. No.	Std. Pk.
M6x.75	97614.9	100	M6	97711.9	50
M8x1.0	97610.9	100	M8	97712.9	50
M10x1.0	97611.9	100	M10	97709.9	50
M10x1.5	97612.9	100	M12	97700.9	50
M12x1.5	25500.9	100	M16	97701.9	50
M16x1.5	25501.9	100	M20	97702.9	50
M20x1.5	25502.9	100	M25	97703.9	50
M25x1.5	25503.9	100	M32	97704.9	50
M32x1.5	25504.9	100	M40	97705.9	50
M40x1.5	25505.9	50	M50	97706.9	50
M50x1.5	25506.9	50			

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
M6x.75	18.3 (.72)	13.8 (.54)	4.5 (.18)	6.0 (.24)	8.0 (.31)	9.0 (.35)
M8x1.0	22.5 (.89)	15.5 (.61)	7.0 (.28)	8.0 (.31)	11.0 (.43)	12.2 (.48)
M10x1.0	24.5 (.96)	19.5 (.77)	5.0 (.20)	10.0 (.39)	14.0 (.55)	15.5 (.61)
M10x1.5	24.5 (.96)	19.5 (.77)	5.0 (.20)	10.0 (.39)	14.0 (.55)	15.5 (.61)
M12x1.5	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.0 (.47)	14.0 (.55)	15.5 (.61)
M16x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20x1.5	26.5 (1.04)	20.0 (.79)	6.5 (.26)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	28.5 (1.42)	21.0 (.83)	7.5 (.30)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)
M40x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	38.0 (1.50)	28.0 (1.10)	10.0 (.39)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)

## Straight Through – Metric External Thread

### Nickel Plated Brass (NPB)

### with Thermoplastic Elastomer-V (TPE-V) Insert



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Neoprene Seal Rings  
Factory Installed
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Order Locknuts Separately

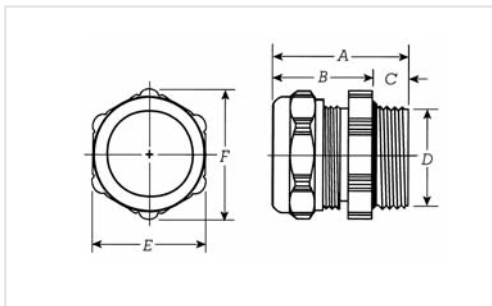
Nickel Plated Brass (NPB)



With Thermoplastic Elastomer-V (TPE-V)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer-V (TPE-V)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M63x1.5	40.0-45.0	(1.57-1.77)	63.0	(2.48)	1	26822.6
M63x1.5	45.0-51.0	(1.77-2.01)	63.0	(2.48)	1	26823.6
M63x1.5	51.0-56.0	(2.01-2.20)	63.0	(2.48)	1	26824.6
M72x2	40.0-45.0	(1.57-1.77)	72.0	(2.84)	1	26825.6
M72x2	45.0-51.0	(1.77-2.01)	72.0	(2.84)	1	26826.6
M72x2	51.0-56.0	(2.01-2.20)	72.0	(2.84)	1	26827.6
M75x1.5	42.0-47.0	(1.65-1.85)	75.0	(2.95)	1	26815.6
M75x1.5	45.0-42.0	(1.77-2.05)	75.0	(2.95)	1	26816.6
M75x1.5	51.0-55.0	(2.01-2.17)	75.0	(2.95)	1	26817.6
M75x1.5	54.0-58.0	(2.13-2.28)	75.0	(2.95)	1	26818.6
M80x2	52.0-57.0	(2.05-2.24)	80.0	(3.15)	1	26819.6
M80x2	58.0-64.0	(2.28-2.52)	80.0	(3.15)	1	26820.6
M80x2	63.0-70.0	(2.48-2.75)	80.0	(3.15)	1	26821.6
M90x2	69.0-76.0	(2.72-2.99)	90.0	(3.54)	1	26828.6
M90x2	75.0-85.0	(2.95-3.34)	90.0	(3.54)	1	26829.6
M100x2	69.0-76.0	(2.72-2.99)	100.0	(3.94)	1	26831.6
M100x2	75.0-85.0	(2.95-3.34)	100.0	(3.94)	1	26832.6
M100x2	76.0-90.0	(2.99-3.54)	100.0	(3.94)	1	26830.6
M120x2	90.0-100.0	(3.54-3.93)	120.0	(4.73)	1	26833.6
M120x2	100.0-110.0	(3.93-4.33)	120.0	(4.73)	1	26834.6



#### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M63x1.5	72.0 (2.83)	56.0 (2.20)	16.0 (.63)	63.0 (2.48)	68.0 (2.68)	74.0 (2.91)
M72x2	74.0 (2.91)	58.0 (2.28)	16.0 (.63)	72.0 (2.83)	81.0 (3.19)	87.0 (3.43)
M75x1.5	62.0 (2.44)	47.0 (1.85)	15.0 (.59)	75.0 (2.95)	81.0 (3.19)	87.0 (3.43)
M80x2	76.0 (2.99)	61.0 (2.40)	15.0 (.59)	80.0 (3.15)	95.0 (3.74)	102.0 (4.02)
M90x2	82.0 (3.22)	62.0 (2.44)	20.0 (.79)	90.0 (3.54)	120.0 (4.72)	128.0 (5.04)
M100x2	87.0 (3.43)	62.0 (2.44)	25.0 (.98)	100.0 (3.94)	120.0 (4.72)	128.0 (5.04)
M120x2	100.0 (3.93)	70.0 (2.76)	30.0 (1.18)	120.0 (4.73)	145.0 (5.71)	155.0 (6.10)



**Locknuts (NPB)**
**Seal Rings (SIL)**


Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Silicone (SIL)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-60 to 200°C (-65 to 392°F)

**Color**

Red

Size	Cat. No.	Std. Pk.	Size	Cat. No.	Std. Pk.
M63x1.5	25507.9	50	M63	97707.9	25
M75x1.5	25509.9	10	M75	97708.9	25
M80x2	97613.9	5	M80	97710.9	25
M90x2	97015.9	5	M90	97713.9	10
M100x2	97016.9	5	M100	97714.9	10
M120x2	97017.9	1			

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Straight Through – Metric External Thread

### Nickel Plated Brass (NPB) with Silicone (SIL) Insert



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Neoprene Seal Rings  
Factory Installed
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Order Locknuts Separately

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Silicone (SIL)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-60 to 200°C (-65 to 392°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Opaque

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M10x1.0	3.5-5.0	(.14-.20)	10.0	(.39)	50	25473.6
M10x1.0	4.0-6.5	(.16-.26)	10.0	(.39)	50	25481.6
M10x1.5	3.5-5.0	(.14-.20)	10.0	(.39)	50	25486.6
M10x1.5	4.0-6.5	(.16-.26)	10.0	(.39)	50	25499.6
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	25471.6
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	25472.6
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	25474.6
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	25475.6
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	25476.6
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	25477.6
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	25478.6
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	25479.6
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	25480.6
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	25482.6
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	25483.6
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	25484.6
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	25485.6
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	25487.6
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	25488.6
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	25489.6
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	25490.6
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	25491.6
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	25492.6
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	25493.6
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	25494.6
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	25495.6
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	25496.6
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	25497.6
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	25498.6

**Locknuts (NPB)**
**Seal Rings (SIL)**


Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Silicone (SIL)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

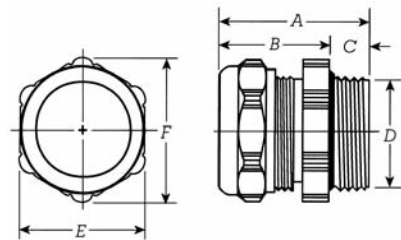
-60 to 200°C (-65 to 392°F)

**Color**

Red

Size	Cat. No.	Std. Pk.	Size	Cat. No.	Std. Pk.
M10x1.0	97611.9	100	M10	97709.9	50
M10x1.5	97612.9	100	M12	97700.9	50
M12x1.5	25500.9	100	M16	97701.9	50
M16x1.5	25501.9	100	M20	97702.9	50
M20x1.5	25502.9	100	M25	97703.9	50
M25x1.5	25503.9	100	M32	97704.9	50
M32x1.5	25504.9	100	M40	97705.9	50
M40x1.5	25505.9	50	M50	97706.9	50
M50x1.5	25506.9	50			

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings


**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
M10x1.0	24.5 (.96)	19.5 (.77)	5.0 (.20)	10.0 (.39)	14.0 (.55)	15.5 (.61)
M10x1.5	24.5 (.96)	19.5 (.77)	5.0 (.20)	10.0 (.39)	14.0 (.55)	15.5 (.61)
M12x1.5	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.0 (.47)	14.0 (.55)	15.5 (.61)
M16x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20x1.5	26.5 (1.04)	20.0 (.79)	6.5 (.26)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	28.5 (1.42)	21.0 (.83)	7.5 (.30)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)
M40x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	38.0 (1.50)	28.0 (1.10)	10.0 (.39)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)

**Straight Through –  
Metric External Thread 15mm (.59in.) Long  
Nickel Plated Brass (NPB)**



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Rings  
Factory Installed
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Order Locknuts Separately

**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	25401.6/15
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	25402.6/15
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	25403.6/15
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	25404.6/15
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	25405.6/15
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	25406.6/15
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	25407.6/15
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	25408.6/15
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	25409.6/15
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	25410.6/15
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	25411.6/15
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	25412.6/15
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	25413.6/15
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	25414.6/15
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	25415.6/15
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	25416.6/15
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	25417.6/15
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	25418.6/15
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	25419.6/15
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	25420.6/15
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	25421.6/15
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	25422.6/15
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	25423.6/15
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	25424.6/15
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	25425.6/15
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	Dark Gray	25426.6/15
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	25427.6/15
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	25428.6/15
M50x1.5	36.0-40.0	(1.42-1.57)	50.0	(1.97)	5	White	25429.6/15

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)

Opaque

**Cat. No.**

- 25471.6/15
- 25472.6/15
- 
- 25474.6/15
- 25475.6/15
- 25476.6/15
- 25477.6/15
- 25478.6/15
- 25479.6/15
- 25480.6/15
- 
- 25482.6/15
- 25483.6/15
- 25484.6/15
- 25485.6/15
- 
- 25487.6/15
- 25488.6/15
- 25489.6/15
- 25490.6/15
- 25491.6/15
- 25492.6/15
- 25493.6/15
- 25494.6/15
- 25495.6/15
- 25496.6/15
- 25497.6/15
- 25498.6/15
- 

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M12x1.5	25500.9	100
M16x1.5	25501.9	100
M20x1.5	25502.9	100
M25x1.5	25503.9	100
M32x1.5	25504.9	100
M40x1.5	25505.9	50
M50x1.5	25506.9	25

### Seal Rings (SIL)



Order Separately

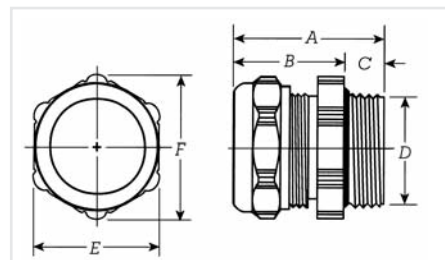
**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
M12	97700.9	50
M16	97701.9	50
M20	97702.9	50
M25	97703.9	50
M32	97704.9	50
M40	97705.9	50
M50	97706.9	50

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
M12x1.5	35.0 (1.38)	20.0 (.79)	15.0 (.59)	12.0 (.47)	14.0 (.55)	15.5 (.61)
M16x1.5	35.0 (1.38)	20.0 (.79)	15.0 (.59)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20x1.5	35.0 (1.38)	20.0 (.79)	15.0 (.59)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	36.0 (1.42)	21.0 (.83)	15.0 (.59)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	40.0 (1.57)	25.0 (.98)	15.0 (.59)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)
M40x1.5	40.0 (1.57)	25.0 (.98)	15.0 (.59)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	43.0 (1.69)	28.0 (1.10)	15.0 (.59)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)

## Straight Through – Metric External Thread 50mm (1.96in.) Long Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Rings  
Factory Installed
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Order Locknuts Separately

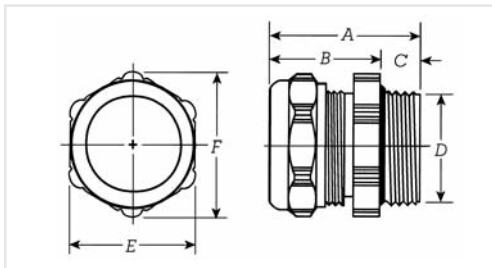
## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color		Cat. No.
	mm	(in.)	mm	(in.)		Insert Color	Cat. No.	
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	26950.6	
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	26951.6	
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	26952.6	
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	26953.6	
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	26954.6	
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	26955.6	
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	26956.6	
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	26957.6	
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	26958.6	
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	26959.6	
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	26960.6	
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	26961.6	
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	26962.6	
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	26963.6	
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	26964.6	
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	26965.6	
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	26966.6	
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	26967.6	
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	26968.6	
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	26969.6	
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	26970.6	



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M20x1.5	71.0 (2.80)	21.0 (.83)	50.0 (1.96)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	71.0 (2.80)	21.0 (.83)	50.0 (1.96)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	75.0 (2.95)	25.0 (.98)	50.0 (1.96)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)
M40x1.5	75.0 (2.95)	25.0 (.98)	50.0 (1.96)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Silicone (SIL)  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

**Cat. No.**

- 95030.6
- 
- 95032.6
- 95033.6
- 95034.6
- 95035.6
- 
- 95037.6
- 95038.6
- 95039.6
- 95040.6
- 
- 95042.6
- 95043.6
- 95044.6
- 95045.6
- 95046.6
- 95047.6
- 95048.6
- 95049.6
- 95050.6

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M20x1.5	25502.9	100
M25x1.5	25503.9	100
M32x1.5	25504.9	100
M40x1.5	25505.9	50

### Seal Rings (SIL)



Order Separately

**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
M20	97702.9	50
M25	97703.9	50
M32	97704.9	50
M40	97705.9	50

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Straight Through – Metric External Thread Stainless Steel (SS)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Seal Rings Factory Installed
- Order Locknuts Separately
- Optional 15mm (.59in.) Long External Thread
- Stainless Steel 1.4571 (316Ti) Upon Request

### Stainless Steel (SS) 1.4305 (303)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Stainless Steel (SS) 1.4305 (303)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Silicone (SIL)
Temperature Range	
<b>Body</b>	-60 to 500°C (-65 to 932°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-60 to 200°C (-65 to 392°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	95060.7
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	95061.7
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	95062.7
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	95063.7
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	Yellow	95064.7
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	50	Gray	95065.7
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	95066.7
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	95067.7
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	95068.7
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	50	Yellow	95069.7
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	50	Gray	95070.7
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	95071.7
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	95072.7
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	95073.7
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	95074.7
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	25	Green	95075.7
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	25	Red	95076.7
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	95077.7
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	95078.7
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	95079.7
M40x1.5	11.5-15.5	(.45-.61)	40.0	(1.57)	10	White	95080.7
M40x1.5	14.0-18.0	(.55-.71)	40.0	(1.57)	10	Blue	95081.7
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	95082.7
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	95083.7
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	95084.7
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	Dark Gray	95085.7
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	95086.7
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	95087.7
M50x1.5	36.0-40.0	(1.42-1.57)	50.0	(1.97)	5	White	25088.7
M63x1.5	39.0-44.0	(1.54-1.73)	63.0	(2.48)	5	White	25089.7



**Stainless Steel (SS)  
1.4305 (303)**



**With Silicone (SIL)  
Tubular Sealing Insert**

Stainless Steel (SS) 1.4305 (303)  
Silicone (SIL)  
Silicone (SIL)  
-60 to 500°C (-65 to 932°F)  
-60 to 200°C (-65 to 392°F)  
-60 to 200°C (-65 to 392°F)  
Beige

**Cat. No.**

- 95130.7
- 95131.7
- 
- 95133.7
- 95134.7
- 
- 95136.7
- 95137.7
- 95138.7
- 95139.7
- 
- 95141.7
- 95142.7
- 95143.7
- 95144.7
- 
- 95146.7
- 95147.7
- 95148.7
- 95149.7
- 95150.7
- 95151.7
- 95152.7
- 95153.7
- 95154.7
- 95155.7
- 95156.7
- 95157.7
- 
- 

**Locknuts (SS) 1.4305 (303)**



**Order Separately**

**Material**

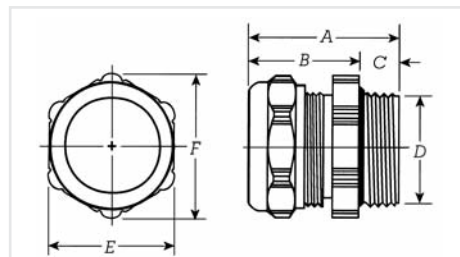
Stainless Steel (SS)

**Temperature Range**

-60 to 500°C (-65 to 932°F)

Size	Cat. No.	Std. Pk.
M12x1.5	97715.9	10
M16x1.5	97716.9	10
M20x1.5	97717.9	10
M25x1.5	97718.9	10
M32x1.5	97719.9	5
M40x1.5	97720.9	5
M50x1.5	97721.9	2
M63x1.5	97722.9	1

See Page 295 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
M12x1.5	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.0 (.47)	14.0 (.55)	15.5 (.61)
M16x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	27.5 (1.08)	21.0 (.83)	6.5 (.26)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	32.0 (1.26)	25.0 (.98)	7.0 (.28)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)
M40x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	37.0 (1.46)	28.0 (1.10)	9.0 (.59)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)
M63x1.5	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	74.0 (2.91)

## Straight Through – PG External Thread Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Order Seal Rings and Locknuts Separately
- Standard Colors: Beige or Black

### Polyamide (PA) Beige



### With Thermoplastic Elastomer (TPE) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No. Beige
	mm	(in.)	mm	(in.)			
PG7	4.0-6.5	(.16-.26)	12.5	(.49)	50	Yellow	20033.0
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20000.0
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	20001.0
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	20002.0
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	20003.0
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	20004.0
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	20005.0
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	20006.0
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	20007.0
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	20008.0
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	20009.0
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	20010.0
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	20011.0
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	20012.0
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	20013.0
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	20014.0
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	20015.0
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	20016.0
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	20017.0
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	20018.0
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	20019.0
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	20020.0
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	20021.0
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	20022.0
PG29	11.5-15.5	(.45-.61)	37.0	(1.46)	20	White	20023.0
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	20	Blue	20024.0
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	20025.0
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	20026.0
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	20027.0
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	20028.0
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	20029.0
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	20030.0
PG42*	36.0-40.0	(1.42-1.57)	54.0	(2.13)	5	White	20031.0
PG48*	39.0-44.0	(1.54-1.73)	59.5	(2.34)	5	White	20032.0

\*Body Material POM Temperature Range: -40 to 110°C (-40 to 230°F)

### Polyamide (PA) Black



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Polyamide (PA)	
Thermoplastic Elastomer (TPE)	
-20 to 100°C (-4 to 212°F)	
-40 to 130°C (-40 to 266°F)	
Various	
<b>Sealing Insert Color</b>	<b>Cat. No.</b>
Yellow	20034.1
Yellow	20035.1
Gray	20036.1
Black	20037.1
Yellow	20038.1
Gray	20039.1
Black	20040.1
Green	20041.1
Yellow	20042.1
Gray	20043.1
Black	20044.1
Green	20045.1
Red	20046.1
Yellow	20047.1
Gray	20048.1
Black	20049.1
Green	20050.1
Red	20051.1
White	20052.1
Green	20053.1
Red	20054.1
White	20055.1
Blue	20056.1
Brown	20057.1
White	20058.1
Blue	20059.1
Brown	20060.1
Orange	20061.1
Light Yellow	20062.1
Dark Gray	20063.1
Light Blue	20064.1
Rose	20065.1
White	20066.1
White	20067.1

### Locknuts (PA)



Order Separately

<b>Material</b>			
Polyamide (PA)			
<b>Temperature Range</b>			
-20 to 100°C (-4 to 212°F)			
<b>Color</b>			
Light Gray and Black			
	<b>Cat. No.</b>	<b>Std. Pk.</b>	
<b>Size</b>	<b>L. Gray</b>	<b>Black</b>	
PG7	23050.9	23060.9	100
PG9	23051.9	23061.9	100
PG11	23052.9	23062.9	100
PG13.5	23053.9	23063.9	100
PG16	23054.9	23064.9	100
PG21	23055.9	23065.9	100
PG29	23056.9	23066.9	50
PG36	23057.9	23067.9	25
PG42	23058.9	23068.9	25
PG48	23059.9	23069.9	10

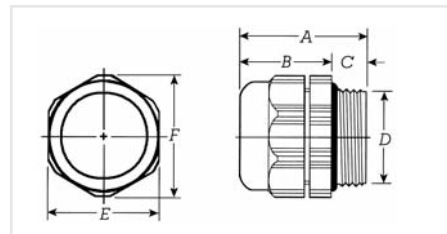
### Seal Rings (PET)



Order Separately

<b>Material</b>		
Polyethylene (PET)		
<b>Temperature Range</b>		
-20 to 100°C (-4 to 212°F)		
<b>Color</b>		
Opaque		
	<b>Cat. No.</b>	<b>Std. Pk.</b>
<b>Size</b>		
PG7	23170.9	50
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50
PG36	23177.9	50
PG42	23178.9	50
PG48	23179.9	50

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
PG7	31.0 (.122)	23.0 (.91)	8.0 (.31)	12.5 (.49)	15.0 (.59)	16.5 (.65)
PG9	32.0 (1.26)	23.0 (.91)	9.0 (.35)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	32.0 (1.26)	23.0 (.91)	9.0 (.35)	18.6 (.73)	22.0 (.87)	24.0 (.94)
PG13.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	33.0 (1.30)	23.0 (.91)	9.0 (.35)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	40.0 (1.57)	29.0 (1.14)	11.0 (.43)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)
PG29	44.0 (1.73)	33.0 (1.30)	11.0 (.43)	37.0 (1.46)	43.0 (1.69)	46.5 (1.83)
PG36	47.0 (1.85)	33.0 (1.30)	14.0 (.55)	47.0 (1.85)	53.0 (2.09)	57.0 (2.24)
PG42	53.0 (2.09)	38.0 (1.50)	15.0 (.59)	54.0 (2.13)	57.0 (2.24)	61.0 (2.40)
PG48	53.0 (2.09)	38.0 (1.50)	15.0 (.59)	59.3 (2.33)	64.0 (2.52)	69.0 (2.72)

## Straight Through – PG External Thread Polyvinylidene (PVDF)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Order Seal Rings and Locknuts Separately
- Optional Centellen High/Low Temperature Seal Rings  
See Page 301
- Standard Colors: Opaque or Black

## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.	
	mm	(in.)	mm	(in.)			Opaque	Black
PG7	4.0-6.5	(.16-.26)	12.5	(.49)	50	Yellow	20075.4	20110.5
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20076.4	20111.5
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	20077.4	20112.5
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	20078.4	20113.5
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	20079.4	20114.5
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	20080.4	20115.5
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	20081.4	20116.5
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	20082.4	20117.5
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	20083.4	20118.5
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	20084.4	20119.5
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	20085.4	20120.5
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	20086.4	20121.5
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	20087.4	20122.5
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	20088.4	20123.5
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	20089.4	20124.5
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	20090.4	20125.5
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	20091.4	20126.5
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	20092.4	20127.5
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	20093.4	20128.5
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	20094.4	20129.5
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	20095.4	20130.5
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	20096.4	20131.5
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	20097.4	20132.5
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	20098.4	20133.5
PG29	11.5-15.5	(.45-.61)	37.0	(1.46)	20	White	20099.4	20134.5
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	20	Blue	20100.4	20135.5
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	20101.4	20136.5
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	20102.4	20137.5
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	20103.4	20138.5
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	20104.4	20139.5
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	20105.4	20140.5
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	20106.4	20141.5

### Polyvinylidene (PVDF)



With Silicone (SIL)  
Tubular Sealing Insert

Polyvinylidene (PVDF)  
Silicone (SIL)

-40 to 150°C (-40 to 302°F)

-60 to 200°C (-65 to 392°F)

Opaque

	Cat. No.	
	Opaque	Black
	20348.4	20378.5
	20350.4	20380.5
	-	-
	20351.4	20381.5
	20352.4	20382.5
	-	-
	20353.4	20383.5
	20354.4	20384.5
	20355.4	20385.5
	20349.4	20379.5
	20356.4	20386.5
	20357.4	20387.5
	20358.4	20388.5
	20347.4	20410.5
	20346.4	20411.5
	20359.4	20389.5
	20360.4	20390.5
	20361.4	20391.5
	20362.4	20392.5
	20345.4	20412.5
	20344.4	20413.5
	20363.4	20393.5
	20364.4	20394.5
	20365.4	20395.5
	20342.4	20414.5
	20366.4	20396.5
	20367.4	20397.5
	20368.4	20398.5
	20369.4	20399.5
	20370.4	20400.5
	20371.4	20401.5
	20372.4	20402.5

### Locknuts (PA)



Order Separately

Material

Polyamide (PA)

Temperature Range

-20 to 100°C (-4 to 212°F)

Color

Light Gray and Black

	Cat. No.			Std.
Size	L. Gray	Black	Pk.	
PG7	23050.9	23060.9	100	
PG9	23051.9	23061.9	100	
PG11	23052.9	23062.9	100	
PG13.5	23053.9	23063.9	100	
PG16	23054.9	23064.9	100	
PG21	23055.9	23065.9	100	
PG29	23056.9	23066.9	50	
PG36	23057.9	23067.9	25	

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

### Seal Rings (PET)



Order Separately

Material

Polyethylene (PET)

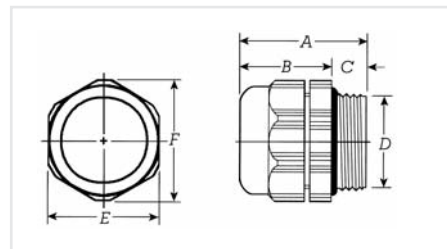
Temperature Range

-20 to 100°C (-4 to 212°F)

Color

Opaque

	Cat. No.	Std.
Size		Pk.
PG7	23170.9	50
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50
PG36	23177.9	50



#### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
PG7	31.0 (.122)	23.0 (.91)	8.0 (.31)	12.5 (.49)	15.0 (.59)	16.6 (.65)
PG9	31.0 (.122)	23.0 (.91)	8.0 (.31)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	32.0 (.126)	23.0 (.91)	8.0 (.31)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	34.5 (1.36)	25.5 (1.00)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	35.5 (1.40)	26.0 (1.02)	9.5 (.37)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	40.0 (1.57)	29.5 (1.16)	10.5 (.41)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)
PG29	43.5 (1.71)	33.0 (1.30)	10.5 (.41)	37.0 (1.46)	43.0 (1.69)	46.0 (1.81)
PG36	47.0 (1.85)	34.0 (1.34)	13.0 (.51)	47.0 (1.85)	53.0 (2.09)	56.3 (2.22)

## Straight Through – PG External Thread Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Rings  
Factory Installed
- Order Optional High/Low  
Temperature Silicone Seal  
Rings Separately
- Order Locknuts Separately

## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
PG7	4.0-6.5	(.16-.26)	12.5	(.49)	50	Yellow	20150.6
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20151.6
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	20152.6
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	20153.6
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	20154.6
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	20155.6
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	20156.6
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	20157.6
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	20158.6
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	20159.6
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	20160.6
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	20161.6
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	20162.6
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	20163.6
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	20164.6
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	20165.6
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	20166.6
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	20167.6
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	20168.6
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	20169.6
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	20170.6
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	20171.6
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	20172.6
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	20173.6
PG29	11.5-15.5	(.45-.61)	37.0	(1.46)	20	White	20174.6
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	20	Blue	20175.6
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	20176.6
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	20177.6
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	20178.6
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	20179.6
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	20180.6
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	20181.6
PG42	36.0-40.0	(1.42-1.57)	54.0	(2.13)	5	White	20182.6
PG48	39.0-44.0	(1.54-1.73)	59.5	(2.34)	5	White	20183.6

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)

Opaque

**Cat. No.**

- 20469.6
- 20470.6
- 
- 20471.6
- 20472.6
- 
- 20473.6
- 20474.6
- 20475.6
- 20468.6
- 20476.6
- 20477.6
- 20478.6
- 20467.6
- 20466.6
- 20479.6
- 20480.6
- 20481.6
- 20482.6
- 20465.6
- 20464.6
- 20483.6
- 20484.6
- 20485.6
- 20463.6
- 20486.6
- 20488.6
- 20487.6
- 20489.6
- 20491.6
- 20490.6
- 20492.6
- 
- 

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG7	23000.9	100
PG9	23001.9	100
PG11	23002.9	100
PG13.5	23003.9	100
PG16	23004.9	100
PG21	23005.9	100
PG29	23006.9	100
PG36	23007.9	100
PG42	23008.9	50
PG48	23009.9	50

### Seal Rings (SIL)



Order Separately

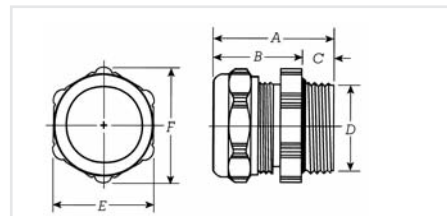
**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
PG7	23230.9	50
PG9	23231.9	50
PG11	23232.9	50
PG13.5	23233.9	50
PG16	23234.9	50
PG21	23235.9	50
PG29	23236.9	50
PG36	23237.9	25
PG42	23238.9	25

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
PG7	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.5 (.49)	14.0 (.55)	15.5 (.61)
PG9	26.0 (1.02)	20.0 (.79)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	26.0 (1.02)	20.0 (.79)	6.0 (.24)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	27.5 (1.08)	21.0 (.83)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	27.5 (1.08)	21.0 (.83)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	32.0 (1.26)	25.0 (.98)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)
PG29	35.0 (1.38)	27.0 (1.06)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)
PG36	37.0 (1.46)	28.0 (1.10)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)
PG42	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	54.0 (2.13)	57.0 (2.24)	61.0 (2.40)
PG48	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	59.3 (2.33)	64.0 (2.52)	69.0 (2.72)

**Straight Through –  
PG External Thread 15mm (.59in.) Long  
Nickel Plated Brass (NPB)**



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Rings  
Factory Installed
- Order Optional High/Low  
Temperature Silicone Seal  
Rings Separately
- Order Locknuts Separately

**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
PG7	4.0-6.5	(.16-.26)	12.5	(.49)	50	Yellow	179d7
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	180d7
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	180d8
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	180d9
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	181d7
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	181d8
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	181d9
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	181d11
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	182d7
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	182d8
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	182d9
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	182d11
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	182d13
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	183d7
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	183d8
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	183d9
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	183d11
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	183d13
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	183d16
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	184d11
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	184d13
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	184d16
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	184d18
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	184d20
PG29	11.5-15.5	(.45-.61)	37.0	(1.46)	20	White	185d16
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	20	Blue	185d18
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	185d20
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	185d25
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	185d28
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	186d32
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	186d34
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	186d36
PG42	36.0-40.0	(1.42-1.57)	54.0	(2.13)	5	White	187d40
PG48	39.0-44.0	(1.54-1.73)	59.5	(2.34)	5	White	188d44



### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)  
Opaque

**Cat. No.**

179i7  
180i7  
-  
180i9  
181i7  
-  
181i9  
181i11  
182i7  
182i8  
182i9  
182i11  
182i13  
183i7  
183i8  
183i9  
183i11  
183i13  
183i16  
184i11  
184i13  
184i16  
184i18  
184i20  
185i16  
185i18  
185i20  
185i25  
185i28  
186i32  
186i34  
186i36  
-  
-

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG7	23000.9	100
PG9	23001.9	100
PG11	23002.9	100
PG13.5	23003.9	100
PG16	23004.9	100
PG21	23005.9	100
PG29	23006.9	100
PG36	23007.9	100
PG42	23008.9	50
PG48	23009.9	50

### Seal Rings (SIL)



Order Separately

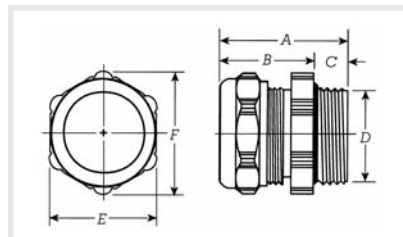
**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
PG7	23230.9	50
PG9	23231.9	50
PG11	23232.9	50
PG13.5	23233.9	50
PG16	23234.9	50
PG21	23235.9	50
PG29	23236.9	50
PG36	23237.9	25
PG42	23238.9	25

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
PG7	35.0 (1.38)	20.0 (.79)	15.0 (.59)	12.5 (.49)	14.0 (.55)	15.5 (.61)
PG9	35.0 (1.38)	20.0 (.79)	15.0 (.59)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	35.0 (1.38)	20.0 (.79)	15.0 (.59)	18.6 (.73)	20.0 (.79)	22.2 (.87)
PG13.5	36.0 (1.42)	21.0 (.83)	15.0 (.59)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	36.0 (1.42)	21.0 (.83)	15.0 (.59)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	40.0 (1.57)	25.0 (.98)	15.0 (.59)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)
PG29	42.0 (1.65)	27.0 (1.06)	15.0 (.59)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)
PG36	43.0 (1.69)	28.0 (1.10)	15.0 (.59)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)
PG42	45.0 (1.77)	30.0 (1.18)	15.0 (.59)	54.0 (2.13)	57.0 (2.24)	61.0 (2.40)
PG48	45.0 (1.77)	30.0 (1.18)	15.0 (.59)	59.3 (2.33)	64.0 (2.52)	69.0 (2.72)

## Straight Through – PG External Thread Stainless Steel (SS)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Silicone Seal Ring Factory Installed
- Order Locknuts Separately
- Optional 15mm (.59in.) Long External Thread
- Stainless Steel 1.4571 (316Ti) Upon Request

### Stainless Steel (SS) 1.4305 (303)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Stainless Steel (SS) 1.4305 (303)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Silicone (SIL)
Temperature Range	
<b>Body</b>	-60 to 500°C (-65 to 932°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-60 to 100°C (-65 to 392°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing	
	mm	(in.)	mm	(in.)		Insert Color	Cat. No.
PG7	4.0-6.5	(.16-.26)	12.5	(.49)	50	Yellow	20500.7
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20501.7
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	20502.7
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	20503.7
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	20504.7
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	20505.7
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	20506.7
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	20507.7
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	20508.7
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	20509.7
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	20510.7
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	20511.7
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	20512.7
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	20513.7
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	20514.7
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	20515.7
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	20516.7
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	20517.7
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	20518.7
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	20519.7
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	20520.7
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	20521.7
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	20522.7
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	20523.7
PG29	11.5-15.5	(.45-.61)	37.0	(1.46)	20	White	20524.7
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	20	Blue	20525.7
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	20526.7
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	20527.7
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	20528.7
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	20529.7
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	20530.7
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	20531.7
PG42	36.0-40.0	(1.42-1.57)	54.0	(2.34)	5	White	20532.7

### Stainless Steel (SS) 1.4305 (303)



With Silicone (SIL)  
Tubular Sealing Insert

Stainless Steel (SS) 1.4305 (303)  
Silicone (SIL)  
Silicone (SIL)  
-60 to 500°C (-65 to 932°F)  
-60 to 200°C (-65 to 392°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

**Cat. No.**

- 20420.7
- 20580.7
- 
- 20581.7
- 20422.7
- 
- 20583.7
- 20584.7
- 20585.7
- 20424.7
- 20586.7
- 20587.7
- 20588.7
- 20425.7
- 20426.7
- 20589.7
- 20590.7
- 20591.7
- 20592.7
- 20428.7
- 20429.7
- 20593.7
- 20594.7
- 20595.7
- 20536.7
- 20596.7
- 20534.7
- 20598.7
- 20599.7
- 20600.7
- 20601.7
- 20602.7
- 

### Locknuts (SS) 1.4305 (303)



Order Separately

**Material**

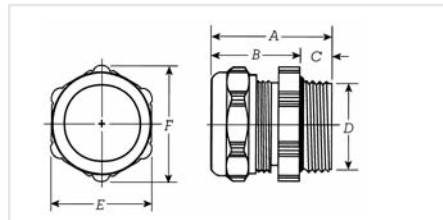
Stainless Steel (SS)

**Temperature Range**

-60 to 500°C (-65 to 932°F)

Size	Cat. No.	Std. Pk.
PG7	23020.9	50
PG9	23021.9	50
PG11	23022.9	50
PG13.5	23023.9	50
PG16	23024.9	50
PG21	23025.9	50
PG29	23026.9	50
PG36	23027.9	25
PG42	23028.9	10

See Page 296 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
PG7	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.5 (.49)	14.0 (.55)	15.5 (.61)
PG9	26.0 (1.02)	20.0 (.79)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	26.0 (1.02)	20.0 (.79)	6.0 (.24)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	27.5 (1.08)	21.0 (.83)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	27.5 (1.08)	21.0 (.83)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	32.0 (1.26)	25.0 (.98)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	26.7 (1.05)
PG29	35.3 (1.39)	27.0 (1.06)	8.3 (.33)	37.0 (1.46)	41.0 (1.61)	44.5 (1.75)
PG36	37.0 (1.46)	28.0 (1.10)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)
PG42	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	54.0 (2.13)	60.0 (2.36)	65.0 (2.56)

## Straight Through – NPT External Thread Polyvinylidene (PVDF)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Polyethylene Seal Rings Separately
- Order Locknuts Separately
- Standard Colors: Black or Opaque

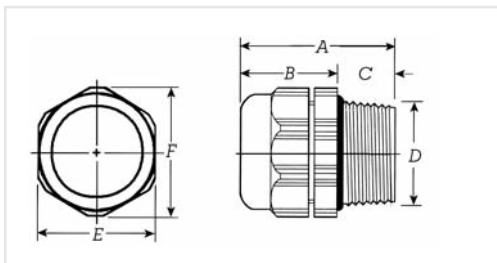
## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Std. Pk.	Sealing Insert Color		Cat. No.	
	mm	(in.)		Opaque	Black		
NPT3/8"	4.0-6.5	(.16-.26)	50	Yellow	20858.4	20847.5	
NPT3/8"	6.5-9.5	(.26-.37)	50	Black	20859.4	20848.5	
NPT3/8"	7.0-10.5	(.28-.41)	50	Green	20861.4	20871.5	
NPT1/2"	4.0-6.5	(.16-.26)	50	Yellow	20853.4	20846.5	
NPT1/2"	6.5-9.5	(.26-.37)	50	Black	20857.4	20849.5	
NPT1/2"	7.0-10.5	(.28-.41)	50	Green	20856.4	20850.5	
NPT1/2"	9.0-13.0	(.35-.51)	50	Red	20862.4	20872.5	
NPT1/2"	11.5-15.5	(.45-.61)	50	White	20863.4	20873.5	
NPT3/4"	9.0-13.0	(.35-.51)	25	Red	20855.4	20851.5	
NPT3/4"	11.5-15.5	(.45-.61)	25	White	20854.4	20852.5	
NPT3/4"	14.0-18.0	(.55-.71)	25	Blue	20864.4	20874.5	
NPT3/4"	17.0-20.5	(.67-.81)	25	Brown	20865.4	20875.5	



Cord Grip Dimensions: mm (in.)						
Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)

### Polyvinylidene (PVDF)



With Silicone (SIL)  
Tubular Sealing Insert

Polyvinylidene (PVDF)

Silicone (SIL)

-40 to 150°C (-40 to 302°F)

-60 to 200°C (-65 to 392°F)

Opaque

**Cat. No.**

**Opaque**

**Black**

96483.4	96483.5
96484.4	96484.5
96485.4	96485.5
96486.4	96486.5
96487.4	96487.5
96488.4	96488.5
96489.4	96489.5
96490.4	96490.5
96491.4	96491.5
96492.4	96492.5
96493.4	96493.5
96494.4	96494.5

### Locknuts (PA)



Order Separately

**Material**

Polyamide (PA)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Light Gray and Black

**Cat. No.**

**Std. Pk.**

Size	L. Gray	Black	Std. Pk.
NPT3/8"	23203.9	23207.9	50
NPT1/2"	23204.9	23208.9	50
NPT3/4"	23205.9	23209.9	25

### Seal Rings (PET)



Order Separately

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Opaque

**Std. Pk.**

Size	Cat. No.	Std. Pk.
NPT3/8"	23188.9	50
NPT1/2"	23190.9	50
NPT3/4"	23192.9	25

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings

**Straight Through –  
NPT External Thread  
Nickel Plated Brass (NPB)**



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Neoprene Seal Rings Separately
- Order Optional High/Low Temperature Silicone Seal Rings Separately
- Order Locknuts Separately

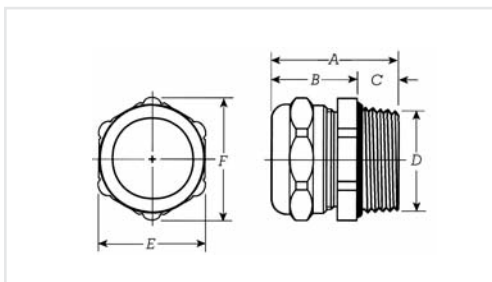
**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia. mm	(in.)	Std. Pk.	Sealing Insert Color	Cat. No.
NPT3/8"	4.0-6.5	(.16-.26)	50	Yellow	20915.6
NPT3/8"	6.5-9.5	(.26-.37)	50	Black	20916.6
NPT3/8"	7.0-10.5	(.28-.41)	50	Green	20901.6
NPT1/2"	4.0-6.5	(.16-.26)	50	Yellow	20917.6
NPT1/2"	6.5-9.5	(.26-.37)	50	Black	20918.6
NPT1/2"	7.0-10.5	(.28-.41)	50	Green	20902.6
NPT1/2"	9.0-13.0	(.35-.51)	50	Red	20903.6
NPT1/2"	11.5-15.5	(.45-.61)	50	White	20904.6
NPT3/4"	9.0-13.0	(.35-.51)	25	Red	20919.6
NPT3/4"	11.5-15.5	(.45-.61)	25	White	20905.6
NPT3/4"	14.0-18.0	(.55-.71)	25	Blue	20906.6
NPT3/4"	17.0-20.5	(.67-.81)	25	Brown	20907.6
NPT1"	11.5-15.5	(.45-.61)	5	White	19165.6
NPT1"	14.0-18.0	(.55-.71)	5	Blue	19140.6
NPT1"	17.0-20.5	(.67-.81)	5	Brown	19141.6
NPT1"	20.0-25.0	(.79-.98)	5	Orange	20908.6
NPT1"	24.0-28.0	(.94-1.10)	5	Light Yellow	20909.6
NPT1-1/4"	27.0-32.0	(1.06-1.26)	5	Dark Gray	20910.6
NPT1-1/4"	29.0-34.0	(1.14-1.34)	5	Light Blue	20911.6
NPT1-1/4"	32.0-36.0	(1.26-1.42)	5	Rose	20912.6
NPT1-1/2"	32.0-36.0	(1.26-1.42)	5	White	19142.6
NPT1-1/2"	36.0-40.0	(1.42-1.57)	5	White	20913.6
NPT2"	39.0-44.0	(1.54-1.73)	1	White	20914.6



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	42.2 (1.66)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	62.0 (2.44)	40.0 (1.57)	22.0 (.87)	48.3 (1.90)	57.0 (2.24)	61.0 (2.40)
NPT2"	65.0 (2.56)	40.0 (1.57)	25.0 (.98)	60.3 (2.38)	64.0 (2.52)	69.0 (2.72)

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)

-40 to 300°C (-40 to 572°F)

-60 to 200°C (-65 to 392°F)

Various

**Cat. No.**

- 19145.6
- 19146.6
- 19147.6
- 19148.6
- 19149.6
- 19150.6
- 19151.6
- 19152.6
- 19153.6
- 19154.6
- 19155.6
- 19156.6
- 19157.6
- 19158.6
- 19159.6
- 19160.6
- 19161.6
- 19162.6
- 19163.6
- 19164.6
- 
- 
- 

### Locknuts (NPB)



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
NPT3/8"	23200.9	50
NPT1/2"	23201.9	50
NPT3/4"	23202.9	25
NPT1"	23211.9	10
NPT1-1/4"	23216.9	10
NPT1-1/2"	23217.9	10
NPT2"	23218.9	10

### Seal Rings



Order Separately

**Material**

Neoprene (NBR)

Silicone (SIL)

**Temperature Range**

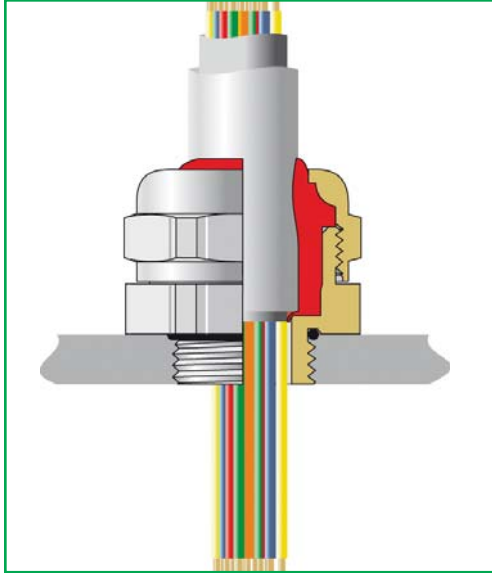
-20 to 100°C (-4 to 212°F) (NBR)

-60 to 200°C (-65 to 392°F) (SIL)

Size	NBR Cat. No.	SIL Cat. No.	Std. Pk.
NPT3/8"	23152.9	23233.9	50
NPT1/2"	23153.9	23110.9	50
NPT3/4"	23155.9	23111.9	25
NPT1"	23156.9	23112.9	5

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings

## Straight Through Enlarged – Metric External Thread Polyamide (PA)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings and Locknuts Separately
- Standard Colors: Beige or Black

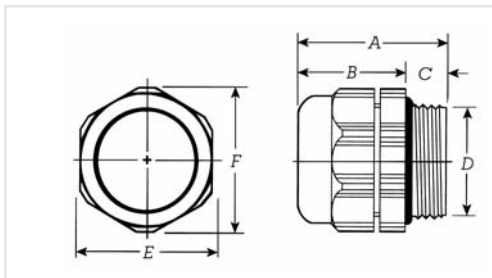
**Polyamide (PA)  
Beige**



**With Thermoplastic Elastomer (TPE)  
Short Sealing Insert**

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No. Beige
	mm	(in.)	mm	(in.)			
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	Yellow	95710.0
M12x1.5	5.0-8.0	(.20-.31)	12.0	(.47)	50	Gray	95711.0
M12x1.5	6.5-9.5	(.26-.37)	12.0	(.47)	50	Black	95712.0
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	95713.0
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	95714.0
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	95715.0
M16x1.5	7.0-10.5	(.28-.41)	16.0	(.63)	50	Green	95716.0
M20x1.5	7.0-10.5	(.26-.41)	20.0	(.79)	50	Green	95717.0
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	95718.0
M20x1.5	11.0-15.5	(.45-.61)	20.0	(.79)	50	White	95719.0
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	25	Red	95720.0
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	25	White	95721.0
M25x1.5	14.0-18.0	(.55-.71)	25.0	(.98)	25	Blue	95722.0
M25x1.5	17.0-20.5	(.67-.81)	25.0	(.98)	25	Brown	95723.0
M25x1.5	20.0-25.0	(.79-.98)	25.0	(.98)	10	Orange	95727.0
M25x1.5	24.0-28.0	(.94-1.10)	25.0	(.98)	10	Light Yellow	95728.0
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	10	White	95729.0
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	10	Blue	95730.0
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	10	Brown	95731.0
M32x1.5	20.0-25.0	(.79-.98)	32.0	(1.26)	10	Orange	95732.0
M32x1.5	24.0-28.0	(.94-1.10)	32.0	(1.26)	10	Light Yellow	95733.0



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M12x1.5	30.0 (1.18)	22.0 (.87)	8.0 (.31)	12.0 (.47)	19.0 (.75)	21.2 (.83)
M16x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	16.0 (.63)	22.0 (.87)	24.5 (.96)
M20x1.5	34.0 (1.34)	25.0 (.98)	9.0 (.35)	20.0 (.79)	27.0 (1.06)	29.5 (1.16)
M25x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	25.0 (.98)	33.0 (1.30)	36.5 (1.44)
M32x1.5	45.0 (1.77)	34.0 (1.34)	11.0 (.43)	32.0 (1.26)	43.0 (1.69)	46.0 (1.81)



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Short Sealing Insert**

Polyamide (PA)	
Thermoplastic Elastomer (TPE)	
-20 to 100°C (-4 to 212°F)	
-40 to 130°C (-40 to 266°F)	
Various	
<b>Sealing Insert Color</b>	<b>Cat. No.</b>
Yellow	95710.1
Gray	95711.1
Black	95712.1
Yellow	95713.1
Gray	95714.1
Black	95715.1
Green	95716.1
Green	95717.1
Red	95718.1
White	95719.1
Red	95720.1
White	95721.1
Blue	95722.1
Brown	95723.1
Orange	95727.1
Light Yellow	95728.1
White	95729.1
Blue	95730.1
Brown	95731.1
Orange	95732.1
Light Yellow	95733.1

**Locknuts (PA)**



**Order Separately**

<b>Material</b>			
Polyamide (PA)			
<b>Temperature Range</b>			
-20 to 100°C (-4 to 212°F)			
<b>Color</b>			
Light Gray and Black			
	<b>Cat. No.</b>		<b>Std. Pk.</b>
<b>Size</b>	<b>L. Gray</b>	<b>Black</b>	
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100

**Seal Rings (PET)**



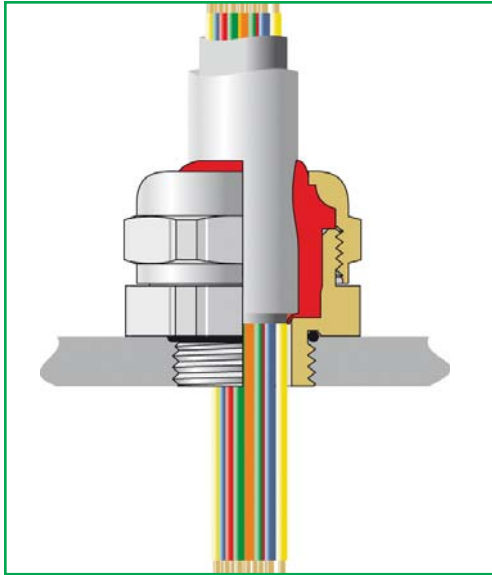
**Order Separately**

<b>Material</b>		
Polyethylene (PET)		
<b>Temperature Range</b>		
-20 to 100°C (-4 to 212°F)		
<b>Color</b>		
Opaque		
	<b>Cat. No.</b>	<b>Std. Pk.</b>
<b>Size</b>		
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

High Performance Cord Grips

## Straight Through Enlarged – Metric External Thread Polyvinylidene (PVDF)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings and Locknuts Separately
- Standard Colors: Opaque or Black

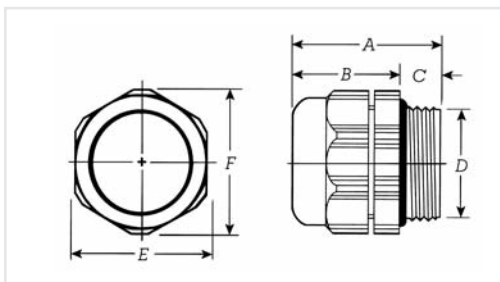
## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Short Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia. mm (in.)	Std. Pk.	Sealing Insert Color	Cat. No.	
	mm	(in.)				Opaque	Black
M16x1.5	7.0-10.5	(.28-.41)	16.0 (.63)	50	Green	95740.4	95740.5
M16x1.5	9.0-13.0	(.35-.51)	16.0 (.63)	50	Red	95742.4	95742.5
M20x1.5	11.0-15.5	(.45-.61)	20.0 (.79)	50	White	95743.4	95743.5
M20x1.5	14.0-18.0	(.55-.71)	20.0 (.79)	25	Blue	95745.4	95745.5
M20x1.5	17.0-20.5	(.67-.81)	20.0 (.79)	25	Brown	95746.4	95746.5
M25x1.5	14.0-18.0	(.55-.71)	25.0 (.98)	25	Blue	95747.4	95747.5
M25x1.5	17.0-20.5	(.67-.81)	25.0 (.98)	25	Brown	95748.4	95748.5
M25x1.5	20.0-25.0	(.79-.98)	25.0 (.98)	10	Orange	95751.4	95751.5
M25x1.5	24.0-28.0	(.94-1.10)	25.0 (.98)	10	Light Yellow	95752.4	95752.5
M32x1.5	20.0-25.0	(.79-.98)	32.0 (1.26)	10	Orange	95753.4	95753.5
M32x1.5	24.0-28.0	(.94-1.10)	32.0 (1.26)	10	Light Yellow	95754.4	95754.5
M40x1.5	27.0-32.0	(1.06-1.26)	40.0 (1.57)	5	Dark Gray	95755.4	95755.5
M40x1.5	29.0-34.0	(1.14-1.34)	40.0 (1.57)	5	Light Blue	95756.4	95756.5
M40x1.5	32.0-36.0	(1.26-1.42)	40.0 (1.57)	5	Rose	95757.4	95757.5



### Cord Grip Dimensions: mm (in.)

Size	A	B	C	D	E	F
M16x1.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	16.0 (.63)	22.0 (.87)	24.5 (.96)
M20x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	20.0 (.79)	33.0 (1.30)	36.5 (1.44)
M25x1.5	41.0 (1.61)	30.0 (1.18)	11.0 (.43)	25.0 (.98)	43.0 (1.69)	46.0 (1.81)
M32x1.5	41.0 (1.61)	30.0 (1.18)	11.0 (.43)	32.0 (1.26)	43.0 (1.69)	46.0 (1.81)
M40x1.5	49.0 (1.93)	36.0 (1.42)	13.0 (.51)	40.0 (1.57)	53.0 (2.09)	57.0 (2.24)

### Polyvinylidene (PVDF)



**With Silicone (SIL)  
Short Sealing Insert**

Polyvinylidene (PVDF)  
Silicone (SIL)  
-40 to 150°C (-40 to 302°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

Opaque	Cat. No.	
	Black	Black
95760.4	95760.5	95760.5
95762.4	95762.5	95762.5
95763.4	95763.5	95763.5
95765.4	95765.5	95765.5
95766.4	95766.5	95766.5
95767.4	95767.5	95767.5
95768.4	95768.5	95768.5
95771.4	95771.5	95771.5
95772.4	95772.5	95772.5
95773.4	95773.5	95773.5
95774.4	95774.5	95774.5
95775.4	95775.5	95775.5
95776.4	95776.5	95776.5
95777.4	95777.5	95777.5

### Locknuts (PA)



**Order Separately**

**Material**  
Polyamide (PA)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25516.9	25725.9	50

### Seal Rings (PET)



**Order Separately**

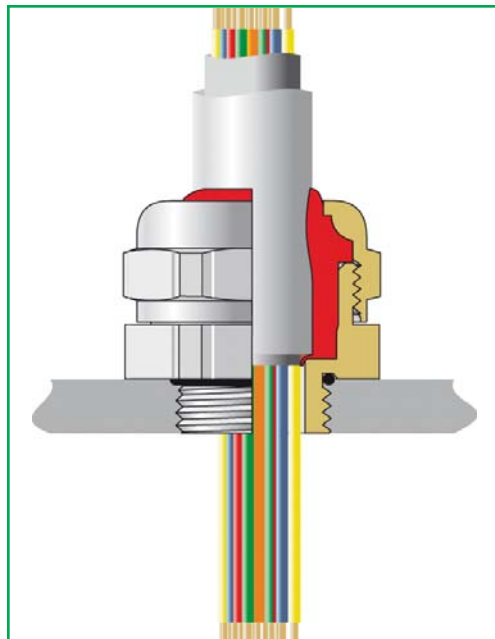
**Material**  
Polyethylene (PET)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Opaque

Size	Cat. No.	Std. Pk.
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

## Straight Through Enlarged – Metric External Thread

Nickel Plated Brass (NPB)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Locknuts Separately
- Neoprene Seal Rings Factory Installed
- Order High/Low Temperature Silicone Seal Rings Separately

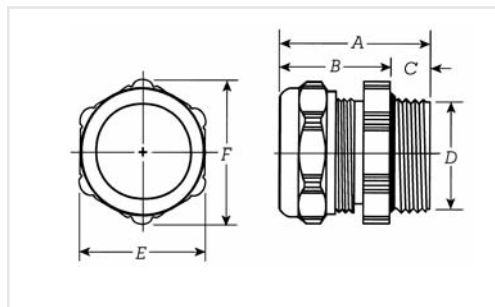
Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE) Short Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color		Cat. No.
	mm	(in.)	mm	(in.)		Insert Color		
M12x1.5	6.5-9.5	(.26-.37)	12.0	(.47)	50	Black	95670.6	
M16x1.5	7.0-10.5	(.28-.41)	16.0	(.63)	50	Green	95671.6	
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	95672.6	
M20x1.5	11.0-15.5	(.45-.61)	20.0	(.79)	50	White	95673.6	
M20x1.5	14.0-18.0	(.55-.71)	20.0	(.79)	50	Blue	95674.6	
M20x1.5	17.0-20.5	(.67-.81)	20.0	(.79)	50	Brown	95675.6	
M25x1.5	14.0-18.0	(.55-.71)	25.0	(.98)	25	Blue	95676.6	
M25x1.5	17.0-20.5	(.67-.81)	25.0	(.98)	25	Brown	95677.6	
M32x1.5	20.0-25.0	(.79-.98)	32.0	(1.26)	10	Orange	95678.6	
M32x1.5	24.0-28.0	(.94-1.10)	32.0	(1.26)	10	Light Yellow	95679.6	
M32x1.5	27.0-32.0	(1.06-1.26)	32.0	(1.26)	5	Dark Gray	95680.6	
M32x1.5	29.0-34.0	(1.14-1.34)	32.0	(1.26)	5	Light Blue	95681.6	
M32x1.5	32.0-36.0	(1.26-1.42)	32.0	(1.26)	5	Rose	95682.6	
M40x1.5	27.0-32.0	(1.06-1.26)	40.0	(1.57)	5	Dark Gray	95683.6	
M40x1.5	29.0-34.0	(1.14-1.34)	40.0	(1.57)	5	Light Blue	95684.6	
M40x1.5	32.0-36.0	(1.26-1.42)	40.0	(1.57)	5	Rose	95685.6	
M50x1.5	34.0-38.0	(1.34-1.50)	50.0	(1.97)	5	White	95686.6	
M50x1.5	36.0-40.0	(1.42-1.57)	50.0	(1.97)	5	White	95687.6	



Cord Grip Dimensions: mm (in.)						
Size	A	B	C	D	E	F
M12x1.5	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.0 (.47)	17.0 (.69)	18.9 (.74)
M16x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	16.0 (.63)	22.0 (.87)	24.4 (.96)
M20x1.5	31.5 (1.24)	25.0 (.98)	6.5 (.26)	20.0 (.79)	30.0 (1.18)	33.5 (1.32)
M25x1.5	32.5 (1.28)	25.0 (.98)	7.5 (.30)	25.0 (.98)	30.0 (1.18)	33.5 (1.32)
M32x1.5	36.0 (1.42)	28.0 (1.10)	8.0 (.31)	32.0 (1.26)	50.0 (1.97)	54.0 (2.13)
M40x1.5	37.0 (1.46)	28.0 (1.10)	9.0 (.35)	40.0 (1.57)	50.0 (1.97)	54.0 (2.13)
M50x1.5	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	50.0 (1.97)	57.0 (2.24)	61.0 (2.44)

### Nickel Plated Brass (NPB)



**With Silicone (SIL)  
Short Sealing Insert**

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)  
Opaque

**Cat. No.**

- 95690.6
- 95691.6
- 95692.6
- 95693.6
- 95694.6
- 95695.6
- 95696.6
- 95697.6
- 95698.6
- 95699.6
- 95700.6
- 95701.6
- 95702.6
- 95703.6
- 95704.6
- 95705.6
- 
- 

### Locknuts (NPB)



**Order Separately**

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M12x1.5	25500.9	100
M16x1.5	25501.9	100
M20x1.5	25502.9	100
M25x1.5	25503.9	100
M32x1.5	25504.9	100
M40x1.5	25505.9	50
M50x1.5	25506.9	50

### Seal Rings (SIL)



**Order Separately**

**Material**  
Silicone (SIL)

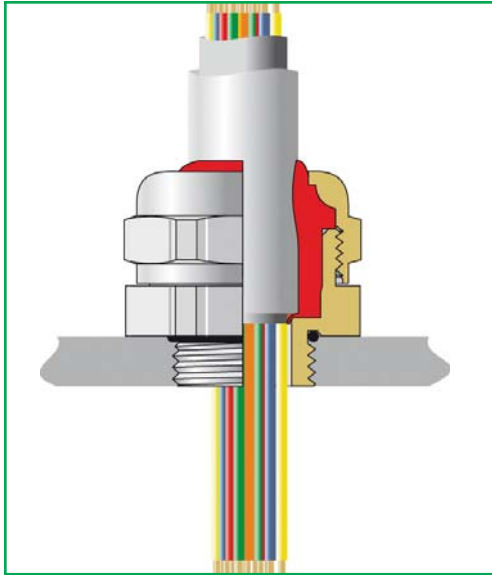
**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
M12	97700.9	50
M16	97701.9	50
M20	97702.9	50
M25	97703.9	50
M32	97704.9	50
M40	97705.9	50
M50	97706.9	50

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Straight Through Enlarged – PG External Thread Polyamide (PA)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings and Locknuts Separately
- Standard Colors: Beige or Black

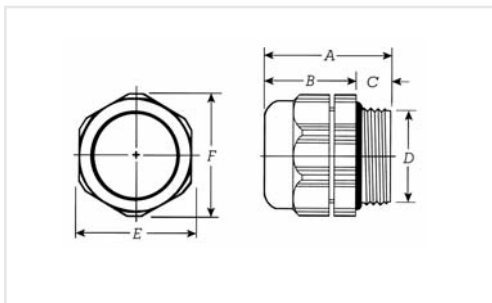
**Polyamide (PA)  
Beige**



**With Thermoplastic Elastomer (TPE)  
Short Sealing Insert**

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No. Beige
	mm	(in.)	mm	(in.)			
PG7	5.0-8.0	(.20-.31)	12.5	(.49)	50	Gray	95910.0
PG7	6.5-9.5	(.26-.37)	12.5	(.49)	50	Black	95911.0
PG9	7.0-10.5	(.28-.41)	15.2	(.60)	50	Green	95912.0
PG11	9.0-13.0	(.35-.51)	18.5	(.73)	50	Red	95913.0
PG13.5	11.0-15.5	(.45-.61)	20.5	(.81)	50	White	95914.0
PG13.5	14.0-18.0	(.55-.71)	20.5	(.81)	25	Blue	95915.0
PG13.5	17.0-20.5	(.67-.81)	20.5	(.81)	25	Brown	95916.0
PG16	14.0-18.0	(.55-.71)	22.5	(.89)	25	Blue	95917.0
PG16	17.0-20.5	(.67-.81)	22.5	(.89)	25	Brown	95918.0
PG21	20.0-25.0	(.79-.98)	28.5	(1.12)	10	Orange	95919.0
PG21	24.0-28.0	(.94-1.10)	28.5	(1.12)	10	Light Yellow	95920.0
PG29	27.0-32.0	(1.06-1.26)	37.0	(1.46)	5	Dark Gray	95921.0
PG29	29.0-34.0	(1.14-1.34)	37.0	(1.46)	5	Light Blue	95922.0
PG29	32.0-36.0	(1.26-1.42)	37.0	(1.46)	5	Rose	95923.0



Cord Grip Dimensions: mm (in.)						
Size	A	B	C	D	E	F
PG7	30.5 (1.20)	22.0 (.87)	8.5 (.33)	12.5 (.49)	19.0 (.75)	21.2 (.83)
PG9	32.0 (1.26)	24.0 (.94)	8.0 (.31)	15.2 (.60)	22.0 (.87)	24.4 (.96)
PG11	33.0 (1.30)	24.0 (.94)	9.0 (.35)	18.6 (.73)	24.0 (.94)	26.5 (1.04)
PG13.5	38.0 (1.50)	29.0 (1.14)	9.0 (.35)	20.4 (.80)	33.0 (1.30)	36.5 (1.44)
PG16	38.0 (1.50)	29.0 (1.14)	9.0 (.35)	22.5 (.89)	43.0 (1.69)	46.5 (1.83)
PG21	44.0 (1.73)	33.0 (1.30)	11.0 (.43)	29.0 (1.14)	43.0 (1.69)	46.5 (1.83)
PG29	46.0 (1.81)	35.0 (1.38)	11.0 (.43)	37.5 (1.48)	53.0 (2.09)	57.0 (2.24)

**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Short Sealing Insert**

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
-20 to 100°C (-4 to 212°F)  
-40 to 130°C (-40 to 266°F)  
Various

Sealing Insert Color	Cat. No. Black
Gray	95910.1
Black	95911.1
Green	95912.1
Red	95913.1
White	95914.1
Blue	95915.1
Brown	95916.1
Blue	95917.1
Brown	95918.1
Orange	95919.1
Light Yellow	95920.1
Dark Gray	95921.1
Light Blue	95922.1
Rose	95923.1

**Locknuts (PA)**



**Order Separately**

**Material**  
Polyamide (PA)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
PG7	23050.9	23060.9	100
PG9	23051.9	23061.9	100
PG11	23052.9	23062.9	100
PG13.5	23053.9	23063.9	100
PG16	23054.9	23064.9	100
PG21	23055.9	23065.9	100
PG29	23056.9	23066.9	50

**Seal Rings (PET)**



**Order Separately**

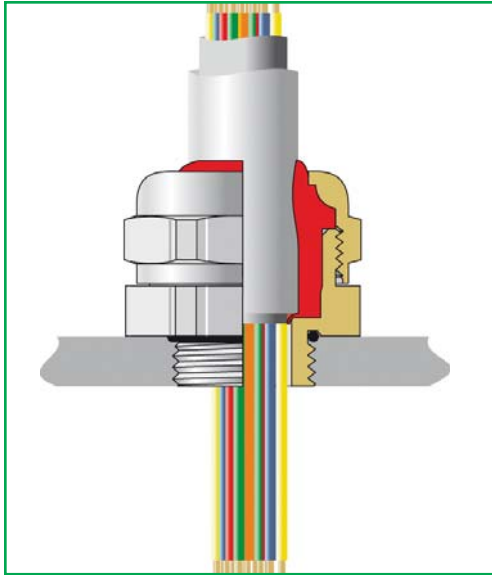
**Material**  
Polyethylene (PET)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Opaque

Size	Cat. No.	Std. Pk.
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

## Straight Through Enlarged – PG External Thread

### Polyvinylidene (PVDF)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings and Locknuts Separately
- Standard Colors: Opaque or Black

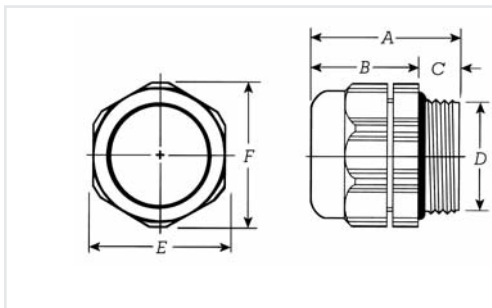
### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE) Short Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color		Cat. No.	
	mm	(in.)	mm	(in.)		Opaque	Black		
PG7	5.0-8.0	(.20-.31)	12.5	(.49)	50	Gray	95930.4	95930.5	
PG7	6.5-9.5	(.26-.37)	12.5	(.49)	50	Black	95931.4	95931.5	
PG9	7.0-10.5	(.28-.41)	15.2	(.60)	50	Green	95932.4	95932.5	
PG9	9.0-13.0	(.35-.51)	15.2	(.60)	50	Red	95933.4	95933.5	
PG11	9.0-13.0	(.35-.51)	18.5	(.73)	50	Red	95934.4	95934.5	
PG11	11.0-15.5	(.45-.61)	18.5	(.73)	50	White	95935.4	95935.5	
PG13.5	11.0-15.5	(.45-.61)	20.5	(.81)	50	White	95936.4	95936.5	
PG13.5	14.0-18.0	(.55-.71)	20.5	(.81)	25	Blue	95937.4	95937.5	
PG13.5	17.0-20.5	(.67-.81)	20.5	(.81)	25	Brown	95938.4	95938.5	
PG16	14.0-18.0	(.55-.71)	22.5	(.89)	25	Blue	95939.4	95939.5	
PG16	17.0-20.5	(.67-.81)	22.5	(.89)	25	Brown	95940.4	95940.5	
PG16	20.0-25.0	(.79-.98)	22.5	(.89)	10	Orange	95941.4	95941.5	
PG16	24.0-28.0	(.94-1.10)	22.5	(.89)	10	Light Yellow	95942.4	95942.5	
PG21	20.0-25.0	(.79-.98)	28.5	(1.12)	10	Orange	95943.4	95943.5	
PG21	24.0-28.0	(.94-1.10)	28.5	(1.12)	10	Light Yellow	95944.4	95944.5	
PG21	27.0-32.0	(1.06-1.26)	28.5	(1.12)	5	Dark Gray	95945.4	95945.5	
PG21	29.0-34.0	(1.14-1.34)	28.5	(1.12)	5	Light Blue	95946.4	95946.5	
PG21	32.0-36.0	(1.26-1.42)	28.5	(1.12)	5	Rose	95947.4	95947.5	
PG29	27.0-32.0	(1.06-1.26)	37.0	(1.46)	5	Dark Gray	95948.4	95948.5	
PG29	29.0-34.0	(1.14-1.34)	37.0	(1.46)	5	Light Yellow	95949.4	95949.5	
PG29	32.0-36.0	(1.26-1.42)	37.0	(1.46)	5	Rose	95950.4	95950.5	



Cord Grip Dimensions: mm (in.)						
Size	A	B	C	D	E	F
PG7	31.0 (1.22)	23.0 (.91)	8.0 (.31)	12.5 (.49)	19.0 (.75)	21.2 (.83)
PG9	31.0 (1.22)	23.0 (.91)	8.0 (.31)	15.2 (.60)	22.0 (.87)	24.4 (.96)
PG11	36.0 (1.42)	27.0 (1.06)	9.0 (.35)	18.6 (.73)	27.0 (1.06)	29.5 (1.16)
PG13.5	38.5 (1.52)	29.5 (1.16)	9.0 (.35)	20.4 (.80)	33.0 (1.30)	36.5 (1.44)
PG16	42.0 (1.65)	32.0 (1.26)	10.0 (.39)	22.5 (.89)	43.0 (1.69)	46.0 (1.81)
PG21	45.0 (1.77)	35.0 (1.38)	10.0 (.39)	28.3 (1.14)	43.0 (1.69)	53.0 (2.09)
PG29	46.0 (1.81)	35.0 (1.38)	11.0 (.43)	37.0 (1.46)	53.0 (2.09)	56.3 (2.22)



### Polyvinylidene (PVDF)



With Silicone (SIL)  
Short Sealing Insert

Polyvinylidene (PVDF)  
Silicone (SIL)  
-40 to 150°C (-40 to 302°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

	Cat. No.	
Opaque	Black	Black
-	-	-
95971.4	95971.5	95971.5
95972.4	95972.5	95972.5
95973.4	95973.5	95973.5
95974.4	95974.5	95974.5
95975.4	95975.5	95975.5
95976.4	95976.5	95976.5
95977.4	95977.5	95977.5
95978.4	95978.5	95978.5
95979.4	95979.5	95979.5
95980.4	95980.5	95980.5
95981.4	95981.5	95981.5
95982.4	95982.5	95982.5
95983.4	95983.5	95983.5
95984.4	95984.5	95984.5
95985.4	95985.5	95985.5
95986.4	95986.5	95986.5
95987.4	95987.5	95987.5
95988.4	95988.5	95988.5
95989.4	95989.5	95989.5
95990.4	95990.5	95990.5

### Locknuts (PA)



Order Separately

**Material**  
Polyamide (PA)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Light Gray and Black

	Cat. No.		Std.
Size	L. Gray	Black	Pk.
PG7	23050.9	23060.9	100
PG9	23051.9	23061.9	100
PG11	23052.9	23062.9	100
PG13.5	23053.9	23063.9	100
PG16	23054.9	23064.9	100
PG21	23055.9	23065.9	100
PG29	23056.9	23066.9	50

### Seal Rings (PET)



Order Separately

**Material**  
Polyethylene (PET)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Opaque

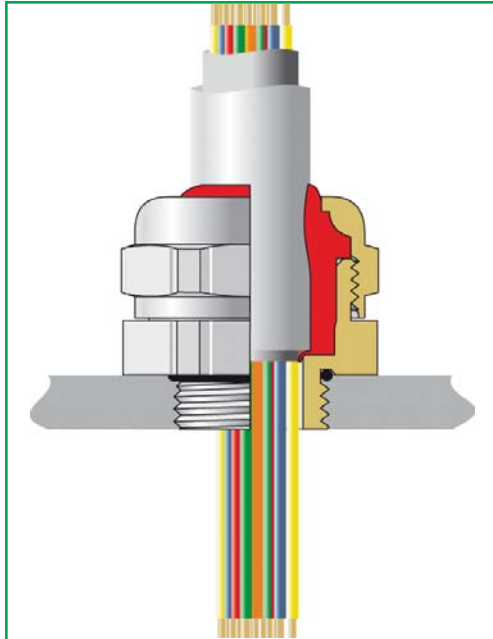
	Cat. No.	Std.
Size	Cat. No.	Pk.
PG7	23170.9	50
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

High Performance Cord Grips

## Straight Through Enlarged – PG External Thread

### Nickel Plated Brass (NPB)



The Cord Grips on this page feature an enlarged Head Section to accommodate cable with thicker outer insulation at the smallest possible External Thread Size.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Locknuts Separately
- Neoprene Seal Rings Factory Installed
- Order High/Low Temperature Silicone Seal Rings Separately

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE) Short Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-45 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
PG7	5.0-8.0	(.20-.31)	12.5	(.49)	50	Gray	95800.6
PG7	6.5-9.5	(.26-.37)	12.5	(.49)	50	Black	95801.6
PG7	7.0-10.5	(.28-.41)	12.5	(.49)	50	Green	95802.6
PG9	7.0-10.5	(.28-.41)	15.2	(.60)	50	Green	95803.6
PG9	9.0-13.0	(.35-.51)	15.2	(.60)	50	Red	95804.6
PG11	9.0-13.0	(.35-.51)	18.5	(.73)	50	Red	95805.6
PG11	11.5-15.5	(.45-.61)	18.5	(.73)	50	White	95806.6
PG13.5	11.5-15.5	(.45-.61)	20.5	(.81)	50	White	95807.6
PG13.5	14.0-18.0	(.55-.71)	20.5	(.81)	25	Blue	95808.6
PG13.5	17.0-20.5	(.67-.81)	20.5	(.81)	25	Brown	95809.6
PG16	14.0-18.0	(.55-.71)	22.5	(.89)	25	Blue	95810.6
PG16	17.0-20.5	(.67-.81)	22.5	(.89)	25	Brown	95811.6
PG16	20.0-25.0	(.79-.98)	22.5	(.89)	10	Orange	95812.6
PG16	24.0-28.0	(.94-1.10)	22.5	(.89)	10	Light Yellow	95813.6
PG21	20.0-25.0	(.79-.98)	28.5	(1.12)	10	Orange	95814.6
PG21	24.0-28.0	(.94-1.10)	28.5	(1.12)	10	Light Yellow	95815.6
PG21	27.0-32.0	(1.06-1.26)	28.5	(1.12)	5	Dark Gray	95816.6
PG21	29.0-34.0	(1.14-1.34)	28.5	(1.12)	5	Light Blue	95817.6
PG21	32.0-36.0	(1.26-1.42)	28.5	(1.12)	5	Rose	95818.6
PG29	27.0-32.0	(1.06-1.26)	37.0	(1.46)	5	Dark Gray	95819.6
PG29	29.0-34.0	(1.14-1.34)	37.0	(1.46)	5	Light Blue	95820.6
PG29	32.0-36.0	(1.26-1.42)	37.0	(1.46)	5	Rose	95821.6
PG36	34.0-38.0	(1.34-1.50)	47.0	(1.85)	5	White	95822.6
PG36	36.0-40.0	(1.42-1.57)	47.0	(1.85)	5	White	95823.6
PG48	42.0-47.0	(1.65-1.85)	59.5	(2.34)	1	White	95824.6
PG48	47.0-52.0	(1.85-2.05)	59.5	(2.34)	1	White	95825.6
PG48	51.0-55.0	(2.01-2.17)	59.5	(2.34)	1	White	95826.6
PG48	54.0-58.0	(2.13-2.28)	59.5	(2.34)	1	White	95827.6
PG48	58.0-64.0	(2.28-2.52)	59.5	(2.34)	1	White	95828.6
PG48	63.0-70.0	(2.48-2.76)	59.5	(2.34)	1	White	95829.6

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Short Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)  
Opaque

**Cat. No.**

- 
- 95830.6
- 95831.6
- 95832.6
- 95833.6
- 95834.6
- 95835.6
- 95836.6
- 95837.6
- 95838.6
- 95839.6
- 95840.6
- 95841.6
- 95842.6
- 95843.6
- 95844.6
- 95845.6
- 95846.6
- 95847.6
- 95848.6
- 95849.6
- 95850.6
- 
- 
- 
- 
- 
- 

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG7	23000.9	100
PG9	23001.9	100
PG11	23002.9	100
PG13.5	23003.9	100
PG16	23004.9	100
PG21	23005.9	100
PG29	23006.9	100
PG36	23007.6	100
PG48	23009.6	50

### Seal Rings (SIL)



Order Separately

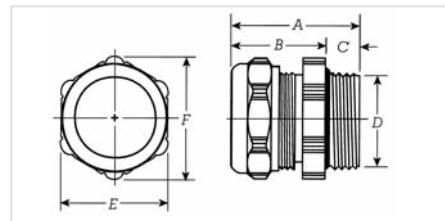
**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
PG7	23230.9	50
PG9	23231.9	50
PG11	23232.9	50
PG13.5	23233.9	50
PG16	23234.9	50
PG21	23235.9	50
PG29	23236.9	50
PG36	23237.9	25

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings



**Cord Grip Dimensions: mm (in.)**

Size	A	B	C	D	E	F
PG7	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.5 (.49)	17.0 (.67)	18.9 (.74)
PG9	27.0 (1.06)	21.0 (.79)	6.0 (.24)	15.2 (.60)	22.0 (.87)	24.4 (.96)
PG11	27.0 (1.06)	21.0 (.79)	6.0 (.24)	18.6 (.73)	24.0 (.94)	26.7 (1.05)
PG13.5	30.5 (1.20)	24.0 (.94)	6.5 (.26)	20.4 (.80)	30.0 (1.18)	33.5 (1.32)
PG16	34.5 (1.36)	28.0 (1.10)	6.5 (.26)	22.5 (.89)	40.0 (1.57)	43.5 (1.71)
PG21	35.0 (1.38)	28.0 (1.10)	7.0 (.28)	28.3 (1.11)	50.0 (1.97)	54.0 (2.13)
PG29	36.0 (1.42)	28.0 (1.10)	8.0 (.31)	37.0 (1.46)	50.0 (1.97)	54.0 (2.13)
PG36	38.0 (1.50)	30.0 (1.18)	8.0 (.31)	47.0 (1.85)	57.0 (2.24)	61.0 (2.40)
PG48	55.0 (2.17)	45.0 (1.77)	10.0 (.39)	59.3 (2.33)	95.0 (3.74)	102.0 (4.02)

## Increased Strain Relief Protection – Metric External Thread



- Protection Rating: IP54; NEMA 13
- Selection of 3 Body Materials
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque

### Polyamide (PA)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	(TPE)/(PA)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Sealing Insert Color	Std. Pk.	Cat. No.	
	mm	(in.)	mm	(in.)			Beige	Black
M10x1.0	4.0-6.5	(.16-.26)	10.0	(.39)	Yellow	50	–	–
M10x1.5	4.0-6.5	(.16-.26)	10.0	(.39)	Yellow	50	–	–
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	Yellow	50	95330.0	95330.1
M12x1.5	5.5-9.0	(.22-.35)	12.0	(.47)	Black	50	–	–
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	Yellow	50	95331.0	95331.1
M16x1.5	5.5-9.0	(.22-.35)	16.0	(.63)	Black	50	95332.0	95332.1
M16x1.5	6.5-9.0	(.26-.35)	16.0	(.63)	Black	50	–	–
M16x1.5	6.0-10.0	(.24-.39)	16.0	(.63)	Green	50	95333.0	95333.1
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	Black	50	95334.0	95334.1
M20x1.5	6.0-10.0	(.24-.39)	20.0	(.79)	Green	50	95335.0	95335.1
M20x1.5	8.0-12.0	(.31-.47)	20.0	(.79)	Red	50	95336.0	95336.1
M20x1.5	12.0-15.0	(.47-.59)	20.0	(.79)	White	50	–	–
M25x1.5	6.0-10.0	(.24-.39)	25.0	(.98)	Green	50	95337.0	95337.1
M25x1.5	8.0-12.0	(.31-.47)	25.0	(.98)	Red	50	95338.0	95338.1
M25x1.5	12.0-15.0	(.47-.59)	25.0	(.98)	White	50	95339.0	95339.1
M25x1.5	14.0-17.0	(.55-.67)	25.0	(.98)	Blue	50	–	–
M32x1.5	8.0-12.0	(.31-.47)	32.0	(1.26)	Red	25	–	–
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	Red	25	95340.0	95340.1
M32x1.5	12.0-15.0	(.47-.59)	32.0	(1.26)	White	25	95341.0	95341.1
M32x1.5	14.0-17.0	(.55-.67)	32.0	(1.26)	Blue	25	95342.0	95342.1
M32x1.5	16.0-20.0	(.63-.79)	32.0	(1.26)	Brown	25	95343.0	95343.1
M32x1.5	20.0-24.0	(.79-.94)	32.0	(1.26)	Orange	10	95345.0	95345.1
M32x1.5	23.0-27.0	(.91-1.06)	32.0	(1.26)	Light Yellow	10	95346.0	95346.1
M40x1.5	16.0-20.0	(.63-.79)	40.0	(1.57)	Brown	10	95347.0	95347.1
M40x1.5	20.0-24.0	(.79-.94)	40.0	(1.57)	Orange	10	95348.0	95348.1
M40x1.5	23.0-27.0	(.91-1.06)	40.0	(1.57)	Light Yellow	10	95349.0	95349.1
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	Dark Gray	5	95350.0	95350.1
M50x1.5	28.0-32.0	(1.10-1.26)	50.0	(1.97)	Dark Gray	5	–	–
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	Rose	5	95351.0	95351.1
M50x1.5	34.0-40.0	(1.34-1.57)	50.0	(1.97)	White	5	–	–
M63x1.5	39.0-43.0	(1.54-1.69)	63.0	(2.48)	White	5	–	–

See Page 18 for Polyamide Cord Grip Drawing and Dimensions

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Polyvinylidene (PVDF)  
(TPE)/(PA)

–  
-40 to 150°C (-40 to 302°F)  
-20 to 100°C (-4 to 212°F)  
–  
Various

**Cat. No.**

**Opaque**

**Black**

–	–
–	–
95360.4	95360.5
–	–
95361.4	95361.5
–	–
95362.4	95362.5
–	–
95363.4	95363.5
95364.4	95364.5
95365.4	95365.5
–	–
95366.4	95366.5
95367.4	95367.5
95368.4	95368.5
–	–
95369.4	95369.5
–	–
95370.4	95370.5
95371.4	95371.5
95372.4	95372.5
–	–
–	–
95373.4	95373.5
95374.4	95374.5
95375.4	95375.2
–	–
95376.4	95376.5
95377.4	95377.5
–	–
–	–

Nickel Plated Brass (NPB)  
(TPE)/(PA)

Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-20 to 100°C (-4 to 212°F)  
-20 to 100°C (-4 to 212°F)  
Various

**Cat. No.**

26905.6
26915.6
95300.6
95301.6
95302.6
95303.6
–
95304.6
95305.6
95306.6
95307.6
95308.6
95309.6
95310.6
95311.6
95312.6
–
95313.6
95314.6
95315.6
95316.6
95317.6
–
95318.6
95319.6
95320.6
95321.6
–
95322.6
95323.6
95324.6

See Page 20 for Polyvinylidene Cord Grip Drawing and Dimensions  
See Page 23 for Nickel Plated Brass Cord Grip Drawing and Dimensions

### Locknuts



Order Separately

**Material**

Polyamide (PA) or Nickel Plated Brass (NPB)

**Temperature Range**

-20 to 100°C (-4 to 212°F) (PA)  
-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
M10x1.0	–	–	97611.9
M10x1.5	–	–	97612.9
M12x1.5	25510.9	25720.9	25500.9
M16x1.5	25511.9	25721.9	25501.9
M20x1.5	25512.9	25722.9	25502.9
M25x1.5	25513.9	25723.9	25503.9
M32x1.5	25514.9	25724.9	25504.9
M40x1.5	25515.9	25725.9	25505.9
M50x1.5	25516.9	25726.9	25506.9
M63x1.5	25517.9	25727.9	25507.9

See Page 292, 294 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50
M50	25736.9	50
M63	25737.9	50

See Page 298 for Drawings and Dimensional Information.

## Increased Strain Relief Protection – PG External Thread



- Protection Rating: IP54; NEMA 13
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque

### Polyamide (PA)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	(TPE)/(PA)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing		Cat. No.	
	mm	(in.)	mm	(in.)		Insert Color	Beige	Black	
PG7	4.0-6.0	(.16-.24)	12.5	(.49)	50	Yellow	20609.0	20629.1	
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20610.0	20630.1	
PG9	5.5-9.0	(.22-.33)	15.2	(.60)	50	Black	20611.0	20631.1	
PG11	6.0-9.0	(.24-.33)	18.5	(.73)	50	Black	20650.0	20649.1	
PG11	6.0-10.0	(.24-.39)	18.5	(.73)	50	Green	20612.0	20632.1	
PG13.5	5.5-9.0	(.22-.33)	20.5	(.81)	50	Black	20613.0	20633.1	
PG13.5	6.0-10.0	(.24-.39)	20.5	(.81)	50	Green	20614.0	20634.1	
PG13.5	8.0-12.0	(.31-.47)	20.5	(.81)	50	Red	20615.0	20635.1	
PG16	6.0-10.0	(.24-.39)	22.5	(.89)	25	Green	20616.0	20636.1	
PG16	8.0-12.0	(.31-.47)	22.5	(.89)	25	Red	20617.0	20637.1	
PG16	12.0-15.0	(.47-.59)	22.5	(.89)	25	White	20618.0	20638.1	
PG21	9.0-13.0	(.22-.51)	28.5	(1.12)	25	Red	20619.0	20639.1	
PG21	12.0-15.0	(.47-.59)	28.5	(1.12)	25	White	20620.0	20640.1	
PG21	14.0-17.0	(.45-.61)	28.5	(1.12)	25	Blue	20621.0	20641.1	
PG21	16.0-20.0	(.63-.79)	28.5	(1.12)	25	Brown	20622.0	20642.1	
PG29	16.0-20.0	(.63-.79)	37.0	(1.46)	20	Brown	20623.0	20643.1	
PG29	20.0-24.0	(.79-.94)	37.0	(1.46)	20	Orange	20624.0	20644.1	
PG29	23.0-27.0	(.91-1.06)	37.0	(1.46)	20	Light Yellow	20625.0	20645.1	
PG36	27.0-31.5	(1.06-1.24)	47.0	(1.85)	10	Dark Gray	20626.0	20646.1	
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	20627.0	20647.1	
PG42	34.0-40.0	(1.34-1.57)	54.0	(2.13)	5	White	–	–	
PG48	39.0-43.5	(1.54-1.71)	59.5	(2.34)	5	White	–	–	

See Page 34 for Polyamide Cord Grip Drawing and Dimensions

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Polyvinylidene (PVDF) (TPE)/(PA)	
–	
-40 to 150°C (-40 to 302°F)	
-20 to 100°C (-4 to 212°F)	
–	
Various	

Nickel Plated Brass (NPB) (TPE)/(PA)	
Neoprene (NBR)	
-40 to 300°C (-40 to 572°F)	
-20 to 100°C (-4 to 212°F)	
-20 to 100°C (-4 to 212°F)	
Various	

Sealing Insert Color	Cat. No.	
	Opaque	Black
Yellow	20650.4	20670.5
Yellow	20651.4	20671.5
Black	20652.4	20672.5
Black	20710.4	20711.5
Green	20653.4	20673.5
Black	20654.4	20674.5
Green	20655.4	20675.5
Red	20656.4	20676.5
Green	20657.4	20677.5
Red	20658.4	20678.5
White	20659.4	20679.5
Red	20660.4	20680.5
White	20661.4	20681.5
Blue	20662.4	20682.5
Brown	20663.4	20683.5
Brown	20664.4	20684.5
Orange	20665.4	20685.5
Light Yellow	20666.4	20686.5
Dark Gray	20667.4	20687.5
Rose	20668.4	20688.5
White	–	–
White	–	–

Sealing Insert Color	Cat. No.
	Yellow
Yellow	20691.6
Black	20692.6
Black	20710.6
Green	20693.6
Black	20694.6
Green	20695.6
Red	20696.6
Green	20697.6
Red	20698.6
White	20699.6
Red	20700.6
White	20701.6
Blue	20702.6
Brown	20703.6
Brown	20704.6
Orange	20705.6
Light Yellow	20706.6
Dark Gray	20707.6
Rose	20708.6
White	20709.6
White	20711.6

See Page 37 for Polyvinylidene Cord Grip Drawing and Dimensions  
See Page 39 for Nickel Plated Brass Cord Grip Drawing and Dimensions

### Locknuts



Order Separately

**Material**

Polyamide (PA) or Nickel Plated Brass (NPB)

**Temperature Range**

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
PG7	23050.9	23060.9	23000.9
PG9	23051.9	23061.9	23001.9
PG11	23052.9	23062.9	23002.9
PG13.5	23053.9	23063.9	23003.9
PG16	23054.9	23064.9	23004.9
PG21	23055.9	23065.9	23005.9
PG29	23056.9	23066.9	23006.9
PG36	23057.9	23067.9	23007.9
PG42	23058.9	23068.9	23008.9
PG48	23059.9	23069.9	23009.9

See Page 293, 296 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
PG7	23170.9	50
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50
PG36	23177.9	50
PG42	23178.9	50
PG48	23179.9	50

See Page 300 for Drawings and Dimensional Information.

High Performance Cord Grips

## Increased Strain Relief Protection – NPT External Thread



- Protection Rating: IP54; NEMA 13
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately
- Order Locknuts Separately
- Standard Colors: Opaque or Black

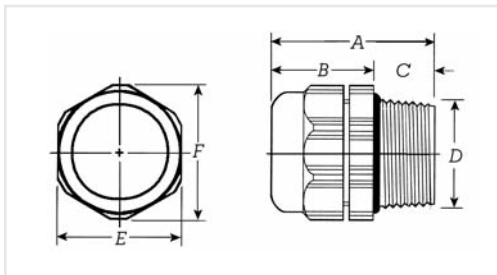
### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	(TPE) / (PA)
Temperature Range	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Std. Pk.	Sealing Insert Color	Cat. No.	
	mm	(in.)			Opaque	Black
NPT3/8"	6.0-9.0	(.24-.33)	50	Black	18400.4	18400.5
NPT3/8"	6.0-10.0	(.24-.39)	50	Green	18401.4	18401.5
NPT1/2"	6.0-10.0	(.24-.39)	25	Green	18402.4	18402.5
NPT1/2"	8.0-12.0	(.31-.47)	25	Red	18403.4	18403.5
NPT1/2"	12.0-15.0	(.47-.59)	25	White	18404.4	18404.5
NPT3/4"	9.0-13.0	(.22-.51)	25	Red	18405.4	18405.5
NPT3/4"	12.0-15.0	(.47-.59)	25	White	18406.4	18406.5
NPT3/4"	14.0-17.0	(.45-.61)	25	Blue	18407.4	18407.5
NPT3/4"	16.0-20.0	(.63-.79)	25	Brown	18408.4	18408.5
NPT1"	16.0-20.0	(.63-.79)	5	Brown	–	–
NPT1"	20.0-24.0	(.79-.94)	5	Orange	–	–
NPT1"	23.0-27.0	(.91-1.06)	5	Light Yellow	–	–
NPT1-1/4"	27.0-31.5	(1.06-1.24)	5	Dark Gray	–	–
NPT1-1/4"	32.0-36.0	(1.26-1.42)	5	Rose	–	–
NPT1-1/2"	34.0-40.0	(1.34-1.57)	5	White	–	–
NPT2"	39.0-43.5	(1.54-1.71)	1	White	–	–



### Cord Grip Dimensions: mm (in.) Polyvinylidene (PVDF)

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)



## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Polyamide (PA) Tubular Sealing Insert

Nickel Plated Brass (NPB)  
(TPE) / (PA)

-40 to 300°C (-40 to 572°F)  
-20 to 100°C (-4 to 212°F)

Various

Sealing Insert Color	Cat. No.
Black	18400.6
Green	18401.6
Green	18402.6
Red	18403.6
White	18404.6
Red	18405.6
White	18406.6
Blue	18407.6
Brown	18408.6
Brown	18409.6
Orange	18410.6
Light Yellow	18411.6
Dark Gray	18412.6
Rose	18413.6
White	18414.6
White	18415.6

## Locknuts



Order Separately

**Material**  
Nickel Plated Brass (NPB)  
or Polyamide (PA)

**Temperature Range**  
(NPB) -40 to 300°C (-40 to 572°F)  
(PA) -20 to 100°C (-4 to 212°F)

**Color**  
Gray or Black

Size	Cat. No.		
	PA Gray	PA Black	NPB
NPT3/8"	23203.9	23207.9	23200.9
NPT1/2"	23204.9	23208.9	23201.9
NPT3/4"	23205.9	23209.9	23202.9
NPT1"	-	-	23211.9
NPT1-1/4"	-	-	23216.9
NPT1-1/2"	-	-	23217.9
NPT2"	-	-	23218.9

## Seal Rings



Order Separately

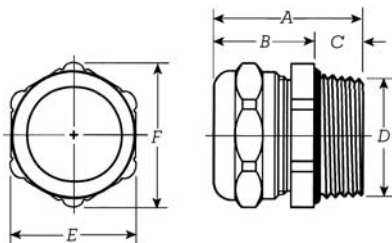
**Material**  
Polyethylene (PET)  
Neoprene (NBR)

**Temperature Range**  
-20 to 100°C (-4 to 212°F) (PET)  
-40 to 100°C (-40 to 212°F) (NBR)

**Color**  
Opaque (PET), Black (NBR)

Size	Cat. No.		Std. Pk.
	PET	NBR	
NPT3/8"	23188.9	23152.9	50
NPT1/2"	23190.9	23153.9	50
NPT3/4"	23192.9	23155.9	25
NPT1"	-	23156.9	10
NPT1-1/4"	-	23216.9	10
NPT1-1/2"	-	23217.9	10
NPT2"	-	23218.9	10

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings



## Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	42.2 (1.66)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	62.0 (2.44)	40.0 (1.57)	22.0 (.87)	48.3 (1.90)	57.0 (2.24)	61.0 (2.40)
NPT2"	65.0 (2.56)	40.0 (1.57)	25.0 (.98)	60.3 (2.38)	64.0 (2.52)	69.0 (2.72)

## Bend Protection – Metric External Thread



- Protection Rating: IP68; NEMA 4X
- Selection of 3 Body Materials
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque

### Polyamide (PA)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.	
	mm	(in.)	mm	(in.)		Beige	Black
M10x1.0	2.5-4.0	(.09-.16)	10.0	(.39)	50	–	–
M10x1.0	3.5-5.0	(.14-.20)	10.0	(.39)	50	–	–
M10x1.0	4.0-6.5	(.16-.26)	10.0	(.39)	50	–	–
M10x1.5	2.5-4.0	(.09-.16)	10.0	(.39)	50	–	–
M10x1.5	3.5-5.0	(.14-.20)	10.0	(.39)	50	–	–
M10x1.5	4.0-6.5	(.16-.26)	10.0	(.39)	50	–	–
M12x1.5	2.5-4.0	(.09-.16)	12.0	(.47)	50	95420.0	95420.1
M12x1.5	3.5-5.0	(.14-.20)	12.0	(.47)	50	95421.0	95421.1
M12x1.5	4.0-6.5	(.16-.26)	12.0	(.47)	50	95422.0	95422.1
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	95423.0	95423.1
M16x1.5	5.0-7.5	(.20-.30)	16.0	(.63)	50	95424.0	95424.1
M16x1.5	6.0-8.5	(.24-.33)	16.0	(.63)	50	95425.0	95425.1
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	95426.0	95426.1
M16x1.5	6.0-10.5	(.24-.41)	16.0	(.63)	50	–	–
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	50	95427.0	95427.1
M20x1.5	5.0-7.5	(.20-.30)	20.0	(.79)	50	95428.0	95428.1
M20x1.5	5.0-8.5	(.20-.33)	20.0	(.79)	50	–	–
M20x1.5	6.0-8.5	(.24-.33)	20.0	(.79)	50	95429.0	95429.1
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	95430.0	95430.1
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	95431.0	95431.1
M20x1.5	9.5-13.0	(.35-.51)	20.0	(.79)	50	–	–
M20x1.5	12.0-15.5	(.51-.61)	20.0	(.79)	50	–	–
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	95432.0	95432.1
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	95433.0	95433.1
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	95434.0	95434.1
M25x1.5	12.0-15.5	(.51-.61)	25.0	(.98)	25	–	–
M25x1.5	14.0-17.0	(.55-.67)	25.0	(.98)	25	–	–
M32x1.5	8.0-12.0	(.31-.47)	32.0	(1.26)	25	95435.0	95435.1
M32x1.5	12.0-15.5	(.51-.61)	32.0	(1.26)	25	95436.0	95436.1
M32x1.5	14.0-17.5	(.55-.69)	32.0	(1.26)	25	95437.0	95437.1
M32x1.5	16.0-20.5	(.63-.81)	32.0	(1.26)	10	95438.0	95438.1
M32x1.5	20.0-24.0	(.78-.94)	32.0	(1.26)	10	95439.0	95439.1
M40x1.5	16.0-20.5	(.63-.81)	40.0	(1.57)	10	95440.0	95440.1
M40x1.5	20.0-24.0	(.78-.94)	40.0	(1.57)	10	95441.0	95441.1
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	5	–	–
M50x1.5	24.0-28.0	(.94-1.10)	50.0	(1.97)	5	95442.0	95442.1
M50x1.5	28.0-32.0	(1.10-1.26)	50.0	(1.97)	5	95443.0	95443.1

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Insert

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)	
Black		Black	
Cat. No.		Cat. No.	
Opaque	Black		
-	-	26908.6	
-	-	26909.6	
-	-	26910.6	
-	-	26918.6	
-	-	26919.6	
-	-	26920.6	
95420.4	95420.5	95390.6	
95421.4	95421.5	95391.6	
95422.4	95422.5	95392.6	
95423.4	95423.5	95393.6	
95424.4	95424.5	95394.6	
95425.4	95425.5	95395.6	
95426.4	95426.5	-	
-	-	95396.6	
95427.4	95427.5	-	
95428.4	95428.5	-	
-	-	95397.6	
95429.4	95429.5	-	
95430.4	95430.5	-	
95431.4	95431.5	95398.6	
-	-	95399.6	
-	-	95400.6	
95432.4	95432.5	95401.6	
95433.4	95433.5	95402.6	
95434.4	95434.5	95403.6	
-	-	95404.6	
-	-	95405.6	
95435.4	95435.5	95406.6	
95436.4	95436.5	95407.6	
95437.4	95437.5	95408.6	
95438.4	95438.5	95409.6	
95439.4	95439.5	95410.6	
95440.4	95440.5	95411.6	
95441.4	95441.5	95412.6	
-	-	95413.6	
95442.4	95442.5	95414.6	
95443.4	95443.5	95415.6	

### Locknuts



Order Separately

#### Material

Polyamide (PA) or Nickel Plated Brass (NPB)

#### Temperature Range

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
M10x1.0	-	-	97611.9
M10x1.5	-	-	97612.9
M12x1.5	25510.9	25720.9	25500.9
M16x1.5	25511.9	25721.9	25501.9
M20x1.5	25512.9	25722.9	25502.9
M25x1.5	25513.9	25723.9	25503.9
M32x1.5	25514.9	25724.9	25504.9
M40x1.5	25515.9	25725.9	25505.9
M50x1.5	25516.9	25726.9	25506.9

See Page 294, 294 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

#### Material

Polyethylene (PET)

#### Temperature Range

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50
M50	25736.9	50

See Page 298 for Drawings and Dimensional Information.

High Performance Cord Grips

## Bend Protection – PG External Thread



- Protection Rating: IP68; NEMA 4X
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque

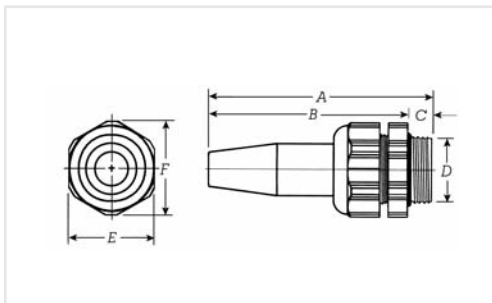
### Polyamide (PA)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.	
	mm	(in.)	mm	(in.)		Beige	Black
PG7	2.0-4.0	(.08-.16)	12.5	(.49)	25	–	–
PG7	3.5-5.0	(.14-.20)	12.5	(.49)	25	–	–
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	25	20720.0	20735.1
PG9	5.0-7.5	(.20-.30)	15.2	(.60)	25	20721.0	20736.1
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	25	20722.0	20737.1
PG11	6.0-8.5	(.24-.33)	18.5	(.73)	25	20723.0	20738.1
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	25	20724.0	20739.1
PG13.5	6.0-8.5	(.24-.33)	20.5	(.81)	25	20725.0	20740.1
PG13.5	8.0-10.5	(.31-.41)	20.5	(.81)	25	20726.0	20741.1
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	10	20727.0	20742.1
PG16	8.0-10.5	(.31-.41)	22.5	(.89)	10	20728.0	20743.1
PG16	10.5-13.0	(.41-.51)	22.5	(.89)	10	20729.0	20744.1
PG21	8.0-12.0	(.31-.47)	28.5	(1.12)	10	20715.0	20730.1
PG21	12.0-15.5	(.47-.61)	28.5	(1.12)	10	20716.0	20731.1
PG21	14.0-17.0	(.55-.67)	28.5	(1.12)	10	20730.0	20745.1
PG29	17.0-20.5	(.55-.81)	37.0	(1.46)	5	20717.0	20732.1
PG29	20.0-24.0	(.79-.94)	37.0	(1.46)	5	20731.0	20746.1
PG36	24.0-28.0	(.94-1.10)	47.0	(1.85)	5	20718.0	20733.1
PG36	28.0-32.0	(1.10-1.26)	47.0	(1.85)	5	20719.0	20734.1



### Cord Grip Dimensions: mm (in.) Polyamide (PA) & Polyvinylidene (PVDF)

Size	A	B	C	D	E	F
PG9	63.0 (2.48)	55.0 (2.17)	9.0 (.35)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	73.0 (2.87)	64.0 (2.52)	9.0 (.35)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	81.0 (3.19)	72.0 (2.83)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	89.5 (3.52)	80.0 (3.15)	9.5 (.37)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	91.0 (3.58)	80.0 (3.15)	11.0 (.43)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)
PG29	115.0 (4.53)	104.0 (4.09)	11.0 (.43)	37.0 (1.46)	43.0 (1.69)	46.5 (1.83)
PG36	124.0 (4.88)	110.0 (4.33)	14.0 (.55)	47.0 (1.85)	53.0 (2.09)	57.0 (2.24)

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Polyvinylidene (PVDF)
Thermoplastic Elastomer (TPE)
–
–40 to 150°C (-40 to 302°F)
–40 to 130°C (-40 to 266°F)
–
Black

Nickel Plated Brass (NPB)
Thermoplastic Elastomer (TPE)
Neoprene (NBR)
–40 to 300°C (-40 to 572°F)
–40 to 130°C (-40 to 266°F)
–20 to 100°C (-4 to 212°F)
Black

Cat. No.	
Opaque	Black
–	–
–	–
20750.4	20765.5
20751.4	20766.5
20752.4	20767.5
20753.4	20768.5
20754.4	20769.5
20755.4	20770.5
20756.4	20771.5
20757.4	20772.5
20758.4	20773.5
20759.4	20774.5
20748.4	20778.5
20749.4	20779.5
20760.4	20775.5
20761.4	20776.5
20762.4	20777.5
20763.4	20780.5
20764.4	20781.5

Cat. No.
20779.6
20780.6
20781.6
20782.6
20783.6
20784.6
20785.6
20786.6
20787.6
20788.6
20789.6
20790.6
20795.6
20791.6
20792.6
20793.6
20794.6
20796.6
20797.6

### Locknuts



Order Separately

**Material**  
Polyamide (PA) or Nickel Plated Brass (NPB)  
**Temperature Range**  
–20 to 100°C (–4 to 212°F) (PA)  
–40 to 300°C (–40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
PG7	23050.9	23060.9	23000.9
PG9	23051.9	23061.9	23001.9
PG11	23052.9	23062.9	23002.9
PG13.5	23053.9	23063.9	23003.9
PG16	23054.9	23064.9	23004.9
PG21	23055.9	23065.9	23005.9
PG29	23056.9	23066.9	23006.9
PG36	23057.9	23067.9	23007.9

See Page 293, 296 for Drawings and Dimensional Information.

### Seal Rings (PET)

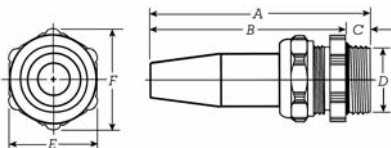


Order Separately

**Material**  
Polyethylene (PET)  
**Temperature Range**  
–20 to 100°C (–4 to 212°F)

Size	Cat. No.	Std. Pk.
PG7	23170.9	50
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50
PG36	23177.9	50

See Page 300 for Drawings and Dimensional Information.



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
PG7	55.0 (2.17)	50.0 (1.97)	5.0 (.20)	12.5 (.49)	14.0 (.55)	15.5 (.61)
PG9	60.0 (2.36)	54.0 (2.13)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	69.0 (2.72)	63.0 (2.48)	6.0 (.24)	18.6 (.73)	20.0 (.79)	22.2 (.87)
PG13.5	75.5 (2.97)	69.0 (2.72)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	84.5 (3.33)	78.0 (3.07)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	85.0 (3.35)	78.0 (3.07)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)
PG29	112.0 (4.41)	104.0 (4.09)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)
PG36	116.0 (4.57)	107.0 (4.21)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)

## Bend Protection – NPT External Thread



- Protection Rating: IP68; NEMA 4X
- Order Neoprene (NBR) Seal Rings Separately for Nickel Plated Brass Cord Grips
- Order Polyethylene (PET) Seal Rings Separately for Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Opaque or Black

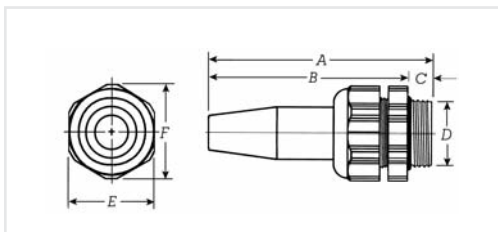
## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Std. Pk.	Cat. No. Opaque
	mm	(in.)		
NPT3/8"	4.0-6.5	(.16-.26)	25	96765.4
NPT3/8"	6.0-8.5	(.24-.33)	25	96766.4
NPT3/8"	6.5-9.5	(.26-.37)	25	96767.4
NPT1/2"	5.0-8.5	(.20-.33)	25	–
NPT1/2"	6.5-9.5	(.26-.37)	25	96768.4
NPT1/2"	7.0-10.5	(.28-.41)	25	96769.4
NPT1/2"	9.5-13.0	(.35-.51)	25	96770.4
NPT3/4"	12.0-15.5	(.51-.61)	10	96772.4
NPT3/4"	14.0-17.0	(.55-.67)	10	96773.4
NPT1"	16.0-20.5	(.67-.81)	10	–
NPT1"	20.0-24.0	(.79-.94)	10	–
NPT1-1/4"	24.0-28.0	(.94-1.10)	5	–
NPT1-1/4"	28.0-32.0	(1.10-1.26)	5	–
NPT1-1/2"	24.0-28.0	(.94-1.10)	5	–
NPT1-1/2"	28.0-32.0	(1.10-1.26)	5	–



### Cord Grip Dimensions: mm (in.) Polyvinylidene (PVDF)

Size	A	B	C	D	E	F
NPT3/8"	77.0 (3.03)	64.0 (2.52)	13.0 (.51)	17.2 (.73)	22.0 (.87)	24.4 (.96)
NPT1/2"	91.0 (3.58)	75.0 (2.95)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	96.0 (3.78)	80.0 (3.15)	16.0 (.63)	26.7 (1.05)	33.0 (1.30)	36.5 (1.44)

## Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Polyvinylidene (PVDF)	Nickel Plated Brass (NPB)
Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)
–	–
–40 to 150°C (-40 to 302°F)	–40 to 300°C (-40 to 572°F)
–40 to 130°C (-40 to 266°F)	–40 to 130°C (-40 to 266°F)
–	–20 to 100°C (-4 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
<b>Black</b>	
96765.5	96750.6
96766.5	96751.6
96767.5	96752.6
–	96753.6
96768.5	–
96769.5	96754.6
96770.5	96755.6
96772.5	96757.6
96773.5	96758.6
–	96759.6
–	96760.6
–	96761.6
–	96762.6
–	96763.6
–	96764.6

## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)  
Tubular Sealing Sleeve

Polyvinylidene (PVDF)	Nickel Plated Brass (NPB)
Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)
–	–
–40 to 150°C (-40 to 302°F)	–40 to 300°C (-40 to 572°F)
–40 to 130°C (-40 to 266°F)	–40 to 130°C (-40 to 266°F)
–	–20 to 100°C (-4 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
<b>Black</b>	
96765.5	96750.6
96766.5	96751.6
96767.5	96752.6
–	96753.6
96768.5	–
96769.5	96754.6
96770.5	96755.6
96772.5	96757.6
96773.5	96758.6
–	96759.6
–	96760.6
–	96761.6
–	96762.6
–	96763.6
–	96764.6

## Locknuts



Order Separately

### Material

Polyamide (PA) or Nickel Plated Brass (NPB)

### Temperature Range

–20 to 100°C (-4 to 212°F) (PA)

–40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
NPT3/8"	23203.9	23207.9	23200.9
NPT1/2"	23204.9	23208.9	23201.9
NPT3/4"	23205.9	23209.9	23202.9
NPT1"	–	–	23211.9
NPT1-1/4"	–	–	23216.9
NPT1-1/2"	–	–	23217.9

See Page 297 for Drawings and Dimensional Information.

## Seal Rings



Order Separately

### Material

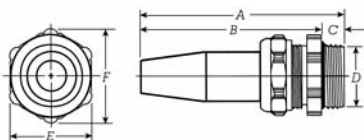
Polyethylene (PET) or Neoprene (NBR)

### Temperature Range

–20 to 100°C (-4 to 212°F) (PET & NBR)

Size	Cat. No.		Std. Pk.
	PET	NBR	
NPT3/8"	23188.9	23152.9	50
NPT1/2"	23190.9	23153.9	50
NPT3/4"	23192.9	23155.9	25
NPT1"	–	23156.9	5

See Page 300 for Drawings and Dimensional Information.



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
NPT3/8"	76.0 (2.99)	63.0 (2.48)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	124.0 (4.88)	104.0 (4.09)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	127.0 (5.00)	107.0 (4.21)	20.0 (.79)	42.2 (1.66)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	129.0 (5.08)	107.0 (4.21)	22.0 (.87)	48.3 (1.90)	57.0 (2.24)	61.0 (2.40)

## Increased Strain Relief with Bend Protection – Metric External Thread

Polyamide (PA)



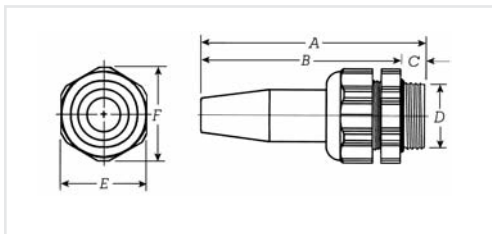
- Protection Rating: IP65; NEMA 4X
- Selection of 3 Body Materials
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	(TPE)/(PA)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.	
	mm	(in.)	mm	(in.)		Beige	Black
M12x1.5	4.5-6.5	(.18-.26)	12.0	(.47)	50	–	–
M16x1.5	4.5-6.5	(.18-.26)	16.0	(.63)	50	95570.0	95570.1
M16x1.5	7.0-9.0	(.28-.35)	16.0	(.63)	50	95571.0	95571.1
M20x1.5	7.0-9.0	(.28-.35)	20.0	(.79)	50	95572.0	95572.1
M20x1.5	8.5-10.5	(.33-.41)	20.0	(.79)	50	–	–
M20x1.5	8.5-10.5	(.33-.41)	20.0	(.79)	50	95574.0	95574.1
M20x1.5	9.5-13.0	(.37-.51)	20.0	(.79)	50	–	–
M20x1.5	13.0-15.5	(.51-.61)	20.0	(.79)	50	–	–
M25x1.5	7.0-9.0	(.28-.35)	25.0	(.98)	50	95575.0	95575.1
M25x1.5	8.5-10.5	(.33-.41)	25.0	(.98)	50	95576.0	95576.1
M25x1.5	9.5-13.0	(.37-.51)	25.0	(.98)	50	95577.0	95577.1
M25x1.5	13.0-15.5	(.51-.61)	25.0	(.98)	25	–	–
M25x1.5	14.0-17.5	(.55-.69)	25.0	(.98)	25	–	–
M25x1.5	17.0-20.5	(.67-.81)	25.0	(.98)	25	–	–
M25x1.5	21.0-25.0	(.83-.98)	25.0	(.98)	25	–	–
M32x1.5	9.5-13.0	(.37-.51)	32.0	(1.26)	25	95578.0	95578.1
M32x1.5	13.0-15.5	(.51-.61)	32.0	(1.26)	25	95579.0	95579.1
M32x1.5	14.0-17.5	(.55-.69)	32.0	(1.26)	25	95580.0	95580.1
M32x1.5	17.0-20.0	(.67-.79)	32.0	(1.26)	10	95581.0	95581.1
M32x1.5	21.0-25.0	(.83-.98)	32.0	(1.26)	10	95582.0	95582.1
M40x1.5	17.0-20.0	(.67-.79)	40.0	(1.57)	10	95583.0	95583.1
M40x1.5	21.0-24.5	(.83-.96)	40.0	(1.57)	10	95584.0	95584.1



### Cord Grip Dimensions: mm (in.) Polyamide (PA) & Polyvinylidene (PVDF)

Size	A	B	C	D	E	F
M16	63.0 (2.48)	54.0 (2.13)	9.0 (.35)	16.0 (.63)	19.0 (.75)	21.0 (.83)
M20	81.0 (3.19)	63.0 (2.48)	9.0 (.35)	20.0 (.79)	24.0 (.94)	26.5 (1.04)
M25	89.0 (3.50)	80.0 (3.15)	9.0 (.35)	25.0 (.98)	29.0 (1.14)	31.5 (1.24)
M30	103.0 (4.06)	92.0 (3.62)	11.0 (.43)	32.0 (1.26)	38.0 (1.50)	42.0 (1.65)
M40	117.5 (4.63)	106.0 (4.17)	11.5 (.45)	40.0 (1.57)	46.0 (1.81)	50.0 (1.97)



### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

Polyvinylidene (PVDF)  
(TPE)/(PA)  
-  
-40 to 150°C (-40 to 302°F)  
-20 to 100°C (-4 to 212°F)  
-  
Black

Nickel Plated Brass (NPB)  
(TPE)/(PA)  
Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-20 to 100°C (-4 to 212°F)  
-20 to 100°C (-4 to 212°F)  
Black

#### Cat. No.

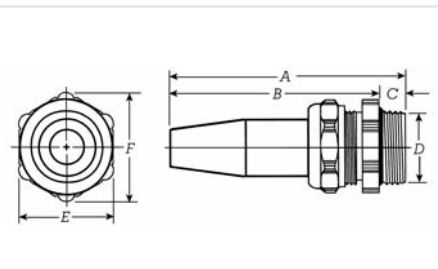
#### Opaque

#### Black

-	-
95570.4	95570.5
95571.4	95571.5
95572.4	95572.5
95573.4	95573.5
-	-
95576.4	95576.5
-	-
95577.4	95577.5
95578.4	95578.5
95579.4	95579.5
95580.4	95580.5
95581.4	95581.5
95582.4	95582.5
95583.4	95583.5
95585.4	95585.5
95586.4	95586.5
95587.4	95587.5
95588.4	95588.5
95589.4	95589.5
95590.4	95590.5
95591.4	95591.5

#### Cat. No.

95570.6
95571.6
95572.6
95573.6
-
95575.6
95576.6
95577.6
95578.6
95579.6
95580.6
95581.6
-
-
-
95582.6
95583.6
95584.6
95585.6
-
95586.6
95587.6



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
M12	58.0 (2.28)	53.0 (2.09)	5.0 (.20)	12.0 (.47)	17.0 (.67)	18.9 (.74)
M16	63.0 (2.48)	57.0 (2.24)	6.0 (.24)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20	76.5 (3.01)	70.0 (2.76)	6.5 (.26)	20.0 (.79)	24.0 (.94)	26.7 (1.05)
M25	81.5 (3.21)	75.0 (2.95)	6.5 (.26)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32	84.0 (3.35)	77.0 (3.03)	7.0 (.28)	32.0 (1.26)	30.0 (1.18)	33.5 (1.32)
M40	111.0 (4.37)	95.0 (3.74)	8.0 (.31)	40.0 (1.57)	40.0 (1.57)	43.5 (1.71)

### Locknuts



Order Separately

#### Material

Polyamide (PA) or Nickel Plated Brass (NPB)

#### Temperature Range

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

#### Cat. No.

Size	PA Gray	PA Black	NPB
M12x1.5	25510.9	25720.9	25500.9
M16x1.5	25511.9	25721.9	25501.9
M20x1.5	25512.9	25722.9	25502.9
M25x1.5	25513.9	25723.9	25503.9
M32x1.5	25514.9	25724.9	25504.9
M40x1.5	25515.9	25725.9	25505.9

See Page 292, 294 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

#### Material

Polyethylene (PET)

#### Temperature Range

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	25735.9	50

See Page 298 for Drawings and Dimensional Information.

## Increased Strain Relief with Bend Protection – PG External Thread

Polyamide (PA)



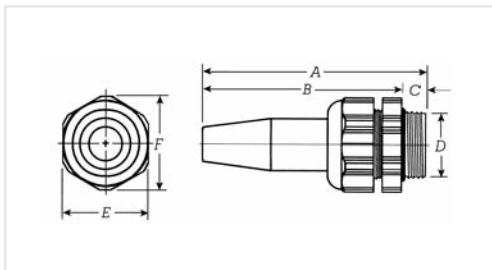
- Protection Rating: IP65; NEMA 4X
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black, or Opaque



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	(TPE)/(PA)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.	
	mm	(in.)	mm	(in.)		Beige	Black
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	25	20800.0	20820.1
PG9	7.5-9.0	(.30-.35)	15.2	(.60)	25	20801.0	20821.1
PG11	7.5-9.0	(.30-.35)	18.5	(.73)	25	20802.0	20822.1
PG11	8.5-10.5	(.33-.41)	18.5	(.73)	25	20803.0	20823.1
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	25	20804.0	20824.1
PG13.5	8.5-10.5	(.33-.41)	20.5	(.81)	25	20805.0	20825.1
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	10	20806.0	20826.1
PG16	8.5-10.5	(.33-.41)	22.5	(.89)	10	20807.0	20827.1
PG16	9.5-13.0	(.37-.51)	22.5	(.89)	10	20808.0	20828.1
PG21	9.5-13.0	(.37-.51)	28.5	(1.12)	10	20809.0	20829.1
PG21	13.0-15.5	(.51-.61)	28.5	(1.12)	10	20810.0	20830.1
PG21	14.0-17.5	(.55-.69)	28.5	(1.12)	10	20811.0	20831.1
PG29	17.0-20.0	(.67-.79)	37.0	(1.46)	5	20812.0	20832.1
PG29	21.0-24.5	(.83-.96)	37.0	(1.46)	5	20813.0	20833.1



Size	Cord Grip Dimensions: mm (in.) Polyamide (PA) & Polyvinylidene (PVDF)					
	A	B	C	D	E	F
PG9	64.0 (2.52)	55.0 (2.17)	9.0 (.35)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	73.0 (2.87)	64.0 (2.52)	9.0 (.35)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	81.0 (3.19)	72.0 (2.83)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	89.0 (3.50)	80.0 (3.15)	9.5 (.37)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	91.0 (3.58)	80.0 (3.15)	11.0 (.43)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)
PG29	115.0 (4.53)	104.0 (4.09)	11.0 (.43)	37.0 (1.46)	43.0 (1.69)	46.5 (1.83)

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Insert

Polyvinylidene (PVDF)  
(TPE)/(PA)  
-  
-40 to 150°C (-40 to 302°F)  
-20 to 100°C (-4 to 212°F)  
-  
Black

Nickel Plated Brass (NPB)  
(TPE)/(PA)  
Neoprene (NBR)  
-40 to 300°C (-40 to 572°F)  
-20 to 100°C (-4 to 212°F)  
-20 to 100°C (-4 to 212°F)  
Black

#### Cat. No.

#### Opaque

#### Black

20800.4	20820.5
20801.4	20821.5
20802.4	20822.5
20803.4	20823.5
20804.4	20824.5
20805.4	20825.5
20806.4	20826.5
20807.4	20827.5
20808.4	20828.5
20809.4	20829.5
20810.4	20830.5
20811.4	20831.5
20812.4	20822.5
20813.4	20833.5

#### Cat. No.

20840.6
20841.6
20842.6
20843.6
20844.6
20845.6
20846.6
20847.6
20848.6
20849.6
20850.6
20851.6
20852.6
20853.6

### Locknuts



Order Separately

#### Material

Polyamide (PA) or Nickel Plated Brass (NPB)

#### Temperature Range

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

#### Cat. No.

Size	PA Gray	PA Black	NPB
PG9	23051.9	23061.9	23001.9
PG11	23052.9	23062.9	23002.9
PG13.5	23053.9	23063.9	23003.9
PG16	23054.9	23064.9	23004.9
PG21	23055.9	23065.9	23005.9
PG29	23056.9	23066.9	23006.9

See Page 293, 296 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

#### Material

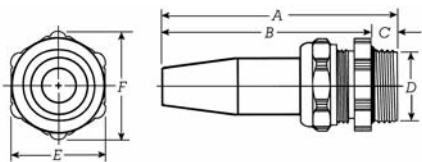
Polyethylene (PET)

#### Temperature Range

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50

See Page 300 for Drawings and Dimensional Information.



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
PG9	60.0 (2.36)	54.0 (2.13)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	69.0 (2.72)	63.0 (2.48)	6.0 (.24)	18.6 (.73)	20.0 (.79)	22.2 (.87)
PG13.5	75.5 (2.97)	69.0 (2.72)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	84.5 (3.33)	78.0 (3.07)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	85.0 (3.35)	78.0 (3.07)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)
PG29	112.0 (4.41)	104.0 (4.09)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)

## Increased Strain Relief With Bend Protection – NPT External Thread



- Protection Rating: IP65; NEMA 4X
- Order Neoprene (NBR) Seal Rings Separately for Nickel Plated Cord Grips
- Order Polyethylene (PET) Seal Rings Separately for Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Black or Opaque

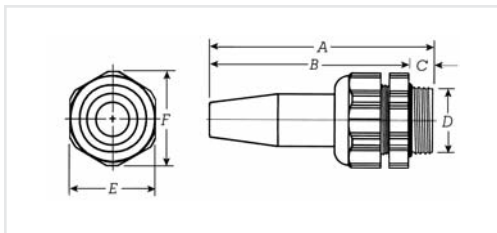
### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)/ Tubular Sealing Sleeve

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Black

Size	Cable Dia.		Std. Pk.	Cat. No. Opaque
	mm	(in.)		
NPT3/8"	6.5-9.0	(.26-.35)	25	96785.4
NPT1/2"	6.5-9.0	(.26-.35)	25	96786.4
NPT1/2"	8.5-10.5	(.33-.41)	25	96787.4
NPT1/2"	9.5-13.0	(.37-.51)	25	96789.4
NPT3/4"	9.5-13.0	(.37-.51)	10	96790.4
NPT3/4"	13.0-15.5	(.51-.61)	10	96791.4
NPT3/4"	14.0-17.5	(.55-.69)	10	96792.4
NPT1"	17.0-20.0	(.67-.79)	10	–
NPT1"	21.0-24.5	(.83-.96)	10	–



Cord Grip Dimensions: mm (in.) Polyvinylidene (PVDF)						
Size	A	B	C	D	E	F
NPT3/8"	82.0 (3.23)	69.0 (2.72)	13.0 (.51)	17.2 (.73)	22.0 (.87)	24.4 (.96)
NPT1/2"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	26.7 (1.05)	33.0 (1.30)	36.5 (1.44)

### Polyvinylidene (PVDF)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Sleeve

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V)/ Polyamide (PA) Tubular Sealing Sleeve

Polyvinylidene (PVDF)  
(TPE)/(PA)  
-  
-40 to 150°C (-40 to 302°F)  
-20 to 100°C (-4 to 212°F)  
-  
Black

**Cat. No.  
Black**

- 96785.5
- 96786.5
- 96787.5
- 96789.5
- 96790.5
- 96791.5
- 96792.5
- 
- 

Nickel Plated Brass (NPB)  
(TPE)/(PA)  
-  
-40 to 300°C (-40 to 572°F)  
-40 to 130°C (-40 to 266°F)  
-  
Black

**Cat. No.**

- 96775.6
- 96777.6
- 96778.6
- 96779.6
- 96780.6
- 96781.6
- 96782.6
- 96783.6
- 96784.6

### Locknuts



Order Separately

**Material**

Polyamide (PA) or Nickel Plated Brass (NPB)

**Temperature Range**

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
NPT3/8"	23203.9	23207.9	23200.9
NPT1/2"	23204.9	23208.9	23201.9
NPT3/4"	23205.9	23209.9	23202.9
NPT1"	-	-	23211.9
NPT1-1/4"	-	-	23216.9
NPT1-1/2"	-	-	23217.9
NPT2"	-	-	23218.9

See Page 297 for Drawings and Dimensional Information.

### Seal Rings



Order Separately

**Material**

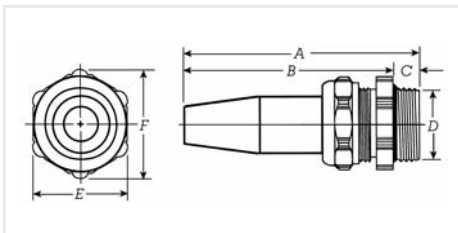
Polyethylene (PET) or Neoprene (NBR)

**Temperature Range**

-20 to 100°C (-4 to 212°F) (PET & NBR)

Size	Cat. No.		Std. Pk.
	PET	NBR	
NPT3/8"	23188.9	23152.9	50
NPT1/2"	23190.9	23153.9	50
NPT3/4"	23192.9	23155.9	25
NPT1"	-	23156.9	5

See Page 300 for Drawings and Dimensional Information.



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)

Size	A	B	C	D	E	F
NPT3/8"	82.0 (3.23)	69.0 (2.72)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	94.0 (3.70)	78.0 (3.07)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	124.0 (4.88)	104.0 (4.09)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)

High Performance Cord Grips

## Bend Protection Spring – Metric External Thread

Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Neoprene Seal Rings  
Factory Installed
- Order Locknuts Separately
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Selection of 2 Insert Materials

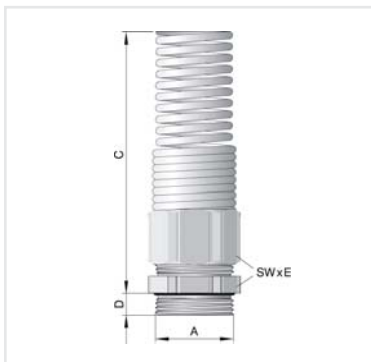
Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body/Spring</b>	Nickel Plated Brass/Stainless Steel
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-45 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	25	Red	95450.6
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	25	Red	95451.6
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	25	White	95452.6
M32x1.5	7.0-10.5	(.28-.41)	32.0	(1.26)	10	Green	95453.6
M32x1.5	9.0-13.0	(.35-.51)	32.0	(1.26)	10	Red	95454.6
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	10	White	95455.6
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	10	Blue	95456.6



### Cord Grip Dimensions: mm (in.)

Size	A	C	D	SW	E
M20x1.5	20.0 (.87)	105.0 (4.13)	6.5 (.26)	22.0 (.87)	24.4 (.96)
M25x1.5	25.0 (.98)	105.0 (4.13)	7.5 (.30)	28.0 (1.10)	31.2 (1.23)
M32x1.5	32.0 (1.26)	125.0 (4.92)	8.0 (.31)	35.0 (1.38)	38.5 (1.52)

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass/Stainless Steel  
Silicone (SIL)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)

Opaque

**Cat. No.**

95470.6  
95471.6  
95472.6  
95473.6  
95474.6  
95475.6  
95476.6

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M20x1.5	25502.9	100
M25x1.5	25503.9	100
M32x1.5	25504.9	100

### Seal Rings (SIL)



Order Separately

**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
M20	97702.9	50
M25	97703.9	50
M32	97704.9	50

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

High Performance Cord Grips

## Bend Protection Spring – PG External Thread

Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Neoprene Seal Rings  
Factory Installed
- Order Locknuts Separately
- Order Optional High Temperature  
Silicone Seal Rings Separately
- Selection of 2 Insert Materials

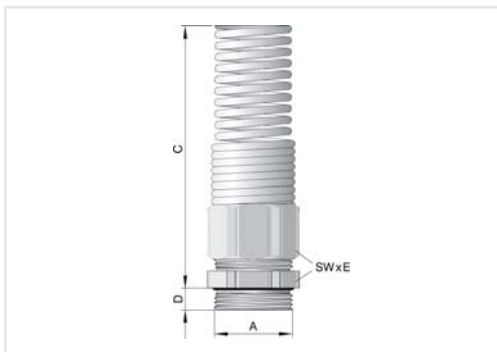
Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<i>Body/Spring</i>	Nickel Plated Brass/Stainless Steel
<i>Insert</i>	Thermoplastic Elastomer (TPE)
<i>Seal Ring</i>	Neoprene (NBR)
Temperature Range	
<i>Body</i>	-40 to 300°C (-45 to 572°F)
<i>Insert</i>	-40 to 130°C (-40 to 266°F)
<i>Seal Ring</i>	-20 to 100°C (-4 to 212°F)
<i>Insert Color</i>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	25	Red	95458.6
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	95459.6
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	95460.6
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	10	Green	95461.6
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	10	Red	95462.6
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	10	White	95463.6
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	10	Blue	95464.6



Cord Grip Dimensions: mm (in.)

Size	A	D	C	SW	E
PG13.5	20.4 (.80)	6.5 (.26)	105.0 (4.13)	22.0 (.87)	24.4 (.96)
PG16	22.5 (.89)	6.5 (.26)	105.0 (4.13)	24.0 (.94)	26.7 (1.05)
PG21	28.3 (1.11)	7.0 (.28)	125.0 (4.92)	30.0 (1.18)	33.5 (1.22)



### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass/Stainless Steel  
Silicone (SIL)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-20 to 100°C (-4 to 212°F)

Opaque

**Cat. No.**

19001.6  
19002.6  
19003.6  
19004.6  
19005.6  
19006.6  
19007.6

### Locknuts (NPB)



Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG13.5	23003.9	100
PG16	23004.9	100
PG21	23005.9	100

### Seal Rings (SIL)



Order Separately

**Material**  
Silicone (SIL)

**Temperature Range**  
-60 to 200°C (-65 to 392°F)

**Color**  
Red

Size	Cat. No.	Std. Pk.
PG13.5	23233.9	50
PG16	23234.9	50
PG21	23236.9	50

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings

## Bend Protection Spring – NPT External Thread

Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Neoprene Seal Rings Separately
- Order Optional High Temperature Silicone Seal Rings Separately
- Order Locknuts Separately
- Selection of 2 Insert Materials

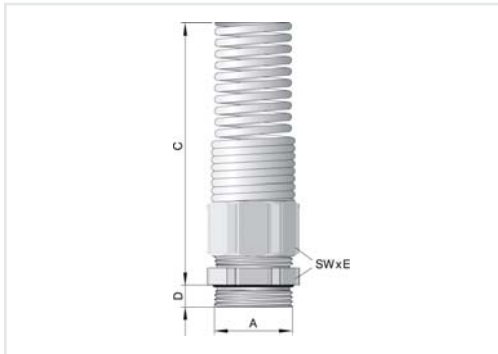
Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body/Spring</b>	Nickel Plated Brass/Stainless Steel
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-45 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)			
NPT3/8"	9.0-13.0	(.35-.51)	25	Red	19010.6
NPT1/2"	9.0-13.0	(.35-.51)	25	Red	19011.6
NPT1/2"	11.5-15.5	(.45-.61)	25	White	19012.6
NPT3/4"	7.0-10.5	(.28-.41)	10	Green	19013.6
NPT3/4"	9.0-13.0	(.35-.51)	10	Red	19014.6
NPT3/4"	11.5-15.5	(.45-.61)	10	White	19015.6
NPT3/4"	14.0-18.0	(.55-.71)	10	Blue	19016.6



### Cord Grip Dimensions: mm (in.)

Size	A	D	C	SW	E
NPT3/8"	17.2 (.68)	13.0 (.51)	105.0 (4.13)	22.0 (.87)	24.4 (.96)
NPT1/2"	21.3 (.84)	16.0 (.63)	105.0 (4.13)	24.0 (.94)	26.7 (1.05)
NPT3/4"	26.7 (1.05)	16.0 (.63)	125.0 (4.92)	30.0 (1.18)	33.5 (1.22)

### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass/Stainless Steel  
Silicone (SIL)

-40 to 300°C (-40 to 572°F)

-60 to 200°C (-65 to 392°F)

Opaque

**Cat. No.**

- 19017.6
- 19018.6
- 19019.6
- 19020.6
- 19021.6
- 19022.6
- 19023.6

### Locknuts (NPB)



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
NPT3/8"	23200.9	50
NPT1/2"	23201.9	50
NPT3/4"	23202.9	25

### Seal Rings



Order Separately

**Material**

Silicone (SIL)  
Neoprene (NBR)

**Temperature Range**

-60 to 200°C (-65 to 392°F) (SIL)

-20 to 100°C (-4 to 213°F) (NBR)

**Color**

Red (SIL); Black (NBR)

Size	Cat. No.		Std. Pk.
	SIL	NBR	
NPT3/8"	23233.9	23152.9	50
NPT1/2"	23110.9	23153.9	50
NPT3/4"	23111.9	23155.9	25

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings

**Pull Protection –  
Metric External Thread  
Nickel Plated Brass (NPB)**



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Ring Factory Installed NPB/TPE
- Silicone Seal Rings Factory Installed NPB/SIL
- Order Locknuts Separately
- Long External Thread M16 to M40 available

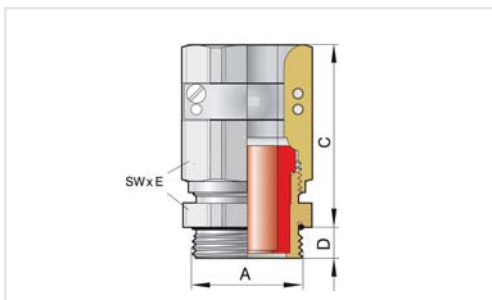
**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-45 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	95482.6
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	50	Black	95485.6
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	50	Green	95486.6
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	50	Red	95487.6
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	50	Black	95490.6
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	50	Green	95491.6
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	50	Red	95492.6
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	50	White	95493.6
M32x1.5	11.5-15.5	(.45-.61)	32.0	(1.26)	25	White	95496.6
M32x1.5	14.0-18.0	(.55-.71)	32.0	(1.26)	25	Blue	95497.6
M32x1.5	17.0-20.5	(.67-.81)	32.0	(1.26)	25	Brown	95498.6
M40x1.5	17.0-20.5	(.67-.81)	40.0	(1.57)	10	Brown	95501.6
M40x1.5	20.0-25.0	(.79-.98)	40.0	(1.57)	10	Orange	95502.6
M40x1.5	24.0-28.0	(.94-1.10)	40.0	(1.57)	10	Light Yellow	95503.6
M50x1.5	27.0-32.0	(1.06-1.26)	50.0	(1.97)	5	Dark Gray	95504.6
M50x1.5	29.0-34.0	(1.14-1.34)	50.0	(1.97)	5	Light Blue	95505.6
M50x1.5	32.0-36.0	(1.26-1.42)	50.0	(1.97)	5	Rose	95506.6
M63x1.5	39.0-44.0	(1.54-1.73)	63.0	(2.48)	5	White	95507.6



Cord Grip Dimensions: mm (in.)					
Size	A	D	C	SW	E
M16	16.0 (.63)	6.0 (.24)	39.0 (1.54)	18.0 (.71)	20.0 (.79)
M20	20.0 (.79)	6.5 (.26)	39.0 (1.54)	22.0 (.87)	24.4 (.96)
M25	25.0 (.98)	7.5 (.30)	41.0 (1.61)	28.0 (1.10)	31.2 (1.23)
M32	32.0 (1.26)	8.0 (.31)	48.0 (1.89)	35.0 (1.38)	38.5 (1.52)
M40	40.0 (1.57)	8.0 (.31)	51.0 (2.01)	43.0 (1.70)	47.3 (1.86)
M50	50.0 (1.97)	10.0 (.39)	52.0 (2.05)	54.0 (2.13)	58.0 (2.28)
M63	63.0 (2.48)	10.0 (.39)	54.0 (2.13)	68.0 (2.68)	74.0 (2.91)

### Nickel Plated Brass (NPB)



**With Silicone (SIL)  
Tubular Sealing Insert**

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Silicone (SIL)  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

**Cat. No.**

95542.6  
95545.6  
95546.6  
95547.6  
95550.6  
95551.6  
95552.6  
95553.6  
95556.6  
95557.6  
95558.6  
95561.6  
95562.6  
95563.6  
95564.6  
95565.6  
95566.6  
-

### Locknuts (NPB)



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M16x1.5	25501.9	100
M20x1.5	25502.9	100
M25x1.5	25503.9	100
M32x1.5	25504.9	100
M40x1.5	25505.9	50
M50x1.5	25506.9	50
M63x1.5	25507.9	50

See Page 294 for Drawings and Dimensional Information.

## Pull Protection – PG External Thread Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Neoprene Seal Rings Factory Installed NPB/TPE
- Silicone Seal Rings Factory Installed NPB/SIL
- Order Locknuts Separately

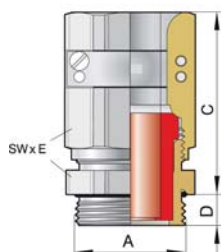
## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)	mm	(in.)			
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	19037.6
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	19040.6
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	19041.6
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	19044.6
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	19045.6
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	19046.6
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	19049.6
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	19050.6
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	19051.6
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	19052.6
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	19055.6
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	19056.6
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	19057.6
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	20	Brown	19060.6
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	20	Orange	19061.6
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	20	Light Yellow	19062.6
PG36	27.0-32.0	(1.06-1.26)	47.0	(1.85)	10	Dark Gray	19063.6
PG36	29.0-34.0	(1.14-1.34)	47.0	(1.85)	10	Light Blue	19064.6
PG36	32.0-36.0	(1.26-1.42)	47.0	(1.85)	10	Rose	19065.6



### Cord Grip Dimensions: mm (in.)

Size	A	D	C	SW	E
PG9	15.2 (.60)	39.0 (1.54)	6.0(.24)	17.0 (.67)	18.9 (.74)
PG11	18.6 (.73)	39.0 (1.54)	6.0(.24)	20.0 (.79)	22.2 (.87)
PG13.5	20.4 (.80)	39.0 (1.54)	6.5(.26)	22.0 (.87)	24.4 (.96)
PG16	22.5 (.89)	41.0 (1.61)	6.5(.26)	24.0 (.94)	26.7 (1.05)
PG21	28.3 (1.11)	48.0 (1.89)	7.0(.28)	30.0 (1.18)	33.5 (1.32)
PG29	37.0 (1.46)	51.0 (2.01)	8.0(.31)	40.0 (1.57)	43.5 (1.71)
PG36	47.0 (1.85)	51.0 (2.01)	9.0(.35)	50.0 (1.97)	54.0 (2.24)

**Nickel Plated Brass (NPB)**


**With Silicone (SIL)  
Tubular Sealing Insert**

Nickel Plated Brass (NPB)  
Silicone (SIL)  
Silicone (SIL)  
  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-60 to 200°C (-65 to 392°F)  
Opaque

**Cat. No.**

19072.6  
19075.6  
19076.6  
19079.6  
19080.6  
19081.6  
19084.6  
19085.6  
19086.6  
19087.6  
19090.6  
19091.6  
19092.6  
19095.6  
19096.6  
19097.6  
19098.6  
19099.6  
19100.6

**Locknuts (NPB)**


**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG9	23001.9	100
PG11	23002.9	100
PG13.5	23003.9	100
PG16	23004.9	100
PG21	23005.9	100
PG29	23006.9	100
PG36	23007.9	100

See Page 296 for Drawings and Dimensional Information.

## Pull Protection – NPT External Thread Nickel Plated Brass (NPB)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Selection of 2 Insert Materials
- Order Neoprene Seal Rings Separately
- Order Optional High/Low Temperature Silicone Seal Rings Separately
- Order Locknuts Separately

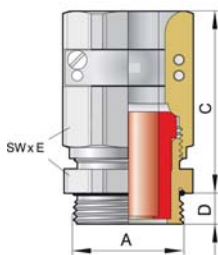
## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Various

Size	Cable Dia.		Std. Pk.	Sealing Insert Color	Cat. No.
	mm	(in.)			
NPT3/8"	5.0-8.0	(.20-.31)	50	Gray	96901.6
NPT3/8"	6.5-9.5	(.26-.37)	50	Black	96902.6
NPT3/8"	7.0-10.5	(.28-.41)	50	Green	96903.6
NPT1/2"	6.5-9.5	(.26-.37)	50	Black	96906.6
NPT1/2"	7.0-10.5	(.28-.41)	50	Green	96907.6
NPT1/2"	9.0-13.0	(.35-.51)	50	Red	96908.6
NPT1/2"	11.5-15.5	(.45-.61)	50	White	96909.6
NPT3/4"	11.5-15.5	(.45-.61)	25	White	96912.6
NPT3/4"	14.0-18.0	(.55-.71)	25	Blue	96913.6
NPT3/4"	17.0-20.5	(.67-.81)	25	Brown	96914.6
NPT1"	17.0-20.5	(.67-.81)	10	Brown	96917.6
NPT1"	20.0-25.0	(.79-.98)	10	Orange	96918.6
NPT1"	24.0-28.0	(.94-1.10)	10	Light Yellow	96919.6
NPT1-1/4"	24.0-28.0	(.94-1.10)	5	Light Yellow	96921.6
NPT1-1/4"	27.0-32.0	(1.06-1.26)	5	Dark Gray	96922.6
NPT1-1/4"	29.0-34.0	(1.14-1.34)	5	Light Blue	96923.6
NPT1-1/4"	32.0-36.0	(1.26-1.42)	5	Rose	96924.6
NPT1-1/2"	24.0-28.0	(.94-1.10)	5	Light Yellow	96926.6
NPT1-1/2"	27.0-32.0	(1.06-1.26)	5	Dark Gray	96927.6
NPT1-1/2"	29.0-34.0	(1.14-1.34)	5	Light Blue	96928.6
NPT1-1/2"	32.0-36.0	(1.26-1.42)	5	Rose	96929.6
NPT2"	39.0-44.0	(1.54-1.73)	5	White	96930.6



### Cord Grip Dimensions: mm (in.)

Size	A	D	C	SW	E
NPT3/8"	17.2 (.68)	39.0 (1.54)	13.0 (.51)	20.0 (.79)	22.2 (.87)
NPT1/2"	21.3 (.84)	39.0 (1.54)	16.0 (.63)	24.0 (.94)	26.7 (1.05)
NPT3/4"	26.7 (1.05)	48.0 (1.89)	16.0 (.63)	30.0 (1.18)	33.5 (1.32)
NPT1"	33.3 (1.31)	51.0 (2.01)	20.0 (.79)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	42.2 (1.66)	51.0 (2.01)	20.0 (.79)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	48.3 (1.90)	51.0 (2.01)	22.0 (.87)	57.0 (2.24)	61.0 (2.40)
NPT2"	60.3 (2.38)	54.0 (2.13)	25.0 (.98)	64.0 (2.52)	69.0 (2.72)



### Nickel Plated Brass (NPB)



With Silicone (SIL)  
Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Silicone (SIL)  
-  
-40 to 300°C (-40 to 572°F)  
-60 to 200°C (-65 to 392°F)  
-  
Opaque

**Cat. No.**

- 
- 96933.6
- 96934.6
- 96937.6
- 96938.6
- 96939.6
- 96940.6
- 96943.6
- 96944.6
- 96945.6
- 96948.6
- 96949.6
- 96950.6
- 96952.6
- 96953.6
- 96854.6
- 96955.6
- 96957.6
- 96958.6
- 96959.6
- 96960.6
- 

### Locknuts (NPB)



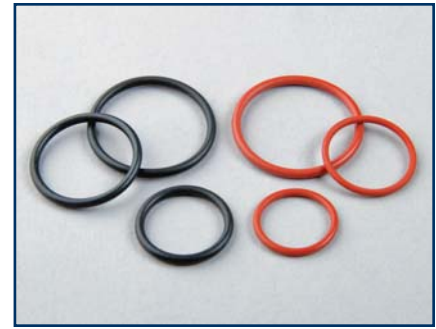
Order Separately

**Material**  
Nickel Plated Brass (NPB)

**Temperature Range**  
-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
NPT3/8"	23200.9	50
NPT1/2"	23201.9	50
NPT3/4"	23202.9	25
NPT1"	23211.9	10
NPT1-1/4"	23216.9	10
NPT1-1/2"	23217.9	10
NPT2"	23218.9	10

### Seal Rings



Order Separately

**Material**  
Silicone (SIL)  
Neoprene (NBR)

**Temperature Range**  
-60 to 200°C (-65 to 392°F) (SIL)  
-20 to 100°C (-4 to 213°F) (NBR)

**Color**  
Red (SIL); Black (NBR)

Size	Cat. No.		Std. Pk.
	SIL	NBR	
NPT3/8"	23233.9	23152.9	50
NPT1/2"	23110.9	23153.9	50
NPT3/4"	23111.9	23155.9	25
NPT1"	23112.9	23156.9	5

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings

High Performance Cord Grips

## 90° Elbow – Metric External Thread



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings Separately for Polyamide Cord Grips
- Silicone Seal Rings Factory Installed on GZ/SIL Cord Grips
- Neoprene Seal Rings Factory Installed on GZ/TPE Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige or Black

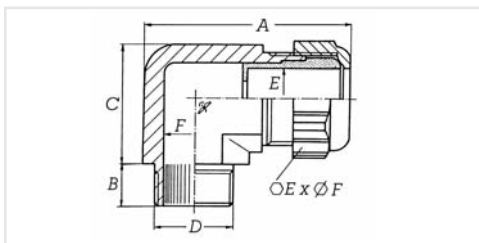
### Polyamide (PA)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.	
	mm	(in.)	mm	(in.)			Opaque	Black
M16x1.5	4.0-6.5	(.16-.26)	16.0	(.63)	50	Yellow	95650.0	95650.1
M16x1.5	5.0-8.0	(.20-.31)	16.0	(.63)	50	Gray	95651.0	95651.1
M16x1.5	6.5-9.5	(.26-.37)	16.0	(.63)	50	Black	95652.0	95652.1
M20x1.5	4.0-6.5	(.16-.26)	20.0	(.79)	10	Yellow	95653.0	95653.1
M20x1.5	5.0-8.0	(.20-.31)	20.0	(.79)	10	Gray	95654.0	95654.1
M20x1.5	6.5-9.5	(.26-.37)	20.0	(.79)	10	Black	95655.0	95655.1
M20x1.5	7.0-10.5	(.28-.41)	20.0	(.79)	10	Green	95656.0	95656.1
M20x1.5	9.0-13.0	(.35-.51)	20.0	(.79)	10	Red	95657.0	95657.1
M25x1.5	4.0-6.5	(.16-.26)	25.0	(.98)	10	Yellow	95658.0	95658.1
M25x1.5	5.0-8.0	(.20-.31)	25.0	(.98)	10	Gray	95659.0	95659.1
M25x1.5	6.5-9.5	(.26-.37)	25.0	(.98)	10	Black	95660.0	95660.1
M25x1.5	7.0-10.5	(.28-.41)	25.0	(.98)	10	Green	95661.0	95661.1
M25x1.5	9.0-13.0	(.35-.51)	25.0	(.98)	10	Red	95662.0	95662.1
M25x1.5	11.5-15.5	(.45-.61)	25.0	(.98)	10	White	95663.0	95663.1



### Cord Grip Dimensions: mm (in.) Polyamide (PA)

Size	A	B	C	D	E	F
M16x1.5	38.0 (1.50)	8.0 (.31)	23.0 (.91)	16.0 (.63)	19.0 (.75)	21.0 (.83)
M20x1.5	46.0 (1.81)	9.0 (.35)	30.0 (1.18)	20.0 (.79)	24.0 (.94)	26.4 (1.04)
M25x1.5	52.0 (2.05)	10.0 (.39)	32.0 (1.26)	25.0 (.98)	27.0 (1.06)	29.4 (1.16)

### Galvanized Zinc (GZ)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

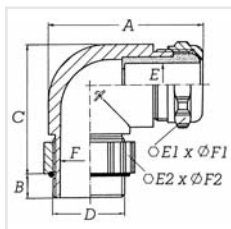
### Galvanized Zinc (GZ)



With Silicone (SIL)  
Tubular Sealing Insert

Galvanized Zinc (GZ)	Galvanized Zinc (GZ)
Thermoplastic Elastomer (TPE)	Silicone (SIL)
Neoprene (NBR)	Silicone (SIL)
-20 to 105°C (-4 to 227°F)	-20 to 105°C (-4 to 227°F)
-40 to 130°C (-40 to 266°F)	-60 to 200°C (-65 to 392°F)
-20 to 100°C (-4 to 212°F)	-60 to 200°C (-65 to 392°F)
Various	Opaque
<b>Sealing Insert Color</b>	<b>Cat. No.</b>
Yellow	95615.6
Gray	95616.6
Black	95617.6
Yellow	95618.6
Gray	95619.6
Black	95620.6
Green	95621.6
Red	95622.6
Yellow	95623.6
Gray	95624.6
Black	95625.6
Green	95626.6
Red	95627.6
White	95628.6

Galvanized Zinc (GZ)	Galvanized Zinc (GZ)
Silicone (SIL)	Silicone (SIL)
Silicone (SIL)	Silicone (SIL)
-20 to 105°C (-4 to 227°F)	-20 to 105°C (-4 to 227°F)
-60 to 200°C (-65 to 392°F)	-60 to 200°C (-65 to 392°F)
-60 to 200°C (-65 to 392°F)	-60 to 200°C (-65 to 392°F)
Opaque	Opaque
<b>Cat. No.</b>	<b>Cat. No.</b>
95630.6	95630.6
95631.6	95631.6
95632.6	95632.6
95633.6	95633.6
95634.6	95634.6
95635.6	95635.6
95636.6	95636.6
95637.6	95637.6
95638.6	95638.6
95639.6	95639.6
95640.6	95640.6
95641.6	95641.6
95642.6	95642.6
95643.6	95643.6



### Cord Grip Dimensions: mm (in.) Galvanized Zinc (GZ)

Size	A	B	C	D	E1	F1	E2	F2
M16x1.5	41.5 (1.63)	8.0 (.31)	25.0 (.98)	16.0 (.63)	20.0 (.79)	22.2 (.87)	17.0 (.67)	18.9 (.74)
M20x1.5	47.0 (1.85)	8.0 (.31)	25.0 (.98)	20.0 (.79)	24.0 (.94)	26.7 (1.05)	22.0 (.87)	24.2 (.95)
M25x1.5	48.5 (1.91)	8.0 (.31)	35.0 (1.38)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)	24.0 (.94)	26.7 (1.05)

### Locknuts



Order Separately

#### Material

Polyamide (PA) or Nickel Plated Brass (NPB)

#### Temperature Range

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
M16x1.5	25511.9	25721.9	25501.9
M20x1.5	25512.9	25722.9	25502.9
M25x1.5	25513.9	25723.9	25503.9

See Page 292, 294 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

#### Material

Polyethylene (PET)

#### Temperature Range

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50

See Page 298 for Drawings and Dimensional Information.

High Performance Cord Grips

## 90° Elbow – PG External Thread



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 10Bar; 140psi
- Order Seal Rings Separately for Polyamide Cord Grips
- Silicone Seal Rings Factory Installed on GZ/SIL Cord Grips
- Neoprene Seal Rings Factory Installed on GZ/TPE Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige or Black

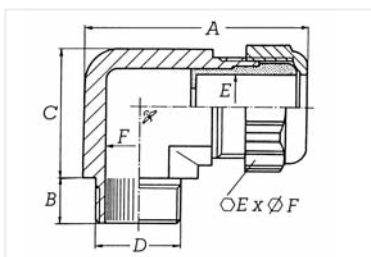
### Polyamide (PA)



With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Various

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Sealing Insert Color	Cat. No.	
	mm	(in.)	mm	(in.)			Opaque	Black
PG9	4.0-6.5	(.16-.26)	15.2	(.60)	50	Yellow	20940.0	20985.1
PG9	5.0-8.0	(.20-.31)	15.2	(.60)	50	Gray	20941.0	20986.1
PG9	6.5-9.5	(.26-.37)	15.2	(.60)	50	Black	20942.0	20987.1
PG11	4.0-6.5	(.16-.26)	18.5	(.73)	50	Yellow	20943.0	20988.1
PG11	5.0-8.0	(.20-.31)	18.5	(.73)	50	Gray	20944.0	20989.1
PG11	6.5-9.5	(.26-.37)	18.5	(.73)	50	Black	20945.0	20990.1
PG11	7.0-10.5	(.28-.41)	18.5	(.73)	50	Green	20946.0	20991.1
PG13.5	4.0-6.5	(.16-.26)	20.5	(.81)	50	Yellow	20947.0	20992.1
PG13.5	5.0-8.0	(.20-.31)	20.5	(.81)	50	Gray	20948.0	20993.1
PG13.5	6.5-9.5	(.26-.37)	20.5	(.81)	50	Black	20949.0	20994.1
PG13.5	7.0-10.5	(.28-.41)	20.5	(.81)	50	Green	20950.0	20995.1
PG13.5	9.0-13.0	(.35-.51)	20.5	(.81)	50	Red	20951.0	20996.1
PG16	4.0-6.5	(.16-.26)	22.5	(.89)	25	Yellow	20952.0	20997.1
PG16	5.0-8.0	(.20-.31)	22.5	(.89)	25	Gray	20956.0	20983.1
PG16	6.5-9.5	(.26-.37)	22.5	(.89)	25	Black	20957.0	20982.1
PG16	7.0-10.5	(.28-.41)	22.5	(.89)	25	Green	20953.0	20998.1
PG16	9.0-13.0	(.35-.51)	22.5	(.89)	25	Red	20954.0	20999.1
PG16	11.5-15.5	(.45-.61)	22.5	(.89)	25	White	20955.0	20948.1
PG21	7.0-10.5	(.28-.41)	28.5	(1.12)	25	Green	–	–
PG21	9.0-13.0	(.35-.51)	28.5	(1.12)	25	Red	–	–
PG21	11.5-15.5	(.45-.61)	28.5	(1.12)	25	White	–	–
PG21	14.0-18.0	(.55-.71)	28.5	(1.12)	25	Blue	–	–
PG21	17.0-20.5	(.67-.81)	28.5	(1.12)	25	Brown	–	–
PG29	14.0-18.0	(.55-.71)	37.0	(1.46)	10	Blue	–	–
PG29	17.0-20.5	(.67-.81)	37.0	(1.46)	10	Brown	–	–
PG29	20.0-25.0	(.79-.98)	37.0	(1.46)	10	Orange	–	–
PG29	24.0-28.0	(.94-1.10)	37.0	(1.46)	10	Light Yellow	–	–



### Cord Grip Dimensions: mm (in.) Polyamide (PA)

Size	A	B	C	D	E	F
PG9	38.0 (1.50)	8.0 (.31)	23.0 (.91)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	42.0 (1.65)	9.0 (.35)	25.0 (.98)	18.6 (.73)	22.0 (.87)	24.4 (.96)
PG13.5	46.0 (1.81)	9.0 (.35)	30.0 (1.18)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	52.0 (2.05)	10.0 (.39)	33.0 (1.30)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)

### Galvanized Zinc (GZ)



**With Thermoplastic Elastomer (TPE)  
Tubular Sealing Insert**

### Galvanized Zinc (GZ)



**With Silicone (SIL)  
Tubular Sealing Insert**

Galvanized Zinc (GZ)	Galvanized Zinc (GZ)
Thermoplastic Elastomer (TPE)	Silicone (SIL)
Neoprene (NBR)	Silicone (SIL)
-20 to 105°C (-4 to 227°F)	-20 to 105°C (-4 to 227°F)
-40 to 130°C (-40 to 266°F)	-60 to 200°C (-65 to 392°F)
-20 to 100°C (-4 to 212°F)	-60 to 200°C (-65 to 392°F)
Various	Opaque
<b>Sealing Insert Color</b>	<b>Cat. No.</b>
Yellow	20961.6
Gray	20962.6
Black	20963.6
Yellow	20964.6
Gray	20965.6
Black	20966.6
Green	20967.6
Yellow	20968.6
Gray	20969.6
Black	20970.6
Green	20971.6
Red	20972.6
Yellow	-
Gray	-
Black	20973.6
Green	20974.6
Red	20975.6
White	20976.6
Green	20982.6
Red	20983.6
White	20977.6
Blue	20978.6
Brown	20979.6
Blue	20984.6
Brown	20985.6
Orange	20980.6
Light Yellow	20981.6

Galvanized Zinc (GZ)	Galvanized Zinc (GZ)
Silicone (SIL)	Silicone (SIL)
Silicone (SIL)	Silicone (SIL)
-20 to 105°C (-4 to 227°F)	-20 to 105°C (-4 to 227°F)
-60 to 200°C (-65 to 392°F)	-60 to 200°C (-65 to 392°F)
-60 to 200°C (-65 to 392°F)	-60 to 200°C (-65 to 392°F)
Opaque	Opaque
<b>Cat. No.</b>	<b>Cat. No.</b>
20961.7	20961.7
20962.7	20962.7
20963.7	20963.7
20964.7	20964.7
20965.7	20965.7
20966.7	20966.7
20967.7	20967.7
20968.7	20968.7
20969.7	20969.7
20970.7	20970.7
20971.7	20971.7
20972.7	20972.7
-	-
-	-
20973.7	20973.7
20974.7	20974.7
20975.7	20975.7
20976.7	20976.7
20982.7	20982.7
20983.7	20983.7
20977.7	20977.7
20978.7	20978.7
20979.7	20979.7
20984.7	20984.7
20985.7	20985.7
20980.7	20980.7
20981.7	20981.7

### Locknuts



Order Separately

**Material**

Polyamide (PA) or Nickel Plated Brass (NPB)

**Temperature Range**

-20 to 100°C (-4 to 212°F) (PA)

-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	PA Gray	PA Black	NPB
PG9	23051.9	23061.9	23001.9
PG11	23052.9	23062.9	23002.9
PG13.5	23053.9	23063.9	23003.9
PG16	23054.9	23064.9	23004.9
PG21	23055.9	23065.9	23005.9
PG29	23056.9	23066.9	23006.9

See Page 293, 296 for Drawings and Dimensional Information.

### Seal Rings (PET)



Order Separately

**Material**

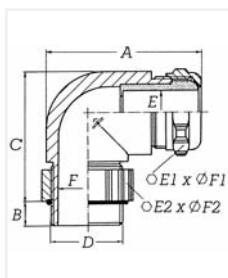
Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50

See Page 300 for Drawings and Dimensional Information.



### Cord Grip Dimensions: mm (in.) Galvanized Zinc (GZ)

Size	A	B	C	D	E1	F1	E2	F2
PG9	40.0 (1.50)	8.5 (.33)	24.5 (.91)	15.2 (.60)	17.0 (.67)	18.9 (.74)	18.0 (.71)	20.0 (.79)
PG11	44.0 (1.65)	8.0 (.31)	31.0 (.98)	18.6 (.73)	20.0 (.79)	22.2 (.87)	22.0 (.87)	24.4 (.96)
PG13.5	47.0 (1.81)	8.0 (.31)	32.0 (1.18)	20.4 (.80)	22.0 (.87)	24.4 (.96)	24.0 (.94)	26.7 (1.05)
PG16	48.0 (2.05)	8.0 (.31)	36.0 (1.30)	22.5 (.89)	24.0 (.94)	26.7 (1.05)	26.0 (1.02)	29.0 (1.14)
PG21	58.0 (2.28)	11.0 (.43)	45.5 (1.79)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)	32.0 (1.26)	36.5 (1.44)
PG29	70.0 (2.76)	11.0 (.43)	65.0 (2.56)	37.0 (1.46)	41.0 (1.61)	44.5 (1.75)	40.0 (1.57)	43.5 (1.71)



# *blue*globe®

## Setting New Standards

- Widest Sealing Range
- Maximum Strain Relief
- Superior Protection Rating

## The *blueglobe*® principle benefits

- A** *blueglobe*® gland body  
Materials: Nickel plated brass  
Stainless steel, 1.4305 (AISI 303)  
Polyamide (PA)  
Metric connection thread  
WEEE and RoHS conformity
- B** Pure elastic sealing insert  
Material: TPE, blue  
Temperature range -40°C up to 130°C  
Halogen and plasticizer free  
High UV-stability  
UL 94 HB  
WEEE and RoHS conformity
- C** Highest protection rate IP68, up to 15Bar
- D** Radial symmetric, large area elastic sealing  
Soft pressing by patented “globe” sealing system  
No cable damages by notching and strangling reasons  
No folding of the sealing in case of small diameters
- E** Inlet removable
- F** Brass: O-Ring groove located at an outer position  
PA: Self tightening area  
Metric connection thread
- G** Highest strain relief (EN 50262 class B)

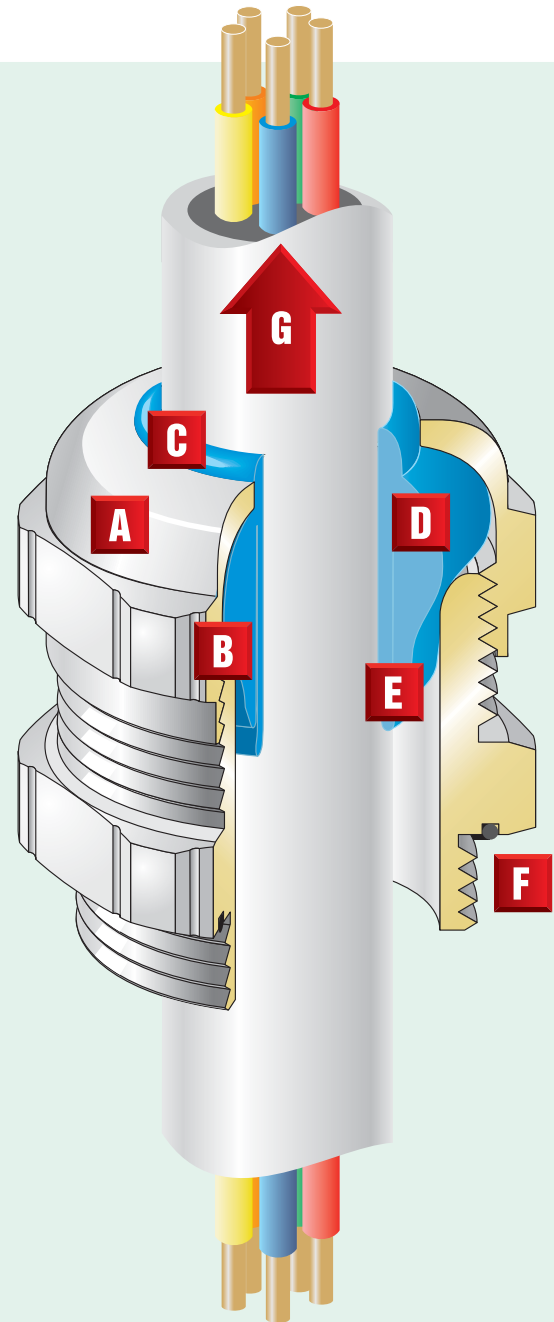


Fig: Brass Nickel Plated

With its unique, ideal sealing concept in every respect, the new PFLITSCH *blueglobe*® cable gland made of brass, stainless steel and plastic sets new standards regarding safety, reliability, functionality and costs. Its secret is concealed in the blue, spherical sealing insert made of a TPE heavy-duty plastic. When the pressure screw is tightened up the forces are optimally concentrated, as in a sphere, on the cable conducted, sealing it over a large surface ideally, securely and carefully.

VDE EN 50262 and  
UL 514 B approved  
UL File# E216848

## Superior Protection Rating



## blueglobe®

- Cord Grips provide a superior protection rating of IP68 (NEMA 4X) at a pressure rating of 15Bar (215psi)
- High pressure water cleaning up to 100Bar at 80°C (176°F) according to DIN 40050 Part 9

## Unique Marking

- The Dome is marked with the manufacturers name, the size, the material and the CE logo.

## globemarker®

- The hexagonal globe marker on the Sealing Insert indicates the suitable cable diameter range

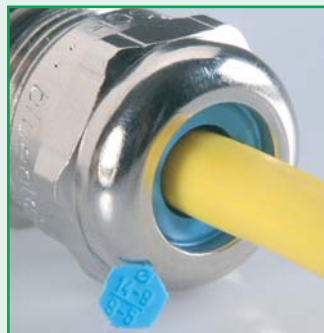


## Assembly Instructions blueglobe®

**Fig. 1**  
With IP68 installations  
blueglobemarker® on the  
outside



**Fig. 2**  
Or removing  
blueglobemarker®



**Fig. 3**  
With a large cable  
diameter—remove inlet.  
Insert screwdriver  
vertically into  
separating seam



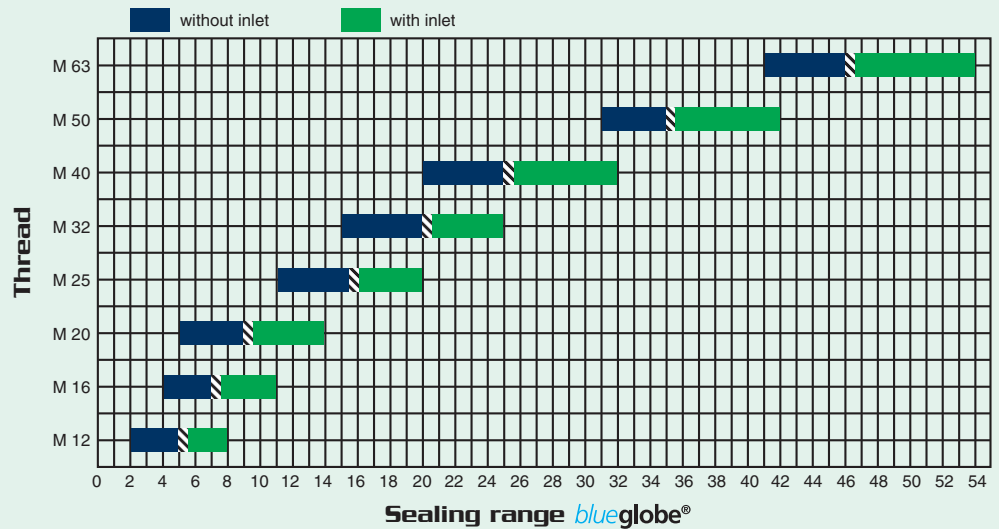
**Fig. 4**  
Lift out the inlet





## Widest Sealing Range

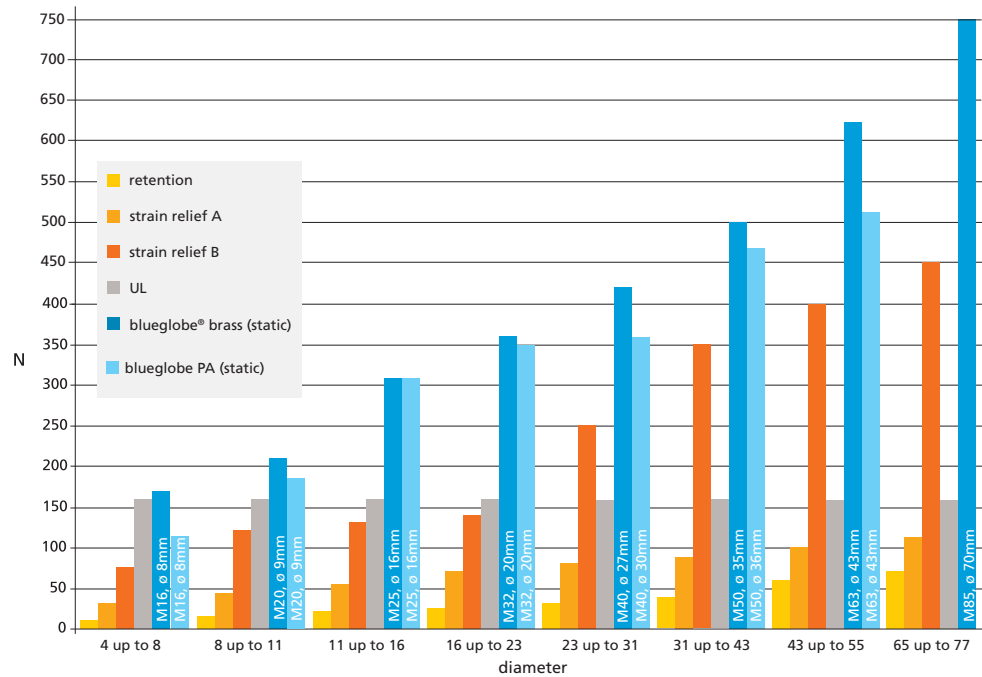
With this sealing concept, we attain a clearly wider sealing range upwards and downwards than conventional Cord Grips. With only 3 Cord Grip sizes, M16, M25 and M40 all cable diameters from 4 to 32mm (.157 to 1.26in.) can be sealed.



## Maximum Strain Relief

(tested: *blueglobe*® brass)

Cord Grips exceed the strain relief requirements of European and Underwriter Laboratories Standards.



## Approvals

Cord Grip Material: Nickel Plated Brass			
Size	VDE	CE	UL
M12x1.5	X	X	-
M16x1.5	X	X	X
M20x1.5	X	X	X
M25x1.5	X	X	X
M32x1.5	X	X	X
M40x1.5	X	X	X
M50x1.5	X	X	X
M63x1.5	X	X	X
M75x1.5	X	X	Pending
M80x2	X	X	Pending

Cord Grip Material: Stainless Steel			
Size	VDE	CE	UL
M12x1.5	X	X	-
M16x1.5	X	X	X
M20x1.5	X	X	X
M25x1.5	X	X	X
M32x1.5	X	X	X
M40x1.5	X	X	X
M50x1.5	X	X	X
M63x1.5	X	X	X
M75x1.5	X	X	Pending
M80x2	X	X	Pending

Cord Grip Material: Polyamide			
Size	VDE	CE	UL
M12x1.5	-	X	-
M16x1.5	-	X	-
M20x1.5	X	X	X
M25x1.5	X	X	X
M32x1.5	X	X	X
M40x1.5	-	X	-
M50x1.5	-	X	-
M63x1.5	-	X	-

## Straight Through – Metric External Thread



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 15Bar; 215psi
- High Pressure Cleaning IP69K
- Seal Rings Factory Installed on Nickel Plated Brass & Stainless Steel Cord Grips; order separately for Polyamide Cord Grips to maintain VDE Approval
- Optional 15mm (.59in.) Long External Thread available; Nickel Plated Brass & Stainless Steel Cord Grips; M12x1.5-M63x1.5
- Order Locknuts Separately See Page 292, 294

**blueglobe®**

### Material Specifications

*Body*

*Insert*

*Seal Ring*

### Temperature Range

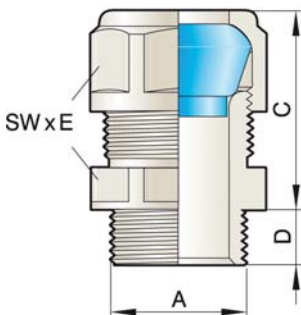
*Body*

*Insert*

*Seal Ring*

### Insert Color

Size	Overall Sealing Range min/max		Cable Dia. w/ Inlet min/max		Cable Dia. w/o Inlet min/max		Mtg. Hole Dia.	
	mm	(in.)	mm	(in.)	mm	(in.)	mm	(in.)
M12x1.5	2.0-7.5	(.08-.30)	2.0-5.0	(.08-.20)	5.0-7.5	(.20-.30)	12.0	(.47)
M16x1.5	4.0-11.0	(.16-.43)	4.0-7.0	(.16-.28)	7.0-11.0	(.28-.43)	16.0	(.63)
M20x1.5	5.0-14.0	(.20-.55)	5.0-9.0	(.20-.35)	9.0-14.0	(.35-.55)	20.0	(.79)
M25x1.5	11.0-20.0	(.43-.79)	11.0-16.0	(.43-.63)	16.0-20.0	(.63-.79)	25.0	(.98)
M32x1.5	15.0-25.0	(.59-.98)	15.0-20.0	(.59-.79)	20.0-25.0	(.79-.98)	32.0	(1.26)
M40x1.5	20.0-32.0	(.79-1.26)	20.0-26.0	(.79-1.02)	26.0-32.0	(1.02-1.26)	40.0	(1.57)
M50x1.5	31.0-42.0	(1.22-1.65)	31.0-35.0	(1.22-1.38)	35.0-42.0	(1.38-1.65)	50.0	(1.97)
M63x1.5	41.0-54.0	(1.61-2.13)	41.0-46.0	(1.61-1.81)	46.0-54.0	(1.81-2.13)	63.0	(2.48)
M75x1.5	54.0-65.0	(2.13-2.56)	54.0-58.0	(2.13-2.28)	58.0-65.0	(2.28-2.56)	75.0	(2.95)
M85x2	65.0-77.0	(2.56-3.03)	65.0-70.0	(2.56-2.76)	70.0-77.0	(2.76-3.03)	85.0	(3.35)



### Cord Grip Dimensions: mm (in.) Polyamide (PA)

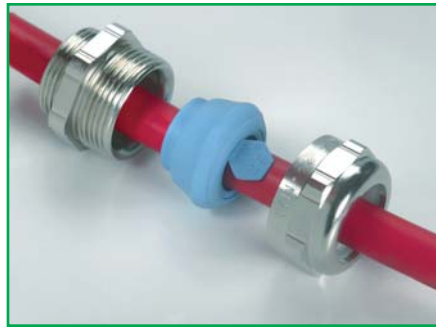
Size	A	D	C	SW	E
M12x1.5	12.0 (.47)	9.0 (.35)	24.0 (.94)	17.0 (.67)	18.9 (.74)
M16x1.5	16.0 (.63)	9.0 (.35)	27.0 (1.06)	20.0 (.79)	22.0 (.87)
M20x1.5	20.0 (.79)	9.0 (.35)	31.0 (1.22)	24.0 (.94)	26.7 (1.05)
M25x1.5	25.0 (.98)	9.0 (.35)	33.0 (1.30)	30.0 (1.18)	33.0 (1.30)
M32x1.5	32.0 (1.26)	11.0 (.43)	34.0 (1.34)	36.0 (1.42)	39.5 (1.56)
M40x1.5	40.0 (1.57)	12.0 (.47)	37.0 (1.46)	45.0 (1.77)	48.0 (1.89)
M50x1.5	50.0 (1.97)	15.0 (.59)	46.0 (1.81)	57.0 (2.24)	61.0 (2.40)
M63x1.5	63.0 (2.48)	15.0 (.59)	49.0 (1.93)	70.0 (2.7)	75.0 (2.95)

**Polyamide (PA)**  
Light Gray or Black



With Thermoplastic Elastomer (TPE)  
Spherical Sealing Insert

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE)  
Spherical Sealing Insert

**Stainless Steel (SS)**  
1.4305 (303)



With Thermoplastic Elastomer (TPE)  
Spherical Sealing Insert

High Performance Cord Grips

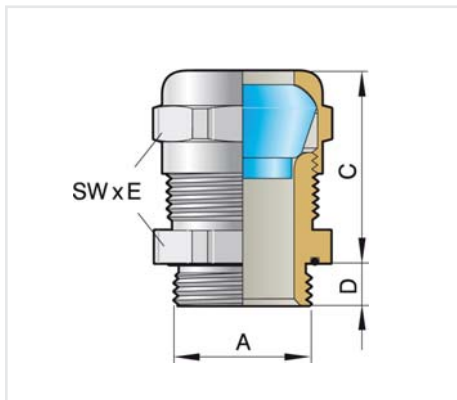
Polyamide (PA)*			Nickel Plated Brass (NPB)**		Stainless Steel (SS)**	
Thermoplastic Elastomer (TPE)			Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-			Neoprene (NBR)		Silicone (SIL)	
-20 to 100°C (-4 to 212°F)			-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)			-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-			-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Blue			Blue		Blue	

Cat. No.			Std. Pk.		Cat. No.			Std. Pk.	
L. Gray	Black	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	
96570.0	96570.1	50	96570.6	50	96570.7	50	96570.7	50	
96571.0	96571.1	50	96571.6	50	96571.7	50	96571.7	50	
96572.0	96572.1	50	96572.6	50	96572.7	50	96572.7	50	
96573.0	96573.1	50	96573.6	50	96573.7	50	96573.7	50	
96574.0	96574.1	25	96574.6	25	96574.7	25	96574.7	25	
96575.0	96575.1	5	96575.6	10	96575.7	10	96575.7	10	
96576.0	96576.1	10	96576.6	5	96576.7	5	96576.7	5	
96577.0	96577.1	5	96577.6	5	96577.7	5	96577.7	5	
-	-	-	96578.6	5	96578.7	5	96578.7	5	
-	-	-	96579.6	1	96579.7	1	96579.7	1	

\*Polyamide *blueglobe*® VDE Approval only with installed O-Ring; Order Separately

\*\*For Nickel Plated Brass & Stainless Steel Cord Grips with 15mm (.59in.) long External Thread add /15 to the Catalog Number. Example: 96570.6/15



**Cord Grip Dimensions: mm (in.) Nickel Plated Brass and Stainless Steel**

Size	A	D	C	SW	E
M12x1.5	12.0 (.47)	5.0 (.20)	21.0 (.83)	17.0 (.67)	18.9 (.74)
M16x1.5	16.0 (.63)	6.0 (.24)	25.0 (.98)	20.0 (.79)	22.2 (.87)
M20x1.5	20.0 (.79)	6.5 (.26)	29.0 (1.14)	24.0 (.94)	26.5 (1.04)
M25x1.5	25.0 (.98)	7.5 (.30)	29.0 (1.14)	30.0 (1.18)	33.0 (1.30)
M32x1.5	32.0 (1.26)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	39.5 (1.56)
M40x1.5	40.0 (1.57)	8.0 (.31)	35.0 (1.38)	45.0 (1.77)	48.0 (1.89)
M50x1.5	50.0 (1.97)	10.0 (.39)	35.0 (1.38)	57.0 (2.24)	61.0 (2.40)
M63x1.5	63.0 (2.48)	10.0 (.39)	38.0 (1.50)	68.0 (2.68)	72.0 (2.83)
M75x1.5	75.0 (2.95)	15.0 (.59)	48.0 (1.89)	81.0 (3.19)	87.0 (3.43)
M85x2	85.0 (3.35)	15.0 (.59)	49.0 (1.93)	95.0 (3.74)	102.0 (4.02)

## Multi-Cable - Metric, PG & NPT External Thread



- Protection Rating: IP68; NEMA 4X if Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Choose from 3 Body & 2 Insert Materials
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque
- Custom & Silicone Inserts Available

### Multi-Cable Cord Grips

Multiple Cable Cord Grips are used when space is restricted and several cables must pass through one Cord Grip into an enclosure or housing. CONTA-CLIP Cord Grips with Multiple Cable Inserts ensure the desired protection rating and provide reliable strain relief.



**Polyamide**



**Polyvinylidene**



**Nickel Plated Brass**



**Stainless Steel**

### Multi-Cable Inserts

Choose from a wide variety of prefabricated Multi-Cable Inserts, each with holes of the same or varying diameters.



### Solid Inserts

Also available are Solid Inserts, which are easily Custom-drilled to fit your cable needs. Please refer to page 144-149 for ordering information. Use the Solid Insert worksheet on page 145, 147, 149 as a guide and follow the instructions for shop drilling on page 144.



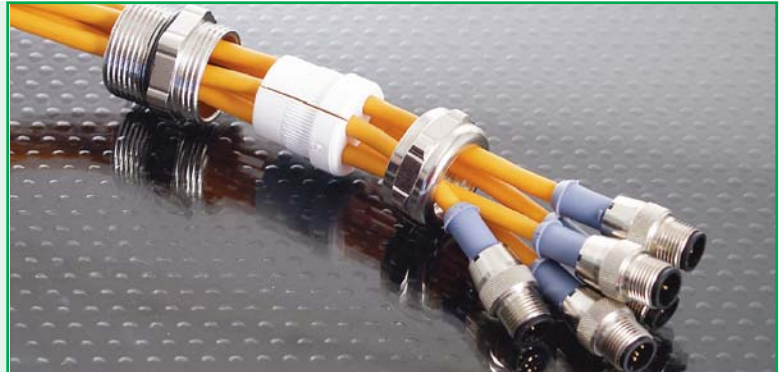
### Split Inserts

Inserts are split in half to allow installation of cable with attached non-removable components. The outer diameter of the component must be smaller than the inner diameter of the Cord Grip Body.



### Slit Inserts

Each hole of the Multi-Cable Insert is slit to allow installation of cable with attached non-removable small components such as ferrules, ring, spade or pin terminals. Please contact CONTA-CLIP for availability.



### Sealing Plugs

Sealing Plugs seal unused holes in Multi-Cable Inserts. The plugs ensure that the protection rating and strain relief of the Cord Grip is maintained. Please refer to page 321 for ordering information.



Since we continuously broaden our Multi-Cable Cord Grip offering, please contact CONTA-CLIP if you don't find a Multi-Cable Cord Grip suitable for your application listed in this catalog.

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>M12x1.5</b>				
M12x1.5	1x3.0mm	–	–	50
M12x1.5	1x4.0mm	–	–	50
M12x1.5	1x5.0mm	–	–	50
M12x1.5	2x3.0mm	–	–	50
M12x1.5	2x4.0mm	–	–	50
M12x1.5	3x3.0mm	–	–	50
<b>M16x1.5</b>				
M16x1.5	1x2.0mm	2x4.0mm	–	50
M16x1.5	1x3.0mm	–	–	50
M16x1.5	1x4.0mm	–	–	50
M16x1.5	1x4.0mm	1x6.0mm	–	50
M16x1.5	1x5.0mm	–	–	50
M16x1.5	2x1.2mm	–	–	50
M16x1.5	2x2.5mm	2x6.0mm	–	50
M16x1.5	2x3.0mm	–	–	50
M16x1.5	2x4.0mm	–	–	50
M16x1.5	2x4.0mm	1x5.0mm	–	50
M16x1.5	2x6.0mm	–	–	50
M16x1.5	3x3.0mm	–	–	50
M16x1.5	3x3.5mm	–	–	50
M16x1.5	3x4.0mm	–	–	50
M16x1.5	4x1.4mm	–	–	50
M16x1.5	4x3.0mm	–	–	50
M16x1.5	4x3.3mm	–	–	50
M16x1.5	4x4.0mm	–	–	50
M16x1.5	8x3.0mm	–	–	50
<b>M20x1.5</b>				
M20x1.5	1x2.0mm	3x3.0mm	–	50
M20x1.5	1x2.5mm	–	–	50
M20x1.5	1x3.0mm	–	–	50
M20x1.5	1x3.0mm	1x6.0mm	–	50
M20x1.5	1x3.0mm	1x6.0mm	1x8.0mm	50
M20x1.5	1x3.0mm	2x6.0mm	–	50
M20x1.5	1x3.5mm	1x6.0mm	–	50
M20x1.5	1x3.5mm	2x4.5mm	–	50
M20x1.5	1x4.0mm	–	–	50
M20x1.5	1x4.7mm	1x6.4mm	–	50
M20x1.5	1x5.0mm	–	–	50
M20x1.5	2x2.3mm	–	–	50
M20x1.5	2x2.5mm	2x6.0mm	–	50
M20x1.5	2x3.0mm	–	–	50
M20x1.5	2x4.0mm	–	–	50
M20x1.5	2x4.0mm	1x5.5mm	–	50
M20x1.5	2x4.0mm	1x7.8mm	–	50
M20x1.5	2x5.0mm	–	–	50
M20x1.5	2x5.0mm	1x5.5mm	–	50
M20x1.5	2x6.0mm	–	–	50

**Cat. No.  
Beige**

**M12x1.5**

96563.0
96564.0
96565.0
96566.0
96567.0
96568.0

**M16x1.5**

96011.0
96000.0
96001.0
96012.0
96002.0
96003.0
–
96004.0
96005.0
96013.0
–
96006.0
96007.0
–
96008.0
96009.0
96010.0
–
–

**M20x1.5**

96079.0
96076.0
96087.0
96051.0
96108.0
96081.0
96082.0
96083.0
96052.0
96085.0
96053.0
96054.0
96071.0
96055.0
96056.0
96089.0
96090.0
96057.0
96092.0
96058.0

**Cat. No.  
Black**

**M12x1.5**

96563.1
96564.1
96565.1
96566.1
96567.1
96568.1

**M16x1.5**

96011.1
96000.1
96001.1
96012.1
96002.1
96003.1
–
96004.1
96005.1
96013.1
–
96006.1
96007.1
–
96008.1
96009.1
96010.1
–
–

**M20x1.5**

96079.1
96076.1
96087.1
96051.1
96108.1
96081.1
96082.1
96083.1
96052.1
96085.1
96053.1
96054.1
96071.1
96055.1
96056.1
96089.1
96090.1
96057.1
96092.1
96058.1

**Polyvinylidene  
(PVDF) Opaque**



**Polyvinylidene  
(PVDF) Black**



**Nickel Plated Brass  
(NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Opaque M12x1.5</b>	<b>Cat. No. Black M12x1.5</b>	<b>Cat. No. M12x1.5</b>	<b>Cat. No. M12x1.5</b>
96563.4	96563.5	96563.6	96563.7
96564.4	96564.5	96564.6	96564.7
96565.4	96565.5	96565.6	96565.7
96566.4	96566.5	96566.6	96566.7
96567.4	96567.5	96567.6	96567.7
96568.4	96568.5	96568.6	96568.7
<b>M16x1.5</b>	<b>M16x1.5</b>	<b>M16x1.5</b>	<b>M16x1.5</b>
96011.4	96011.5	96011.6	96011.7
96000.4	96000.5	96000.6	96000.7
96001.4	96001.5	96001.6	96001.7
96012.4	96012.5	96012.6	96012.7
96002.4	96002.5	96002.6	96002.7
96003.4	96003.5	96003.6	96003.7
96014.4	96014.5	96014.6	-
96004.4	96004.5	96004.6	96004.7
96005.4	96005.5	96005.6	96005.7
96013.4	96013.5	96013.6	96013.7
96016.4	96016.5	96016.6	-
96006.4	96006.5	96006.6	96006.7
96007.4	96007.5	96007.6	96007.7
96017.4	96017.5	96017.6	96017.7
96008.4	96008.5	96008.6	96008.7
96009.4	96009.5	96009.6	96009.7
96010.4	96010.5	96010.6	96010.7
96020.4	96020.5	96020.6	-
96021.4	96021.5	96021.6	-
<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>
96079.4	96079.5	-	-
96076.4	96076.5	96076.6	96076.7
96087.4	96087.5	96087.6	96087.7
96051.4	96051.5	96051.6	96051.7
96108.4	96108.5	96108.6	-
96081.4	96081.5	96081.6	96081.7
96082.4	96082.5	96082.6	96082.7
96083.4	96083.5	96083.6	96083.7
96052.4	96052.5	96052.6	96052.7
96085.4	96085.5	96085.6	96085.7
96053.4	96053.5	96053.6	96053.7
96054.4	96054.5	96054.6	96054.7
96071.4	96071.5	-	-
96055.4	96055.5	96055.6	96055.7
96056.4	96056.5	96056.6	96056.7
96089.4	96089.5	96089.6	96089.7
96090.4	96090.5	96090.6	96090.7
96057.4	96057.5	96057.6	96057.7
96092.4	96092.5	96092.6	96092.7
96058.4	96058.5	96058.6	96058.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M20x1.5	2x6.5mm	–	–	50
M20x1.5	2x8.0mm	–	–	50
M20x1.5	3x2.0mm	–	–	50
M20x1.5	3x3.0mm	–	–	50
M20x1.5	3x3.0mm	1x6.0mm	–	50
M20x1.5	3x4.0mm	–	–	50
M20x1.5	3x5.3mm	–	–	50
<b>M20x1.5</b>				
M20x1.5	4x1.5mm	–	–	50
M20x1.5	4x2.5mm	1x3.5mm	–	50
M20x1.5	4x3.0mm	–	–	50
M20x1.5	4x4.0mm	–	–	50
M20x1.5	5x2.5mm	–	–	50
M20x1.5	5x3.5mm	–	–	50
M20x1.5	6x2.0mm	–	–	50
M20x1.5	6x2.5mm	–	–	50
M20x1.5	6x3.5mm	–	–	50
M20x1.5	7x1.5mm	–	–	50
M20x1.5	7x3.3mm	–	–	50
M20x1.5	8x1.2mm	–	–	50
M20x1.5	8x1.5mm	–	–	50
M20x1.5	8x2.0mm	–	–	50
M20x1.5	8x3.0mm	–	–	50
M20x1.5	9x1.5mm	–	–	50
M20x1.5	10x2.0mm	–	–	50
M20x1.5	10x2.6mm	–	–	50
<b>M25x1.5</b>				
M25x1.5	1x3.0mm	1x6.0mm	1x8.0mm	25
M25x1.5	1x3.0mm	1x8.0mm	–	25
M25x1.5	1x3.0mm	1x9.0mm	–	25
M25x1.5	1x3.0mm	2x8.0mm	–	25
M25x1.5	1x3.5mm	–	–	25
M25x1.5	1x4.0mm	–	–	25
M25x1.5	1x4.0mm	1x5.0mm	–	25
M25x1.5	1x4.0mm	1x12.0mm	–	25
M25x1.5	1x4.0mm	2x6.0mm	1x7.0mm	25
M25x1.5	1x4.0mm	3x5.0mm	–	25
M25x1.5	1x4.5mm	2x6.5mm	–	25
M25x1.5	1x5.0mm	–	–	25
M25x1.5	1x5.0mm	1x9.0mm	–	25
M25x1.5	1x5.0mm	2x6.0mm	–	25
M25x1.5	1x5.5mm	1x9.0mm	–	25
M25x1.5	1x5.5mm	1x10.5mm	–	25
M25x1.5	1x5.8mm	1x6.9mm	1x8.4mm	25
M25x1.5	1x6.0mm	1x8.0mm	–	25
M25x1.5	1x6.9mm	1x7.4mm	1x8.4mm	25
M25x1.5	1x7.0mm	1x10.5mm	–	25
M25x1.5	1x7.5mm	1x8.5mm	1x10.0mm	25

Cat. No.  
Beige

96109.0  
96110.0  
96094.0  
96060.0  
96096.0  
96061.0  
96098.0

**M20x1.5**

96062.0  
96063.0  
96099.0  
96100.0  
96064.0  
96065.0  
96066.0  
96067.0  
96102.0  
96068.0  
96103.0  
96069.0  
96104.0  
96105.0  
96078.0  
96070.0  
96106.0  
96107.0

**M25x1.5**

96121.0  
96122.0  
96123.0  
96124.0  
96120.0  
96125.0  
96126.0  
96164.0  
96127.0  
96128.0  
96165.0  
96129.0  
96130.0  
96131.0  
96166.0  
96167.0  
96168.0  
96132.0  
96169.0  
96171.0  
96170.0

Cat. No.  
Black

96109.1  
96110.1  
96094.1  
96060.1  
96096.1  
96061.1  
96098.1

**M20x1.5**

96062.1  
96063.1  
96099.1  
96100.1  
96064.1  
96065.1  
96066.1  
96067.1  
96102.1  
96068.1  
96103.1  
96069.1  
96104.1  
96105.1  
96078.1  
96070.1  
96106.1  
96107.1

**M25x1.5**

96121.1  
96122.1  
96123.1  
96124.1  
96120.1  
96125.1  
96126.1  
96164.1  
96127.1  
96128.1  
96165.1  
96129.1  
96130.1  
96131.1  
96166.1  
96167.1  
96168.1  
96132.1  
96169.1  
96171.1  
96170.1



**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
96109.4	96109.5	96109.6	-
96110.4	96110.5	96110.6	-
96094.4	96094.5	96094.6	96094.7
96060.4	96060.5	96060.6	96060.7
96096.4	96096.5	96096.6	96097.7
96061.4	96061.5	96061.6	96061.7
96098.4	96098.5	96098.6	96098.7
<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>
96062.4	96062.5	96062.6	96062.7
96063.4	96063.5	96063.6	96063.7
96099.4	96099.5	96099.6	96099.7
96100.4	96100.5	96100.6	96100.7
96064.4	96064.5	96064.6	96064.7
96065.4	96065.5	96065.6	96065.7
96066.4	96066.5	96066.6	96066.7
96067.4	96067.5	96067.6	96067.7
96102.4	96102.5	96102.6	96102.7
96068.4	96068.5	96068.6	96068.7
96103.4	96103.5	96103.6	96103.7
96069.4	96069.5	96069.6	96069.7
96104.4	96104.5	96104.6	96104.7
96105.4	96105.5	96105.6	96105.7
96078.4	96078.5	-	-
96070.4	96070.5	96070.6	96070.7
96106.4	96106.5	96106.6	96106.7
96107.4	96107.5	96107.6	96107.7
<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>
96121.4	96121.5	96121.6	96121.7
96122.4	96122.5	96122.6	96122.7
96123.4	96123.5	96123.6	96123.7
96124.4	96124.5	96124.6	96124.7
96120.4	96120.5	96120.6	96120.7
96125.4	96125.5	96125.6	96125.7
96126.4	96126.5	96126.6	96126.7
96164.4	96164.5	96164.6	96164.7
96127.4	96127.5	96127.6	96127.7
96128.4	96128.5	96128.6	96128.7
96165.4	96165.5	96165.6	96165.7
96129.4	96129.5	96129.6	96129.7
96130.4	96130.5	96130.6	96130.7
96131.4	96131.5	96131.6	96131.7
96166.4	96166.5	96166.6	96166.7
96167.4	96167.5	96167.6	96167.7
96168.4	96168.5	96168.6	96168.7
96132.4	96132.5	96132.6	96132.7
96169.4	96169.5	96169.6	96169.7
96171.4	96171.5	96171.6	96171.7
96170.4	96170.5	96170.6	96170.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M25x1.5	1x12.5mm	–	–	25
M25x1.5	1x15.1mm	–	–	25
M25x1.5	2x3.2mm	2x6.0mm	–	25
M25x1.5	2x3.3mm	–	–	25
M25x1.5	2x3.5mm	–	–	25
M25x1.5	2x3.5mm	1x5.5mm	–	25
M25x1.5	2x3.5mm	1x8.5mm	–	25
<b>M25x1.5</b>				
M25x1.5	2x4.0mm	–	–	25
M25x1.5	2x5.0mm	–	–	25
M25x1.5	2x5.0mm	1x5.5mm	–	25
M25x1.5	2x5.0mm	1x6.0mm	–	25
M25x1.5	2x6.0mm	–	–	25
M25x1.5	2x6.0mm	1x7.0mm	–	25
M25x1.5	2x6.0mm	1x8.0mm	–	25
M25x1.5	2x6.5mm	1x9.5mm	–	25
M25x1.5	2x7.0mm	–	–	25
M25x1.5	2x8.0mm	–	–	25
M25x1.5	2x9.0mm	–	–	25
M25x1.5	2x10.0mm	–	–	25
M25x1.5	3x2.5mm	1x3.5mm	1x7.0mm	25
M25x1.5	3x2.5mm	3x8.0mm	–	25
M25x1.5	3x3.0mm	–	–	25
M25x1.5	3x3.0mm	1x6.0mm	–	25
M25x1.5	3x4.0mm	1x9.0mm	–	25
M25x1.5	3x5.0mm	1x8.0mm	–	25
M25x1.5	3x6.0mm	–	–	25
M25x1.5	3x7.0mm	–	–	25
M25x1.5	3x8.0mm	–	–	25
M25x1.5	4x4.0mm	–	–	25
M25x1.5	4x4.6mm	3x5.1mm	–	25
M25x1.5	4x5.0mm	–	–	25
M25x1.5	4x5.0mm	1x6.5mm	–	25
M25x1.5	4x6.0mm	–	–	25
M25x1.5	4x7.5mm	–	–	25
M25x1.5	5x5.0mm	–	–	25
M25x1.5	6x4.0mm	–	–	25
M25x1.5	7x2.0mm	–	–	25
M25x1.5	7x4.0mm	–	–	25
M25x1.5	8x4.0mm	–	–	25
M25x1.5	9x3.0mm	–	–	25
M25x1.5	12x3.5mm	–	–	25
M25x1.5	13x2.7mm	–	–	25
M25x1.5	18x2.4mm	–	–	25
<b>M32x1.5</b>				
M32x1.5	1x3.2mm	2x6.0mm	3x7.0mm	10
M32x1.5	1x3.5mm	2x8.0mm	1x14.0mm	10
M32x1.5	1x4.0mm	1x9.3mm	1x10.0mm	10

**Cat. No.  
Beige**

**Cat. No.  
Black**

96133.0	96133.1
96134.0	96134.1
96135.0	96135.1
96136.0	96136.1
96137.0	96137.1
96138.0	96138.1
96139.0	96139.1
<b>M25x1.5</b>	<b>M25x1.5</b>
96141.0	96141.1
96142.0	96142.1
96173.0	96173.1
96143.0	96143.1
96144.0	96144.1
96145.0	96145.1
96146.0	96146.1
96175.0	96175.1
96176.0	96176.1
96147.0	96147.1
96178.0	96178.1
96179.0	96179.1
96148.0	96148.1
96180.0	96180.1
96149.0	96149.1
96150.0	96150.1
96152.0	96152.1
96153.0	96153.1
96154.0	96154.1
96155.0	96155.1
96181.0	96181.1
96156.0	96156.1
96172.0	96172.1
96157.0	96157.1
96182.0	96182.1
96158.0	96158.1
96183.0	96183.1
96184.0	96184.1
96159.0	96159.1
96160.0	96160.1
96185.0	96185.1
96186.0	96186.1
96161.0	96161.1
96187.0	96187.1
96162.0	96162.1
96163.0	96163.1
<b>M32x1.5</b>	<b>M32x1.5</b>
96189.0	96189.1
96242.0	96242.1
96243.0	96243.1

**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
96133.4	96133.5	96133.6	96133.7
96134.4	96134.5	96134.6	96134.7
96135.4	96135.5	96135.6	96135.7
96136.4	96136.5	96136.6	96136.7
96137.4	96137.5	96137.6	96137.7
96138.4	96138.5	96138.6	96138.7
96139.4	96139.5	96139.6	96139.7
<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>
96141.4	96141.5	96141.6	96141.7
96142.4	96142.5	96142.6	96142.7
96173.4	96173.5	96173.6	96173.7
96143.4	96143.5	96143.6	96143.7
96144.4	96144.5	96144.6	96144.7
96145.4	96145.5	96145.6	96145.7
96146.4	96146.5	96146.6	96146.7
96175.4	96175.5	96175.6	96175.7
96176.4	96176.5	96176.6	96176.7
96147.4	96147.5	96147.6	96147.7
96178.4	96178.5	96178.6	96178.7
96179.4	96179.5	96179.6	96179.7
69148.4	96148.5	96148.6	96148.7
96180.4	96180.5	96180.6	96180.7
96149.4	96149.5	96149.6	96149.7
96150.4	96150.5	96150.6	96150.7
96152.4	96152.5	96152.6	96152.7
96153.4	96153.5	96153.6	96153.7
96154.4	96154.5	96154.6	96154.7
96155.4	96155.5	96155.6	96155.7
96181.4	96181.5	96181.6	96181.7
96156.4	96156.5	96156.6	96156.7
96172.4	96172.5	96172.6	96172.7
96157.4	96157.5	96157.6	96157.7
96182.4	96182.5	96182.6	96182.7
96158.4	96158.5	96158.6	96158.7
96183.4	96183.5	96183.6	96183.7
96184.4	96184.5	96184.6	96184.7
96159.4	96159.5	96159.6	96159.7
96160.4	96160.5	96160.6	96160.7
96185.4	96185.5	96185.6	96185.7
96186.4	96186.5	96186.6	96186.7
96161.4	96161.5	96161.6	96161.7
96187.4	96187.5	96187.6	96187.7
96162.4	96162.5	96162.6	96162.7
96163.4	96163.5	96163.6	96163.7
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>
96189.4	96189.5	96189.6	96189.7
96242.4	96242.5	96242.6	96242.7
96243.4	96243.5	96243.6	96243.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M32x1.5	1x4.0mm	2x8.0mm	–	10
M32x1.5	1x4.3mm	1x6.0mm	1x8.0mm	10
M32x1.5	1x4.5mm	2x7.0mm	1x8.0mm	10
M32x1.5	1x5.0mm	1x9.0mm	–	10
M32x1.5	1x5.7mm	1x13.0mm	–	10
M32x1.5	1x5.8mm	1x6.9mm	1x11.0mm	10
M32x1.5	1x5.8mm	2x11.0mm	–	10
<b>M32x1.5</b>				
M32x1.5	1x6.0mm	1x8.5mm	1x10.5mm	10
M32x1.5	1x6.0mm	2x9.0mm	–	10
M32x1.5	1x6.5mm	1x12.0mm	–	10
M32x1.5	1x6.5mm	2x11.2mm	–	10
M32x1.5	1x7.0mm	1x8.5mm	–	10
M32x1.5	1x7.0mm	1x10.5mm	–	10
M32x1.5	1x8.0mm	1x9.0mm	1x12.0mm	10
M32x1.5	1x8.0mm	1x14.0mm	–	10
M32x1.5	1x8.5mm	1x12.0mm	–	10
M32x1.5	1x9.0mm	1x10.0mm	–	10
M32x1.5	1x10.0mm	1x12.0mm	–	10
M32x1.5	1x10.0mm	1x15.0mm	–	10
M32x1.5	2x4.5mm	–	–	10
M32x1.5	2x4.5mm	1x13.0mm	–	10
M32x1.5	2x5.0mm	2x9.0mm	–	10
M32x1.5	2x5.8mm	1x11.0mm	–	10
M32x1.5	2x6.0mm	2x8.0mm	–	10
M32x1.5	2x6.0mm	2x10.0mm	–	10
M32x1.5	2x7.2mm	1x10.5mm	–	10
M32x1.5	2x8.0mm	–	–	10
M32x1.5	2x9.0mm	–	–	10
M32x1.5	2x11.0mm	–	–	10
M32x1.5	2x12.0mm	–	–	10
M32x1.5	2x13.0mm	–	–	10
M32x1.5	2x13.9mm	–	–	10
M32x1.5	3x4.0mm	–	–	10
M32x1.5	3x5.0mm	–	–	10
M32x1.5	3x6.0mm	1x8.0mm	–	10
M32x1.5	3x7.0mm	–	–	10
M32x1.5	3x9.0mm	–	–	10
M32x1.5	4x5.0mm	–	–	10
M32x1.5	4x6.0mm	–	–	10
M32x1.5	4x6.0mm	1x8.0mm	–	10
M32x1.5	4x6.5mm	–	–	10
M32x1.5	4x8.0mm	–	–	10
M32x1.5	5x2.0mm	–	–	10
M32x1.5	5x4.0mm	–	–	10
M32x1.5	5x5.0mm	–	–	10
M32x1.5	5x6.0mm	–	–	10
M32x1.5	5x9.5mm	–	–	10

Cat. No.  
Beige

96244.0
96200.0
96201.0
96202.0
96203.0
96245.0
96246.0
<b>M32x1.5</b>
96247.0
96204.0
96205.0
96248.0
96207.0
96208.0
96250.0
96249.0
96209.0
96210.0
96251.0
96252.0
96211.0
96212.0
96253.0
96254.0
96213.0
96255.0
96214.0
96215.0
96216.0
96256.0
96257.0
96258.0
96222.0
96217.0
96218.0
96219.0
96220.0
96221.0
96223.0
96224.0
96225.0
96226.0
96227.0
96261.0
96228.0
96229.0
96230.0
96262.0

Cat. No.  
Black

96244.1
96200.1
96201.1
96202.1
96203.1
96245.1
96246.1
<b>M32x1.5</b>
96247.1
96204.1
96205.1
96248.1
96207.1
96208.1
96250.1
96249.1
96209.1
96210.1
96251.1
96252.1
96211.1
96212.1
96253.1
96254.1
96213.1
96255.1
96214.1
96215.1
96216.1
96256.1
96257.1
96258.1
96222.1
96217.1
96218.1
96219.1
96220.1
96221.1
96223.1
96224.1
96225.1
96226.1
96227.1
96261.1
96228.1
96229.1
96230.1
96262.1

**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
96244.4	96244.5	96244.6	96244.7
96200.4	96200.5	96200.6	96200.7
96201.4	96201.5	96201.6	96201.7
96202.4	96202.5	96202.6	96202.7
96203.4	96203.5	96203.6	96203.7
96245.4	96245.5	96245.6	96245.7
96246.4	96246.5	96246.6	96246.7
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>
96247.4	96247.5	96247.6	96247.7
96204.4	96204.5	96204.6	96204.7
96205.4	96205.5	96205.6	96205.7
96248.4	96248.5	96248.6	96248.7
96207.4	96207.5	96207.6	96207.7
96208.4	96208.5	96208.6	96208.7
96250.4	96250.5	96250.6	96250.7
96249.4	96249.5	96249.6	96249.7
96209.4	96209.5	96209.6	96209.7
96210.4	96210.5	96210.6	96210.7
96251.4	96251.5	96251.6	96251.7
96252.4	96252.5	96252.6	96252.7
96211.4	96211.5	96211.6	96211.7
96212.4	96212.5	96212.6	96212.7
96253.4	96253.5	96253.6	96253.7
96254.4	96254.5	96254.6	96254.7
96213.4	96213.5	96213.6	96213.7
96255.4	96255.5	96255.6	96255.7
96214.4	96214.5	96214.6	96214.7
96215.4	96215.5	96215.6	96215.7
96216.4	96216.5	96216.6	96216.7
96256.4	96256.5	96256.6	96256.7
96257.4	96257.5	96257.6	96257.7
96258.4	96258.5	96258.6	96258.7
96222.4	96222.5	96222.6	96222.7
96217.4	96217.5	96217.6	96217.7
96218.4	96218.5	96218.6	96218.7
96219.4	96219.5	96219.6	96219.7
96220.4	96220.5	96220.6	96220.7
96221.4	96221.5	96221.6	96221.7
96223.4	96223.5	96223.6	96223.7
96224.4	96224.5	96224.6	96224.7
96225.4	96225.5	96225.6	96225.7
96226.4	96226.5	96226.6	96226.7
96227.4	96227.5	96227.6	96227.7
96261.4	96261.5	96261.6	96261.7
96228.4	96228.5	96228.6	96228.7
96229.4	96229.5	96229.6	96229.7
96230.4	96230.5	96230.6	96230.7
96262.4	96262.5	96262.6	96262.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M32x1.5	6x4.0mm	–	–	10
M32x1.5	6x4.0mm	1x7.0mm	–	10
M32x1.5	6x5.0mm	–	–	10
M32x1.5	6x5.5mm	–	–	10
M32x1.5	6x6.5mm	–	–	10
M32x1.5	6x7.5mm	–	–	10
M32x1.5	8x3.0mm	–	–	10
<b>M32x1.5</b>				
M32x1.5	8x4.0mm	–	–	10
M32x1.5	8x5.0mm	–	–	10
M32x1.5	8x5.5mm	–	–	10
M32x1.5	9x3.0mm	–	–	10
M32x1.5	11x2.5mm	–	–	10
M32x1.5	12x5.3mm	–	–	10
M32x1.5	21x2.0mm	–	–	10
<b>M40x1.5</b>				
M40x1.5	1x4.5mm	4x8.0mm	–	10
M40x1.5	1x5.0mm	1x9.0mm	1x12.2mm	10
M40x1.5	1x5.0mm	2x9.0mm	1x13.0mm	10
M40x1.5	1x5.0mm	4x9.0mm	–	10
M40x1.5	1x5.5mm	1x9.0mm	–	10
M40x1.5	1x5.8mm	2x11.0mm	–	10
M40x1.5	1x6.0mm	1x8.5mm	1x10.5mm	10
M40x1.5	1x6.0mm	1x10.0mm	–	10
M40x1.5	1x6.0mm	2x6.5mm	2x8.0mm	10
M40x1.5	1x6.0mm	2x9.0mm	–	10
M40x1.5	1x6.5mm	1x17.0mm	–	10
M40x1.5	1x7.0mm	1x8.5mm	1x17.0mm	10
M40x1.5	1x7.0mm	1x9.0mm	1x11.0mm	10
M40x1.5	1x7.0mm	1x9.5mm	1x12.0mm	10
M40x1.5	1x7.0mm	1x14.0mm	–	10
M40x1.5	1x7.0mm	2x8.0mm	2x10.0mm	10
M40x1.5	1x7.0mm	2x8.5mm	–	10
M40x1.5	1x8.0mm	2x8.5mm	1x12.0mm	10
M40x1.5	1x8.0mm	2x8.5mm	1x15.0mm	10
M40x1.5	1x8.0mm	2x11.0mm	–	10
M40x1.5	1x8.0mm	2x12.0mm	–	10
M40x1.5	1x8.0mm	12x4.0mm	–	10
M40x1.5	1x8.5mm	1x12.0mm	–	10
M40x1.5	1x9.0mm	1x10.0mm	1x11.0mm	10
M40x1.5	1x9.0mm	1x15.0mm	–	10
M40x1.5	1x9.5mm	1x11.5mm	1x13.5mm	10
M40x1.5	1x9.5mm	2x13.5mm	–	10
M40x1.5	1x10.0mm	1x11.5mm	1x13.0mm	10
M40x1.5	1x10.0mm	1x12.0mm	1x13.5mm	10
M40x1.5	1x10.0mm	1x13.0mm	–	10
M40x1.5	1x10.5mm	1x16.0mm	–	10
M40x1.5	1x12.0mm	1x13.0mm	–	10

Cat. No.  
Beige

96231.0
96232.0
96233.0
96234.0
96235.0
96263.0
96236.0
<b>M32x1.5</b>
96237.0
96238.0
96239.0
96240.0
96264.0
96265.0
96241.0
<b>M40x1.5</b>
96302.0
96270.0
96304.0
96305.0
96306.0
96307.0
96308.0
96311.0
96309.0
96310.0
96312.0
96314.0
96316.0
96315.0
96317.0
96319.0
96320.0
96321.0
96322.0
96323.0
96324.0
96325.0
96326.0
96327.0
96328.0
96329.0
96330.0
96331.0
96332.0
96333.0
96334.0
96335.0

Cat. No.  
Black

96231.1
96232.1
96233.1
96234.1
96235.1
96263.1
96236.1
<b>M32x1.5</b>
96237.1
96238.1
96239.1
96240.1
96264.1
96265.1
96241.1
<b>M40x1.5</b>
96302.1
96270.1
96304.1
96305.1
96306.1
96307.1
96308.1
96311.1
96309.1
96310.1
96312.1
96314.1
96316.1
96315.1
96317.1
96319.1
96320.1
96321.1
96322.1
96323.1
96324.1
96325.1
96326.1
96327.1
96328.1
96329.1
96330.1
96331.1
96332.1
96333.1
96334.1
96335.1

**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**
**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

<b>Cat. No. Opaque</b>	<b>Cat. No. Black</b>	<b>Cat. No.</b>	<b>Cat. No.</b>
96231.4	96231.5	96231.6	96231.7
96232.4	96232.5	96232.6	96232.7
96233.4	96233.5	96233.6	96233.7
96234.4	96234.5	96234.6	96234.7
96235.4	96235.5	96235.6	96235.7
96263.4	96263.5	96263.6	96263.7
96236.4	96236.5	96236.6	96236.7
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>
96237.4	96237.5	96237.6	96237.7
96238.4	96238.5	96238.6	96238.7
96239.4	96239.5	96239.6	96239.7
96240.4	96240.5	96240.6	96240.7
96264.4	96264.5	96264.6	96264.7
96265.4	96265.5	96265.6	96265.7
96241.4	96241.5	96241.6	96241.7
<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>
96302.4	96302.5	96302.6	96302.7
96270.4	96270.5	96270.6	96270.7
96304.4	96304.5	96304.6	96304.7
96305.4	96305.5	96305.6	96305.7
96306.4	96306.5	96306.6	96306.7
96307.4	96307.5	96307.6	96307.7
96308.4	96308.5	96308.6	96308.7
96311.4	96311.5	96311.6	96311.7
96309.4	96309.5	96309.6	96309.7
96310.4	96310.5	96310.6	96310.7
96312.4	96312.5	96312.6	96312.7
96314.4	96314.5	96314.6	96314.7
96316.4	96316.5	96316.6	96316.7
96315.4	96315.5	96315.6	96315.7
96317.4	96317.5	96317.6	96317.7
96319.4	96319.5	96319.6	96319.7
96320.4	96320.5	96320.6	96320.7
96321.4	96321.5	96321.6	96321.7
96322.4	96322.5	96322.6	96322.7
96323.4	96323.5	96323.6	96323.7
96324.4	96324.5	96324.6	96324.7
96325.4	96325.5	96325.6	96325.7
96326.4	96326.5	96326.6	96326.7
96327.4	96327.5	96327.6	96327.7
96328.4	96328.5	96328.6	96328.7
96329.4	96329.5	96329.6	96329.7
96330.4	96330.5	96330.6	96330.7
96331.4	96331.5	96331.6	96331.7
96332.4	96332.5	96332.6	96332.7
96333.4	96333.5	96333.6	96333.7
96334.4	96334.5	96334.6	96334.7
96335.4	96335.5	96335.6	96335.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M40x1.5	1x14.0mm	–	–	10
M40x1.5	1x25.5mm	–	–	10
M40x1.5	2x4.8mm	2x6.3mm	–	10
M40x1.5	2x5.0mm	1x8.6mm	1x12.2mm	10
M40x1.5	2x5.8mm	1x11.0mm	–	10
M40x1.5	2x6.0mm	1x7.5mm	2x8.5mm	10
M40x1.5	2x6.0mm	1x8.5mm	–	10
<b>M40x1.5</b>				
M40x1.5	2x6.0mm	1x10.5mm	1x12.0mm	10
M40x1.5	2x6.5mm	–	–	10
M40x1.5	2x6.5mm	1x10.0mm	–	10
M40x1.5	2x7.0mm	1x9.0mm	–	10
M40x1.5	2x8.0mm	2x11.0mm	–	10
M40x1.5	2x8.5mm	1x13.5mm	–	10
M40x1.5	2x9.0mm	–	–	10
M40x1.5	2x9.0mm	1x13.0mm	–	10
M40x1.5	2x9.0mm	1x15.0mm	–	10
M40x1.5	2x10.0mm	–	–	10
M40x1.5	2x11.0mm	–	–	10
M40x1.5	2x13.0mm	–	–	10
M40x1.5	3x3.0mm	7x4.0mm	1x8.0mm	10
M40x1.5	3x3.0mm	8x5.0mm	–	10
M40x1.5	3x3.0mm	8x5.0mm	1x8.0mm	10
M40x1.5	3x7.0mm	–	–	10
M40x1.5	3x7.0mm	3x8.0mm	–	10
M40x1.5	3x11.0mm	–	–	10
M40x1.5	3x12.0mm	–	–	10
M40x1.5	4x3.5mm	2x7.0mm	1x11.0mm	10
M40x1.5	4x5.0mm	–	–	10
M40x1.5	4x5.5mm	–	–	10
M40x1.5	4x5.5mm	1x8.0mm	–	10
M40x1.5	4x5.7mm	2x10.0mm	–	10
M40x1.5	4x6.0mm	3x8.5mm	–	10
M40x1.5	4x6.5mm	–	–	10
M40x1.5	4x8.0mm	–	–	10
M40x1.5	4x9.0mm	–	–	10
M40x1.5	4x10.0mm	–	–	10
M40x1.5	4x11.0mm	–	–	10
M40x1.5	5x8.0mm	–	–	10
M40x1.5	5x9.0mm	–	–	10
M40x1.5	5x10.0mm	–	–	10
M40x1.5	6x4.0mm	3x6.0mm	1x8.0mm	10
M40x1.5	6x6.0mm	–	–	10
M40x1.5	6x8.0mm	–	–	10
M40x1.5	7x4.8mm	–	–	10
M40x1.5	7x6.0mm	1x11.0mm	–	10
M40x1.5	7x7.0mm	–	–	10
M40x1.5	8x5.5mm	–	–	10

**Cat. No.  
Beige**

**Cat. No.  
Black**

96336.0  
96313.0  
96318.0  
96339.0  
96340.0  
96356.0  
96337.0

96336.1  
96313.1  
96318.1  
96339.1  
96340.1  
96356.1  
96337.1

**M40x1.5**

**M40x1.5**

96341.0  
96342.0  
96343.0  
96344.0  
96345.0  
96346.0  
96347.0  
96348.0  
96349.0  
96350.0  
96351.0  
96352.0  
96353.0  
96354.0  
96355.0  
96357.0  
96358.0  
96359.0  
96360.0  
96361.0  
96365.0  
96366.0  
96367.0  
96362.0  
96368.0  
96369.0  
96370.0  
96371.0  
96372.0  
96373.0  
96376.0  
96377.0  
96378.0  
96379.0  
96380.0  
96381.0  
96363.0  
96382.0  
96383.0  
96385.0

96341.1  
96342.1  
96343.1  
96344.1  
96345.1  
96346.1  
96347.1  
96348.1  
96349.1  
96350.1  
96351.1  
96352.1  
96353.1  
96354.1  
96355.1  
96357.1  
96358.1  
96359.1  
96360.1  
96361.1  
96365.1  
96366.1  
96367.1  
96362.1  
96368.1  
96369.1  
96370.1  
96371.1  
96372.1  
96373.1  
96376.1  
96377.1  
96378.1  
96379.1  
96380.1  
96381.1  
96363.1  
96382.1  
96383.1  
96385.1



**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**
**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

<b>Cat. No. Opaque</b>	<b>Cat. No. Black</b>	<b>Cat. No.</b>	<b>Cat. No.</b>
96336.4	96336.5	96336.6	96336.7
96313.4	96313.5	96313.6	96313.7
96318.4	96318.5	96318.6	96318.7
96339.4	96339.5	96339.6	96339.7
96340.4	96340.5	96340.6	96340.7
96356.4	96356.5	96356.6	96356.7
96337.4	96337.5	96337.6	96337.7
<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>
96341.4	96341.5	96341.6	96341.7
96342.4	96342.5	96342.6	96342.7
96343.4	96343.5	96343.6	96343.7
96344.4	96344.5	96344.6	96344.7
96345.4	96345.5	96345.6	96345.7
96346.4	96346.5	96346.6	96346.7
96347.4	96347.5	96347.6	96347.7
96348.4	96348.5	96348.6	96348.7
96349.4	96349.5	96349.6	96349.7
96350.4	96350.5	96350.6	96350.7
96351.4	96351.5	96351.6	96351.7
96352.4	96352.5	96352.6	96352.7
96353.4	96353.5	96353.6	96353.7
96354.4	96354.5	96354.6	96354.7
96355.4	96355.5	96355.6	96355.7
96357.4	96357.5	96357.6	96357.7
96358.4	96358.5	96358.6	96358.7
96359.4	96359.5	96359.6	96359.7
96360.4	96360.5	96360.6	96360.7
96361.4	96361.5	96361.6	96361.7
96365.4	96365.5	96365.6	96365.7
96366.4	96366.5	96366.6	96366.7
96367.4	96367.5	96367.6	96367.7
96362.4	96362.5	96362.6	96362.7
96368.4	96368.5	96368.6	96368.7
96369.4	96369.5	96369.6	96369.7
96370.4	96370.5	96370.6	96370.7
96371.4	96371.5	96371.6	96371.7
96372.4	96372.5	96372.6	96372.7
96373.4	96373.5	96373.6	96373.7
96376.4	96376.5	96376.6	96376.7
96377.4	96377.5	96377.6	96377.7
96378.4	96378.5	96378.6	96378.7
96379.4	96379.5	96379.6	96379.7
96380.4	96380.5	96380.6	96380.7
96381.4	96381.5	96381.6	96381.7
96363.4	96363.5	96363.6	96363.7
96382.4	96382.5	96382.6	96382.7
96383.4	96383.5	96383.6	96383.7
96385.4	96385.5	96385.6	96385.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
M40x1.5	8x7.0mm	–	–	10
M40x1.5	10x6.0mm	–	–	10
M40x1.5	12x4.0mm	1x8.0mm	–	10
M40x1.5	12x5.3mm	–	–	10
M40x1.5	13x3.5mm	1x9.5mm	–	10
M40x1.5	16x3.5mm	–	–	10
M40x1.5	17x3.5mm	–	–	10
<b>M40x1.5</b>				
M40x1.5	20x3.5mm	–	–	10
M40x1.5	24x3.0mm	–	–	10
M40x1.5	30x3.0mm	–	–	10
<b>M50x1.5</b>				
M50x1.5	1x8.0mm	1x25.0mm	–	5
M50x1.5	1x8.0mm	4x12.5mm	–	5
M50x1.5	1x9.5mm	2x13.5mm	–	5
M50x1.5	1x10.0mm	3x11.5mm	–	5
M50x1.5	1x11.0mm	1x21.0mm	–	5
M50x1.5	1x11.0mm	2x13.0mm	–	5
M50x1.5	1x12.0mm	1x25.0mm	–	5
M50x1.5	1x12.5mm	1x16.5mm	–	5
M50x1.5	1x13.0mm	1x19.0mm	–	5
M50x1.5	1x13.0mm	2x16.5mm	–	5
M50x1.5	1x14.0mm	1x17.0mm	–	5
M50x1.5	1x15.0mm	1x17.0mm	–	5
M50x1.5	1x20.5mm	–	–	5
M50x1.5	1x23.0mm	–	–	5
M50x1.5	1x26.0mm	–	–	5
M50x1.5	2x8.0mm	3x10.0mm	–	5
M50x1.5	2x9.0mm	–	–	5
M50x1.5	2x15.0mm	–	–	5
M50x1.5	2x17.0mm	–	–	5
M50x1.5	3x10.0mm	–	–	5
M50x1.5	3x14.5mm	–	–	5
M50x1.5	4x7.0mm	–	–	5
M50x1.5	4x10.2mm	–	–	5
M50x1.5	4x11.5mm	–	–	5
M50x1.5	4x12.0mm	–	–	5
M50x1.5	4x13.0mm	–	–	5
M50x1.5	5x11.5mm	–	–	5
M50x1.5	6x10.0mm	–	–	5
M50x1.5	7x9.0mm	–	–	5
M50x1.5	8x8.0mm	–	–	5
M50x1.5	8x9.0mm	–	–	5
M50x1.5	9x1.8mm	–	–	5
M50x1.5	11x8.0mm	–	–	5
M50x1.5	13x7.0mm	–	–	5
M50x1.5	15x5.0mm	–	–	5
M50x1.5	16x6.0mm	–	–	5

**Cat. No.  
Beige**

**Cat. No.  
Black**

96386.0
96387.0
96388.0
96389.0
96390.0
96391.0
96392.0
<b>M40x1.5</b>
96393.0
96394.0
96395.0
<b>M50x1.5</b>
96412.0
96447.0
96413.0
96448.0
96415.0
96416.0
–
96417.0
96418.0
96419.0
96420.0
96421.0
96449.0
96422.0
96423.0
96424.0
96450.0
96425.0
–
96426.0
96427.0
96428.0
96429.0
96430.0
96431.0
96432.0
96433.0
96434.0
96435.0
96436.0
96437.0
96438.0
96439.0
96440.0
96441.0
96442.0

96386.1
96387.1
96388.1
96389.1
96390.1
96391.1
96392.1
<b>M40x1.5</b>
96393.1
96394.1
96395.1
<b>M50x1.5</b>
96412.1
96447.1
96413.1
96448.1
96415.1
96416.1
–
96417.1
96418.1
96419.1
96420.1
96421.1
96449.1
96422.1
96423.1
96424.1
96450.1
96425.1
–
96426.1
96427.1
96428.1
96429.1
96430.1
96431.1
96432.1
96433.1
96434.1
96435.1
96436.1
96437.1
96438.1
96439.1
96440.1
96441.1
96442.1

**Polyvinylidene  
(PVDF) Opaque**



**Polyvinylidene  
(PVDF) Black**



**Nickel Plated Brass  
(NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
96386.4	96386.5	96386.6	96386.7
96387.4	96387.5	96387.6	96387.7
96388.4	96388.5	96388.6	96388.7
96389.4	96389.5	96389.6	96389.7
96390.4	96390.5	96390.6	96390.7
96391.4	96391.5	96391.6	96391.7
96392.4	96392.5	96392.6	96392.7
<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>
96393.4	96393.5	96393.6	96393.7
96394.4	96394.5	96394.6	96394.7
96395.4	96395.5	96395.6	96395.7
<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>
96412.4	96412.5	96412.6	96412.7
96447.4	96447.5	96447.6	96447.7
96413.4	96413.5	96413.6	96413.7
96448.4	96448.5	96448.6	96448.7
96415.4	96415.5	96415.6	96415.7
96416.4	96416.5	96416.6	96416.7
96443.4	96443.5	96443.6	96443.7
96417.4	96417.5	96417.6	96417.7
96418.4	96418.5	96418.6	96418.7
96419.4	96419.5	96419.6	96419.7
96420.4	96420.5	96420.6	96420.7
96421.4	96421.5	96421.6	96421.7
96449.4	96449.5	96449.6	96449.7
96422.4	96422.5	96422.6	96422.7
96423.4	96423.5	96423.6	96423.7
96424.4	96424.5	96424.6	96424.7
96450.4	96450.5	96450.6	96450.7
96425.4	96425.5	96425.6	96425.7
96444.4	96444.5	96444.6	96444.7
96426.4	96426.5	96426.6	96426.7
96427.4	96427.5	96427.6	96427.7
96428.4	96428.5	96428.6	96428.7
96429.4	96429.5	96429.6	96429.7
96430.4	96430.5	96430.6	96430.7
96431.4	96431.5	96431.6	96431.7
96432.4	96432.5	96432.6	96432.7
96433.4	96433.5	96433.6	96433.7
96434.4	96434.5	96434.6	96434.7
96435.4	96435.5	96435.6	96435.7
96436.4	96436.5	96436.6	96436.7
96437.4	96437.5	96437.6	96437.7
96438.4	96438.5	96438.6	96438.7
96439.4	96439.5	96439.6	96439.7
96440.4	96440.5	96440.6	96440.7
96441.4	96441.5	96441.6	96441.7
96442.4	96442.5	96442.6	96442.7

## Multi-Cable – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips

Nickel Plated Brass  
(NPB)



Stainless Steel (SS)



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>M63x1.5</b>				
M63x1.5	1x5.5mm	1x9.0mm	2x15.5mm	5
M63x1.5	1x5.5mm	4x15.0mm	–	5
M63x1.5	1x9.0mm	1x11.0mm	3x15.5mm	5
M63x1.5	1x11.0mm	3x17.0mm	–	5
M63x1.5	1x13.0mm	3x17.0mm	–	5
M63x1.5	1x30.0mm	–	–	5
M63x1.5	1x35.0mm	–	–	5
M63x1.5	2x4.5mm	2x21.0mm	–	5
M63x1.5	2x16.0mm	–	–	5
M63x1.5	3x12.5mm	–	–	5
M63x1.5	3x13.5mm	–	–	5
M63x1.5	3x14.5mm	–	–	5
M63x1.5	3x18.0mm	–	–	5
M63x1.5	4x12.0mm	–	–	5
M63x1.5	4x16.0mm	–	–	5
M63x1.5	8x10.0mm	–	–	5
M63x1.5	8x12.0mm	–	–	5
M63x1.5	18x7.0mm	–	–	5
<b>M75x1.5</b>				
M75x1.5	2x4.0mm	2x13.0mm	2x19.5mm	5
M75x1.5	2x4.0mm	3x20.5mm	–	5
M75x1.5	2x4.0mm	4x19.5mm	–	5

Cat. No.  
Beige  
**M63x1.5**

96473.6
96474.6
96475.6
96460.6
96461.6
96476.6
96477.6
96462.6
96478.6
96464.6
96465.6
96466.6
96467.6
96468.6
96469.6
96470.6
96471.6
96472.6
<b>M75x1.5</b>
96480.6
96481.6
96482.6

Cat. No.  
Black  
**M63x1.5**

96473.7
96474.7
96475.7
96460.7
96461.7
96476.7
96477.7
96462.7
96478.7
96464.7
96465.7
96466.7
96467.7
96468.7
96469.7
96470.7
96471.7
96472.7
<b>M75x1.5</b>
–
–
–



## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

### Polyamide (PA) Beige



### Polyamide (PA) Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG7</b>				
PG7	1x3.0mm	–	–	50
PG7	1x4.0mm	–	–	50
PG7	1x5.0mm	–	–	50
<b>PG9</b>				
PG9	1x2.0mm	2x4.0mm	–	50
PG9	1x3.0mm	–	–	50
PG9	1x4.0mm	–	–	50
PG9	1x4.0mm	1x6.0mm	–	50
PG9	1x5.0mm	–	–	50
PG9	2x1.2mm	–	–	50
PG9	2x2.5mm	2x6.0mm	–	50
PG9	2x3.0mm	–	–	50
PG9	2x4.0mm	–	–	50
PG9	2x4.0mm	1x5.0mm	–	50
PG9	2x6.0mm	–	–	50
PG9	3x3.0mm	–	–	50
PG9	3x3.5mm	–	–	50
PG9	3x4.0mm	–	–	50
PG9	3x5.3mm	–	–	50
PG9	4x1.4mm	–	–	50
PG9	4x3.0mm	–	–	50
PG9	4x3.3mm	–	–	50
PG9	4x4.0mm	–	–	50
PG9	8x3.0mm	–	–	50
<b>PG11</b>				
PG11	1x3.0mm	–	–	50
PG11	1x3.0mm	1x6.0mm	–	50
PG11	1x4.0mm	–	–	50
PG11	1x5.0mm	–	–	50
PG11	2x2.3mm	–	–	50
PG11	2x2.5mm	2x6.0mm	–	50
PG11	2x3.0mm	–	–	50
PG11	2x4.0mm	–	–	50
PG11	2x5.0mm	–	–	50
PG11	2x6.0mm	–	–	50
PG11	3x3.0mm	–	–	50
PG11	3x4.0mm	–	–	50
PG11	3x5.3mm	–	–	50
PG11	4x1.5mm	–	–	50
PG11	4x2.5mm	1x3.5mm	–	50
PG11	4x4.0mm	–	–	50
PG11	5x2.5mm	–	–	50
PG11	5x3.5mm	–	–	50
PG11	6x2.0mm	–	–	50
PG11	6x2.5mm	–	–	50

Cat. No.  
**Beige**  
**PG7**

19209.0  
19210.0  
19211.0

**PG9**

21316.0  
21305.0  
21306.0  
21317.0  
21307.0  
21308.0  
–  
21309.0  
21310.0  
19200.0  
–  
21311.0  
21314.0  
–  
–  
21312.0  
21313.0  
21315.0  
–  
–

**PG11**

21318.0  
19215.0  
21319.0  
21320.0  
21321.0  
19221.0  
21322.0  
21323.0  
21324.0  
21325.0  
21326.0  
21327.0  
19225.0  
21328.0  
19217.0  
19227.0  
19218.0  
21329.0  
21330.0  
21331.0

Cat. No.  
**Black**  
**PG7**

19209.1  
19210.1  
19211.1

**PG9**

21316.1  
21305.1  
21306.1  
21317.1  
21307.1  
21308.1  
–  
21309.1  
21310.1  
19200.1  
–  
21311.1  
21314.1  
–  
–  
21312.1  
21313.1  
21315.1  
–  
–

**PG11**

21318.1  
19215.1  
21319.1  
21320.1  
21321.1  
19221.1  
21322.1  
21323.1  
21324.1  
21325.1  
21326.1  
21327.1  
19225.1  
21328.1  
19217.1  
19227.1  
19218.1  
21329.1  
21330.1  
21331.1

**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Opaque PG7</b>	<b>Cat. No. Black PG7</b>	<b>Cat. No. PG7</b>	<b>Cat. No. PG7</b>
19209.4	19209.5	19209.6	19209.7
19210.4	19210.5	19210.6	19210.7
19211.4	19211.5	19211.6	19211.7
<b>PG9</b>	<b>PG9</b>	<b>PG9</b>	<b>PG9</b>
21316.4	21316.5	21316.6	—
21305.4	21305.5	21305.6	21305.7
21306.4	21306.5	21306.6	21306.7
21317.4	21317.5	21317.6	—
21307.4	21307.5	21307.6	21307.7
21308.4	21308.5	21308.6	21308.7
19201.4	19201.5	19201.6	—
21309.4	21309.5	21309.6	21309.7
21310.4	21310.5	21310.6	21310.7
19200.4	19200.5	19200.6	—
19203.4	19203.5	19203.6	—
21311.4	21311.5	21311.6	21311.7
21314.4	21314.5	21314.6	21314.7
19204.4	19204.5	19204.6	—
19205.4	19205.5	19205.6	—
21312.4	21312.5	21312.6	21312.7
21313.4	21313.5	21313.6	21313.7
21315.4	21315.5	21315.6	21315.7
19207.4	19207.5	19207.6	—
19208.4	19208.5	19208.6	—
<b>PG11</b>	<b>PG11</b>	<b>PG11</b>	<b>PG11</b>
21318.4	21318.5	21318.6	21318.7
19215.4	19215.5	19215.6	19215.7
21319.4	21319.5	21319.6	21319.7
21320.4	21320.5	21320.6	21320.7
21321.4	21321.5	21321.6	21321.7
19221.4	19221.5	19221.6	—
21322.4	21322.5	21322.6	21322.7
21323.4	21323.5	21323.6	21323.7
21324.4	21324.5	21324.6	21324.7
21325.4	21325.5	21325.6	21325.7
21326.4	21326.5	21326.6	21326.7
21327.4	21327.5	21327.6	21327.7
19225.4	19225.5	19225.6	—
21328.4	21328.5	21328.6	21328.7
19217.4	19217.5	19217.6	19217.7
19227.4	19227.5	19227.6	—
19218.4	19218.5	19218.6	19218.7
21329.4	21329.5	21329.6	21329.7
21330.4	21330.5	21330.6	21330.7
21331.4	21331.5	21331.6	21331.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

### Polyamide (PA) Beige



### Polyamide (PA) Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG11</b>				
PG11	7x1.5mm	–	–	50
PG11	9x1.5mm	–	–	50
<b>PG13.5</b>				
PG13.5	1x2.0mm	3x3.0mm	–	50
PG13.5	1x2.5mm	–	–	50
PG13.5	1x3.0mm	–	–	50
PG13.5	1x3.0mm	1x6.0mm	1x8.0mm	50
PG13.5	1x3.0mm	2x6.0mm	–	50
PG13.5	1x3.5mm	1x6.0mm	–	50
PG13.5	1x3.5mm	2x4.5mm	–	50
PG13.5	1x4.0mm	–	–	50
PG13.5	1x4.7mm	1x6.4mm	–	50
PG13.5	1x5.0mm	–	–	50
PG13.5	2x3.0mm	–	–	50
PG13.5	2x4.0mm	1x5.5mm	–	50
PG13.5	2x5.0mm	–	–	50
PG13.5	2x5.0mm	1x5.5mm	–	50
PG13.5	2x6.0mm	–	–	50
PG13.5	2x6.5mm	–	–	50
PG13.5	2x8.0mm	–	–	50
PG13.5	3x2.0mm	–	–	50
PG13.5	3x3.0mm	–	–	50
PG13.5	3x3.0mm	1x6.0mm	–	50
PG13.5	3x4.0mm	–	–	50
PG13.5	3x5.3mm	–	–	50
PG13.5	4x3.0mm	–	–	50
PG13.5	4x4.0mm	–	–	50
PG13.5	6x2.5mm	–	–	50
PG13.5	6x3.5mm	–	–	50
PG13.5	7x3.3mm	–	–	50
PG13.5	8x1.5mm	–	–	50
PG13.5	8x2.0mm	–	–	50
PG13.5	10x2.0mm	–	–	50
PG13.5	10x2.6mm	–	–	50
<b>PG16</b>				
PG16	1x3.0mm	1x6.0mm	1x8.0mm	50
PG16	1x3.0mm	1x8.0mm	–	50
PG16	1x3.0mm	1x9.0mm	–	50
PG16	1x3.0mm	2x8.0mm	–	50
PG16	1x3.5mm	–	–	50
PG16	1x4.0mm	–	–	50
PG16	1x4.0mm	1x5.0mm	–	50
PG16	1x4.0mm	1x12.0mm	–	50
PG16	1x4.0mm	2x6.0mm	1x7.0mm	50
PG16	1x4.0mm	3x5.0mm	–	50

Cat. No.  
Beige  
**PG11**

**PG13.5**

21332.0  
21333.0  
19230.0  
19231.0  
19232.0  
19248.0  
21351.0  
19233.0  
19234.0  
19235.0  
19236.0  
19237.0  
21340.0  
19239.0  
21341.0  
21353.0  
21342.0  
19249.0  
19250.0  
21343.0  
21344.0  
19241.0  
21345.0  
21346.0  
21347.0  
19243.0  
19244.0  
21348.0  
19255.0  
21349.0  
19246.0  
21350.0  
19247.0  
**PG16**  
19261.0  
21376.0  
21377.0  
21378.0  
19260.0  
21357.0  
19265.0  
19290.0  
19266.0  
19267.0

Cat. No.  
Black  
**PG11**

**PG13.5**

21332.1  
21333.1  
19230.1  
19231.1  
19232.1  
19248.1  
21351.1  
19233.1  
19234.1  
19235.1  
19236.1  
19237.1  
21340.1  
19239.1  
21341.1  
21353.1  
21342.1  
19249.1  
19250.1  
21343.1  
24344.1  
19241.1  
21345.1  
21346.1  
21347.1  
19243.1  
19244.1  
21348.1  
19255.1  
21349.1  
19246.1  
21350.1  
19247.1  
**PG16**  
19261.1  
21376.1  
21377.1  
21378.1  
19260.1  
21357.1  
19265.1  
19290.1  
19266.1  
19267.1



**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**
**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

<b>Cat. No. Opaque PG11</b>	<b>Cat. No. Black PG11</b>	<b>Cat. No. PG11</b>	<b>Cat. No. PG11</b>
21332.4	21332.5	21332.6	21332.7
21333.4	21333.5	21333.6	21333.7
<b>PG13.5</b>	<b>PG13.5</b>	<b>PG13.5</b>	<b>PG13.5</b>
19230.4	19230.5	19230.6	19230.7
19231.4	19231.5	19231.6	19231.7
19232.4	19232.5	19232.6	19232.7
19248.4	19248.5	19248.6	-
21351.4	21351.5	21351.6	21351.7
19233.4	19233.5	19233.6	19233.7
19234.4	19234.5	19234.6	19234.7
19235.4	19235.5	19235.6	19235.7
19236.4	19236.5	19236.6	19236.7
19237.4	19237.5	19237.6	19237.7
21340.4	21340.5	21340.6	21340.7
19239.4	19239.5	19239.6	19239.7
21341.4	21341.5	21341.6	21341.7
21353.4	21353.5	21353.6	21353.7
21342.4	21342.5	21342.6	21342.7
21249.4	21249.5	19249.6	-
19250.4	19250.5	19250.6	-
21343.4	21343.5	21343.6	21343.7
21344.4	21344.5	21344.6	21344.7
19241.4	19241.5	19241.6	19241.7
21345.4	21345.5	21345.6	21345.7
21346.4	21346.5	21346.6	21346.7
21347.4	21347.5	21347.6	21347.7
19243.4	19243.5	19243.6	19243.7
19244.4	19244.5	19244.6	19244.7
21348.4	21348.5	21348.6	21348.7
19255.4	19255.5	19255.6	19255.7
21349.4	21349.5	21349.6	21349.7
19246.4	19246.5	19246.6	19246.7
21350.4	21350.5	21350.6	21350.7
19247.4	19247.5	19247.6	19247.7
19261.4	19261.5	19261.6	19261.7
<b>PG16</b>	<b>PG16</b>	<b>PG16</b>	<b>PG16</b>
21376.4	21376.5	21376.6	21376.7
21377.4	21377.5	21377.6	21377.7
21378.4	21378.5	21378.6	21378.7
19260.4	19260.5	19260.6	19260.7
21357.4	21357.5	21357.6	21357.7
19265.4	19265.5	19265.6	19265.7
19290.4	19290.5	19290.6	19290.7
19266.4	19266.5	19266.6	19266.7
19267.4	19267.5	19267.6	19267.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG16</b>				
PG16	1x5.0mm	–	–	50
PG16	1x5.0mm	1x9.0mm	–	50
PG16	1x5.0mm	2x6.0mm	–	50
PG16	1x5.5mm	1x10.5mm	–	50
PG16	1x5.8mm	1x6.9mm	1x8.4mm	50
PG16	1x6.0mm	1x8.0mm	–	50
PG16	1x6.9mm	1x7.4mm	1x8.4mm	50
PG16	1x7.0mm	1x10.5mm	–	50
PG16	1x7.5mm	1x8.5mm	1x10.0mm	50
PG16	1x11.8mm	–	–	50
PG16	1x12.5mm	–	–	50
PG16	1x15.1mm	–	–	50
PG16	2x3.2mm	2x6.0mm	–	50
PG16	2x3.3mm	–	–	50
PG16	2x3.5mm	–	–	50
PG16	2x3.5mm	1x5.5mm	–	50
PG16	2x3.5mm	1x8.5mm	–	50
PG16	2x4.0mm	–	–	50
PG16	2x5.0mm	–	–	50
PG16	2x5.0mm	1x6.0mm	–	50
PG16	2x6.0mm	–	–	50
PG16	2x6.0mm	1x7.0mm	–	50
PG16	2x6.0mm	1x8.0mm	–	50
PG16	2x6.5mm	1x9.5mm	–	50
PG16	2x8.0mm	–	–	50
PG16	2x9.0mm	–	–	50
PG16	2x10.0mm	–	–	50
PG16	3x2.5mm	1x3.5mm	1x7.0mm	50
PG16	3x2.5mm	3x8.0mm	–	50
PG16	3x3.0mm	–	–	50
PG16	3x3.0mm	1x6.0mm	–	50
PG16	3x4.0mm	1x9.0mm	–	50
PG16	3x5.0mm	1x8.0mm	–	50
PG16	3x6.0mm	–	–	50
PG16	3x7.0mm	–	–	50
PG16	3x8.0mm	–	–	50
PG16	4x4.0mm	–	–	50
PG16	4x4.6mm	3x5.1mm	–	50
PG16	4x5.0mm	–	–	50
PG16	4x5.0mm	1x6.5mm	–	50
PG16	4x6.0mm	–	–	50
PG16	4x7.5mm	–	–	50
PG16	6x4.0mm	–	–	50
PG16	7x2.0mm	–	–	50
PG16	7x4.0mm	–	–	50
PG16	8x4.0mm	–	–	50
PG16	9x3.0mm	–	–	50

**Cat. No.  
Beige  
PG16**

21358.0
19268.0
21379.0
19293.0
19294.0
21381.0
19295.0
19297.0
19296.0
19298.0
19273.0
19274.0
19275.0
19276.0
19277.0
19278.0
19279.0
21360.0
19281.0
21283.0
21261.0
21383.0
21384.0
19301.0
21362.0
19304.0
19305.0
19283.0
19306.0
21364.0
19284.0
21385.0
19285.0
19286.0
21365.0
19307.0
21366.0
19308.0
19287.0
19309.0
21367.0
19310.0
21368.0
21369.0
19312.0
19313.0
21370.0

**Cat. No.  
Black  
PG16**

21358.1
19268.1
21379.1
19293.1
19294.1
21381.1
19295.1
19297.1
19296.1
19298.1
19273.1
19274.1
19275.1
19276.1
19277.1
19278.1
19279.1
21360.1
19281.1
21283.1
21261.1
21383.1
21384.1
19301.1
21362.1
19304.1
19305.1
19283.1
19306.1
21364.1
19284.1
21385.1
19285.1
19286.1
21365.1
19307.1
21366.1
19308.1
19287.1
19309.1
21367.1
19310.1
24368.1
21369.1
19312.1
19313.1
21370.1

**Polyvinylidene  
(PVDF) Opaque**



**Polyvinylidene  
(PVDF) Black**



**Nickel Plated Brass  
(NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque PG16	Cat. No. Black PG16	Cat. No. PG16	Cat. No. PG16
21358.4	21358.5	21358.6	21358.7
19268.4	19268.5	19268.6	19268.7
21379.4	21379.5	21379.6	21379.7
19293.4	19293.5	19293.6	19293.7
19294.4	19294.5	19294.6	19294.7
21381.4	21381.5	21381.6	21381.7
19295.4	19295.5	19295.6	19295.7
19297.4	19297.5	19297.6	19297.7
19296.4	19296.5	19296.6	19296.7
19298.4	19298.5	19298.6	19298.7
19273.4	19273.5	19273.6	19273.7
19274.4	19274.5	19274.6	19274.7
19275.4	19275.5	19275.6	19275.7
19276.4	19276.5	19276.6	19276.7
19277.4	19277.5	19277.6	19277.7
19278.4	19278.5	19278.6	19278.7
19279.4	19279.5	19279.6	19279.7
21360.4	21360.5	21360.6	21360.7
19281.4	19281.5	19281.6	19281.7
21283.4	21283.5	21283.6	21283.7
21261.4	21261.5	21261.6	21261.7
21383.4	21383.5	21383.6	21383.7
21384.4	21384.5	21384.6	21384.7
19301.4	19301.5	19301.6	19301.7
21362.4	21362.5	21362.6	21362.7
19304.4	19304.5	19304.6	19304.7
19305.4	19305.5	19305.6	19305.7
19283.4	19283.5	19283.6	19283.7
19306.4	19306.5	19306.6	19306.7
21364.4	21364.5	21364.6	21364.7
19284.4	19284.5	19284.6	19284.7
21385.4	21385.5	21385.6	21385.7
19285.4	19285.5	19285.6	19285.7
19286.4	19286.5	19286.6	19286.7
21365.4	21365.5	21365.6	21365.7
19307.4	19307.5	19307.6	19307.7
21366.4	21366.5	21366.6	21366.7
19308.4	19308.5	19308.6	19308.7
19287.4	19287.5	19287.6	19287.7
19309.4	19309.5	19309.6	19309.7
21367.4	21367.5	21367.6	21367.7
19310.4	19310.5	19310.6	19310.7
21368.4	21368.5	21368.6	21368.7
21369.4	21369.5	21369.6	21369.7
19312.4	19312.5	19312.6	19312.7
19313.4	19313.5	19313.6	19313.7
21370.4	21370.5	21370.6	21370.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG16</b>				
PG16	12x3.5mm	–	–	50
PG16	13x2.7mm	–	–	50
PG16	18x2.4mm	–	–	50
<b>PG21</b>				
PG21	1x3.2mm	2x6.0mm	3x7.0mm	25
PG21	1x3.5mm	2x8.0mm	1x14.0mm	25
PG21	1x4.0mm	1x9.3mm	1x10.0mm	25
PG21	1x4.0mm	2x8.0mm	–	25
PG21	1x4.3mm	1x6.0mm	1x8.0mm	25
PG21	1x4.5mm	2x7.0mm	1x8.0mm	25
PG21	1x5.0mm	1x9.0mm	–	25
PG21	1x5.7mm	1x13.0mm	–	25
PG21	1x5.8mm	1x6.9mm	1x11.0mm	25
PG21	1x5.8mm	2x11.0mm	–	25
PG21	1x6.0mm	1x8.5mm	1x10.5mm	25
PG21	1x6.0mm	2x9.0mm	–	25
PG21	1x6.5mm	1x12.0mm	–	25
PG21	1x6.5mm	2x11.2mm	–	25
PG21	1x7.0mm	–	–	25
PG21	1x7.0mm	1x8.5mm	–	25
PG21	1x7.0mm	1x10.5mm	–	25
PG21	1x8.0mm	1x14.0mm	–	25
PG21	1x8.0mm	1x9.0mm	1x12.0mm	25
PG21	1x8.5mm	1x12.0mm	–	25
PG21	1x9.0mm	1x10.0mm	–	25
PG21	1x10.0mm	1x12.0mm	–	25
PG21	1x10.0mm	1x15.0mm	–	25
PG21	2x4.5mm	1x13.0mm	–	25
PG21	2x5.0mm	2x9.0mm	–	25
PG21	2x5.8mm	1x11.0mm	–	25
PG21	2x6.0mm	2x8.0mm	–	25
PG21	2x6.0mm	2x10.0mm	–	25
PG21	2x7.2mm	1x10.5mm	–	25
PG21	2x8.0mm	–	–	25
PG21	2x9.0mm	–	–	25
PG21	2x11.0mm	–	–	25
PG21	2x12.0mm	–	–	25
PG21	2x13.0mm	–	–	25
PG21	2x13.9mm	–	–	25
PG21	3x5.0mm	–	–	25
PG21	3x6.0mm	1x8.0mm	–	25
PG21	3x7.0mm	–	–	25
PG21	3x9.0mm	–	–	25
PG21	4x5.0mm	–	–	25
PG21	4x6.0mm	–	–	25
PG21	4x6.0mm	1x8.0mm	–	25
PG21	4x6.5mm	–	–	25
PG21	4x8.0mm	–	–	25

**Cat. No.  
Beige  
PG16**

**Cat. No.  
Black  
PG16**

19314.0

19314.1

19288.0

19288.1

19289.0

19289.1

**PG21**

**PG21**

19323.0

19323.1

19347.0

19347.1

19348.0

19348.1

19349.0

19349.1

19324.0

19324.1

19325.0

19325.1

19326.0

19326.1

19327.0

19327.1

19350.0

19351.1

19351.0

19351.1

19352.0

19352.1

21414.0

21414.1

19328.0

19328.1

19353.0

19353.1

19329.0

19329.1

19330.0

19330.1

21415.0

21415.1

19354.0

19354.1

19355.0

19355.1

21416.0

21416.1

19356.0

19356.1

19357.0

19357.1

19358.0

19358.1

19331.0

19331.1

19360.0

19360.1

19361.0

19361.1

21419.0

21419.1

19362.0

19362.1

19332.0

19332.1

21399.0

21399.1

21400.0

21400.1

19363.0

19363.1

19364.0

19364.1

19365.0

19365.1

19366.0

19366.1

19334.0

19334.1

21335.0

21335.1

21401.0

21401.1

21402.0

21402.1

21403.0

21403.1

21404.0

21404.1

19338.0

19338.1

21405.0

21405.1

21406.0

21406.1

**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**
**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

<b>Cat. No. Opaque PG16</b>	<b>Cat. No. Black PG16</b>	<b>Cat. No. PG16</b>	<b>Cat. No. PG16</b>
19314.4	19314.5	19314.6	19314.7
19288.4	19288.5	19288.6	19288.7
19289.4	19289.5	19289.6	19289.7
<b>PG21</b>	<b>PG21</b>	<b>PG21</b>	<b>PG21</b>
19323.4	19323.5	19323.6	19323.7
19347.4	19347.5	19347.6	19347.7
19348.4	19348.5	19348.6	19348.7
19349.4	19349.5	19349.6	19349.7
19324.4	19324.5	19324.6	19324.7
19325.4	19325.5	19325.6	19325.7
19326.4	19326.5	19326.6	19326.7
19327.4	19327.5	19327.6	19327.7
19350.4	19350.5	19350.6	19350.7
19351.4	19351.5	19351.6	19351.7
19352.4	19352.5	19352.6	19352.7
21414.4	21414.5	21414.6	21414.7
19328.4	19328.5	19328.6	19328.7
19353.4	19353.5	19353.6	19353.7
19329.4	19329.5	19329.6	19329.7
19330.4	19330.5	19330.6	19330.7
21415.4	21415.5	21415.6	21415.7
19354.4	19354.5	19354.6	19354.7
19355.4	19355.5	19355.6	19355.7
21416.4	21416.5	21416.6	21416.7
19356.4	19356.5	19356.6	19356.7
19357.4	19357.5	19357.6	19357.7
19358.4	19358.5	19358.6	19358.7
19331.4	19331.5	19331.6	19331.7
19360.4	19360.5	19360.6	19360.7
19361.4	19361.5	19361.6	19361.7
21419.4	21419.5	21419.6	21419.7
19362.4	19362.5	19362.6	19362.7
19332.4	19332.5	19332.6	19332.7
21399.4	21399.5	21399.6	21399.7
21400.4	21400.5	21400.6	21400.7
19363.4	19363.5	19363.6	19363.7
19364.4	19364.5	19364.6	19364.7
19365.4	19365.5	19365.6	19365.7
19366.4	19366.5	19366.6	19366.7
19334.4	19334.5	19334.6	19334.7
21335.4	21335.5	21335.6	21335.7
21401.4	21401.5	21401.6	21401.7
21402.4	21402.5	21402.6	21402.7
21403.4	21403.5	21403.6	21403.7
21404.4	21404.5	21404.6	21404.7
19338.4	19338.5	19338.6	19338.7
21405.4	21405.5	21405.6	21405.7
21406.4	21406.5	21406.6	21406.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG21</b>				
PG21	5x2.0mm	–	–	25
PG21	5x4.0mm	–	–	25
PG21	5x5.0mm	–	–	25
PG21	5x6.0mm	–	–	25
PG21	5x9.5mm	–	–	25
PG21	6x4.0mm	–	–	25
PG21	6x4.0mm	1x7.0mm	–	25
PG21	6x5.0mm	–	–	25
PG21	6x5.5mm	–	–	25
PG21	6x6.5mm	–	–	25
PG21	6x7.5mm	–	–	25
PG21	8x4.0mm	–	–	25
PG21	8x5.0mm	–	–	25
PG21	8x5.5mm	–	–	25
PG21	9x3.0mm	–	–	25
PG21	11x5.2mm	–	–	25
PG21	12x5.3mm	–	–	25
PG21	21x2.0mm	–	–	25
<b>PG29</b>				
PG29	1x3.5mm	2x8.0mm	1x14.0mm	10
PG29	1x4.5mm	4x8.0mm	–	10
PG29	1x5.0mm	1x9.6mm	1x12.2mm	10
PG29	1x5.0mm	2x9.0mm	1x13.0mm	10
PG29	1x5.0mm	4x9.0mm	–	10
PG29	1x5.5mm	1x9.0mm	–	10
PG29	1x5.8mm	2x11.0mm	–	10
PG29	1x6.0mm	1x8.5mm	1x10.5mm	10
PG29	1x6.0mm	2x6.5mm	2x8.0mm	10
PG29	1x6.0mm	1x10.0mm	–	10
PG29	1x6.0mm	2x9.0mm	–	10
PG29	1x6.5mm	1x17.0mm	–	10
PG29	1x7.0mm	1x8.5mm	1x17.0mm	10
PG29	1x7.0mm	1x9.0mm	1x11.0mm	10
PG29	1x7.0mm	1x9.5mm	1x12.0mm	10
PG29	1x7.0mm	1x14.0mm	–	10
PG29	1x7.0mm	2x8.0mm	2x10.0mm	10
PG29	1x7.0mm	2x8.5mm	–	10
PG29	1x8.0mm	2x8.5mm	1x12.0mm	10
PG29	1x8.0mm	2x8.5mm	1x15.0mm	10
PG29	1x8.0mm	2x11.0mm	–	10
PG29	1x8.0mm	2x12.0mm	–	10
PG29	1x8.0mm	12x4.0mm	–	10
PG29	1x8.5mm	1x12.0mm	–	10
PG29	1x9.0mm	1x10.0mm	1x11.0mm	10
PG29	1x9.0mm	1x15.0mm	–	10
PG29	1x9.5mm	1x11.5mm	1x13.5mm	10
PG29	1x9.5mm	2x13.5mm	–	10

**Cat. No.  
Beige  
PG21**

19369.0
19340.0
19341.0
19342.0
19370.0
21407.0
21424.0
21408.0
21409.0
21410.0
19371.0
21412.0
21413.0
19344.0
19345.0
19372.0
19373.0
19346.0
<b>PG29</b>
19380.0
19382.0
19383.0
19385.0
19386.0
19387.0
19388.0
19389.0
19390.0
19392.0
19393.0
21467.0
19394.0
19396.0
19395.0
19397.0
19398.0
19399.0
19400.0
19401.0
19402.0
19403.0
19404.0
19405.0
19406.0
21471.0
19407.0
19408.0

**Cat. No.  
Black  
PG21**

19369.1
19340.1
19341.1
19342.1
19370.1
21407.1
21424.1
21408.1
21409.1
21410.1
19371.1
21412.1
21413.1
19344.1
19345.1
19372.1
19373.1
19346.1
<b>PG29</b>
19380.1
19382.1
19383.1
19385.1
19386.1
19387.1
19388.1
19389.1
19390.1
19392.1
19393.1
21467.1
19394.1
19396.1
19395.1
19397.1
19398.1
19399.1
19400.1
19401.1
19402.1
19403.1
19404.1
19405.1
19406.1
21471.1
19407.1
19408.1

**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque <b>PG21</b>	Cat. No. Black <b>PG21</b>	Cat. No. <b>PG21</b>	Cat. No. <b>PG21</b>
19369.4	19369.5	19369.6	19369.7
19340.4	19340.5	19340.6	19340.7
19341.4	19341.5	19341.6	19341.7
19342.4	19342.5	19342.6	19342.7
19370.4	19370.5	19370.6	19370.7
21407.4	21407.5	21407.6	21407.7
21424.4	21424.5	21424.6	21424.7
21408.4	21408.5	21408.6	21408.7
21409.4	21409.5	21409.6	21409.7
21410.4	21410.5	21410.6	21410.7
19371.4	19371.5	19371.6	19371.7
21412.4	21412.5	21412.6	21412.7
21413.4	21413.5	21413.6	21413.7
19344.4	19344.5	19344.6	19344.7
19345.4	19345.5	19345.6	19345.7
19372.4	19372.5	19372.6	19372.7
19373.4	19373.5	19373.6	19373.7
19346.4	19346.5	19346.6	19346.7
<b>PG29</b>	<b>PG29</b>	<b>PG29</b>	<b>PG29</b>
19380.4	19380.5	19380.6	19380.7
19382.4	19382.5	19382.6	19382.7
19383.4	19383.5	19383.6	19383.7
19385.4	19385.5	19385.6	19385.7
19386.4	19386.5	19386.6	19386.7
19387.4	19387.5	19387.6	19387.7
19388.4	19388.5	19388.6	19388.7
19389.4	19389.5	19389.6	19389.7
19390.4	19390.5	19390.6	19390.7
19392.4	19392.5	19392.6	19392.7
19393.4	19393.5	19393.6	19393.7
21467.4	21467.5	21467.6	21467.7
19394.4	19394.5	19394.6	19394.7
19396.4	19396.5	19396.6	19396.7
19395.4	19395.5	19395.6	19395.7
19397.4	19397.5	19397.6	19397.7
19398.4	19398.5	19398.6	19398.7
19399.4	19399.5	19399.6	19399.7
19400.4	19400.5	19400.6	19400.7
19401.4	19401.5	19401.6	19401.7
19402.4	19402.5	19402.6	19402.7
19403.4	19403.5	19403.6	19403.7
19404.4	19404.5	19404.6	19404.7
19405.4	19405.5	19405.6	19405.7
19406.4	19406.5	19406.6	19406.7
21471.4	21471.5	21471.6	21471.7
19407.4	19407.5	19407.6	19407.7
19408.4	19408.5	19408.6	19408.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG29</b>				
PG29	1x10.0mm	1x11.5mm	1x13.0mm	10
PG29	1x10.0mm	1x12.0mm	1x13.5mm	10
PG29	1x10.0mm	1x13.0mm	–	10
PG29	1x10.5mm	1x16.0mm	–	10
PG29	1x12.0mm	1x13.0mm	–	10
PG29	1x14.0mm	–	–	10
PG29	1x25.5mm	–	–	10
PG29	2x4.8mm	2x6.3mm	–	10
PG29	2x5.0mm	1x8.6mm	1x12.2mm	10
PG29	2x5.8mm	1x11.0mm	–	10
PG29	2x6.0mm	1x7.5mm	2x8.5mm	10
PG29	2x6.0mm	1x8.5mm	–	10
PG29	2x6.0mm	1x10.5mm	1x12.0mm	10
PG29	2x6.5mm	–	–	10
PG29	2x6.5mm	1x10.0mm	–	10
PG29	2x7.0mm	1x9.0mm	–	10
PG29	2x8.0mm	2x11.5mm	–	10
PG29	2x8.5mm	1x13.5mm	–	10
PG29	2x9.0mm	–	–	10
PG29	2x9.0mm	1x13.0mm	–	10
PG29	2x9.0mm	1x15.0mm	–	10
PG29	2x10.0mm	–	–	10
PG29	2x11.0mm	–	–	10
PG29	2x13.0mm	–	–	10
PG29	3x3.0mm	7x4.0mm	1x8.0mm	10
PG29	3x3.0mm	8x5.0mm	–	10
PG29	3x3.0mm	8x5.0mm	1x8.0mm	10
PG29	3x7.0mm	–	–	10
PG29	3x7.0mm	3x8.0mm	–	10
PG29	3x11.0mm	–	–	10
PG29	3x12.0mm	–	–	10
PG29	4x3.5mm	2x7.0mm	1x11.0mm	10
PG29	4x5.0mm	–	–	10
PG29	4x5.5mm	–	–	10
PG29	4x5.5mm	1x8.0mm	–	10
PG29	4x5.7mm	2x10.0mm	–	10
PG29	4x6.0mm	3x8.5mm	–	10
PG29	4x6.5mm	–	–	10
PG29	4x8.0mm	–	–	10
PG29	4x9.0mm	–	–	10
PG29	4x10.0mm	–	–	10
PG29	4x11.0mm	–	–	10
PG29	5x8.0mm	–	–	10
PG29	5x9.0mm	–	–	10
PG29	5x10.0mm	–	–	10
PG29	6x4.0mm	3x6.0mm	1x8.0mm	10
PG29	6x6.0mm	–	–	10

**Cat. No.  
Beige  
PG29**

**Cat. No.  
Black  
PG29**

19409.0
19410.0
19411.0
19412.0
21465.0
19413.0
19414.0
19416.0
19417.0
19418.0
19420.0
19419.0
19421.0
19423.0
21473.0
19424.0
19425.0
19426.0
19427.0
19428.0
19429.0
19430.0
21447.0
21448.0
19431.0
19432.0
19433.0
19434.0
21475.0
21449.0
19435.0
19436.0
19437.0
21451.0
21477.0
19438.0
21479.0
19439.0
21452.0
21453.0
21450.0
19441.0
21455.0
21456.0
21454.0
19443.0
21457.0

19409.1
19410.1
19411.1
19412.1
21465.1
19413.1
19414.1
19416.1
19417.1
19418.1
19420.1
19419.1
19421.1
19423.1
21473.1
19424.1
19425.1
19426.1
19427.1
19428.1
19429.1
19430.1
21447.1
21448.1
19431.1
19432.1
19433.1
19434.1
21475.1
21449.1
19435.1
19436.1
19437.1
21451.1
21477.1
19438.1
21479.1
19439.1
21452.1
21453.1
21450.1
19441.1
21455.1
21456.1
21454.1
19443.1
21457.1



**Polyvinylidene  
(PVDF) Opaque**



**Polyvinylidene  
(PVDF) Black**



**Nickel Plated Brass  
(NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque PG29	Cat. No. Black PG29	Cat. No. PG29	Cat. No. PG29
19409.4	19409.5	19409.6	19409.7
19410.4	19410.5	19410.6	19410.7
19411.4	19411.5	19411.6	19411.7
19412.4	19412.5	19412.6	19412.7
21465.4	21465.5	21465.6	21465.7
19413.4	19413.5	19413.6	19413.7
19414.4	19414.5	19414.6	19414.7
19416.4	19416.5	19416.6	19416.7
19417.4	19417.5	19417.6	19417.7
19418.4	19418.5	19418.6	19418.7
19420.4	19420.5	19420.6	19420.7
19419.4	19419.5	19419.6	19419.7
19421.4	19421.5	19421.6	19421.7
19423.4	19423.5	19423.6	19423.7
21473.4	21473.5	21473.6	21473.7
19424.4	19424.5	19424.6	19424.7
19425.4	19425.5	19425.6	19425.7
19426.4	19426.5	19426.6	19426.7
19427.4	19427.5	19427.6	19427.7
19428.4	19428.5	19428.6	19428.7
19429.4	19429.5	19429.6	19429.7
19430.4	19430.5	19430.6	19430.7
21447.4	21447.5	21447.6	21447.7
21448.4	21448.5	21448.6	21448.7
19431.4	19431.5	19431.6	19431.7
19432.4	19432.5	19432.6	19432.7
19433.4	19433.5	19433.6	19433.7
19434.4	19434.5	19434.6	19434.7
21475.4	21475.5	21475.6	21475.7
21449.4	21449.5	21449.6	21449.7
19435.4	19435.5	19435.6	19435.7
19436.4	19436.5	19436.6	19436.7
19437.4	19437.5	19437.6	19437.7
21451.4	21451.5	21451.6	21451.7
21477.4	21477.5	21477.6	21477.7
19438.4	19438.5	19438.6	19438.7
21479.4	21479.5	21479.6	21479.7
19439.4	19439.5	19439.6	19439.7
21452.4	21452.5	21452.6	21452.7
21453.4	21453.5	21453.6	21453.7
21450.4	21450.5	21450.6	21450.7
19441.4	19441.5	19441.6	19441.7
21455.4	21455.5	21455.6	21455.7
21456.4	21456.5	21456.6	21456.7
21454.4	21454.5	21454.6	21454.7
19443.4	19443.5	19443.6	19443.7
21457.4	21457.5	21457.6	21457.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

**Polyamide (PA)  
Beige**



**Polyamide (PA)  
Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG29</b>				
PG29	6x8.0mm	–	–	10
PG29	7x4.8mm	–	–	10
PG29	7x6.0mm	1x11.0mm	–	10
PG29	7x7.0mm	–	–	10
PG29	8x5.5mm	–	–	10
PG29	8x7.0mm	–	–	10
PG29	10x6.0mm	–	–	10
PG29	12x4.0mm	1x8.0mm	–	10
PG29	12x5.3mm	–	–	10
PG29	13x3.5mm	1x9.5mm	–	10
PG29	16x3.5mm	–	–	10
PG29	17x3.5mm	–	–	10
PG29	20x3.5mm	–	–	10
PG29	24x3.0mm	–	–	10
PG29	30x3.0mm	–	–	10
<b>PG36</b>				
PG36	1x8.0mm	1x25.0mm	–	5
PG36	1x8.0mm	4x12.5mm	–	5
PG36	1x9.5mm	2x13.5mm	–	5
PG36	1x10.0mm	3x11.5mm	–	5
PG36	1x11.0mm	1x21.0mm	–	5
PG36	1x11.0mm	2x13.0mm	–	5
PG36	1x12.5mm	1x16.5mm	–	5
PG36	1x13.0mm	1x19.0mm	–	5
PG36	1x13.0mm	2x16.5mm	–	5
PG36	1x14.0mm	1x17.0mm	–	5
PG36	1x15.0mm	1x17.0mm	–	5
PG36	1x20.5mm	–	–	5
PG36	1x23.0mm	–	–	5
PG36	1x26.0mm	–	–	5
PG36	2x8.0mm	3x10.0mm	–	5
PG36	2x9.0mm	–	–	5
PG36	2x15.0mm	–	–	5
PG36	3x10.0mm	–	–	5
PG36	3x14.5mm	–	–	5
PG36	4x7.0mm	–	–	5
PG36	4x10.2mm	–	–	5
PG36	4x11.5mm	–	–	5
PG36	4x12.0mm	–	–	5
PG36	4x13.0mm	–	–	5
PG36	5x11.5mm	–	–	5
PG36	6x10.0mm	–	–	5
PG36	7x9.0mm	–	–	5
PG36	8x8.0mm	–	–	5
PG36	8x9.0mm	–	–	5
PG36	9x1.8mm	–	–	5

**Cat. No.  
Beige  
PG29**

21458.0  
19444.0  
19445.0  
21459.0  
21460.0  
19446.0  
21461.0  
19447.0  
21462.0  
19448.0  
19449.0  
19450.0  
19451.0  
19452.0  
19453.0

**Cat. No.  
Black  
PG29**

21458.1  
19444.1  
19445.1  
21459.1  
21460.1  
19446.1  
21461.1  
19447.1  
21462.1  
19448.1  
19449.1  
19450.1  
19451.1  
19452.1  
19453.1

**PG36**

19463.0  
19464.0  
19465.0  
19466.0  
21493.0  
19467.0  
21494.0  
19468.0  
19469.0  
21496.0  
19470.0  
19471.0  
19472.0  
19473.0  
19474.0  
19475.0  
21481.0  
21482.0  
19476.0  
19477.0  
21483.0  
21484.0  
19478.0  
21485.0  
21486.0  
19479.0  
21487.0  
21488.0  
21489.0  
19487.0

**PG36**

19463.1  
19464.1  
19465.1  
19466.1  
21493.1  
19467.1  
21494.1  
19468.1  
19469.1  
21496.1  
19470.1  
19471.1  
19472.1  
19473.1  
19474.1  
19475.1  
21481.1  
21482.1  
19476.1  
19477.1  
21483.1  
21484.1  
19478.1  
21485.1  
21486.1  
19479.1  
21487.1  
21488.1  
21489.1  
19487.1

**Polyvinylidene  
(PVDF) Opaque**



**Polyvinylidene  
(PVDF) Black**



**Nickel Plated Brass  
(NPB)**



**Stainless Steel (SS)**



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque <b>PG29</b>	Cat. No. Black <b>PG29</b>	Cat. No. <b>PG29</b>	Cat. No. <b>PG29</b>
21458.4	21458.5	21458.6	21458.7
19444.4	19444.5	19444.6	19444.7
19445.4	19445.5	19445.6	19445.7
21459.4	21459.5	21459.6	21459.7
21460.4	21460.5	21460.6	21460.7
19446.4	19446.5	19446.6	19446.7
21461.4	21461.5	21461.6	21461.7
19447.4	19447.5	19447.6	19447.7
21462.4	21462.5	21462.6	21462.7
19448.4	19448.5	19448.6	19448.7
19449.4	19449.5	19449.6	19449.7
19450.4	19450.5	19450.6	19450.7
19451.4	19451.5	19451.6	19451.7
19452.4	19452.5	19452.6	19452.7
19453.4	19453.5	19453.6	19453.7
Cat. No. <b>PG36</b>	Cat. No. <b>PG36</b>	Cat. No. <b>PG36</b>	Cat. No. <b>PG36</b>
19463.4	19463.5	19463.6	19463.7
19464.4	19464.5	19464.6	19464.7
19465.4	19465.5	19465.6	19465.7
19466.4	19466.5	19466.6	19466.7
21493.4	21493.5	21493.6	21493.7
19467.4	19467.5	19467.6	19467.7
21494.4	21494.5	21494.6	21494.7
19468.4	19468.5	19468.6	19468.7
19469.4	19469.5	19469.6	19469.7
21496.4	21496.5	21496.6	21496.7
19470.4	19470.5	19470.6	19470.7
19471.4	19471.5	19471.6	19471.7
19472.4	19472.5	19472.6	19472.7
19473.4	19473.5	19473.6	19473.7
19474.4	19474.5	19474.6	19474.7
19475.4	19475.5	19475.6	19475.7
21481.4	21481.5	21481.6	21481.7
21482.4	21482.5	21482.6	21482.7
19476.4	19476.5	19476.6	19476.7
19477.4	19477.5	19477.6	19477.7
21483.4	21483.5	21483.6	21483.7
21484.4	21484.5	21484.6	21484.7
19478.4	19478.5	19478.6	19478.7
21485.4	21485.5	21485.6	21485.7
21486.4	21486.5	21486.6	21486.7
19479.4	19479.5	19479.6	19479.7
21487.4	21487.5	21487.6	21487.7
21488.4	21488.5	21488.6	21488.7
21489.4	21489.5	21489.6	21489.7
19487.4	19487.5	19487.6	19487.7

## Multi-Cable – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG36</b>				
PG36	11x8.0mm	–	–	5
PG36	13x7.0mm	–	–	5
PG36	15x5.0mm	–	–	5
PG36	16x6.0mm	–	–	5
<b>PG48</b>				
PG48	1x5.5mm	1x9.0mm	2x15.5mm	5
PG48	1x5.5mm	4x15.5mm	–	5
PG48	1x9.0mm	1x11.0mm	3x15.5mm	5
PG48	1x11.0mm	3x17.0mm	–	5
PG48	1x13.0mm	3x17.0mm	–	5
PG48	1x30.0mm	–	–	5
PG48	1x35.0mm	–	–	5
PG48	2x4.5mm	2x21.0mm	–	5
PG48	2x16.0mm	–	–	5
PG48	3x12.5mm	–	–	5
PG48	3x13.5mm	–	–	5
PG48	3x14.5mm	–	–	5
PG48	3x18.0mm	–	–	5
PG48	4x12.0mm	–	–	5
PG48	4x16.0mm	–	–	5
PG48	8x10.0mm	–	–	5
PG48	8x12.0mm	–	–	5
PG48	18x7.0mm	–	–	5

Cat. No.  
Beige  
**PG36**

21490.0  
21491.0  
21492.0  
19480.0

Cat. No.  
Black  
**PG36**

21490.1  
21491.1  
21492.1  
19480.1

**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**
**With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert**

<b>Cat. No. Opaque PG36</b>	<b>Cat. No. Black PG36</b>	<b>Cat. No. PG36</b>	<b>Cat. No. PG36</b>
21490.4	21490.5	21490.6	21490.7
21491.4	21491.5	21491.6	21491.7
21492.4	21492.5	21492.6	21492.7
19480.4	19480.5	19480.6	19480.7
-	-	<b>PG48</b>	-
-	-	19486.6	-
-	-	19490.6	-
-	-	19491.6	-
-	-	19492.6	-
-	-	19493.6	-
-	-	19494.6	-
-	-	19495.6	-
-	-	19496.6	-
-	-	19497.6	-
-	-	19498.6	-
-	-	19499.6	-
-	-	19500.6	-
-	-	19501.6	-
-	-	19502.6	-
-	-	19503.6	-
-	-	19504.6	-
-	-	19505.6	-
-	-	19506.6	-

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Opaque or Black

Polyvinylidene (PVDF)  
Opaque



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No. Opaque
<b>NPT3/8"</b>					<b>NPT3/8"</b>
NPT3/8"	1x3.0mm	–	–	50	18000.4
NPT3/8"	1x3.0mm	1x6.0mm	–	50	18001.4
NPT3/8"	1x4.0mm	–	–	50	18002.4
NPT3/8"	1x5.0mm	–	–	50	18003.4
NPT3/8"	2x2.3mm	–	–	50	18004.4
NPT3/8"	2x3.0mm	–	–	50	18005.4
NPT3/8"	2x4.0mm	–	–	50	18006.4
NPT3/8"	2x5.0mm	–	–	50	18007.4
NPT3/8"	2x6.0mm	–	–	50	18008.4
NPT3/8"	3x1.5mm	–	–	50	18009.4
NPT3/8"	3x3.0mm	–	–	50	18010.4
NPT3/8"	3x4.0mm	–	–	50	18011.4
NPT3/8"	4x1.5mm	–	–	50	18012.4
NPT3/8"	4x2.5mm	1x3.5mm	–	50	18013.4
NPT3/8"	5x2.5mm	–	–	50	18014.4
NPT3/8"	5x3.5mm	–	–	50	18015.4
NPT3/8"	6x2.0mm	–	–	50	18016.4
NPT3/8"	6x2.5mm	–	–	50	18017.4
NPT3/8"	7x1.5mm	–	–	50	18018.4
NPT3/8"	8x1.2mm	–	–	50	18019.4
NPT3/8"	9x1.5mm	–	–	50	18020.4
<b>NPT1/2"</b>					<b>NPT1/2"</b>
NPT1/2"	1x3.0mm	1x6.0mm	1x8.0mm	50	18051.4
NPT1/2"	1x3.0mm	1x8.0mm	–	50	18052.4
NPT1/2"	1x3.0mm	1x9.0mm	–	50	18053.4
NPT1/2"	1x3.0mm	2x8.0mm	–	50	18054.4
NPT1/2"	1x3.5mm	–	–	50	18050.4
NPT1/2"	1x4.0mm	–	–	50	18055.4
NPT1/2"	1x4.0mm	1x5.0mm	–	50	18056.4
NPT1/2"	1x4.0mm	2x6.0mm	1x7.0mm	50	18057.4
NPT1/2"	1x4.0mm	3x5.0mm	–	50	18058.4
NPT1/2"	1x5.0mm	–	–	50	18059.4
NPT1/2"	1x5.0mm	1x9.0mm	–	50	18060.4
NPT1/2"	1x5.0mm	2x6.0mm	–	50	18061.4
NPT1/2"	1x6.0mm	1x8.0mm	–	50	18063.4
NPT1/2"	1x12.5mm	–	–	50	18066.4
NPT1/2"	1x15.1mm	–	–	50	18067.4
NPT1/2"	2x3.2mm	2x6.0mm	–	50	18068.4
NPT1/2"	2x3.3mm	–	–	50	18069.4
NPT1/2"	2x3.5mm	–	–	50	18070.4
NPT1/2"	2x3.5mm	1x5.5mm	–	50	18071.4
NPT1/2"	2x3.5mm	1x8.5mm	–	50	18072.4
NPT1/2"	2x4.0mm	–	–	50	18074.4
NPT1/2"	2x5.0mm	–	–	50	18075.4
NPT1/2"	2x5.0mm	1x6.0mm	–	50	18076.4
NPT1/2"	2x6.0mm	–	–	50	21499.4
NPT1/2"	2x6.0mm	1x7.0mm	–	50	18078.4

**Polyvinylidene (PVDF)  
Black**

**Nickel Plated Brass  
(NPB)**


With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Black NPT3/8"</b>	<b>Cat. No. NPT3/8"</b>
18000.5	18000.6
18001.5	18001.6
18002.5	18002.6
18003.5	18003.6
18004.5	18004.6
18005.5	18005.6
18006.5	18006.6
18007.5	18007.6
18008.5	18008.6
18009.5	18009.6
18010.5	18010.6
18011.5	18011.6
18012.5	18012.6
18013.5	18013.6
18014.5	18014.6
18015.5	18015.6
18016.5	18016.6
18017.5	18017.6
18018.5	18018.6
18019.5	18019.6
18020.5	18020.6
<b>NPT1/2"</b>	<b>NPT1/2"</b>
18051.5	18051.6
18052.5	18052.6
18053.5	18053.6
18054.5	18054.6
18050.5	18050.6
18055.5	18055.6
18056.5	18056.6
18057.5	18057.6
18058.5	18058.6
18059.5	18059.6
18060.5	18060.6
18061.5	18061.6
18063.5	18063.6
18066.5	18066.6
18067.5	18067.6
18068.5	18068.6
18069.5	18069.6
18070.5	18070.6
18071.5	18071.6
18072.5	18072.6
18074.5	18074.6
18075.5	18075.6
18076.5	18076.6
21499.5	21499.6
18078.5	18078.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Opaque or Black

Polyvinylidene (PVDF)  
Opaque



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No. Opaque
<b>NPT1/2"</b>					<b>NPT1/2"</b>
NPT1/2"	2x6.0mm	1x8.0mm	–	50	18079.4
NPT1/2"	2x8.0mm	–	–	50	18080.4
NPT1/2"	3x2.5mm	1x3.5mm	1x7.0mm	50	18082.4
NPT1/2"	3x3.0mm	–	–	50	18083.4
NPT1/2"	3x3.0mm	1x6.0mm	–	50	18084.4
NPT1/2"	3x4.0mm	1x9.0mm	–	50	18085.4
NPT1/2"	3x5.0mm	1x8.0mm	–	50	18086.4
NPT1/2"	3x6.0mm	–	–	50	18087.4
NPT1/2"	3x7.0mm	–	–	50	18088.4
NPT1/2"	4x4.0mm	–	–	50	18089.4
NPT1/2"	4x5.0mm	–	–	50	18090.4
NPT1/2"	4x6.0mm	–	–	50	18091.4
NPT1/2"	6x4.0mm	–	–	50	18092.4
NPT1/2"	7x2.0mm	–	–	50	18093.4
NPT1/2"	9x3.0mm	–	–	50	18094.4
NPT1/2"	13x2.7mm	–	–	50	18095.4
NPT1/2"	18x2.4mm	–	–	50	18096.4
<b>NPT3/4"</b>					<b>NPT3/4"</b>
NPT3/4"	1x3.2mm	2x6.0mm	3x7.0mm	25	18123.4
NPT3/4"	1x4.3mm	1x6.0mm	1x8.0mm	25	18124.4
NPT3/4"	1x4.5mm	2x7.0mm	1x8.0mm	25	18125.4
NPT3/4"	1x5.0mm	1x9.0mm	–	25	18126.4
NPT3/4"	1x5.7mm	1x13.0mm	–	25	18127.4
NPT3/4"	1x6.0mm	2x9.0mm	–	25	18128.4
NPT3/4"	1x6.5mm	1x12.0mm	–	25	18129.4
NPT3/4"	1x7.0mm	–	–	25	18130.4
NPT3/4"	1x7.0mm	1x8.5mm	–	25	18131.4
NPT3/4"	1x7.0mm	1x10.5mm	–	25	18132.4
NPT3/4"	1x8.5mm	1x12.0mm	–	25	18133.4
NPT3/4"	2x4.5mm	1x13.0mm	–	25	18136.4
NPT3/4"	2x6.0mm	2x8.0mm	–	25	18137.4
NPT3/4"	2x7.2mm	1x10.5mm	–	25	18139.4
NPT3/4"	2x8.0mm	–	–	25	18140.4
NPT3/4"	2x9.0mm	–	–	25	18141.4
NPT3/4"	3x5.0mm	–	–	25	18143.4
NPT3/4"	3x6.0mm	1x8.0mm	–	25	18144.4
NPT3/4"	3x7.0mm	–	–	25	18145.4
NPT3/4"	3x9.0mm	–	–	25	18146.4
NPT3/4"	4x5.0mm	–	–	25	18147.4
NPT3/4"	4x6.0mm	–	–	25	21497.4
NPT3/4"	4x6.0mm	1x8.0mm	–	25	18150.4
NPT3/4"	4x6.5mm	–	–	25	18151.4
NPT3/4"	4x8.0mm	–	–	25	18153.4
NPT3/4"	5x4.0mm	–	–	25	18154.4
NPT3/4"	5x5.0mm	–	–	25	18155.4
NPT3/4"	5x6.0mm	–	–	25	18156.4
NPT3/4"	6x4.0mm	–	–	25	18157.4



**Polyvinylidene (PVDF)  
Black**

**Nickel Plated Brass  
(NPB)**


With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Black</b>	<b>Cat. No. Black</b>
<b>NPT1/2"</b>	<b>NPT1/2"</b>
18079.5	18079.6
18080.5	18080.6
18082.5	18082.6
18083.5	18083.6
18084.5	18084.6
18085.5	18085.6
18086.5	18086.6
18087.5	18087.6
18088.5	18088.6
18089.5	18089.6
18090.5	18090.6
18091.5	18091.6
18092.5	18092.6
18093.5	18093.6
18094.5	18094.6
18095.5	18095.6
18096.5	18096.6
<b>NPT3/4"</b>	<b>NPT3/4"</b>
18123.5	18123.6
18124.5	18124.6
18125.5	18125.6
18126.5	18126.6
18127.5	18127.6
18128.5	18128.6
18129.5	18129.6
18130.5	18130.6
18131.5	18131.6
18132.5	18132.6
18133.5	18133.6
18136.5	18136.6
18137.5	18137.6
18139.5	18139.6
18140.5	18140.6
18141.5	18141.6
18143.5	18143.6
18144.5	18144.6
18145.5	18145.6
18146.5	18146.6
18147.5	18147.6
21497.5	21497.6
18150.5	18150.6
18151.5	18151.6
18153.5	18153.6
18154.5	18154.6
18155.5	18155.6
18156.5	18156.6
18157.5	18157.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Opaque or Black

Polyvinylidene (PVDF)  
Opaque



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No. Opaque
<b>NPT3/4"</b>					<b>NPT3/4"</b>
NPT3/4"	6x4.0mm	1x7.0mm	–	25	18158.4
NPT3/4"	6x5.0mm	–	–	25	18159.4
NPT3/4"	6x5.5mm	–	–	25	18160.4
NPT3/4"	6x6.5mm	–	–	25	18161.4
NPT3/4"	8x3.0mm	–	–	25	18162.4
NPT3/4"	8x4.0mm	–	–	25	18163.4
NPT3/4"	8x5.0mm	–	–	25	18165.4
NPT3/4"	8x5.5mm	–	–	25	18166.4
NPT3/4"	9x3.0mm	–	–	25	18167.4
NPT3/4"	21x2.0mm	–	–	25	18168.4

Continued on page 140.

**Polyvinylidene (PVDF)  
Black**



**Nickel Plated Brass  
(NPB)**



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Black NPT3/4"</b>	<b>Cat. No. NPT3/4"</b>
18158.5	18158.6
18159.5	18159.6
18160.5	18160.6
18161.5	18161.6
18162.5	18162.6
18163.5	18163.6
18165.5	18165.6
18166.5	18166.6
18167.5	18167.6
18168.5	18168.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed
- Order Locknuts Separately

### Nickel Plated Brass (NPB)



### With Thermoplastic Elastomer (TPE) Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No.
<b>NPT1"</b>					<b>NPT1"</b>
NPT1"	1x3.5mm	2x8.0mm	1x14.0mm	10	18180.6
NPT1"	1x4.5mm	4x8.0mm	–	10	18182.6
NPT1"	1x5.0mm	1x9.6mm	1x12.2mm	10	18183.6
NPT1"	1x5.0mm	2x9.0mm	1x13.0mm	10	18185.6
NPT1"	1x5.0mm	4x9.0mm	–	10	18186.6
NPT1"	1x5.5mm	1x9.0mm	–	10	18187.6
NPT1"	1x5.8mm	2x11.0mm	–	10	18188.6
NPT1"	1x6.0mm	1x8.5mm	1x10.5mm	10	18189.6
NPT1"	1x6.0mm	1x10.0mm	–	10	18192.6
NPT1"	1x6.0mm	2x6.5mm	2x8.0mm	10	18190.6
NPT1"	1x6.0mm	2x9.0mm	–	10	18193.6
NPT1"	1x6.5mm	1x17.0mm	–	10	18194.6
NPT1"	1x7.0mm	1x8.5mm	1x17.0mm	10	18195.6
NPT1"	1x7.0mm	1x9.5mm	1x12.0mm	10	18196.6
NPT1"	1x7.0mm	1x9.0mm	1x11.0mm	10	18197.6
NPT1"	1x7.0mm	1x14.0mm	–	10	18198.6
NPT1"	1x7.0mm	2x8.0mm	2x10.0mm	10	18199.6
NPT1"	1x7.0mm	2x8.5mm	–	10	18200.6
NPT1"	1x8.0mm	2x8.5mm	1x12.0mm	10	18201.6
NPT1"	1x8.0mm	2x8.5mm	1x15.0mm	10	18202.6
NPT1"	1x8.0mm	2x11.0mm	–	10	18203.6
NPT1"	1x8.0mm	2x12.0mm	–	10	18204.6
NPT1"	1x8.0mm	12x4.0mm	–	10	18205.6
NPT1"	1x8.5mm	1x12.0mm	–	10	18206.6
NPT1"	1x9.0mm	1x10.0mm	1x11.0mm	10	18207.6
NPT1"	1x9.0mm	1x15.0mm	–	10	18208.6
NPT1"	1x9.5mm	1x11.5mm	1x13.5mm	10	18209.6
NPT1"	1x9.5mm	1x13.5mm	–	10	18210.6
NPT1"	1x10.0mm	1x11.5mm	1x13.0mm	10	18211.6
NPT1"	1x10.0mm	1x12.0mm	1x13.5mm	10	18212.6
NPT1"	1x10.0mm	1x13.0mm	–	10	18213.6
NPT1"	1x10.5mm	1x16.0mm	–	10	18214.6
NPT1"	1x12.0mm	1x13.0mm	–	10	18215.6
NPT1"	1x14.0mm	–	–	10	18216.6
NPT1"	1x16.0mm	–	–	10	18217.6
NPT1"	1x25.5mm	–	–	10	18218.6
NPT1"	2x4.8mm	2x6.3mm	–	10	18220.6
NPT1"	2x5.0mm	1x8.6mm	1x12.2mm	10	18221.6
NPT1"	2x5.8mm	1x11.0mm	–	10	18222.6
NPT1"	2x6.0mm	1x7.5mm	1x8.5mm	10	18224.6
NPT1"	2x6.0mm	1x8.5mm	–	10	18223.6
NPT1"	2x6.0mm	1x10.5mm	1x12.0mm	10	18225.6
NPT1"	2x6.5mm	–	–	10	18227.6
NPT1"	2x6.5mm	1x10.0mm	–	10	18228.6
NPT1"	2x7.0mm	1x9.0mm	–	10	18229.6
NPT1"	2x8.0mm	2x11.5mm	–	10	18230.6
NPT1"	2x8.5mm	1x13.5mm	–	10	18231.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed
- Order Locknuts Separately

### Nickel Plated Brass (NPB)



High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No.
<b>NPT1"</b>					<b>NPT1"</b>
NPT1"	2x9.0mm	–	–	10	18232.6
NPT1"	2x9.0mm	1x13.0mm	–	10	18233.6
NPT1"	2x9.0mm	1x15.0mm	–	10	18234.6
NPT1"	2x10.0mm	–	–	10	18235.6
NPT1"	2x11.0mm	–	–	10	18236.6
NPT1"	2x13.0mm	–	–	10	18237.6
NPT1"	3x3.0mm	7x4.0mm	1x8.0mm	10	18238.6
NPT1"	3x3.0mm	8x5.0mm	–	10	18239.6
NPT1"	3x3.0mm	8x5.0mm	1x8.0mm	10	18240.6
NPT1"	3x7.0mm	–	–	10	18241.6
NPT1"	3x7.0mm	3x8.0mm	–	10	18242.6
NPT1"	3x11.0mm	–	–	10	18243.6
NPT1"	3x12.0mm	–	–	10	18244.6
NPT1"	4x3.5mm	2x7.0mm	1x11.0mm	10	18245.6
NPT1"	4x5.0mm	–	–	10	18246.6
NPT1"	4x5.5mm	–	–	10	18277.6
NPT1"	4x5.5mm	1x8.0mm	–	10	18247.6
NPT1"	4x5.7mm	2x10.0mm	–	10	18248.6
NPT1"	4x6.0mm	3x8.5mm	–	10	18249.6
NPT1"	4x6.5mm	–	–	10	18250.6
NPT1"	4x8.0mm	–	–	10	18252.6
NPT1"	4x9.0mm	–	–	10	18253.6
NPT1"	4x10.0mm	–	–	10	18254.6
NPT1"	4x11.0mm	–	–	10	18255.6
NPT1"	5x8.0mm	–	–	10	18257.6
NPT1"	5x9.0mm	–	–	10	18258.6
NPT1"	5x10.0mm	–	–	10	18259.6
NPT1"	6x4.0mm	3x6.0mm	1x8.0mm	10	18260.6
NPT1"	6x6.0mm	–	–	10	18261.6
NPT1"	6x8.0mm	–	–	10	18262.6
NPT1"	7x4.8mm	–	–	10	18263.6
NPT1"	7x6.0mm	1x11.0mm	–	10	18264.6
NPT1"	7x7.0mm	–	–	10	18265.6
NPT1"	8x5.5mm	–	–	10	18266.6
NPT1"	8x7.0mm	–	–	10	18267.6
NPT1"	10x6.0mm	–	–	10	18268.6
NPT1"	12x4.0mm	1x8.0mm	–	10	18269.6
NPT1"	12x5.3mm	–	–	10	18270.6
NPT1"	13x3.5mm	1x9.5mm	–	10	18271.6
NPT1"	16x3.5mm	–	–	10	18272.6
NPT1"	17x3.5mm	–	–	10	18273.6
NPT1"	20x3.5mm	–	–	10	18274.6
NPT1"	24x3.0mm	–	–	10	18275.6
NPT1"	30x3.0mm	–	–	10	18276.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed
- Order Locknuts Separately

### Nickel Plated Brass (NPB)



### With Thermoplastic Elastomer (TPE) Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No.
<b>NPT1-1/4"</b>					<b>NPT1-1/4"</b>
NPT1-1/4"	1x8.0mm	1x25.0mm	–	5	18280.6
NPT1-1/4"	1x8.0mm	4x12.5mm	–	5	18281.6
NPT1-1/4"	1x9.5mm	2x13.5mm	–	5	18282.6
NPT1-1/4"	1x10.0mm	3x11.5mm	–	5	18283.6
NPT1-1/4"	1x11.0mm	1x21.0mm	–	5	18284.6
NPT1-1/4"	1x11.0mm	2x13.0mm	–	5	18285.6
NPT1-1/4"	1x12.5mm	1x16.5mm	–	5	18286.6
NPT1-1/4"	1x13.0mm	1x19.0mm	–	5	18287.6
NPT1-1/4"	1x13.0mm	2x16.5mm	–	5	18288.6
NPT1-1/4"	1x14.0mm	1x17.0mm	–	5	18289.6
NPT1-1/4"	1x15.0mm	1x17.0mm	–	5	18290.6
NPT1-1/4"	1x20.5mm	–	–	5	18291.6
NPT1-1/4"	1x23.0mm	–	–	5	18292.6
NPT1-1/4"	1x26.0mm	–	–	5	18293.6
NPT1-1/4"	2x8.0mm	3x10.0mm	–	5	18294.6
NPT1-1/4"	2x9.0mm	–	–	5	18295.6
NPT1-1/4"	2x15.0mm	–	–	5	18296.6
NPT1-1/4"	3x10.0mm	–	–	5	21498.6
NPT1-1/4"	3x14.5mm	–	–	5	18297.6
NPT1-1/4"	4x7.0mm	–	–	5	18298.6
NPT1-1/4"	4x10.2mm	–	–	5	18299.6
NPT1-1/4"	4x11.5mm	–	–	5	18300.6
NPT1-1/4"	4x12.0mm	–	–	5	18301.6
NPT1-1/4"	4x13.0mm	–	–	5	18302.6
NPT1-1/4"	5x11.5mm	–	–	5	18303.6
NPT1-1/4"	6x10.0mm	–	–	5	18304.6
NPT1-1/4"	7x9.0mm	–	–	5	18305.6
NPT1-1/4"	8x8.0mm	–	–	5	18306.6
NPT1-1/4"	8x9.0mm	–	–	5	18307.6
NPT1-1/4"	9x1.8mm	–	–	5	18308.6
NPT1-1/4"	11x8.0mm	–	–	5	18309.6
NPT1-1/4"	13x7.0mm	–	–	5	18310.6
NPT1-1/4"	15x5.0mm	–	–	5	18311.6
NPT1-1/4"	16x6.0mm	–	–	5	18312.6
NPT1-1/4"	2x17.0mm	–	–	5	18313.6
NPT1-1/4"	1x12.0mm	2x25.0mm	–	5	18314.6

## Multi-Cable – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Neoprene Seal Rings Factory Installed
- Order Locknuts Separately

### Nickel Plated Brass (NPB)



High Performance Cord Grips

### With Thermoplastic Elastomer (TPE) Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.	Cat. No.
<b>NPT2"</b>					<b>NPT2"</b>
NPT2"	1x5.5mm	1x9.0mm	2x15.5mm	5	18320.6
NPT2"	1x5.5mm	4x15.5mm	–	5	18321.6
NPT2"	1x9.0mm	1x11.0mm	3x15.5mm	5	18322.6
NPT2"	1x11.0mm	3x17.0mm	–	5	18323.6
NPT2"	1x13.0mm	3x17.0mm	–	5	18324.6
NPT2"	1x30.0mm	–	–	5	18325.6
NPT2"	1x35.0mm	–	–	5	18326.6
NPT2"	2x4.5mm	2x21.0mm	–	5	18327.6
NPT2"	2x16.0mm	–	–	5	18328.6
NPT2"	3x12.5mm	–	–	5	18329.6
NPT2"	3x13.5mm	–	–	5	18330.6
NPT2"	3x14.5mm	–	–	5	18331.6
NPT2"	3x18.0mm	–	–	5	18332.6
NPT2"	4x12.0mm	–	–	5	18333.6
NPT2"	4x16.0mm	–	–	5	18334.6
NPT2"	8x10.0mm	–	–	5	18335.6
NPT2"	8x12.0mm	–	–	5	18336.6
NPT2"	18x7.0mm	–	–	5	18337.6

## Multi-Cable Solid Insert – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Size	Hole Insert	Std. Pk.
M12x1.5	Solid	50
M16x1.5	Solid	50
M20x1.5	Solid	50
M25x1.5	Solid	50
M32x1.5	Solid	25
M40x1.5	Solid	10
M50x1.5	Solid	5
M63x1.5	Solid	5

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No.  
Beige

96500.0  
96501.0  
96502.0  
96503.0  
96504.0  
96505.0  
96506.0  
–

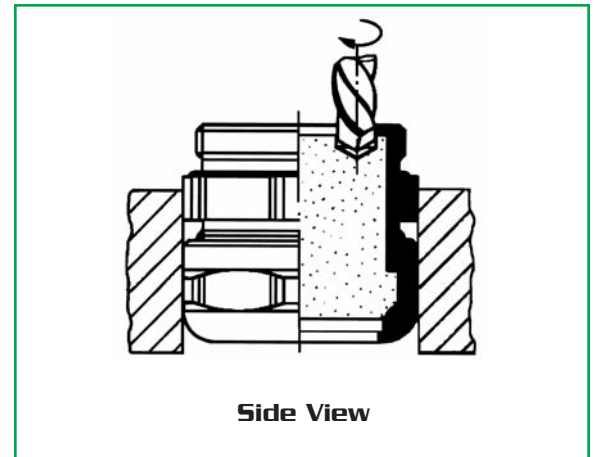
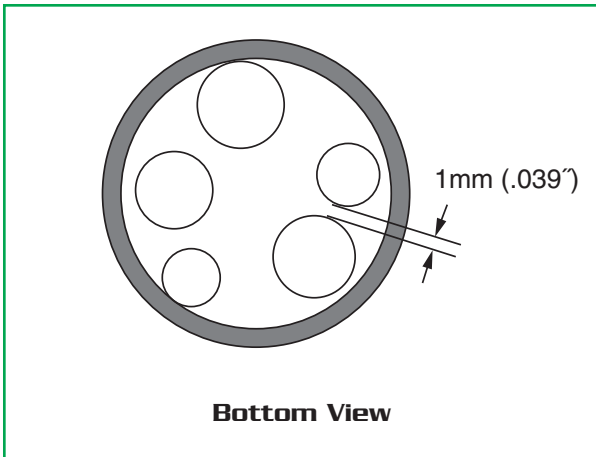
Cat. No.  
Black

96500.1  
96501.1  
96502.1  
96503.1  
96504.1  
96505.1  
96506.1  
–

## Solid Insert Worksheet

### Shop Drilling:

- Place Cord Grip with installed insert into vise
- Drill holes at a maximum of 800rpm
- Do not exceed a tolerance of 1.0mm (.039in.)
- Minimum clearance between holes 1.0mm (.039in.)





**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**

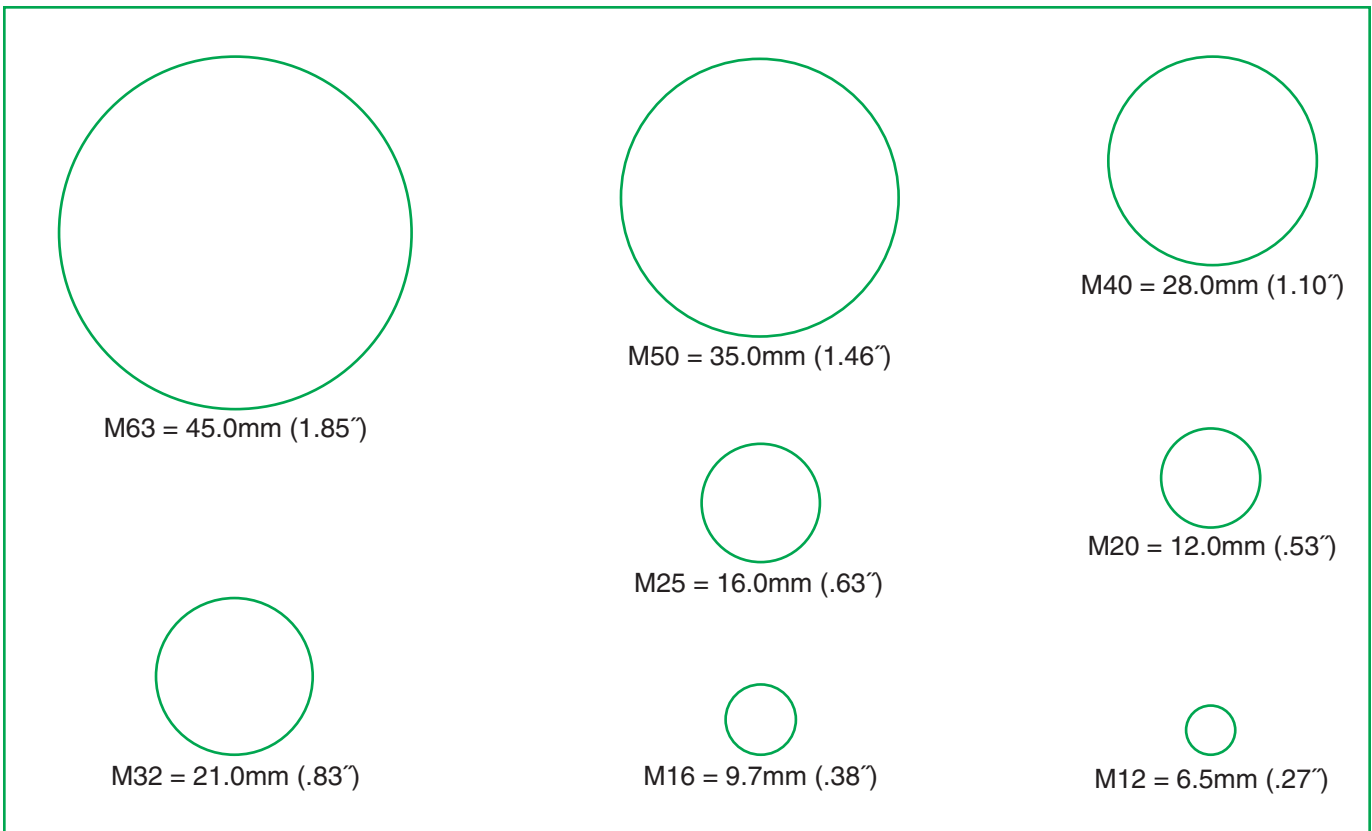


High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
96500.4	96500.5	96500.6	96500.7
96501.4	96501.5	96501.6	96501.7
96502.4	96502.5	96502.6	96502.7
96503.4	96503.5	96503.6	96503.7
96504.4	96504.5	96504.6	96504.7
96505.4	96505.5	96505.6	96505.7
96506.4	96506.5	96506.6	96506.7
-	-	96507.6	96507.7

### Usable Drilling Area Diameter of Solid Inserts



## Multi-Cable Solid Insert - PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 If Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Size	Hole Insert	Std. Pk.
PG7	Solid	50
PG9	Solid	50
PG11	Solid	50
PG13.5	Solid	50
PG16	Solid	25
PG21	Solid	10
PG29	Solid	5
PG36	Solid	5
PG42	Solid	5
PG48	Solid	5

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



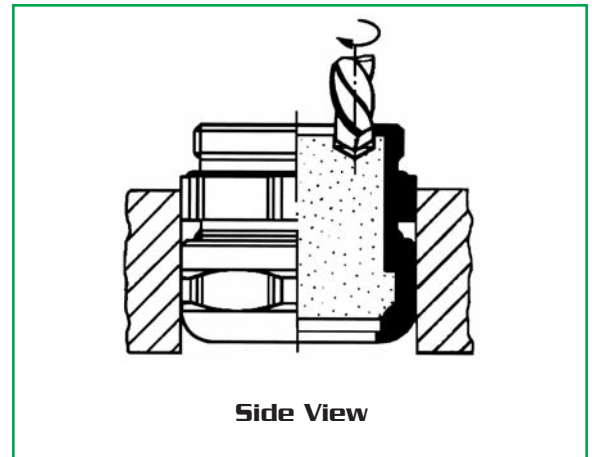
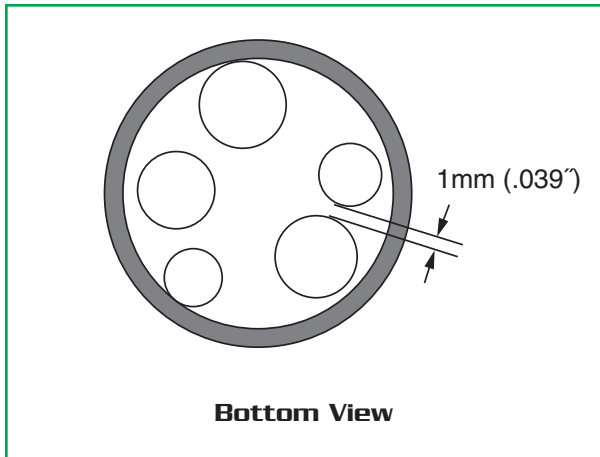
With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Beige	Cat. No. Black
20920.0	20920.1
20921.0	20921.1
20922.0	20922.1
20923.0	20923.1
20924.0	20924.1
20925.0	20925.1
20926.0	20926.1
20927.0	20927.1
-	-
-	-

## Solid Insert Worksheet

### Shop Drilling:

- Place Cord Grip with installed insert into vise
- Drill holes at a maximum of 800rpm
- Do not exceed a tolerance of 1.0mm (.039in.)
- Minimum clearance between holes 1.0mm (.039in.)



**Polyvinylidene (PVDF) Opaque**



**Polyvinylidene (PVDF) Black**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)**

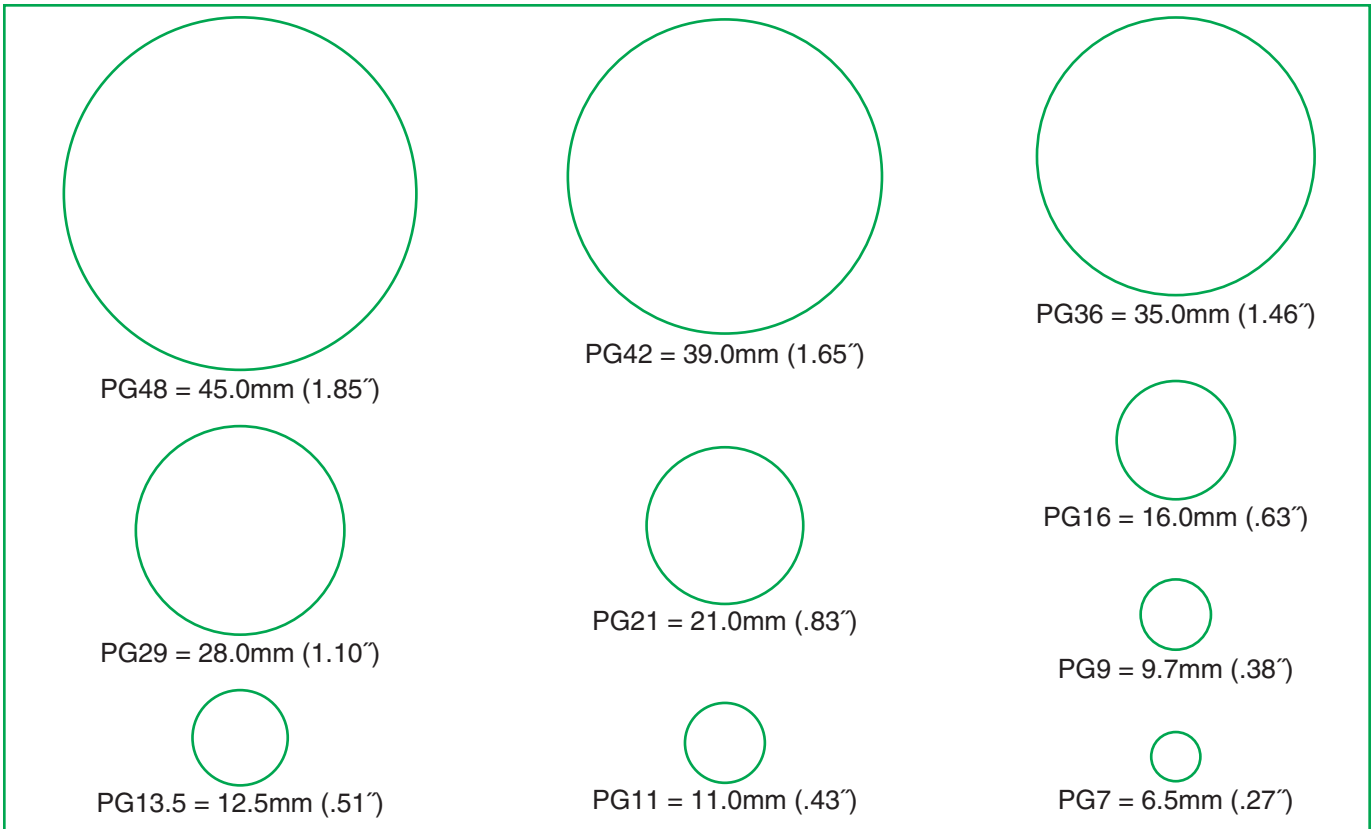


High Performance Cord Grips

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
20920.4	20920.5	20920.6	20920.7
20921.4	20921.5	20921.6	20921.7
20922.4	20922.5	20922.6	20922.7
20923.4	20923.5	20923.6	20923.7
20924.4	20924.5	20924.6	20924.7
20925.4	20925.5	20925.6	20925.7
20926.4	20926.5	20926.6	20926.7
20927.4	20927.5	20927.6	20927.7
-	-	20929.6	-
-	-	20930.6	-

### Usable Drilling Area Diameter of Solid Inserts



## Multi-Cable Solid Insert - NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Opaque or Black

Polyvinylidene (PVDF) Opaque



Polyvinylidene (PVDF) Black



With Thermoplastic Elastomer (TPE) Multi-Cable Insert

Size	Hole Insert	Std. Pk.
NPT3/8"	Solid	50
NPT1/2"	Solid	50
NPT3/4"	Solid	50
NPT1"	Solid	50
NPT1-1/4"	Solid	25
NPT1-1/2"	Solid	10
NPT2"	Solid	5

Cat. No. Opaque

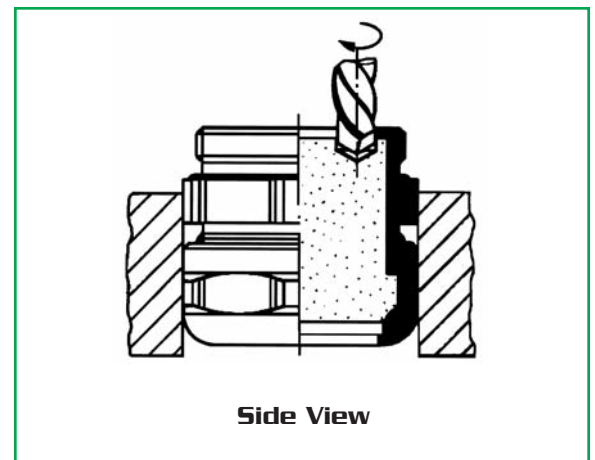
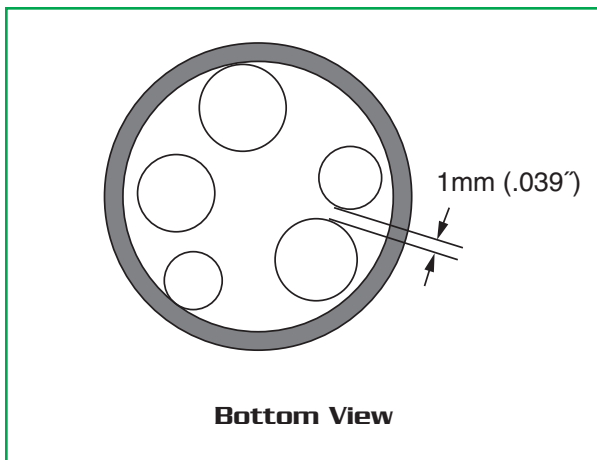
Cat. No. Black

19510.4	19510.5
19511.4	19511.5
21552.4	21552.5
-	-
-	-
-	-
-	-

## Solid Insert Worksheet

### Shop Drilling:

- Place Cord Grip with installed insert into vise
- Drill holes at a maximum of 800rpm
- Do not exceed a tolerance of 1.0mm (.039in.)
- Minimum clearance between holes 1.0mm (.039in.)



**Polyvinylidene (PVDF) Opaque**

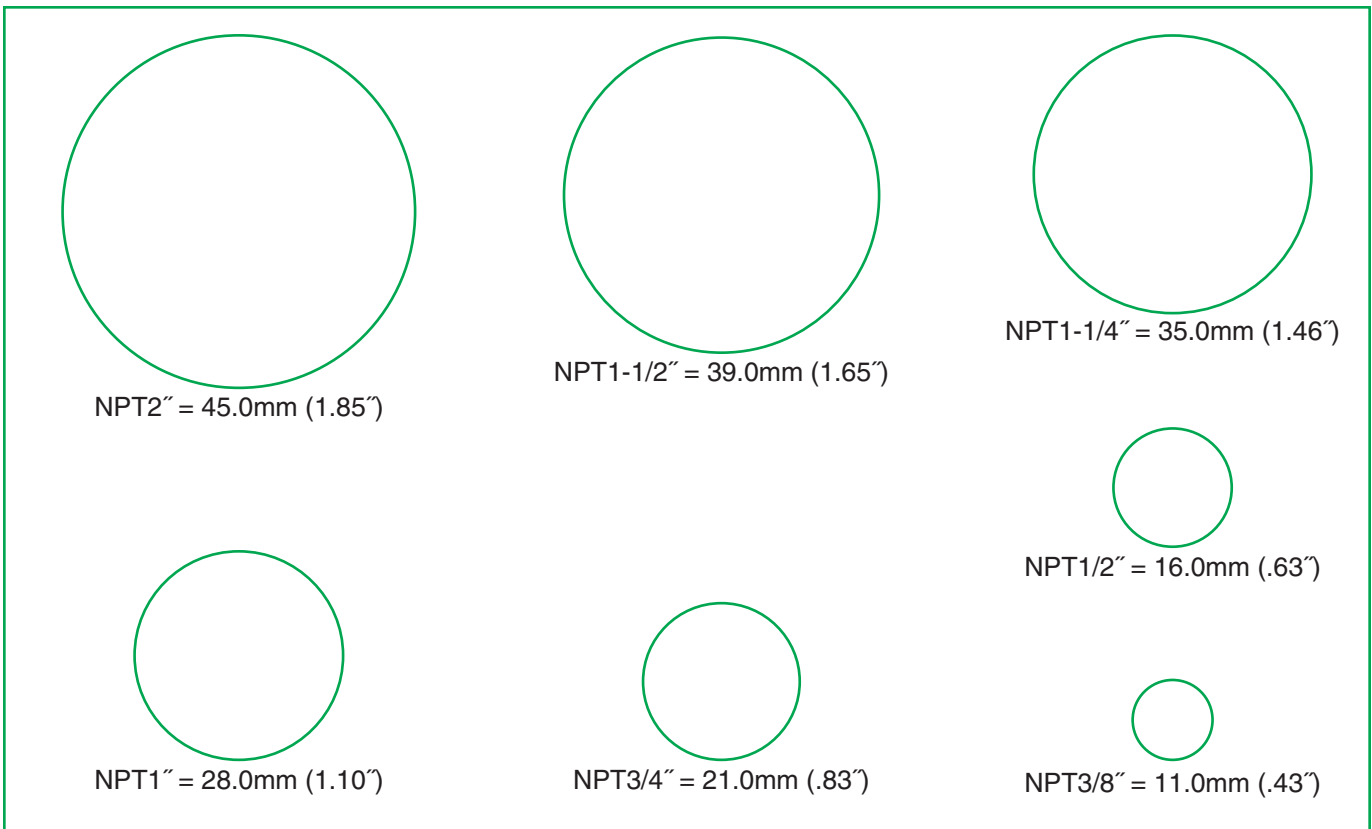


With Thermoplastic Elastomer (TPE) Multi-Cable Insert

**Cat. No.**

- 19510.6
- 19511.6
- 18278.6
- 18279.6
- 19512.6
- 19513.6
- 19514.6

**Usable Drilling Area Diameter of Solid Inserts**



## Multi-Cable Split Insert – Metric External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>M25x1.5</b>				
M25x1.5	–	No Holes	–	50
<b>M32x1.5</b>				
M32x1.5	1x7.0mm	–	–	25
<b>M40x1.5</b>				
M40x1.5	–	No Holes	–	10
M40x1.5	1x5.0mm	–	–	10
M40x1.5	1x6.0mm	–	–	10
M40x1.5	1x6.0mm	1x8.5mm	–	10
M40x1.5	1x7.0mm	–	–	10
M40x1.5	1x8.0mm	–	–	10
M40x1.5	1x10.0mm	–	–	10
M40x1.5	1x12.0mm	–	–	10
M40x1.5	1x21.0mm	–	–	10
M40x1.5	2x8.0mm	–	–	10
<b>M50x1.5</b>				
M50x1.5	–	No Holes	–	5
M50x1.5	1x4.5mm	1x9.0mm	1x8.5mm	5
M50x1.5	1x5.0mm	1x10.0mm	1x10.5mm	5
M50x1.5	1x8.0mm	–	–	5
M50x1.5	1x8.0mm	1x10.5mm	1x12.0mm	5
M50x1.5	1x9.0mm	–	–	5
M50x1.5	1x10.0mm	–	–	5
M50x1.5	1x12.0mm	–	–	5
M50x1.5	1x21.0mm	–	–	5
M50x1.5	1x23.0mm	–	–	5
M50x1.5	1x25.0mm	–	–	5
M50x1.5	1x26.0mm	–	–	5
M50x1.5	1x27.0mm	–	–	5
M50x1.5	1x32.0mm	–	–	5
M50x1.5	2x5.5mm	1x11.5mm	–	5
M50x1.5	2x6.0mm	–	–	5
M50x1.5	2x9.0mm	–	–	5
M50x1.5	2x11.5mm	–	–	5
M50x1.5	3x7.2mm	–	–	5
M50x1.5	3x7.5mm	–	–	5
M50x1.5	3x7.8mm	–	–	5
M50x1.5	3x10.0mm	–	–	5
<b>M63x1.5</b>				
M63x1.5	–	No Holes	–	5
M63x1.5	1x6.0mm	1x8.0mm	–	5
M63x1.5	1x32.0mm	–	–	5
M63x1.5	2x8.0mm	–	–	5

Cat. No.  
Beige

**M25x1.5**

96520.0

96521.0

**M32x1.5**

96521.0

**M40x1.5**

96522.0

96523.0

96524.0

96525.0

96526.0

96527.0

96528.0

96529.0

96530.0

96532.0

**M50x1.5**

96533.0

96544.0

96534.0

96535.0

96536.0

–

96537.0

96538.0

96539.0

96540.0

96541.0

–

96542.0

–

96545.0

96546.0

–

96547.0

96548.0

96549.0

96550.0

96551.0

**M63x1.5**

–

–

–

Cat. No.  
Black

**M25x1.5**

96520.1

96521.1

**M32x1.5**

96521.1

**M40x1.5**

96522.1

96523.1

96524.1

96525.1

96526.1

96527.1

96528.1

96529.1

96530.1

96532.1

**M50x1.5**

96533.1

96544.1

96534.1

96535.1

96536.1

–

96537.1

96538.1

96539.1

96540.1

96541.1

–

96542.1

–

96545.1

96546.1

–

96547.1

96548.1

96549.1

96550.1

96551.1

**M63x1.5**

–

–

–

**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Cat. No. Opaque	Cat. No. Black	Cat. No.	Cat. No.
<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>
96520.4	96520.5	96520.6	96520.7
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>
96521.4	96521.5	96521.6	96521.7
<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>
96522.4	96522.5	96522.6	96522.7
96523.4	96523.5	96523.6	96523.7
96524.4	96524.5	96524.6	96524.7
96525.4	96525.5	96525.6	96525.7
96526.4	96526.5	96526.6	96526.7
96527.4	96527.5	96527.6	96527.7
96528.4	96528.5	96528.6	96528.7
96529.4	96529.5	96529.6	96529.7
96530.4	96530.5	96530.6	96530.7
96532.4	96532.5	96532.6	96532.7
<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>
96533.4	96533.5	96533.6	96533.7
96544.4	96544.5	96544.6	96544.7
96534.4	96534.5	96534.6	96534.7
96535.4	96535.5	96535.6	96535.7
96536.4	96536.5	96536.6	96536.7
-	-	96552.6	96552.7
96537.4	96537.5	96537.6	96537.7
96538.4	96538.5	96538.6	96538.7
96539.4	96539.5	96539.6	96539.7
96540.4	96540.5	96540.6	96540.7
96541.4	96541.5	96541.6	96541.7
-	-	96553.6	96553.7
96542.4	96542.5	96542.6	96542.7
-	-	96569.6	96569.7
96545.4	96545.5	96545.6	96545.7
96546.4	96546.5	96546.6	96546.7
-	-	18062.6	18062.7
96547.4	96547.5	96547.6	96547.7
96548.4	96548.5	96548.6	96548.7
96549.4	96549.5	96549.6	96549.7
96550.4	96550.5	96550.6	96550.7
96551.4	96551.5	96551.6	96551.7
<b>M63x1.5</b>	<b>M63x1.5</b>	<b>M63x1.5</b>	<b>M63x1.5</b>
-	-	96559.6	96559.7
-	-	96560.6	96560.7
-	-	96561.6	96561.7
-	-	96562.6	96562.7

## Multi-Cable Split Insert – PG External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Beige, Black or Opaque

Polyamide (PA)  
Beige



Polyamide (PA)  
Black



With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>PG16</b>	–	No Holes	–	50
PG16	–	No Holes	–	50
<b>PG21</b>	1x7.0mm	–	–	25
PG21	1x7.0mm	–	–	25
<b>PG29</b>	–	No Holes	–	10
PG29	–	No Holes	–	10
PG29	1x5.0mm	–	–	10
PG29	1x6.0mm	–	–	10
PG29	1x6.0mm	1x8.5mm	–	10
PG29	1x7.0mm	–	–	10
PG29	1x8.0mm	–	–	10
PG29	1x10.0mm	–	–	10
PG29	1x12.0mm	–	–	10
PG29	1x21.0mm	–	–	10
PG29	2x8.0mm	–	–	10
<b>PG36</b>	–	No Holes	–	5
PG36	–	No Holes	–	5
PG36	1x5.0mm	1x10.0mm	1x10.5mm	5
PG36	1x8.0mm	–	–	5
PG36	1x8.0mm	1x10.5mm	1x12.0mm	5
PG36	1x10.0mm	–	–	5
PG36	1x12.0mm	–	–	5
PG36	1x21.0mm	–	–	5
PG36	1x23.0mm	–	–	5
PG36	1x25.0mm	–	–	5
PG36	1x27.0mm	–	–	5
PG36	1x4.5mm	1x9.0mm	1x8.5mm	5
PG36	2x5.5mm	1x11.5mm	–	5
PG36	2x6.0mm	–	–	5
PG36	2x11.5mm	–	–	5
PG36	3x7.2mm	–	–	5
PG36	3x7.5mm	–	–	5
PG36	3x7.8mm	–	–	5
PG36	3x10.0mm	–	–	5
<b>PG42</b>	–	No Holes	–	5
PG42	–	No Holes	–	5
PG42	1x9.0mm	–	–	5
PG42	1x23.0mm	–	–	5
PG42	1x26.0mm	–	–	5
PG42	1x27.0mm	–	–	5
PG42	1x32.0mm	–	–	5
PG42	2x9.0mm	–	–	5
PG48	–	No Holes	–	5
PG48	–	No Holes	–	5
PG48	1x6.0mm	1x8.0mm	–	5
PG48	1x32.0mm	–	–	5
PG48	2x8.0mm	–	–	5

Cat. No.  
Beige

**PG16**

19520.0

**PG21**

19521.0

**PG29**

19522.0

19523.0

19524.0

19525.0

19526.0

19527.0

19528.0

19529.0

19530.0

19532.0

**PG36**

19533.0

19534.0

19535.0

19536.0

19537.0

19538.0

19539.0

19540.0

19541.0

19542.0

19543.0

19545.0

19546.0

19547.0

19548.0

19549.0

19550.0

19551.0

**PG42**

–

Cat. No.  
Black

**PG16**

19520.1

**PG21**

19521.1

**PG29**

19522.1

19523.1

19524.1

19525.1

19526.1

19527.1

19528.1

19529.1

19530.1

19532.1

**PG36**

19533.1

19534.1

19535.1

19536.1

19537.1

19538.1

19539.1

19540.1

19541.1

19542.1

19543.1

19545.1

19546.1

19547.1

19548.1

19549.1

19550.1

19551.1

**PG42**

–



**Polyvinylidene  
(PVDF) Opaque**

**Polyvinylidene  
(PVDF) Black**

**Nickel Plated Brass  
(NPB)**

**Stainless Steel (SS)**

**High Performance Cord Grips**

With Thermoplastic Elastomer (TPE)  
Multi-Cable Insert

<b>Cat. No. Opaque</b>	<b>Cat. No. Black</b>	<b>Cat. No.</b>	<b>Cat. No.</b>
<b>PG16</b>	<b>PG16</b>	<b>PG16</b>	<b>PG16</b>
19520.4	19520.5	19520.6	19520.7
<b>PG21</b>	<b>PG21</b>	<b>PG21</b>	<b>PG21</b>
19521.4	19521.5	19521.6	19521.7
<b>PG29</b>	<b>PG29</b>	<b>PG29</b>	<b>PG29</b>
19522.4	19522.5	19522.6	19522.7
19523.4	19523.5	19523.6	19523.7
19524.4	19524.5	19524.6	19524.7
19525.4	19525.5	19525.6	19525.7
19526.4	19526.5	19526.6	19526.7
19527.4	19527.5	19527.6	19527.7
19528.4	19528.5	19528.6	19528.7
19529.4	19529.5	19529.6	19529.7
19530.4	19530.5	19530.6	19530.7
19532.4	19532.5	19532.6	19532.7
<b>PG36</b>	<b>PG36</b>	<b>PG36</b>	<b>PG36</b>
19533.4	19533.5	19533.6	19533.7
19534.4	19534.5	19534.6	19534.7
19535.4	19535.5	19535.6	19535.7
19536.4	19536.5	19536.6	19536.7
19537.4	19537.5	19537.6	19537.7
19538.4	19538.5	19538.6	19538.7
19539.4	19539.5	19539.6	19539.7
19540.4	19540.5	19540.6	19540.7
19541.4	19541.5	19541.6	19541.7
19542.4	19542.5	19542.6	19542.7
19543.4	19543.5	19543.6	19543.7
19545.4	19545.5	19545.6	19545.7
19546.4	19546.5	19546.6	19546.7
19547.4	19547.5	19547.6	19547.7
19548.4	19548.5	19548.6	19548.7
19549.4	19549.5	19549.6	19549.7
19550.4	19550.5	19550.6	19550.7
19551.4	19551.5	19551.6	19551.7
<b>PG42</b>	<b>PG42</b>	<b>PG42</b>	<b>PG42</b>
-	-	19552.6	19552.7
-	-	19553.6	19553.7
-	-	19554.6	19554.7
-	-	19555.6	19555.7
-	-	19556.6	19556.7
-	-	19557.6	19557.7
-	-	19558.6	19558.7
-	-	19559.6	19559.7
-	-	19560.6	19560.7
-	-	19561.6	19561.7
-	-	19562.6	19562.7

## Multi-Cable Split Insert – NPT External Thread

- Protection Rating: IP68; NEMA 4X  
If Cable Diameter = Insert Hole Diameter
- Protection Rating: IP65; NEMA 3 if Cable Diameter is up to 10% less than Insert Hole Diameter
- Perbunan Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately for all Multi-Cable Cord Grips
- Standard Colors: Opaque or Black

Polyvinylidene (PVDF) Opaque



Polyvinylidene (PVDF) Black



With Thermoplastic Elastomer (TPE) Multi-Cable Insert

Size	Hole Qty. x Dia.	Hole Qty. x Dia.	Hole Qty. x Dia.	Std. Pk.
<b>NPT1/2"</b>				
NPT1/2"	–	No Holes	–	50
<b>NPT3/4"</b>				
NPT3/4"	1x7.0mm	–	–	25
<b>NPT1"</b>				
NPT1"	–	No Holes	–	10
NPT1"	1x5.0mm	–	–	10
NPT1"	1x6.0mm	–	–	10
NPT1"	1x6.0mm	1x8.5mm	–	10
NPT1"	1x7.0mm	–	–	10
NPT1"	1x8.0mm	–	–	10
NPT1"	1x10.0mm	–	–	10
NPT1"	1x12.0mm	–	–	10
NPT1"	1x21.0mm	–	–	10
NPT1"	2x8.0mm	–	–	10
<b>NPT1-1/4"</b>				
NPT1-1/4"	–	No Holes	–	5
NPT1-1/4"	1x5.0mm	1x10.0mm	1x10.5mm	5
NPT1-1/4"	1x8.0mm	–	–	5
NPT1-1/4"	1x8.0mm	1x10.5mm	1x12.0mm	5
NPT1-1/4"	1x10.0mm	–	–	5
NPT1-1/4"	1x12.0mm	–	–	5
NPT1-1/4"	1x21.0mm	–	–	5
NPT1-1/4"	1x23.0mm	–	–	5
NPT1-1/4"	1x25.0mm	–	–	5
NPT1-1/4"	1x27.0mm	–	–	5
NPT1-1/4"	1x4.5mm	1x9.0mm	1x8.5mm	5
NPT1-1/4"	2x5.5mm	1x11.5mm	–	5
NPT1-1/4"	2x6.0mm	–	–	5
NPT1-1/4"	2x11.5mm	–	–	5
NPT1-1/4"	3x7.2mm	–	–	5
NPT1-1/4"	3x7.5mm	–	–	5
NPT1-1/4"	3x7.8mm	–	–	5
NPT1-1/4"	3x10.0mm	–	–	5
<b>NPT1-1/2"</b>				
NPT1-1/2"	–	No Holes	–	5
NPT1-1/2"	1x9.0mm	–	–	5
NPT1-1/2"	1x23.0mm	–	–	5
NPT1-1/2"	1x26.0mm	–	–	5
NPT1-1/2"	1x27.0mm	–	–	5
NPT1-1/2"	1x32.0mm	–	–	5
NPT1-1/2"	2x9.0mm	–	–	5
<b>NPT2"</b>				
NPT2"	–	No Holes	–	5
NPT2"	1x6.0mm	1x8.0mm	–	5
NPT2"	1x32.0mm	–	–	5
NPT2"	2x8.0mm	–	–	5

Cat. No.  
**Opaque**  
NPT1/2"  
19565.4  
NPT3/4"  
19566.4

Cat. No.  
**Black**  
NPT1/2"  
19565.5  
NPT3/4"  
19566.5

**Nickel Plated Brass  
(NPB)**



With Thermoplastic Elastomer  
(TPE) Multi-Cable Insert

**Cat. No.**

**NPT1/2"**

19565.6

**NPT3/4"**

19566.6

**NPT1"**

19567.6

19568.6

19569.6

19570.6

19571.6

19572.6

19573.6

19574.6

19575.6

19577.6

**NPT1-1/4"**

19578.6

19579.6

19580.6

19581.6

19582.6

19583.6

19584.6

19585.6

19586.6

19587.6

19588.6

19590.6

19591.6

19592.6

19593.6

19594.6

19595.6

19596.6

**NPT1-1/2"**

19597.6

19598.6

19599.6

19600.6

19601.6

19602.6

19603.6

**NPT2"**

19604.6

19605.6

19606.6

19607.6

## Flat Cable – Metric External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

## Polyamide (PA)

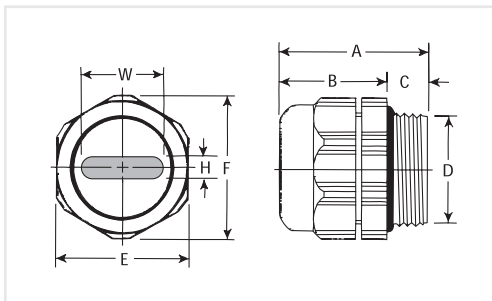


With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia mm	(in.)	Std. Pk.	Cat No.	
						Beige	Black
<b>M16x1.5</b>						<b>M16x1.5</b>	<b>M16x1.5</b>
M16x1.5	3.5x5.5	(.14x.22)	16.0	(.63)	50	96800.0	96800.1
<b>M20x1.5</b>						<b>M20x1.5</b>	<b>M20x1.5</b>
M20x1.5	2.8x10.5	(.11x.41)	20.0	(.79)	50	96801.0	96801.1
M20x1.5	3.5x6.0	(.14x.24)	20.0	(.79)	50	96802.0	96802.1
M20x1.5	3.5x9.0	(.14x.35)	20.0	(.79)	50	96803.0	96803.1
M20x1.5	4.0x6.0	(.16x.24)	20.0	(.79)	50	96804.0	96804.1
M20x1.5	3.0x12.0	(.12x.47)	20.0	(.79)	50	96805.0	96805.1
M20x1.5	4.5x10.0	(.18x.39)	20.0	(.79)	50	96806.0	96806.1
M20x1.5	5.0x11.0	(.20x.43)	20.0	(.79)	50	96807.0	96807.1
M20x1.5	5.0x12.0	(.20x.47)	20.0	(.79)	50	96808.0	96808.1
M20x1.5	6.5x11.0	(.26x.43)	20.0	(.79)	50	96809.0	96809.1
<b>M25x1.5</b>						<b>M25x1.5</b>	<b>M25x1.5</b>
M25x1.5	5.0x10.0	(.20x.39)	25.0	(.98)	50	96810.0	96810.1
M25x1.5	5.0x12.0	(.20x.47)	25.0	(.98)	50	96811.0	96811.1
M25x1.5	5.0x16.0	(.20x.63)	25.0	(.98)	50	96812.0	96812.1
M25x1.5	5.5x14.0	(.22x.55)	25.0	(.98)	50	96813.0	96813.1
M25x1.5	6.0x13.0	(.24x.51)	25.0	(.98)	50	96814.0	96814.1
M25x1.5	7.5x14.0	(.29x.55)	25.0	(.98)	50	96815.0	96815.1
<b>M32x1.5</b>						<b>M32x1.5</b>	<b>M32x1.5</b>
M32x1.5	5.0x17.0	(.20x.67)	32.0	(1.26)	25	96816.0	96816.1
M32x1.5	6.8x10.3	(.27x.41)	32.0	(1.26)	25	96817.0	96817.1
M32x1.5	7.0x18.0	(.28x.71)	32.0	(1.26)	25	96818.0	96818.1

Continued on page 158.



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
M16x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	16.0 (.63)	19.0 (.75)	21.0 (.83)
M20x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	20.0 (.79)	24.0 (.94)	26.5 (1.04)
M25x1.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	25.0 (.98)	29.0 (1.14)	31.5 (1.24)
M32x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	32.0 (1.26)	38.0 (1.50)	42.0 (1.65)

**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

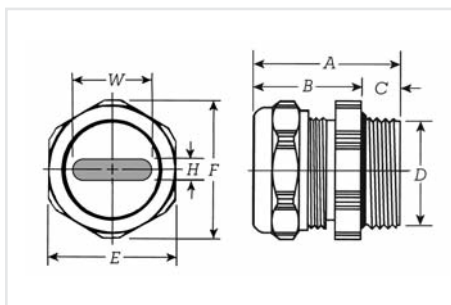
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
<b>M16x1.5</b>	<b>M16x1.5</b>	<b>M16x1.5</b>		<b>M16x1.5</b>	
96800.4	96800.5	96800.6		96800.7	
<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>		<b>M20x1.5</b>	
96801.4	96801.5	96801.6		96801.7	
96802.4	96802.5	96802.6		96802.7	
96803.4	96803.5	96803.6		96803.7	
96804.4	96804.5	96804.6		96804.7	
96805.4	96805.5	96805.6		96805.7	
96806.4	96806.5	96806.6		96806.7	
96807.4	96807.5	96807.6		96807.7	
96808.4	96808.5	96808.6		96808.7	
96809.4	96809.5	96809.6		96809.7	
<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>		<b>M25x1.5</b>	
96810.4	96810.5	96810.6		96810.7	
96811.4	96811.5	96811.6		96811.7	
96812.4	96812.5	96812.6		96812.7	
96813.4	96813.5	96813.6		96813.7	
96814.4	96814.5	96814.6		96814.7	
96815.4	96815.5	96815.6		96815.7	
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>		<b>M32x1.5</b>	
96816.4	96816.5	96816.6		96816.7	
96817.4	96817.5	96817.6		96817.7	
96818.4	96818.5	96818.6		96818.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
M16x1.5	26.0 (1.02)	20.0 (.79)	6.0 (.24)	16.0 (.63)	18.0 (.71)	20.0 (.79)
M20x1.5	26.5 (1.04)	20.0 (.79)	6.5 (.26)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	28.5 (1.42)	21.0 (.83)	7.5 (.30)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)

## Flat Cable – Metric External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

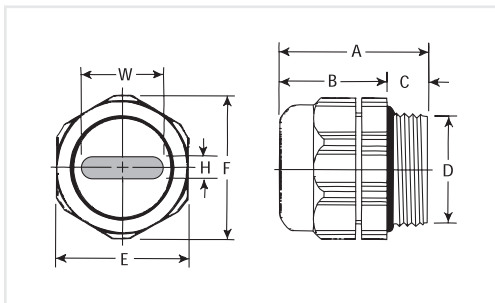
## Polyamide (PA)



With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia mm	(in.)	Std. Pk.	Cat. No.	
						Beige	Black
<b>M40x1.5</b>						<b>M40x1.5</b>	<b>M40x1.5</b>
M40x1.5	6.0x29.0	(.24x1.14)	40.0	(1.57)	10	96819.0	96819.1
M40x1.5	8.0x25.0	(.31x.98)	40.0	(1.57)	10	96820.0	96820.1
M40x1.5	10.0x25.0	(.39x.98)	40.0	(1.57)	10	96821.0	96821.1
M40x1.5	10.0x29.0	(.39x1.14)	40.0	(1.57)	10	96822.0	96822.1
M40x1.5	13.0x28.0	(.51x1.10)	40.0	(1.57)	10	96823.0	96823.1
<b>M50x1.5</b>						<b>M50x1.5</b>	<b>M50x1.5</b>
M50x1.5	5.0x37.0	(.20x1.46)	50.0	(1.97)	10	96824.0	96824.1
M50x1.5	6.0x30.0	(.24x1.18)	50.0	(1.97)	10	96825.0	96825.1
M50x1.5	6.0x36.0	(.24x1.42)	50.0	(1.97)	10	96826.0	96826.1
M50x1.5	8.0x36.0	(.31x1.42)	50.0	(1.97)	10	96827.0	96827.1
M50x1.5	11.0x34.0	(.43x1.34)	50.0	(1.97)	10	96828.0	96828.1
M50x1.5	12.0x35.0	(.47x1.38)	50.0	(1.97)	5	96829.0	96829.1
M50x1.5	10.0x38.0	(.39x1.50)	50.0	(1.97)	5	–	–
M50x1.5	13.0x35.0	(.51x1.38)	50.0	(1.97)	5	–	–
M50x1.5	14.5x37.0	(.57x1.46)	50.0	(1.97)	5	–	–
<b>M63x1.5</b>							
M63x1.5	6.5x47.0	(.26x1.85)	63.0	(2.48)	5	–	–
M63x1.5	9.0x43.0	(.35x1.69)	63.0	(2.48)	5	–	–
M63x1.5	14.5x39.0	(.57x1.54)	63.0	(2.48)	5	–	–
M63x1.5	15.0x45.0	(.59x1.77)	63.0	(2.48)	5	–	–



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
M40x1.5	45.5 (1.79)	34.0 (1.34)	11.5 (.45)	40.0 (1.57)	46.0 (1.81)	50.0 (1.97)
M50x1.5	48.0 (1.89)	34.0 (1.34)	14.0 (.55)	50.0 (1.97)	56.0 (2.20)	61.0 (2.40)

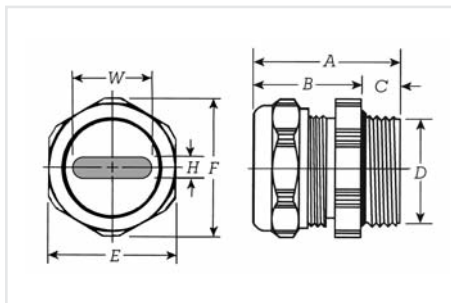
**Polyvinylidene (PVDF)**

**With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert**
**Nickel Plated Brass (NPB)**

**With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert**
**Stainless Steel (SS)**

**With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert**

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>		<b>M40x1.5</b>	
96819.4	96819.5	96819.6		96819.7	
96820.4	96820.5	96820.6		96820.7	
96821.4	96821.5	96821.6		96821.7	
96822.4	96822.5	96822.6		96822.7	
96823.4	96823.5	96823.6		96823.7	
<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>		<b>M50x1.5</b>	
96824.4	96824.5	96824.6		96824.7	
96825.4	96825.5	96825.6		96825.7	
96826.4	96826.5	96826.6		96826.7	
96827.4	96827.5	96827.6		96827.7	
96828.4	96828.5	96828.6		96828.7	
96829.4	96829.5	96829.6		96829.7	
-	-	96831.6		96831.7	
-	-	96832.6		96832.7	
-	-	96833.6		96833.7	
-	-	<b>M63x1.5</b>		<b>M63x1.5</b>	
-	-	96834.6		96834.7	
-	-	96835.6		96835.7	
-	-	96836.6		96836.7	
-	-	96837.6		96837.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
M40x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	38.0 (1.50)	28.0 (1.10)	10.0 (.39)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)
M63x1.5	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	74.0 (2.91)

## Flat Cable – Metric External Thread Oval Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

### Polyamide (PA)

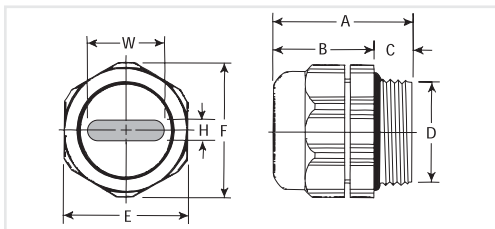


With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia mm	(in.)	Std. Pk.	Cat. No.	
						Beige M10x1.5	Black M10x1.5
<b>M10x1.5</b>							
M10x1.5	1.2x4.0	(.047x.16)	10.0	(.39)	50	–	–
M10x1.5	2.0x4.0	(.079x.16)	10.0	(.39)	50	–	–
<b>M12x1.5</b>						<b>M12x1.5</b>	<b>M12x1.5</b>
M12x1.5	1.2x4.0	(.047x.16)	12.0	(.47)	50	96852.0	96852.1
M12x1.5	2.0x4.0	(.079x.16)	12.0	(.47)	50	96853.0	96853.1
<b>M20x1.5</b>						<b>M20x1.5</b>	<b>M20x1.5</b>
M20x1.5	4.5x7.0	(.18x.28)	20.0	(.79)	50	96854.0	96854.1
M20x1.5	2.5x10.0	(.098x.39)	20.0	(.79)	50	96855.0	96855.1
M20x1.5	5.0x8.0	(.20x.31)	20.0	(.79)	50	96856.0	96856.1
M20x1.5	5.0x12.0	(.20x.47)	20.0	(.79)	50	96857.0	96857.1
M20x1.5	8.0x10.5	(.31x.41)	20.0	(.79)	50	96858.0	96858.1
M20x1.5	6.0x9.1	(.24x.36)	20.0	(.79)	50	96859.0	96859.1
<b>M25x1.5</b>						<b>M25x1.5</b>	<b>M25x1.5</b>
M25x1.5	5.0x7.0	(.20x.28)	25.0	(.98)	50	96860.0	96860.1
M25x1.5	5.0x10.0	(.20x.39)	25.0	(.98)	50	96861.0	96861.1
M25x1.5	5.0x12.0	(.20x.47)	25.0	(.98)	50	96862.0	96862.1
M25x1.5	5.0x15.0	(.20x.59)	25.0	(.98)	50	96863.0	96863.1
M25x1.5	5.5x8.5	(.22x.33)	25.0	(.98)	50	96864.0	96864.1
M25x1.5	6.0x15.0	(.24x.59)	25.0	(.98)	50	96865.0	96865.1
M25x1.5	6.5x16.5	(.26x.65)	25.0	(.98)	50	96866.0	96866.1
M25x1.5	7.0x14.0	(.28x.55)	25.0	(.98)	50	96867.0	96867.1
M25x1.5	8.0x10.5	(.31x.41)	25.0	(.98)	50	96868.0	96868.1
<b>M32x1.5</b>						<b>M32x1.5</b>	<b>M32x1.5</b>
M32x1.5	5.0x16.0	(.20x.63)	32.0	(1.26)	25	96869.0	96869.1
M32x1.5	7.0x16.5	(.28x.65)	32.0	(1.26)	25	96870.0	96870.1
M32x1.5	7.0x20.0	(.28x.79)	32.0	(1.26)	25	96871.0	96871.1

Continued on page 162.



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
M12x1.5	30.0 (1.18)	22.0 (.87)	8.0 (.31)	12.0 (.47)	15.0 (.59)	16.2 (.64)
M20x1.5	31.0 (1.22)	22.0 (.87)	9.0 (.35)	20.0 (.79)	24.0 (.94)	26.5 (1.04)
M25x1.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	25.0 (.98)	29.0 (1.14)	31.5 (1.24)
M32x1.5	38.0 (1.50)	27.0 (1.06)	11.0 (.43)	32.0 (1.26)	38.0 (1.50)	42.0 (1.65)



**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

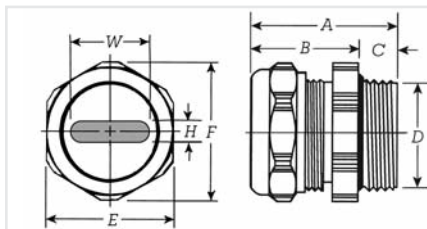
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
-	-	<b>M10x1.5</b>		<b>M10x1.5</b>	
-	-	96850.6		-	
-	-	96851.6		-	
<b>M12x1.5</b>	<b>M12x1.5</b>	<b>M12x1.5</b>		<b>M12x1.5</b>	
96852.4	96852.5	96852.6		96852.7	
96853.4	96853.5	96853.6		96853.7	
<b>M20x1.5</b>	<b>M20x1.5</b>	<b>M20x1.5</b>		<b>M20x1.5</b>	
96854.4	96854.5	96854.6		96854.7	
96855.4	96855.5	96855.6		96855.7	
96856.4	96856.5	96856.6		96856.7	
96857.4	96857.5	96857.6		96857.7	
96858.4	96858.5	96858.6		96858.7	
96859.4	96859.5	96859.6		96859.7	
<b>M25x1.5</b>	<b>M25x1.5</b>	<b>M25x1.5</b>		<b>M25x1.5</b>	
96860.4	96860.5	96860.6		96860.7	
96861.4	96861.5	96861.6		96861.7	
96862.4	96862.5	96862.6		96862.7	
96863.4	96863.5	96863.6		96863.7	
96864.4	96864.5	96864.6		96864.7	
96865.4	96865.5	96865.6		96865.7	
96866.4	96866.5	96866.6		96866.7	
96867.4	96867.5	96867.6		96867.7	
96868.4	96868.5	96868.6		96868.7	
<b>M32x1.5</b>	<b>M32x1.5</b>	<b>M32x1.5</b>		<b>M32x1.5</b>	
96869.4	96869.5	96869.6		96869.7	
96870.4	96870.5	96870.6		96870.7	
96871.4	96871.5	96871.6		96871.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
M10x1.5	24.5 (.96)	19.5 (.77)	5.0 (.20)	10.0 (.39)	14.0 (.55)	15.5 (.61)
M12x1.5	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.0 (.47)	14.0 (.55)	15.5 (.61)
M20x1.5	26.5 (1.04)	20.0 (.79)	6.5 (.26)	20.0 (.79)	22.0 (.87)	24.4 (.96)
M25x1.5	28.5 (1.42)	21.0 (.83)	7.5 (.30)	25.0 (.98)	28.0 (1.10)	31.2 (1.23)
M32x1.5	33.0 (1.30)	25.0 (.98)	8.0 (.31)	32.0 (1.26)	35.0 (1.38)	38.5 (1.52)

## Flat Cable – Metric External Thread Oval Corner Tubular Sealing Insert



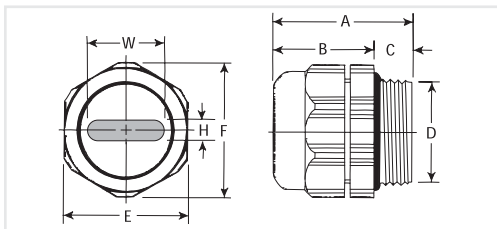
- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque



With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia		Std. Pk.	Cat. No.	
			mm	(in.)		Beige	Black
<b>M40x1.5</b>						<b>M40x1.5</b>	<b>M40x1.5</b>
M40x1.5	4.0x23.0	(.16x.91)	40.0	(1.57)	10	96872.0	96872.1
M40x1.5	10.0x27.0	(.39x1.06)	40.0	(1.57)	10	96873.0	96873.1
<b>M50x1.5</b>						<b>M50x1.5</b>	<b>M50x1.5</b>
M50x1.5	5.5x31.0	(.22x1.06)	50.0	(1.97)	10	96874.0	96874.1
M50x1.5	6.5x32.0	(.26x1.26)	50.0	(1.97)	10	96875.0	96875.1
M50x1.5	11.0x35.0	(.43x1.38)	50.0	(1.97)	10	96876.0	96876.1
M50x1.5	8.0x38.0	(.31x1.50)	50.0	(1.97)	10	–	–
M50x1.5	9.0x38.0	(.35x1.50)	50.0	(1.97)	10	–	–
<b>M63x1.5</b>						<b>M63x1.5</b>	<b>M63x1.5</b>
M63x1.5	9.0x43.0	(.35x1.69)	63.0	(2.48)	5	–	–



**Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene**

Size	A	B	C	D	E	F
M40x1.5	45.5 (1.79)	34.0 (1.34)	11.5 (.45)	40.0 (1.57)	46.0 (1.81)	50.0 (1.97)
M50x1.5	48.0 (1.89)	34.0 (1.34)	14.0 (.55)	50.0 (1.97)	56.0 (2.20)	61.0 (2.40)

**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

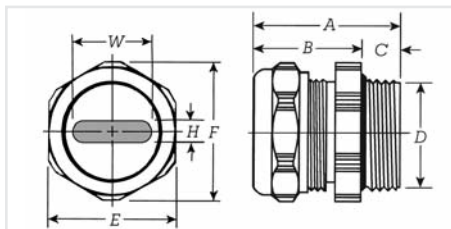
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

	Polyvinylidene (PVDF)	Nickel Plated Brass (NPB)	Stainless Steel (SS)
	Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)
	–	Neoprene (NBR)	Silicone (SIL)
	-40 to 150°C (-40 to 302°F)	-40 to 300°C (-40 to 572°F)	-60 to 500°C (-65 to 932°F)
	-40 to 130°C (-40 to 266°F)	-40 to 130°C (-40 to 266°F)	-40 to 130°C (-40 to 266°F)
	–	-20 to 100°C (-4 to 212°F)	-60 to 200°C (-65 to 392°F)
	Beige	Beige	Beige
	<b>Cat. No.</b>	<b>Cat. No.</b>	<b>Cat. No.</b>
	<b>Opaque</b>		
	<b>M40x1.5</b>	<b>M40x1.5</b>	<b>M40x1.5</b>
	96872.4	96872.5	96872.7
	96873.4	96873.5	96873.7
	<b>M50x1.5</b>	<b>M50x1.5</b>	<b>M50x1.5</b>
	96874.4	96874.5	96874.7
	96875.4	96875.5	96875.7
	96876.4	96876.5	96876.7
	–	–	96877.7
	–	–	96878.7
	–	–	<b>M63x1.5</b>
	–	–	96879.7


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
M40x1.5	33.0 (.30)	25.0 (.98)	8.0 (.31)	40.0 (1.57)	43.0 (1.70)	47.3 (1.86)
M50x1.5	38.0 (1.50)	28.0 (1.10)	10.0 (.39)	50.0 (1.97)	54.0 (2.13)	58.0 (2.28)
M63x1.5	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	74.0 (2.91)

## Flat Cable – PG External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

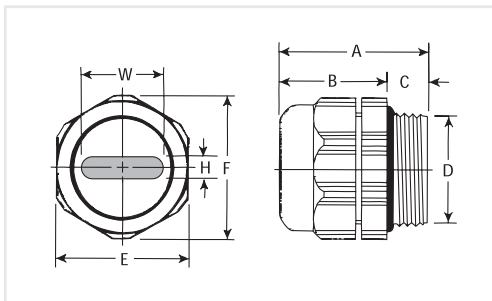


With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia mm (in.)	Std. Pk.	Cat. No.	
					Beige	Black
<b>PG9</b>					<b>PG9</b>	<b>PG9</b>
PG9	3.5x5.5	(.14x.22)	15.2 (.60)	50	21100.0	21100.1
<b>PG11</b>					<b>PG11</b>	<b>PG11</b>
PG11	2.8x10.5	(.11x.41)	18.5 (.73)	50	21101.0	21101.1
PG11	3.5x6.0	(.14x.24)	18.5 (.73)	50	18490.0	18490.1
PG11	3.5x9.0	(.14x.35)	18.5 (.73)	50	21102.0	21102.1
PG11	4.0x6.0	(.16x.24)	18.5 (.73)	50	21103.0	21103.1
<b>PG13.5</b>					<b>PG13.5</b>	<b>PG13.5</b>
PG13.5	3.0x12.0	(.12x.47)	20.5 (.81)	50	21104.0	21104.1
PG13.5	4.5x10.0	(.18x.39)	20.5 (.81)	50	18491.0	18491.1
PG13.5	5.0x11.0	(.20x.43)	20.5 (.81)	50	21105.0	21105.1
PG13.5	5.0x12.0	(.20x.47)	20.5 (.81)	50	18492.0	18492.1
PG13.5	6.5x11.0	(.26x.43)	20.5 (.81)	50	18493.0	18493.1
<b>PG16</b>					<b>PG16</b>	<b>PG16</b>
PG16	5.0x12.0	(.20x.47)	22.5 (.89)	50	21106.0	21106.1
PG16	5.0x16.0	(.20x.63)	22.5 (.89)	50	21107.0	21107.1
PG16	5.5x14.0	(.22x.55)	22.5 (.89)	50	21108.0	21108.1
PG16	6.0x13.0	(.24x.51)	22.5 (.89)	50	18494.0	18494.1
PG16	7.5x14.0	(.29x.55)	22.5 (.89)	50	18495.0	18495.1
<b>PG21</b>					<b>PG21</b>	<b>PG21</b>
PG21	5.0x17.0	(.20x.67)	28.5 (1.12)	25	21109.0	21109.1
PG21	6.8x10.3	(.27x.41)	28.5 (1.12)	25	18496.0	18496.1
PG21	7.0x18.0	(.28x.71)	28.5 (1.12)	25	21110.0	21110.1

Continued on page 166.



#### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
PG9	32.0 (1.26)	23.0 (.91)	9.0 (.35)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	32.0 (1.26)	23.0 (.91)	9.0 (.35)	18.6 (.73)	22.0 (.87)	24.0 (.94)
PG13.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	33.0 (1.30)	23.0 (.91)	9.0 (.35)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	40.0 (1.57)	29.0 (1.14)	11.0 (.43)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)

**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

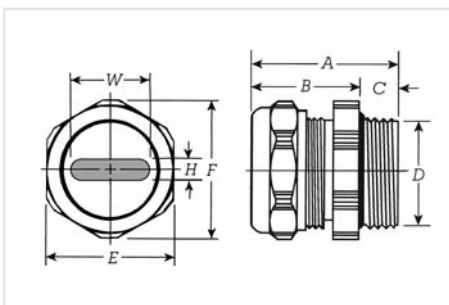
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
<b>PG9</b>	<b>PG9</b>	<b>PG9</b>		<b>PG9</b>	
21100.4	21100.5	21150.6		21150.7	
<b>PG11</b>	<b>PG11</b>	<b>PG11</b>		<b>PG11</b>	
21101.4	21101.5	21151.6		21151.7	
18490.4	18490.5	18490.6		18490.7	
21102.4	21102.5	21152.6		21152.7	
21103.4	21103.5	21153.6		21153.7	
<b>PG13.5</b>	<b>PG13.5</b>	<b>PG13.5</b>		<b>PG13.5</b>	
21104.4	21104.5	21154.6		21154.7	
18491.4	18491.5	18491.6		18491.7	
21105.4	21105.5	21155.6		21155.7	
18492.4	18492.5	18492.6		18492.7	
18493.4	18493.5	18493.6		18493.7	
<b>PG16</b>	<b>PG16</b>	<b>PG16</b>		<b>PG16</b>	
21106.4	21106.5	21156.6		21156.7	
21107.4	21107.5	21157.6		21157.7	
21108.4	21108.5	21158.6		21158.7	
18494.4	18494.5	18494.6		18494.7	
18495.4	18495.5	18495.6		18495.7	
<b>PG21</b>	<b>PG21</b>	<b>PG21</b>		<b>PG21</b>	
21109.4	21109.5	21159.6		21159.7	
18496.4	18496.5	18496.6		18496.7	
21110.4	21110.5	21160.6		21160.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
PG9	26.0 (1.02)	20.0 (.79)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	26.0 (1.02)	20.0 (.79)	6.0 (.24)	18.6 (.73)	20.0 (.79)	22.2 (.87)
PG13.5	27.5 (1.08)	21.0 (.83)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	27.5 (1.08)	21.0 (.83)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	32.0 (1.26)	25.0 (.98)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)

## Flat Cable – PG External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

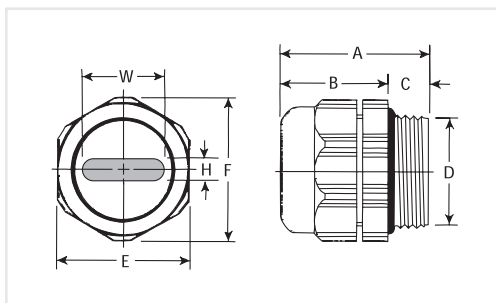
**Polyamide (PA)**



**With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia		Std. Pk.	Cat. No.	
			mm	(in.)		Beige	Black
<b>PG29</b>						<b>PG29</b>	<b>PG29</b>
PG29	6.0x29.0	(.24x1.14)	37.0	(1.46)	10	18497.0	18497.1
PG29	8.0x25.0	(.31x.98)	37.0	(1.46)	10	21113.0	21113.1
PG29	10.0x25.0	(.39x.98)	37.0	(1.46)	10	21114.0	21114.1
PG29	10.0x29.0	(.39x1.14)	37.0	(1.46)	10	18498.0	18498.1
PG29	13.0x28.0	(.51x1.10)	37.0	(1.46)	10	21115.0	21115.1
<b>PG36</b>						<b>PG36</b>	<b>PG36</b>
PG36	5.0x37.0	(.20x1.46)	47.0	(1.85)	10	21116.0	21116.1
PG36	6.0x30.0	(.24x1.18)	47.0	(1.85)	10	18499.0	18499.1
PG36	6.0x36.0	(.24x1.42)	47.0	(1.85)	10	21117.0	21117.1
PG36	8.0x36.0	(.31x1.42)	47.0	(1.85)	10	21118.0	21118.1
PG36	11.0x34.0	(.43x1.34)	47.0	(1.85)	10	21119.0	21119.1
PG36	12.0x35.0	(.47x1.38)	47.0	(1.85)	5	21120.0	21120.1
<b>PG42</b>						–	–
PG42	6.0x38.0	(.24x1.50)	54.0	(2.13)	5	–	–
PG42	10.0x38.0	(.39x1.50)	54.0	(2.13)	5	–	–
PG42	13.0x35.0	(.51x1.38)	54.0	(2.13)	5	–	–
PG42	14.5x37.0	(.57x1.46)	54.0	(2.13)	5	–	–
<b>PG48</b>						–	–
PG48	6.5x47.0	(.26x1.85)	59.5	(2.34)	5	–	–
PG48	9.0x43.0	(.35x1.69)	59.5	(2.34)	5	–	–
PG48	14.5x39.0	(.57x1.54)	59.5	(2.34)	5	–	–
PG48	15.0x45.0	(.59x1.77)	59.5	(2.34)	5	–	–



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
PG29	44.0 (1.73)	33.0 (1.30)	11.0 (.55)	37.0 (1.46)	43.0 (1.69)	46.5 (1.83)
PG36	47.0 (1.85)	33.0 (1.30)	14.0 (.55)	47.0 (1.85)	53.0 (2.09)	57.0 (2.24)

**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

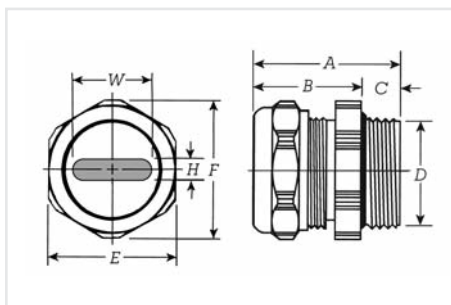
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
 Rounded Corner Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>	<b>PG29</b>	<b>PG29</b>	<b>PG29</b>	<b>PG29</b>
18497.4	18497.5	18497.6	18497.5	18497.7	18497.6
21113.4	21113.5	21163.6	21113.5	21163.7	21163.6
21114.4	21114.5	21164.6	21114.5	21164.7	21164.6
18498.4	18498.5	18498.6	18498.5	18498.7	18498.6
21115.4	21115.5	21165.6	21115.5	21165.7	21165.6
<b>PG36</b>	<b>PG36</b>	<b>PG36</b>	<b>PG36</b>	<b>PG36</b>	<b>PG36</b>
21116.4	21116.5	21166.6	21116.5	21166.7	21166.6
18499.4	18499.5	18499.6	18499.5	18499.7	18499.6
21117.4	21117.5	21167.6	21117.5	21167.7	21167.6
21118.4	21118.5	21168.6	21118.5	21168.7	21168.6
21119.4	21119.5	21169.6	21119.5	21169.7	21169.6
21120.4	21120.5	21170.6	21120.5	21170.7	21170.6
-	-	<b>PG42</b>	<b>PG42</b>	<b>PG42</b>	<b>PG42</b>
-	-	18500.6	18500.5	18500.7	18500.6
-	-	21171.6	21171.5	21171.7	21171.6
-	-	21172.6	21172.5	21172.7	21172.6
-	-	21173.6	21173.5	21173.7	21173.6
-	-	<b>PG48</b>	<b>PG48</b>	<b>PG48</b>	<b>PG48</b>
-	-	21174.6	21174.5	21174.7	21174.6
-	-	21175.6	21175.5	21175.7	21175.6
-	-	21176.6	21176.5	21176.7	21176.6
-	-	21177.6	21177.5	21177.7	21177.6


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
PG29	35.0 (1.38)	27.0 (1.06)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)
PG36	37.0 (1.46)	28.0 (1.10)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)
PG42	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	54.0 (2.13)	57.0 (2.24)	61.0 (2.40)
PG48	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	59.3 (2.33)	64.0 (2.52)	69.0 (2.72)

## Flat Cable – PG External Thread Oval Corner Tubular Sealing Insert

Polyamide (PA)



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

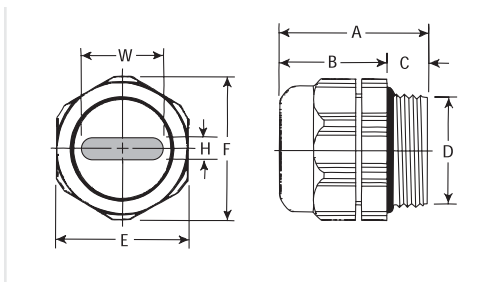


With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia		Std. Pk.	Cat. No.	
			mm	(in.)		Beige	Black
<b>PG7</b>						<b>PG7</b>	<b>PG7</b>
PG7	1.2x4.0	(.047x.16)	12.5	(.49)	50	18430.0	18430.1
PG7	2.0x4.0	(.079x.16)	12.5	(.49)	50	18431.0	18431.1
<b>PG11</b>						<b>PG11</b>	<b>PG11</b>
PG11	4.5x7.0	(.18x.28)	18.5	(.73)	50	18432.0	18432.1
<b>PG13.5</b>						<b>PG13.5</b>	<b>PG13.5</b>
PG13.5	2.5x10.0	(.098x.39)	20.5	(.81)	50	18433.0	18433.1
PG13.5	5.0x8.0	(.20x.31)	20.5	(.81)	50	21131.0	21131.1
PG13.5	5.0x12.0	(.20x.47)	20.5	(.81)	50	21132.0	21132.1
PG13.5	8.0x10.5	(.31x.41)	20.5	(.81)	50	18434.0	18434.1
PG13.5	6.0x9.1	(.24x.36)	20.5	(.81)	50	18435.0	18435.1
<b>PG16</b>						<b>PG16</b>	<b>PG16</b>
PG16	5.0x7.0	(.20x.28)	22.5	(.89)	50	18436.0	18436.1
PG16	5.0x10.0	(.20x.39)	22.5	(.89)	50	18437.0	18437.1
PG16	5.0x12.0	(.20x.47)	22.5	(.89)	50	21133.0	21133.1
PG16	5.0x15.0	(.20x.59)	22.5	(.89)	50	21134.0	21134.1
PG16	5.5x8.5	(.22x.33)	22.5	(.89)	50	21135.0	21135.1
PG16	6.0x15.0	(.24x.59)	22.5	(.89)	50	21136.0	21136.1
PG16	6.5x16.5	(.26x.65)	22.5	(.89)	50	18438.0	18438.1
PG16	7.0x14.0	(.28x.55)	22.5	(.89)	50	21137.0	21137.1
PG16	8.0x10.5	(.31x.41)	22.5	(.89)	50	18439.0	18439.1
<b>PG21</b>						<b>PG21</b>	<b>PG21</b>
PG21	5.0x16.0	(.20x.63)	28.5	(1.12)	25	21138.0	21138.1
PG21	7.0x16.5	(.28x.65)	28.5	(1.12)	25	21139.0	21139.1
PG21	7.0x20.0	(.28x.79)	28.5	(1.12)	25	21140.0	21140.1

Continued on page 170.



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
PG7	31.0 (1.22)	23.0 (.91)	8.0 (.31)	12.5 (.49)	15.0 (.59)	16.5 (.65)
PG9	32.0 (1.26)	23.0 (.91)	9.0 (.35)	15.2 (.60)	19.0 (.75)	21.2 (.83)
PG11	32.0 (1.26)	23.0 (.91)	9.0 (.35)	18.6 (.73)	22.0 (.87)	24.0 (.94)
PG13.5	32.0 (1.26)	23.0 (.91)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.5 (1.04)
P16	33.0 (1.30)	23.0 (.91)	9.0 (.35)	22.5 (.89)	27.0 (1.06)	29.5 (1.16)
PG21	40.0 (1.57)	29.0 (1.14)	11.0 (.43)	28.3 (1.14)	33.0 (1.30)	36.5 (1.44)



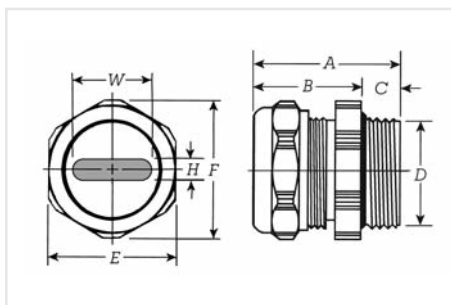
**Polyvinylidene (PVDF)**

**With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert**
**Nickel Plated Brass (NPB)**

**With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert**
**Stainless Steel (SS)**

**With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert**

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-20 to 100°C (-4 to 212°F)				-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
<b>PG7</b>	<b>PG7</b>	<b>PG7</b>		<b>PG7</b>	
18430.4	18430.5	18430.6		18430.7	
18431.4	18431.5	18431.6		18431.7	
<b>PG11</b>	<b>PG11</b>	<b>PG11</b>		<b>PG11</b>	
18432.4	18432.5	18432.6		18432.7	
<b>PG13.5</b>	<b>PG13.5</b>	<b>PG13.5</b>		<b>PG13.5</b>	
18433.4	18433.5	18433.6		18433.7	
21131.4	21131.5	21181.6		21181.7	
21132.4	21132.5	21182.6		21182.7	
18434.4	18434.5	18434.6		18434.7	
18435.4	18435.5	18435.6		18435.7	
<b>PG16</b>	<b>PG16</b>	<b>PG16</b>		<b>PG16</b>	
18436.4	18436.5	18436.6		18436.7	
18437.4	18437.5	18437.6		18437.7	
21133.4	21133.5	21183.6		21183.7	
21134.4	21134.5	21184.6		21184.7	
21135.4	21135.5	21185.6		21185.7	
21136.4	21136.5	21186.6		21186.7	
18438.4	18438.5	18438.6		18438.7	
21137.4	21137.5	21187.6		21187.7	
18439.4	18439.5	18439.6		18439.7	
<b>PG21</b>	<b>PG21</b>	<b>PG21</b>		<b>PG21</b>	
21138.4	21138.5	21188.6		21188.7	
21139.4	21139.5	21189.6		21189.7	
21140.4	21140.5	21190.6		21190.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
PG7	25.0 (.98)	20.0 (.79)	5.0 (.20)	12.5 (.49)	14.0 (.55)	15.5 (.61)
PG9	26.0 (1.02)	20.0 (.79)	6.0 (.24)	15.2 (.60)	17.0 (.67)	18.9 (.74)
PG11	26.0 (1.02)	20.0 (.79)	6.0 (.24)	18.6 (.73)	20.0 (.79)	22.2 (.87)
PG13.5	27.5 (1.08)	21.0 (.83)	6.5 (.26)	20.4 (.80)	22.0 (.87)	24.4 (.96)
PG16	27.5 (1.08)	21.0 (.83)	6.5 (.26)	22.5 (.89)	24.0 (.94)	26.7 (1.05)
PG21	32.0 (1.26)	25.0 (.98)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)	33.5 (1.32)

**Flat Cable –  
PG External Thread  
Oval Corner Tubular Sealing Insert**



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Silicone Seal Rings Factory Installed on Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Beige, Black or Opaque

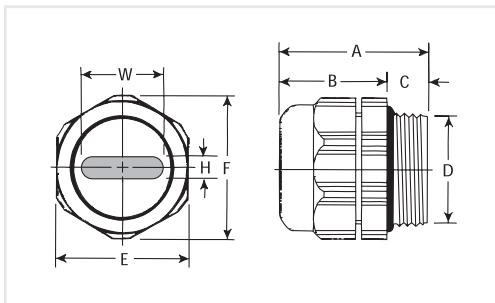
**Polyamide (PA)**



**With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert**

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Mtg. Hole Dia		Std. Pk.	Cat. No.	
			mm	(in.)		Beige	Black
<b>PG29</b>							
PG29	4.0x23.0	(.16x.91)	37.0	(1.46)	10	18440.0	18440.1
PG29	10.0x27.0	(.39x1.06)	37.0	(1.46)	10	21141.0	21141.1
<b>PG36</b>							
PG36	5.5x31.0	(.22x1.06)	47.0	(1.85)	10	18441.0	18441.1
PG36	6.5x32.0	(.26x1.26)	47.0	(1.85)	10	21142.0	21142.1
PG36	11.0x35.0	(.43x1.38)	47.0	(1.85)	10	21143.0	21143.1
<b>PG42</b>							
PG42	8.0x38.0	(.31x1.50)	54.0	(2.13)	5	–	–
PG42	9.0x38.0	(.35x1.50)	54.0	(2.13)	5	–	–
<b>PG48</b>							
PG48	9.0x43.0	(.35x1.69)	59.5	(2.34)	5	–	–



**Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene**

Size	A	B	C	D	E	F
PG29	44.0 (1.73)	33.0 (1.30)	11.0 (.55)	37.0 (1.46)	43.0 (1.69)	46.5 (1.83)
PG36	47.0 (1.85)	33.0 (1.30)	14.0 (.55)	47.0 (1.85)	53.0 (2.09)	57.0 (2.24)

**Polyvinylidene (PVDF)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

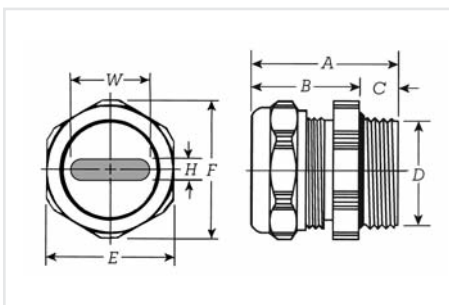
**Nickel Plated Brass (NPB)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

**Stainless Steel (SS)**

 With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Polyvinylidene (PVDF)		Nickel Plated Brass (NPB)		Stainless Steel (SS)	
Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)		Thermoplastic Elastomer (TPE)	
-		Neoprene (NBR)		Silicone (SIL)	
-40 to 150°C (-40 to 302°F)		-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)	
-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)		-40 to 130°C (-40 to 266°F)	
-		-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 392°F)	
Beige		Beige		Beige	
<b>Cat. No.</b>		<b>Cat. No.</b>		<b>Cat. No.</b>	
<b>Opaque</b>	<b>Black</b>				
<b>PG29</b>	<b>PG29</b>	<b>PG29</b>		<b>PG29</b>	
18440.4	18440.5	18440.6		18440.7	
21141.4	21141.5	21191.6		21191.7	
<b>PG36</b>	<b>PG36</b>	<b>PG36</b>		<b>PG36</b>	
18441.4	18441.5	18441.6		18441.7	
21142.4	21142.5	21192.6		21192.7	
21143.4	21143.5	21193.6		21193.7	
-	-	<b>PG42</b>		<b>PG42</b>	
-	-	18442.6		18442.7	
-	-	21195.6		21195.7	
-	-	<b>PG48</b>		<b>PG48</b>	
-	-	18443.6		18443.7	


**Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel**

Size	A	B	C	D	E	F
PG29	35.0 (1.38)	27.0 (1.06)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)	43.5 (1.71)
PG36	37.0 (1.46)	28.0 (1.10)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)	54.0 (2.24)
PG42	40.0 (1.57)	30.0 (1.18)	10.0 (.39)	54.0 (2.13)	57.0 (2.24)	61.0 (2.40)
PG48	40.0 (1.57)	30.0 (1.18)	10.5 (.39)	59.3 (2.33)	64.0 (2.52)	69.0 (2.72)

## Flat Cable – NPT External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Opaque or Black

## Polyvinylidene (PA)

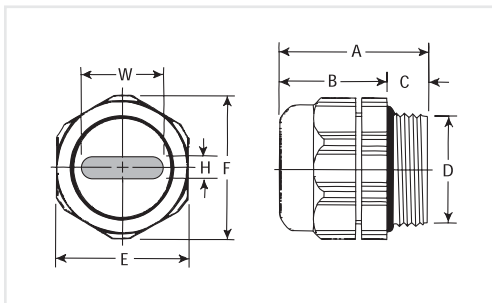


### With Thermoplastic Elastomer (TPE) Rounded Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Std. Pk.	Cat. No.	
				Opaque	Black
<b>NPT3/8"</b>				<b>NPT3/8"</b>	<b>NPT3/8"</b>
NPT3/8"	2.8x10.5	(.11x.41)	50	18510.4	18510.5
NPT3/8"	3.5x6.0	(.14x.24)	50	18511.4	18511.5
NPT3/8"	3.5x9.0	(.14x.35)	50	18512.4	18512.5
NPT3/8"	4.0x6.0	(.16x.24)	50	18513.4	18513.5
<b>NPT1/2"</b>				<b>NPT1/2"</b>	<b>NPT1/2"</b>
NPT1/2"	5.0x12.0	(.20x.47)	50	18514.4	18514.5
NPT1/2"	5.0x16.0	(.20x.63)	50	18515.4	18515.5
NPT1/2"	5.5x14.0	(.22x.55)	50	18516.4	18516.5
NPT1/2"	6.0x13.0	(.24x.51)	50	18517.4	18517.5
NPT1/2"	7.5x14.0	(.29x.55)	50	18518.4	18518.5
<b>NPT3/4"</b>				<b>NPT3/4"</b>	<b>NPT3/4"</b>
NPT3/4"	5.0x17.0	(.20x.67)	25	18519.4	18519.5
NPT3/4"	6.8x10.3	(.27x.41)	25	18520.4	18520.5
NPT3/4"	7.0x18.0	(.28x.71)	25	18521.4	18521.5
<b>NPT1"</b>				<b>NPT1"</b>	<b>NPT1"</b>
NPT1"	6.0x29.0	(.24x1.14)	10	–	–
NPT1"	8.0x25.0	(.31x.98)	10	–	–
NPT1"	10.0x25.0	(.39x.98)	10	–	–
NPT1"	10.0x29.0	(.39x1.14)	10	–	–
NPT1"	13.0x28.0	(.51x1.10)	10	–	–

Continued on page 174.



### Cord Grip Dimensions: mm (in.) Polyvinylidene

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)

## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Thermoplastic Elastomer (TPE)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-40 to 130°C (-40 to 266°F)  
-20 to 100°C (-4 to 212°F)

Beige

**Cat. No.**

**NPT3/8"**

18510.6  
18511.6  
18512.6  
18513.6

**NPT1/2"**

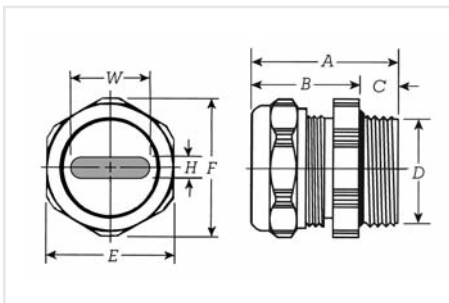
18514.6  
18515.6  
18516.6  
18517.6  
18518.6

**NPT3/4"**

18519.6  
18520.6  
18521.6

**NPT1"**

18522.6  
18523.6  
18524.6  
18525.6  
18526.6



**Cord Grip Dimensions: mm (in.) Nickel Plated Brass**

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)

## Flat Cable – NPT External Thread

### Rounded Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Opaque or Black

## Polyvinylidene (PA)



With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
<b>Temperature Range</b>	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Std. Pk.	Cat. No.	
				Opaque	Black
<b>NPT1-1/4"</b>				–	–
NPT1-1/4"	5.0x37.0	(.20x1.46)	10	–	–
NPT1-1/4"	6.0x30.0	(.24x1.18)	10	–	–
NPT1-1/4"	6.0x36.0	(.24x1.42)	10	–	–
NPT1-1/4"	8.0x36.0	(.31x1.42)	10	–	–
NPT1-1/4"	11.0x34.0	(.43x1.34)	10	–	–
NPT1-1/4"	12.0x35.0	(.47x1.38)	5	–	–
<b>NPT1-1/2"</b>				–	–
NPT1-1/2"	6.0x38.0	(.24x1.50)	5	–	–
NPT1-1/2"	10.0x38.0	(.39x1.50)	5	–	–
NPT1-1/2"	13.0x35.0	(.51x1.38)	5	–	–
NPT1-1/2"	14.5x37.0	(.57x1.46)	5	–	–
<b>NPT2"</b>				–	–
NPT2"	6.5x47.0	(.26x1.85)	5	–	–
NPT2"	9.0x43.0	(.35x1.69)	5	–	–
NPT2"	14.5x39.0	(.57x1.54)	5	–	–
NPT2"	15.0x45.0	(.59x1.77)	5	–	–

## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Rounded Corner Tubular Sealing Insert

Nickel Plated Brass (NPB)  
Thermoplastic Elastomer (TPE)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-40 to 130°C (-40 to 266°F)  
-20 to 100°C (-4 to 212°F)

Beige

**Cat. No.**

**NPT1-1/4"**

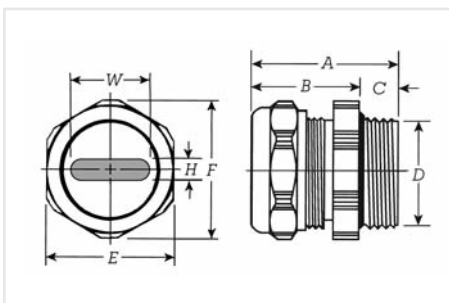
18527.6  
18528.6  
18529.6  
18530.6  
18531.6  
18532.6

**NPT1-1/2"**

18533.6  
18534.6  
18535.6  
18536.6

**NPT2"**

18537.6  
18538.6  
18539.6  
18540.6



**Cord Grip Dimensions: mm (in.) Nickel Plated Brass**

Size	A	B	C	D	E	F
NPT1-1/4"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	42.2 (1.66)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	62.0 (2.44)	40.0 (1.57)	22.0 (.87)	48.3 (1.90)	57.0 (2.24)	61.0 (2.40)
NPT2"	65.0 (2.56)	40.0 (1.57)	25.0 (.98)	60.3 (2.38)	64.0 (2.52)	69.0 (2.72)

## Flat Cable – NPT External Thread Oval Corner Tubular Sealing Insert



- Protection Rating: IP65; NEMA 3
- Neoprene Seal Rings Factory Installed on Nickel Plated Brass Cord Grips
- Order Seal Rings Separately for Polyamide & Polyvinylidene Cord Grips
- Order Locknuts Separately
- Standard Colors: Opaque or Black

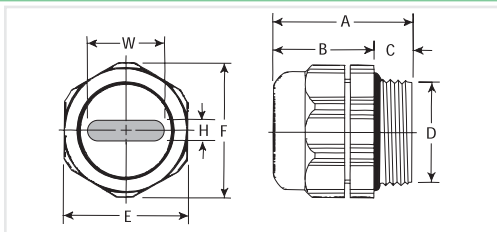
Polyvinylidene (PA)



With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

Material Specifications	
<b>Body</b>	Polyvinylidene (PVDF)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	–
Temperature Range	
<b>Body</b>	-40 to 150°C (-40 to 302°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	–
<b>Insert Color</b>	Beige

Size	Cable Dia. mm	HxW (in.)	Std. Pk.	Cat. No.	
				Opaque	Black
<b>NPT3/8"</b>				<b>NPT3/8"</b>	<b>NPT3/8"</b>
NPT3/8"	4.5x7.0	(.18x.28)	50	18450.4	18450.5
<b>NPT1/2"</b>				<b>NPT1/2"</b>	<b>NPT1/2"</b>
NPT1/2"	5.0x7.0	(.20x.28)	50	18451.4	18451.5
NPT1/2"	5.0x10.0	(.20x.39)	50	18452.4	18452.5
NPT1/2"	5.0x12.0	(.20x.47)	50	18453.4	18453.5
NPT1/2"	5.0x15.0	(.20x.59)	50	18454.4	18454.5
NPT1/2"	5.5x8.5	(.22x.33)	50	18455.4	18455.5
NPT1/2"	6.0x15.0	(.24x.59)	50	18456.4	18456.5
NPT1/2"	6.5x16.5	(.26x.65)	50	18457.4	18457.5
NPT1/2"	7.0x14.0	(.28x.55)	50	18458.4	18458.5
NPT1/2"	8.0x10.5	(.31x.41)	50	18459.4	18459.5
<b>NPT3/4"</b>				<b>NPT3/4"</b>	<b>NPT3/4"</b>
NPT3/4"	5.0x16.0	(.20x.63)	25	18460.4	18460.5
NPT3/4"	7.0x16.5	(.28x.65)	25	18461.4	18461.5
NPT3/4"	7.0x20.0	(.28x.79)	25	18462.4	18462.5
<b>NPT1"</b>				–	–
NPT1"	4.0x23.0	(.16x.91)	10	–	–
NPT1"	10.0x27.0	(.39x1.06)	10	–	–
<b>NPT1-1/4"</b>				–	–
NPT1-1/4"	5.5x31.0	(.22x1.22)	10	–	–
NPT1-1/4"	6.5x32.0	(.26x1.26)	10	–	–
NPT1-1/4"	11.0x35.0	(.43x1.38)	10	–	–
<b>NPT1-1/2"</b>				–	–
NPT1-1/2"	8.0x38.0	(.31x1.50)	5	–	–
NPT1-1/2"	9.0x38.0	(.35x1.50)	5	–	–
<b>NPT2"</b>				–	–
NPT2"	9.0x43.0	(.35x1.69)	5	–	–



### Cord Grip Dimensions: mm (in.) Polyamide & Polyvinylidene

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)



## Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE)  
Oval Corner Tubular Sealing Insert

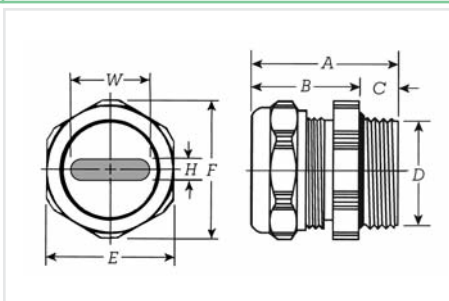
Nickel Plated Brass (NPB)  
Thermoplastic Elastomer (TPE)  
Neoprene (NBR)

-40 to 300°C (-40 to 572°F)  
-40 to 130°C (-40 to 266°F)  
-20 to 100°C (-4 to 212°F)

Beige

### Cat. No.

- NPT3/8"**  
18450.6
- NPT1/2"**  
18451.6  
18452.6  
18453.6  
18454.6  
18455.6  
18456.6  
18457.6  
18458.6  
18459.6
- NPT3/4"**  
18460.6  
18461.6  
18462.6
- NPT1"**  
18463.6  
18464.6
- NPT1-1/4"**  
18465.6  
18466.6  
18467.6
- NPT1-1/2"**  
18469.6  
18470.6
- NPT2"**  
18471.6



### Cord Grip Dimensions: mm (in.) Nickel Plated Brass & Stainless Steel

Size	A	B	C	D	E	F
NPT3/8"	41.0 (1.61)	28.0 (1.10)	13.0 (.51)	17.2 (.68)	20.0 (.79)	22.2 (.87)
NPT1/2"	44.0 (1.73)	28.0 (1.10)	16.0 (.63)	21.3 (.84)	24.0 (.94)	26.7 (1.05)
NPT3/4"	50.0 (1.97)	34.0 (1.34)	16.0 (.63)	26.7 (1.05)	30.0 (1.18)	33.5 (1.32)
NPT1"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	33.3 (1.31)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	58.0 (2.28)	38.0 (1.50)	20.0 (.79)	42.2 (1.66)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	62.0 (2.44)	40.0 (1.57)	22.0 (.87)	48.3 (1.90)	57.0 (2.24)	61.0 (2.40)
NPT2"	65.0 (2.56)	40.0 (1.57)	25.0 (.98)	60.3 (2.38)	64.0 (2.52)	69.0 (2.72)

## High Performance TOR-SPRING™ EMI/RFI Cord Grips

### The Importance of Meeting EMC Requirements

When specifying and designing today's electronic control and data acquisition systems, consideration must be given to Electromagnetic Compatibility (EMC).

If not properly addressed, electromagnetic interference can distort and impair the efficiency of signal and data transmission which in turn can adversely affect monitoring and control functions. The end result is disrupted production, costly downtime, inconsistent or substandard material quality and even dangerous accidents.

Additionally, all electronic and electrical products, devices and equipment exported to the European Community (EC) must now be in strict compliance with EMC Directive 89/1336/EEC which sets requirements for electromagnetic emissions and immunity.

US National EMC Requirements include ANSI/IEEE 1101.10, which is harmonized with the EMC Directive 89/336/EEC, must also be considered and satisfied.

For these reasons, ignoring EMC Guidelines or falling short of EMC Design Objectives is not an option for today's system and product designers.

### Key Elements of Effective EMC Design

In addition to selecting and using the properly shielded control and data cabling, control components and electronic equipment should be housed within a structure that provides sufficient EMI/FRI isolation.

At the locations where shielded signal and data cables will penetrate an enclosure, housing, compartment or panel, the cable shields must be properly grounded to the structure in order to provide the necessary EMI/RFI Protection. Additionally, cable openings must be effectively attenuated to prevent EMI/RFI Emissions from escaping containment.

Over the years, special design EMI/RFI Cord Grips have been developed and used successfully to meet these EMC Requirements.

## TOR-SPRING - A Breakthrough In EMI/RFI Cord Grip Design and Installation

Original EMI/RFI Cord Grip designs feature one or more internal metal rings to which the cable's braided shield is attached. Because the braided shield must be cut, removed and then carefully positioned around or between these rings, the EMI/RFI Performance of field installed Cord Grips have been inconsistent and dependent on the installer's experience, skill level and willingness to follow installation instructions.

CONTA-CLIP's new TOR-SPRING Cord Grips have been especially developed to eliminate the installation and performance uncertainties associated with traditional design EMI/RFI Cord Grips. Their advanced design represents a significant technological breakthrough overcoming all installation shortcomings associated with traditional ring design Cord Grips, while providing more consistent EMI/RFI Performance.

### Installation of TOR-SPRING Cord Grips

CONTA-CLIP's unique TOR-SPRING EMI/RFI Cord Grip design featuring the toroidal spring/tapered ring principle ensures a controlled and precise installation onto shielded cables. Installation is simplified and installation time is significantly reduced because only the cable jacket needs to be cut and removed at the Cord Grip attachment point. The cable's braided shield remains intact and is eliminated from the installation procedure. Since the braided shield extends to the termination point, continuous EMI/RFI Performance is guaranteed.



## Why use TOR-SPRING™ EMI/RFI Cord Grips?

As a designer and specifier of today's sophisticated electronic control systems and automation products, it is your responsibility to ensure that your designs will perform as intended. Subsequently, it is extremely important that the EMC Integrity of your design be maintained. If the EMC requirements are not addressed head on and incorporated into your design and planning from the very beginning, it could jeopardize the efficiency and the ultimate operational capability of your system, product or process.

Faced with this possibility, it is necessary for you to identify and employ any product which could eliminate the disruptive and damaging effects of electromagnetic radiation and thereby increase the reliability and enhance the EMC performance of your design.

Besides helping to satisfy EMC Requirements, as well as comply with national and international EMC Guidelines, use of TOR-SPRING Cord Grips will provide you with a high degree of confidence that planned shielding performance will be realized on each and every application.

In summary, TOR-SPRING Cord Grips can provide an additional level of assurance that your overall design objectives will be reached. And, the system or product will function exactly as planned while the EMC Performance attained will be repeatable and unaffected by installation variables beyond your control.

### TOR-SPRING EMI/RFI Cord Grip Advantages

#### Specific Technical Advantages include:

- Consistent and Repeatable EMI/RFI Performance Independent of Installer's Methods/Practices
- Continuous EMI/RFI Performance to the Termination Point Ensures System EMC Integrity
- Eliminates Secondary Shielding Requirement from the Cord Grip Attachment Point to the Termination Point
- Full, 360° EMI/RFI Protection around Cable, No Possibility of Unshielded Sectors
- Simplified, Time Saving Installation
- Works with Braided or Foil Shields
- Lower Installation Costs
- Liquid-Tight Seal
- Strain Relief

### TOR-SPRING EMI/RFI Cord Grip Applications

**TOR-SPRING Cord Grips have found widespread use in Industrial, Marine, Petro-Chemical, Automotive, Aerospace and Medical Markets. Specific applications include:**

- Industrial Process Controls
- Instrumentation
- Machine Tools
- CNC Machine Centers
- Sensor Measuring, Monitoring, Control
- Security and Access Control
- Automation Equipment
- Drive and Motor Control
- Material Handling Systems
- PC and PLC Control
- Test and Measurement
- Data Processing Equipment

**Use TOR-SPRING EMI/RFI Cord Grips anywhere shielded cable penetrations will be made and where electromagnetic emissions and immunity are a design requirement.**

- Enclosures
- Housings
- Equipment Racks
- Compartments
- Instrument Cases
- Control Panels
- Marshalling Cabinets
- Operator Interfaces
- Consoles

### TOR-SPRING EMI/RFI Cord Grip Construction

**The highest quality materials have been selected and used for the manufacture of High Performance TOR-SPRING Cord Grips. This ensures a precision design and rugged construction resulting in superior performance, reliability and a long life expectancy.**

Body:	Nickel Plated Brass (NPB)	Inserts:	Thermoplastic Elastomer (TPE) or Thermoplastic Elastomer Cross Linked (TPE-V)
Dome Nut:	Nickel Plated Brass (NPB)	Seal Ring:	Perbunan (PRB)
Toroidal Spring:	Special Spring Steel Alloy	External Thread:	Metric, PG and NPT
Tapered Rings:	Nickel Plated Brass (NPB)		

## High Performance TOR-SPRING™ EMI/RFI Cord Grips

### How TOR-SPRING Cord Grips Work

The key features of TOR-SPRING Cord Grips are a unique Toroidal Spring, which is made using advanced manufacturing methods and two (2) precision machined Tapered Retaining Rings. The Toroidal Spring is positioned between the Retaining Rings and when the Dome Nut is tightened, the Cord Grip's Insert presses the Tapered Rings together, altering the shape of the Toroidal Spring and forcing it against the circumference of the Braided Shield (See Figure #2). This action places the spring in direct contact with the shield around its entire circumference, providing full 360° EMI/RFI Protection of the cable. Because the Tapered Rings are in direct contact with the Cord Grip Body, a continuous low resistance, ground connection is made from the cable shield to the enclosure/housing structure.

Lastly, because the cable's Braided Shield does not have to be cut and removed when installing TOR-SPRING Cord Grips, it provides continuous EMI/RFI shielding from the Cord Grip attachment point to the internal termination point. This condition eliminates the need for specification and installation of time consuming and costly secondary shielding for this length of cabling.

**Note:** Secondary shielding is an extremely critical requirement when using traditional design EMI/RFI Cord Grips because unshielded control and data cabling inside an enclosure/housing can be directly affected by the harmful electromagnetic emissions contained within the structure. Subsequently, the entire system's EMC integrity could be compromised if this run of cabling remains unshielded.

### TOR-SPRING Cord Grip Shielding Principle

Tightening the Dome Nut (1) causes the Cord Grip Insert (2) to press against the Tapered Rings (5A and 5B), which in turn alters the shape of the Toroidal Spring (6) forcing it against the circumference of the cable's Braided Shield (see Figures #1 and #2). The resulting continuous ground

potential is provided to the enclosure/housing from the Braided Shield through the Toroidal Spring and Tapered Rings to the Cord Grip Body which is secured to the structure by a Locknut.

### TOR-SPRING Cord Grip Components

1. Dome Nut
2. Insert
3. Body
4. Seal Ring
5. Tapered Rings
6. Toroidal Spring

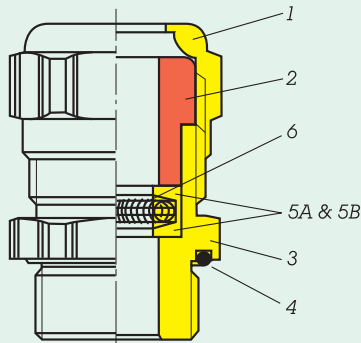
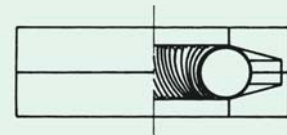


Figure 1

As Dome Nut is tightened, Toroidal Spring deforms, Tapered Rings close



When Dome Nut is loose, Tapered Rings are open, Toroidal Spring unchanged

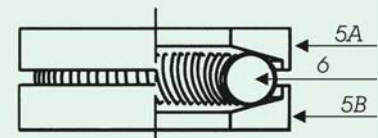


Figure 2

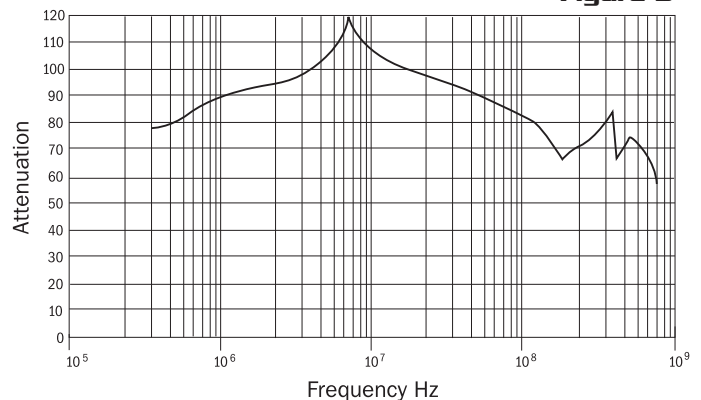
### TOR-SPRING Cord Grip EMI/RFI Shielding Performance

When properly installed, traditional ring design Cord Grips provide acceptable EMI/RFI Shielding Performance. Conversely, when installation instructions are overlooked or not followed closely and an improper installation occurs, shielding attenuation values are subject to significant variation and in some cases can be inadequate.

Because the design of TOR-SPRING Cord Grips is based on the toroidal spring/tapered ring principle that involves a simplified, modern installation method, EMI/RFI Performance is not influenced by installation variables.

The TOR-SPRING Cord Grip's shielding attenuation results are extremely consistent and repeatable from installation to installation. This predictability affords the designer confidence that planned control of EMI/RFI Interference will be realized.

Figure 3



A representative example of the TOR-SPRING Cord Grip's excellent shielding characteristics is found in the graphical attenuation data presented in Figure #3 (above).

## Selecting TOR-SPRING™ EMI/RFI Cord Grips

To begin selection and specification of TOR-SPRING EMI/RFI Cord Grips, first determine and define the following requirements for each application:

- Cable Jacket's Outer Diameter
- Braided Shield's Outer Diameter
- Cable Entry, Opening Thread Type/Size (When Pre-Determined)
- Enclosure/Housing Wall Thickness
- Environmental Factors and Conditions, i.e., Indoor/Outdoor Use, Temperature Range, Presence of Chemicals, Vapors, and Gases

### Selection Options

TOR-SPRING EMI/RFI Cord Grips are offered in Metric, PG and NPT Thread Types in a wide range of sizes. Metric and PG Type EMI/RFI Cord Grips are available with TPE or TPE-V Insert materials and body styles. NPT style EMI/RFI Cord Grips feature TPE inserts and one standard body style. These selection options provide the capability to optimize an EMI/RFI Cord Grip's configuration to suit an application's particular design requirement.

## How to Select/Specify TOR-SPRING Cord Grips

Follow these 7 easy steps to correctly select and specify EMI/RFI TOR-SPRING Cord Grips

1. Obtain the outside diameter of the Cable Jacket and Braided Shield from either the cable manufacturer or by taking measurements from the actual cable to be used.
2. Choose the Insert Material, either Thermoplastic Elastomer (TPE) or Thermoplastic Elastomer Cross Linked (TPE-V) best suited for your application. **Note:** NPT sizes are only available with TPE Inserts.
3. Based upon the application's requirements, determine the Cord Grip's External Thread type, size and length needed. Body size, external thread length and other relevant dimensions for metric, PG and NPT sizes are found on the ordering pages. Metric and PG size EMI/RFI Cord Grips are available in three distinct body styles: Compact, Heavy Duty and Enlarged NPT EMI/RFI Cord Grips are offered in one body style similar to Compact but with longer External Thread. Metric and PG sizes accommodate a greater range of cable and shield diameters when compared with NPT sizes making them the first choice for both US and European cabling.
4. All metric size EMI/RFI Cord Grips listed on pages 184, 188, 192; all PG size EMI/RFI Cord Grips listed on pages 198, 202, 206 and all NPT size Cord Grips listed on page 212 utilize the preferred method of cable preparation which involves segmenting the cable jacket. (See Shielded cable preparation, page 182.)
  - a. Using the dimensional information found on the ordering pages select the Body style which best satisfies your application requirements for External Thread length and overall body size.
  - b. Referring to the Cable Diameter on the ordering pages, find those diameter ranges that will accept the Cable Jacket outer diameter.
  - c. Next, verify that the corresponding Shield diameter Range will accommodate the Braided Shield outer diameter. If both the Cable and Shield diameters fall within the given ranges, select the respective Cord Grip.
  - d. Should the Cable Shield diameter fall outside of the listed Shield diameter range, it will be necessary to select a larger or smaller size EMI/RFI Cord Grip so that both the Cable and Shield diameters fall within the listed ranges.
  - e. If none of the Cable and Shield diameter ranges listed will accommodate the cable, make your TOR-SPRING Cord Grip selection from the metric sizes listed on page 186, 190, 194, the PG sizes listed on pages 200, 204, 208 or the NPT sizes listed on page 214 and utilize the alternate cable preparation method involving stripping the Cable Jacket from the Cord Grip attachment point to the end of the cable (see Shielded cable Preparation, page 182).
  - f. From the External Thread of the selected metric or PG size choose the corresponding special design EMI/RFI Locknut from the listing found on the ordering pages or on pages 295-297.
 

**Note:** EMI/RFI Locknuts should never be used on shielded plastic enclosures/housings. Instead, specify and use standard Nickel Plated Brass Locknuts.
5. When an NPT size TOR-SPRING Cord Grip will be used, select the corresponding standard design Nickel Plated Brass Locknut from the listing on Page 297.
 

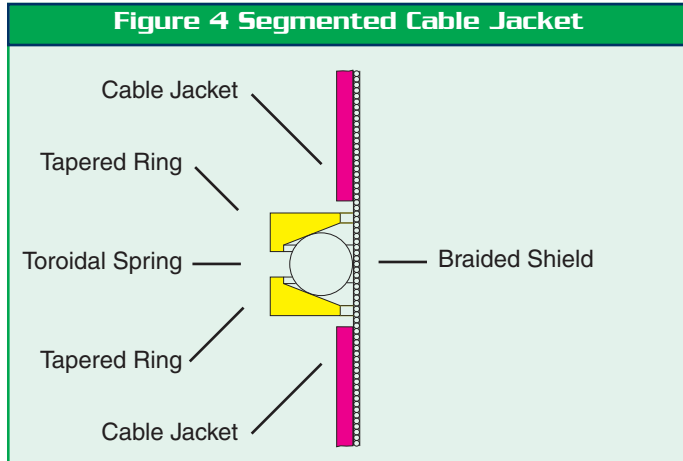
**Note:** When using a standard Nickel Plated Brass NPT Size Locknut with an NPT Size TOR-SPRING Cord Grip on metallic enclosures or housings, it will be necessary to specify and perform a secondary grinding or sanding operation to remove the protective finish from the metal surface area directly beneath the Locknut. This preparation will ensure that sufficient electric ground is developed between the Locknut and metal surface.
6. From the Mtg. Hole Dia. Column and the Cord Grip Size chosen, obtain the dimension of the clearance hole to be drilled or machined into the enclosure/housing.
7. Follow the TOR-SPRING Cord Grip installation instructions given on page 182.

## High Performance TOR-SPRING™ EMI/RFI Cord Grips

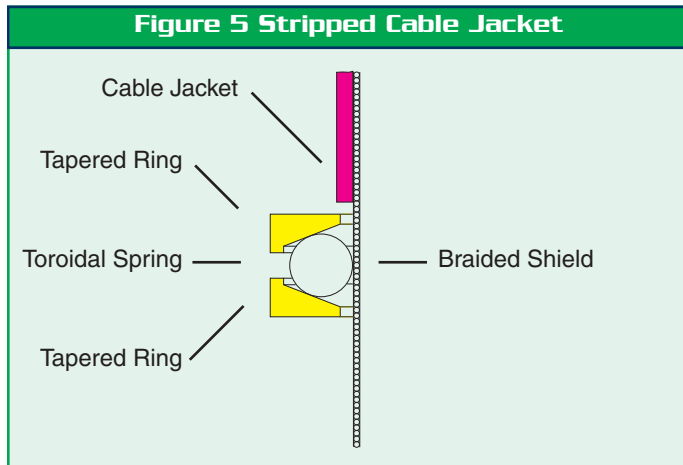
### Installation of TOR-SPRING EMI/RFI Cord Grips

#### Shielded Cable Preparation

Two optional methods of cable preparation are used when installing TOR-SPRING EMI/RFI Cord Grips. The preferred method of Shielded Cable preparation involves cutting and removal of a small 10mm (0.39in.) segment of Cable Jacket at the Cord Grip attachment point (see Figure #4). The second method involves stripping and removing the Cable Jacket from the Cord Grip attachment point to the end of the Cable (see Figure #5).



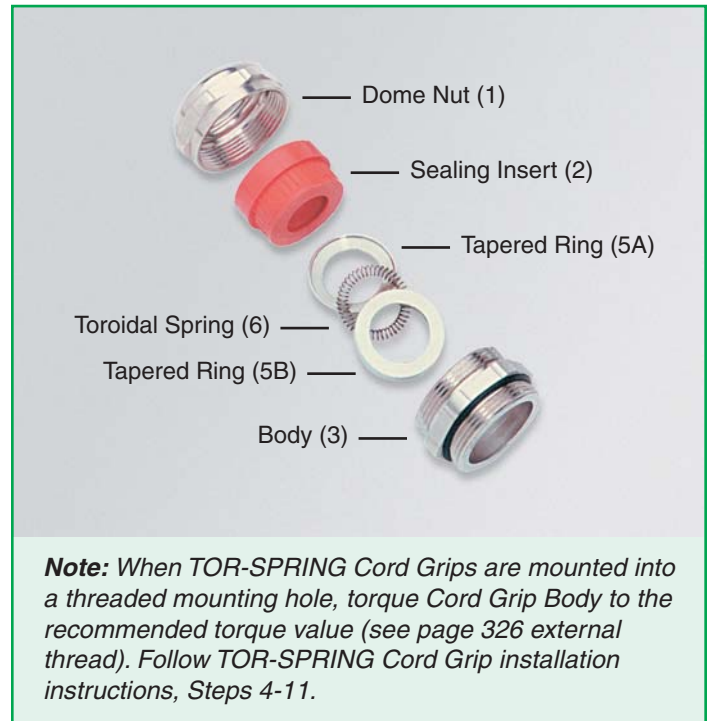
The Cable preparation method used will be determined by the outer diameters of the Cable Jacket and Braided Shield; and, whether it is possible for the Cable to fit through the TOR-SPRING Cord Grip's Tapered Rings. If the Cable dimensions are such that the Cable will pass through the Cord Grip, then only a segment of the Cable Jacket needs to be removed. Conversely, if the Cable will not pass through the Cord Grip's Tapered Rings, the Cable Jacket must be fully stripped from the Cord Grip attachment point to the end of the Cable.



To determine which Cable preparation method to use: follow the steps under How to Select/Specify TOR-SPRING Cord Grips (see page 181).

#### TOR-SPRING Cord Grip Installation Instructions (Non-threaded mounting holes)

1. Drill or machine required clearance hole into enclosure/housing.
2. Install TOR-SPRING Cord Grip into Mtg. Hole.
3. Secure with either special EMI/RFI Locknut or standard Nickel Plated Locknut and torque to recommended torque value (see page 326).
4. Unscrew Dome Nut remove Sealing Insert (2), Tapered Rings (5A) and (5B) and Toroidal Spring (6) (see #5)
5. Slide Dome Nut (1) and Sealing Insert (2) onto prepared Cable.
6. Install Tapered Ring (5A) with tapered side facing enclosure/housing over Cable's exposed Braided Shield.
7. Install Toroidal Spring (6) over Cable's exposed Braided Shield.
8. Install Tapered Ring (5B) with tapered side facing Toroidal Spring (6) onto Cable's exposed Braided Shield.
9. Insert Cable with installed parts into the Cord Grip Body (3).
10. Feed Cable through Cord Grip and adjust length inside enclosure housing as required to reach termination point.
11. Tighten Dome Nut (1) to recommended torque value (see page 326).



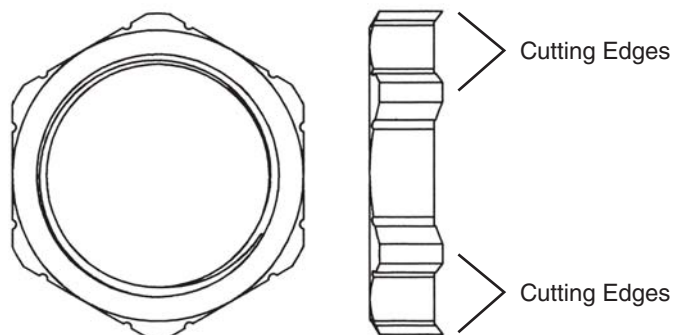
## Locknuts for Metric and PG Size TOR-SPRING™ Cord Grips

Special design Metric and PG size EMI/RFI Locknuts (see page 295-296) have been developed to secure TOR-SPRING EMI/RFI Cord Grips to metal enclosures/housings. They feature six cutting edges which break through the surface paint or coating exposing the base metal and providing the required ground connection between the Metric or PG size TOR-SPRING EMI/RFI Cord Grip Body and the enclosure/housing.

**Note:** Metric and PG size EMI/RFI Locknuts should never be used on Shielded Plastic enclosures/housings. Instead, specify and use standard Nickel Plated Brass Locknuts.



**Locknuts for NPT Size TOR-SPRING Cord Grips**  
Standard Nickel Plated Brass NPT Size Locknuts (page 297) are used to secure NPT size TOR-SPRING EMI/RFI Cord Grips to enclosures/housings.



**Note:** When using a standard Nickel Plated Brass NPT Size Locknut with an NPT size TOR-SPRING EMI/RFI Cord Grip on metallic enclosures/housings, it will be necessary to specify and perform a secondary grinding or sanding operation to remove the protective finish from the metal surface area directly beneath the locknut. This preparation will ensure that a sufficient electrical ground is developed between the Locknut and metal surface.

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Segmented Cable Jacket, Compact

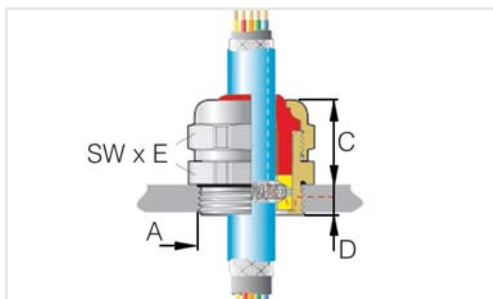
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration and standard external thread length.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M16x1.5	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	16.0	(.63)	50
M20x1.5	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	20.0	(.79)	50
M20x1.5	5.0-8.0	(.20-.31)	3.5-8.0	(.14-.31)	20.0	(.79)	50
M20x1.5	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	20.0	(.79)	50
M25x1.5	4.0-6.5	(.16-.26)	3.0-8.0	(.12-.31)	25.0	(.98)	50
M25x1.5	6.5-9.5	(.26-.37)	6.5-10.5	(.26-.41)	25.0	(.98)	50
M25x1.5	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	25.0	(.98)	50
M25x1.5	9.0-13.0	(.35-.51)	8.0-13.5	(.31-.53)	25.0	(.98)	50
M32x1.5	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	32.0	(1.26)	25
M32x1.5	9.0-13.0	(.35-.51)	8.0-13.5	(.31-.53)	32.0	(1.26)	25
M32x1.5	11.5-15.5	(.45-.61)	9.0-14.5	(.37-.57)	32.0	(1.26)	25
M40x1.5	11.5-15.5	(.45-.61)	13.0-17.0	(.51-.67)	40.0	(1.57)	10
M40x1.5	14.0-18.0	(.55-.71)	13.0-18.0	(.51-.71)	40.0	(1.57)	10
M40x1.5	17.0-20.5	(.67-.81)	15.0-20.0	(.59-.79)	40.0	(1.57)	10
M50x1.5	27.0-32.0	(1.06-1.26)	24.0-30.5	(.94-1.20)	50.0	(1.97)	10
M50x1.5	34.0-38.0	(1.14-1.50)	34.0-39.0	(1.34-1.54)	50.0	(1.97)	5
M75x1.5	42.0-47.0	(1.65-1.85)	39.0-48.0	(1.54-1.89)	75.0	(2.95)	1



#### Cord Grip Dimensions: mm (in.)

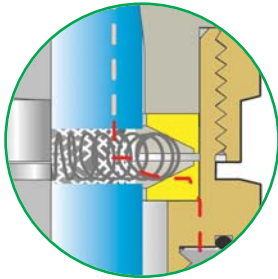
Size	A	C	D	SW	E
M16x1.5	16.0 (.63)	20.0 (.79)	6.0 (.24)	18.0 (.71)	20.0 (.79)
M20x1.5	20.0 (.79)	20.0 (.79)	6.0 (.24)	22.0 (.87)	24.4 (.96)
M25x1.5	25.0 (.98)	21.0 (.83)	7.5 (.30)	28.0 (1.10)	31.2 (1.23)
M32x1.5	32.0 (1.26)	25.0 (.98)	8.0 (.31)	35.0 (1.38)	38.5 (1.52)
M40x1.5	35.0 (1.38)	27.0 (1.06)	8.0 (.31)	43.0 (1.69)	47.3 (1.86)
M50x1.5	50.0 (1.97)	28.0 (1.10)	10.0 (.39)	54.0 (2.24)	58.0 (2.28)
M75x1.5	75.0 (2.95)	47.0 (1.85)	15.0 (.59)	81.0 (3.19)	87.0 (3.43)



**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

97131.6  
97133.6  
97179.6  
97139.6  
97141.6  
97143.6  
97145.6  
97279.6  
97149.6  
97150.6  
97152.6  
97154.6  
97156.6  
97158.6  
97161.6  
97164.6  
97171.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

25891.9  
25892.9  
25892.9  
25892.9  
25893.9  
25893.9  
25893.9  
25893.9  
25894.9  
25894.9  
25894.9  
25894.9  
25895.9  
25895.9  
25895.9  
25896.9  
25896.9  
97690.9

**Std. Pk.**

100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
100  
50  
50  
50  
50  
50  
10

See Page 295 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Stripped Cable Jacket, Compact

The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration and standard external thread length.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request
- Order EMI/RFI Locknuts Separately



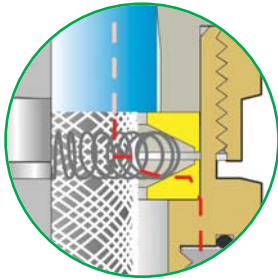
Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M16x1.5	4.0-6.5	(.16-.26)	1.5-4.0	(.06-.16)	16.0	(.63)	50
M16x1.5	5.0-8.0	(.20-.31)	2.5-6.0	(.10-.24)	16.0	(.63)	50
M16x1.5	6.5-9.5	(.26-.37)	2.5-6.0	(.10-.24)	16.0	(.63)	50
M20x1.5	6.5-9.5	(.26-.37)	3.5-8.5	(.14-.33)	20.0	(.79)	50
M20x1.5	7.0-10.5	(.27-.41)	3.5-8.5	(.14-.33)	20.0	(.79)	50
M20x1.5	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	20.0	(.79)	50
M25x1.5	6.5-9.5	(.26-.37)	3.0-8.0	(.12-.31)	25.0	(.98)	50
M25x1.5	7.0-10.5	(.27-.41)	5.0-8.0	(.20-.31)	25.0	(.98)	50
M25x1.5	9.0-13.0	(.35-.51)	5.0-8.0	(.20-.31)	25.0	(.98)	50
M25x1.5	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	25.0	(.98)	50
M32x1.5	11.5-15.5	(.45-.61)	8.0-13.5	(.31-.53)	32.0	(1.26)	25
M32x1.5	14.0-18.0	(.55-.71)	9.5-14.5	(.37-.57)	32.0	(1.26)	25
M40x1.5	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	40.0	(1.57)	10
M40x1.5	17.0-20.5	(.67-.81)	13.0-18.0	(.51-.71)	40.0	(1.57)	10
M40x1.5	20.0-25.0	(.79-.98)	15.0-20.0	(.59-.79)	40.0	(1.57)	10
M50x1.5	24.0-28.0	(.94-1.10)	18.5-25.0	(.73-.98)	50.0	(1.97)	5
M50x1.5	29.0-34.0	(1.14-1.34)	24.0-30.5	(.94-1.20)	50.0	(1.97)	5
M50x1.5	32.0-36.0	(1.26-1.42)	24.0-30.5	(.94-1.20)	50.0	(1.97)	5
M50x1.5	36.0-40.0	(1.42-1.57)	34.0-39.0	(1.34-1.54)	50.0	(1.97)	5
M63x1.5	39.0-44.0	(1.54-1.73)	33.0-38.0	(1.30-1.50)	63.0	(2.48)	1
M63x1.5	45.0-51.0	(1.77-2.01)	36.0-42.0	(1.26-1.65)	63.0	(2.48)	1
M63x1.5	45.0-51.0	(1.77-2.01)	42.0-48.5	(1.65-1.91)	63.0	(2.48)	1
M63x1.5	51.0-56.0	(2.01-2.20)	42.0-48.5	(1.65-1.91)	63.0	(2.48)	1
M63x1.5	51.0-56.0	(2.01-2.20)	47.0-54.0	(1.85-2.13)	63.0	(2.48)	1
M75x1.5	45.0-52.0	(1.77-2.05)	39.0-48.0	(1.54-1.89)	75.0	(2.95)	1
M75x1.5	51.0-55.0	(2.01-2.17)	42.0-48.5	(1.65-1.91)	75.0	(2.95)	1
M75x1.5	54.0-58.0	(2.13-2.28)	47.0-54.0	(1.85-2.13)	75.0	(2.95)	1
M75x1.5	58.0-64.0	(2.28-2.52)	47.0-54.0	(1.85-2.13)	75.0	(2.95)	1
M80x2	63.0-70.0	(2.48-2.75)	47.0-54.0	(1.85-2.13)	80.0	(3.15)	1

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

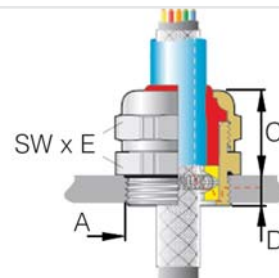
-4 to 300°C (-40 to 572°F)

**Cat. No.**

- 97130.6
- 97132.6
- 97176.6
- 97134.6
- 97135.6
- 97140.6
- 97142.6
- 97144.6
- 97146.6
- 97147.6
- 97151.6
- 97153.6
- 97155.6
- 97157.6
- 97158.6
- 97160.6
- 97162.6
- 97163.6
- 97165.6
- 97166.6
- 97167.6
- 97168.6
- 97169.6
- 97170.6
- 97172.6
- 97177.6
- 97173.6
- 97178.6
- 97175.6

Size	Cat. No.	Std. Pk.
M16x1.5	25891.9	100
M20x1.5	25892.9	100
M25x1.5	25893.9	100
M32x1.5	25894.9	100
M40x1.5	25895.9	50
M50x1.5	25896.9	50
M63x1.5	25897.9	25
M75x1.5	97690.9	10
M80x2	97601.9	10

See Page 295 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	C	D	SW	E
M16x1.5	16.0 (.63)	20.0 (.79)	6.0 (.24)	18.0 (.71)	20.0 (.79)
M20x1.5	20.0 (.79)	20.0 (.79)	6.0 (.24)	22.0 (.87)	24.4 (.96)
M25x1.5	25.0 (.98)	21.0 (.83)	7.5 (.30)	28.0 (1.10)	31.2 (1.23)
M32x1.5	32.0 (1.26)	25.0 (.98)	8.0 (.31)	35.0 (1.38)	38.5 (1.52)
M40x1.5	40.0 (1.57)	25.0 (.98)	8.0 (.31)	43.0 (1.69)	47.3 (1.86)
M50x1.5	50.0 (1.97)	28.0 (1.10)	10.0 (.39)	54.0 (2.24)	58.0 (2.28)
M63x1.5	63.0 (2.48)	30.0 (1.18)	10.0 (.39)	68.0 (2.68)	74.0 (2.91)
M75x1.5	75.0 (2.95)	47.0 (1.85)	15.0 (.59)	81.0 (3.19)	87.0 (3.43)
M80x2	80.0 (3.15)	60.0 (2.36)	15.0 (.59)	95.0 (3.74)	102.0 (4.02)

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Segmented Cable Jacket, Heavy Duty

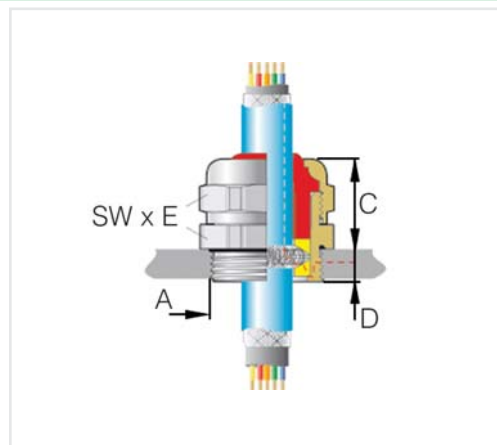
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Transport and Marine Applications.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M16x1.5	4.0-6.5	(.16-.26)	3.0-6.0	(.12-.24)	16.0	(.63)	50
M16x1.5	6.5-9.0	(.26-.35)	4.0-8.5	(.16-.33)	16.0	(.63)	50
M18x1.5	4.0-6.5	(.16-.26)	4.0-6.0	(.16-.24)	18.0	(.71)	50
M18x1.5	6.5-9.0	(.26-.35)	4.0-8.5	(.16-.33)	18.0	(.71)	50
M20x1.5	4.0-6.5	(.16-.26)	3.0-6.0	(.12-.24)	20.0	(.79)	50
M20x1.5	6.5-9.0	(.26-.35)	4.0-8.5	(.16-.33)	20.0	(.79)	50
M24x1.5	8.0-11.0	(.31-.43)	6.0-10.5	(.25-.41)	24.0	(.94)	25
M24x1.5	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	24.0	(.94)	25
M25x1.5	9.0-11.0	(.31-.43)	6.0-10.5	(.25-.41)	25.0	(.98)	25
M25x1.5	10.0-14.0	(.39-.55)	8.0-13.0	(.31-.51)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	12.5-17.5	(.49-.69)	25.0	(.98)	25
M30x2.0	14.0-18.0	(.55-.71)	12.5-17.5	(.49-.69)	30.0	(1.18)	25
M30x2.0	17.0-20.0	(.67-.79)	13.0-20.0	(.51-.79)	30.0	(1.18)	25
M32x1.5	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	32.0	(1.26)	10
M36x2.0	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	36.0	(1.42)	10
M40x1.5	29.0-32.0	(1.14-1.26)	24.0-30.5	(.94-1.20)	40.0	(1.57)	5
M56x2.0	37.0-41.0	(1.45-1.61)	34.0-42.0	(1.34-1.65)	56.0	(2.20)	5
M63x1.5	40.0-45.0	(1.57-1.77)	40.0-48.0	(1.57-1.89)	63.0	(2.48)	1
M72x2.0	51.0-56.0	(2.01-2.20)	47.0-54.0	(1.85-2.13)	72.0	(2.83)	1

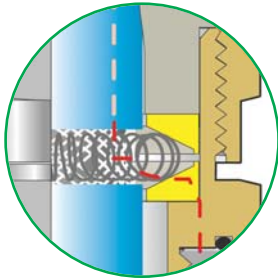


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
M16x1.5	16.0 (.63)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M18x1.5	18.0 (.71)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M20x1.5	20.0 (.79)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M24x1.5	24.0 (.94)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
M25x1.5	25.0 (.98)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
M30x2.0	30.0 (1.18)	34.0 (1.34)	12.0 (.47)	35.0 (1.38)	38.5 (1.52)
M32x1.5	22.0 (1.26)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
M36x2.0	36.0 (1.42)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
M40x1.5	40.0 (1.57)	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
M56x2.0	56.0 (2.20)	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)
M63x1.5	63.0 (2.48)	58.0 (2.28)	16.0 (.63)	81.0 (3.19)	87.0 (3.43)
M72x2.0	72.0 (2.83)	58.0 (2.28)	16.0 (.63)	81.0 (3.19)	87.0 (3.43)

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

21540.6  
21542.6  
21570.6  
21572.6  
21544.6  
21546.6  
21575.6  
21577.6  
21550.6  
97008.6  
21553.6  
21555.6  
21578.6  
21580.6  
21557.6  
21581.6  
21561.6  
97011.6  
97003.6  
97013.6

**Cat. No.**

25891.9  
25891.9  
97602.9  
97602.9  
25892.9  
25892.9  
97603.9  
97603.9  
25893.9  
25893.9  
25893.9  
25893.9  
97604.9  
97604.9  
25894.9  
97605.9  
25895.9  
97607.9  
25897.9  
97608.9

**Std. Pk.**

100  
100  
50  
50  
100  
100  
50  
50  
100  
100  
100  
100  
50  
50  
100  
50  
50  
25  
25  
10

See Page 295 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Stripped Cable Jacket, Heavy Duty

The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Transport and Marine Applications.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



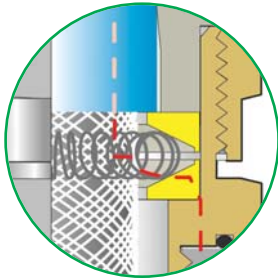
Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M16x1.5	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	16.0	(.63)	50
M16x1.5	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	16.0	(.63)	50
M18x1.5	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	18.0	(.71)	50
M18x1.5	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	18.0	(.71)	50
M20x1.5	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	20.0	(.79)	50
M20x1.5	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	20.0	(.79)	50
M24x1.5	8.0-11.0	(.31-.43)	6.0-9.0	(.24-.53)	24.0	(.94)	25
M24x1.5	10.0-14.0	(.39-.55)	6.5-11.5	(.26-.45)	24.0	(.94)	25
M24x1.5	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	24.0	(.94)	25
M25x1.5	6.5-9.5	(.26-.37)	6.0-8.5	(.24-.33)	25.0	(.98)	25
M25x1.5	8.0-11.0	(.31-.43)	6.0-9.0	(.24-.53)	25.0	(.98)	25
M25x1.5	10.0-14.0	(.39-.55)	6.5-11.5	(.26-.45)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	8.0-13.5	(.31-.53)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	10.0-15.5	(.39-.61)	25.0	(.98)	25
M25x1.5	17.0-20.0	(.67-.79)	12.5-17.5	(.49-.69)	25.0	(.98)	25
M30x2.0	17.0-20.0	(.67-.79)	12.5-17.5	(.49-.69)	30.0	(1.18)	25
M32x1.5	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	32.0	(1.26)	10
M32x1.5	22.0-26.0	(.87-1.02)	15.0-21.0	(.59-.83)	32.0	(1.26)	10
M36x2.0	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	36.0	(1.42)	10
M36x2.0	21.0-26.0	(.83-1.02)	15.0-21.0	(.59-.83)	36.0	(1.42)	10
M40x1.5	25.0-29.0	(.98-1.14)	19.0-25.0	(.75-.98)	40.0	(1.57)	5
M40x1.5	25.0-29.0	(.98-1.14)	22.0-25.0	(.87-.98)	40.0	(1.57)	5
M40x1.5	29.0-32.0	(1.14-1.26)	21.0-27.0	(.83-1.06)	40.0	(1.57)	5
M40x1.5	30.0-35.0	(1.18-1.38)	24.0-30.5	(.94-1.20)	40.0	(1.57)	5
M45x2.0	25.0-29.0	(.98-1.14)	19.0-25.0	(.75-.98)	45.0	(1.77)	5
M45x2.0	25.0-29.0	(.98-1.14)	22.0-25.0	(.87-.98)	45.0	(1.77)	5
M45x2.0	29.0-32.0	(1.14-1.26)	24.0-30.5	(.94-1.20)	45.0	(1.77)	5
M50x1.5	32.0-37.0	(1.26-1.45)	29.0-33.0	(1.14-1.30)	50.0	(1.97)	5
M50x1.5	37.0-41.0	(1.45-1.61)	29.0-33.0	(1.14-1.30)	50.0	(1.97)	5
M56x2.0	32.0-37.0	(1.26-1.45)	29.0-33.0	(1.14-1.30)	56.0	(2.20)	5
M56x2.0	37.0-41.0	(1.45-1.61)	29.0-33.0	(1.14-1.30)	56.0	(2.20)	5
M63x1.5	40.0-45.0	(1.57-1.77)	34.0-42.0	(1.34-1.65)	63.0	(2.48)	1
M63x1.5	45.0-51.0	(1.77-2.01)	34.0-42.0	(1.34-1.65)	63.0	(2.48)	1
M63x1.5	45.0-51.0	(1.77-2.01)	40.0-48.0	(1.57-1.89)	63.0	(2.48)	1
M63x1.5	51.0-56.0	(2.01-2.20)	40.0-48.0	(1.57-1.89)	63.0	(2.48)	1
M63x1.5	51.0-56.0	(2.01-2.20)	47.0-54.0	(1.85-2.13)	63.0	(2.48)	1
M72x2.0	40.0-45.0	(1.57-1.77)	34.0-42.0	(1.34-1.65)	72.0	(2.83)	1
M72x2.0	45.0-51.0	(1.77-2.01)	40.0-48.0	(1.57-1.89)	72.0	(2.83)	1

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

21541.6  
21543.6  
21571.6  
21573.6  
21545.6  
21547.6  
21574.6  
21576.6  
21577.6  
21548.6  
21549.6  
21551.6  
21552.6  
21553.6  
21554.6  
21556.6  
21579.6  
21557.6  
21558.6  
21581.6  
21582.6  
97000.6  
21559.6  
21560.6  
97001.6  
97010.6  
21583.6  
21584.6  
21562.6  
21563.6  
21585.6  
21586.6  
97002.6  
97004.6  
97005.6  
97006.6  
97007.6  
97012.6  
97014.6

**Size**

M16x1.5  
M18x1.5  
M20x1.5  
M24x1.5  
M25x1.5  
M30x2.0  
M32x1.5  
M36x2.0  
M40x1.5  
M45x2.0  
M50x1.5  
M56x2.0  
M63x1.5  
M72x2.0

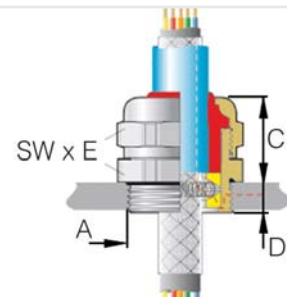
**Cat. No.**

25891.9  
97602.9  
25892.9  
97603.9  
25893.9  
97604.9  
25894.9  
97605.9  
25895.9  
97606.9  
25896.9  
97607.9  
25897.9  
97608.9

**Std. Pk.**

100  
50  
100  
50  
100  
50  
100  
50  
50  
25  
50  
25  
25  
10

See Page 295 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	C	D	SW	E
M16x1.5	16.0 (.63)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M18x1.5	18.0 (.71)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M20x1.5	20.0 (.79)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
M24x1.5	24.0 (.94)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
M25x1.5	25.0 (.98)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
M30x2.0	30.0 (1.18)	34.0 (1.34)	12.0 (.47)	35.0 (1.38)	38.5 (1.52)
M32x1.5	32.0 (1.26)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
M36x2.0	36.0 (1.42)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
M40x1.5	40.0 (1.57)	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
M45x2.0	45.0 (1.77)	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
M50x1.5	50.0 (1.97)	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)
M56x2.0	56.0 (2.20)	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)
M63x1.5	63.0 (2.48)	58.0 (2.28)	16.0 (.63)	81.0 (3.19)	87.0 (3.43)
M72x2.0	72.0 (2.83)	58.0 (2.28)	16.0 (.63)	81.0 (3.19)	87.0 (3.43)

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Segmented Cable Jacket, Enlarged

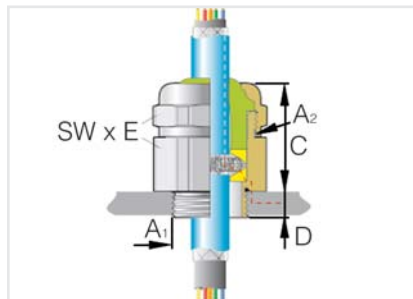
The EMI/RFI TOR-SPRING Cord Grips on this pages feature an Enlarged Body with extended hexagon to accommodate cable with thicker outer insulation at the smallest possible external thread size.

- Protection Rating: IP54; NEMA 13
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M12x1.5	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	12.0	(.47)	50
M16x1.5	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	16.0	(.63)	50
M20x1.5	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	20.0	(.79)	50
M25x1.5	9.0-13.0	(.35-.51)	8.0-13.5	(.31-.53)	25.0	(.98)	50
M25x1.5	11.5-15.5	(.45-.61)	9.5-14.5	(.37-.57)	25.0	(.98)	50
M32x1.5	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	32.0	(1.26)	10
M40x1.5	20.0-25.0	(.79-.98)	18.5-25.5	(.73-1.00)	40.0	(1.57)	10
M40x1.5	27.0-32.0	(1.06-1.26)	24.0-30.5	(.94-1.20)	40.0	(1.57)	10



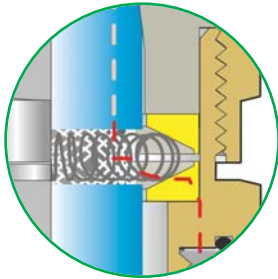
Cord Grip Dimensions: mm (in.)						
External Thread	Internal Thread	C	D	SW	E	
A1	A2					
M12x1.5	PG9	27.0 (1.06)	5.0 (.20)	17.0 (.67)	18.9 (.74)	
M16x1.5	PG13.5	29.0 (1.14)	6.0 (.24)	22.0 (.87)	24.4 (.96)	
M20x1.5	PG21	29.0 (1.14)	6.5 (.26)	30.0 (1.18)	33.5 (1.32)	
M25x1.5	PG21	35.0 (1.38)	6.5 (.26)	30.0 (1.18)	33.5 (1.32)	
M32x1.5	PG29	38.0 (1.50)	7.0 (.28)	40.0 (1.57)	43.5 (1.71)	
M40x1.5	PG36	39.0 (1.54)	8.0 (.31)	50.0 (1.97)	54.0 (2.13)	



**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**Cat. No.**

- 97270.6
- 97276.6
- 97292.6
- 18550.6
- 18551.6
- 97283.6
- 97286.6
- 97288.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

- 25890.9
- 25891.9
- 25892.9
- 25893.9
- 25894.9
- 25895.9
- 25895.9

**Std. Pk.**

- 100
- 100
- 100
- 100
- 100
- 100
- 100

See Page 295 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – Metric External Thread

### Stripped Cable Jacket, Enlarged

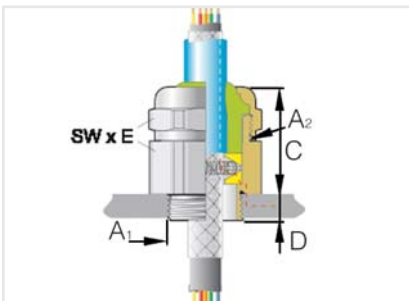
The EMI/RFI TOR-SPRING Cord Grips on this pages feature an Enlarged Body with extended hexagon to accommodate cable with thicker outer insulation at the smallest possible external thread size.

- Protection Rating: IP54; NEMA 13
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M12x1.5	5.0-8.0	(.20-.31)	2.5-6.0	(.10-.24)	12.0	(.47)	50
M12x1.5	6.5-9.5	(.26-.37)	2.5-6.0	(.10-.24)	12.0	(.47)	50
M16x1.5	6.5-9.5	(.26-.37)	3.5-8.5	(.14-.33)	16.0	(.63)	50
M16x1.5	7.0-10.5	(.27-.41)	3.5-8.5	(.14-.33)	16.0	(.63)	50
M16x1.5	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	16.0	(.63)	50
M25x1.5	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	25.0	(.98)	50
M25x1.5	11.5-15.5	(.45-.61)	9.5-14.5	(.37-.57)	25.0	(.98)	50
M25x1.5	14.0-18.0	(.55-.71)	9.5-14.5	(.37-.57)	25.0	(.98)	50
M32x1.5	17.0-20.5	(.67-.81)	13.0-18.0	(.51-.71)	32.0	(1.26)	25
M32x1.5	20.0-25.0	(.79-.98)	15.0-20.0	(.59-.79)	32.0	(1.26)	25
M40x1.5	24.0-28.0	(.94-1.10)	18.5-25.5	(.73-1.00)	40.0	(1.57)	10
M40x1.5	29.0-33.0	(1.14-1.30)	24.0-30.5	(.94-1.20)	40.0	(1.57)	10

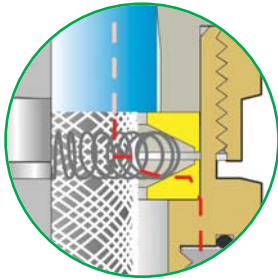


Cord Grip Dimensions: mm (in.)						
External Thread	Internal Thread	C	D	SW	E	
					A1	A2
M12x1.5	PG9	27.0 (1.06)	5.0 (.20)	17.0 (.67)	18.9 (.74)	
M16x1.5	PG13.5	29.0 (1.14)	6.0 (.24)	22.0 (.87)	24.4 (.96)	
M25x1.5	PG21	35.0 (1.38)	6.5 (.26)	30.0 (1.18)	33.5 (1.32)	
M32x1.5	PG29	38.0 (1.50)	7.0 (.28)	40.0 (1.57)	43.5 (1.71)	
M40x1.5	PG36	39.0 (1.54)	8.0 (.31)	50.0 (1.97)	54.0 (2.13)	

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

- 97271.6
- 97272.6
- 97274.6
- 97275.6
- 97277.6
- 97278.6
- 97281.6
- 97282.6
- 97284.6
- 97285.6
- 97287.6
- 97289.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Cat. No.**

- 25890.9
- 25890.9
- 25891.9
- 25891.9
- 25891.9
- 25893.9
- 25893.9
- 25893.9
- 25894.9
- 25894.9
- 25895.9
- 25895.9

**Std. Pk.**

- 100
- 100
- 100
- 100
- 100
- 100
- 100
- 100
- 100
- 100
- 50
- 50

See Page 295 for Drawings and Dimensional Information.

## EMI/RFI Cord Grips – Metric External Thread

### Increased Strain Relief

The EMI/RFI Cord Grips on this pages feature a Compact Body configuration with standard External Thread Length and Increased Strain Relief Inserts.

- Protection Rating: IP54; NEMA 13
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- Order EMI/RFI Locknuts Separately



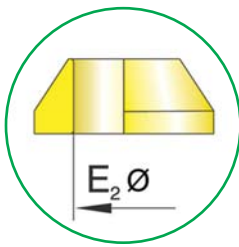
Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Max. Cone Dia. E2		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
M10x1.0	4.0-6.5	(.16-.26)	4.0	(.16)	10.0	(.39)	50
M12x1.5	4.0-6.5	(.16-.26)	4.0	(.16)	12.0	(.47)	50
M12x1.5	5.5-9.0	(.22-.35)	7.0	(.28)	12.0	(.47)	50
M16x1.5	4.0-6.5	(.16-.26)	4.5	(.18)	16.0	(.63)	50
M16x1.5	5.5-9.0	(.22-.35)	7.0	(.28)	16.0	(.63)	50
M16x1.5	6.0-10.0	(.24-.39)	8.0	(.31)	16.0	(.63)	50
M16x1.5	8.0-12.0	(.31-.47)	10.0	(.39)	16.0	(.63)	50
M20x1.5	5.5-9.0	(.22-.35)	7.0	(.28)	20.0	(.79)	50
M20x1.5	6.0-10.0	(.24-.39)	8.0	(.31)	20.0	(.79)	50
M20x1.5	8.0-12.0	(.31-.47)	10.0	(.39)	20.0	(.79)	50
M20x1.5	12.0-15.0	(.47-.59)	12.0	(.47)	20.0	(.79)	50
M25x1.5	6.0-10.0	(.24-.39)	8.0	(.31)	25.0	(.98)	50
M25x1.5	8.0-12.0	(.31-.47)	10.0	(.39)	25.0	(.98)	50
M25x1.5	12.0-15.0	(.47-.59)	12.0	(.47)	25.0	(.98)	50
M25x1.5	14.0-17.0	(.55-.67)	14.0	(.55)	25.0	(.98)	50
M25x1.5	16.0-20.0	(.63-.79)	17.0	(.67)	25.0	(.98)	50
M32x1.5	14.0-17.0	(.55-.67)	14.0	(.55)	32.0	(1.26)	25
M32x1.5	16.0-20.0	(.63-.79)	17.0	(.67)	32.0	(1.26)	25
M32x1.5	20.0-24.0	(.79-.94)	20.0	(.79)	32.0	(1.26)	10
M32x1.5	23.0-27.0	(.91-1.06)	23.0	(.91)	32.0	(1.26)	10
M40x1.5	20.0-24.0	(.79-.94)	20.0	(.79)	40.0	(1.57)	10
M40x1.5	23.0-27.0	(.91-1.06)	23.0	(.91)	40.0	(1.57)	10
M40x1.5	27.0-32.0	(1.06-1.26)	28.0	(1.10)	40.0	(1.57)	5
M40x1.5	27.0-32.0	(1.06-1.26)	29.0	(1.14)	40.0	(1.57)	5
M50x1.5	27.0-32.0	(1.06-1.26)	28.0	(1.10)	50.0	(1.97)	5
M50x1.5	27.0-32.0	(1.06-1.26)	29.0	(1.14)	50.0	(1.97)	5

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

- 97600.6
- 97601.6
- 97602.6
- 97603.6
- 97604.6
- 97605.6
- 97606.6
- 97607.6
- 97608.6
- 97610.6
- 97611.6
- 97612.6
- 97613.6
- 97614.6
- 97615.6
- 97616.6
- 97618.6
- 97619.6
- 97620.6
- 97621.6
- 97623.6
- 97624.6
- 97625.6
- 97626.6
- 97627.6
- 97628.6

**EMI/RFI Locknuts**



Order Separately

**Material**

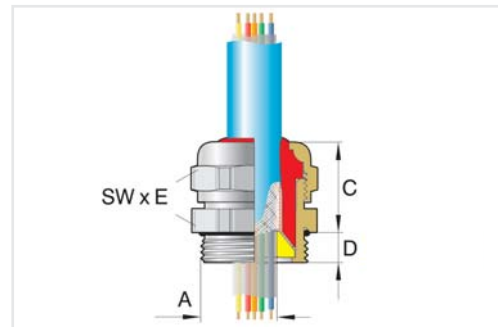
Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
M10x1.5	97600.9	50
M12x1.5	25890.9	100
M16x1.5	25891.9	100
M20x1.5	25892.9	100
M25x1.5	25893.9	100
M32x1.5	25894.9	100
M40x1.5	25895.9	50
M50x1.5	25896.9	50

See Page 295 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	C	D	SW	E
M10x1.5	10.0 (.39)	27.0 (1.06)	5.0 (.20)	14.0 (.55)	15.5 (.61)
M12x1.5	12.0 (.47)	27.0 (1.06)	5.0 (.20)	14.0 (.55)	15.5 (.61)
M16x1.5	16.0 (.63)	20.0 (.79)	6.0 (.24)	18.0 (.71)	20.0 (.79)
M20x1.5	20.0 (.79)	20.0 (.79)	6.0 (.24)	22.0 (.87)	24.4 (.96)
M25x1.5	25.0 (.98)	21.0 (.83)	7.5 (.30)	28.0 (1.10)	31.2 (1.23)
M32x1.5	32.0 (1.26)	25.0 (.98)	8.0 (.31)	35.0 (1.38)	38.5 (1.52)
M40x1.5	40.0 (1.57)	27.0 (1.06)	8.0 (.31)	43.0 (1.70)	47.3 (1.86)
M50x1.5	50.0 (1.97)	28.0 (1.10)	10.0 (.39)	54.0 (2.13)	58.0 (2.28)

## EMI/RFI TOR-SPRING™ – PG External Thread

### Segmented Cable Jacket, Compact

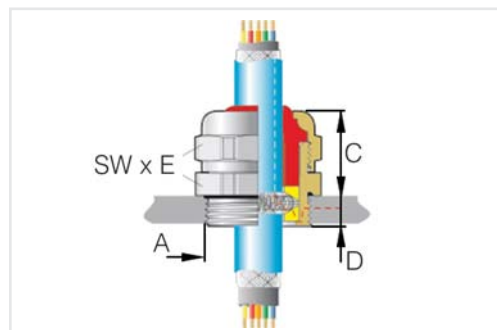
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration and standard external thread length.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG9	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	15.2	(.60)	50
PG11	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	18.5	(.73)	50
PG11	4.0-6.5	(.16-.26)	3.5-8.5	(.14-.33)	18.5	(.73)	50
PG11	5.0-8.0	(.20-.31)	3.5-8.5	(.14-.33)	18.5	(.73)	50
PG13.5	4.0-6.5	(.16-.26)	3.5-6.5	(.14-.26)	20.5	(.81)	50
PG13.5	5.0-8.0	(.20-.31)	3.5-8.0	(.14-.31)	20.5	(.81)	50
PG13.5	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	20.5	(.81)	50
PG16	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	22.5	(.89)	50
PG21	7.0-10.5	(.27-.41)	5.5-12.0	(.22-.47)	28.5	(1.12)	25
PG21	9.0-13.0	(.35-.51)	8.0-13.5	(.31-.53)	28.5	(1.12)	25
PG21	11.5-15.5	(.45-.61)	9.0-14.5	(.33-.57)	28.5	(1.12)	25
PG29	14.0-18.0	(.55-.71)	13.0-18.0	(.51-.71)	37.0	(1.46)	10
PG29	17.0-20.5	(.67-.81)	15.0-20.0	(.59-.79)	37.0	(1.46)	10
PG36	27.0-32.0	(1.06-1.26)	24.0-30.5	(.94-1.20)	47.0	(1.85)	5
PG42	34.0-38.0	(1.34-1.50)	34.0-39.0	(1.34-1.54)	54.0	(2.13)	5

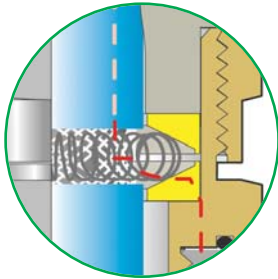


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
PG9	15.2 (.60)	20.0 (.79)	6.0 (.24)	17.0 (.67)	18.9 (.74)
PG11	18.6 (.73)	20.0 (.79)	6.0 (.24)	20.0 (.79)	22.2 (.87)
PG13.5	20.4 (.80)	21.0 (.83)	6.5 (.26)	22.0 (.87)	24.4 (.96)
PG16	22.5 (.89)	21.0 (.83)	6.5 (.26)	24.0 (.94)	26.7 (1.05)
PG21	28.3 (1.11)	25.0 (.98)	7.0 (.28)	30.0 (1.18)	33.5 (1.32)
PG29	37.0 (1.46)	27.0 (1.06)	8.0 (.31)	40.0 (1.57)	43.5 (1.71)
PG36	47.0 (1.85)	28.0 (1.10)	9.0 (.35)	50.0 (1.97)	54.0 (2.24)
PG42	54.0 (2.13)	30.0 (1.18)	10.0 (.39)	57.0 (2.24)	61.0 (2.40)

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

18620.6  
21652.6  
18615.6  
18623.6  
18625.6  
18626.6  
21657.6  
18628.6  
18631.6  
18632.6  
18633.6  
18643.6  
21668.6  
21671.6  
18636.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

23011.9  
23012.9  
23012.9  
23012.9  
23013.9  
23013.9  
23013.9  
23013.9  
23014.9  
23015.9  
23015.9  
23015.9  
23016.9  
23016.9  
23017.9  
23018.9

**Std. Pk.**

10  
10  
10  
10  
10  
10  
10  
10  
10  
5  
5  
5  
5  
5  
2  
2

See Page 296 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – PG External Thread

### Stripped Cable Jacket, Compact

The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration and standard external thread length.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

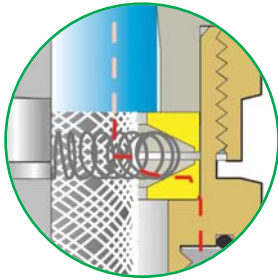
Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG9	4.0-6.5	(.16-.26)	1.5-4.0	(.06-.16)	15.2	(.60)	50
PG9	5.0-8.0	(.20-.31)	2.5-6.0	(.10-.24)	15.2	(.60)	50
PG9	6.5-9.5	(.26-.37)	2.5-6.0	(.10-.24)	15.2	(.60)	50
PG11	5.0-8.0	(.20-.31)	2.5-6.0	(.10-.24)	18.5	(.73)	50
PG11	6.5-9.5	(.26-.37)	2.5-6.0	(.10-.24)	18.5	(.73)	50
PG11	6.5-9.5	(.26-.37)	3.5-8.5	(.14-.33)	18.5	(.73)	50
PG13.5	6.5-9.5	(.26-.37)	3.5-6.5	(.14-.26)	20.5	(.81)	50
PG13.5	6.5-9.5	(.26-.37)	3.5-8.0	(.14-.31)	20.5	(.81)	50
PG13.5	7.0-10.5	(.27-.41)	3.5-8.0	(.14-.31)	20.5	(.81)	50
PG16	6.5-9.5	(.26-.37)	3.0-8.0	(.12-.31)	22.5	(.89)	50
PG16	7.0-10.5	(.27-.41)	5.0-8.0	(.20-.31)	22.5	(.89)	50
PG16	9.0-13.0	(.35-.51)	5.0-8.0	(.20-.31)	22.5	(.89)	50
PG16	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	22.5	(.89)	50
PG21	7.0-10.5	(.27-.41)	4.5-9.5	(.18-.37)	28.5	(1.12)	25
PG21	9.0-13.0	(.35-.51)	4.5-9.5	(.18-.37)	28.5	(1.12)	25
PG21	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	28.5	(1.12)	25
PG21	11.5-15.5	(.45-.61)	8.0-13.5	(.31-.53)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	9.0-14.5	(.35-.57)	28.5	(1.12)	25
PG29	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	37.0	(1.46)	10
PG29	17.0-20.5	(.67-.81)	13.0-18.0	(.51-.71)	37.0	(1.46)	10
PG29	20.0-25.0	(.79-.98)	13.0-18.0	(.51-.71)	37.0	(1.46)	10
PG29	20.0-25.0	(.79-.98)	15.0-20.0	(.59-.79)	37.0	(1.46)	10
PG36	24.0-28.0	(.94-1.10)	18.5-25.5	(.73-1.00)	47.0	(1.85)	10
PG36	29.0-33.0	(1.14-1.30)	24.0-30.5	(.94-1.20)	47.0	(1.85)	10
PG42	36.0-40.0	(1.42-1.57)	34.0-39.0	(1.34-1.54)	54.0	(2.13)	5
PG48	39.0-44.0	(1.54-1.73)	33.0-38.0	(1.30-1.50)	59.5	(2.34)	5



### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

- 21650.6
- 18621.6
- 21651.6
- 18622.6
- 18624.6
- 21653.6
- 21655.6
- 18552.6
- 21656.6
- 21659.6
- 21660.6
- 21661.6
- 21685.6
- 18630.6
- 21662.6
- 21663.6
- 21664.6
- 21665.6
- 21666.6
- 21667.6
- 18635.6
- 21669.6
- 21670.6
- 21672.6
- 18636.6
- 18638.6

### EMI/RFI Locknuts



Order Separately

**Material**

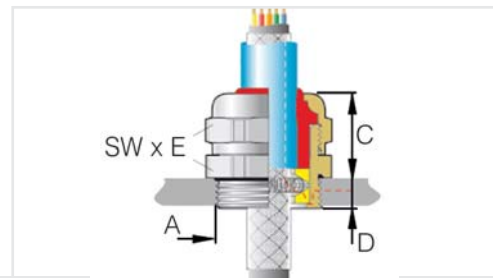
Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG9	23011.9	10
PG11	23012.9	10
PG13.5	23013.9	10
PG16	23014.9	10
PG21	23015.9	5
PG29	23016.9	5
PG36	23017.9	5
PG42	23018.9	2
PG48	23019.9	2

See Page 296 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

Size	A	C	D	SW	E
PG9	15.2 (.60)	20.0 (.79)	6.0 (.24)	17.0 (.67)	18.9 (.74)
PG11	18.6 (.73)	20.0 (.79)	6.0 (.24)	20.0 (.79)	22.2 (.87)
PG13.5	20.4 (.80)	21.0 (.83)	6.5 (.26)	22.0 (.87)	24.4 (.96)
PG16	22.5 (.89)	21.0 (.83)	6.5 (.26)	24.0 (.94)	26.7 (1.05)
PG21	28.3 (1.11)	25.0 (.98)	7.0 (.28)	30.0 (1.18)	33.5 (1.32)
PG29	37.0 (1.46)	27.0 (1.06)	8.0 (.31)	40.0 (1.57)	43.5 (1.71)
PG36	47.0 (1.85)	28.0 (1.10)	9.0 (.35)	50.0 (1.97)	54.0 (2.24)
PG42	54.0 (2.13)	30.0 (1.18)	10.0 (.39)	57.0 (2.24)	61.0 (2.40)
PG48	59.3 (2.33)	30.0 (1.18)	10.0 (.39)	64.0 (2.52)	69.0 (2.72)

## EMI/RFI TOR-SPRING™ – PG External Thread

### Segmented Cable Jacket, Heavy Duty

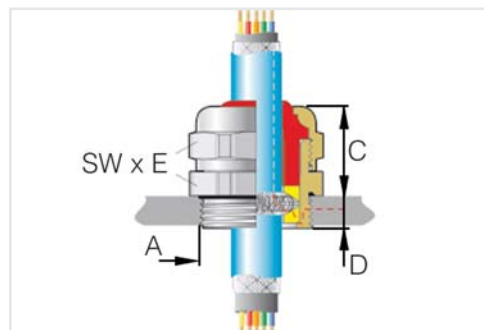
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Transport and Marine Applications.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG9	4.0-6.5	(.16-.26)	3.0-6.0	(.12-.24)	15.2	(.60)	50
PG9	6.5-9.0	(.26-.35)	4.0-8.5	(.16-.33)	15.2	(.60)	50
PG11	4.0-6.5	(.16-.26)	3.0-6.0	(.12-.24)	18.5	(.73)	50
PG11	6.5-9.5	(.26-.37)	4.0-8.5	(.16-.33)	18.5	(.73)	50
PG13.5	4.0-6.5	(.16-.26)	3.0-6.0	(.12-.24)	20.5	(.81)	50
PG13.5	6.5-9.0	(.26-.35)	4.0-8.5	(.16-.33)	20.5	(.81)	50
PG13.5	10.0-14.0	(.39-.55)	6.5-11.5	(.26-.45)	20.5	(.81)	25
PG16	8.0-11.0	(.31-.43)	6.0-10.5	(.26-.41)	22.5	(.89)	25
PG16	10.0-14.0	(.39-.55)	9.0-13.0	(.35-.51)	22.5	(.89)	25
PG16	14.0-16.5	(.55-.65)	9.5-16.5	(.37-.65)	22.5	(.89)	25
PG21	8.0-11.0	(.31-.43)	6.0-10.5	(.26-.41)	28.5	(1.12)	25
PG21	10.0-14.0	(.39-.55)	7.0-11.5	(.27-.45)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	12.5-17.5	(.49-.69)	28.5	(1.12)	25
PG21	17.0-20.0	(.67-.79)	13.0-20.0	(.51-.79)	28.5	(1.12)	25
PG29	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	37.0	(1.46)	10
PG36	25.0-29.0	(.98-1.14)	24.0-30.5	(.94-1.20)	47.0	(1.85)	5
PG42	37.0-41.0	(1.46-1.61)	34.0-42.0	(1.34-1.65)	54.0	(2.13)	5

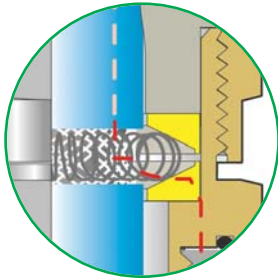


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
PG9	15.2 (.60)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG11	18.6 (.73)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG13.5	20.4 (.80)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG16	22.5 (.89)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
PG21	28.3 (1.11)	34.0 (1.34)	11.0 (.43)	35.0 (1.38)	38.5 (1.52)
PG29	37.0 (1.46)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	40.0 (1.57)
PG36	47.0 (1.85)	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
PG42	54.0 (2.13)	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Cat. No.**

18610.6  
18611.6  
21526.6  
21527.6  
21528.6  
21529.6  
18617.6  
21530.6  
21531.6  
18612.6  
21532.6  
21533.6  
21534.6  
21535.6  
21536.6  
18613.6  
18614.6

**Cat. No.**

23011.9  
23011.9  
23012.9  
23012.9  
23013.9  
23013.9  
23013.9  
23013.9  
23014.9  
23014.9  
23014.9  
23015.9  
23015.9  
23015.9  
23015.9  
23016.9  
23017.9  
23018.9

**Std. Pk.**

10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
5  
5  
5  
5  
5  
5  
2

See Page 296 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – PG External Thread

### Stripped Cable Jacket, Heavy Duty

The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Transport and Marine Applications.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



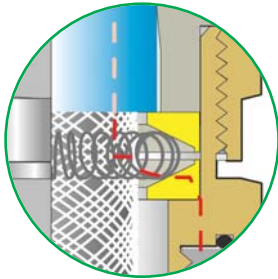
Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG9	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	15.2	(.60)	50
PG9	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	15.2	(.60)	50
PG11	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	18.5	(.73)	50
PG11	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	18.5	(.73)	50
PG13.5	6.5-9.0	(.26-.35)	3.5-7.5	(.14-.29)	20.5	(.81)	50
PG13.5	8.0-11.0	(.31-.43)	4.0-8.5	(.16-.33)	20.5	(.81)	50
PG16	8.0-11.0	(.31-.43)	6.0-9.0	(.24-.35)	22.5	(.89)	25
PG16	10.0-14.0	(.39-.55)	6.5-11.5	(.26-.45)	22.5	(.89)	25
PG16	14.0-18.0	(.55-.71)	6.5-11.5	(.26-.45)	22.5	(.89)	25
PG16	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	22.5	(.89)	25
PG21	14.0-18.0	(.55-.71)	9.5-16.5	(.37-.65)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	10.0-15.0	(.39-.59)	28.5	(1.12)	25
PG21	17.0-20.0	(.67-.79)	12.5-17.5	(.49-.69)	28.5	(1.12)	25
PG29	19.0-23.0	(.75-.91)	15.0-21.0	(.59-.83)	37.0	(1.46)	10
PG29	22.0-26.0	(.87-1.02)	15.0-21.0	(.59-.83)	37.0	(1.46)	10
PG29	25.0-29.0	(.98-1.14)	19.0-25.0	(.75-.98)	37.0	(1.46)	10
PG29	25.0-29.0	(.98-1.14)	22.0-25.0	(.87-.98)	37.0	(1.46)	10
PG36	25.0-29.0	(.98-1.14)	19.0-25.0	(.75-.98)	47.0	(1.85)	5
PG36	25.0-29.0	(.98-1.14)	22.0-25.0	(.87-.98)	47.0	(1.85)	5
PG36	25.0-29.0	(.98-1.14)	21.0-27.0	(.83-1.06)	47.0	(1.85)	5
PG36	29.0-32.0	(1.14-1.26)	21.0-27.0	(.83-1.06)	47.0	(1.85)	5
PG36	29.0-32.0	(1.14-1.26)	24.0-30.5	(.94-1.20)	47.0	(1.85)	5
PG42	32.0-37.0	(1.26-1.46)	29.0-33.0	(1.14-1.30)	54.0	(2.13)	5
PG42	37.0-41.0	(1.46-1.61)	29.0-33.0	(1.14-1.30)	54.0	(2.13)	5
PG48	40.0-45.0	(1.57-1.77)	34.0-42.0	(1.34-1.65)	59.5	(2.34)	5
PG48	45.0-51.0	(1.77-2.01)	40.0-48.0	(1.57-1.89)	59.5	(2.34)	5

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V) Sealing Insert



#### Cat. No.

18600.6  
18601.6  
21504.6  
21505.6  
21506.6  
21507.6  
21508.6  
18602.6  
18616.6  
21509.6  
21510.6  
21511.6  
21512.6  
21513.6  
21514.6  
21515.6  
18603.6  
21516.6  
18604.6  
18605.6  
21517.6  
21518.6  
21519.6  
21520.6  
18606.6  
18607.6

### EMI/RFI Locknuts



Order Separately

#### Material

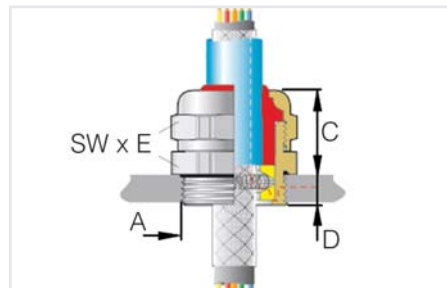
Nickel Plated Brass (NPB)

#### Temperature Range

-40 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG9	23011.9	10
PG11	23012.9	10
PG13.5	23013.9	10
PG16	23014.9	10
PG21	23015.9	5
PG29	23016.9	5
PG36	23017.9	5
PG42	23018.9	2
PG48	23019.9	2

See Page 296 for Drawings and Dimensional Information.



#### Cord Grip Dimensions: mm (in.)

Size	A	C	D	SW	E
PG9	15.2 (.60)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG11	18.6 (.73)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG13.5	20.4 (.80)	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG16	22.5 (.89)	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
PG21	28.3 (1.11)	34.0 (1.34)	11.0 (.43)	35.0 (1.38)	38.5 (1.52)
PG29	37.0 (1.46)	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
PG36	47.0 (1.85)	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
PG42	54.0 (2.13)	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)
PG48	59.3 (2.33)	58.0 (2.28)	16.0 (.63)	81.0 (3.19)	87.0 (3.43)

## EMI/RFI TOR-SPRING™ – PG External Thread

### Segmented Cable Jacket, Enlarged

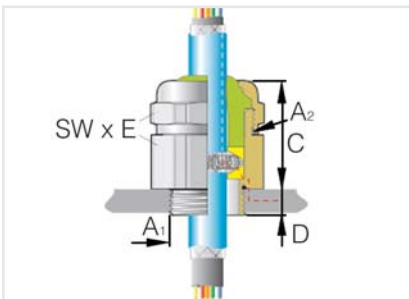
The EMI/RFI TOR-SPRING Cord Grips on this pages feature an Enlarged Body with extended hexagon to accommodate cable with thicker outer insulation at the smallest possible external thread size.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG7	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	12.5	(.49)	50
PG11	7.0-10.5	(.27-.41)	4.5-8.5	(.18-.33)	18.5	(.73)	50
PG16	11.5-15.5	(.45-.61)	9.0-14.5	(.33-.57)	22.5	(.89)	50
PG21	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	13.0-18.0	(.51-.71)	28.5	(1.12)	25
PG21	17.0-20.5	(.67-.81)	15.0-20.0	(.59-.79)	28.5	(1.12)	25
PG29	20.0-25.0	(.79-.98)	18.5-25.5	(.73-1.00)	37.0	(1.46)	10

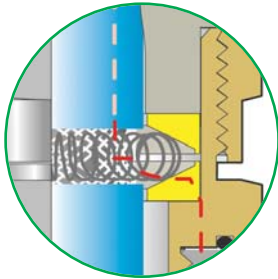


Cord Grip Dimensions: mm (in.)						
External Thread	Internal Thread	C	D	SW	E	
A1	A2					
PG7	PG9	27.0 (1.06)	5.0 (.20)	17.0 (.67)	18.9 (.74)	
PG11	PG13.5	29.0 (1.14)	6.0 (.24)	22.0 (.87)	24.4 (.96)	
PG16	PG21	35.0 (1.38)	6.5 (.26)	30.0 (1.18)	33.5 (1.32)	
PG21	PG29	38.0 (1.50)	7.0 (.28)	40.0 (1.57)	43.5 (1.71)	
PG29	PG36	39.0 (1.54)	8.0 (.31)	50.0 (1.97)	54.0 (2.13)	

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

- 18640.6
- 21683.6
- 18642.6
- 21688.6
- 18643.6
- 18553.6
- 18639.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Cat. No.**

- 23010.9
- 23012.9
- 23014.9
- 23015.9
- 23015.9
- 23015.9
- 23016.9

**Std. Pk.**

- 10
- 10
- 10
- 5
- 5
- 5
- 5

See Page 296 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – PG External Thread

### Stripped Cable Jacket, Enlarged

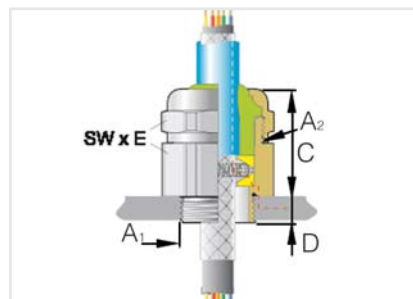
The EMI/RFI TOR-SPRING Cord Grips on this pages feature an Enlarged Body with extended hexagon to accommodate cable with thicker outer insulation at the smallest possible external thread size.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG7	4.0-6.5	(.16-.26)	1.5-4.0	(.06-.16)	12.5	(.49)	50
PG7	5.0-8.0	(.20-.31)	2.5-6.0	(.10-.24)	12.5	(.49)	50
PG7	6.5-9.5	(.26-.37)	2.5-6.0	(.10-.24)	12.5	(.49)	50
PG9	6.5-9.5	(.26-.37)	3.5-8.5	(.14-.33)	15.2	(.60)	50
PG9	7.0-10.5	(.27-.41)	3.5-8.5	(.14-.33)	15.2	(.60)	50
PG11	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	18.5	(.73)	50
PG16	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	22.5	(.89)	25
PG16	11.5-15.5	(.45-.61)	8.0-13.5	(.31-.53)	22.5	(.89)	25
PG16	14.0-18.0	(.55-.71)	9.0-14.5	(.35-.57)	22.5	(.89)	25
PG21	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	28.5	(1.12)	25
PG21	17.0-20.5	(.67-.81)	13.0-18.0	(.51-.71)	28.5	(1.12)	25
PG21	20.0-25.0	(.79-.98)	15.0-20.0	(.59-.79)	28.5	(1.12)	25
PG29	24.0-28.0	(.94-1.10)	18.5-25.5	(.73-1.00)	37.0	(1.46)	10
PG29	27.0-32.0	(1.06-1.26)	24.0-30.5	(.94-1.20)	37.0	(1.46)	10
PG29	29.0-33.0	(1.14-1.30)	24.0-30.5	(.94-1.20)	37.0	(1.46)	10



**Cord Grip Dimensions: mm (in.)**

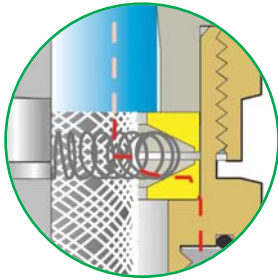
External Thread	Internal Thread	C	D	SW	E
PG7	PG9	27.0 (1.06)	5.0 (.20)	17.0 (.67)	18.9 (.74)
PG9	PG11	28.0 (1.10)	6.0 (.24)	20.0 (.79)	22.2 (.87)
PG11	PG13.5	29.0 (1.14)	6.0 (.24)	22.0 (.87)	24.4 (.96)
PG16	PG21	35.0 (1.38)	6.5 (.26)	30.0 (1.18)	33.5 (1.32)
PG21	PG29	38.0 (1.50)	7.0 (.28)	40.0 (1.57)	43.5 (1.71)
PG29	PG36	39.0 (1.54)	8.0 (.31)	50.0 (1.97)	54.0 (2.13)



**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

21500.6  
21680.6  
18641.6  
21502.6  
21503.6  
21684.6  
21685.6  
21686.6  
21687.6  
21688.6  
21689.6  
21690.6  
21691.6  
21692.6  
21963.6

**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Cat. No.**

23010.9  
23010.9  
23010.9  
23011.9  
23011.9  
23012.9  
23014.9  
23014.9  
23014.9  
23014.9  
23015.9  
23015.9  
23015.9  
23016.9  
23016.9  
23016.9

**Std. Pk.**

10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
5  
5  
5  
5  
5  
5

See Page 296 for Drawings and Dimensional Information.

## EMI/RFI Cord Grips – PG External Thread

### Increased Strain Relief

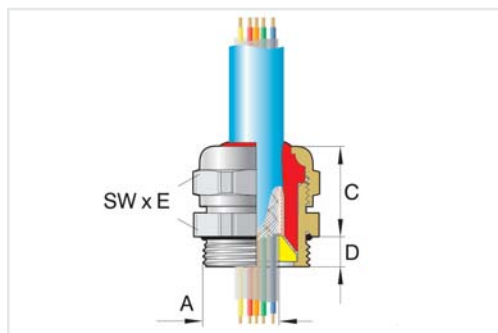
The EMI/RFI Cord Grips on this pages feature a Compact Body configuration with standard External Thread Length and Increased Strain Relief Inserts.

- Protection Rating: IP54; NEMA 13
- Perbunan Seal Rings Factory Installed
- 15mm (.59in.) Long External Thread Upon Request
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-20 to 100°C (-4 to 212°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Max. Cone Dia. E2		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	
PG7	4.0-6.5	(.16-.26)	4.0	(.16)	12.5	(.49)	50
PG7	5.5-9.0	(.22-.35)	7.0	(.28)	12.5	(.49)	50
PG9	4.0-6.5	(.16-.26)	4.5	(.18)	15.2	(.60)	50
PG9	5.5-9.0	(.22-.35)	7.0	(.28)	15.2	(.60)	50
PG9	6.0-10.0	(.24-.39)	8.0	(.31)	15.2	(.60)	50
PG11	5.5-9.0	(.22-.35)	7.0	(.28)	18.5	(.73)	50
PG11	6.0-10.0	(.24-.39)	8.0	(.31)	18.5	(.73)	50
PG11	8.0-12.0	(.31-.47)	10.0	(.39)	18.5	(.73)	50
PG13.5	5.5-9.0	(.22-.39)	7.0	(.28)	20.5	(.81)	50
PG13.5	8.0-12.0	(.31-.47)	10.0	(.39)	20.5	(.81)	50
PG13.5	12.0-15.0	(.47-.59)	12.0	(.47)	20.5	(.81)	50
PG16	6.0-10.0	(.24-.39)	8.0	(.31)	22.5	(.89)	50
PG16	8.0-12.0	(.31-.47)	10.0	(.39)	22.5	(.89)	50
PG16	12.0-15.0	(.47-.59)	12.0	(.47)	22.5	(.89)	50
PG16	14.0-17.0	(.55-.67)	14.0	(.55)	22.5	(.89)	50
PG16	16.0-20.0	(.63-.79)	17.0	(.67)	22.5	(.89)	50
PG21	14.0-17.0	(.55-.67)	14.0	(.55)	28.5	(1.12)	25
PG21	16.0-20.0	(.63-.79)	17.0	(.67)	28.5	(1.12)	25
PG21	20.0-24.0	(.79-.94)	20.0	(.79)	28.5	(1.12)	10
PG21	23.0-27.0	(.91-1.06)	23.0	(.91)	28.5	(1.12)	10
PG29	20.0-24.0	(.79-.94)	20.0	(.79)	37.0	(1.46)	10
PG29	23.0-27.0	(.91-1.06)	23.0	(.91)	37.0	(1.46)	10
PG29	27.0-32.0	(1.06-1.26)	28.0	(1.10)	37.0	(1.46)	5
PG36	27.0-32.0	(1.06-1.26)	28.0	(1.10)	47.0	(1.85)	5

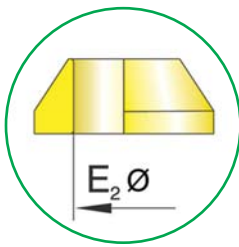


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
PG7	12.5 (.49)	18.0 (.71)	5.0 (.20)	14.0 (.55)	15.5 (.61)
PG9	15.2 (.60)	20.0 (.79)	6.0 (.24)	17.0 (.67)	18.9 (.74)
PG11	18.6 (.73)	20.0 (.79)	6.0 (.24)	20.0 (.79)	22.2 (.87)
PG13.5	20.4 (.80)	21.0 (.83)	6.5 (.26)	22.0 (.87)	24.4 (.96)
PG16	22.5 (.89)	21.0 (.83)	6.5 (.26)	24.0 (.94)	26.7 (1.05)
PG21	28.3 (1.11)	25.0 (.98)	7.0 (.28)	30.0 (1.18)	33.5 (1.32)
PG29	37.0 (1.46)	28.0 (1.10)	8.0 (.31)	40.0 (1.57)	43.5 (1.71)
PG36	47.0 (1.85)	28.0 (1.10)	9.0 (.35)	50.0 (1.97)	54.0 (2.24)

### Nickel Plated Brass (NPB)



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**Cat. No.**

97820.6  
97821.6  
97822.6  
97823.6  
97824.6  
97825.6  
97826.6  
97827.6  
97828.6  
97829.6  
97830.6  
97831.6  
97832.6  
97833.6  
97834.6  
97835.6  
97836.6  
97837.6  
97838.6  
97839.6  
97840.6  
97841.6  
97842.6  
97843.6

### EMI/RFI Locknuts



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Cat. No.**

23010.9  
23010.9  
23011.9  
23011.9  
23011.9  
23012.9  
23012.9  
23012.9  
23013.9  
23013.9  
23013.9  
23014.9  
23014.9  
23014.9  
23014.9  
23014.9  
23014.9  
23015.9  
23015.9  
23015.9  
23015.9  
23016.9  
23016.9  
23016.9  
23017.9

**Std. Pk.**

10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
10  
5  
5  
5  
5  
5  
5  
5  
5  
5

See Page 296 for Drawings and Dimensional Information.

## EMI/RFI TOR-SPRING™ – NPT External Thread

### Segmented Cable Jacket

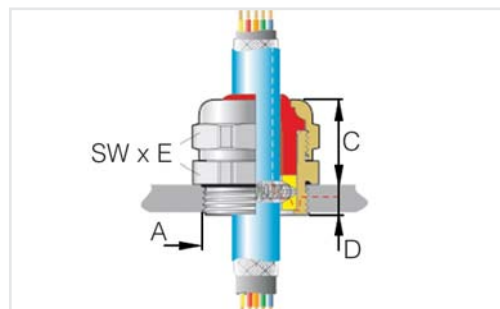
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration with an NPT external thread.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	
NPT3/8"	4.0-6.5	(.16-.26)	2.5-6.0	(.10-.24)	50
NPT1/2"	4.0-6.5	(.16-.26)	3.0-8.0	(.12-.31)	50
NPT1/2"	6.5-9.5	(.26-.37)	6.5-10.5	(.26-.41)	50
NPT1/2"	7.0-10.5	(.27-.41)	6.5-10.5	(.26-.41)	50
NPT3/4"	9.0-13.0	(.35-.51)	7.0-12.0	(.27-.47)	25
NPT3/4"	9.0-13.0	(.35-.51)	8.0-13.5	(.31-.53)	25
NPT3/4"	11.5-15.5	(.45-.61)	9.0-14.5	(.33-.57)	25
NPT1"	11.5-15.5	(.45-.61)	13.0-17.0	(.51-.67)	10
NPT1"	14.0-18.0	(.55-.71)	13.0-18.0	(.51-.71)	10
NPT1"	17.0-20.5	(.67-.81)	15.0-20.0	(.59-.79)	10
NPT1-1/4"	27.0-32.0	(1.06-1.26)	24.0-30.5	(.94-1.20)	5
NPT1-1/2"	32.0-36.0	(1.26-1.42)	34.0-39.0	(1.34-1.54)	5
NPT1-1/2"	34.0-38.0	(1.34-1.50)	34.0-39.0	(1.34-1.54)	5

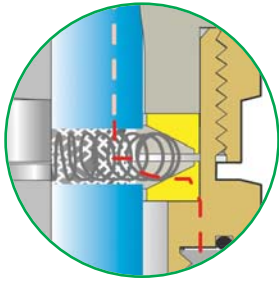


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
NPT3/8"	17.2 (.68)	28.0 (1.10)	13.0 (.51)	20.0 (.79)	22.2 (.87)
NPT1/2"	21.3 (.84)	28.0 (1.10)	16.0 (.63)	24.0 (.94)	26.7 (1.05)
NPT3/4"	26.7 (1.05)	34.0 (1.34)	16.0 (.63)	30.0 (1.18)	33.5 (1.32)
NPT1"	33.3 (1.31)	38.0 (1.50)	20.0 (.79)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	42.2 (1.66)	38.0 (1.50)	20.0 (.79)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	48.3 (1.90)	40.0 (1.57)	22.0 (.87)	57.0 (2.24)	61.0 (2.40)

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE) Sealing Insert



**Cat. No.**

- |         |
|---------|
| 21791.6 |
| 21796.6 |
| 21795.6 |
| 21792.6 |
| 21793.6 |
| 21803.6 |
| 21804.6 |
| 21805.6 |
| 21806.6 |
| 21794.6 |
| 21808.6 |
| 21812.6 |
| 21815.6 |

## EMI/RFI TOR-SPRING™ – NPT External Thread

### Stripped Cable Jacket, Compact

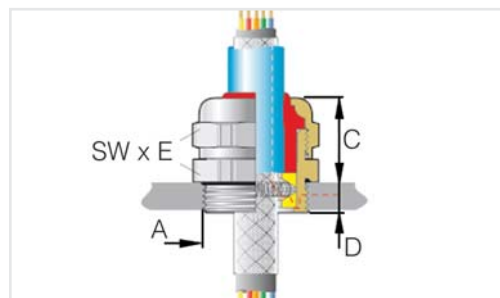
The EMI/RFI TOR-SPRING Cord Grips on this pages feature a Compact Body configuration with an NPT external thread.

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- High Temperature Silicone Inserts (-65° to 392°F) Upon Request



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Various

Size	Cable Dia.		Shield Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	
NPT3/8"	6.5-9.5	(.26-.37)	3.5-8.5	(.14-.33)	50
NPT3/8"	7.0-10.5	(.27-.41)	3.5-8.5	(.14-.33)	50
NPT1/2"	6.5-9.5	(.26-.37)	3.5-6.5	(.14-.26)	50
NPT1/2"	6.5-9.5	(.26-.37)	3.0-8.0	(.12-.31)	50
NPT1/2"	7.0-10.5	(.27-.41)	3.0-8.0	(.12-.31)	50
NPT1/2"	7.0-10.5	(.27-.41)	5.0-8.0	(.20-.31)	50
NPT1/2"	9.0-13.0	(.35-.51)	5.0-8.0	(.20-.31)	50
NPT1/2"	9.0-13.0	(.35-.51)	6.5-10.5	(.26-.41)	50
NPT3/4"	9.0-13.0	(.35-.51)	4.5-9.5	(.18-.37)	25
NPT3/4"	11.5-15.5	(.45-.61)	8.0-13.5	(.31-.53)	25
NPT3/4"	14.0-18.0	(.55-.71)	9.0-14.5	(.35-.57)	25
NPT1"	14.0-18.0	(.55-.71)	13.0-17.0	(.51-.67)	10
NPT1"	17.0-20.5	(.67-.81)	13.0-18.0	(.51-.71)	10
NPT1"	20.0-25.0	(.79-.98)	15.0-20.0	(.59-.79)	10
NPT1-1/4"	24.0-28.0	(.94-1.10)	18.5-25.0	(.73-.98)	5
NPT1-1/4"	29.0-34.0	(1.14-1.34)	24.0-30.5	(.94-1.20)	5
NPT1-1/4"	32.0-36.0	(1.26-1.42)	24.0-30.5	(.94-1.20)	5
NPT1-1/2"	24.0-28.0	(.94-1.10)	18.5-25.0	(.73-.98)	5
NPT1-1/2"	29.0-34.0	(1.14-1.34)	24.0-30.5	(.94-1.20)	5
NPT1-1/2"	32.0-36.0	(1.26-1.42)	24.0-30.5	(.94-1.20)	5
NPT1-1/2"	36.0-40.0	(1.42-1.57)	34.0-39.0	(1.34-1.54)	5
NPT2"	39.0-44.0	(1.54-1.73)	33.0-38.0	(1.30-1.50)	1

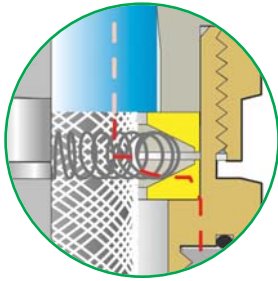


Cord Grip Dimensions: mm (in.)					
Size	A	C	D	SW	E
NPT3/8"	17.2 (.68)	28.0 (1.10)	13.0 (.51)	20.0 (.79)	22.2 (.87)
NPT1/2"	21.3 (.84)	28.0 (1.10)	16.0 (.63)	24.0 (.94)	26.7 (1.05)
NPT3/4"	26.7 (1.05)	34.0 (1.34)	16.0 (.63)	30.0 (1.18)	33.5 (1.32)
NPT1"	33.3 (1.31)	38.0 (1.50)	20.0 (.79)	40.0 (1.57)	43.5 (1.71)
NPT1-1/4"	42.2 (1.66)	38.0 (1.50)	20.0 (.79)	50.0 (1.97)	54.0 (2.13)
NPT1-1/2"	48.3 (1.90)	40.0 (1.57)	22.0 (.87)	57.0 (2.24)	61.0 (2.40)
NPT2"	60.3 (2.38)	40.0 (1.57)	25.0 (.98)	64.0 (2.52)	69.0 (2.72)

**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE) Sealing Insert**



**Cat. No.**

- 21780.6
- 21781.6
- 21782.6
- 21797.6
- 21783.6
- 21799.6
- 21801.6
- 21784.6
- 21785.6
- 21786.6
- 21787.6
- 21788.6
- 21789.6
- 21790.6
- 21807.6
- 21809.6
- 21810.6
- 21811.6
- 21813.6
- 21814.6
- 21816.6
- 21817.6

## EMI/RFI Marine Cord Grips – Metric External Thread

### German Lloyd Approved

The EMI/RFI Marine Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Marine and Transport Applications. They are approved by German (Germanischer) Lloyd Certificate No. 94 546-90 HH File No. I.N.03

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

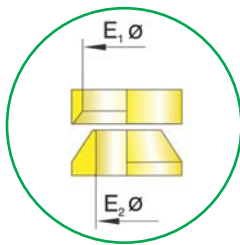
Size	Cable Dia.		Max. Shield Dia. E1		Max. Cone Dia. E2		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	mm	(in.)	
M16x1.5	4.0-6.5	(.16-.26)	5.5	(.22)	3.3	(.13)	16.0	(.63)	50
M16x1.5	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	16.0	(.63)	50
M16x1.5	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	16.0	(.63)	50
M18x1.5	4.0-6.5	(.16-.26)	5.5	(.22)	3.3	(.13)	18.0	(.71)	50
M18x1.5	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	18.0	(.71)	50
M18x1.5	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	18.0	(.71)	50
M20x1.5	4.0-6.5	(.16-.26)	5.5	(.22)	3.3	(.13)	20.0	(.79)	50
M20x1.5	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	20.0	(.79)	50
M20x1.5	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	20.0	(.79)	50
M24x1.5	6.5-9.5	(.26-.37)	8.2	(.32)	6.0	(.24)	24.0	(.95)	25
M24x1.5	8.0-10.5	(.31-.41)	9.2	(.36)	7.0	(.27)	24.0	(.95)	25
M24x1.5	10.0-11.5	(.39-.45)	10.2	(.40)	8.0	(.31)	24.0	(.95)	25
M24x1.5	10.0-14.0	(.39-.55)	12.7	(.50)	10.5	(.41)	24.0	(.95)	25
M24x1.5	14.0-16.5	(.55-.65)	15.2	(.60)	13.0	(.51)	24.0	(.95)	25
M24x1.5	14.0-18.0	(.55-.71)	16.3	(.64)	14.5	(.57)	24.0	(.95)	25
M25x1.5	6.5-9.5	(.26-.37)	8.2	(.32)	6.0	(.24)	25.0	(.98)	25
M25x1.5	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	25.0	(.98)	25
M25x1.5	10.0-11.5	(.39-.45)	10.2	(.40)	8.0	(.31)	25.0	(.98)	25
M25x1.5	10.0-14.0	(.39-.55)	12.7	(.50)	10.5	(.41)	25.0	(.98)	25
M25x1.5	14.0-16.5	(.55-.65)	15.2	(.60)	13.0	(.51)	25.0	(.98)	25
M25x1.5	14.0-18.0	(.55-.71)	16.3	(.64)	14.5	(.57)	25.0	(.98)	25
M25x1.5	17.0-20.0	(.67-.79)	20.0	(.79)	18.0	(.71)	25.0	(.98)	25
M30x2.0	14.0-18.0	(.55-.71)	18.0	(.71)	16.0	(.63)	30.0	(1.18)	25
M30x2.0	17.0-20.0	(.67-.79)	20.0	(.79)	18.0	(.71)	30.0	(1.18)	25
M32x1.5	19.0-23.0	(.75-.91)	22.0	(.87)	20.0	(.79)	32.0	(1.26)	10
M32x1.5	19.0-23.0	(.75-.91)	24.0	(.94)	22.0	(.87)	32.0	(1.26)	10
M32x1.5	22.0-26.0	(.87-1.02)	26.0	(1.02)	24.0	(.94)	32.0	(1.26)	10
M36x2.0	19.0-23.0	(.75-.91)	24.0	(.94)	22.0	(.87)	36.0	(1.42)	10
M36x2.0	22.0-26.0	(.87-1.02)	26.0	(1.02)	24.0	(.94)	36.0	(1.42)	10
M40x1.5	25.0-30.0	(.98-1.18)	29.0	(1.14)	27.0	(1.06)	40.0	(1.57)	5
M40x1.5	29.0-32.0	(1.14-1.26)	32.0	(1.26)	30.0	(1.18)	40.0	(1.57)	5
M45x2.0	25.0-29.0	(.98-1.14)	29.0	(1.14)	27.0	(1.06)	45.0	(1.77)	5
M45x2.0	29.0-32.0	(1.14-1.26)	32.0	(1.26)	30.0	(1.18)	45.0	(1.77)	5
M50x1.5	32.0-37.0	(1.26-1.46)	37.0	(1.46)	35.0	(1.38)	50.0	(1.97)	5
M50x1.5	37.0-41.0	(1.46-1.61)	41.0	(1.61)	39.0	(1.54)	50.0	(1.97)	5
M63x1.5	40.0-45.0	(1.57-1.77)	46.0	(1.81)	44.0	(1.73)	63.0	(2.48)	1
M63x1.5	45.0-51.0	(1.77-2.01)	51.0	(2.01)	49.0	(1.93)	63.0	(2.83)	1
M72x2.0	40.0-45.0	(1.57-1.77)	46.0	(1.81)	44.0	(1.73)	72.0	(2.84)	1
M72x2.0	45.0-51.0	(1.77-2.01)	51.0	(2.01)	49.0	(1.93)	72.0	(2.83)	1
M72x2.0	51.0-56.0	(2.01-2.20)	51.0	(2.01)	49.0	(1.93)	72.0	(2.83)	1



**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**EMI/RFI Locknuts**



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

**Cat. No.**

97020.6  
21620.6  
21621.6  
21630.6  
21631.6  
21632.6  
97021.6  
97022.6  
97023.6  
21633.6  
21634.6  
21635.6  
21636.6  
21637.6  
21638.6  
21622.6  
21623.6  
21624.6  
21625.6  
21626.6  
21627.6  
21628.6  
21639.6  
21640.6  
97025.6  
97026.6  
21629.6  
21641.6  
21642.6  
97027.6  
97028.6  
21643.6  
21644.6  
97029.6  
97030.6  
97031.6  
97032.6  
97035.6  
97036.6  
97037.6

**Size**

M16x1.5  
M18x1.5  
M20x1.5  
M24x1.5  
M25x1.5  
M30x2.0  
M32x1.5  
M36x2.0  
M40x1.5  
M45x2.0  
M50x1.5  
M63x1.5  
M72x2.0

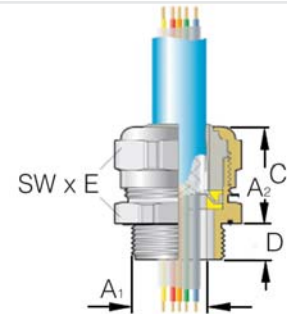
**Cat. No.**

25891.9  
97602.9  
25892.9  
97603.9  
25893.9  
97604.9  
25894.9  
97605.9  
25895.9  
97606.9  
25896.9  
25897.9  
97608.9

**Std. Pk.**

100  
50  
100  
50  
100  
50  
100  
50  
50  
25  
50  
25  
10

See Page 295 for EMI/RFI Locknut Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

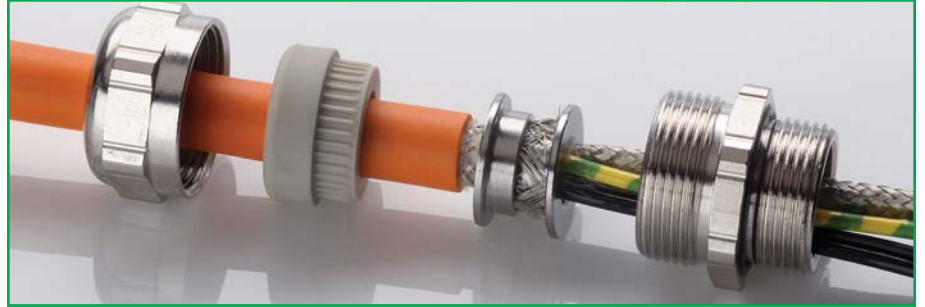
External Thread	Internal Thread	Cord Grip Dimensions: mm (in.)					
		A1	A2	C	D	C	SW
M16x1.5	M22x1.5	31.0 (1.22)	10.0 (.39)	16.0 (.63)	24.0 (.94)	26.7 (1.05)	
M18x1.5	M22x1.5	31.0 (1.22)	10.0 (.39)	18.0 (.71)	24.0 (.94)	26.7 (1.05)	
M20x1.5	M22x1.5	31.0 (1.22)	10.0 (.39)	20.0 (.79)	24.0 (.94)	26.7 (1.05)	
M24x1.5	M28x1.5	32.0 (1.26)	11.0 (.43)	24.0 (.94)	30.0 (1.18)	33.5 (1.32)	
M25x1.5	M28x1.5	32.0 (1.26)	11.0 (.43)	25.0 (.98)	30.0 (1.18)	33.5 (1.32)	
M30x2.0	M32x1.5	34.0 (1.34)	12.0 (.47)	30.0 (1.18)	35.0 (1.38)	38.5 (1.52)	
M32x1.5	M38x1.5	39.0 (1.54)	13.0 (.51)	32.0 (1.26)	40.0 (1.57)	43.5 (1.71)	
M36x2.0	M38x1.5	39.0 (1.54)	13.0 (.51)	36.0 (1.42)	40.0 (1.57)	43.5 (1.71)	
M40x1.5	M48x1.5	45.0 (1.77)	14.0 (.55)	40.0 (1.57)	50.0 (1.97)	54.0 (2.13)	
M45x2.0	M48x1.5	45.0 (1.77)	14.0 (.55)	45.0 (1.77)	50.0 (1.97)	54.0 (2.13)	
M50x1.5	M58x1.5	50.0 (1.97)	15.0 (.59)	50.0 (1.97)	60.0 (2.36)	66.0 (2.60)	
M63x1.5	M75x1.5	58.0 (2.28)	16.0 (.63)	63.0 (2.48)	81.0 (3.19)	87.0 (3.43)	
M72x2.0	M75x1.5	58.0 (2.28)	16.0 (.63)	72.0 (2.83)	81.0 (3.19)	87.0 (3.43)	

## EMI/RFI Marine Cord Grips – PG External Thread

### German Lloyd Approved

The EMI/RFI Marine Cord Grips on this pages feature a Heavy Duty Body with extended external thread length. Designed to withstand high mechanical stress and are widely used for Marine and Transport Applications. They are approved by German (Germanischer) Lloyd Certificate No. 94 546-90 HH File No. I.N.03

- Protection Rating: IP68; NEMA 4X
- Perbunan Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately



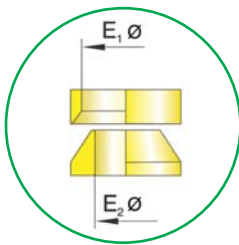
Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE-V)
<b>Seal Ring</b>	Perbunan (PRB)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 135°C (-40 to 275°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Beige

Size	Cable Dia.		Max. Shield Dia. E1		Max. Cone Dia. E2		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)	mm	(in.)	
PG9	4.0-6.5	(.16-.26)	5.5	(.22)	3.3	(.13)	15.2	(.60)	50
PG9	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	15.2	(.60)	50
PG9	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	15.2	(.60)	50
PG11	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	18.5	(.73)	50
PG11	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	18.5	(.73)	50
PG13.5	4.0-6.5	(.16-.26)	5.5	(.22)	3.3	(.13)	20.5	(.81)	50
PG13.5	6.5-9.0	(.26-.35)	8.2	(.32)	6.0	(.24)	20.5	(.81)	50
PG13.5	8.0-11.0	(.31-.43)	9.2	(.36)	7.0	(.27)	20.5	(.81)	50
PG16	6.5-9.5	(.26-.37)	8.2	(.32)	6.0	(.24)	22.5	(.89)	25
PG16	8.0-11.0	(.31-.43)	10.2	(.40)	8.0	(.31)	22.5	(.89)	25
PG16	8.0-11.0	(.31-.43)	12.7	(.50)	10.5	(.41)	22.5	(.89)	25
PG16	10.0-14.0	(.39-.55)	12.7	(.50)	10.5	(.41)	22.5	(.89)	25
PG16	14.0-16.5	(.55-.65)	15.2	(.60)	13.0	(.51)	22.5	(.89)	25
PG16	14.0-18.0	(.55-.71)	16.3	(.64)	14.5	(.57)	22.5	(.89)	25
PG21	10.0-14.0	(.39-.55)	12.7	(.50)	10.5	(.41)	28.5	(1.12)	25
PG21	14.0-16.5	(.55-.65)	15.2	(.60)	13.0	(.51)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	16.3	(.64)	14.5	(.57)	28.5	(1.12)	25
PG21	14.0-18.0	(.55-.71)	18.0	(.71)	16.0	(.63)	28.5	(1.12)	25
PG21	17.0-20.0	(.67-.79)	20.0	(.79)	18.0	(.71)	28.5	(1.12)	25
PG29	19.0-23.0	(.75-.91)	22.0	(.87)	20.0	(.79)	37.0	(1.46)	10
PG29	19.0-23.0	(.75-.91)	24.0	(.94)	22.0	(.87)	37.0	(1.46)	10
PG29	22.0-26.0	(.87-1.02)	26.0	(1.02)	24.0	(.94)	37.0	(1.46)	10
PG36	25.0-29.0	(.98-1.14)	29.0	(1.14)	27.0	(1.06)	47.0	(1.85)	5
PG36	29.0-32.0	(1.14-1.26)	32.0	(1.26)	30.0	(1.18)	47.0	(1.85)	5
PG36	37.0-41.0	(1.46-1.61)	41.0	(1.61)	39.0	(1.54)	47.0	(1.85)	5
PG42	32.0-37.0	(1.26-1.46)	37.0	(1.45)	35.0	(1.38)	54.0	(2.13)	5
PG42	37.0-41.0	(1.46-1.61)	41.0	(1.61)	39.0	(1.54)	54.0	(2.13)	5
PG48	40.0-45.0	(1.57-1.77)	46.0	(1.81)	44.0	(1.73)	59.5	(2.34)	1
PG48	45.0-51.0	(1.77-2.01)	51.0	(2.01)	49.0	(1.93)	59.5	(2.34)	1

**Nickel Plated Brass (NPB)**



With Thermoplastic Elastomer (TPE-V) Sealing Insert



**Cat. No.**

- 21590.6
- 21591.6
- 21592.6
- 21594.6
- 21595.6
- 21596.6
- 21597.6
- 21598.6
- 21599.6
- 21601.6
- 21602.6
- 21604.6
- 21605.6
- 21606.6
- 21607.6
- 21608.6
- 21609.6
- 21610.6
- 21611.6
- 21612.6
- 21613.6
- 21614.6
- 21615.6
- 21616.6
- 21593.6
- 21617.6
- 21618.6
- 18654.6
- 18655.6

**EMI/RFI Locknuts**



Order Separately

**Material**

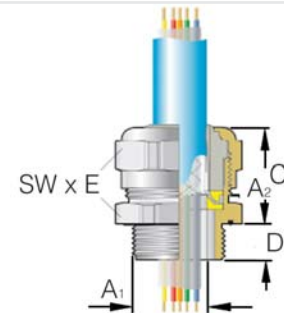
Nickel Plated Brass (NPB)

**Temperature Range**

-4 to 300°C (-40 to 572°F)

Size	Cat. No.	Std. Pk.
PG9	23011.9	10
PG11	23012.9	10
PG13.5	23013.9	10
PG16	23014.9	10
PG21	23015.9	5
PG29	23016.9	5
PG36	23017.9	5
PG42	23018.9	2
PG48	23019.9	2

See Page 296 for EMI/RFI Locknut Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.)**

External Thread	Internal Thread	C	D	SW	E
A1	A2				
PG9	M22x1.5	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG11	M22x1.5	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG13.5	M22x1.5	31.0 (1.22)	10.0 (.39)	24.0 (.94)	26.7 (1.05)
PG16	M28x1.5	32.0 (1.26)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
PG21	M28x1.5	34.0 (1.34)	11.0 (.43)	30.0 (1.18)	33.5 (1.32)
PG29	M38x1.5	39.0 (1.54)	13.0 (.51)	40.0 (1.57)	43.5 (1.71)
PG36	M48x1.5	45.0 (1.77)	14.0 (.55)	50.0 (1.97)	54.0 (2.13)
PG42	M58x1.5	50.0 (1.97)	15.0 (.59)	60.0 (2.36)	66.0 (2.60)
PG48	M75x1.5	58.0 (2.28)	16.0 (.63)	1.0 (3.19)	87.0 (3.43)

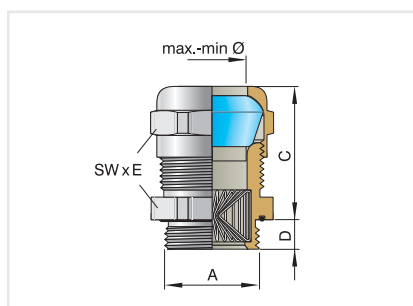
## blueglobe® TRI® – EMI/RFI Metric External Thread

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 15Bar, 215psi
- High Pressure Cleaning IP69K
- Seal Rings Factory Installed
- Optional 15mm (.59in.) Long External Thread available; Nickel Plated Brass & Stainless Steel Cord Grips; M12x1.5-M32x1.5
- Order EMI/RFI Locknuts Separately (See Page 295)



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Blue

Size	Sealing Range		Cable Dia. w/o Inlet		Shield Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	min./max. mm	min./max. (in.)	min./max. mm	min./max. (in.)	min./max. mm	min./max. (in.)	min./max. mm	min./max. (in.)		
M12x1.5	—	—	5.0-8.0	(.20-.31)	3.0-5.0	(.12-.20)	12.0	(.47)	50	18554.6
M16x1.5	—	—	7.0-11.0	(.28-.43)	5.0-9.0	(.20-.35)	16.0	(.63)	50	18555.6
M20x1.5	—	—	9.0-14.0	(.35-.55)	7.0-12.0	(.28-.47)	20.0	(.79)	50	96190.6
M25x1.5	11.0-20.0	(.43-.79)	16.0-20.0	(.63-.79)	10.0-16.0	(.39-.63)	25.0	(.98)	25	96191.6
M32x1.5	15.0-25.0	(.59-.98)	20.0-25.0	(.79-.98)	13.0-20.0	(.51-.79)	32.0	(1.26)	25	96192.6
M40x1.5	20.0-32.0	(.79-1.26)	26.0-32.0	(1.02-1.26)	20.0-32.0	(.79-1.26)	40.0	(1.57)	25	96193.6
M50x1.5	31.0-42.0	(1.22-1.65)	35.0-42.0	(1.38-1.65)	28.0-37.0	(1.10-1.46)	50.0	(1.97)	10	96194.6
M63x1.5					Coming Soon					96195.6
M75x1.5					Coming Soon					96196.6
M85x2					Coming Soon					96197.6



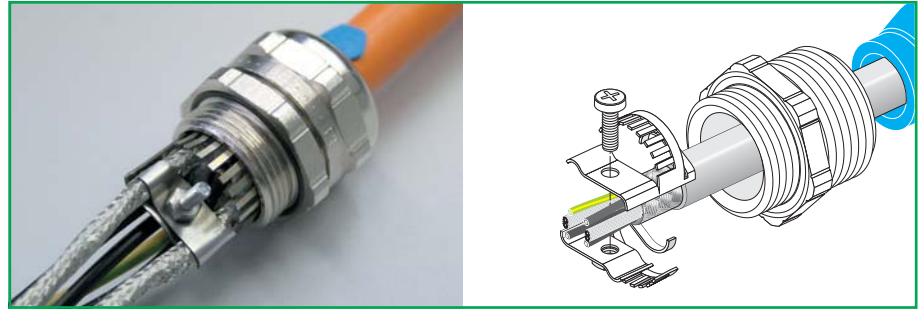
**Cord Grip Dimensions: mm (in.)**

Size	A	D	C	SW	E
M12x1.5	12.0 (.47)	5.0 (.20)	21.0 (.83)	17.0 (.67)	18.9 (.74)
M16x1.5	16.0 (.63)	6.0 (.24)	25.0 (.98)	20.0 (.79)	22.2 (.87)
M20x1.5	20.0 (.79)	6.5 (.26)	29.0 (1.14)	24.0 (.94)	26.5 (1.04)
M25x1.5	25.0 (.98)	7.5 (.30)	29.0 (1.14)	30.0 (1.18)	33.0 (1.30)
M32x1.5	32.0 (1.26)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	39.5 (1.56)
M40x1.5	40.0 (1.57)	15.0 (.59)	35.0 (1.38)	45.0 (1.77)	48.0 (1.89)
M50x1.5	50.0 (1.97)	15.0 (.59)	35.0 (1.38)	57.0 (2.24)	61.0 (2.40)

## blueglobe® – “Selective” EMI/RFI Metric External Thread

Designed to provide EMI/RFI protection for cables with one overall shield and/or up to two Conductor with individual shields.

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 15Bar, 215psi
- High Pressure Cleaning IP69K
- Seal Rings Factory Installed
- Optional 15mm (.59in.) Long External Thread available; Nickel Plated Brass & Stainless Steel Cord Grips; M12x1.5-M32x1.5
- Order EMI/RFI Locknuts Separately (See Page 295)

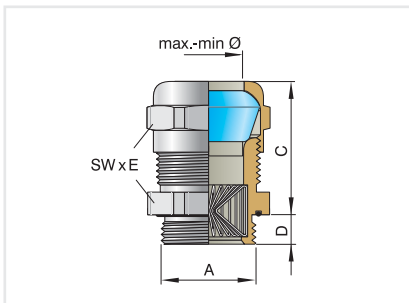


High Performance Cord Grips

### Material Specifications

<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Seal Ring</b>	Neoprene (NBR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Blue

Size	Sealing Range min./max.		Overall Shield Dia. min./max.		Ind. Conductor Shield Dia. min./max.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)	mm	(in.)	mm	(in.)		
M20x1.5	5.0-14.0	(.20-.55)	7.0-11.0	(.28-.43)	1.5-3.5	(.06-.14)	20.0	(.79)	10	98990.6
M25x1.5	11.0-20.0	(.43-.79)	10.0-12.0	(.39-.47)	2.0-5.0	(.08-.20)	25.0	(.98)	10	96271.6
M25x1.5	11.0-20.0	(.43-.79)	12.0-16.0	(.47-.63)	2.0-5.0	(.08-.20)	25.0	(.98)	10	96272.6
M32x1.5	15.0-25.0	(.59-.98)	12.5-16.5	(.49-.64)	2.0-5.0	(.08-.20)	32.0	(1.26)	10	96273.6
M32x1.5	15.0-25.0	(.59-.98)	16.5-20.5	(.64-.81)	2.0-5.0	(.08-.20)	32.0	(1.26)	10	96274.6



### Cord Grip Dimensions: mm (in.)

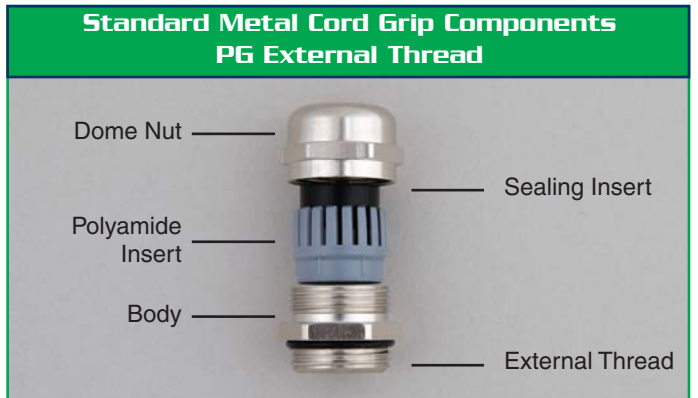
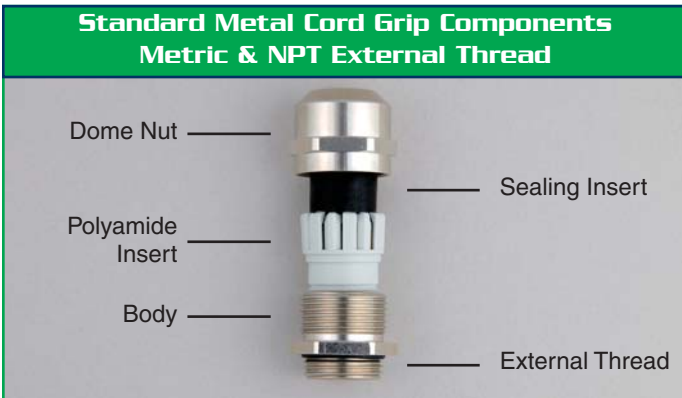
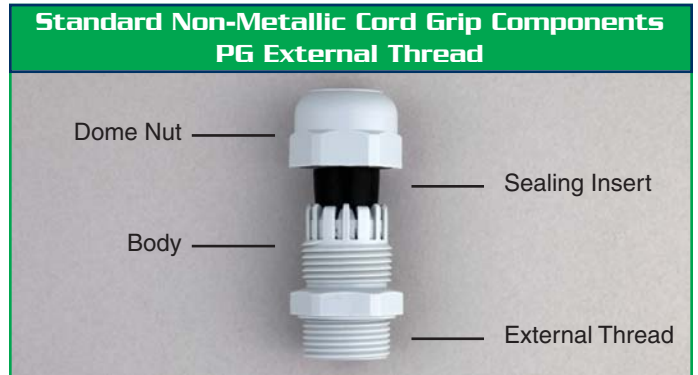
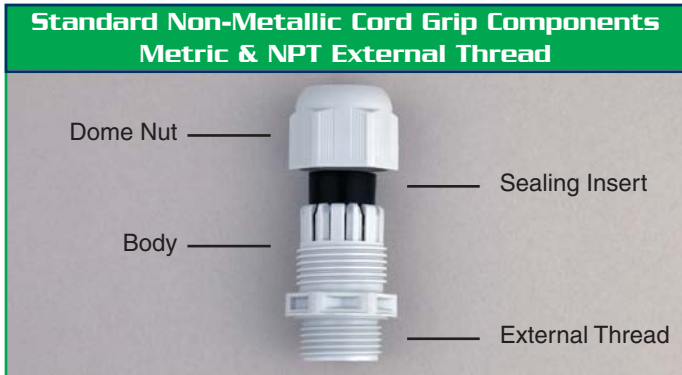
Size	A	D	C	SW	E
M20x1.5	20.0 (.79)	6.5 (.26)	29.0 (1.14)	24.0 (.94)	26.5 (1.04)
M25x1.5	25.0 (.98)	7.5 (.30)	29.0 (1.14)	30.0 (1.18)	33.0 (1.30)
M32x1.5	32.0 (1.26)	8.0 (.31)	32.0 (1.34)	36.0 (1.42)	39.5 (1.56)

## Standard Cord Grips

The right choice for reliability and safety – technically advanced to meet today’s requirements

Standard Cord Grips are proven performers, providing a reliable liquid-tight seal and strain relief in a variety of materials and functions to match your application

- Complete, ready to install
- Reliable liquid-tight seal
- 6 functional designs
- 3 Body/Insert material combinations



### Sealing Feature

- Sealing inserts provide a hermetic reliable seal at cable entry points when the Dome Nut is tightened



- Integral Sealing Ridges are part of non-metallic Cord Grip Bodies, M12 to M36 and PG7 to PG29



- Seal Rings are factory installed on non-metallic Cord Grips, Sizes PG36 to PG48 and M40 to M63, and on all Straight Through Nickel Plated Brass and Stainless Steel Cord Grips



### Specifications

#### Body Material

Polyamide (PA)  
Nickel Plated Brass (NPB)  
Stainless Steel (SS)

#### External Thread Sizes

European Standard  
Metric M12 to M63  
European Standard  
PG7 to PG48  
US National Pipe Thread  
NPT1/4" to NPT2"

#### Insert Materials

Thermoplastic Elastomer (TPE)  
Ethylene-Propylene  
Caoutchouc (EPDM)

#### Ratings

Protection: Up to IP68  
(NEMA 4X)

Pressure: Up to 5Bar  
(70psi)

## Standard Cord Grip Functions

All Standard Cord Grips provide reliable liquid-tight seals and strain relief at cable entry points. The wide variety of materials and functions available qualify our Standard Cord Grip Series for many applications.

### Straight Through Cord Grips Metric, PG & NPT External Thread



Provide a liquid-tight seal and strain relief. Use for round cables and cords with diameters from 1.0 to 48.0mm (0.39 to 1.89in.)

Refer to pages 224-241 for ordering information.

### Bend Protection Cord Grips Metric & PG External Thread



Prevent sharp bending or kinking of cables and cords. The integrated flex spiral protects cables and cords at the more stressed point. For cables and cords with diameters from 1.0 to 21.0mm (.039 to .83in.)

Refer to pages 246-249 for ordering information.

### Pull Protection Cord Grips Metric & PG External Thread



Resist higher pull-out forces and prevents sharp bending or kinking of cables or cords. Use for cables or cords with diameters from 5.0-46.0mm (.20 to 1.81in.)

Refer to pages 250-252 for ordering information.

### Multi-Cable Cord Grips Metric External Thread



Provide a liquid-tight seal and strain relief for one or more cables or cords with the same or different diameters. The perfect solution for restricted space applications.

Refer to pages 242-244 for ordering information.

### VentGLAND™ Metric External Thread



VentGLAND's are Cord Grips and pressure compensation in one. Provide liquid-tight seal and strain relief for round cables and cords with diameters from 4.0 to 48.0mm (.16 to 1.89in.) Ventilates enclosures/housings to reduce condensation to a minimum.

Refer to pages 286-289 for ordering information.

## Straight Through – Metric External Thread Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on Cord Grips M40 to M63
- Order Seal Rings Separately for Cord Grips M12 to M32
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

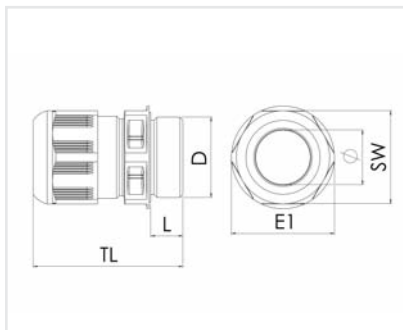
## Polyamide (PA) Light Gray



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Light Gray / Black

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No. Light Gray
	mm	(in.)		mm	(in.)		
M12x1.5	1.0-3.0	(.039-.12)	Reduced	12.0	(.47)	50	98100.2
M12x1.5	3.0-7.0	(.12-.28)	Standard	12.0	(.47)	50	98101.2
M16x1.5	2.0-6.0	(.080-.24)	Reduced	16.0	(.63)	50	98102.2
M16x1.5	4.5-10.0	(.18-.39)	Standard	16.0	(.63)	50	98103.2
M20x1.5	4.0-8.0	(.16-.31)	Reduced	20.0	(.79)	50	98104.2
M20x1.5	6.0-13.0	(.24-.51)	Standard	20.0	(.79)	50	98105.2
M25x1.5	7.0-12.0	(.28-.47)	Reduced	25.0	(.98)	50	98106.2
M25x1.5	9.0-17.0	(.35-.67)	Standard	25.0	(.98)	50	98107.2
M32x1.5	9.0-14.0	(.35-.55)	Reduced	32.0	(1.26)	25	98108.2
M32x1.5	13.0-21.0	(.51-.83)	Standard	32.0	(1.26)	25	98109.2
M40x1.5	12.0-20.0	(.47-.79)	Reduced	40.0	(1.57)	10	98110.2
M40x1.5	16.0-28.0	(.63-1.10)	Standard	40.0	(1.57)	10	98111.2
M50x1.5	16.0-25.0	(.63-.98)	Reduced	50.0	(1.97)	4	98112.2
M50x1.5	21.0-35.0	(.83-1.38)	Standard	50.0	(1.97)	4	98113.2
M63x1.5	28.0-38.0	(1.10-1.50)	Reduced	63.0	(2.48)	3	98114.2
M63x1.5	34.0-48.0	(1.34-1.89)	Standard	63.0	(2.48)	3	98115.2



### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW	E1
M12x1.5	31.0 (1.22)	9.0 (.35)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	34.0 (1.34)	9.0 (.35)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	40.0 (1.57)	10.0 (.39)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	42.0 (1.65)	10.0 (.39)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	45.0 (1.77)	12.0 (.47)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	60.0 (2.36)	12.0 (.47)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	65.0 (2.56)	14.0 (.55)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	70.0 (2.76)	15.0 (.59)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)



**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
Ethylene-Propylene Caoutchouc (EPDM)

-20 to 100°C (-4 to 212°F)  
-30 to 80°C (-22 to 176°F)  
-40 to 130°C (-40 to 266°F)

Light Gray / Black

**Cat. No.  
Black**

98120.1  
98121.1  
98122.1  
98123.1  
98124.1  
98125.1  
98126.1  
98127.1  
98128.1  
98129.1  
98130.1  
98131.1  
98132.1  
98133.1  
98134.1  
98135.1

**Locknuts**



Order Separately

**Material**  
Polyamide (PA)

**Temperature Range**  
-20 to 100°C (-4 to 212°F)

**Color**  
Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25515.9	25725.9	50
M50x1.5	25516.9	25726.9	25
M63x1.5	25517.9	25727.9	10

**Seal Rings**



Order Separately

**Material**  
Polyethylene (PET)

**Temperature Range**  
-20 to 100°C (-4 to 212°F)

**Color**  
Opaque

Size	Cat. No.	Std. Pk.
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	Factory Installed	
M50	Factory Installed	
M63	Factory Installed	

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

## Straight Through – Long Metric External Thread

### Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on Cord Grips M40 to M63
- Order Seal Rings Separately for Cord Grips M12 to M32
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

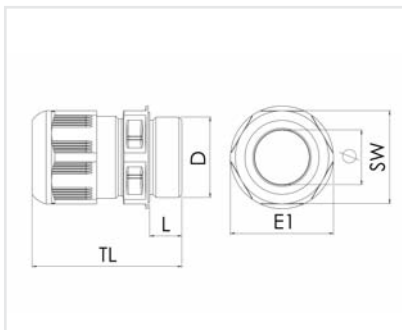
### Polyamide (PA) Light Gray



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Light Gray / Black

Size	Cable Dia.		Ext. Thread Length		Mtg. Hole Dia.		Insert	Cat. No. L. Gray	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)			
M12x1.5	1.0-3.0	(.039-.12)	15.0	(.59)	12.0	(.47)	Reduced	98140.2	50
M12x1.5	3.0-7.0	(.12-.28)	15.0	(.59)	12.0	(.47)	Standard	98141.2	50
M16x1.5	2.0-6.0	(.080-.24)	15.0	(.59)	16.0	(.63)	Reduced	98142.2	50
M16x1.5	4.5-10.0	(.18-.39)	15.0	(.59)	16.0	(.63)	Standard	98143.2	50
M20x1.5	4.0-8.0	(.16-.31)	15.0	(.59)	20.0	(.79)	Reduced	98144.2	50
M20x1.5	6.0-13.0	(.24-.51)	15.0	(.59)	20.0	(.79)	Standard	98145.2	50
M25x1.5	7.0-12.0	(.28-.47)	15.0	(.59)	25.0	(.98)	Reduced	98146.2	50
M25x1.5	9.0-17.0	(.35-.67)	15.0	(.59)	25.0	(.98)	Standard	98147.2	50
M32x1.5	9.0-14.0	(.35-.55)	15.0	(.59)	32.0	(1.26)	Reduced	98148.2	25
M32x1.5	13.0-21.0	(.51-.83)	15.0	(.59)	32.0	(1.26)	Standard	98149.2	25
M40x1.5	12.0-20.0	(.47-.79)	18.0	(.71)	40.0	(1.57)	Reduced	98150.2	10
M40x1.5	16.0-28.0	(.63-1.10)	18.0	(.71)	40.0	(1.57)	Standard	98151.2	10
M50x1.5	16.0-25.0	(.63-.98)	18.0	(.71)	50.0	(1.97)	Reduced	98152.2	4
M50x1.5	21.0-35.0	(.83-1.38)	18.0	(.71)	50.0	(1.97)	Standard	98153.2	4
M63x1.5	28.0-38.0	(1.10-1.50)	18.0	(.71)	63.0	(2.48)	Reduced	98154.2	3
M63x1.5	34.0-48.0	(1.34-1.89)	18.0	(.71)	63.0	(2.48)	Standard	98155.2	3



#### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW	E1
M12x1.5	37.0 (1.46)	15.0 (.59)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	40.0 (1.57)	15.0 (.59)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	45.0 (1.77)	15.0 (.59)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	47.0 (1.85)	15.0 (.59)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	53.0 (2.09)	15.0 (.59)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	64.0 (2.52)	18.0 (.71)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	69.0 (2.72)	18.0 (.71)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	74.0 (2.91)	18.0 (.71)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)

**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
Ethylene-Propylene Caoutchouc (EPDM)

-20 to 100°C (-4 to 212°F)  
-30 to 80°C (-22 to 176°F)  
-40 to 130°C (-40 to 266°F)

Light Gray / Black

Insert	Cat. No. Black	Std. Pk.
Reduced	98160.1	50
Standard	98161.1	50
Reduced	98162.1	50
Standard	98163.1	50
Reduced	98164.1	50
Standard	98165.1	50
Reduced	98166.1	50
Standard	98167.1	50
Reduced	98168.1	25
Standard	98169.1	25
Reduced	98170.1	10
Standard	98171.1	10
Reduced	98172.1	4
Standard	98173.1	4
Reduced	98174.1	3
Standard	98175.1	3

**Locknuts**



Order Separately

Material	Material		
Polyamide (PA)	Polyamide (PA)		
Temperature Range	Temperature Range		
-20 to 100°C (-4 to 212°F)	-20 to 100°C (-4 to 212°F)		
Color	Color		
Light Gray and Black	Light Gray and Black		
Size	Cat. No.	Std. Pk.	
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25515.9	25725.9	50
M50x1.5	25516.9	25726.9	25
M63x1.5	25517.9	25727.9	10

**Seal Rings**



Order Separately

Material	Material	
Polyethylene (PET)	Polyethylene (PET)	
Temperature Range	Temperature Range	
-20 to 100°C (-4 to 212°F)	-20 to 100°C (-4 to 212°F)	
Color	Color	
Opaque	Opaque	
Size	Cat. No.	Std. Pk.
M12	25730.9	50
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	Factory Installed	
M50	Factory Installed	
M63	Factory Installed	

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

Standard Cord Grips

## Straight Through – Metric External Thread Nickel Plated Brass



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order Locknuts Separately

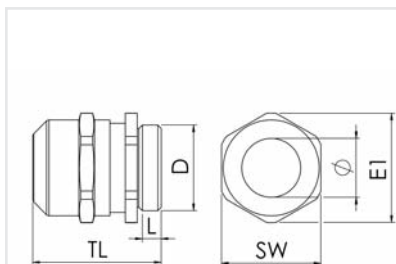
Nickel Plated Brass (NPB)



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)		mm	(in.)		
M12x1.5	1.0-3.0	(.039-.12)	Reduced	12.0	(.47)	50	98000.6
M12x1.5	3.0-7.0	(.12-.28)	Standard	12.0	(.47)	50	98001.6
M16x1.5	2.0-6.0	(.080-.24)	Reduced	16.0	(.63)	50	98002.6
M16x1.5	4.5-10.0	(.18-.39)	Standard	16.0	(.63)	50	98003.6
M20x1.5	4.0-8.0	(.16-.31)	Reduced	20.0	(.79)	50	98004.6
M20x1.5	6.0-13.0	(.24-.51)	Standard	20.0	(.79)	50	98005.6
M25x1.5	7.0-12.0	(.28-.47)	Reduced	25.0	(.98)	50	98006.6
M25x1.5	9.0-17.0	(.35-.67)	Standard	25.0	(.98)	50	98007.6
M32x1.5	9.0-14.0	(.35-.55)	Reduced	32.0	(1.26)	25	98008.6
M32x1.5	13.0-21.0	(.51-.83)	Standard	32.0	(1.26)	25	98009.6
M40x1.5	12.0-20.0	(.47-.79)	Reduced	40.0	(1.57)	10	98010.6
M40x1.5	16.0-28.0	(.63-1.10)	Standard	40.0	(1.57)	10	98011.6
M50x1.5	16.0-25.0	(.63-.98)	Reduced	50.0	(1.97)	10	98012.6
M50x1.5	21.0-35.0	(.83-1.38)	Standard	50.0	(1.97)	10	98013.6
M63x1.5	28.0-38.0	(1.10-1.50)	Reduced	63.0	(2.48)	10	98414.6
M63x1.5	34.0-48.0	(1.34-1.89)	Standard	63.0	(2.48)	10	98015.6



Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW	E1
M12x1.5	27.0 (1.06)	5.0 (.20)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	30.0 (1.18)	5.0 (.20)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	33.0 (1.30)	6.0 (.24)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	39.0 (1.54)	7.0 (.28)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	40.0 (1.57)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	50.0 (1.97)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	57.0 (2.24)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	62.0 (2.44)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)

**Locknuts**



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25500.9	100
25501.9	100
25501.9	100
25502.9	100
25502.9	100
25503.9	100
25503.9	100
25504.9	100
25504.9	100
25505.9	50
25505.9	50
25506.9	50
25506.9	50
25507.9	50
25507.9	50

See Page 294 for Drawings and Dimensional Information.

## Straight Through – Long Metric External Thread

### Nickel Plated Brass



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order Locknuts Separately

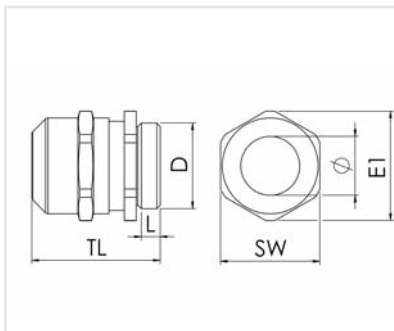
Nickel Plated Brass (NPB)



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Ext. Thread Length		Mtg. Hole Dia.		Insert	Cat. No.	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)			
M12x1.5	1.0-3.0	(.039-.12)	12.0	(.47)	12.0	(.47)	Reduced	98020.6	50
M12x1.5	3.0-7.0	(.12-.28)	12.0	(.47)	12.0	(.47)	Standard	98021.6	50
M16x1.5	2.0-6.0	(.080-.24)	12.0	(.47)	16.0	(.63)	Reduced	98022.6	50
M16x1.5	4.5-10.0	(.18-.39)	12.0	(.47)	16.0	(.63)	Standard	98023.6	50
M20x1.5	4.0-8.0	(.16-.31)	12.0	(.47)	20.0	(.79)	Reduced	98024.6	50
M20x1.5	6.0-13.0	(.24-.51)	12.0	(.47)	20.0	(.79)	Standard	98025.6	50
M25x1.5	7.0-12.0	(.28-.47)	12.0	(.47)	25.0	(.98)	Reduced	98026.6	50
M25x1.5	9.0-17.0	(.35-.67)	12.0	(.47)	25.0	(.98)	Standard	98027.6	50
M32x1.5	9.0-14.0	(.35-.55)	15.0	(.59)	32.0	(1.26)	Reduced	98028.6	25
M32x1.5	13.0-21.0	(.51-.83)	15.0	(.59)	32.0	(1.26)	Standard	98029.6	25
M40x1.5	12.0-20.0	(.47-.79)	15.0	(.59)	40.0	(1.57)	Reduced	98030.6	10
M40x1.5	16.0-28.0	(.63-1.10)	15.0	(.59)	40.0	(1.57)	Standard	98031.6	10
M50x1.5	16.0-25.0	(.63-.98)	15.0	(.59)	50.0	(1.97)	Reduced	98032.6	10
M50x1.5	21.0-35.0	(.83-1.38)	15.0	(.59)	50.0	(1.97)	Standard	98033.6	10
M63x1.5	28.0-38.0	(1.10-1.50)	15.0	(.59)	63.0	(2.48)	Reduced	98034.6	10
M63x1.5	34.0-48.0	(1.34-1.89)	15.0	(.59)	63.0	(2.48)	Standard	98035.6	10



#### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW	E1
M12x1.5	33.0 (1.30)	12.0 (.47)	12.0 (.47)	18.0 (.63)	18.0 (.71)
M16x1.5	37.0 (1.46)	12.0 (.47)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	39.0 (1.54)	12.0 (.47)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	43.0 (1.69)	12.0 (.47)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	47.0 (1.85)	15.0 (.59)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	57.0 (2.24)	15.0 (.59)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	63.0 (2.44)	15.0 (.59)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	66.0 (2.60)	15.0 (.59)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)

**Locknuts**



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25500.9	100
25501.9	100
25501.9	100
25502.9	100
25502.9	100
25503.9	100
25503.9	100
25504.9	100
25504.9	100
25505.9	50
25505.9	50
25506.9	50
25506.9	50
25507.9	50
25507.9	50

See Page 294 for Drawings and Dimensional Information.

## Straight Through – Metric External Thread Stainless Steel (SS)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- EPDM Seal Rings Factory Installed
- Order Locknuts Separately

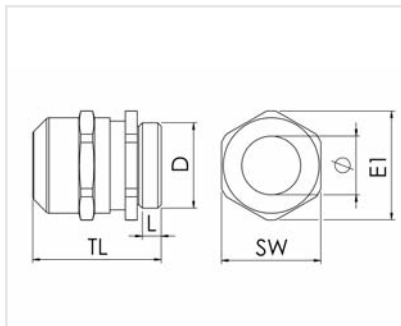
**Stainless Steel (SS)  
1.4404 (316L)**



**With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert**

Material Specifications	
<b>Body</b>	Stainless Steel (SS) 1.4404 (316L)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-60 to 500°C (-65 to 932°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)		mm	(in.)		
M12x1.5	1.0-3.0	(.039-.12)	Reduced	12.0	(.47)	50	98048.7
M12x1.5	3.0-7.0	(.12-.28)	Standard	12.0	(.47)	50	98040.7
M16x1.5	2.0-6.0	(.080-.24)	Reduced	16.0	(.63)	50	98049.7
M16x1.5	4.5-10.0	(.18-.39)	Standard	16.0	(.63)	50	98041.7
M20x1.5	4.0-8.0	(.16-.31)	Reduced	20.0	(.79)	50	98050.7
M20x1.5	6.0-13.0	(.24-.51)	Standard	20.0	(.79)	50	98042.7
M25x1.5	7.0-12.0	(.28-.47)	Reduced	25.0	(.98)	50	98051.7
M25x1.5	9.0-17.0	(.35-.67)	Standard	25.0	(.98)	50	98043.7
M32x1.5	9.0-14.0	(.35-.55)	Reduced	32.0	(1.26)	25	98052.7
M32x1.5	13.0-21.0	(.51-.83)	Standard	32.0	(1.26)	25	98044.7
M40x1.5	12.0-20.0	(.47-.79)	Reduced	40.0	(1.57)	10	98053.7
M40x1.5	16.0-28.0	(.63-1.10)	Standard	40.0	(1.57)	10	98045.7
M50x1.5	16.0-25.0	(.63-.98)	Reduced	50.0	(1.97)	10	98054.7
M50x1.5	21.0-35.0	(.83-1.38)	Standard	50.0	(1.97)	10	98046.7
M63x1.5	28.0-38.0	(1.10-1.50)	Reduced	63.0	(2.48)	10	98055.7
M63x1.5	34.0-48.0	(1.34-1.89)	Standard	63.0	(2.48)	10	98047.7



### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW	E1
M12x1.5	27.0 (1.06)	5.0 (.20)	12.0 (.47)	17.0 (.67)	19.0 (.75)
M16x1.5	30.0 (1.18)	5.0 (.20)	16.0 (.63)	22.0 (.87)	24.0 (.94)
M20x1.5	33.0 (1.30)	6.0 (.24)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	39.0 (1.54)	7.0 (.28)	25.0 (.98)	30.0 (1.18)	33.0 (1.30)
M32x1.5	40.0 (1.57)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	50.0 (1.97)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	57.0 (2.24)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	62.0 (2.44)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)



**Stainless Steel (SS)  
1.4305 (303L)**



**With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert**

Stainless Steel (SS) 1.4305 (303L)  
 Thermoplastic Elastomer (TPE)  
 Ethylene-Propylene Caoutchouc (EPDM)  
 Ethylene-Propylene Caoutchouc (EPDM)  
 -60 to 500°C (-65 to 932°F)  
 -30 to 80°C (-22 to 176°F)  
 -40 to 130°C (-40 to 266°F)  
 -40 to 130°C (-40 to 266°F)  
 Black / Light Gray

**Cat. No.**

98075.7  
 98066.7  
 98076.7  
 98067.7  
 98077.7  
 98068.7  
 98078.7  
 98069.7  
 98079.7  
 98070.7  
 98080.7  
 98071.7  
 98081.7  
 98072.7  
 98082.7  
 98073.7

**Locknuts**



**Order Separately**

**Material**

Stainless Steel (SS)

**Temperature Range**

-60 to 500°C (-65 to 932°F)

**Cat. No.**

97715.9  
 97715.9  
 97716.9  
 97716.9  
 97717.9  
 97717.9  
 97718.9  
 97718.9  
 97719.9  
 97719.9  
 97720.9  
 97720.9  
 97721.9  
 97721.9  
 97722.9  
 97722.9

**Std.  
Pk.**

10  
 10  
 10  
 10  
 10  
 10  
 10  
 10  
 5  
 5  
 5  
 5  
 2  
 2  
 1  
 1

See Page 295 for Drawings and  
Dimensional Information.

## Straight Through – PG External Thread Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on Cord Grips PG36 to PG48
- Order Seal Rings Separately for Cord Grips PG7 to PG29
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

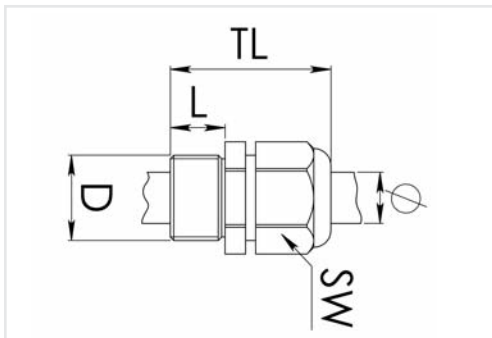
## Polyamide (PA) Light Gray



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Light Gray / Black

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No. Light Gray
	mm	(in.)		mm	(in.)		
PG7	2.0-5.0	(.08-.20)	Reduced	12.6	(.50)	50	98200.2
PG7	3.0-6.0	(.12-.24)	Standard	12.6	(.50)	50	98201.2
PG9	2.0-6.0	(.08-.24)	Reduced	15.3	(.60)	50	98202.2
PG9	4.0-8.0	(.16-.31)	Standard	15.3	(.60)	50	98203.2
PG11	3.0-7.0	(.12-.28)	Reduced	18.7	(.74)	50	98204.2
PG11	5.0-10.0	(.20-.39)	Standard	18.7	(.74)	50	98205.2
PG13.5	5.0-9.0	(.20-.35)	Reduced	20.5	(.81)	50	98206.2
PG13.5	6.0-12.0	(.24-.47)	Standard	20.5	(.81)	50	98207.2
PG16	7.0-12.0	(.28-.47)	Reduced	22.6	(.89)	50	98208.2
PG16	8.0-14.0	(.31-.55)	Standard	22.6	(.89)	50	98209.2
PG21	9.0-16.0	(.35-.63)	Reduced	28.4	(1.12)	25	98210.2
PG21	10.0-18.0	(.39-.71)	Standard	28.4	(1.12)	25	98211.2
PG29	12.0-20.0	(.47-.79)	Reduced	37.1	(1.46)	20	98212.2
PG29	16.0-25.0	(.63-.98)	Standard	37.1	(1.46)	20	98213.2
PG36	20.0-26.0	(.79-1.02)	Reduced	47.1	(1.86)	10	98214.2
PG36	22.0-32.0	(.87-1.26)	Standard	47.1	(1.86)	10	98215.2
PG42	28.0-38.0	(1.10-1.50)	Standard	54.1	(2.13)	5	98217.2
PG48	36.0-44.0	(1.42-1.73)	Standard	59.4	(2.34)	4	98219.2



Size	Cord Grip Dimensions: mm (in.)			
	TL	L	D	SW
PG7	30.0 (1.18)	9.0 (.35)	12.5 (.49)	15.0 (.59)
PG9	34.0 (1.34)	9.0 (.35)	15.2 (.60)	19.0 (.75)
PG11	36.0 (1.42)	9.0 (.35)	18.6 (.73)	22.0 (.94)
PG13.5	38.0 (1.50)	10.0 (.39)	20.4 (.80)	24.0 (.94)
PG16	41.0 (1.61)	11.0 (.43)	22.5 (.89)	27.0 (1.06)
PG21	47.0 (1.85)	11.0 (.43)	28.3 (1.11)	33.0 (1.30)
PG29	52.0 (2.05)	12.0 (.47)	37.0 (1.46)	42.0 (1.65)
PG36	61.0 (2.40)	14.0 (.55)	47.0 (1.85)	53.0 (2.09)
PG42	63.0 (2.48)	14.0 (.55)	54.0 (2.13)	60.0 (2.36)
PG48	64.0 (2.52)	15.0 (.59)	59.3 (2.33)	65.0 (2.56)

**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
Ethylene-Propylene Caoutchouc (EPDM)

-20 to 100°C (-4 to 212°F)  
-30 to 80°C (-22 to 176°F)  
-40 to 130°C (-40 to 266°F)

Light Gray / Black

**Cat. No.  
Black**

98220.1  
98221.1  
98222.1  
98223.1  
98224.1  
98225.1  
98226.1  
98227.1  
98228.1  
98229.1  
98230.1  
98231.1  
98232.1  
98233.1  
98234.1  
98235.1  
98237.1  
98239.1

**Locknuts**



Order Separately

**Material**

Polyamide (PA)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
PG7	23050.9	23060.9	100
PG9	23051.9	23061.9	100
PG11	23052.9	23062.9	100
PG13.5	23053.9	23063.9	100
PG16	23054.9	23064.9	100
PG21	23055.9	23065.9	100
PG29	23056.9	23066.9	50
PG36	23057.9	23067.9	25
PG42	23058.9	23068.9	25
PG48	23059.9	23069.9	10

**Seal Rings**



Order Separately

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Opaque

Size	Cat. No.	Std. Pk.
PG9	23171.9	50
PG11	23172.9	50
PG13.5	23173.9	50
PG16	23174.9	50
PG21	23175.9	50
PG29	23176.9	50
PG36	Factory Installed	
PG42	Factory Installed	
PG48	Factory Installed	

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

## Straight Through – PG External Thread Nickel Plated Brass



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order Locknuts Separately

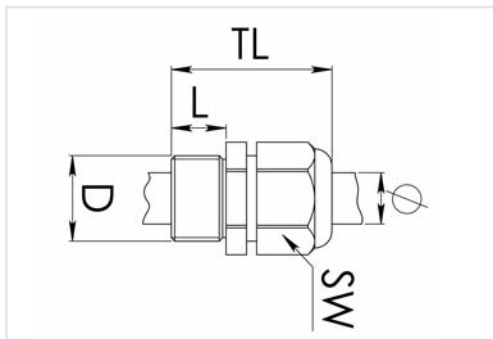
## Nickel Plated Brass (NPB)



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)		mm	(in.)		
PG7	2.0-5.0	(.08-.20)	Reduced	12.6	(.50)	50	98270.6
PG7	3.0-6.5	(.12-.26)	Standard	12.6	(.50)	50	98271.6
PG9	2.0-6.0	(.08-.24)	Reduced	15.3	(.60)	50	98272.6
PG9	4.0-8.0	(.16-.31)	Standard	15.3	(.60)	50	98273.6
PG11	3.0-7.0	(.12-.28)	Reduced	18.7	(.74)	50	98274.6
PG11	5.0-10.0	(.20-.39)	Standard	18.7	(.74)	50	98275.6
PG13.5	5.0-9.0	(.20-.35)	Reduced	20.5	(.81)	50	98276.6
PG13.5	6.0-12.0	(.24-.47)	Standard	20.5	(.81)	50	98277.6
PG16	7.0-12.0	(.28-.47)	Reduced	22.6	(.89)	50	98278.6
PG16	10.0-14.0	(.39-.55)	Standard	22.6	(.89)	50	98279.6
PG21	9.0-16.0	(.35-.63)	Reduced	28.4	(1.12)	50	98280.6
PG21	13.0-18.0	(.51-.71)	Standard	28.4	(1.12)	50	98281.6
PG29	12.0-20.0	(.47-.79)	Reduced	37.1	(1.46)	25	98282.6
PG29	18.0-25.0	(.71-.98)	Standard	37.1	(1.46)	25	98283.6
PG36	20.0-26.0	(.79-1.02)	Reduced	47.1	(1.86)	10	98284.6
PG36	22.0-32.0	(.87-1.26)	Standard	47.1	(1.86)	10	98285.6
PG42	30.0-38.0	(1.18-1.50)	Standard	54.1	(2.13)	10	98287.6
PG48	34.0-44.0	(1.34-1.73)	Standard	59.4	(2.34)	10	98289.6



Size	Cord Grip Dimensions: mm (in.)			
	TL	L	D	SW
PG7	23.0 (.91)	6.0 (.24)	12.5 (.49)	14.0 (.55)
PG9	29.0 (1.14)	6.0 (.24)	15.2 (.60)	19.0 (.67)
PG11	30.0 (1.18)	6.5 (.26)	18.6 (.73)	20.0 (.79)
PG13.5	32.0 (1.26)	6.5 (.26)	20.4 (.80)	22.0 (.87)
PG16	32.0 (1.26)	6.5 (.26)	22.5 (.89)	24.0 (.94)
PG21	35.0 (1.38)	7.0 (.28)	28.3 (1.11)	30.0 (1.18)
PG29	40.0 (1.57)	8.0 (.31)	37.0 (1.46)	40.0 (1.57)
PG36	45.0 (1.77)	9.0 (.35)	47.0 (1.85)	50.0 (1.97)
PG42	48.0 (1.89)	10.0 (.47)	54.0 (2.13)	57.0 (2.24)
PG48	50.0 (1.97)	10.0 (.55)	59.3 (2.33)	64.0 (2.52)

**Locknuts**



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
23000.9	100
23000.9	100
23001.9	100
23001.9	100
23002.9	100
23002.9	100
23003.9	100
23003.9	100
23004.9	100
23004.9	100
23005.9	100
23005.9	100
23006.9	100
23006.9	100
23007.9	100
23007.9	100
23008.9	50
23009.9	50

See Page 296 for Drawings and Dimensional Information.

## Straight Through – NPT External Thread Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on Cord Grips M40 to M63
- Order Seal Rings Separately for Cord Grips M12 to M32
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

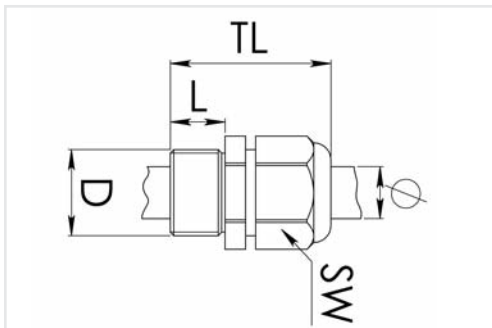
## Polyamide (PA) Light Gray



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Insert	Std. Pk.	Cat. No. Light Gray
	mm	(in.)			
NPT1/4"	1.0-3.0	(.039-.12)	Reduced	50	98330.2
NPT1/4"	3.0-7.0	(.12-.28)	Standard	50	98300.2
NPT3/8"	2.0-6.0	(.080-.24)	Reduced	50	98301.2
NPT3/8"	4.5-10.0	(.18-.39)	Standard	50	98302.2
NPT1/2"	4.0-8.0	(.16-.31)	Reduced	50	98303.2
NPT1/2"	6.0-13.0	(.24-.51)	Standard	50	98304.2
NPT3/4"	7.0-12.0	(.28-.47)	Reduced	50	98331.2
NPT3/4"	9.0-17.0	(.35-.67)	Standard	50	98305.2
NPT1"	9.0-14.0	(.35-.55)	Reduced	25	98332.2
NPT1"	13.0-21.0	(.51-.83)	Standard	25	98306.2
NPT1-1/4"	12.0-20.0	(.47-.79)	Reduced	10	98333.2
NPT1-1/4"	16.0-28.0	(.63-1.10)	Standard	10	98307.2
NPT1-1/2"	16.0-25.0	(.63-.98)	Reduced	4	98334.2
NPT1-1/2"	21.0-35.0	(.83-1.38)	Standard	4	98308.2
NPT2"	28.0-38.0	(1.10-1.50)	Reduced	3	98335.2
NPT2"	34.0-48.0	(1.34-1.89)	Standard	3	98309.2



### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW
NPT1/4"	36.0 (1.42)	15.0 (.59)	NPT1/4"	16.0 (.63)
NPT3/8"	38.0 (1.50)	15.0 (.59)	NPT3/8"	20.0 (.75)
NPT1/2"	46.0 (1.81)	15.0 (.59)	NPT1/2"	24.0 (.94)
NPT3/4"	48.0 (1.89)	15.0 (.59)	NPT3/4"	29.0 (1.30)
NPT1"	55.0 (2.17)	15.0 (.59)	NPT1"	36.0 (1.42)
NPT1-1/4"	67.0 (2.64)	18.0 (.71)	NPT1-1/4"	46.0 (1.81)
NT1-1/2"	70.0 (2.76)	18.0 (.71)	NP1-1/2"	55.0 (2.17)
NPT2"	76.0 (2.99)	18.0 (.71)	NPT2"	68.0 (2.68)

**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
Ethylene-Propylene Caoutchouc (EPDM)

-20 to 100°C (-4 to 212°F)  
-30 to 80°C (-22 to 176°F)  
-40 to 130°C (-40 to 266°F)

Black / Light Gray

**Cat. No.  
Black**

98336.1  
98310.1  
98311.1  
98312.1  
98313.1  
98314.1  
98337.1  
98315.1  
98338.1  
98316.1  
98339.1  
98317.1  
98340.1  
98318.1  
98341.1  
98319.1

**Locknuts**



Order Separately

**Material**  
Polyamide (PA)

**Temperature Range**  
-20 to 100°C (-4 to 212°F)

**Color**  
Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
NPT3/8"	23203.9	23207.9	50
NPT1/2"	23204.9	23208.9	50
NPT3/4"	23205.9	23209.9	25
NPT1"	23206.9	23210.9	10

**Seal Rings**



Order Separately

**Material**  
Polyethylene (PET)

**Temperature Range**  
-20 to 100°C (-4 to 212°F)

**Color**  
Opaque

Size	Cat. No.	Std. Pk.
NPT1/2"	23190.9	50
NPT3/4"	23192.9	25
NPT1"	23194.9	5

For Drawings and Dimensional Information: See Page 297 for Locknuts and Page 300 for Seal Rings

## Straight Through – NPT External Thread Nickel Plated Brass



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order Locknuts Separately

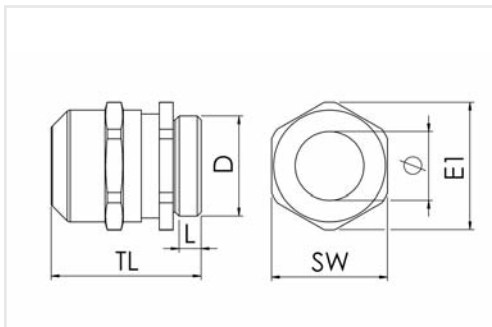
## Nickel Plated Brass (NPB)



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black / Light Gray

Size	Cable Dia.		Insert	Std. Pk.	Cat. No.
	mm	(in.)			
NPT1/4"	1.0-3.0	(.039-.12)	Reduced	50	98342.6
NPT1/4"	3.0-7.0	(.12-.28)	Standard	50	98320.6
NPT3/8"	2.0-6.0	(.080-.24)	Reduced	50	98321.6
NPT3/8"	4.5-10.0	(.18-.39)	Standard	50	98322.6
NPT1/2"	4.0-8.0	(.16-.31)	Reduced	50	98323.6
NPT1/2"	6.0-13.0	(.24-.51)	Standard	50	98324.6
NPT3/4"	7.0-12.0	(.28-.47)	Reduced	50	98343.6
NPT3/4"	9.0-17.0	(.35-.67)	Standard	50	98325.6
NPT1"	9.0-14.0	(.35-.55)	Reduced	25	98344.6
NPT1"	13.0-21.0	(.51-.83)	Standard	25	98326.6
NPT1-1/4"	12.0-20.0	(.47-.79)	Reduced	10	98345.6
NPT1-1/4"	16.0-28.0	(.63-1.10)	Standard	10	98327.6
NPT1-1/2"	16.0-25.0	(.63-.98)	Reduced	10	98346.6
NPT1-1/2"	21.0-35.0	(.83-1.38)	Standard	10	98328.6
NPT2"	28.0-38.0	(1.10-1.50)	Reduced	10	98347.6
NPT2"	34.0-48.0	(1.34-1.89)	Standard	10	98329.6



### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW	E1
NPT1/4"	35.0 (1.38)	13.0 (.51)	NPT1/4"	16.0 (.63)	18.0 (.71)
NPT3/8"	38.0 (1.50)	13.0 (.51)	NPT3/8"	20.0 (.79)	22.0 (.87)
NPT1/2"	42.0 (1.65)	16.0 (.63)	NPT1/2"	24.0 (.94)	27.0 (1.06)
NPT3/4"	44.0 (1.73)	16.0 (.63)	NPT3/4"	29.0 (1.14)	32.0 (1.26)
NPT1"	50.0 (1.97)	20.0 (.79)	NPT1"	36.0 (1.42)	40.0 (1.57)
NPT1-1/4"	54.0 (2.13)	20.0 (.79)	NPT1-1/4"	46.0 (1.81)	51.0 (2.01)
NPT1-1/2"	55.0 (2.17)	20.0 (.79)	NPT1-1/2"	55.0 (2.17)	61.0 (2.40)
NPT2"	62.0 (2.44)	21.0 (.83)	NPT2"	68.0 (2.68)	75.0 (2.95)



## Locknuts



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
23219.9	50
23219.9	50
23200.9	50
23200.9	50
23201.9	50
23201.9	50
23202.9	25
23202.9	25
23211.9	10
23211.9	10
23216.9	10
23216.9	10
23217.9	10
23217.9	10
23218.9	10
23218.9	10

See Page 297 for Drawings and Dimensional Information.

## Multi-Cable – Metric External Thread Polyamide (PA)



- Protection Rating: IP65; NEMA 3
- Order Seal Rings Separately
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

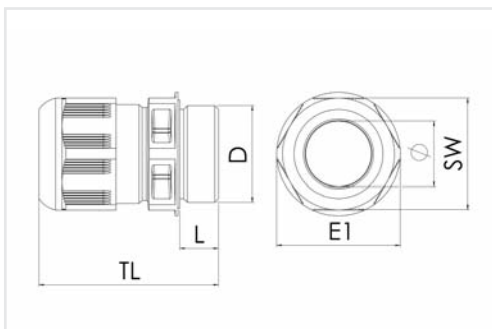
## Polyamide (PA) Light Gray



With Thermoplastic Elastomer (TPE)  
Multi-Cable Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia. mm (in.)	No. of Cables	Mtg. Hole Dia. mm (in.)	Std. Pk.	Cat. No. Light Gray
M12x1.5	Solid	–	12.0 (.47)	50	98380.2
M12x1.5	0.5-2.0 (.02-.08)	4	12.0 (.47)	50	98381.2
M16x1.5	Solid	–	16.0 (.63)	50	98382.2
M16x1.5	2.0-4.0 (.08-.16)	2	16.0 (.63)	50	98383.2
M20x1.5	Solid	–	20.0 (.79)	50	98384.2
M20x1.5	2.5-4.0 (.10-.16)	3	20.0 (.79)	50	98385.2
M20x1.5	4.0-6.0 (.16-.24)	2	20.0 (.79)	50	98386.2
M20x1.5	5.0-6.5 (.20-.26)	2	20.0 (.79)	50	98370.2
M25x1.5	Solid	–	25.0 (.98)	50	98387.2
M25x1.5	4.0-6.0 (.16-.24)	2	25.0 (.98)	50	98371.2
M25x1.5	4.0-6.0 (.16-.24)	4	25.0 (.98)	50	98388.2
M25x1.5	5.0-7.0 (.20-.28)	3	25.0 (.98)	50	98389.2
M25x1.5	6.0-8.0 (.24-.31)	2	25.0 (.98)	50	98372.2
M32x1.5	Solid	–	32.0 (1.26)	25	98390.2
M32x1.5	5.0-6.0 (.20-.24)	6	32.0 (1.26)	25	98391.2
M32x1.5	5.0-7.0 (.20-.28)	4	32.0 (1.26)	25	98392.2
M32x1.5	6.0-8.0 (.24-.31)	4	32.0 (1.26)	25	98373.2
M40x1.5	Solid	–	40.0 (1.57)	10	98393.2
M40x1.5	5.0-6.0 (.20-.24)	8	40.0 (1.57)	10	98394.2
M40x1.5	5.0-7.0 (.20-.28)	7	40.0 (1.57)	10	98395.2
M50x1.5	Solid	–	50.0 (1.97)	4	98396.2
M50x1.5	6.0-8.0 (.24-.31)	9	50.0 (1.97)	4	98397.2
M63x1.5	Solid	–	63.0 (2.48)	3	98398.2



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW	E1
M12x1.5	31.0 (1.22)	9.0 (.35)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	34.0 (1.34)	9.0 (.35)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	40.0 (1.57)	10.0 (.39)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	42.0 (1.65)	10.0 (.39)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	45.0 (1.77)	12.0 (.47)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	60.0 (2.36)	12.0 (.47)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	65.0 (2.56)	14.0 (.55)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	70.0 (2.76)	15.0 (.59)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)

**Polyamide (PA) Black**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Sealing Insert**

Polyamide (PA)  
Thermoplastic Elastomer (TPE)  
-20 to 100°C (-4 to 212°F)  
-30 to 80°C (-22 to 176°F)  
Black

**Cat. No.  
Black**

- 98350.1
- 98351.1
- 98352.1
- 98353.1
- 98354.1
- 98355.1
- 98356.1
- 98374.1
- 98357.1
- 98375.1
- 98358.1
- 98359.1
- 98376.1
- 98360.1
- 98361.1
- 98362.1
- 98377.1
- 98363.1
- 98364.1
- 98395.1
- 98396.1
- 98397.1
- 98398.1

**Locknuts**



**Order Separately**

**Material**  
Polyamide (PA)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Light Gray and Black

Size	Cat. No.		Std. Pk.
	L. Gray	Black	
M12x1.5	25510.9	25720.9	100
M16x1.5	25511.9	25721.9	100
M20x1.5	25512.9	25722.9	100
M25x1.5	25513.9	25723.9	100
M32x1.5	25514.9	25724.9	100
M40x1.5	25515.9	25725.9	50
M50x1.5	25516.9	25726.9	25
M63x1.5	25517.9	25727.9	10

**Seal Rings**



**Order Separately**

**Material**  
Polyethylene (PET)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)  
**Color**  
Opaque

Size	Cat. No.	Std. Pk.
M16	25731.9	50
M20	25732.9	50
M25	25733.9	50
M32	25734.9	50
M40	Factory Installed	
M50	Factory Installed	
M63	Factory Installed	

For Drawings and Dimensional Information: See Page 292 for Locknuts and Page 298 for Seal Rings

Standard Cord Grips

**Multi-Cable –  
Metric External Thread  
Nickel Plated Brass (NPB)**



- Protection Rating: IP65; NEMA 3
- Seal Rings Factory Installed
- Order Locknuts Separately

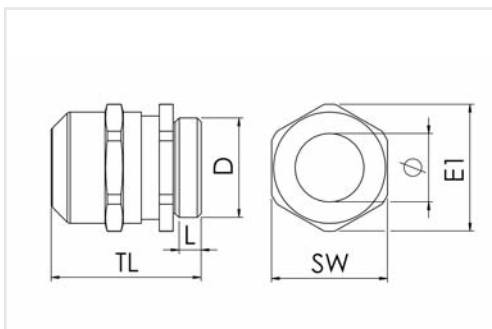
**Nickel Plated Brass (NPB)**



**With Thermoplastic Elastomer (TPE)  
Multi-Cable Sealing Insert**

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Thermoplastic Elastomer (TPE)
<b>Temperature Range</b>	
<b>Body</b>	40 to 300°C (-40 to 572°F)
<b>Insert</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		No. of Cables	Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)		mm	(in.)		
M12x1.5		Solid	–	12.0	(.47)	50	98350.6
M12x1.5	0.5-2.0	(.02-.08)	4	12.0	(.47)	50	98351.6
M16x1.5		Solid	–	16.0	(.63)	50	98352.6
M16x1.5	2.0-4.0	(.08-.16)	2	16.0	(.63)	50	98353.6
M20x1.5		Solid	–	20.0	(.79)	50	98354.6
M20x1.5	2.5-4.0	(.10-.16)	3	20.0	(.79)	50	98355.6
M20x1.5	4.0-6.0	(.16-.24)	2	20.0	(.79)	50	98356.6
M20x1.5	5.0-6.5	(.20-.26)	2	20.0	(.79)	50	98378.6
M25x1.5		Solid	–	25.0	(.98)	50	98357.6
M25x1.5	4.0-6.0	(.16-.24)	2	25.0	(.98)	50	98379.6
M25x1.5	4.0-6.0	(.16-.24)	4	25.0	(.98)	50	98358.6
M25x1.5	5.0-7.0	(.20-.28)	2	25.0	(.98)	50	98359.6
M25x1.5	6.0-8.0	(.24-.31)	2	25.0	(.98)	50	98380.6
M32x1.5		Solid	–	32.0	(1.26)	25	98360.6
M32x1.5	5.0-6.0	(.20-.24)	6	32.0	(1.26)	25	98361.6
M32x1.5	5.0-7.0	(.20-.28)	4	32.0	(1.26)	25	98362.6
M32x1.5	6.0-8.0	(.24-.31)	4	32.0	(1.26)	25	98381.6
M40x1.5		Solid	–	40.0	(1.57)	10	98363.6
M40x1.5	5.0-6.0	(.20-.24)	8	40.0	(1.57)	10	98364.6
M40x1.5	5.0-7.0	(.20-.28)	7	40.0	(1.57)	10	98365.6
M50x1.5		Solid	–	50.0	(1.97)	4	98366.6
M50x1.5	6.0-8.0	(.24-.31)	9	50.0	(1.97)	4	98367.6
M63x1.5		Solid	–	63.0	(2.48)	3	98368.6



Cord Grip Dimensions: mm (in.)						
Size	TL	L	D	SW	E1	
M12x1.5	27.0 (1.06)	5.0 (.20)	12.0 (.47)	16.0 (.63)	18.0 (.71)	
M16x1.5	30.0 (1.18)	5.0 (.20)	16.0 (.63)	20.0 (.79)	22.0 (.87)	
M20x1.5	33.0 (1.30)	6.0 (.24)	20.0 (.79)	24.0 (.94)	27.0 (1.06)	
M25x1.5	39.0 (1.54)	7.0 (.28)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)	
M32x1.5	40.0 (1.57)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)	
M40x1.5	50.0 (1.97)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)	
M50x1.5	57.0 (2.24)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)	
M63x1.5	62.0 (2.44)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)	

**Locknuts**



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25500.9	100
25501.9	100
25501.9	100
25502.9	100
25502.9	100
25502.9	100
25502.9	100
25503.9	100
25503.9	100
25503.9	100
25503.9	100
25503.9	100
25503.9	100
25504.9	100
25504.9	100
25504.9	100
25504.9	100
25505.9	50
25505.9	50
25505.9	50
25506.9	50
25506.9	50
25507.9	50

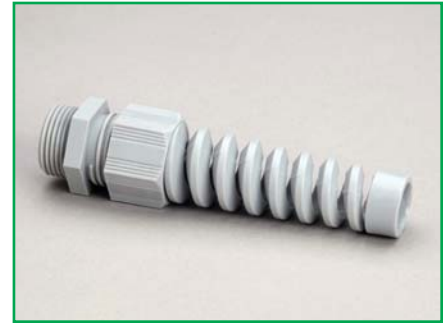
See Page 294 for Drawings and Dimensional Information.

## Bend Protection – Metric External Thread Polyamide (PA)



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on PA Cord Grips M40 to M63 and on all NPB Cord Grips
- Order Seal Rings Separately for PA Cord Grips M12 to M32
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

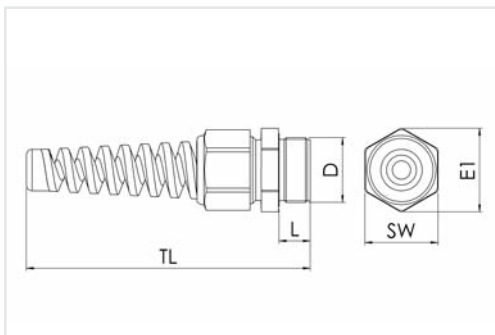
## Polyamide (PA) Light Gray



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	
<b>Temperature Range</b>	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Seal Ring</b>	
<b>Insert Color</b>	Black / Gray

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No. Light Gray
	mm	(in.)		mm	(in.)		
M12x1.5	1.0-3.0	(.039-.12)	Reduced	12.0	(.47)	50	98185.2
M12x1.5	3.0-7.0	(.12-.28)	Standard	12.0	(.47)	50	98180.2
M16x1.5	2.0-6.0	(.080-.24)	Reduced	16.0	(.63)	50	98186.2
M16x1.5	4.5-10.0	(.18-.39)	Standard	16.0	(.63)	50	98181.2
M20x1.5	4.0-8.0	(.16-.31)	Reduced	20.0	(.79)	50	98182.2
M20x1.5	6.0-13.0	(.24-.51)	Standard	20.0	(.79)	50	98183.2
M25x1.5	7.0-12.0	(.28-.47)	Reduced	25.0	(.98)	50	98187.2
M25x1.5	9.0-17.0	(.35-.67)	Standard	25.0	(.98)	50	98184.2
M32x1.5	9.0-14.0	(.35-.55)	Reduced	32.0	(1.26)	25	98188.2
M32x1.5	13.0-21.0	(.51-.83)	Standard	32.0	(1.26)	25	98189.2
M40x1.5	12.0-20.0	(.47-.79)	Reduced	40.0	(1.57)	10	—
M40x1.5	16.0-28.0	(.63-1.10)	Standard	40.0	(1.57)	10	—
M50x1.5	16.0-25.0	(.63-.98)	Reduced	50.0	(1.97)	10	—
M50x1.5	21.0-35.0	(.83-1.38)	Standard	50.0	(1.97)	10	—
M63x1.5	23.0-38.0	(1.10-1.50)	Reduced	63.0	(2.48)	10	—
M63x1.5	34.0-48.0	(1.34-1.89)	Standard	63.0	(2.48)	10	—



### Cord Grip Dimensions: mm (in.) Polyamide (PA)

Size	TL	L	D	SW	E1
M12x1.5	75.0 (2.95)	9.0 (.35)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	77.0 (3.03)	9.0 (.35)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	108.0 (4.25)	10.0 (.39)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	124.0 (4.88)	10.0 (.39)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	145.0 (5.71)	12.0 (.47)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)

**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

**Nickel Plated Brass (NPB)**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)	Nickel Plated Brass (NPB)
Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)
Ethylene-Propylene Caoutchouc (EPDM)	Ethylene-Propylene Caoutchouc (EPDM)
	Ethylene-Propylene Caoutchouc (EPDM)
-20 to 100°C (-4 to 212°F)	-40 to 300°C (-40 to 572°F)
-30 to 80°C (-22 to 176°F)	-30 to 80°C (-22 to 176°F)
-40 to 130°C (-40 to 266°F)	-40 to 130°C (-40 to 266°F)
	-40 to 130°C (-40 to 266°F)
Black / Gray	Black / Gray
<b>Cat. No.</b>	<b>Cat. No.</b>
<b>Black</b>	
98185.1	—
98180.1	—
98186.1	98186.6
98181.1	98181.6
98182.1	98182.6
98183.1	98183.6
98187.1	98187.6
98184.1	98184.6
98188.1	98188.6
98189.1	98189.6
—	98190.6
—	98191.6
—	98192.6
—	98193.6
—	98194.6
—	98195.6

**Locknuts**



Order Separately

**Material**  
Polyamide (PA) or Nickel Plated Brass (NPB)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F) (PA)  
-40 to 300°C (-40 to 572°F) (NPB)

Size	Cat. No.		
	L. Gray	Black	NPB
M12x1.5	25510.9	25720.9	25500.9
M16x1.5	25511.9	25721.9	25501.9
M20x1.5	25512.9	25722.9	25502.9
M25x1.5	25513.9	25723.9	25503.9
M32x1.5	25514.9	25724.9	25504.9
M40x1.5	25515.9	25725.9	25505.9
M50x1.5	25516.9	25726.9	25506.9
M63x1.5	25517.9	25727.9	25507.9

See Page 292, 294 for Drawings and Dimensional Information.

**Seal Rings (PET)**

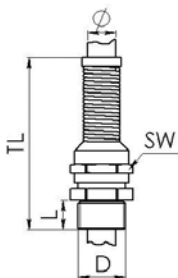


Order Separately

**Material**  
Polyethylene (PET)  
**Temperature Range**  
-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M12	25730.9	100
M16	25731.9	100
M20	25732.9	100
M25	25733.9	100
M32	25734.9	100

See Page 298 for Drawings and Dimensional Information.



**Cord Grip Dimensions: mm (in.) Nickel Plated Brass (NPB)**

Size	TL	L	D	SW
M16x1.5	80.0 (3.15)	5.0 (.20)	16.0 (.63)	20.0 (.79)
M20x1.5	100.0 (3.94)	6.0 (.24)	20.0 (.79)	24.0 (.94)
M25x1.5	124.0 (4.88)	7.0 (.28)	25.0 (.98)	29.0 (1.14)
M32x1.5	150.0 (5.91)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)
M40x1.5	191.0 (7.52)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)
M50x1.5	237.0 (9.33)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)
M63x1.5	305.0 (12.01)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)

**Bend Protection –  
PG External Thread  
Polyamide (PA)**



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed on Cord Grips M40 to M63
- Order Seal Rings Separately for Cord Grips M12 to M32
- Order Locknuts Separately
- Standard Colors: Light Gray or Black

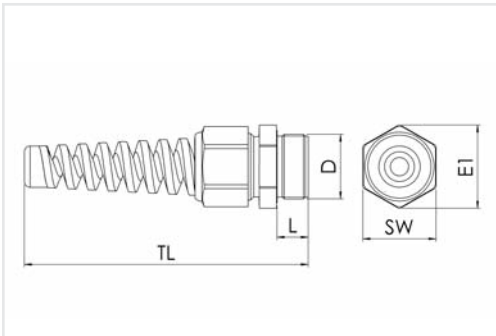
**Polyamide (PA) Light Gray**



**With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert**

Material Specifications	
<b>Body</b>	Polyamide (PA)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No. Light Gray
	mm	(in.)	mm	(in.)		
PG7	3.0-6.5	(.12-.26)	12.6	(.50)	100	98350.2
PG9	4.0-8.0	(.16-.31)	15.3	(.60)	100	98351.2
PG11	5.0-10.0	(.20-.39)	18.7	(.74)	50	98352.2
PG13.5	6.0-12.0	(.24-.47)	20.5	(.81)	25	98353.2
PG16	10.0-14.0	(.39-.55)	22.6	(.89)	25	98354.2
PG21	13.0-18.0	(.51-.71)	28.4	(1.12)	10	98355.2



Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW	E1
PG7	68.0 (2.68)	8.0 (.31)	12.5 (.49)	15.0 (.59)	16.0 (.63)
PG9	80.0 (3.15)	8.0 (.31)	15.2 (.60)	19.0 (.75)	20.5 (.81)
PG11	92.0 (3.62)	8.0 (.31)	18.6 (.73)	22.0 (.87)	24.0 (.94)
PG13.5	104.5 (4.11)	9.0 (.35)	20.4 (.80)	24.0 (.94)	26.0 (1.02)
PG16	119.0 (4.69)	10.0 (.39)	22.5 (.89)	27.0 (1.06)	29.0 (1.14)
PG21	139.0 (5.47)	11.0 (.43)	28.3 (1.11)	33.0 (1.30)	35.5 (1.40)



**Polyamide (PA) Black**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Polyamide (PA)
Thermoplastic Elastomer (TPE)
Ethylene-Propylene Caoutchouc (EPDM)
-20 to 100°C (-4 to 212°F)
-30 to 80°C (-22 to 176°F)
-40 to 130°C (-40 to 266°F)
Black
<b>Cat. No.</b>
<b>Black</b>
98365.1
98366.1
98367.1
98368.1
98369.1
98370.1

**Locknuts**



Order Separately

<b>Material</b>			
Polyamide (PA)			
<b>Temperature Range</b>			
-20 to 100°C (-4 to 212°F)			
<b>Color</b>			
Light Gray and Black			
	<b>Size</b>	<b>Cat. No.</b>	<b>Std. Pk.</b>
		<b>L. Gray</b>	<b>Black</b>
	PG7	23050.9	23060.9
	PG9	23051.9	23061.9
	PG11	23052.9	23062.9
	PG13.5	23053.9	23063.9
	PG16	23054.9	23064.9
	PG21	23055.9	23065.9

**Seal Rings**



Order Separately

<b>Material</b>		
Polyethylene (PET)		
<b>Temperature Range</b>		
-20 to 100°C (-4 to 212°F)		
<b>Color</b>		
Opaque		
	<b>Size</b>	<b>Cat. No.</b>
		<b>Std. Pk.</b>
	PG7	23170.9
	PG9	23171.9
	PG11	23172.9
	PG13.5	23173.9
	PG16	23174.9
	PG21	23175.9

Standard Cord Grips

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

**Pull Protection –  
Metric External Thread  
Nickel Plated Brass (NPB)**

**Nickel Plated Brass (NPB)**



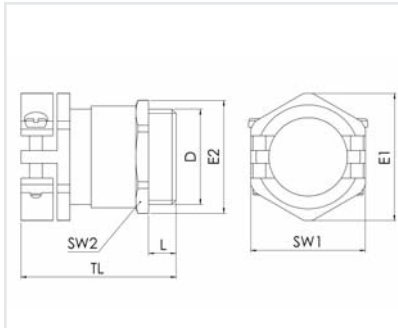
- Protection Rating: IP65; NEMA 3
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M12x1.5	5.0-7.0	(.20-.28)	12.0	(.47)	50	98500.6
M16x1.5	4.0-11.0	(.16-.43)	16.0	(.63)	50	98501.6
M20x1.5	6.5-16.0	(.26-.63)	20.0	(.79)	50	98502.6
M25x1.5	9.0-20.0	(.35-.79)	25.0	(.98)	50	98503.6
M32x1.5	17.0-28.0	(.67-1.10)	32.0	(1.26)	25	98504.6
M40x1.5	23.0-34.0	(.91-1.34)	40.0	(1.57)	10	98505.6
M50x1.5	29.0-40.0	(1.14-1.57)	50.0	(1.97)	5	98506.6
M63x1.5	35.0-46.0	(1.38-1.81)	63.0	(2.48)	5	98507.6



**Cord Grip Dimensions: mm (in.)**

Size	TL	L	D	SW1	E1	SW2	E2
M12x1.5	27.0 (1.06)	5.0 (.20)	12.0 (.47)	16.0 (.63)	17.5 (.69)	14.0 (.55)	15.5 (.61)
M16x1.5	28.0 (1.10)	5.0 (.20)	16.0 (.63)	19.0 (.75)	20.5 (.81)	18.0 (.71)	19.0 (.75)
M20x1.5	34.0 (1.34)	6.0 (.24)	20.0 (.79)	27.0 (1.06)	30.0 (1.18)	24.0 (.94)	27.0 (1.06)
M25x1.5	39.0 (1.54)	7.0 (.28)	25.0 (.98)	34.0 (1.34)	38.0 (1.50)	30.0 (1.18)	33.0 (1.30)
M32x1.5	43.0 (1.69)	8.0 (.31)	32.0 (1.26)	42.0 (1.65)	46.5 (1.83)	39.0 (1.54)	43.0 (1.69)
M40x1.5	48.0 (1.89)	8.0 (.31)	40.0 (1.57)	52.0 (2.05)	57.0 (2.24)	50.0 (1.97)	54.0 (2.13)
M50x1.5	52.0 (2.05)	9.0 (.35)	50.0 (1.97)	59.0 (2.32)	65.0 (2.56)	57.0 (2.24)	61.0 (2.40)
M63x1.5	53.0 (2.09)	10.0 (.39)	63.0 (2.48)	64.0 (2.52)	70.0 (2.76)	66.0 (2.60)	69.0 (2.72)

**Locknuts**

**Seal Rings**



**Order Separately**

**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25501.9	100
25502.9	100
25503.9	100
25504.9	100
25505.9	50
25506.9	50
25507.9	25

<b>Cat. No.</b>	<b>Std. Pk.</b>
25600.9	100
25601.9	100
25602.9	100
25603.9	100
25604.9	100
25605.9	100
25606.9	100
25607.9	100

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Pull Protection – PG External Thread Nickel Plated Brass (NPB)



- Protection Rating: IP65; NEMA 3
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately

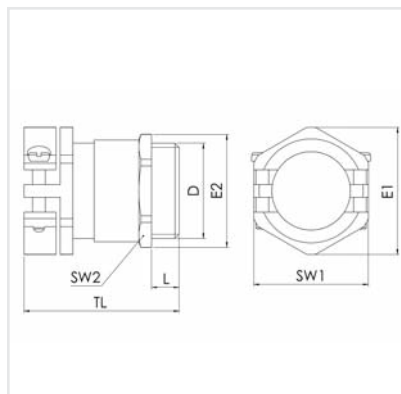
Nickel Plated Brass (NPB)



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
PG7	5.0-7.0	(.20-.28)	13.0	(.51)	50	98510.6
PG9	4.0-11.0	(.16-.43)	15.5	(.61)	50	98511.6
PG11	6.5-13.5	(.26-.53)	19.0	(.75)	50	98512.6
PG13.5	6.5-13.5	(.26-.53)	21.0	(.83)	50	98513.6
PG16	6.5-16.0	(.26-.63)	23.0	(.91)	50	98514.6
PG21	9.0-20.0	(.35-.79)	29.0	(1.14)	50	98515.6
PG29	17.0-28.0	(.67-1.10)	37.5	(1.48)	25	98516.6
PG36	23.0-40.0	(.91-1.34)	47.5	(1.87)	10	98517.6
PG42	29.0-40.0	(1.14-1.57)	54.5	(2.15)	5	98518.6
PG48	35.0-46.0	(1.38-1.71)	60.0	(2.36)	5	98519.6



### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW1	E1	SW2	E2
PG7	27.0 (1.06)	5.0 (.20)	13.0 (.51)	16.0 (.63)	17.5 (.69)	14.0 (.55)	15.5 (.61)
PG9	29.0 (1.14)	6.0 (.24)	15.5 (.61)	19.0 (.75)	20.5 (.91)	17.0 (.67)	19.0 (.75)
PG11	31.0 (1.22)	6.0 (.24)	19.0 (.75)	22.0 (.87)	24.0 (.94)	20.0 (.79)	22.0 (.87)
PG13.5	32.0 (1.26)	6.5 (.26)	21.0 (.83)	24.0 (.94)	27.0 (1.06)	22.0 (.87)	24.5 (.96)
PG16	34.0 (1.34)	6.5 (.26)	23.0 (.91)	27.0 (1.06)	30.0 (1.18)	24.0 (.94)	26.5 (1.04)
PG21	39.0 (1.54)	7.0 (.28)	29.0 (1.14)	34.0 (1.34)	38.0 (1.50)	30.0 (1.18)	33.5 (1.32)
PG29	43.0 (1.69)	8.0 (.31)	37.5 (1.48)	42.0 (1.65)	46.5 (1.83)	40.0 (1.57)	43.5 (1.71)
PG36	49.0 (1.93)	9.0 (.35)	47.5 (1.87)	52.0 (2.05)	57.0 (2.24)	50.0 (1.97)	54.0 (2.13)
PG42	53.0 (2.09)	10.0 (.39)	54.5 (2.15)	59.0 (2.32)	65.0 (2.56)	57.0 (2.24)	60.0 (2.36)
PG48	53.0 (2.09)	10.0 (.39)	60.0 (2.36)	64.0 (2.52)	70.0 (2.76)	64.0 (2.52)	69.0 (2.72)

**Locknuts**

**Seal Rings**



**Order Separately**

**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
23000.9	100
23001.9	100
23002.9	100
23003.9	100
23004.9	100
23005.9	100
23006.9	100
23007.9	100
23008.9	50
23009.9	50

<b>Cat. No.</b>	<b>Std. Pk.</b>
23150.9	100
23151.9	100
23152.9	100
23153.9	100
23154.9	100
23155.9	100
23156.9	100
23157.9	100
23158.9	100
23159.9	100

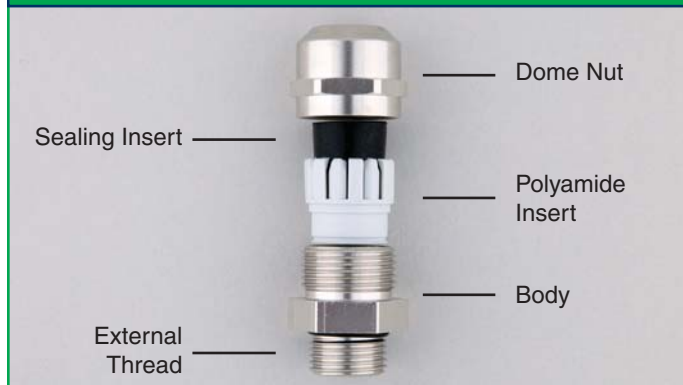
For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings

## Marine Cord Grips

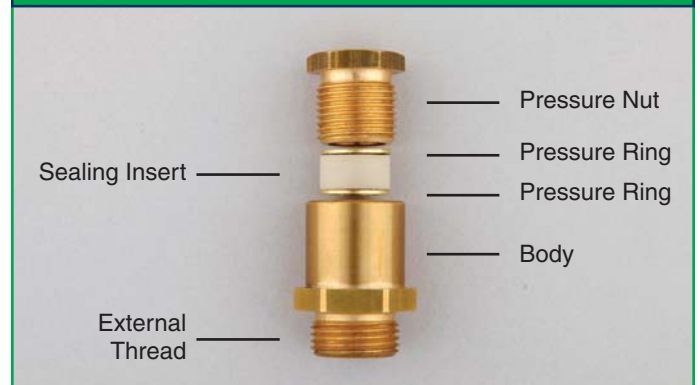
Marine Cord Grips are specifically designed to withstand mechanical stress and to provide protection for electrical installations in rough maritime conditions. They are also suited to be used for heavy equipment applications.

- Marine Cord Grips are offered in 2 Body Styles and 2 Functions with or without German Lloyd approvals.

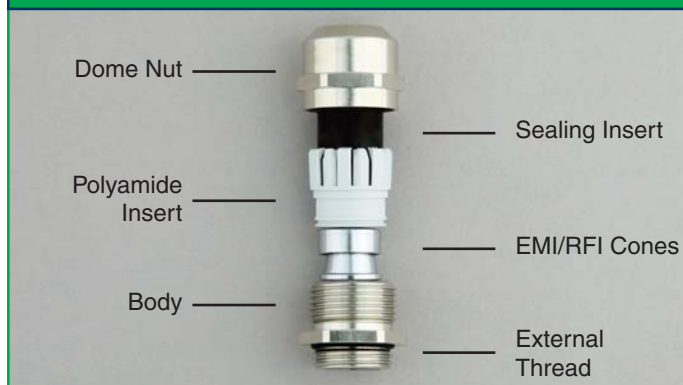
### Straight Through Style 1 Metric External Thread



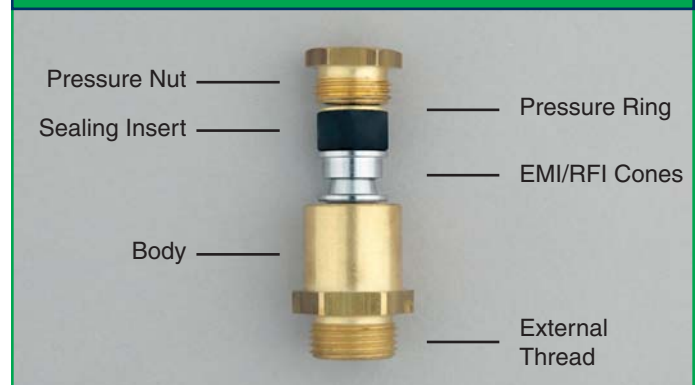
### Straight Through Style 2 Metric External Thread



### EMI/RFI Style 1 Metric External Thread



### EMI/RFI Style 2 Metric External Thread



### Sealing Feature

- Sealing inserts provide liquid-tight seal at cable entry point when the Dome/Pressure Nut is tightened.



### Specifications

#### Body Material

Nickel Plated Brass (NPB)  
 Chrome Plated Brass (CPB)  
 Brass (BR)

#### Insert Materials

Ethylene-Propylene Elastomer (EPDM)

#### External Thread Sizes

Metric M12 to M105

#### Ratings

Protection: Style 1 IP69 NEMA 4X  
 Protection: Style 2 IP56 NEMA 13  
 Pressure: Style 1 5Bar; 70psi

## Marine Cord Grip Functions

All Marine Cord Grips provide reliable liquid-tight seals and strain relief at cable entry points. Style 1 and Style 2 EMI/RFI Marine Cord Grips provide additional protection against electromagnetic interference.

### Straight Through Marine Cord Grips Style 1 Metric External Thread



Provide a reliable liquid-tight seal for round cables or cords with diameters from 2.0 to 48.9mm (.08 to 1.89in.)

Refer to pages 256-257 for ordering information.

### Straight Through Marine Cord Grips Style 2 Metric External Thread



Provide a reliable liquid-tight seal for round cables or cords with diameters from 7.0 to 20.5mm (.28 to .81in.)

Refer to pages 258-259 for ordering information.

### Straight Through Marine Cord Grips Style 2 Metric External Thread



Provide a reliable liquid-tight seal for round cables or cords with diameters from 7.0 to 83.0mm (.28 to 3.27in.)

Refer to pages 260-263 for ordering information.

### EMI/RFI Marine Cord Grips Style 1 Metric External Thread



Provide a reliable liquid-tight seal and EMI/RFI protection for round cables or cords with diameters from 1.0 to 48.0mm (.039 to 1.89in.)

Refer to pages 264 for ordering information.

### EMI/RFI Marine Cord Grips Style 2 Metric External Thread



Provide a reliable liquid-tight seal and EMI/RFI protection for round cables or cords with diameters from 7.0 to 20.5mm (.28 to .81in.)

Refer to pages 266 for ordering information.

## Marine Straight Through – Metric External Thread

### Style 1 GL, German Lloyd Approved



- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order Locknuts Separately

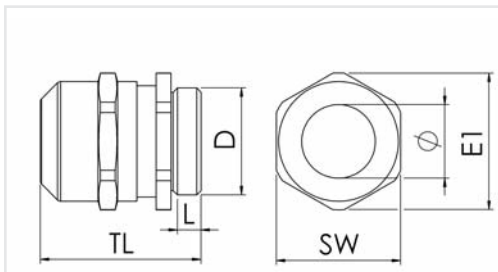
## Nickel Plated Brass (NPB)



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Elastomer (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-40 to 100°C (-40 to 212°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M16x1.5	2.0-6.0	(.080-.24)	16.0	(.63)	10	98600.6
M16x1.5	4.5-10.0	(.18-.39)	16.0	(.63)	10	98601.6
M18x1.5	4.0-8.0	(.16-.31)	18.0	(.71)	10	98602.6
M18x1.5	6.0-13.0	(.24-.51)	18.0	(.71)	10	98603.6
M24x1.5	7.0-12.0	(.28-.47)	24.0	(.94)	10	98604.6
M24x1.5	9.0-17.0	(.35-.67)	24.0	(.94)	10	98605.6
M30x2	9.0-14.0	(.35-.55)	30.0	(1.18)	10	98606.6
M30x2	13.0-21.0	(.51-.83)	30.0	(1.18)	10	98607.6
M36x2	12.0-20.0	(.47-.79)	36.0	(1.42)	5	98608.6
M36x2	16.0-28.0	(.63-1.10)	36.0	(1.42)	5	98609.6
M45x2	16.0-25.0	(.63-.98)	45.0	(1.77)	5	98610.6
M45x2	21.0-35.0	(.83-1.38)	45.0	(1.77)	5	98611.6
M56x2	28.0-38.0	(1.10-1.50)	56.0	(2.21)	2	98612.6
M56x2	34.0-48.0	(1.34-1.89)	56.0	(2.21)	2	98613.6



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW	E1
M16x1.5	34.0 (1.34)	9.0 (.35)	16.0 (.63)	20.0 (.79)	23.0 (.91)
M18x1.5	37.0 (1.46)	10.0 (.39)	18.0 (.71)	24.0 (.94)	28.0 (1.10)
M24x1.5	42.0 (1.65)	11.0 (.43)	24.0 (.94)	29.0 (1.14)	33.0 (1.30)
M30x2	44.0 (1.73)	12.0 (.47)	30.0 (1.18)	36.0 (1.42)	41.0 (1.61)
M36x2	55.0 (2.17)	13.0 (.51)	36.0 (1.42)	46.0 (1.81)	51.0 (2.01)
M45x2	61.0 (2.40)	14.0 (.55)	45.0 (1.77)	55.0 (2.17)	61.0 (2.40)
M56x2	67.0 (2.64)	15.0 (.59)	56.0 (2.21)	68.0 (2.68)	75.0 (2.95)

## Nickel Plated Brass Locknuts



Order Separately		
Size	Cat. No.	Std. Pk.
M16x1.5	25501.9	100
M18x1.5	98710.9	100
M24x1.5	98711.9	50
M30x2	98712.9	50
M36x2	98713.9	50
M45x2	98714.9	25
M56x2	98715.9	20

See Page 294 for Drawings and Dimensional Information.



**Brass (BR)**

**Chrome Plated Brass (CPB)**



**With Ethylene-Propylene Elastomer (EPDM) Sealing Insert**

**With Ethylene-Propylene Elastomer (EPDM) Sealing Insert**

Brass (BR)	Chrome Plated Brass (CPB)
Ethylene-Propylene Elastomer (EPDM)	Ethylene-Propylene Elastomer (EPDM)
Ethylene-Propylene Elastomer (EPDM)	Ethylene-Propylene Elastomer (EPDM)
-40 to 300°C (-40 to 572°F)	-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
98600.6.1	98600.6.2
98601.6.1	98601.6.2
98602.6.1	98602.6.2
98603.6.1	98603.6.2
98604.6.1	98604.6.2
98605.6.1	98605.6.2
98606.6.1	98606.6.2
98607.6.1	98607.6.2
98608.6.1	98608.6.2
98609.6.1	98609.6.2
98610.6.1	98610.6.2
98611.6.1	98611.6.2
98612.6.1	98612.6.2
98613.6.1	98613.6.2

**Brass Locknuts**

**Chrome Plated Brass Locknuts**



**Order Separately**

**Order Separately**

Size	Cat. No.	Std. Pk.	Size	Cat. No.	Std. Pk.
M16x1.5	98719.9	50	M16x1.5	98720.9	50
M18x1.5	98701.9	50	M18x1.5	98721.9	50
M24x1.5	98702.9	50	M24x1.5	98722.9	50
M30x2	98703.9	50	M30x2	98723.9	50
M36x2	98704.9	50	M36x2	98724.9	50
M45x2	98705.9	25	M45x2	98725.9	25
M56x2	98706.9	20	M56x2	98726.9	20

See Page 294 for Drawings and Dimensional Information.

## Marine Straight Through – Metric External Thread

### Style 2 GL, German Lloyd Approved



- Protection Rating: IP56; NEMA 13 with Installed Seal Ring
- Order Seal Rings Separately
- Order Locknuts Separately

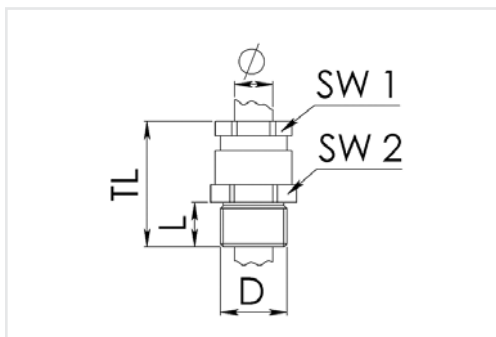
Nickel Plated Brass (NPB)



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-40 to 100°C (-40 to 212°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M18x1.5	7.0-8.5	(.28-.33)	18.0	(.71)	10	98675.6
M18x1.5	8.0-10.5	(.31-.41)	18.0	(.71)	10	98676.6
M20x1.5	7.0-8.5	(.28-.33)	20.0	(.79)	10	98677.6
M20x1.5	8.0-10.5	(.31-.41)	20.0	(.79)	10	98678.6
M24x1.5	7.0-8.5	(.28-.33)	24.0	(.94)	10	98679.6
M24x1.5	8.0-10.5	(.31-.41)	24.0	(.94)	10	98680.6
M24x1.5	10.0-12.5	(.39-.49)	24.0	(.94)	10	98681.6
M24x1.5	12.0-14.5	(.47-.57)	24.0	(.94)	10	98682.6
M24x1.5	14.0-16.5	(.55-.65)	24.0	(.94)	10	98683.6
M24x1.5	16.0-17.5	(.63-.69)	24.0	(.94)	10	98684.6
M25x1.5	7.0-8.5	(.28-.33)	25.0	(.98)	10	98685.6
M25x1.5	8.0-10.5	(.31-.41)	25.0	(.98)	10	98686.6
M25x1.5	10.0-12.5	(.39-.49)	25.0	(.98)	10	98687.6
M25x1.5	12.0-14.5	(.47-.57)	25.0	(.98)	10	98688.6
M25x1.5	14.0-16.5	(.55-.65)	25.0	(.98)	10	98689.6
M25x1.5	16.0-17.5	(.63-.69)	25.0	(.98)	10	98690.6
M30x2	16.0-18.5	(.63-.73)	30.0	(1.18)	10	98691.6
M30x2	18.0-20.5	(.71-.81)	30.0	(1.18)	10	98692.6
M32x2	16.0-18.5	(.63-.73)	32.0	(1.26)	10	98693.6
M32x2	18.0-20.5	(.71-.81)	32.0	(1.26)	10	98694.6



#### Cord Grip Dimensions: mm (in.)

Size	TL	L	D	SW1	SW2
M18x1.5	42.0 (1.65)	10.0 (.39)	18.0 (.71)	19.0 (.75)	24.0 (.94)
M20x1.5	42.0 (1.65)	10.0 (.39)	20.0 (.79)	19.0 (.75)	24.0 (.94)
M24x1.5	45.0 (1.77)	11.0 (.43)	24.0 (.94)	24.0 (.94)	29.0 (1.14)
M25x1.5	45.0 (1.77)	11.0 (.43)	25.0 (.98)	24.0 (.94)	29.0 (1.14)
M30x2	51.0 (2.01)	12.0 (.47)	30.0 (1.18)	30.0 (1.18)	36.0 (1.42)
M32x2	51.0 (2.01)	12.0 (.47)	32.0 (1.26)	30.0 (1.18)	36.0 (1.42)

**Brass (BR)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Chrome Plated Brass (CPB)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Nickel Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98710.9	100
M20x1.5	25502.9	100
M24x1.5	98711.9	50
M25x1.5	25503.9	100
M30x2	98712.9	50
M32x2	98747.9	50

See Page 294 for Drawings and Dimensional Information.

**Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98701.9	50
M20x1.5	98730.9	50
M24x1.5	98702.9	50
M25x1.5	98731.9	50
M30x2	98703.9	50
M32x2	98748.9	50

See Page 294 for Drawings and Dimensional Information.

**Chrome Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98721.9	50
M20x1.5	98740.9	50
M24x1.5	98722.9	50
M25x1.5	98741.9	50
M30x2	98723.9	50
M32x2	98749.9	50

See Page 294 for Drawings and Dimensional Information.

Brass (BR)	Chrome Plated Brass (CPB)
Ethylene-Propylene Elastomer (EPDM)	Ethylene-Propylene Elastomer (EPDM)
Neoprene (NBR)	Neoprene (NBR)
-40 to 300°C (-40 to 572°F)	-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
98675.6.1	98675.6.2
98676.6.1	98676.6.2
98677.6.1	98677.6.2
98678.6.1	98678.6.2
98679.6.1	98679.6.2
98680.6.1	98680.6.2
98681.6.1	98681.6.2
98682.6.1	98682.6.2
98683.6.1	98683.6.2
98684.6.1	98684.6.2
98685.6.1	98685.6.2
98686.6.1	98686.6.2
98687.6.1	98687.6.2
98688.6.1	98688.6.2
98689.6.1	98689.6.2
98690.6.1	98690.6.2
98691.6.1	98691.6.2
98692.6.1	98692.6.2
98693.6.1	98693.6.2
98694.6.1	98694.6.2

**Seal Rings all Cord Grip Materials**



<b>Material</b>	Neoprene (NBR)
<b>Temperature Range</b>	-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M18	97730.9	100
M20	25602.9	100
M24	97731.9	100
M25	25603.9	100
M30	97732.9	100
M32	25604.9	100

See Page 298 for Drawings and Dimensional Information.

# Marine Straight Through – Metric External Thread Style 2



- Protection Rating: IP66; NEMA 4X with Installed Seal Ring
- Order Seal Rings Separately
- Order Locknuts Separately

Nickel Plated Brass (NPB)



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M18x1.5	7.0-8.5	(.28-.33)	18.0	(.71)	10	98750.6
M18x1.5	8.0-10.5	(.31-.41)	18.0	(.71)	10	98751.6
M20x1.5	7.0-8.5	(.28-.33)	20.0	(.79)	10	98752.6
M20x1.5	8.0-10.5	(.31-.41)	20.0	(.79)	10	98753.6
M24x1.5	7.0-8.5	(.28-.33)	24.0	(.94)	10	98754.6
M24x1.5	8.0-10.5	(.31-.41)	24.0	(.94)	10	98755.6
M24x1.5	10.0-12.5	(.39-.49)	24.0	(.94)	10	98756.6
M24x1.5	12.0-14.5	(.47-.57)	24.0	(.94)	10	98757.6
M24x1.5	14.0-16.5	(.55-.65)	24.0	(.94)	10	98758.6
M24x1.5	16.0-17.5	(.63-.69)	24.0	(.94)	10	98759.6
M25x1.5	7.0-8.5	(.63-.98)	25.0	(.98)	10	98760.6
M25x1.5	8.0-10.5	(.31-.41)	25.0	(.98)	10	98761.6
M25x1.5	10.0-12.5	(.39-.49)	25.0	(.98)	10	98762.6
M25x1.5	12.0-14.5	(.47-.57)	25.0	(.98)	10	98763.6
M25x1.5	14.0-16.5	(.55-.65)	25.0	(.98)	10	98764.6
M25x1.5	16.0-17.5	(.63-.69)	25.0	(.98)	10	98765.6
M30x2	16.0-18.5	(.63-.73)	30.0	(1.18)	10	98766.6
M30x2	18.0-20.5	(.71-.81)	30.0	(1.18)	10	98767.6
M32x1.5	16.0-18.5	(.63-.73)	32.0	(1.26)	10	98768.6
M32x1.5	18.0-20.5	(.71-.81)	32.0	(1.26)	10	98769.6
M36x2	20.0-22.5	(.79-.89)	36.0	(1.42)	10	98770.6
M36x2	22.0-24.5	(.87-.96)	36.0	(1.42)	10	98771.6
M36x2	24.0-26.5	(.94-1.04)	36.0	(1.42)	10	98772.6
M40x1.5	20.0-22.5	(.79-.89)	40.0	(1.57)	10	98773.6
M40x1.5	22.0-24.5	(.87-.96)	40.0	(1.57)	10	98774.6
M40x1.5	24.0-26.5	(.94-1.04)	40.0	(1.57)	10	98775.6
M45x2	26.0-28.5	(1.02-1.12)	45.0	(1.77)	5	98776.6
M45x2	28.0-30.5	(1.10-1.20)	45.0	(1.77)	5	98777.6
M45x2	30.0-32.5	(1.18-1.28)	45.0	(1.77)	5	98778.6
M50x1.5	26.0-28.5	(1.02-1.12)	50.0	(1.97)	5	98779.6
M50x1.5	28.0-30.5	(1.10-1.20)	50.0	(1.97)	5	98780.6
M50x1.5	30.0-32.5	(1.18-1.28)	50.0	(1.97)	5	98781.6
M56x2	32.0-35.5	(1.26-1.40)	56.0	(2.21)	2	98782.6
M56x2	35.0-38.5	(1.38-1.52)	56.0	(2.21)	2	98783.6
M56x2	38.0-41.5	(1.50-1.63)	56.0	(2.21)	2	98784.6

Continued on page 262.

**Brass (BR)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Chrome Plated Brass (CPB)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Nickel Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98710.9	100
M20x1.5	25502.9	100
M24x1.5	98711.9	50
M25x1.5	25503.9	100
M30x2	98712.9	50
M32x2	98747.9	50
M36x2	98713.9	50
M40x1.5	25505.9	50
M45x2	98714.9	25
M50x1.5	25506.9	50
M56x2	98715.9	20

See Page 294 for Drawings and Dimensional Information.

**Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98701.9	50
M20x1.5	98730.9	50
M24x1.5	98702.9	50
M25x1.5	98731.9	50
M30x2	98703.9	50
M32x2	98748.9	50
M36x2	98704.9	50
M40x1.5	98733.9	50
M45x2	98705.9	25
M50x1.5	98734.9	25
M56x2	98706.9	20

See Page 294 for Drawings and Dimensional Information.

**Chrome Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M18x1.5	98721.9	50
M20x1.5	98740.9	50
M24x1.5	98722.9	50
M25x1.5	98741.9	50
M30x2	98723.9	50
M32x1.5	98742.9	50
M36x2	98724.9	50
M40x1.5	98743.9	50
M45x2	98725.9	25
M50x1.5	98744.9	25
M56x2	98726.9	20

See Page 294 for Drawings and Dimensional Information.

Brass (BR)
Ethylene-Propylene Elastomer (EPDM)
Neoprene (NBR)
-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)
-20 to 100°C (-4 to 212°F)
Black
<b>Cat. No.</b>
98750.6.1
98751.6.1
98752.6.1
98753.6.1
98754.6.1
98755.6.1
98756.6.1
98757.6.1
98758.6.1
98759.6.1
98760.6.1
98761.6.1
98762.6.1
98763.6.1
98764.6.1
98765.6.1
98766.6.1
98767.6.1
98768.6.1
98769.6.1
98770.6.1
98771.6.1
98772.6.1
98773.6.1
98774.6.1
98775.6.1
98776.6.1
98777.6.1
98778.6.1
98779.6.1
98780.6.1
98781.6.1
98782.6.1
98783.6.1
98784.6.1

Chrome Plated Brass (CPB)
Ethylene-Propylene Elastomer (EPDM)
Neoprene (NBR)
-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)
-20 to 100°C (-4 to 212°F)
Black
<b>Cat. No.</b>
98750.6.2
98751.6.2
98752.6.2
98753.6.2
98754.6.2
98755.6.2
98756.6.2
98757.6.2
98758.6.2
98759.6.2
98760.6.2
98761.6.2
98762.6.2
98763.6.2
98764.6.2
98765.6.2
98766.6.2
98767.6.2
98768.6.2
98769.6.2
98770.6.2
98771.6.2
98772.6.2
98773.6.2
98774.6.2
98775.6.2
98776.6.2
98777.6.2
98778.6.2
98779.6.2
98780.6.2
98781.6.2
98782.6.2
98783.6.2
98784.6.2

See Page 263 for Seal Ring Ordering Information and Page 298 for Drawings and Dimensional Information.

# Marine Straight Through – Metric External Thread Style 2

Nickel Plated Brass (NPB)



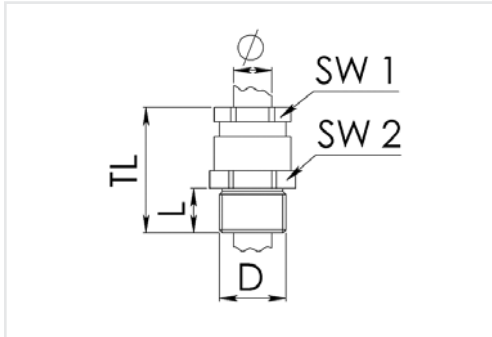
- Protection Rating: IP66; NEMA 4X with Installed Seal Ring
- Order Seal Rings Separately
- Order Locknuts Separately



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M63x1.5	32.0-35.5	(1.26-1.40)	63.0	(2.48)	2	98785.6
M63x1.5	35.0-38.5	(1.38-1.52)	63.0	(2.48)	2	98786.6
M63x1.5	38.0-41.5	(1.50-1.63)	63.0	(2.48)	2	98787.6
M72x2	41.0-44.5	(1.61-1.75)	72.0	(2.83)	1	98788.6
M72x2	44.0-48.5	(1.73-1.91)	72.0	(2.83)	1	98789.6
M72x2	48.0-52.5	(1.89-2.07)	72.0	(2.83)	1	98790.6
M72x2	52.0-56.5	(2.05-2.22)	72.0	(2.83)	1	98791.6
M75x1.5	41.0-44.5	(1.61-1.75)	75.0	(2.95)	1	98792.6
M75x1.5	44.0-48.5	(1.73-1.91)	75.0	(2.95)	1	98793.6
M75x1.5	48.0-52.5	(1.89-2.07)	75.0	(2.95)	1	98794.6
M80x2	62.0-66.0	(2.44-2.60)	80.0	(3.15)	1	98795.6
M105x2	68.0-73.0	(2.68-2.87)	105.0	(4.13)	1	98796.6
M105x2	73.0-78.0	(2.87-3.07)	105.0	(4.13)	1	98797.6
M105x2	78.0-83.0	(3.07-3.27)	105.0	(4.13)	1	98798.6



Cord Grip Dimensions: mm (in.) Marine Style 2						
Size	TL	L	D	SW1	SW2	
M18x1.5	43.0 (1.69)	10.0 (.39)	18.0 (.71)	19.0 (.75)	24.0 (.94)	
M20x1.5	41.0 (1.61)	10.0 (.39)	20.0 (.79)	19.0 (.75)	24.0 (.94)	
M24x1.5	49.0 (1.93)	11.0 (.43)	24.0 (.94)	24.0 (.94)	29.0 (1.14)	
M25x1.5	47.0 (1.85)	11.0 (.44)	25.0 (.98)	24.0 (.94)	29.0 (1.14)	
M30x2	52.0 (2.05)	12.0 (.47)	30.0 (1.18)	30.0 (1.18)	36.0 (1.42)	
M32x1.5	51.0 (2.01)	12.0 (.47)	32.0 (1.26)	30.0 (1.18)	36.0 (1.42)	
M36x2	58.0 (2.28)	13.0 (.51)	36.0 (1.42)	36.0 (1.42)	41.0 (1.61)	
M40x1.5	56.0 (2.20)	13.0 (.51)	40.0 (1.57)	36.0 (1.42)	46.0 (1.81)	
M45x2	62.0 (2.44)	14.0 (.55)	45.0 (1.77)	46.0 (1.81)	51.0 (2.01)	
M50x1.5	59.0 (2.32)	14.0 (.55)	50.0 (1.97)	46.0 (1.81)	55.0 (2.17)	
M56x2	68.0 (2.68)	15.0 (.59)	56.0 (2.21)	55.0 (2.17)	62.0 (2.44)	
M63x1.5	64.0 (2.52)	15.0 (.59)	63.0 (2.48)	55.0 (2.17)	68.0 (2.68)	
M72x2	73.0 (2.87)	16.0 (.63)	72.0 (2.83)	70.0 (2.76)	78.0 (3.07)	
M75x1.5	69.0 (2.72)	16.0 (.63)	75.0 (2.95)	70.0 (2.76)	82.0 (3.23)	
M80x2	79.0 (3.11)	18.0 (.71)	80.0 (3.15)	85.0 (3.35)	90.0 (3.54)	
M105x2	88.0 (3.46)	20.0 (.79)	105.0 (4.13)	103.0 (4.06)	115.0 (4.53)	

**Brass (BR)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Chrome Plated Brass (CPB)**



With Ethylene-Propylene Elastomer (EPDM) Sealing Insert

**Nickel Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M63x1.5	25507.9	50
M72x2	25508.9	10
M75x1.5	25509.9	10
M80x2	97613.9	5
M105x2	98718.9	5

See Page 294 for Drawings and Dimensional Information.

**Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M63x1.5	98735.9	10
M72x2	98707.9	10
M75x1.5	99736.9	5
M80x2	98708.9	5
M105x2	98709.9	5

See Page 294 for Drawings and Dimensional Information.

Brass (BR)	Chrome Plated Brass (CPB)
Ethylene-Propylene Elastomer (EPDM)	Ethylene-Propylene Elastomer (EPDM)
Neoprene (NBR)	Neoprene (NBR)
-40 to 300°C (-40 to 572°F)	-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
-20 to 100°C (-4 to 212°F)	-20 to 100°C (-4 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
98785.6.1	98785.6.2
98786.6.1	98786.6.2
98787.6.1	98787.6.2
98788.6.1	98788.6.2
98789.6.1	98789.6.2
98790.6.1	98790.6.2
98791.6.1	98791.6.2
98792.6.1	98792.6.2
98793.6.1	98793.6.2
98794.6.1	98794.6.2
98795.6.1	98795.6.2
98796.6.1	98796.6.2
98797.6.1	98797.6.2
98798.6.1	98798.6.2

Brass (BR)	Chrome Plated Brass (CPB)
Ethylene-Propylene Elastomer (EPDM)	Ethylene-Propylene Elastomer (EPDM)
Neoprene (NBR)	Neoprene (NBR)
-40 to 300°C (-40 to 572°F)	-40 to 300°C (-40 to 572°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
-20 to 100°C (-4 to 212°F)	-20 to 100°C (-4 to 212°F)
Black	Black
<b>Cat. No.</b>	<b>Cat. No.</b>
98785.6.1	98785.6.2
98786.6.1	98786.6.2
98787.6.1	98787.6.2
98788.6.1	98788.6.2
98789.6.1	98789.6.2
98790.6.1	98790.6.2
98791.6.1	98791.6.2
98792.6.1	98792.6.2
98793.6.1	98793.6.2
98794.6.1	98794.6.2
98795.6.1	98795.6.2
98796.6.1	98796.6.2
98797.6.1	98797.6.2
98798.6.1	98798.6.2

**Seal Rings all Cord Grip Materials**



<b>Material</b>	Neoprene (NBR)
<b>Temperature Range</b>	-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M18	97730.9	100
M20	25602.9	100
M24	97731.9	100
M25	25603.9	100
M30	97732.9	100
M32	25604.9	100
M36	97733.9	100
M40	25606.9	100
M45	97734.9	100
M50	25606.9	100
M56	97735.9	100
M63	25607.9	100
M72	25608.9	50
M75	25609.9	50
M80	25738.9	25
M105	97736.9	25

See Page 298 for Drawings and Dimensional Information.

**Chrome Plated Brass Locknuts**



Order Separately

Size	Cat. No.	Std. Pk.
M63x1.5	98745.9	10
M72x2	98727.9	10
M75x1.5	98746.9	5
M80x2	98728.9	5
M105x2	98729.9	5

See Page 294 for Drawings and Dimensional Information.

## Marine EMI/RFI – Metric External Thread

### Style 1 GL, German Lloyd Approved

- Protection Rating: IP68; NEMA 4X
- Pressure Rating: 5Bar; 70psi
- Seal Rings Factory Installed
- Order EMI/RFI Locknuts Separately
- 15mm (.59 in.) Long External Thread Upon Request



Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Elastomer (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Max. Shield Dia.		Mtg. Hole Dia.		Cat. No.	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)		
M12x1.5	1.0-3.0	(.039-.12)	5.0	(.20)	12.0	(.47)	26500.6	50
M12x1.5	3.0-7.0	(.12-.28)	5.0	(.20)	12.0	(.47)	98700.6	50
M16x1.5	2.0-6.0	(.080-.24)	7.5	(.30)	16.0	(.63)	26501.6	50
M16x1.5	4.5-10.0	(.18-.39)	7.5	(.30)	16.0	(.63)	98701.6	50
M20x1.5	4.0-8.0	(.16-.31)	9.5	(.37)	20.0	(.79)	26502.6	50
M20x1.5	6.0-13.0	(.24-.51)	9.5	(.37)	20.0	(.79)	98702.6	50
M25x1.5	7.0-12.0	(.28-.47)	14.5	(.57)	25.0	(.98)	26503.6	50
M25x1.5	9.0-17.0	(.35-.67)	14.5	(.57)	25.0	(.98)	98703.6	50
M32x1.5	9.0-14.0	(.35-.55)	20.0	(.79)	32.0	(1.26)	26504.6	25
M32x1.5	13.0-21.0	(.51-.83)	20.0	(.79)	32.0	(1.26)	98704.6	25
M40x1.5	12.0-20.0	(.47-.79)	26.0	(1.02)	40.0	(1.57)	26505.6	10
M40x1.5	16.0-28.0	(.63-1.10)	26.0	(1.02)	40.0	(1.57)	98705.6	10
M50x1.5	16.0-25.0	(.63-.98)	33.0	(1.30)	50.0	(1.97)	26506.6	10
M50x1.5	21.0-35.0	(.83-1.38)	33.0	(1.30)	50.0	(1.97)	98706.6	10
M63x1.5	28.0-38.0	(1.10-1.50)	45.0	(1.77)	63.0	(2.48)	26507.6	10
M63x1.5	34.0-48.0	(1.34-1.89)	45.0	(1.77)	63.0	(2.48)	98707.6	10

Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW	E1
M12x1.5	27.0 (1.06)	5.0 (.20)	12.0 (.47)	16.0 (.63)	18.0 (.71)
M16x1.5	30.0 (1.18)	5.0 (.20)	16.0 (.63)	20.0 (.79)	22.0 (.87)
M20x1.5	33.0 (1.30)	6.0 (.24)	20.0 (.94)	24.0 (.94)	27.0 (1.06)
M25x1.5	38.0 (1.50)	7.0 (.28)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	40.0 (1.57)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	40.0 (1.57)
M40x1.5	50.0 (1.97)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	57.0 (2.24)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	62.0 (2.44)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)



## EMI/RFI Locknuts



**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25890.9	100
25890.9	100
25891.9	100
25891.9	100
25892.9	100
25892.9	100
25893.9	100
25893.9	100
25894.9	100
25894.9	100
25895.9	50
25895.9	50
25896.6	50
25896.9	50
25897.9	25
25897.6	25

See Page 295 for Drawings and Dimensional Information.

## Marine EMI/RFI – Metric External Thread

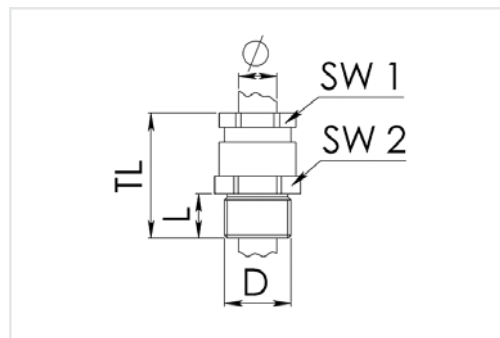
### Style 2 GL, German Lloyd Approved

- Protection Rating: IP56; NEMA 13 with Installed Seal Ring
- Order Seal Rings Separately
- Order EMI/RFI Locknuts Separately
- Optional Finishes: Nickel Plated and Chrome Plated



Material Specifications	
<b>Body</b>	Brass (BR)
<b>Insert</b>	Ethylene-Propylene Elastomer (EPDM)
<b>Seal Ring</b>	Neoprene (NBR)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-20 to 100°C (-4 to 212°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Max. Shield Dia.		Mtg. Hole Dia.		Cat. No.	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)		
M18x1.5	7.0-8.5	(.28-.33)	8.0	(.31)	18.0	(.71)	98650.6	10
M18x1.5	8.0-10.5	(.31-.41)	10.0	(.39)	18.0	(.71)	98651.6	10
M20x1.5	7.0-8.5	(.28-.33)	8.0	(.31)	20.0	(.79)	98652.6	10
M20x1.5	8.0-10.5	(.31-.41)	10.0	(.39)	20.0	(.79)	98653.6	10
M24x1.5	7.0-8.5	(.28-.33)	8.0	(.31)	24.0	(.94)	98654.6	10
M24x1.5	8.0-10.5	(.31-.41)	10.0	(.39)	24.0	(.94)	98655.6	10
M24x1.5	10.0-12.5	(.39-.49)	12.0	(.47)	24.0	(.94)	98656.6	10
M24x1.5	12.0-14.5	(.47-.57)	14.0	(.55)	24.0	(.94)	98657.6	10
M24x1.5	14.0-16.5	(.55-.65)	16.0	(.63)	24.0	(.94)	98658.6	10
M24x1.5	16.0-17.5	(.63-.69)	17.0	(.67)	24.0	(.94)	98659.6	10
M25x1.5	7.0-8.5	(.28-.33)	8.0	(.31)	25.0	(.98)	98660.6	10
M25x1.5	8.0-10.5	(.31-.41)	10.0	(.39)	25.0	(.98)	98661.6	10
M25x1.5	10.0-12.5	(.39-.49)	12.0	(.47)	25.0	(.98)	98662.6	10
M25x1.5	12.0-14.5	(.47-.57)	14.0	(.55)	25.0	(.98)	98663.6	10
M25x1.5	14.0-16.5	(.55-.65)	16.0	(.63)	25.0	(.98)	98664.6	10
M25x1.5	16.0-17.5	(.63-.69)	17.0	(.67)	25.0	(.98)	98665.6	10
M30x2	16.0-18.5	(.63-.73)	18.0	(.71)	30.0	(1.18)	98666.6	10
M30x2	18.0-20.5	(.71-.81)	20.0	(.79)	30.0	(1.18)	98667.6	10
M32x1.5	16.0-18.5	(.63-.73)	18.0	(.71)	32.0	(1.26)	98668.6	10
M32x1.5	18.0-20.5	(.71-.81)	20.0	(.79)	32.0	(1.26)	98669.6	10



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW1	SW2
M18x1.5	42.0 (1.65)	10.0 (.39)	18.0 (.71)	19.0 (.75)	24.0 (.94)
M20x1.5	42.0 (1.65)	10.0 (.39)	20.0 (.79)	19.0 (.75)	24.0 (.94)
M24x1.5	45.0 (1.77)	11.0 (.43)	24.0 (.94)	24.0 (.94)	29.0 (1.14)
M25x1.5	45.0 (1.77)	11.0 (.43)	25.0 (.98)	24.0 (.94)	29.0 (1.14)
M30x2	51.0 (2.01)	12.0 (.47)	30.0 (1.18)	30.0 (1.18)	36.0 (1.57)
M32x1.5	51.0 (2.01)	12.0 (.47)	32.0 (1.26)	30.0 (1.18)	36.0 (1.42)

**EMI/RFI Locknuts**

**Seal Rings**



Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Cat. No.	Std. Pk.
97602.9	50
97602.9	50
25892.9	100
25892.9	100
97603.9	50
97603.9	50
97603.9	50
97603.9	50
97603.9	50
97603.9	50
97603.9	50
25893.9	100
25893.9	100
25893.9	100
25893.9	100
25893.9	100
25893.9	100
25893.9	100
25893.9	100
97604.9	50
97604.9	50
25894.9	100
25894.9	100

Cat. No.	Std. Pk.
97793.9	100
97730.9	100
25602.9	100
25609.9	100
97731.9	100
97731.9	100
97731.9	100
97731.9	100
97731.9	100
97731.9	100
97731.9	100
25603.9	100
25603.9	100
25603.9	100
25603.9	100
25603.9	100
25603.9	100
25603.9	100
97732.9	100
97732.9	100
25604.9	100
25604.9	100

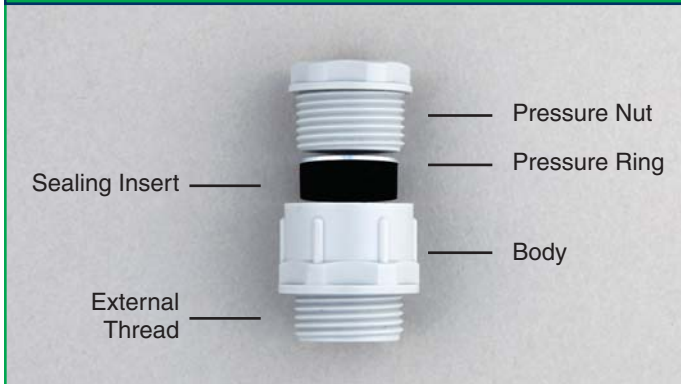
For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Econolite Cord Grips

The right choice for cost effective light duty indoor applications or for use in protected outdoor environments.

Econolite Cord Grips provide a reliable seal and limited strain relief. They are available in Polystyrene or Nickel Plated Brass Body Materials with Soft Rubber Sealing Inserts.

### Econolite Polystyrene Cord Grip Components



### Sealing Feature

Sealing Inserts provide a reliable seal at cable entry points when the Pressure Nut is tightened.



- Single Sealing Insert Polyamide Cord Grips

### Econolite Nickel Plated Brass Cord Grip Components



- Sealing Insert with Removable Concentric Rings Nickel Plated Brass Cord Grips.

## Specifications

### Body Material

Polystyrene (PS)  
Nickel Plated Brass (NPB)

### Insert Materials

Soft Rubber (SR)

### External Thread Sizes

European Standard  
Metric M12 to M63  
European Standard  
PG7 to PG48

### Ratings

Protection: Up to IP54  
NEMA 13

## Econolite Cord Grips

The Series of Econolite Cord grips consist of Polystyrene and Nickel Plated Brass Straight Through Cord Grips with standard or long External Metric or PG Thread. This series also includes QUIXX Econolite Two Component Membrane Plugs and FLIP Econolite Push In Cable Grommets.

### Polystyrene Straight Through Cord Grips PG External Thread



Provide a reliable seal for round cables or cords with diameters from 3.5 to 44.0mm (.14 to 1.73in.)

Refer to pages 274-276 for ordering information.

### QUIXX Econolite Two Component Threaded Membrane Plugs Metric External Thread



Provide a liquid-tight seal for round or flat cables and cords with diameters from 1.0 to 25.0mm (.04 to .98in.)

Refer to pages 282 for ordering information.

### QUIXX Econolite Two Component Push In Membrane Plugs For use in Metric Threaded Holes



Provide a liquid-tight seal for round or flat cables and cords with diameters from 1.0 to 25.0mm (.04 to .98in.)

Refer to pages 283 for ordering information.

### Nickel Plated Brass Straight Through Cord Grips Metric & PG External Thread



Provide a reliable seal for round cables or cords with diameters from 4.0 to 46.0mm (.11 to 1.81in.)

Refer to pages 270-272, 278-280 for ordering information.

### FLIP Econolite Push In Cable Grommet



Provide a liquid-tight seal for round cables or cords with diameters from 3.5 to 44.0mm (.14 to 1.73in.)

Refer to pages 284-285 for ordering information.

## Econolite Straight Through – Metric External Thread Nickel Plated Brass



- Protection Rating: IP54; NEMA 13
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately

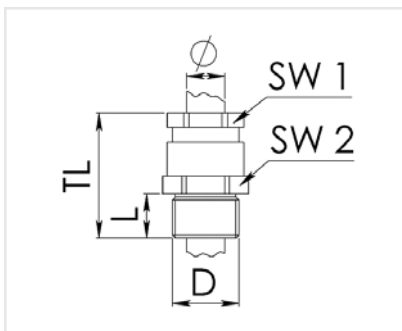
## Nickel Plated Brass (NPB)



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
M12x1.5	4.0-6.0	(.16-.24)	12.0	(.47)	100	98440.6
M16x1.5	2.0-10.0	(.08-.39)	16.0	(.63)	100	98441.6
M20x1.5	3.0-14.0	(.12-.55)	20.0	(.79)	50	98442.6
M25x1.5	7.5-18.5	(.30-.73)	25.0	(.98)	50	98443.6
M32x1.5	15.0-26.0	(.59-1.02)	32.0	(1.26)	25	98444.6
M40x1.5	22.0-33.0	(.87-1.30)	40.0	(1.57)	20	98445.6
M50x1.5	29.0-40.0	(1.14-1.57)	50.0	(1.97)	5	98446.6
M63x1.5	35.0-46.0	(1.38-1.81)	63.0	(2.48)	5	98447.6



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW1	SW2
M12x1.5	20.0 (.79)	5.0 (.20)	12.0 (.47)	12.0 (.47)	14.0 (.59)
M16x1.5	22.0 (.87)	5.0 (.20)	16.0 (.63)	16.0 (.63)	18.0 (.71)
M20x1.5	26.0 (1.02)	6.0 (.24)	20.0 (.79)	20.0 (.79)	22.0 (.87)
M25x1.5	29.0 (1.14)	7.0 (.28)	25.0 (.98)	25.0 (.98)	27.0 (1.06)
M32x1.5	32.0 (1.26)	8.0 (.31)	32.0 (1.26)	32.0 (1.26)	34.0 (1.34)
M40x1.5	38.0 (1.50)	8.0 (.31)	40.0 (1.57)	40.0 (1.57)	42.0 (1.65)
M50x1.5	43.0 (1.69)	9.0 (.35)	50.0 (1.97)	50.0 (1.97)	52.0 (2.05)
M63x1.5	46.0 (1.81)	10.0 (.39)	63.0 (2.48)	63.0 (2.48)	66.0 (2.60)

**Locknuts**

**Seal Rings**



**Order Separately**

**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25501.9	100
25502.9	100
25503.9	100
25504.9	100
25505.9	50
25506.9	50
25507.9	25

<b>Cat. No.</b>	<b>Std. Pk.</b>
25600.9	100
25601.9	100
25602.9	100
25603.9	100
25604.9	100
25605.9	100
25606.9	100
25607.9	100

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

# Econolite Straight Through – Long Metric External Thread

## Nickel Plated Brass

Nickel Plated Brass (NPB)



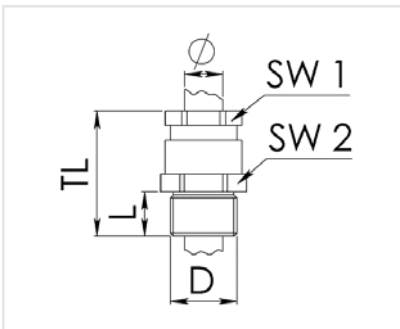
- Protection Rating: IP54; NEMA 13
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Ext. Thread Length		Mtg. Hole Dia.		Cat. No.	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)		
M12x1.5	4.0-6.0	(.16-.24)	10.0	(.39)	12.0	(.47)	98450.6	50
M16x1.5	2.0-10.0	(.08-.39)	10.0	(.39)	16.0	(.63)	98451.6	50
M20x1.5	3.0-14.0	(.12-.55)	10.0	(.39)	20.0	(.79)	98452.6	50
M25x1.5	7.5-18.5	(.30-.73)	11.0	(.43)	25.0	(.98)	98453.6	50
M32x1.5	15.0-26.0	(.59-1.02)	13.0	(.51)	32.0	(1.26)	98454.6	25
M40x1.5	22.0-33.0	(.87-1.30)	13.0	(.51)	40.0	(1.57)	98455.6	20
M50x1.5	29.0-40.0	(1.14-1.57)	14.0	(.59)	50.0	(1.97)	98456.6	10
M63x1.5	35.0-46.0	(1.38-1.81)	14.0	(.59)	63.0	(2.48)	98457.6	10



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW1	SW2
M12	25.0 (.98)	10.0 (.39)	12.0 (.47)	12.0 (.47)	14.0 (.59)
M16	27.0 (1.06)	10.0 (.39)	16.0 (.63)	16.0 (.63)	18.0 (.71)
M20	30.0 (1.18)	10.0 (.39)	20.0 (.79)	20.0 (.79)	22.0 (.87)
M25	33.0 (1.30)	11.0 (.43)	25.0 (.98)	25.0 (.98)	27.0 (1.06)
M32	37.0 (1.46)	13.0 (.51)	32.0 (1.26)	32.0 (1.26)	34.0 (1.34)
M40	43.0 (1.69)	13.0 (.51)	40.0 (1.57)	40.0 (1.57)	42.0 (1.65)
M50	48.0 (1.89)	14.0 (.55)	50.0 (1.97)	50.0 (1.97)	52.0 (2.05)
M63	50.0 (1.97)	14.0 (.55)	63.0 (2.48)	63.0 (2.48)	66.0 (2.60)



**Locknuts**

**Seal Rings**



**Order Separately**

**Order Separately**

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

<b>Cat. No.</b>	<b>Std. Pk.</b>
25500.9	100
25501.9	100
25502.9	100
25503.9	100
25504.9	100
25505.9	50
25506.9	50
25507.9	25

<b>Cat. No.</b>	<b>Std. Pk.</b>
25600.9	100
25601.9	100
25602.9	100
25603.9	100
25604.9	100
25605.9	100
25606.9	100
25607.9	100

For Drawings and Dimensional Information: See Page 294 for Locknuts and Page 298 for Seal Rings

## Econolite Straight Through – PG External Thread Polystyrene (PS)



- Protection Rating: IP54; NEMA 13
- Order Seal Rings Separately
- Order Locknuts Separately
- Standard Color: Light Gray

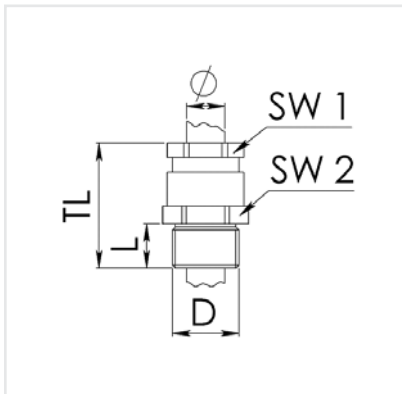
## Polystyrene (PS)



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Polystyrene (PS)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 60°C (-4 to 140°F)
<b>Insert</b>	-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Ext. Thread Length		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
PG7	3.5-6.0	(.14-.24)	13.0	(.51)	50	98400.2
PG9	4.5-7.0	(.18-.28)	15.5	(.61)	50	98401.2
PG11	6.0-9.0	(.24-.35)	19.0	(.75)	50	98402.2
PG13.5	9.0-12.0	(.35-.47)	21.0	(.83)	50	98403.2
PG16	11.0-14.0	(.43-.55)	23.0	(.91)	50	98404.2
PG21	14.0-18.0	(.55-.71)	29.0	(1.14)	50	98405.2
PG29	18.0-25.0	(.71-.98)	37.5	(1.48)	25	98406.2
PG36	25.0-32.0	(.98-1.26)	47.5	(1.87)	10	98407.2
PG42	30.0-38.0	(1.18-1.50)	54.5	(2.15)	5	98408.2
PG48	38.0-44.0	(1.50-1.73)	60.0	(2.36)	5	98409.2



Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW1	SW2
PG7	28.0 (1.10)	8.0 (.31)	12.5 (.49)	13.0 (.51)	15.0 (.59)
PG9	30.0 (1.18)	8.0 (.31)	15.2 (.60)	16.0 (.63)	19.0 (.75)
PG11	31.0 (1.22)	8.0 (.31)	18.6 (.73)	19.0 (.75)	22.0 (.87)
PG13.5	35.0 (1.38)	9.0 (.35)	20.4 (.80)	21.0 (.83)	24.0 (.94)
PG16	38.0 (1.50)	10.0 (.39)	22.5 (.89)	23.0 (.91)	27.0 (1.06)
PG21	43.0 (1.69)	11.0 (.43)	28.3 (1.11)	30.0 (1.18)	33.0 (1.30)
PG29	44.0 (1.73)	11.0 (.43)	37.0 (1.46)	40.0 (1.57)	42.0 (1.65)
PG36	54.0 (2.13)	13.0 (.51)	47.0 (1.85)	50.0 (1.97)	53.0 (2.09)
PG42	57.0 (2.24)	13.0 (.51)	54.0 (2.13)	55.0 (2.17)	60.0 (2.36)
PG48	60.0 (2.36)	15.0 (.59)	59.3 (2.33)	60.0 (2.36)	65.0 (2.56)

**Locknuts**

**Seal Rings**



Order Separately

Order Separately

**Material**

Polyamide (PA)

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Light Gray

**Color**

Opaque

<b>Cat. No.</b>	<b>Std. Pk.</b>
23050.9	100
23051.9	100
23052.9	100
23053.9	100
23054.9	100
23055.9	100
23066.9	50
23057.9	25
23058.9	25
23059.9	10

<b>Cat. No.</b>	<b>Std. Pk.</b>
23170.9	50
23171.9	50
23172.9	50
23173.9	50
23174.9	50
23175.9	50
23176.9	50
23177.9	50
23178.9	50
23179.9	50

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

# Econolite Straight Through – Long PG External Thread

## Polystyrene (PS)

Polystyrene (PS)



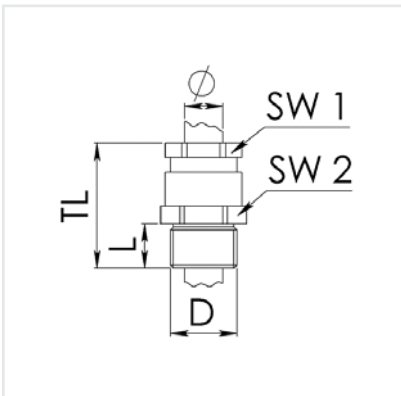
- Protection Rating: IP54; NEMA 13
- Order Seal Rings Separately
- Order Locknuts Separately
- Standard Color: Light Gray



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Polystyrene (PS)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-20 to 60°C (-4 to 140°F)
<b>Insert</b>	-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Ext. Thread Length		Mtg. Hole Dia.		Cat. No.	Std. Pk.
	mm	(in.)	mm	(in.)	mm	(in.)		
PG9	4.5-7.0	(.18-.28)	15.0	(.59)	15.5	(.61)	98401.2/15	50
PG11	6.0-9.0	(.24-.35)	15.0	(.59)	19.0	(.75)	98402.2/15	50
PG13.5	9.0-12.0	(.35-.47)	15.0	(.59)	21.0	(.83)	98403.2/15	50
PG16	11.0-14.0	(.43-.55)	15.0	(.59)	23.0	(.91)	98404.2/15	50
PG21	14.0-18.0	(.55-.71)	15.0	(.59)	29.0	(1.14)	98405.2/15	25
PG29	18.0-25.0	(.71-.98)	15.0	(.59)	37.5	(1.48)	98406.2/15	20
PG36	25.0-32.0	(.98-1.26)	18.0	(.71)	47.5	(1.87)	98407.2/18	10
PG42	30.0-38.0	(1.18-1.50)	18.0	(.71)	54.5	(2.15)	98408.2/18	10



Cord Grip Dimensions: mm (in.)					
Size	TL	L	D	SW1	SW2
PG9	37.0 (1.46)	15.0 (.59)	15.2 (.60)	16.0 (.63)	19.0 (.75)
PG11	38.0 (1.50)	15.0 (.59)	18.6 (.73)	19.0 (.75)	22.0 (.87)
PG13.5	41.0 (1.61)	15.0 (.59)	20.4 (.80)	21.0 (.83)	24.0 (.94)
PG16	43.0 (1.69)	15.0 (.59)	22.5 (.89)	23.0 (.91)	27.0 (1.06)
PG21	47.0 (1.85)	15.0 (.59)	28.3 (1.11)	30.0 (1.18)	33.0 (1.30)
PG29	48.0 (1.89)	15.0 (.59)	37.0 (1.46)	40.0 (1.57)	42.0 (1.65)
PG36	59.0 (2.32)	18.0 (.63)	47.0 (1.85)	50.0 (1.97)	53.0 (2.09)
PG42	62.0 (2.24)	18.0 (.63)	54.0 (2.13)	55.0 (2.17)	60.0 (2.36)

**Locknuts**

**Seal Rings**



Order Separately

Order Separately

**Material**

Polyamide (PA)

**Material**

Polyethylene (PET)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

**Color**

Light Gray

**Color**

Opaque

<b>Cat. No.</b>	<b>Std. Pk.</b>
23051.9	100
23052.9	100
23053.9	100
23054.9	100
23055.9	100
23066.9	50
23057.9	25
23058.9	25

<b>Cat. No.</b>	<b>Std. Pk.</b>
23171.9	50
23172.9	50
23173.9	50
23174.9	50
23175.9	50
23176.9	50
23177.9	50
23178.9	50

For Drawings and Dimensional Information: See Page 293 for Locknuts and Page 300 for Seal Rings

**Econolite Straight Through –  
PG External Thread  
Nickel Plated Brass (NPB)**



- Protection Rating: IP54; NEMA 13
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately

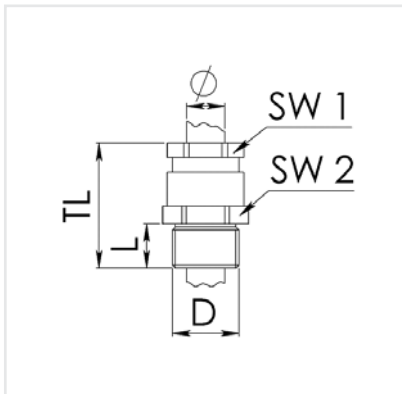
**Nickel Plated Brass (NPB)**



With Soft Rubber (SR) Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert</b>	Soft Rubber (SR)
<b>Temperature Range</b>	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert</b>	-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>	Black

Size	Cable Dia.		Ext. Thread Length		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
PG7	5.0-7.0	(.20-.28)	13.0	(.51)	100	98420.6
PG9	4.0-11.0	(.16-.43)	15.5	(.61)	100	98421.6
PG11	6.5-13.5	(.26-.53)	19.0	(.75)	50	98422.6
PG13.5	6.5-13.5	(.26-.53)	21.0	(.83)	50	98423.6
PG16	6.5-16.0	(.26-.63)	23.0	(.91)	50	98424.6
PG21	9.0-20.0	(.35-.79)	29.0	(1.14)	50	98425.6
PG29	17.0-28.0	(.67-1.10)	37.5	(1.48)	25	98426.6
PG36	23.0-34.0	(.91-1.34)	47.5	(1.87)	10	98427.6
PG42	29.0-40.0	(1.14-1.57)	54.5	(2.15)	10	98428.6
PG48	35.0-46.0	(1.38-1.81)	60.0	(2.36)	10	98429.6



Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW1	SW2
PG7	20.5 (.81)	5.0 (.20)	12.5 (.49)	13.0 (.51)	14.0 (.59)
PG9	22.0 (.87)	6.0 (.24)	15.2 (.60)	15.0 (.59)	17.0 (.67)
PG11	24.0 (.94)	6.0 (.24)	18.6 (.73)	18.0 (.71)	20.0 (.79)
PG13.5	26.0 (1.02)	6.5 (.26)	20.4 (.80)	20.0 (.79)	22.0 (.87)
PG16	26.5 (1.04)	6.5 (.26)	22.5 (.89)	22.0 (.87)	24.0 (.94)
PG21	30.0 (1.18)	7.0 (.28)	28.3 (1.11)	28.0 (1.10)	30.0 (1.18)
PG29	32.0 (1.26)	8.0 (.31)	37.0 (1.46)	37.0 (1.46)	39.0 (1.54)
PG36	39.0 (1.54)	9.0 (.35)	47.0 (1.85)	47.0 (1.85)	50.0 (1.97)
PG42	44.0 (1.73)	10.0 (.39)	54.0 (2.13)	54.0 (2.13)	57.0 (2.24)
PG48	45.0 (1.77)	10.0 (.39)	59.3 (2.33)	63.0 (2.48)	64.0 (2.52)

**Locknuts**

**Seal Rings**



Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Cat. No.	Std. Pk.
23000.9	100
23001.9	100
23002.9	100
23003.9	100
23004.9	100
23005.9	100
23006.9	100
23007.9	100
23008.9	50
23009.9	50

Cat. No.	Std. Pk.
23150.9	100
23151.9	100
23152.9	100
23153.9	100
23154.9	100
23155.9	100
23156.9	100
23157.9	100
23158.9	100
23159.9	100

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings

**Econolite Straight Through –  
PG External Thread 15mm (.59in.) Long  
Nickel Plated Brass (NPB)**

**Nickel Plated Brass (NPB)**



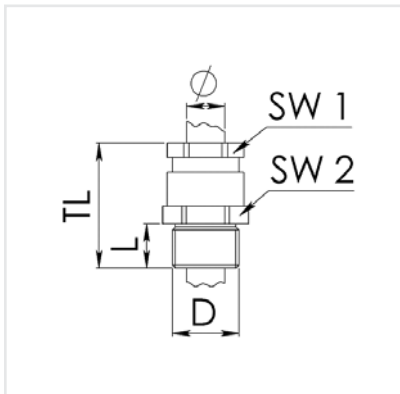
- Protection Rating: IP54; NEMA 13
- Insert with Removable Concentric Rings
- Order Seal Rings Separately
- Order Locknuts Separately



With Soft Rubber (SR) Sealing Insert

Material Specifications		
<b>Body</b>		Nickel Plated Brass (NPB)
<b>Insert</b>		Soft Rubber (SR)
<b>Temperature Range</b>		
<b>Body</b>		-40 to 300°C (-40 to 572°F)
<b>Insert</b>		-20 to 80°C (-4 to 176°F)
<b>Insert Color</b>		Black

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)	mm	(in.)		
PG7	5.0-7.0	(.20-.28)	13.0	(.51)	100	98580.6
PG9	4.0-11.0	(.16-.43)	15.5	(.61)	100	98581.6
PG11	6.5-13.5	(.26-.53)	19.0	(.75)	50	98582.6
PG13.5	6.5-13.5	(.26-.53)	21.0	(.83)	50	98583.6
PG16	6.5-16.0	(.26-.63)	23.0	(.91)	50	98584.6
PG21	9.0-20.0	(.35-.79)	29.0	(1.14)	50	98585.6
PG29	17.0-28.0	(.67-1.10)	37.5	(1.48)	25	98586.6
PG36	23.0-34.0	(.91-1.34)	47.5	(1.87)	10	98587.6
PG42	29.0-40.0	(1.14-1.57)	54.5	(2.15)	10	98588.6
PG48	35.0-46.0	(1.38-1.81)	60.0	(2.36)	10	98589.6



Size	Cord Grip Dimensions: mm (in.)				
	TL	L	D	SW1	SW2
PG7	30.5 (1.20)	15.0 (.59)	12.5 (.49)	13.0 (.51)	14.0 (.59)
PG9	32.0 (1.26)	15.0 (.59)	15.2 (.60)	15.0 (.59)	17.0 (.67)
PG11	33.0 (1.30)	15.0 (.59)	18.6 (.73)	18.0 (.71)	20.0 (.79)
PG13.5	34.5 (1.36)	15.0 (.59)	20.4 (.80)	20.0 (.79)	22.0 (.87)
PG16	35.0 (1.38)	15.0 (.59)	22.5 (.89)	22.0 (.87)	24.0 (.94)
PG21	38.0 (1.50)	15.0 (.59)	28.3 (1.11)	28.0 (1.10)	30.0 (1.18)
PG29	39.0 (1.54)	15.0 (.59)	37.0 (1.46)	37.0 (1.46)	39.0 (1.54)
PG36	45.0 (1.77)	15.0 (.59)	47.0 (1.85)	47.0 (1.85)	50.0 (1.97)
PG42	49.0 (1.93)	15.0 (.59)	54.0 (2.13)	54.0 (2.13)	57.0 (2.24)
PG48	50.0 (1.97)	15.0 (.59)	59.3 (2.33)	63.0 (2.48)	64.0 (2.52)



**Locknuts**

**Seal Rings**



Order Separately



Order Separately

**Material**

Nickel Plated Brass (NPB)

**Material**

Neoprene (NBR)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Temperature Range**

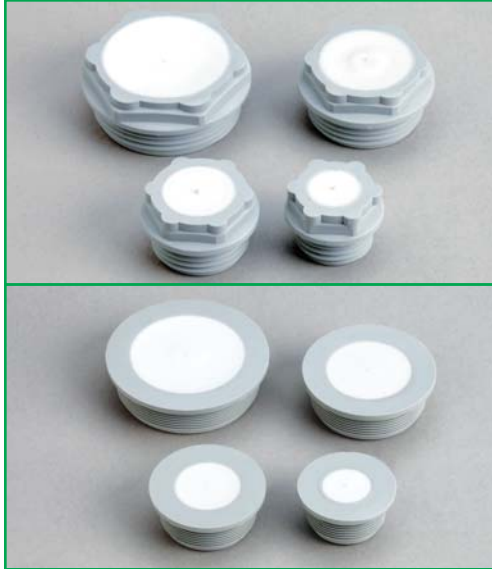
-20 to 100°C (-4 to 212°F)

Cat. No.	Std. Pk.
23000.9	100
23001.9	100
23002.9	100
23003.9	100
23004.9	100
23005.9	100
23006.9	100
23007.9	100
23008.9	50
23009.9	50

Cat. No.	Std. Pk.
23150.9	100
23151.9	100
23152.9	100
23153.9	100
23154.9	100
23155.9	100
23156.9	100
23157.9	100
23158.9	100
23159.9	100

For Drawings and Dimensional Information: See Page 296 for Locknuts and Page 300 for Seal Rings

## QUIXX Econolite Two Component Membrane Plugs



- Protection Rating: IP66; NEMA 4X
- Order Polyamide Locknuts Separately

QUIXX Plugs feature a hard and resistant Polypropylene Body with a Self Sealing Thermoplastic Elastomer Membrane. One or more Round or Flat Cable can be installed.

Installation Threaded Plugs: Screw into hole with Metric Thread or Insert into unthreaded hole and secure with Locknut.

Installation Push In Plugs: Push into hole with Metric Thread.

Cable Installation: Pierce Membrane and pull back cable(s) to form seal.

## Threaded Membrane Plugs



### Material

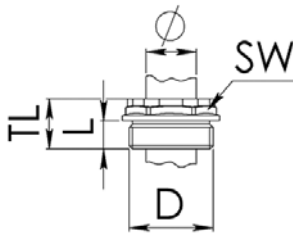
Polypropylene (PP)

### Temperature Range

-30 to 80°C (-34 to 176°F)

Size	Cable Dia.		Mtg. Hole Dia.		Std. Pk.
	mm	(in.)	mm	(in.)	
M16x1.5	1.0-9.0	(.04-.35)	16.0	(.63)	100
M20x1.5	1.0-13.0	(.04-.51)	20.0	(.79)	100
M25x1.5	1.0-18.0	(.04-.71)	25.0	(.98)	100
M32x1.5	1.0-25.0	(.04-.98)	32.0	(1.26)	100

Size	Cat. No.
M16x1.5	98500.9
M20x1.5	98501.9
M25x1.5	98502.9
M32x1.5	98503.9



### Threaded Membrane Plug Dimensions: mm (in.)

Size	TL	L	SW	D
M16x1.5	15.0 (.59)	9.0 (.35)	17.0 (.67)	16.0 (.63)
M20x1.5	15.0 (.59)	9.0 (.35)	20.0 (.79)	20.0 (.79)
M25x1.5	15.0 (.59)	9.0 (.35)	24.0 (.94)	25.0 (.98)
M32x1.5	15.0 (.59)	9.0 (.35)	32.0 (1.26)	32.0 (1.26)

### Push In Membrane Plugs



For use in Metric Threaded Holes

**Material**

Polypropylene (PP)

**Temperature Range**

-30 to 80°C (-34 to 176°F)

**Threaded Hole Size**

**Cat. No.**

M16	98505.9
M20	98506.9
M25	98507.9
M32	98508.9

### Locknuts



Order Separately  
Use with Threaded Membrane Plugs

**Material**

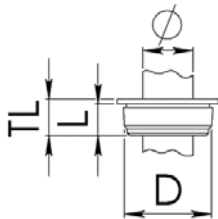
Polyamide (PA)

**Temperature Range**

-20 to 100°C (-4 to 212°F)

Size	Cat. No.	Std. Pk.
M16x1.5	25511.9	100
M20x1.5	25512.9	100
M25x1.5	25513.9	100
M32x1.5	25514.9	100

See Page 292 for Drawings and Dimensional Information.



**Push In Membrane Plug Dimensions: mm (in.)**

Size	TL	L	D
M16	11.0 (.59)	9.5 (.35)	16.0 (.63)
M20	11.0 (.59)	9.5 (.35)	20.0 (.79)
M25	11.0 (.59)	9.5 (.35)	25.0 (.98)
M32	11.0 (.59)	9.5 (.35)	32.0 (1.26)

## FLIP Econolite Push In Cable Grommets



- Protection Rating: IP66; NEMA 4X

**Installation:**

- Snap the Grommet into Place
- Insert Cable
- Pull back Cable to form Seal



**Material**

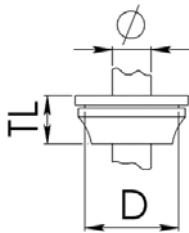
Ethylene-Propylene Rubber

**Temperature Range**

-40 to 110°C (-40 to 212°F)

Size	Cable Dia.		Mtg. Hole Dia.		Wall Thickness	
	mm	(in.)	mm	(in.)	mm	(in.)
M12	4.0-7.0	(.16-.28)	12.0-13.0	(.47-.51)	0.5-2.0	(.020-.079)
M16	5.0-10.0	(.20-.39)	15.0-17.0	(.59-.67)	1.0-4.0	(.039-.157)
M20	8.0-13.0	(.31-.51)	18.0-19.0	(.71-.75)	1.0-4.0	(.039-.157)
M25	11.0-17.0	(.43-.67)	25.0-26.0	(.98-1.02)	1.0-4.0	(.039-.157)
M32	15.0-21.0	(.59-.83)	32.0-33.0	(1.26-1.30)	1.0-4.0	(.039-.157)
M40	19.0-28.0	(.75-1.10)	40.0-41.0	(1.57-1.61)	1.0-4.0	(.039-.157)
M50	27.0-35.0	(1.06-1.38)	50.0-51.0	(1.97-2.01)	1.0-4.0	(.039-.157)

Cat. No.	Std. Pk.
26510.9	50
26511.9	50
26512.9	50
26513.9	50
26514.9	25
26515.9	25
26516.9	10



**Cord Grip Dimensions: mm (in.)**

Size	TL	D
M12	13.0 (.51)	12.0-13.0 (.47-.51)
M16	18.0 (.71)	15.0-17.0 (.59-.67)
M20	20.0 (.79)	18.0-19.0 (.71-.75)
M25	21.5 (.85)	25.0-26.0 (.98-1.02)
M32	25.0 (.98)	32.0-33.0 (1.26-1.30)
M40	30.0 (1.18)	40.0-41.0 (1.57-1.61)
M50	35.0 (1.38)	50.0-51.0 (1.97-2.01)



**Material**

Ethylene-Propylene Rubber

**Temperature Range**

-40 to 110°C (-40 to 212°F)

**Cat. No.  
Black**

**Std.  
Pk.**

26517.9	50
26518.9	50
26519.9	50
26520.9	50
26521.9	25
26522.9	25
26523.9	10

**VentGLAND**

**The Evolution of Membrane**



**The atmosphere is alive. Experience VentGLAND.**

Pressure, temperature and air humidity are in a constant state of change. This is no problem for nature—but a major one for electrical technology. This is because no matter how well sealed the casing is, there are still pressure differences to the outside environment as a result of these effects. Consequently, condensation begins and where water is, there may also be corrosion, electrical short circuits or other damage. Frequently, this leads to breakdown, emergencies or supply bottlenecks.

**In the field of cable glands, WISKA now has created a solution that is unrivalled—VentGLAND\*.**

\*Angemeldetes Patent/patent pending

**Ventilating was a thing of the past.**

**As of today, breathing is in.**

Until now, the simplest solutions also created the greatest problems. In order to ventilate a casing, there have been various counter measures that were cost and time intensive such as interior heating, trickling holes or external ventilation elements. Often, required degree of protection could no longer be guaranteed.

With VentGLAND\*, these approaches are unnecessary because it prevents the problems from occurring. The cable gland has micro-porous, liquid-tight PTFE membrane that literally lets the casing breathe, which then compensates different pressures inside and outside the casing. Hence, condensation is reduced to a minimum while the high-tech membrane seals VentGLAND in such a way that dirt and water can not penetrate into the inside of the casing. VentGLAND meets the high requirements of IP69K.

Discover all the advantages of the innovative cable gland from WISKA.



## Gaining insight of VentGLAND. Progress at a Glance.

By using VentGLAND, you can benefit from massive advantages in the areas of machine and motor construction, in luminaire production or in industrial equipment construction. Use VentGLAND in maritime environments and anywhere where electrical products have to be protected against water.

You benefit from VentGLAND:

### 2 in 1

- Cable gland and pressure compensation in one
- Reduces condensation to a minimum
- Still fulfills all the important properties of a cable gland
- Great cost savings
- No extra components
- No extra installation
- No extra drilling

### Quick and Safe

- Increase gas throughput ensures faster pressure compensation with a protection degree of IP69K

### Easy Replacement

- New for old: fast replacement of a traditional cable gland due to identical sizes

### Quality Upgrade of Your Product

- Highest technological membrane standard
- Economical, high-quality, long-lasting, reliable

### Various Adaptions

- Integration into the WISKA SPRINT system
- Different sizes and materials (M20 to M63, available as stainless steel, brass and polyamide)

### Short Delivery Time

- Available from stock

## VentGLAND Calculator

The VentGLAND calculation tool will help you find the correct cable gland in no time. No matter where you require the latest cable gland—we have the right size and material type waiting for you.

The VentGLAND calculation tool can be found on our website. Please go to [www.contactclipinc.com](http://www.contactclipinc.com) and click on products; click on cord grips; click on VentGLAND calculation tool.



## VentGLAND – Metric External Thread



- Protection Rating: IP69K; NEMA 4X
- EPDM Seal Rings Factory Installed on Nickel Plated Brass & Stainless Steel Cord Grips
- Order Seal Rings Separately for Polyamide Cord Grips; See Page 298
- Order Locknuts Separately; See Page 292, 294

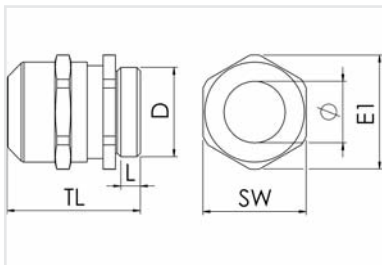
### Nickel Plated Brass (NPB)



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Material Specifications	
<b>Body</b>	Nickel Plated Brass (NPB)
<b>Insert Reduced</b>	Thermoplastic Elastomer (TPE)
<b>Insert Standard</b>	Ethylene-Propylene Caoutchouc (EPDM)
<b>Seal Ring</b>	Ethylene-Propylene Caoutchouc (EPDM)
Temperature Range	
<b>Body</b>	-40 to 300°C (-40 to 572°F)
<b>Insert Reduced</b>	-30 to 80°C (-22 to 176°F)
<b>Insert Standard</b>	-40 to 100°C (-40 to 212°F)
<b>Seal Ring</b>	-40 to 130°C (-40 to 266°F)
<b>Insert Color</b>	Black/Light Gray

Size	Cable Dia.		Insert	Mtg. Hole Dia.		Std. Pk.	Cat. No.
	mm	(in.)		mm	(in.)		
M20x1.5	4.0-8.0	(.16-.31)	Reduced	20.0	(.79)	1	97740.6
M20x1.5	6.0-13.0	(.24-.51)	Standard	20.0	(.79)	1	97741.6
M25x1.5	7.0-12.0	(.28-.47)	Reduced	25.0	(.98)	1	97742.6
M25x1.5	9.0-17.0	(.35-.67)	Standard	25.0	(.98)	1	97743.6
M32x1.5	9.0-14.0	(.35-.55)	Reduced	32.0	(1.26)	1	97744.6
M32x1.5	13.0-21.0	(.51-.83)	Standard	32.0	(1.26)	1	97745.6
M40x1.5	12.0-20.0	(.47-.79)	Reduced	40.0	(1.57)	1	97746.6
M40x1.5	16.0-28.0	(.63-1.10)	Standard	40.0	(1.57)	1	97747.6
M50x1.5	16.0-25.0	(.63-.98)	Reduced	50.0	(1.97)	1	97748.6
M50x1.5	21.0-35.0	(.83-1.38)	Standard	50.0	(1.97)	1	97749.6
M63x1.5	28.0-38.0	(1.10-1.50)	Reduced	63.0	(2.48)	1	97750.6
M63x1.5	34.0-48.0	(1.34-1.89)	Standard	63.0	(2.48)	1	97751.6



### Cord Grip Dimensions Nickel Plated Brass & Stainless Steel: mm (in.)

Size	TL	L	D	SW	E1
M20x1.5	46.0 (1.81)	6.0 (.24)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	48.0 (1.89)	7.0 (.28)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	52.0 (2.05)	8.0 (.31)	32.0 (1.26)	36.0 (1.42)	40.0 (1.61)
M40x1.5	64.0 (2.52)	8.0 (.31)	40.0 (1.57)	46.0 (1.81)	51.0 (2.01)
M50x1.5	71.0 (2.80)	9.0 (.35)	50.0 (1.97)	55.0 (2.17)	61.0 (2.40)
M63x1.5	75.0 (2.95)	10.0 (.39)	63.0 (2.48)	68.0 (2.68)	75.0 (2.95)



**Stainless Steel (SS)  
1.4404**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

**Stainless Steel (SS)  
1.4305 (303)**



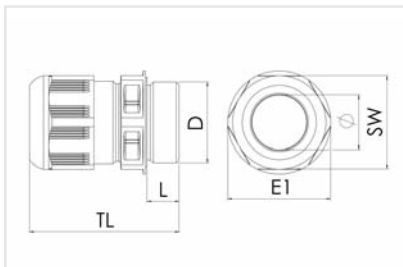
With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

**Polyamide (PA)**



With Ethylene-Propylene Caoutchouc/  
Thermoplastic Elastomer Sealing Insert

Stainless Steel (SS) 1.4404 (316L)	Stainless Steel (SS) 1.4305 (303)	Polyamide (PA)
Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)	Thermoplastic Elastomer (TPE)
Ethylene-Propylene Caoutchouc (EPDM)	Ethylene-Propylene Caoutchouc (EPDM)	Ethylene-Propylene Caoutchouc (EPDM)
Ethylene-Propylene Caoutchouc (EPDM)	Ethylene-Propylene Caoutchouc (EPDM)	–
-60 to 500°C (-65 to 932°F)	-60 to 500°C (-65 to 932°F)	-60 to 500°C (-65 to 932°F)
-30 to 80°C (-22 to 176°F)	-30 to 80°C (-22 to 176°F)	-30 to 80°C (-22 to 176°F)
-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)	-40 to 100°C (-40 to 212°F)
-40 to 130°C (-40 to 266°F)	-40 to 130°C (-40 to 266°F)	–
Black/Light Gray	Black/Light Gray	Black/Light Gray
<b>Cat. No.</b>	<b>Cat. No.</b>	<b>Cat. No.</b>
97740.7	97760.7	<b>L. Gray</b> 97740.2
97741.7	97761.7	97741.2
97742.7	97762.7	97742.2
97743.7	97763.7	97743.2
97744.7	97764.7	97744.2
97745.7	97765.7	97745.2
97746.7	97766.7	–
97747.7	97767.7	–
97748.7	97768.7	–
97749.7	97769.7	–
97750.7	97770.7	–
97751.7	97771.7	–
		<b>Black</b> 97740.1
		97741.1
		97742.1
		97743.1
		97744.1
		97745.1
		–
		–
		–
		–
		–
		–



**Cord Grip Dimensions Polyamide: mm (in.)**

Size	TL	L	D	SW	E
M20x1.5	46.0 (1.81)	10.0 (.39)	20.0 (.79)	24.0 (.94)	27.0 (1.06)
M25x1.5	48.0 (1.89)	10.0 (.39)	25.0 (.98)	29.0 (1.14)	32.0 (1.26)
M32x1.5	52.0 (2.05)	12.0 (.47)	32.0 (1.26)	36.0 (1.42)	40.0 (1.61)

## Accessories

CONTA-CLIP offers an extensive selection of accessories to complement every Cord Grip application. Accessories shown here include Locknuts, Seal Rings, Adapters, Enlargers, Reducers, Sealing Plugs, Threaded Plugs and Socket Wrenches. If your application requires an accessory item not listed, please contact us.

**Locknuts** are used when Cord Grips are installed into non-threaded holes.



Polyamide.....	292-293, 297
Nickel Plated Brass .....	294, 296-297
Brass .....	294
Chrome Plated Brass .....	294
Stainless Steel .....	295-296
EMI/RFI .....	295-296

**Seal Rings** provide the external seal between enclosure and Cord Grip.



Neoprene .....	298, 300
Silicone.....	298, 300
Polyethylene .....	298, 300
Centellen .....	299, 301
Ethylene-Propylene Caoutchouc.....	299, 301

**Adapters** are used to convert thread sizes.



Metric to PG .....	303, 306
PG to Metric .....	302, 307
Metric to NPT .....	305
NPT to Metric .....	304
PG to NPT .....	309
NPT to PG .....	308

**Enlargers** are used when existing mounting hole is too small for the required Cord Grip.



Metric to Metric .....	310-311
PG to PG.....	310-311

**Reductions** are used when existing mounting hole is too large for the required Cord Grip.



Metric to Metric .....	313-315
PG to PG.....	312, 316-317

**Threaded Plugs** are used to seal holes threaded with Metric or PG threads.



Metric .....	318-319
PG .....	319

**Adjustable Socket Wrenches** are designed for fast and easy Cord Grip installations. They can be used for Cord Grips and Locknuts with “E” dimensions from 11 to 24mm and 24 to 36mm. See ordering pages for “E” dimensions.



Adjustable .....320

**Single Size Socket Wrenches** are designed for fast and easy Cord Grip installations. They can be used for Cord Grips and Locknuts with “E” dimensions from 12 to 82mm. See ordering pages for “E” dimensions.



Single Size .....320

**Sealing Plugs for High Performance Multi-Cable Cord Grips** are used to seal unused holes in order to maintain protection ratings and ensure strain relief.



High Performance .....321

**Sealing Plugs for Standard Multi-Cable Cord Grips** are used to seal unused holes in order to maintain protection ratings and ensure strain relief.



Standard.....321

**Locknuts –  
Metric Thread  
Polyamide**

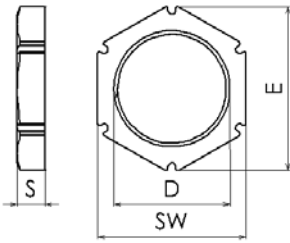
**Polyamide (PA)  
Light Gray**



**Polyamide (PA)  
Black**



Material Specifications	Polyamide (PA)		Polyamide (PA)	
Temperature Range	-20 to 100°C (-4 to 212°F)		-20 to 100°C (-4 to 212°F)	
Size	Cat. No. Light Gray	Std Pk.	Cat. No. Black	Std. . Pk.
M12x1.5	25510.9	100	25720.9	100
M16x1.5	25511.9	100	25721.9	100
M20x1.5	25512.9	100	25722.9	100
M25x1.5	25513.9	100	25723.9	100
M32x1.5	25514.9	100	25724.9	100
M40x1.5	25515.9	50	25725.9	50
M50x1.5	25516.9	25	25726.9	25
M63x1.5	25517.9	10	25727.9	10

	Dimensions: mm (in.)				
	Size	D	SW	E	S
M12x1.5	12.0 (.47)	18.0 (.71)	20.0 (.79)	5.0 (.20)	
M16x1.5	16.0 (.63)	22.0 (.87)	24.0 (.94)	5.0 (.20)	
M20x1.5	20.0 (.79)	27.0 (1.06)	29.0 (1.14)	5.0 (.20)	
M25x1.5	25.0 (.98)	32.0 (1.26)	35.5 (1.40)	6.0 (.24)	
M32x1.5	32.0 (1.26)	40.0 (1.57)	44.5 (1.75)	6.0 (.24)	
M40x1.5	40.0 (1.57)	50.0 (1.97)	55.0 (2.17)	7.0 (.28)	
M50x1.5	50.0 (1.97)	60.0 (2.36)	67.0 (2.64)	7.0 (.28)	
M63x1.5	63.0 (2.48)	75.0 (2.95)	83.0 (3.27)	7.0 (.28)	

# Locknuts - PG Thread Polyamide

**Polyamide (PA)  
Light Gray**

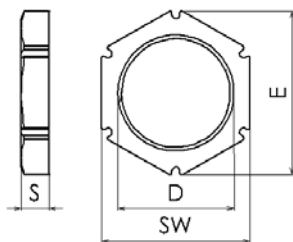


**Polyamide (PA)  
Black**



Material Specifications		Polyamide (PA)		Polyamide (PA)	
Temperature Range		-20 to 100°C (-4 to 212°F)		-20 to 100°C (-4 to 212°F)	
Size	Cat. No. Light Gray	Std. Pk.	Cat. No. Black	Std. Pk.	
PG7	23050.9	100	23060.9	100	
PG9	23051.9	100	23061.9	100	
PG11	23052.9	100	23062.9	100	
PG13.5	23053.9	100	23063.9	100	
PG16	23054.9	100	23064.9	100	
PG21	23055.9	100	23065.9	100	
PG29	23056.9	50	23066.9	50	
PG36	23057.9	25	23067.9	25	
PG42	23058.9	25	23068.9	25	
PG48	23059.9	10	23069.9	10	

Size	Dimensions: mm (in.)				
	D	SW	E	S	
PG7	12.5 (.49)	19.0 (.75)	21.0 (.83)	5.0 (.20)	
PG9	15.2 (.60)	22.0 (.87)	24.0 (.94)	5.0 (.20)	
PG11	18.6 (.73)	24.0 (.94)	26.0 (1.02)	5.0 (.20)	
PG13.5	20.4 (.80)	27.0 (1.06)	29.0 (1.14)	6.0 (.24)	
PG16	22.5 (.89)	30.0 (1.18)	33.0 (1.30)	6.0 (.24)	
PG21	28.3 (1.11)	36.0 (1.42)	39.0 (1.54)	7.0 (.28)	
PG29	37.0 (1.46)	46.0 (1.81)	50.0 (1.97)	7.0 (.28)	
PG36	47.0 (1.85)	60.0 (2.36)	66.0 (2.60)	8.0 (.31)	
PG42	54.0 (2.13)	65.0 (2.56)	73.0 (2.87)	8.0 (.31)	
PG48	59.3 (2.33)	70.0 (2.76)	78.0 (3.07)	8.0 (.31)	



# Locknuts – Metric Thread Metal

## Nickel Plated Brass (NPB)



## Brass (BR)

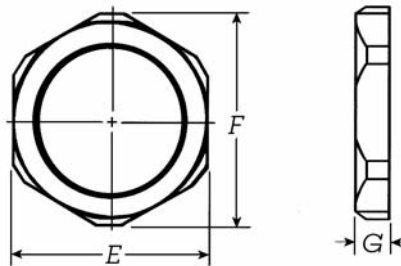


## Chrome Plated Brass (CPB)



Material Specifications	Nickel Plated Brass (NPB)		Brass (BR)		Chrome Plated Brass (CPB)	
Temperature Range	-40 to 300°C (-40 to 572°F)		-40 to 300°C (-40 to 572°F)		-40 to 300°C (-40 to 572°F)	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
M6x.75	97614.9	100	–	–	–	–
M8x1	97610.9	100	–	–	–	–
M10x1	97611.9	100	–	–	–	–
M10x1.5	97612.9	100	–	–	–	–
M12x1.5	25500.9	100	–	–	–	–
M16x1.5	25501.9	100	98719.9	50	98720.9	50
M18x1.5	98710.9	100	98701.9	50	98721.9	50
M20x1.5	25502.9	100	98730.9	50	98740.9	50
M24x1.5	78711.9	50	98702.9	50	98722.9	50
M25x1.5	25503.9	100	98731.9	50	98741.9	50
M30x2	98712.9	50	98703.9	50	98723.9	50
M32x1.5	25504.9	100	98732.9	50	98742.9	50
M32x2	98747.9	50	98748.9	50	98749.9	50
M36x2	98713.9	50	98704.9	50	98724.9	50
M40x1.5	25505.9	50	98733.9	50	98743.9	50
M45x2	98714.9	25	98705.9	25	98725.9	25
M50x1.5	25506.9	50	98734.9	25	98744.9	25
M56x2	98715.9	20	98706.9	20	98726.9	20
M63x1.5	25507.9	50	98735.9	10	98745.9	10
M72x2	25508.9	10	98707.9	10	98727.9	10
M75x1.5	25509.9	10	98736.9	5	98746.9	5
M80x2	97613.9	5	98708.9	5	98728.9	5
M85x2	98949.9	5	–	–	–	–
M90x2	97015.9	5	–	–	–	–
M100x2	97106.9	5	–	–	–	–
M105x2	98718.9	5	98709.9	5	98729.9	5
M120x2	98952.9	1	–	–	–	–

Dimensions: mm (in.)			
Size	E	F	G
M6x.75	8.0 (.31)	9.0 (.35)	2.8 (.11)
M8x1	11.0 (.43)	12.2 (.48)	2.8 (.11)
M10x1	14.0 (.55)	15.5 (.61)	2.8 (.11)
M10x1.5	14.0 (.55)	15.5 (.61)	2.8 (.11)
M12x1.5	15.0 (.59)	16.5 (.65)	2.8 (.11)
M16x1.5	19.0 (.75)	21.0 (.83)	2.8 (.11)
M18x1.5	22.0 (.87)	25.0 (.98)	4.0 (.16)
M20x1.5	24.0 (.94)	27.0 (1.06)	3.0 (.12)
M24x1.5	30.0 (1.18)	35.0 (1.38)	5.0 (.20)
M25x1.5	30.0 (1.18)	33.5 (1.32)	3.5 (.14)
M30x2	36.0 (1.42)	42.0 (1.65)	6.0 (.24)
M32x1.5	36.0 (1.42)	40.0 (1.57)	4.0 (.16)



Dimensions: mm (in.)			
Size	E	F	G
M32x2	36.0 (1.42)	42.0 (1.65)	6.0 (.24)
M36x2	41.0 (1.61)	47.0 (1.85)	7.0 (.28)
M40x1.5	46.0 (1.81)	50.0 (1.97)	5.0 (.20)
M45x2	55.0 (2.17)	64.0 (1.81)	8.0 (.32)
M50x1.5	60.0 (2.36)	65.0 (2.56)	5.0 (.20)
M56x2	65.0 (2.56)	70.0 (2.76)	9.0 (.35)
M63x1.5	70.0 (2.76)	75.0 (2.95)	6.0 (.24)
M72x2	85.0 (3.35)	92.0 (3.62)	10.0 (.39)
M75x1.5	80.0 (3.15)	87.0 (3.43)	8.0 (.32)
M80x2	90.0 (3.54)	100.0 (3.94)	11.0 (.43)
M85x2	95.0 (3.74)	102.0 (4.02)	8.0 (.32)
M90x2	120.0 (4.72)	128.0 (5.04)	8.0 (.32)
M100x2	120.0 (4.72)	128.0 (5.04)	8.0 (.32)
M105x2	120.0 (4.72)	130.0 (5.12)	14.0 (.55)
M120x2	145.0 (5.71)	155.0 (6.10)	8.0 (.32)

# Locknuts - Metric Thread Metal

## EMI/RFI (NPB)

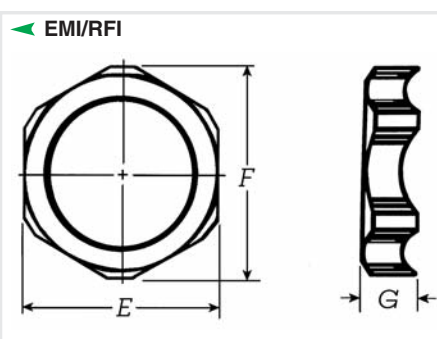


## Stainless Steel (SS)

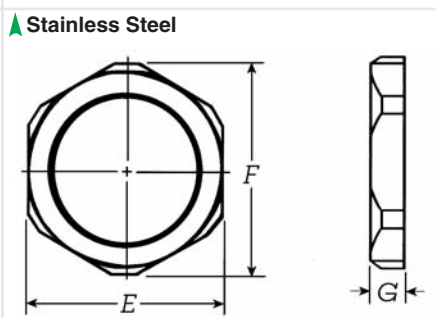


Material Specifications			Nickel Plated Brass (NPB)	Stainless Steel (SS)		
Temperature Range			-40 to 300°C (-40 to 572°F)	-60 to 500°C (-65 to 932°F)		
Size	Cat. No.	Std. Pk.		Size	Cat. No.	Std. Pk.
M10x1	97600.9	50		M12x1.5	97715.9	10
M12x1.5	25890.9	100		M16x1.5	97716.9	10
M16x1.5	25891.9	100		M20x1.5	97717.9	10
M18x1.5	97602.9	50		M25x1.5	97718.9	10
M20x1.5	25892.9	100		M32x1.5	97719.9	5
M24x1.5	97603.9	50		M40x1.5	97720.9	5
M25x1.5	25893.9	100		M50x1.5	97721.9	2
M30x2	97604.9	50		M63x1.5	97722.9	1
M32x1.5	25894.9	100				
M36x2	97605.9	50				
M40x1.5	25895.9	50				
M45x2	97606.9	25				
M50x1.5	25896.9	50				
M56x2	97607.9	25				
M63x1.5	25897.9	25				
M72x2	97608.9	10				
M75x1.5	97690.9	10				
M80x2	97601.9	10				

Dimensions: mm (in.) EMI/RFI			
Size	E	F	G
M10x1	15.0 (.59)	16.6 (.65)	3.3 (.13)
M12x1.5	17.0 (.67)	18.9 (.74)	3.3 (.13)
M16x1.5	22.0 (.87)	24.4 (.96)	3.5 (.14)
M18x1.5	22.0 (.87)	24.6 (.97)	6.0 (.24)
M20x1.5	24.0 (.94)	26.7 (1.05)	3.7 (.15)
M24x1.5	30.0 (1.18)	33.5 (1.40)	7.0 (.28)
M25x1.5	30.0 (1.18)	33.5 (1.40)	4.5 (.18)
M30x2	35.0 (1.38)	38.5 (1.52)	7.0 (.28)
M32x1.5	40.0 (1.57)	43.5 (1.71)	5.0 (.20)
M36x2	40.0 (1.57)	43.5 (1.71)	7.0 (.28)
M40x1.5	50.0 (1.97)	54.0 (2.13)	6.0 (.24)
M45x2	50.0 (1.97)	54.0 (2.13)	7.0 (.28)
M50x1.5	60.0 (2.36)	65.0 (2.56)	6.2 (.24)
M56x2	60.0 (2.36)	65.0 (2.56)	8.0 (.32)
M63x1.5	70.0 (2.76)	75.0 (2.95)	7.0 (.28)
M72x2	81.0 (3.19)	87.0 (3.43)	8.0 (.32)
M75x1.5	81.0 (3.19)	87.0 (3.43)	8.0 (.32)
M80x2	95.0 (3.74)	102.0 (4.02)	8.0 (.32)



Dimensions: mm (in.) Stainless Steel			
Size	E	F	G
M12x1.5	17.0 (.67)	19.0 (.75)	3.0 (.12)
M16x1.5	19.0 (.75)	21.2 (.83)	3.0 (.12)
M20x1.5	24.0 (.94)	26.7 (1.05)	3.7 (.15)
M25x1.5	27.0 (1.06)	29.5 (1.16)	4.0 (.16)
M32x1.5	36.0 (1.42)	39.6 (1.71)	5.0 (.20)
M40x1.5	46.0 (1.81)	50.5 (1.99)	5.0 (.20)
M50x1.5	55.0 (2.17)	60.0 (2.36)	5.0 (.20)
M63x1.5	68.0 (2.68)	74.0 (2.91)	5.5 (.22)



Accessories

# Locknuts – Metal PG Thread

## Nickel Plated Brass (NPB)



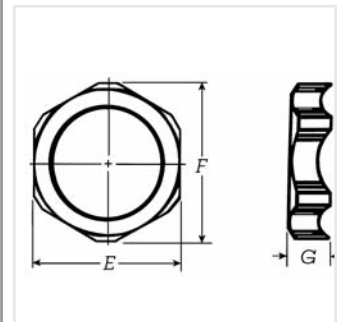
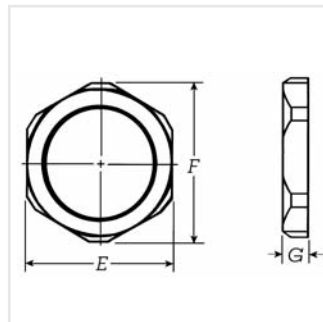
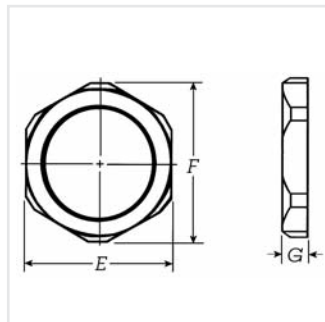
## Stainless Steel (SS)



## EMI/RFI (NPB)



Material Specifications	Nickel Plated Brass (NPB)		Stainless Steel (SS)		Nickel Plated Brass (NPB)	
Temperature Range	-40 to 300°C (-40 to 572°F)		-60 to 500°C (-65 to 932°F)		-40 to 300°C (-40 to 572°F)	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
PG7	23000.9	100	23020.9	50	23010.9	10
PG9	23001.9	100	23021.9	50	23011.9	10
PG11	23002.9	100	23022.9	50	23012.9	10
PG13.5	23003.9	100	23023.9	50	23013.9	10
PG16	23004.9	100	23024.9	50	23014.9	10
PG21	23005.9	100	23025.9	50	23015.9	5
PG29	23006.9	100	23026.9	50	23016.9	5
PG36	23007.9	100	23027.9	25	23017.9	5
PG42	23008.9	50	23028.9	10	23018.9	2
PG48	23009.9	50	23029.9	10	23019.9	2



Dimensions: mm (in.) Size	Nickel Plated Brass (NPB)			Stainless Steel (SS)			Nickel Plated Brass (NPB)		
	E	F	G	E	F	G	E	F	G
PG7	15.0 (.59)	16.6 (.65)	2.8 (.11)	17.0 (.67)	19.0 (.75)	2.8 (.11)	15.0 (.59)	16.6 (.65)	3.3 (.13)
PG9	18.0 (.71)	20.0 (.79)	2.8 (.11)	22.0 (.87)	24.4 (.96)	2.8 (.11)	18.0 (.71)	19.5 (.77)	3.3 (.13)
PG11	21.0 (.83)	23.5 (.93)	3.0 (.12)	22.0 (.87)	24.4 (.96)	3.0 (.12)	22.0 (.87)	24.4 (.96)	3.5 (.14)
PG13.5	23.0 (.91)	25.5 (1.00)	3.0 (.12)	24.0 (.94)	26.7 (1.05)	3.0 (.12)	24.0 (.94)	26.7 (1.05)	3.7 (.15)
PG16	26.0 (1.02)	29.0 (1.14)	3.0 (.12)	27.0 (1.06)	29.5 (1.16)	3.0 (.12)	26.0 (1.02)	28.8 (1.13)	3.7 (.15)
PG21	32.0 (1.26)	35.5 (1.40)	3.5 (.14)	32.0 (1.26)	35.5 (1.40)	3.5 (.14)	32.0 (1.26)	35.5 (1.40)	4.5 (.18)
PG29	41.0 (1.61)	45.0 (1.77)	4.0 (.16)	41.0 (1.61)	45.0 (1.77)	4.0 (.16)	40.0 (1.57)	43.5 (1.71)	5.0 (.20)
PG36	51.0 (2.01)	56.0 (2.20)	5.0 (.20)	50.0 (1.97)	54.0 (2.13)	5.0 (.20)	50.0 (1.97)	54.0 (2.13)	6.0 (.24)
PG42	60.0 (2.36)	65.0 (2.56)	5.0 (.20)	60.0 (2.36)	65.0 (2.56)	5.0 (.20)	60.0 (2.36)	65.0 (2.56)	6.2 (.24)
PG48	64.0 (2.52)	69.0 (2.72)	5.5 (.22)	64.0 (2.52)	69.0 (2.72)	5.5 (.22)	64.0 (2.52)	69.0 (2.72)	6.7 (.26)



# Locknuts - NPT Thread Metal/Polyamide

## Nickel Plated Brass (NPB)



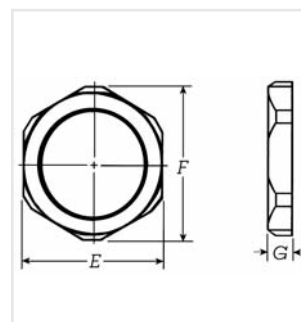
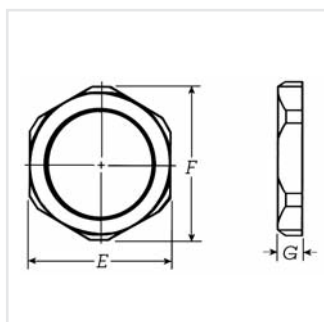
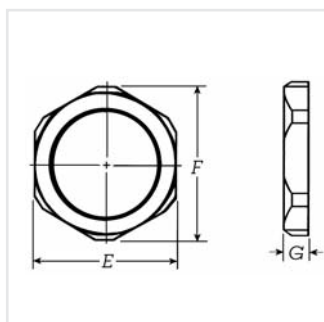
## Polyamide (PA) Light Gray



## Polyamide (PA) Black



Material Specifications	Nickel Plated Brass (NPB)		Polyamide (PA)		Polyamide (PA)	
Temperature Range	-40 to 300°C (-40 to 572°F)		-20 to 100°C (-4 to 212°F)		-20 to 100°C (-4 to 212°F)	
Color			Light Gray		Black	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
NPT1/4"	23219.9	50	-	-	-	-
NPT3/8"	23200.9	50	23203.9	50	23207.9	50
NPT1/2"	23201.9	50	23204.9	50	23208.9	50
NP3/4"	23202.9	25	23205.9	25	23209.9	25
NPT1"	23211.9	10	23206.9	10	23210.9	10
NPT1-1/4"	23216.9	10	-	-	-	-
NPT1-1/2"	23217.9	10	-	-	-	-
NPT2"	23218.9	10	-	-	-	-



Dimensions: mm (in.) Size	Nickel Plated Brass (NPB)			Polyamide (PA) Light Gray			Polyamide (PA) Black		
	E	F	G	E	F	G	E	F	G
NPT1/4"	18.0 (.71)	20.0 (.79)	4.0 (.16)	-	-	-	-	-	-
NPT3/8"	21.0 (.83)	24.0 (.94)	4.0 (.16)	22.0 (.87)	24.0 (.94)	5.0 (.20)	22.0 (.87)	24.0 (.94)	5.0 (.20)
NPT1/2"	26.0 (1.02)	29.0 (1.14)	5.5 (.22)	27.0 (1.06)	29.0 (1.14)	6.0 (.24)	27.0 (29.0)	29.0 (1.14)	6.0 (.24)
NPT3/4"	32.0 (1.26)	36.0 (1.42)	5.5 (.22)	36.0 (1.42)	39.0 (1.54)	7.0 (.28)	36.0 (1.42)	39.0 (1.54)	7.0 (.28)
NPT1"	41.0 (1.61)	45.0 (1.77)	7.0 (.28)	42.0 (1.65)	46.0 (1.81)	7.0 (.28)	42.0 (1.65)	46.0 (1.81)	7.0 (.28)
NPT1-1/4"	51.0 (2.01)	56.0 (2.20)	7.0 (.28)	-	-	-	-	-	-
NPT1-1/2"	60.0 (2.36)	65.0 (2.56)	7.0 (.28)	-	-	-	-	-	-
NPT2"	70.0 (2.76)	75.0 (2.95)	7.0 (.28)	-	-	-	-	-	-

## Seal Rings – Metric Thread

### Neoprene (NBR)



### Silicone (SIL)

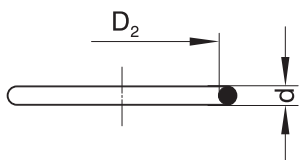


### Polyethylene (PET)



Material Specifications	Neoprene (NBR)	Silicone (SIL)	Polyethylene (PET)
Temperature Range	-20 to 100°C (-4 to 212°F)	-60 to 200°C (-65 to 392°F)	-20 to 100°C (-4 to 212°F)
Color	Black	Red	Opaque
	<b>Std.</b>	<b>Std.</b>	<b>Std.</b>
	<b>Size Cat. No. Pk.</b>	<b>Size Cat. No. Pk.</b>	<b>Size Cat. No. Pk.</b>
	M6 97737.9 100	M6 97711.9 50	M12 25730.9 50
	M8 97738.9 100	M8 97712.9 50	M16 25731.9 50
	M10 97739.9 100	M10 97709.9 50	M20 25732.9 50
	M12 25600.9 100	M12 97700.9 50	M25 25733.9 50
	M16 25601.9 100	M16 97701.9 50	M32 25734.9 50
	M18 97730.9 100	M20 97702.9 50	M40 25735.9 50
	M20 25602.9 100	M25 97703.9 50	M50 25736.9 50
	M24 97731.9 100	M32 97704.9 50	M63 25737.9 50
	M25 25603.9 100	M40 97705.9 50	
	M30 97732.9 100	M50 97706.9 50	
	M32 25604.9 100	M63 97707.9 50	
	M36 97733.9 100	M75 97708.9 50	
	M40 25605.9 100	M80 97710.9 50	
	M45 97734.9 100	M90 97713.9 10	
	M50 25606.9 100	M100 97714.9 10	
	M56 97735.9 100		
	M63 25607.9 100		
	M72 25608.9 50		
	M75 25609.9 50		
	M80 25738.9 25		
	M105 97736.9 25		

Figure 1



Dimensions: mm (in.)

Figure 1

Size	D2	d
M6	5.0 (.20)	1.0 (.04)
M8	7.0 (.28)	1.0 (.04)
M10	9.0 (.35)	1.0 (.04)
M12	10.3 (.41)	1.2 (.05)
M16	13.0 (.51)	1.5 (.06)
M18	16.0 (.63)	1.5 (.06)
M20	17.0 (.67)	1.5 (.06)
M24	21.0 (.83)	1.5 (.06)
M25	22.0 (.87)	1.5 (.06)
M30	27.0 (1.06)	2.0 (.08)
M32	28.0 (1.10)	2.0 (.08)
M36	33.0 (1.30)	2.0 (.08)
M40	38.5 (1.52)	1.5 (.06)
M45	42.0 (1.65)	2.0 (.08)
M50	45.0 (1.77)	2.0 (.08)
M56	53.0 (2.09)	2.0 (.08)
M63	58.0 (2.28)	2.0 (.08)
M72	69.0 (2.72)	2.0 (.08)
M75	72.0 (2.83)	2.0 (.08)
M80	77.0 (3.03)	2.0 (.08)
M105	100.0 (3.94)	2.5 (.10)

Figure 2

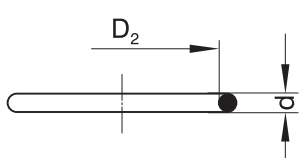


Figure 2

Size	D2	d
M10	8.0 (.31)	1.5 (.06)
M12	10.3 (.41)	1.2 (.05)
M16	13.0 (.51)	1.5 (.06)
M20	17.0 (.67)	1.5 (.06)
M25	22.0 (.87)	1.5 (.06)
M32	28.0 (1.10)	2.0 (.08)
M40	38.5 (1.52)	1.5 (.06)
M50	45.0 (1.77)	2.0 (.08)
M63	58.0 (2.28)	2.0 (.08)
M75	72.0 (2.83)	2.0 (.08)
M80	77.0 (3.03)	2.0 (.08)

Figure 3

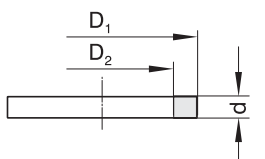


Figure 3

Size	D1	D2	d
M12	15.9 (.63)	12.0 (.47)	2.0 (.08)
M16	19.9 (.78)	16.0 (.63)	2.0 (.08)
M20	23.9 (.94)	20.0 (.79)	2.0 (.08)
M25	30.9 (1.22)	25.0 (.98)	2.0 (.08)
M32	37.9 (1.49)	32.0 (1.26)	2.0 (.08)
M40	46.9 (1.85)	40.0 (1.57)	2.0 (.08)
M50	56.9 (2.24)	50.0 (1.97)	2.0 (.08)
M63	70.9 (2.79)	63.0 (2.48)	2.0 (.08)

## Seal Rings – Metric Thread

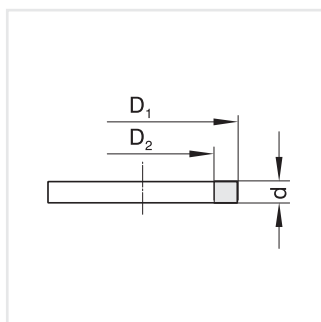
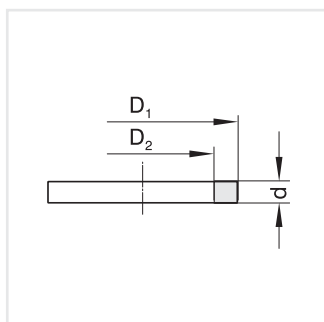
### Centellen (CNT)



### Ethylene-Propylene- Caoutchouc (EPDM)



Material Specifications		Centellen (CNT)	Ethylene-Propylene-Caoutchouc	
Temperature Range\		-60 to 300°C (-65 to 572°F)	-40 to 130°C (-40 to 266°F)	
Color		Gray	Black	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
M12	25740.9	50	97775.9	100
M16	25741.9	50	97776.9	100
M20	25742.9	50	97777.9	100
M25	25743.9	50	97778.9	100
M32	25744.9	50	97779.9	100
M40	25745.9	50	97780.9	100
M50	25746.9	50	97781.9	100
M63	25747.9	50	97782.9	100



Dimensions: mm (in.)						
Size	D1	D2	d	D1	D2	d
M12	15.9 (.63)	12.0 (.47)	2.0 (.08)	16.0 (.63)	11.8 (.46)	2.0 (.08)
M16	19.9 (.78)	16.0 (.63)	2.0 (.08)	20.0 (.79)	15.8 (.62)	2.0 (.08)
M20	23.9 (.94)	20.0 (.79)	2.0 (.08)	24.0 (.94)	19.8 (.78)	2.0 (.08)
M25	30.9 (1.22)	25.0 (.98)	2.0 (.08)	29.0 (1.14)	24.8 (.98)	2.0 (.08)
M32	37.9 (1.49)	32.0 (1.26)	2.0 (.08)	36.0 (1.42)	31.8 (1.25)	2.0 (.08)
M40	46.9 (1.85)	40.0 (1.57)	2.0 (.08)	46.0 (1.81)	39.8 (1.57)	2.0 (.08)
M50	56.9 (2.24)	50.0 (1.97)	2.0 (.08)	56.0 (2.20)	49.8 (1.96)	2.0 (.08)
M63	70.9 (2.79)	63.0 (2.48)	2.0 (.08)	69.0 (2.72)	62.8 (2.47)	2.0 (.08)

## Seal Rings – PG & NPT Sizes

### Neoprene (NBR)



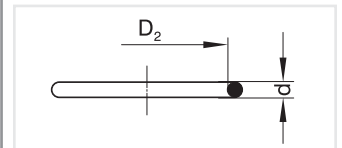
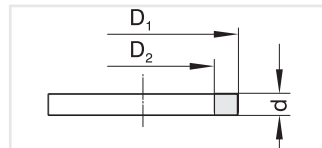
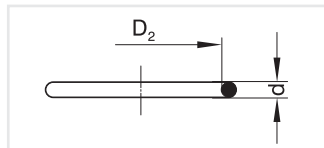
### Silicone (SIL)



### Polyethylene (PET)



Material Specifications	Neoprene (NBR)		Silicone (SIL)		Polyethylene (PET)	
Temperature Range	-20 to 100°C (-4 to 212°F)		-60 to 200°C (-65 to 932°F)		-20 to 100°C (-4 to 212°F)	
Color	Black		Red		Opaque	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
PG7	23150.9	100	23230.9	50	23170.9	50
PG9	23151.9	100	23231.9	50	23171.9	50
PG11	23152.9	100	23232.9	50	23172.9	50
PG13.5	23153.9	100	23233.9	50	23173.9	50
PG16	23154.9	100	23234.9	50	23174.9	50
PG21	23155.9	100	23235.9	50	23175.9	50
PG29	23156.9	100	23236.9	50	23176.9	50
PG36	23157.9	100	23237.9	25	23177.9	50
PG42	23158.9	100	23238.9	25	23178.9	50
PG48	23159.9	100			23179.9	50
NPT3/8"	23152.9	50	23239.9	50	23188.9	50
NPT1/2"	23153.9	50	23110.9	50	23190.9	50
NPT3/4"	23155.9	25	23111.9	25	23192.9	25
NPT1"	23156.9	5	23112.9	5	23194.9	5
NPT1-1/4"						
NPT1-1/2"						
NPT2"						



Dimensions: mm (in.) Size	Neoprene (NBR)		Silicone (SIL)		Polyethylene (PET)		
	D2	d	D2	d	D1	D2	d
PG7	10.5 (.41)	1.5 (.06)	10.5 (.41)	1.5 (.06)	16.5 (.65)	12.5 (.49)	2.0 (.08)
PG9	12.0 (.47)	1.5 (.06)	12.0 (.47)	1.2 (.06)	19.0 (.75)	15.2 (.60)	2.0 (.08)
PG11	14.0 (.55)	1.5 (.06)	14.0 (.55)	1.5 (.06)	22.5 (.89)	18.6 (.73)	2.0 (.08)
PG13.5	17.0 (.67)	1.5 (.06)	17.0 (.67)	1.5 (.06)	25.0 (.98)	20.4 (.80)	2.0 (.08)
PG16	20.0 (.79)	1.5 (.06)	20.0 (.79)	1.5 (.06)	27.0 (1.06)	22.5 (.89)	2.0 (.08)
PG21	26.0 (1.02)	1.5 (.06)	26.0 (1.02)	1.5 (.06)	33.5 (1.32)	28.3 (1.11)	3.0 (.12)
PG29	33.0 (1.30)	2.0 (.08)	33.0 (1.30)	2.0 (.08)	43.5 (1.71)	37.0 (1.46)	3.0 (.12)
PG36	42.0 (1.65)	2.0 (.08)	42.0 (1.65)	2.0 (.08)	55.0 (2.17)	47.0 (1.85)	3.0 (.12)
PG42	50.0 (1.97)	2.0 (.08)	50.0 (1.97)	2.0 (.08)	63.0 (2.48)	54.0 (2.13)	3.0 (.12)
PG48	55.0 (2.17)	2.0 (.08)			69.0 (2.72)	59.3 (2.33)	3.0 (.12)
NPT3/8"	14.0 (.55)	1.5 (.06)	14.0 (.55)	1.5 (.06)	24.5 (.96)	17.5 (.69)	1.0 (.04)
NPT1/2"	17.0 (.67)	1.5 (.06)	17.0 (.67)	1.5 (.06)	26.8 (1.06)	22.3 (.88)	1.0 (.04)
NPT3/4"	26.0 (1.02)	1.5 (.06)	26.0 (1.02)	1.5 (.06)	36.1 (1.42)	27.0 (1.06)	1.0 (.04)
NPT1"	33.0 (1.30)	2.0 (.08)	33.0 (1.30)	2.0 (.08)			
NPT1-1/4"	NPT1-1/4"						
NPT1-1/2"	NPT1-1/2"						
NPT2"	NPT2"						

## Seal Rings – PG Sizes

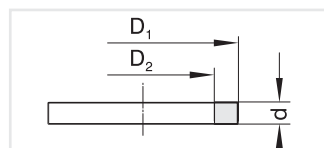
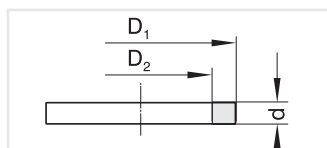
### Centellen (CNT)



### Ethylene-Propylene-Caoutchouc (EPDM)



Material Specifications		Centellen (CNT)	Ethylene-Propylene-Caoutchouc	
Temperature Range		-60 to 300°C (-65 to 572°F)	-40 to 130°C (-40 to 266°F)	
Color		Gray	Black	
Size	Cat. No.	Std. Pk.	Cat. No.	Std. Pk.
PG7	23160.9	50	97783.9	100
PG9	23161.9	50	97784.9	100
PG11	23162.9	50	97785.9	100
PG13.5	23163.9	50	97786.9	100
PG16	23164.9	50	97787.9	100
PG21	23165.9	50	97788.9	100
PG29	23166.9	50	97789.9	100
PG36	23167.9	50	97790.9	100
PG42	23168.9	25	97791.9	100
PG48	23169.9	25	97792.9	100



Dimensions: mm (in.)						
Size	D1	D2	d	D1	D2	d
PG7	16.5 (.65)	12.5 (.49)	2.0 (.08)	16.5 (.65)	12.5 (.49)	2.0 (.08)
PG9	19.0 (.75)	15.2 (.60)	2.0 (.08)	19.0 (.75)	15.2 (.60)	2.0 (.08)
PG11	22.5 (.89)	18.6 (.73)	2.0 (.08)	22.5 (.89)	18.6 (.73)	2.0 (.08)
PG13.5	25.0 (.98)	20.4 (.80)	2.0 (.08)	25.0 (.98)	20.4 (.80)	2.0 (.08)
PG16	27.0 (1.06)	22.5 (.89)	2.0 (.08)	27.0 (1.06)	22.5 (.89)	2.0 (.08)
PG21	33.5 (1.32)	28.3 (1.11)	3.0 (.12)	33.5 (1.32)	28.3 (1.11)	2.0 (.08)
PG29	43.5 (1.71)	37.0 (1.46)	3.0 (.12)	43.5 (1.72)	37.0 (1.46)	2.0 (.08)
PG36	55.0 (2.17)	47.0 (1.85)	3.0 (.12)	55.0 (2.17)	47.0 (1.85)	2.0 (.08)
PG42	63.0 (2.48)	54.0 (2.13)	3.0 (.12)	63.0 (2.48)	54.0 (2.13)	2.0 (.08)
PG48	69.0 (2.72)	59.3 (2.33)	3.0 (.12)	69.0 (2.72)	59.3 (2.33)	2.0 (.08)

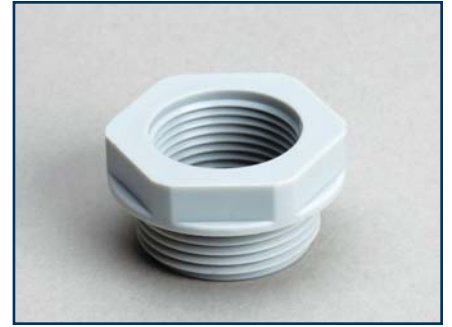
**Adapters -  
PG to Metric  
Polyamide (PA)**

**Style A**



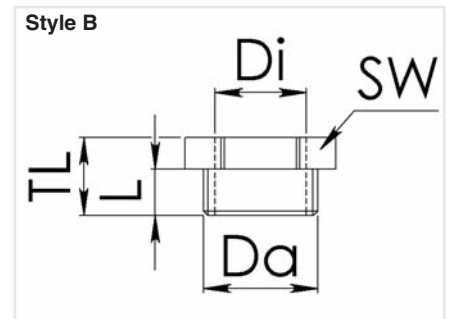
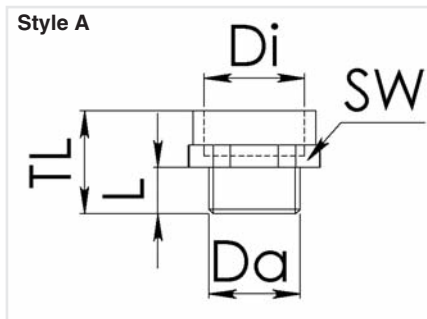
Order Seal Rings Separately  
See Page 300

**Style B**



Order Seal Rings Separately  
See Page 300

Material Specifications			Polyamide (PA)					
Temperature Range			-20 to 100°C (-4 to 212°F)					
Color			Light Gray					
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.	
			L	TL	SW			
PG7	M12x1.5	25830.9	9.0 (.35)	27.0 (1.06)	16.0 (.63)	A	25	
PG7	M16x1.5	25831.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	A	25	
PG9	M12x1.5	25832.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	A	25	
PG9	M16x1.5	25833.9	9.0 (.35)	27.0 (1.06)	22.0 (.87)	A	25	
PG9	M20x1.5	25834.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	A	25	
PG11	M16x1.5	25835.9	9.0 (.35)	27.0 (1.06)	22.0 (.87)	A	25	
PG11	M20x1.5	25836.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	A	25	
PG11	M25x1.5	97800.9	9.0 (.35)	27.0 (1.06)	29.0 (1.14)	A	25	
PG13.5	M16x1.5	25837.9	10.0 (.39)	28.0 (1.10)	24.0 (.94)	A	25	
PG13.5	M20x1.5	25838.9	10.0 (.39)	28.0 (1.10)	24.0 (.94)	A	25	
PG13.5	M25x1.5	25839.9	10.0 (.39)	28.0 (1.10)	29.0 (1.14)	A	25	
PG16	M20x1.5	25840.9	10.0 (.39)	28.0 (1.10)	27.0 (1.06)	A	25	
PG16	M25x1.5	25841.9	10.0 (.39)	28.0 (1.10)	29.0 (1.14)	A	25	
PG16	M32x1.5	97801.9	10.0 (.39)	28.0 (1.10)	36.0 (1.42)	A	25	
PG21	M25x1.5	25842.9	12.0 (.47)	30.0 (1.18)	33.0 (1.30)	A	10	
PG21	M32x1.5	25843.9	12.0 (.47)	30.0 (1.18)	36.0 (1.42)	A	10	
PG21	M40x1.5	97802.9	12.0 (.47)	30.0 (1.18)	46.0 (1.81)	A	10	
PG29	M32x1.5	25844.9	12.0 (.47)	19.0 (.75)	42.0 (1.65)	B	10	
PG29	M40x1.5	25845.9	12.0 (.47)	30.0 (1.18)	46.0 (1.81)	A	10	
PG29	M50x1.5	97803.9	12.0 (.47)	32.0 (1.26)	55.0 (2.17)	A	10	
PG36	M40x1.5	97804.9	14.0 (.55)	21.0 (.83)	53.0 (2.09)	B	10	
PG36	M50x1.5	97805.9	14.0 (.55)	32.0 (1.26)	55.0 (2.17)	A	10	
PG36	M63x1.5	97806.9	14.0 (.55)	32.0 (1.26)	68.0 (2.68)	A	10	
PG42	M40x1.5	97807.9	14.0 (.55)	21.0 (.83)	60.0 (2.36)	B	5	
PG42	M50x1.5	97808.9	14.0 (.55)	32.0 (1.26)	60.0 (2.36)	A	5	
PG42	M63x1.5	97809.9	14.0 (.55)	32.0 (1.26)	68.0 (2.68)	A	5	
PG48	M50x1.5	97810.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	B	5	
PG48	M63x1.5	97811.9	15.0 (.59)	33.0 (1.30)	68.0 (2.68)	A	5	



# Adapters - Metric to PG Polyamide (PA)

**Style A**



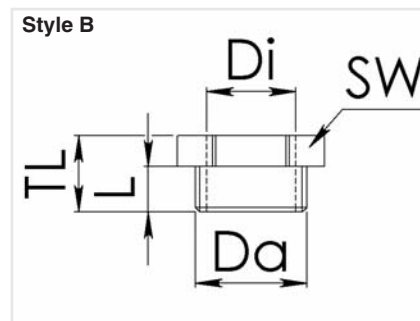
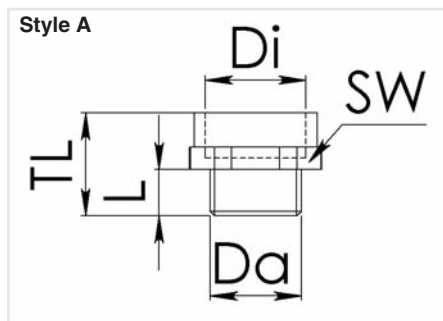
Order Seal Rings Separately  
See Page 298

**Style B**



Order Seal Rings Separately  
See Page 298

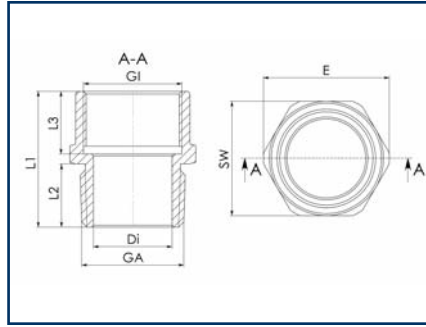
Material Specifications		Polyamide (PA)						
Temperature Range		-20 to 100°C (-4 to 212°F)						
Color		Light Gray						
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.	
			L	TL	SW			
M12x1.5	PG7	25850.9	9.0 (.35)	27.0 (1.06)	16.0 (.63)	A	25	
M12x1.5	PG9	25851.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	A	25	
M16x1.5	PG9	25852.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	A	25	
M16x1.5	PG11	25863.9	9.0 (.35)	27.0 (1.06)	22.0 (.87)	A	25	
M16x1.5	PG13.5	25864.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	A	25	
M20x1.5	PG11	25853.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	A	25	
M20x1.5	PG13.5	25854.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	A	25	
M20x1.5	PG16	25855.9	9.0 (.35)	27.0 (1.06)	27.0 (1.06)	A	25	
M25x1.5	PG13.5	25865.9	10.0 (.39)	17.0 (.67)	24.0 (.94)	B	25	
M25x1.5	PG16	25856.9	10.0 (.39)	28.0 (1.10)	29.0 (1.14)	A	25	
M25x1.5	PG21	25857.9	10.0 (.39)	28.0 (1.10)	33.0 (1.30)	A	25	
M32x1.5	PG16	25866.9	12.0 (.47)	19.0 (.75)	36.0 (1.42)	B	10	
M32x1.5	PG21	25867.9	12.0 (.47)	30.0 (1.18)	36.0 (1.42)	A	10	
M32x1.5	PG29	25858.9	12.0 (.47)	30.0 (1.18)	32.0 (1.42)	A	10	
M40x1.5	PG21	25868.9	12.0 (.47)	19.0 (.75)	46.0 (1.81)	B	10	
M40x1.5	PG29	25859.9	12.0 (.47)	30.0 (1.18)	46.0 (1.81)	A	10	
M40x1.5	PG36	25869.9	12.0 (.47)	30.0 (1.18)	53.0 (2.09)	A	10	
M50x1.5	PG36	25860.9	14.0 (.55)	32.0 (1.26)	55.0 (2.17)	A	5	
M50x1.5	PG42	25861.9	14.0 (.55)	42.0 (1.65)	60.0 (2.36)	A	5	
M50x1.5	PG48	25888.9	14.0 (.55)	32.0 (1.26)	65.0 (2.56)	A	5	
M63x1.5	PG42	25889.9	15.0 (.59)	22.0 (.87)	68.0 (2.68)	B	5	
M63x1.5	PG48	25862.9	15.0 (.59)	33.0 (1.30)	68.0 (2.68)	A	5	



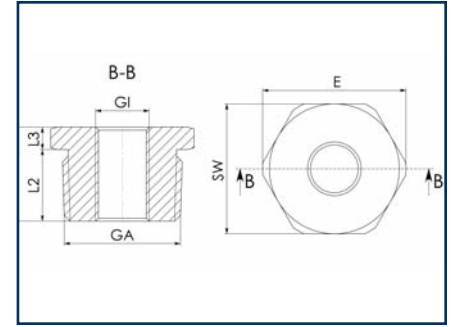
# Adapters - NPT to Metric

## Nickel Plated Brass (NPB)

### Style A



### Style B



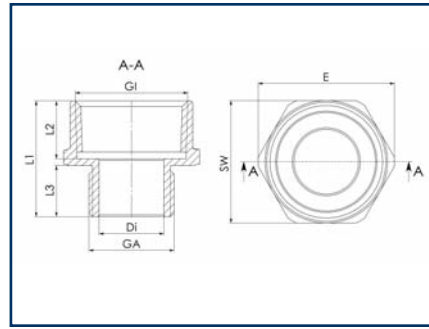
Material Specifications		Nickel Plated Brass (NPB)																					
Temperature Range		-40 to 300°C (-40 to 572°F)																					
Seal Rings		Order Separately (See Page 300)																					
External Thread	Internal Thread	Style	Dimensions: mm							Cat. No.	External Thread	Internal Thread	Style	Dimensions: mm							Cat. No.		
			L1	L2	L3	Di	SW	E	G1					L1	L2	L3	Di	SW	E				
NPT1/4"	M12x1.5	A	31.5	13.0	16.0	8.0	16.0	18.0	94200.9	NPT2"	M75x1.5	A	39.5	21.0	16.0	50.0	82.0	90.0	94252.9				
NPT1/4"	M16x1.5	A	31.5	13.0	16.0	8.0	20.0	22.0	94201.9	NPT2"	M80x2	A	39.5	21.0	16.0	50.0	90.0	100.0	94253.9				
NPT1/4"	M20x1.5	A	31.5	13.0	16.0	8.0	24.0	27.0	94202.9	NPT2"	M90x2	A	39.5	21.0	16.0	50.0	100.0	110.0	94254.9				
NPT3/8"	M12x1.5	B	18.0	13.0	5.0	—	20.0	22.0	94203.9	NPT2-1/2"	M12x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94255.9				
NPT3/8"	M16x1.5	A	31.5	13.0	16.0	11.0	20.0	22.0	94204.9	NPT2-1/2"	M16x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94256.9				
NPT3/8"	M20x1.5	A	31.5	13.0	16.0	11.0	24.0	27.0	94205.9	NPT2-1/2"	M20x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94257.9				
NPT3/8"	M25x1.5	A	31.5	13.0	16.0	11.0	29.0	32.0	94206.9	NPT2-1/2"	M25x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94258.9				
NPT1/2"	M12x1.5	B	21.0	16.0	5.0	—	24.0	27.0	94207.9	NPT2-1/2"	M32x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94259.9				
NPT1/2"	M16x1.5	B	21.0	16.0	5.0	—	24.0	27.0	94208.9	NPT2-1/2"	M40x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94260.9				
NPT1/2"	M20x1.5	A	34.5	16.0	16.0	15.0	24.0	27.0	94209.9	NPT2-1/2"	M50x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94261.9				
NPT1/2"	M25x1.5	A	34.5	16.0	16.0	15.0	29.0	32.0	94210.9	NPT2-1/2"	M63x1.5	B	35.0	30.0	5.0	—	82.0	90.0	94262.9				
NPT1/2"	M32x1.5	A	34.5	16.0	16.0	15.0	36.0	40.0	94211.9	NPT2-1/2"	M72x2	A	48.5	30.0	16.0	63.0	82.0	90.0	94263.9				
NPT3/4"	M12x1.5	B	21.0	16.0	5.0	—	29.0	32.0	94212.9	NPT2-1/2"	M75x1.5	A	48.5	30.0	16.0	63.0	82.0	90.0	94264.9				
NPT3/4"	M16x1.5	B	21.0	16.0	5.0	—	29.0	32.0	94213.9	NPT2-1/2"	M80x2	A	48.5	30.0	16.0	75.0	90.0	100.0	94265.9				
NPT3/4"	M20x1.5	B	21.0	16.0	5.0	—	29.0	32.0	94214.9	NPT2-1/2"	M90x2	A	48.5	30.0	16.0	75.0	100.0	110.0	94266.9				
NPT3/4"	M25x1.5	A	34.5	16.0	16.0	20.0	29.0	32.0	94215.9	NPT2-1/2"	M100x2	A	48.5	30.0	16.0	75.0	110.0	120.0	94267.9				
NPT3/4"	M32x1.5	A	34.5	16.0	16.0	20.0	36.0	40.0	94216.9	NPT2-1/2"	M105x2	A	48.5	30.0	16.0	75.0	115.0	125.0	94268.9				
NPT3/4"	M40x1.5	A	34.5	16.0	16.0	20.0	46.0	51.0	94217.9	NPT21/2"	M110x2	A	48.5	30.0	16.0	75.0	120.0	130.0	94269.9				
NPT1"	M12x1.5	B	25.0	20.0	5.0	—	36.0	40.0	94218.9	NPT3"	M12x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94270.9				
NPT1"	M16x1.5	B	25.0	20.0	5.0	—	36.0	40.0	94219.9	NPT3"	M16x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94271.9				
NPT1"	M20x1.5	B	25.0	20.0	5.0	—	36.0	40.0	94220.9	NPT3"	M20x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94272.9				
NPT1"	M25x1.5	B	25.0	20.0	5.0	—	36.0	40.0	94221.9	NPT3"	M25x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94273.9				
NPT1"	M32x1.5	A	38.5	20.0	16.0	26.0	36.0	40.0	94222.9	NPT3"	M32x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94274.9				
NPT1"	M40x1.5	A	38.5	20.0	16.0	26.0	46.0	51.0	94223.9	NPT3"	M40x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94275.9				
NPT1"	M50x1.5	A	38.5	20.0	16.0	26.0	55.0	61.0	94224.9	NPT3"	M50x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94276.9				
NPT1-1/4"	M12x1.5	B	25.0	20.0	5.0	—	46.0	51.0	94225.9	NPT3"	M63x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94277.9				
NPT1-1/4"	M16x1.5	B	25.0	20.0	5.0	—	46.0	51.0	94226.9	NPT3"	M72x2	B	37.0	32.0	5.0	—	95.0	105.0	94278.9				
NPT1-1/4"	M20x1.5	B	25.0	20.0	5.0	—	46.0	51.0	94227.9	NPT3"	M75x1.5	B	37.0	32.0	5.0	—	95.0	105.0	94279.9				
NPT1-1/4"	M25x1.5	B	25.0	20.0	5.0	—	46.0	51.0	94228.9	NPT3"	M80x2	A	50.5	32.0	16.0	75.0	95.0	105.0	94280.9				
NPT1-1/4"	M32x1.5	B	25.0	20.0	5.0	—	46.0	51.0	94229.9	NPT3"	M90x2	A	50.5	32.0	16.0	75.0	100.0	110.0	94281.9				
NPT1-1/4"	M40x1.5	A	38.5	20.0	16.0	34.0	46.0	51.0	94230.9	NPT3"	M100x2	A	50.5	32.0	16.0	75.0	110.0	120.0	94282.9				
NPT1-1/4"	M50x1.5	A	38.5	20.0	16.0	34.0	55.0	61.0	94231.9	NPT3"	M105x2	A	50.5	32.0	16.0	75.0	115.0	125.0	94283.9				
NPT1-1/4"	M63x1.5	A	38.5	20.0	16.0	34.0	68.0	75.0	94232.9	NPT3"	M110x2	A	50.5	32.0	16.0	75.0	120.0	130.0	94284.9				
NPT1-1/2"	M12x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94233.9	NPT3-1/2"	M12x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94285.9				
NPT1-1/2"	M16x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94234.9	NPT3-1/2"	M16x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94286.9				
NPT1-1/2"	M20x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94235.9	NPT3-1/2"	M20x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94287.9				
NPT1-1/2"	M25x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94236.9	NPT3-1/2"	M25x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94288.9				
NPT1-1/2"	M32x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94237.9	NPT3-1/2"	M32x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94289.9				
NPT1-1/2"	M40x1.5	B	25.0	20.0	5.0	—	55.0	61.0	94238.9	NPT3-1/2"	M40x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94290.9				
NPT1-1/2"	M50x1.5	A	38.5	20.0	16.0	40.0	55.0	61.0	94239.9	NPT3-1/2"	M50x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94291.9				
NPT1-1/2"	M63x1.5	A	38.5	20.0	16.0	40.0	68.0	75.0	94240.9	NPT3-1/2"	M63x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94292.9				
NPT1-1/2"	M72x2	A	38.5	20.0	16.0	40.0	82.0	90.0	94241.9	NPT3-1/2"	M72x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94293.9				
NPT2"	M75x1.5	A	38.5	20.0	16.0	40.0	82.0	90.0	94242.9	NPT3-1/2"	M75x1.5	B	38.0	33.0	5.0	—	110.0	120.0	94294.9				
NPT2"	M12x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94243.9	NPT3-1/2"	M80x2	B	38.0	33.0	5.0	—	110.0	120.0	94295.9				
NPT2"	M16x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94244.9	NPT3-1/2"	M90x2	B	38.0	33.0	5.0	—	110.0	120.0	94296.9				
NPT2"	M20x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94245.9	NPT3-1/2"	M100x2	A	51.5	33.0	16.0	90.0	110.0	120.0	94297.9				
NPT2"	M25x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94246.9	NPT3-1/2"	M105x2	A	51.5	33.0	16.0	90.0	115.0	125.0	94298.9				
NPT2"	M32x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94247.9	NPT3-1/2"	M110x2	A	51.5	33.0	16.0	90.0	115.0	125.0	94299.9				
NPT2"	M40x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94248.9	NPT4"	M90x2	B	40.0	36.0	5.0	—	120.0	130.0	94300.9				
NPT2"	M50x1.5	B	26.0	21.0	5.0	—	68.0	75.0	94249.9	NPT4"	M100x2	B	40.0	36.0	5.0	—	120.0	130.0	94301.9				
NPT2"	M63x1.5	A	39.5	21.0	16.0	50.0	68.0	75.0	94250.9	NPT4"	M105x2	A	53.5	35.0	16.0	100.0	120.0	130.0	94302.9				
NPT2"	M72x2	A	39.5	21.0	16.0	50.0	83.0	90.0	94251.9	NPT4"	M110x2	A	53.5	35.0	16.0	100.0	120.0	130.0	94303.9				



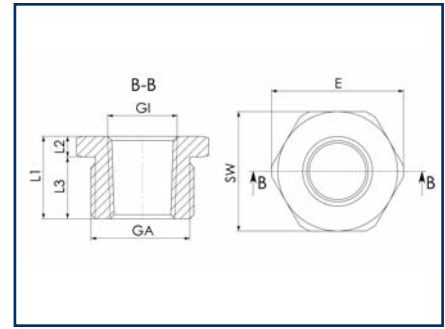
# Adapters - Metric to NPT

Nickel Plated Brass (NPB)

Style A



Style B



**Material Specifications**

Nickel Plated Brass (NPB)

**Temperature Range**

-40 to 300°C (-40 to 572°F)

**Seal Rings**

Order Separately (See Page 298)

External Thread GA	Internal Thread G1	Style	Dimensions: mm						Cat. No.	External Thread GA	Internal Thread G1	Style	Dimensions: mm						Cat. No.
			L1	L2	L3	Di	SW	E					L1	L2	L3	SW	E		
M12x1.5	NPT1/4"	A	28.0	11.0	15.0	7.2	16.0	18.0	94000.9	M72x2	NPT1/2"	B	20.0	5.0	15.0	82.0	90.0	94052.9	
M12x1.5	NPT3/8"	A	28.0	11.0	15.0	7.2	20.0	22.0	94001.9	M72x2	NPT3/4"	B	20.0	5.0	15.0	82.0	90.0	94053.9	
M12x1.5	NPT1/2"	A	31.0	14.0	15.0	7.2	24.0	17.0	94002.9	M72x2	NPT1"	B	20.0	5.0	15.0	82.0	90.0	94054.9	
M16x1.5	NPT1/4"	A	28.0	11.0	15.0	10.5	20.0	22.0	94003.9	M72x2	NPT1-1/4"	B	20.0	5.0	15.0	82.0	90.0	94055.9	
M16x1.5	NPT3/8"	A	28.0	11.0	15.0	10.5	20.0	22.0	94004.9	M72x2	NPT1-1/2"	B	20.0	5.0	15.0	82.0	90.0	94056.9	
M16x1.5	NPT1/2"	A	31.0	14.0	15.0	10.5	24.0	27.0	94005.9	M72x2	NPT2"	B	20.0	5.0	15.0	82.0	90.0	94057.9	
M16x1.5	NPT3/4"	A	32.0	15.0	15.0	10.5	29.0	32.0	94006.9	M75x1.5	NPT1/4"	B	20.0	5.0	15.0	82.0	90.0	94058.9	
M20x1.5	NPT1/4"	B	20.0	5.0	15.0	—	24.0	27.0	94007.9	M75x1.5	NPT3/8"	B	20.0	5.0	15.0	82.0	90.0	94059.9	
M20x1.5	NPT3/8"	A	28.0	11.0	15.0	14.0	24.0	27.0	94008.9	M75x1.5	NPT1/2"	B	20.0	5.0	15.0	82.0	90.0	94060.9	
M20x1.5	NPT1/2"	A	31.0	14.0	15.0	14.0	24.0	27.0	94009.9	M75x1.5	NPT3/4"	B	20.0	5.0	15.0	82.0	90.0	94061.9	
M20x1.5	NPT3/4"	A	32.0	15.0	15.0	14.0	29.0	32.0	94010.9	M75x1.5	NPT1"	B	20.0	5.0	15.0	82.0	90.0	94062.9	
M20x1.5	NPT1"	A	34.0	17.0	15.0	14.0	36.0	40.0	94011.9	M75x1.5	NPT1-1/4"	B	20.0	5.0	15.0	82.0	90.0	94063.9	
M25x1.5	NPT1/4"	B	20.0	5.0	15.0	—	29.0	32.0	94012.9	M75x1.5	NPT1-1/2"	B	20.0	5.0	15.0	82.0	90.0	94064.9	
M25x1.5	NPT3/8"	B	20.0	5.0	15.0	—	29.0	32.0	94013.9	M75x1.5	NPT2"	B	20.0	5.0	15.0	82.0	90.0	94065.9	
M25x1.5	NPT1/2"	B	20.0	5.0	15.0	—	29.0	32.0	94014.9	M80x2	NPT1/4"	B	20.0	5.0	15.0	90.0	100.0	94066.9	
M25x1.5	NPT3/4"	A	32.0	15.0	15.0	19.0	29.0	32.0	94015.9	M80x2	NPT3/8"	B	20.0	5.0	15.0	90.0	100.0	94067.9	
M25x1.5	NPT1"	A	34.0	17.0	15.0	19.0	36.0	40.0	94016.9	M80x2	NPT1/2"	B	20.0	5.0	15.0	90.0	100.0	94068.9	
M25x1.5	NPT1-1/4"	A	35.0	18.0	15.0	19.0	46.0	51.0	94017.9	M80x2	NPT3/4"	B	20.0	5.0	15.0	90.0	100.0	94069.9	
M32x1.5	NPT1/4"	B	20.0	5.0	15.0	—	36.0	40.0	94018.9	M80x2	NPT1"	B	20.0	5.0	15.0	90.0	100.0	94070.9	
M32x1.5	NPT3/8"	B	20.0	5.0	15.0	—	36.0	40.0	94019.9	M80x2	NPT1-1/4"	B	20.0	5.0	15.0	90.0	100.0	94071.9	
M32x1.5	NPT1/2"	B	20.0	5.0	15.0	—	36.0	40.0	94020.9	M80x2	NPT1-1/2"	B	20.0	5.0	15.0	90.0	100.0	94072.9	
M32x1.5	NPT3/4"	B	20.0	5.0	15.0	—	36.0	40.0	94021.9	M80x2	NPT2"	B	20.0	5.0	15.0	90.0	100.0	94073.9	
M32x1.5	NPT1"	A	34.0	17.0	15.0	26.0	36.0	40.0	94022.9	M90x2	NPT1/4"	B	20.0	5.0	15.0	100.0	110.0	94074.9	
M32x1.5	NPT1-1/4"	A	35.0	18.0	15.0	26.0	46.0	51.0	94023.9	M90x2	NPT3/8"	B	20.0	5.0	15.0	100.0	110.0	94075.9	
M32x1.5	NPT1-1/2"	A	35.0	18.0	15.0	26.0	55.0	61.0	94024.9	M90x2	NPT1/2"	B	20.0	5.0	15.0	100.0	110.0	94076.9	
M40x1.5	NPT1/4"	B	20.0	5.0	15.0	—	46.0	51.0	94025.9	M90x2	NPT3/4"	B	20.0	5.0	15.0	100.0	110.0	94077.9	
M40x1.5	NPT3/8"	B	20.0	5.0	15.0	—	46.0	51.0	94026.9	M90x2	NPT1"	B	20.0	5.0	15.0	100.0	110.0	94078.9	
M40x1.5	NPT1/2"	B	20.0	5.0	15.0	—	46.0	51.0	94027.9	M90x2	NPT1-1/4"	B	20.0	5.0	15.0	100.0	110.0	94079.9	
M40x1.5	NPT3/4"	B	20.0	5.0	15.0	—	46.0	51.0	94028.9	M90x2	NPT1-1/2"	B	20.0	5.0	15.0	100.0	110.0	94080.9	
M40x1.5	NPT1"	B	20.0	5.0	15.0	—	46.0	51.0	94029.9	M90x2	NPT2"	B	20.0	5.0	15.0	100.0	110.0	94081.9	
M40x1.5	NPT1-1/4"	A	35.0	18.0	15.0	34.0	46.0	1.0	94030.9	M100x2	NPT1/4"	B	20.0	5.0	15.0	110.0	120.0	94082.9	
M40x1.5	NPT1-1/2"	A	35.0	18.0	15.0	34.0	55.0	61.0	94031.9	M100x2	NPT3/8"	B	20.0	5.0	15.0	110.0	120.0	94083.9	
M40x1.5	NPT2"	A	35.0	18.0	15.0	34.0	68.0	75.0	94032.9	M100x2	NPT1/2"	B	20.0	5.0	15.0	110.0	120.0	94084.9	
M50x1.5	NPT1/4"	B	20.0	5.0	15.0	—	55.0	61.0	94033.9	M100x2	NPT3/4"	B	20.0	5.0	15.0	110.0	120.0	94085.9	
M50x1.5	NPT3/8"	B	20.0	5.0	15.0	—	55.0	61.0	94034.9	M100x2	NPT1"	B	20.0	5.0	15.0	110.0	120.0	94086.9	
M50x1.5	NPT1/2"	B	20.0	5.0	15.0	—	55.0	61.0	94035.9	M100x2	NPT1-1/4"	B	20.0	5.0	15.0	110.0	120.0	94087.9	
M50x1.5	NPT3/4"	B	20.0	5.0	15.0	—	55.0	61.0	94036.9	M100x2	NPT1-1/2"	B	20.0	5.0	15.0	110.0	120.0	94088.9	
M50x1.5	NPT1"	B	20.0	5.0	15.0	—	55.0	61.0	94037.9	M100x2	NPT2"	B	20.0	5.0	15.0	110.0	120.0	94089.9	
M50x1.5	NPT1-1/4"	B	20.0	5.0	15.0	—	55.0	61.0	94038.9	M105x2	NPT1/4"	B	20.0	5.0	15.0	115.0	125.0	94090.9	
M50x1.5	NPT1-1/2"	A	35.0	18.0	15.0	44.0	55.0	61.0	94039.9	M105x2	NPT3/8"	B	20.0	5.0	15.0	115.0	125.0	94091.9	
M50x1.5	NPT2"	A	35.0	18.0	15.0	44.0	68.0	75.0	94040.9	M105x2	NPT1/2"	B	20.0	5.0	15.0	115.0	125.0	94092.9	
M50x1.5	NPT2-1/2"	A	41.0	24.0	15.0	44.0	82.0	90.0	94041.9	M105x2	NPT3/4"	B	20.0	5.0	15.0	115.0	125.0	94093.9	
M63x1.5	NPT1/4"	B	20.0	5.0	15.0	—	68.0	75.0	94042.9	M105x2	NPT1"	B	20.0	5.0	15.0	115.0	125.0	94094.9	
M63x1.5	NPT3/8"	B	20.0	5.0	15.0	—	68.0	75.0	94043.9	M105x2	NPT1-1/4"	B	20.0	5.0	15.0	115.0	125.0	94095.9	
M63x1.5	NPT1/2"	B	20.0	5.0	15.0	—	68.0	75.0	94044.9	M105x2	NPT1-1/2"	B	20.0	5.0	15.0	115.0	125.0	94096.9	
M63x1.5	NPT3/4"	B	20.0	5.0	15.0	—	68.0	75.0	94045.9	M105x2	NPT2"	B	20.0	5.0	15.0	115.0	125.0	94097.9	
M63x1.5	NPT1"	B	20.0	5.0	15.0	—	68.0	75.0	94046.9	M110x2	NPT1/2"	B	20.0	5.0	15.0	120.0	130.0	94098.9	
M63x1.5	NPT1-1/4"	B	20.0	5.0	15.0	—	68.0	75.0	94047.9	M110x2	NPT3/4"	B	20.0	5.0	15.0	120.0	130.0	94099.9	
M63x1.5	NPT1-1/2"	B	20.0	5.0	15.0	—	68.0	75.0	94048.9	M110x2	NPT1"	B	20.0	5.0	15.0	120.0	130.0	94100.9	
M63x1.5	NPT2"	A	36.0	18.0	15.0	56.0	68.0	75.0	94049.9	M110x2	NPT1-1/4"	B	20.0	5.0	15.0	120.0	130.0	94101.9	
M72x2	NPT1/4"	B	20.0	5.0	15.0	—	82.0	90.0	94050.9	M110x2	NPT1-1/2"	B	20.0	5.0	15.0	120.0	130.0	94102.9	
M72x2	NPT3/8"	B	20.0	5.0	15.0	—	82.0	90.0	94051.9	M110x2	NPT2"	B	20.0	5.0	15.0	120.0	130.0	94103.9	

Accessories

**Adapters -  
Metric to PG  
Nickel Plated Brass (NPB)**

**Style A**



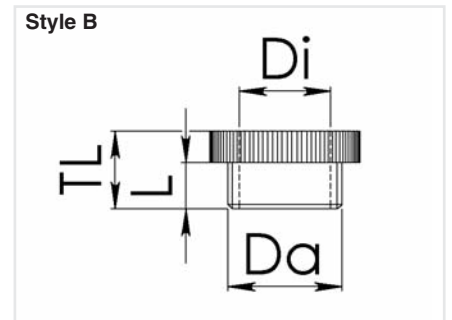
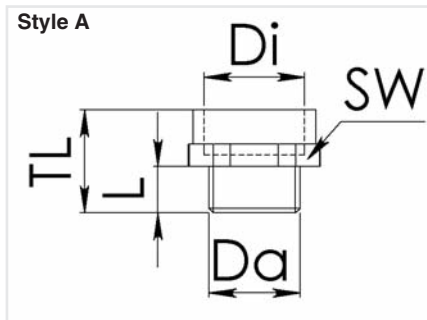
Order Seal Rings Separately  
See Page 298

**Style B**



Order Seal Rings Separately  
See Page 298

Material Specifications			Nickel Plated Brass (NPB)					
Temperature Range			-40 to 300°C (-40 to 572°F)					
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.	
			L	TL	SW			
M12x1.5	PG7	25803.9	5.0 (.20)	15.0 (.59)	14.0 (.55)	A	100	
M12x1.5	PG9	25710.9	5.0 (.20)	15.0 (.59)	14.0 (.55)	A	100	
M16x1.5	PG9	25719.9	5.0 (.20)	15.0 (.59)	18.0 (.71)	A	100	
M16x1.5	PG11	25711.9	6.0 (.24)	16.5 (.65)	20.0 (.79)	A	100	
M20x1.5	PG11	25804.9	6.0 (.24)	17.0 (.67)	22.0 (.87)	A	50	
M20x1.5	PG13.5	25805.9	6.0 (.24)	18.5 (.73)	22.0 (.87)	A	50	
M20x1.5	PG16	25728.9	6.0 (.24)	19.5 (.77)	24.0 (.94)	A	50	
M25x1.5	PG13.5	25729.9	7.0 (.28)	10.0 (.39)	-	B	50	
M25x1.5	PG16	25806.9	7.0 (.28)	10.0 (.39)	30.0 (1.18)	A	50	
M25x1.5	PG21	25713.9	7.0 (.28)	22.0 (.87)	30.0 (1.18)	A	50	
M32x1.5	PG16	25793.9	8.0 (.31)	11.5 (.45)	-	B	25	
M32x1.5	PG21	25794.9	8.0 (.31)	11.5 (.45)	-	B	25	
M32x1.5	PG29	25714.9	8.0 (.31)	24.5 (.96)	39.0 (1.54)	A	25	
M40x1.5	PG21	25795.9	8.0 (.31)	11.5 (.45)	-	B	25	
M40x1.5	PG29	25807.9	8.0 (.31)	11.5 (.45)	-	B	25	
M50x1.5	PG29	25797.9	9.0 (.35)	12.5 (.49)	-	B	10	
M50x1.5	PG42	25798.9	9.0 (.35)	31.0 (1.22)	57.0 (2.24)	A	10	
M63x1.5	PG36	25799.9	10.0 (.39)	14.0 (.55)	-	B	10	
M63x1.5	PG42	25809.9	10.0 (.39)	14.0 (.55)	-	B	10	
M63x1.5	PG48	25718.9	10.0 (.39)	33.0 (1.30)	68.0 (2.68)	A	10	



**Adapters -  
PG to Metric  
Nickel Plated Brass (NPB)**

**Style A**



Order Seal Rings Separately  
See Page 300

**Style B**

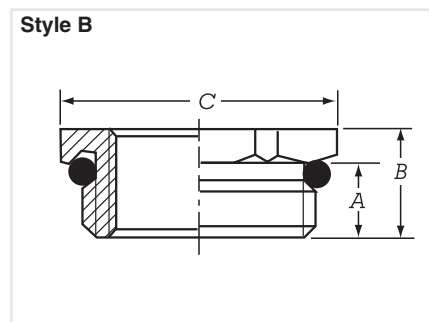
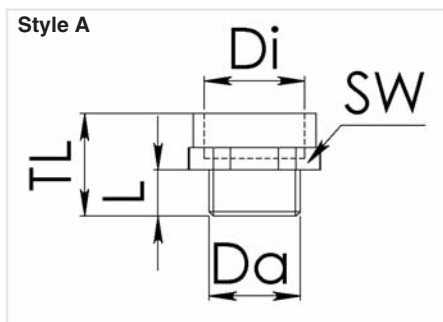


Order Seal Rings Separately  
See Page 300

**Material Specifications** Nickel Plated Brass (NPB)  
**Temperature Range** -40 to 300°C (-40 to 572°F)

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.
			L	TL	SW		
PG7	M12x1.5	25810.9	5.0 (.20)	15.0 (.59)	14.0 (.55)	A	100
PG9	M16x1.5	25811.9	6.0 (.24)	16.0 (.63)	19.0 (.75)	A	100
PG11	M16x1.5	25812.9	6.0 (.24)	16.0 (.63)	22.0 (.87)	A	100
PG13.5	M20x1.5	25813.9	6.5 (.26)	17.5 (.69)	24.0 (.94)	A	100
PG16	M20x1.5	25814.9	6.5 (.26)	17.5 (.69)	27.0 (1.06)	A	100
PG16	M25x1.5	25815.9	6.5 (.22)	18.5 (.73)	30.0 (1.18)	A	100
PG21	M25x1.5	25816.9	7.0 (.28)	19.0 (.75)	32.0 (1.26)	A	100
PG21	M32x1.5	25817.9	7.0 (.28)	20.0 (.79)	36.0 (1.42)	A	100
PG29	M40x1.5	25818.9	8.0 (.31)	21.0 (.83)	43.0 (1.69)	A	50
PG36	M50x1.5	25819.9	9.0 (.35)	23.0 (.91)	55.0 (2.17)	A	25
PG42	M63x1.5	25820.9	10.0 (.39)	25.0 (.98)	65.0 (2.56)	A	10

External Thread	Internal Thread	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.
			A	B	C		
PG7	M10x1	18660.9	6.0 (.24)	9.0 (.35)	14.0 (.55)	B	50
PG9	M10x1	18661.9	6.0 (.24)	9.0 (.35)	17.0 (.67)	B	50
PG9	M12x1.5	18662.9	6.0 (.24)	9.0 (.35)	17.0 (.67)	B	50
PG11	M12x1.5	18663.9	6.0 (.24)	9.0 (.35)	20.0 (.79)	B	50
PG13.5	M12x1.5	18664.9	6.5 (.26)	9.5 (.37)	24.0 (.94)	B	50
PG13.5	M16x1.5	18665.9	6.5 (.26)	9.5 (.37)	24.0 (.94)	B	50
PG16	M20x1.5	18666.9	6.5 (.26)	9.5 (.37)	24.0 (.94)	B	50
PG21	M16x1.5	18667.9	7.0 (.28)	10.5 (.41)	30.0 (1.18)	B	25
PG21	M25x1.5	18668.9	7.0 (.28)	10.5 (.41)	30.0 (1.18)	B	25
PG29	M25x1.5	18669.9	8.0 (.31)	12.0 (.47)	40.0 (1.57)	B	25
PG29	M32x1.5	18670.9	8.0 (.31)	12.0 (.47)	40.0 (1.57)	B	25
PG36	M32x1.5	18671.9	9.0 (.35)	14.0 (.55)	50.0 (1.97)	B	25
PG36	M40x1.5	18672.9	9.0 (.35)	14.0 (.55)	50.0 (1.97)	B	10
PG42	M32x1.5	18673.9	10.0 (.39)	14.0 (.55)	57.0 (2.24)	B	10
PG42	M40x1.5	18674.9	10.0 (.39)	14.0 (.55)	57.0 (2.24)	B	10
PG42	M50x1.5	18675.9	10.0 (.39)	14.0 (.55)	57.0 (2.24)	B	10
PG48	M50x1.5	18676.9	10.0 (.39)	15.5 (1.00)	64.0 (2.52)	B	10



## Adapters - NPT to PG

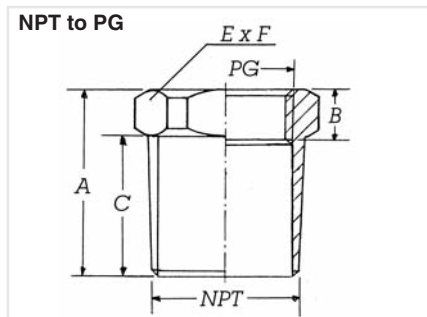
### NPT to PG



<b>Material Specifications</b>	Nickel Plated Brass (NPB)
<b>Temperature Range</b>	-40 to 300°C (-40 to 572°F)
<b>Seal Rings</b>	Order Separately (See Page 300)

### NPT to PG

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)					Std. Pk.
			A	B	C	E	F	
NPT3/8"	PG7	22900.9	20.0 (.79)	5.0 (.20)	15.0 (.59)	19.0 (.75)	21.3 (.84)	50
NPT1/2"	PG9	22901.9	20.0 (.79)	5.0 (.20)	15.0 (.59)	22.0 (.87)	24.1 (.95)	50
NPT1/2"	PG11	22902.9	28.0 (1.10)	8.0 (.31)	20.0 (.79)	22.0 (.87)	25.0 (.98)	50
NPT1/2"	PG13.5	22903.9	30.0 (1.18)	10.0 (.39)	20.0 (.79)	24.0 (.94)	26.9 (1.06)	50
NPT3/4"	PG13.5	22904.9	32.0 (1.26)	11.0 (.43)	18.0 (.71)	29.0 (1.14)	32.4 (1.28)	50
NPT3/4"	PG16	22905.9	32.0 (1.26)	13.5 (.53)	18.0 (.71)	29.0 (1.14)	32.4 (1.28)	50
NPT1"	PG21	22906.9	35.0 (1.38)	10.0 (.39)	25.0 (.98)	36.0 (1.42)	40.6 (1.60)	10
NPT1-1/4"	PG29	22907.9	35.0 (1.38)	13.0 (.51)	25.0 (.98)	46.0 (1.81)	52.9 (2.01)	10
NPT1-1/2"	PG36	22908.9	44.0 (1.73)	14.0 (.55)	26.0 (1.02)	52.0 (2.05)	59.9 (2.34)	10
NPT2"	PG42	22909.9	52.0 (2.05)	17.0 (.67)	30.0 (1.18)	64.0 (2.52)	73.5 (2.28)	10



## Adapters - PG to NPT

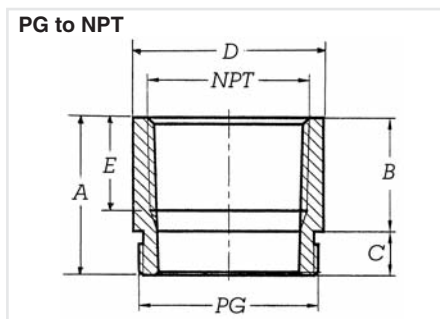
### PG to NPT



<b>Material Specifications</b>	Nickel Plated Brass (NPB)
<b>Temperature Range</b>	-40 to 300°C (-40 to 572°F)
<b>Seal Rings</b>	Order Separately (See Page 300)

### PG to NPT

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)					Std. Pk.
			A	B	C	E	F	
PG11	NPT3/8"	22890.9	20.0 (.79)	14.5 (.57)	5.5 (.22)	20.0 (.79)	13.0 (.51)	100
PG11	NPT1/2"	22891.9	24.5 (.96)	18.0 (.71)	6.5 (.26)	24.0 (.94)	15.0 (.59)	100
PG13.5	NPT1/2"	22892.9	24.5 (.96)	18.0 (.71)	6.0 (.24)	24.0 (.94)	15.0 (.59)	100
PG16	NPT1/2"	22893.9	24.5 (.96)	18.0 (.71)	6.0 (.24)	24.0 (.94)	15.0 (.59)	100
PG21	NPT3/4"	22894.9	25.0 (.98)	18.0 (.71)	6.5 (.26)	25.0 (.98)	15.0 (.59)	100
PG29	NPT1"	22895.9	26.0 (1.02)	18.0 (.71)	7.5 (.30)	39.0 (1.54)	15.0 (.59)	25
PG36	NPT1-1/4"	22896.9	29.0 (1.14)	20.0 (.79)	8.5 (.33)	50.0 (1.97)	15.0 (.59)	10
PG42	NPT1-1/2"	22897.9	28.0 (1.10)	18.0 (.71)	9.5 (.37)	57.0 (2.24)	17.0 (.67)	10



**Enlargers -  
PG to PG  
Metric to Metric  
Polyamide (PA)**



Order Seal Rings Separately  
See Page 298, 300

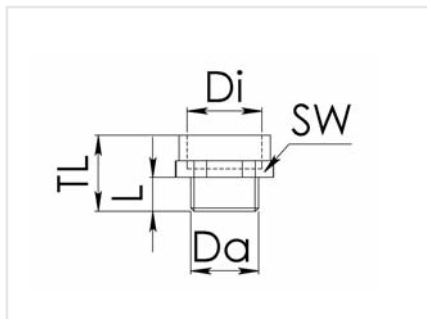
<b>Material Specifications</b>	Polyamide (PA)
<b>Temperature Range</b>	-20 to 100°C (-4 to 212°F)
<b>Color</b>	Light Gray

**PG to PG**

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Std. Pk.
			L	TL	SW	
PG7	PG9	22956.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	100
PG9	PG11	22957.9	9.0 (.35)	27.0 (1.06)	22.0 (.87)	100
PG11	PG13.5	22958.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	100
PG13.5	PG16	22960.9	10.0 (.39)	28.0 (1.10)	27.0 (1.06)	100
PG16	PG21	22961.9	10.0 (.39)	28.0 (1.10)	33.0 (1.30)	50
PG21	PG29	22962.9	12.0 (.47)	30.0 (1.18)	42.0 (1.65)	25
PG29	PG36	22963.9	12.0 (.47)	30.0 (1.18)	53.0 (2.09)	25
PG36	PG42	22964.9	14.0 (.55)	32.0 (1.26)	60.0 (2.36)	10
PG42	PG48	22965.9	14.0 (.55)	32.0 (1.26)	65.0 (2.56)	5

**Metric to Metric**

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Std. Pk.
			L	TL	SW	
M12x1.5	M16x1.5	25825.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	100
M16x1.5	M20x1.5	25826.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	100
M20x1.5	M25x1.5	25827.9	9.0 (.35)	27.0 (1.06)	29.0 (1.14)	100
M25x1.5	M32x1.5	25828.9	10.0 (.39)	28.0 (1.10)	36.0 (1.42)	100
M32x1.5	M40x1.5	25829.9	12.0 (.47)	30.0 (1.18)	46.0 (1.81)	50
M40x1.5	M50x1.5	25707.9	12.0 (.47)	30.0 (1.18)	55.0 (2.17)	25
M50x1.5	M63x1.5	25708.9	14.0 (.55)	32.0 (1.26)	68.0 (2.68)	5



**Enlargers –  
PG to PG  
Metric to Metric  
Nickel Plated Brass (NPB)**

**PG to PG**

**Metric to Metric**



Order Seal Rings Separately  
See Page 298, 300

Order Seal Rings Separately  
See Page 298, 300

**Material Specifications** Nickel Plated Brass (NPB)  
**Temperature Range** -40 to 300°C (-40 to 572°F)

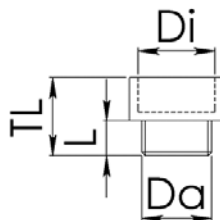
**PG to PG**

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)		Std. Pk.
			L	TL	
PG7	PG9	22866.9	5.0 (.20)	15.0 (.59)	100
PG9	PG11	22867.9	6.0 (.24)	16.5 (.65)	100
PG9	PG13.5	22868.9	6.0 (.24)	17.5 (.69)	100
PG11	PG13.5	22869.9	6.0 (.24)	17.5 (.69)	100
PG11	PG16	22870.9	6.0 (.24)	18.5 (.73)	100
PG11	PG21	22871.9	6.0 (.24)	21.0 (.83)	100
PG13.5	PG16	22872.9	6.5 (.26)	19.0 (.75)	100
PG13.5	PG21	22873.9	6.5 (.26)	21.0 (.83)	100
PG16	PG21	22874.9	6.5 (.26)	21.0 (.83)	100
PG16	PG29	22875.9	7.0 (.28)	23.0 (.91)	50
PG21	PG29	22876.9	7.0 (.28)	23.0 (.91)	50
PG29	PG36	22877.9	8.0 (.31)	27.5 (1.08)	25
PG36	PG42	22878.9	9.0 (.35)	31.0 (1.22)	25
PG42	PG48	22879.9	10.0 (.39)	33.0 (1.30)	10

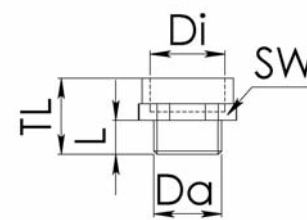
**Metric to Metric**

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)		Std. Pk.
			L	TL	
M12x1.5	M16x1.5	25700.9	5.0 (.20)	15.0 (.59)	100
M16x1.5	M20x1.5	25701.9	5.0 (.20)	17.0 (.67)	100
M20x1.5	M25x1.5	25702.9	6.0 (.24)	19.0 (.75)	50
M25x1.5	M32x1.5	25703.9	7.0 (.28)	21.0 (.83)	50
M32x1.5	M40x1.5	25704.9	8.0 (.31)	24.0 (.94)	50
M40x1.5	M50x1.5	25705.9	8.0 (.31)	31.0 (1.22)	25
M50x1.5	M63x1.5	25706.9	9.0 (.35)	31.0 (1.22)	10

PG to PG



Metric to Metric



**Reductions –  
PG to PG  
Polyamide (PA)**

**Style A**



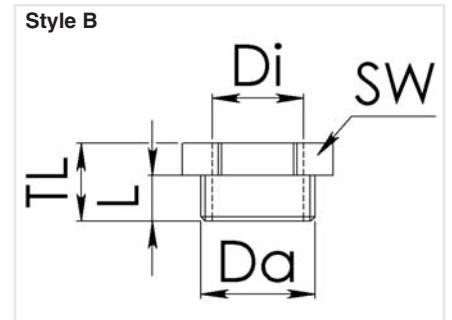
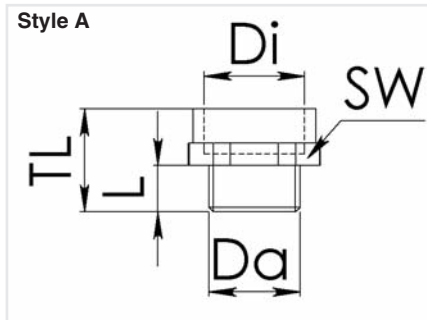
**Style B**



Order Seal Rings Separately  
See Page 300

Order Seal Rings Separately  
See Page 300

Material Specifications			Polyamide (PA)					
Temperature Range			-20 to 100°C (-4 to 212°F)					
Color			Light Gray					
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Style	Std. Pk.	
			L	TL	SW			
PG9	PG7	22930.9	9.0 (.35)	27.0 (1.06)	20.0 (.79)	A	100	
PG11	PG7	22931.9	9.0 (.35)	16.0 (.63)	22.0 (.87)	B	100	
PG11	PG9	22932.9	9.0 (.35)	27.0 (1.06)	22.0 (.87)	A	100	
PG13.5	PG7	22933.9	10.0 (.39)	17.0 (.67)	24.0 (.94)	B	100	
PG13.5	PG9	22934.9	10.0 (.39)	28.0 (1.10)	24.0 (.94)	A	100	
PG13.5	PG11	22935.9	10.0 (.39)	28.0 (1.10)	24.0 (.94)	A	100	
PG16	PG9	22936.9	10.0 (.39)	17.0 (.67)	27.0 (1.06)	B	100	
PG16	PG11	22937.9	10.0 (.39)	28.0 (1.10)	27.0 (1.06)	A	100	
PG16	PG13.5	22938.9	10.0 (.39)	28.0 (1.10)	27.0 (1.06)	A	100	
PG21	PG11	22939.9	12.0 (.47)	19.0 (.75)	33.0 (1.30)	B	100	
PG21	PG13.5	22940.9	12.0 (.47)	19.0 (.75)	33.0 (1.30)	B	100	
PG21	PG16	22941.9	12.0 (.47)	19.0 (.75)	33.0 (1.30)	B	100	
PG29	PG13.5	22942.9	12.0 (.47)	19.0 (.75)	42.0 (1.65)	B	50	
PG29	PG16	22943.9	12.0 (.47)	19.0 (.75)	42.0 (1.65)	B	50	
PG29	PG21	22944.9	12.0 (.47)	19.0 (.75)	42.0 (1.65)	B	50	
PG36	PG16	22945.9	14.0 (.55)	21.0 (.83)	53.0 (2.09)	B	50	
PG36	PG21	22946.9	14.0 (.55)	21.0 (.83)	53.0 (2.09)	B	50	
PG36	PG29	22947.9	14.0 (.55)	21.0 (.83)	53.0 (2.09)	B	10	
PG42	PG21	22948.9	14.0 (.55)	21.0 (.83)	60.0 (2.36)	B	10	
PG42	PG29	22949.9	14.0 (.55)	21.0 (.83)	60.0 (2.36)	B	10	
PG42	PG36	22950.9	14.0 (.55)	21.0 (.83)	60.0 (2.36)	B	10	
PG48	PG29	22951.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	B	10	
PG48	PG36	22952.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	B	10	
PG48	PG42	22953.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	B	10	



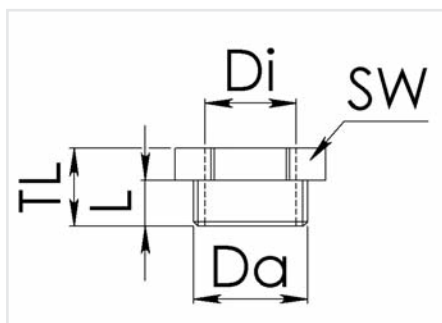


## Reductions – Metric to Metric Polyamide (PA)



Order Seal Rings Separately  
See Page 298

Material Specifications		Polyamide (PA)				
Temperature Range		-20 to 100°C (-4 to 212°F)				
Color		Light Gray				
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Std. Pk.
			L	TL	SW	
M16x1.5	M12x1.5	25518.9	9.0 (.35)	16.0 (.63)	20.0 (.79)	100
M20x1.5	M12x1.5	25821.9	9.0 (.35)	16.0 (.63)	24.0 (.94)	100
M20x1.5	M16x1.5	25519.9	9.0 (.35)	27.0 (1.06)	24.0 (.94)	100
M25x1.5	M12x1.5	25520.9	10.0 (.39)	17.0 (.67)	29.0 (1.14)	100
M25x1.5	M16x1.5	25521.9	10.0 (.39)	17.0 (.67)	29.0 (1.14)	100
M25x1.5	M20x1.5	25522.9	10.0 (.39)	17.0 (.67)	29.0 (1.14)	100
M32x1.5	M16x1.5	25524.9	12.0 (.47)	19.0 (.75)	36.0 (1.42)	50
M32x1.5	M20x1.5	25525.9	12.0 (.47)	19.0 (.75)	36.0 (1.42)	50
M32x1.5	M25x1.5	25526.9	12.0 (.47)	19.0 (.75)	36.0 (1.42)	50
M40x1.5	M20x1.5	25528.9	12.0 (.47)	19.0 (.75)	46.0 (1.81)	25
M40x1.5	M25x1.5	25529.9	12.0 (.47)	19.0 (.75)	46.0 (1.81)	25
M40x1.5	M32x1.5	25530.9	12.0 (.47)	19.0 (.75)	46.0 (1.81)	25
M50x1.5	M25x1.5	25532.9	14.0 (.55)	21.0 (.83)	55.0 (2.17)	5
M50x1.5	M32x1.5	25533.9	14.0 (.55)	21.0 (.83)	55.0 (2.17)	5
M50x1.5	M40x1.5	25534.9	14.0 (.55)	21.0 (.83)	55.0 (2.17)	5
M63x1.5	M32x1.5	25536.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	5
M63x1.5	M40x1.5	25537.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	5
M63x1.5	M50x1.5	25538.9	15.0 (.59)	22.0 (.87)	65.0 (2.56)	5

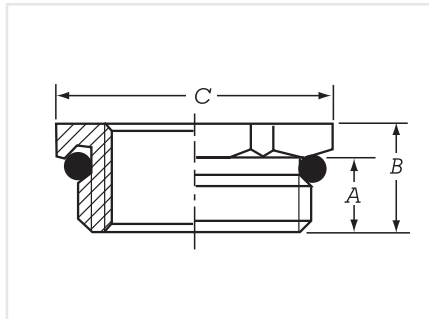


**Reductions with Hexagon –  
Metric to Metric  
Nickel Plated Brass (NPB)**



Seal Rings Factory Installed

Material Specifications		Nickel Plated Brass (NPB)				
Temperature Range		-40 to 300°C (-40 to 572°F)				
Seal Rings		Neoprene; -30 to 100°C (-22 to 212°F)				
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Std. Pk.
			A	B	C	
M16x1.5	M12x1.5	25610.9	6.0 (.24)	8.5 (.33)	18.0 (.71)	50
M20x1.5	M12x1.5	25611.9	6.5 (.26)	9.0 (.35)	22.0 (.87)	50
M20x1.5	M16x1.5	25612.9	6.5 (.26)	9.0 (.35)	22.0 (.87)	50
M25x1.5	M16x1.5	25613.9	7.0 (.28)	10.0 (.39)	28.0 (1.10)	50
M25x1.5	M20x1.5	25614.9	7.0 (.28)	10.0 (.39)	28.0 (1.10)	50
M32x1.5	M20x1.5	25615.9	8.0 (.31)	11.5 (.45)	35.0 (1.38)	50
M32x1.5	M25x1.5	25616.9	8.0 (.31)	11.5 (.45)	35.0 (1.38)	50
M40x1.5	M25x1.5	25617.9	9.0 (.35)	12.5 (.49)	43.0 (1.69)	25
M40x1.5	M32x1.5	25618.9	9.0 (.35)	12.5 (.49)	43.0 (1.69)	25
M50x1.5	M32x1.5	25619.9	10.0 (.39)	14.0 (.55)	54.0 (2.13)	10
M50x1.5	M40x1.5	25620.9	10.0 (.39)	14.0 (.55)	54.0 (2.13)	10
M63x1.5	M40x1.5	25622.9	10.0 (.39)	14.0 (.55)	68.0 (2.68)	10
M63x1.5	M50x1.5	25623.9	10.0 (.39)	14.0 (.55)	68.0 (2.68)	10
M72x2	M50x1.5	25624.9	12.0 (.47)	17.0 (.67)	80.0 (3.15)	5
M72x2	M63x1.5	25663.9	10.0 (.39)	18.0 (.71)	90.0 (3.54)	5
M80x2	M63x1.5	25664.9	10.0 (.39)	18.0 (.71)	90.0 (3.54)	5



## Reductions Knurled – Metric to Metric Nickel Plated Brass (NPB)



Order Seal Rings Separately  
See Page 298

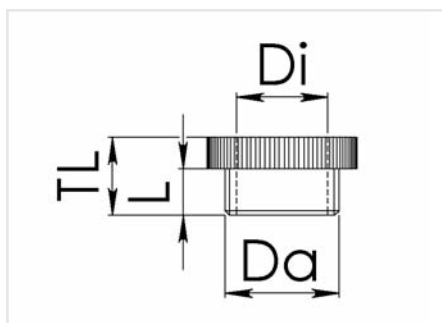
### Material Specifications

Nickel Plated Brass (NPB)

### Temperature Range

-40 to 300°C (-40 to 572°F)

External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)		Std. Pk.
			L	TL	
M16x1.5	M12x1.5	98925.9	5.0 (.20)	8.0 (.31)	100
M20x1.5	M12x1.5	98926.9	6.0 (.24)	8.5 (.33)	100
M20x1.5	M16x1.5	98927.9	6.0 (.24)	8.5 (.33)	100
M25x1.5	M16x1.5	98928.9	7.0 (.28)	10.0 (.39)	50
M25x1.5	M20x1.5	98929.9	7.0 (.28)	10.0 (.39)	100
M32x1.5	M20x1.5	98930.9	8.0 (.31)	11.5 (.45)	25
M32x1.5	M25x1.5	98931.9	8.0 (.31)	11.5 (.45)	50
M40x1.5	M25x1.5	98932.9	8.0 (.31)	11.5 (.45)	25
M40x1.5	M32x1.5	98933.9	8.0 (.31)	11.5 (.45)	25
M50x1.5	M32x1.5	98934.9	9.0 (.35)	12.5 (.49)	10
M50x1.5	M40x1.5	98935.9	9.0 (.35)	12.5 (.49)	25
M63x1.5	M40x1.5	98936.9	10.0 (.39)	14.0 (.55)	10
M63x1.5	M50x1.5	98937.9	10.0 (.39)	14.0 (.55)	10

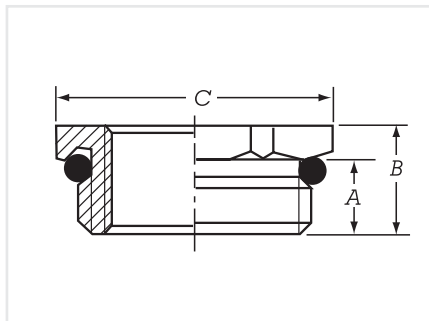


## Reductions with Hexagon – PG to PG Nickel Plated Brass (NPB)



Seal Rings Factory Installed

Material Specifications		Nickel Plated Brass (NPB)				
Temperature Range		-40 to 300°C (-40 to 572°F)				
Seal Rings		Neoprene; -30 to 100°C (-22 to 212°F)				
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)			Std. Pk.
			A	B	C	
PG9	PG7	22800.9	6.0 (.24)	8.8 (.35)	17.0 (.67)	50
PG11	PG7	22801.9	6.0 (.24)	9.0 (.35)	20.0 (.79)	50
PG11	PG9	22802.9	6.0 (.24)	9.0 (.35)	20.0 (.79)	50
PG13.5	PG7	22803.9	6.0 (.24)	9.0 (.35)	22.0 (.87)	50
PG13.5	PG9	22804.9	6.5 (.26)	9.5 (.37)	22.0 (.87)	50
PG13.5	PG11	22805.9	8.0 (.31)	12.5 (.49)	22.0 (.87)	50
PG16	PG7	22806.9	6.5 (.26)	9.0 (.35)	24.0 (.94)	50
PG16	PG9	22807.9	6.5 (.26)	9.5 (.37)	24.0 (.94)	50
PG16	PG11	22808.9	6.5 (.26)	9.5 (.37)	24.0 (.94)	50
PG16	PG13.5	22809.9	8.0 (.31)	12.5 (.49)	24.0 (.94)	50
PG21	PG11	22810.9	7.0 (.28)	10.5 (.41)	30.0 (1.18)	50
PG21	PG13.5	22811.9	7.0 (.28)	10.5 (.41)	30.0 (1.18)	50
PG21	PG16	22812.9	7.0 (.28)	10.5 (.41)	30.0 (1.18)	50
PG29	PG9	22823.9	8.0 (.31)	12.0 (.41)	40.0 (1.57)	25
PG29	PG13.5	22813.9	8.0 (.31)	12.0 (.47)	40.0 (1.57)	25
PG29	PG16	22814.9	8.0 (.31)	12.0 (.47)	40.0 (1.57)	25
PG29	PG21	22815.9	8.0 (.31)	12.0 (.47)	40.0 (1.57)	25
PG36	PG29	22817.9	9.0 (.35)	14.0 (.55)	50.0 (1.97)	25
PG42	PG29	22818.9	10.0 (.39)	15.0 (.59)	57.0 (2.24)	10
PG42	PG36	22819.9	10.0 (.39)	15.0 (.59)	57.0 (2.24)	10
PG48	PG36	22821.9	10.0 (.39)	15.5 (.61)	64.0 (2.52)	10
PG48	PG42	22822.9	10.0 (.39)	15.5 (.61)	64.0 (2.52)	10

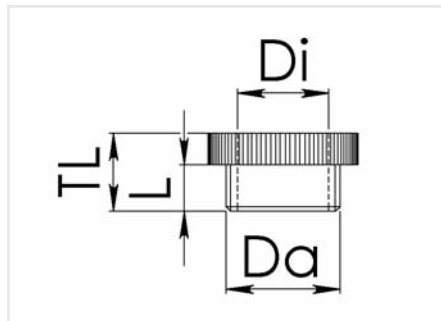


**Reductions Knurled –  
PG to PG  
Nickel Plated Brass (NPB)**



Order Seal Rings Separately  
See Page 300

Material Specifications		Nickel Plated Brass (NPB)				
Temperature Range		-40 to 300°C (-40 to 572°F)				
External Thread DA	Internal Thread DI	Cat. No.	Dimensions: mm (in.)		Std. Pk.	
			L	TL		
PG9	PG7	98900.9	6.0 (.24)	8.5 (.33)	100	
PG11	PG7	98901.9	6.0 (.24)	8.5 (.33)	100	
PG11	PG9	98902.9	6.0 (.24)	8.5 (.33)	100	
PG13.5	PG7	98903.9	6.5 (.26)	9.0 (.35)	100	
PG13.5	PG9	98904.9	6.5 (.26)	9.0 (.35)	100	
PG13.5	PG11	98905.9	6.5 (.26)	9.0 (.35)	100	
PG16	PG7	98906.9	6.5 (.26)	9.5 (.37)	100	
PG16	PG9	98907.9	6.5 (.26)	9.5 (.37)	100	
PG16	PG11	98908.9	6.5 (.26)	9.5 (.37)	100	
PG16	PG13.5	98909.9	6.5 (.26)	9.5 (.37)	100	
PG21	PG11	98910.9	7.0 (.28)	10.0 (.39)	50	
PG21	PG13.5	98911.9	7.0 (.28)	10.0 (.39)	50	
PG21	PG16	98912.9	7.0 (.28)	10.0 (.39)	50	
PG29	PG13.5	98913.9	8.0 (.31)	11.5 (.45)	50	
PG29	PG16	98914.9	8.0 (.31)	11.5 (.45)	50	
PG29	PG21	98915.9	8.0 (.31)	11.5 (.45)	50	
PG36	PG21	98916.9	9.0 (.35)	12.5 (.49)	25	
PG36	PG29	98917.9	9.0 (.35)	12.5 (.49)	25	
PG42	PG29	98918.9	10.0 (.39)	14.0 (.55)	25	
PG42	PG36	98919.9	10.0 (.39)	14.0 (.55)	25	
PG48	PG36	98920.9	10.0 (.39)	14.0 (.55)	25	
PG48	PG42	98921.9	10.0 (.39)	14.0 (.55)	25	



# Threaded Plugs – Nickel Plated Brass (NPB)

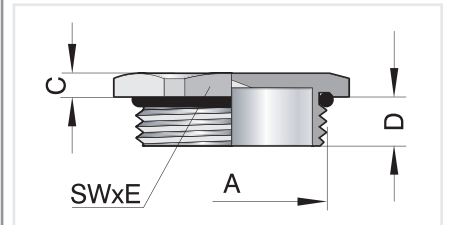
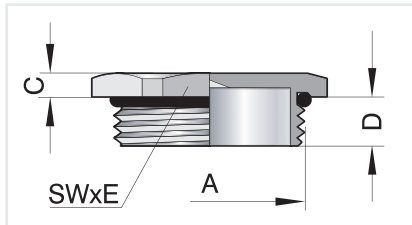
## Metric Thread



## PG Thread



Material Specifications					
Threaded Plug	Nickel Plated Brass (NPB)		Nickel Plated Brass (NPB)		
Seal Ring	Neoprene (NBR)		Neoprene (NBR)		
Temperature Range					
Threaded Plug	-40 to 300°C (-40 to 572°F)		-40 to 300°C (-40 to 572°F)		
Seal Ring	-20 to 100°C (-4 to 212°F)		-20 to 100°C (-4 to 212°F)		
Color					
		<b>Std.</b>		<b>Std.</b>	
	<b>Size</b>	<b>Cat. No.</b>	<b>Pk.</b>	<b>Size</b>	<b>Cat. No.</b>
	M12x1.5	25590.9	100	PG7	23100.9
	M16x1.5	25591.9	100	PG9	23101.9
	M20x1.5	25592.9	100	PG11	23102.9
	M25x1.5	25593.9	100	PG13.5	23103.9
	M32x1.5	25594.9	50	PG16	23104.9
	M40x1.5	25595.9	50	PG21	23105.9
	M50x1.5	25596.9	25	PG29	23106.9
	M63x1.5	25598.9	10	PG36	23107.9
					<b>Pk.</b>
					100
					100
					100
					100
					100
					100
					50
					25
					25



Dimensions: mm (in.)					
Size	D	C	SW	E	
M12x1.5	5.0 (.20)	4.0 (.16)	14.0 (.55)	15.5 (.61)	
M16x1.5	6.0 (.24)	3.0 (.12)	18.0 (.71)	20.0 (.79)	
M20x1.5	6.5 (.26)	3.0 (.12)	22.0 (.87)	24.4 (.96)	
M25x1.5	6.5 (.26)	3.0 (.12)	28.0 (1.10)	31.2 (1.23)	
M32x1.5	7.0 (.28)	3.5 (.14)	35.0 (1.38)	38.5 (1.52)	
M40x1.5	8.0 (.31)	4.0 (.16)	50.0 (1.97)	54.0 (2.13)	
M50x1.5	10.0 (.39)	7.0 (.28)	60.0 (2.36)	65.0 (2.56)	
M63x1.5	16.0 (.63)	8.0 (.31)	81.0 (3.19)	87.0 (3.43)	
Size	D	C	SW	E	
PG7	5.0 (.20)	3.0 (.12)	14.0 (.55)	16.0 (.63)	
PG9	6.0 (.24)	3.0 (.12)	17.0 (.67)	19.5 (.77)	
PG11	6.0 (.24)	3.0 (.12)	20.0 (.79)	22.5 (.89)	
PG13.5	6.5 (.26)	3.0 (.12)	22.0 (.87)	24.4 (.96)	
PG16	6.5 (.26)	3.0 (.12)	24.0 (.94)	26.7 (1.05)	
PG21	7.0 (.28)	3.5 (.14)	30.0 (1.18)	34.0 (1.34)	
PG29	10.0 (.39)	4.0 (.16)	40.0 (1.57)	43.5 (1.71)	
PG36	10.0 (.39)	5.5 (.22)	50.0 (1.97)	57.0 (2.24)	

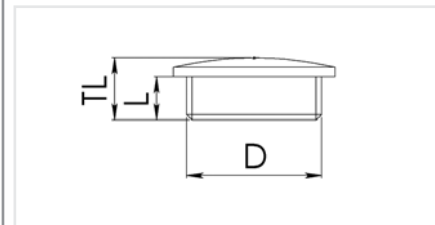
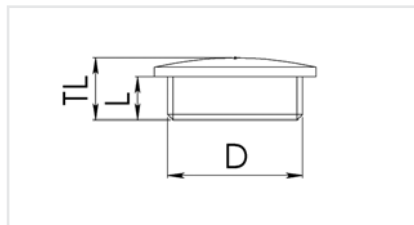
## Threaded Plugs – Polyamide (PA)

### Metric Thread

### PG Thread



Material Specifications							
Threaded Plug	Polyamide (PA)			Polyamide (PA)			
Seal Ring	Order separately (See Page 298)			Order separately (See Page 300)			
Temperature Range							
Threaded Plug	-20 to 100°C (-4 to 212°F)			-20 to 100°C (-4 to 212°F)			
Color	Light Gray & Black			Light Gray			
		<b>Cat. No.</b>	<b>Std.</b>			<b>Std.</b>	
	<b>Size</b>	<b>Light Gray</b>	<b>Black</b>	<b>Pk.</b>	<b>Size</b>	<b>Cat. No.</b>	<b>Std.</b>
	M12x1.5	25550.9	25540.9	100	PG7	23140.9	100
	M16x1.5	25551.9	25541.9	100	PG9	23141.9	100
	M20x1.5	25552.9	25542.9	100	PG11	23142.9	100
	M25x1.5	25553.9	25543.9	100	PG13.5	23143.9	100
	M32x1.5	25554.9	25544.9	50	PG16	23144.9	100
	M40x1.5	25555.9	25545.9	50	PG21	23145.9	100
	M50x1.5	25556.9	25546.9	50	PG29	23146.9	100
	M63x1.5	25557.9	25547.9	50	PG36	23147.9	25
					PG42	23148.9	25
					PG48	23149.9	25

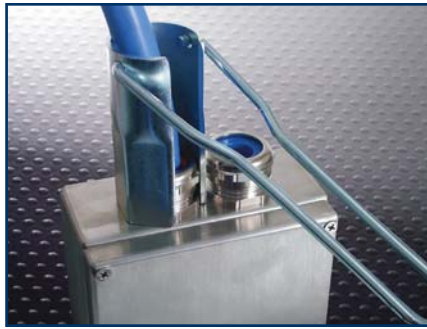


Dimensions: mm (in.)					
Size D	L	TL	Size D	L	TL
M12x1.5	6.0 (.24)	15.0 (.59)	PG7	6.0 (.24)	15.0 (.59)
M16x1.5	6.0 (.24)	20.0 (.79)	PG9	6.3 (.25)	20.0 (.79)
M20x1.5	6.0 (.24)	24.0 (.94)	PG11	6.3 (.25)	22.0 (.87)
M25x1.5	8.0 (.31)	30.0 (1.18)	PG13.5	6.3 (.25)	25.0 (1.00)
M32x1.5	8.0 (.31)	37.0 (1.46)	PG16	6.3 (.25)	27.0 (1.06)
M40x1.5	8.0 (.31)	46.0 (1.81)	PG21	8.3 (.33)	33.5 (1.32)
M50x1.5	10.0 (.39)	56.0 (2.20)	PG29	8.3 (.33)	44.0 (1.73)
M63x1.5	12.0 (.63)	70.0 (2.76)	PG36	10.0 (.39)	55.0 (2.17)
			PG42	10.0 (.39)	62.0 (2.44)
			PG48	12.0 (.47)	69.0 (2.72)

## Wrenches - Standard & Adjustable

Socket Wrenches are designed for fast and easy Cord Grip Installation.

### Socket Wrenches



### Adjustable Socket Wrenches



Material Specifications	Hardened Steel, Zinc Plated				Hardened Steel, Polyamide			
	Type	Size* (mm)	Cat. No.	Std. Pk.	Type	Size (mm)	Cat. No.	Std. Pk.
	SW12	12.0	23256.9	1	VMS 11-24†	11-24	23294.9	1
	SW14	14.0	23260.9	1	VMS 24-36††	24-36	23295.9	1
	SW15	15.0	23261.9	1				
	SW17	17.0	23262.9	1				
	SW18	18.0	23263.9	1				
	SW19	19.0	23264.9	1				
	SW20	20.0	23265.9	1				
	SW21	21.0	23266.9	1				
	SW22	22.0	23267.9	1				
	SW23	23.0	23268.9	1				
	SW24	24.0	23269.9	1				
	SW26	26.0	23270.9	1				
	SW27	27.0	23271.9	1				
	SW28	28.0	23257.9	1				
	SW29	29.0	23292.9	1				
	SW30	30.0	23272.9	1				
	SW32	32.0	23273.9	1				
	SW33	33.0	23274.9	1				
	SW35	35.0	23275.9	1				
	SW36	36.0	23287.9	1				
	SW38	38.0	23293.9	1				
	SW40	40.0	23276.9	1				
	SW41	41.0	23277.9	1				
	SW43	43.0	23278.9	1				
	SW45	45.0	23296.9	1				
	SW46	46.0	23289.9	1				
	SW50	50.0	23279.9	1				
	SW51	51.0	23280.9	1				
	SW53	53.0	23281.9	1				
	SW54	54.0	23297.9	1				
	SW55	55.0	23290.9	1				
	SW57	57.0	23282.9	1				
	SW60	60.0	23291.9	1				
	SW64	64.0	23283.9	1				
	SW65	65.0	23284.9	1				
	SW68	68.0	23298.9	1				
	SW70	70.0	23285.9	1				
	SW75	75.0	23299.9	1				
	SW81	81.0	23180.9	1				
	SW82	82.0	23181.9	1				
	* Select the suitable socket wrench by matching the number in the Size column to the "E" diameter of the Cord Grip and Locknut.				† Adjustable Socket Wrenches VMS 11-24 can be used for Cord Grips and Locknuts with "E" dimensions from 11-24mm.			
					†† Adjustable Socket Wrenches VMS 24-36 can be used for Cord Grips and Locknuts with "E" dimensions from 24-36mm.			



## Sealing Plugs - For High Performance Multi-Cable Cord Grips

Sealing Plugs are used in Multi-Cable Cord Grips to seal unused Insert Holes.

- Maintain Cord Grip Protection Rating
- Ensure Strain Relief



Material Specifications		Polyvinylidene (PVDF)		
Temperature Range		-40 to 150°C (-40 to 302°F)		
Color		Black		
Size	Cat. No.	Dimensions mm (in.)		Std. Pk.
		Diameter	Length	
BO1	23240.9	3.0 (.12)	25.0 (.98)	100
BO2	23241.9	4.0 (.16)	20.0 (.79)	100
BO3	23242.9	4.0 (.16)	25.0 (.98)	100
BO4	23243.9	5.3 (.21)	25.0 (.98)	100
BO5	23244.9	6.0 (.24)	25.0 (.98)	100
BO6	23245.9	6.4 (.25)	25.0 (.98)	100
BO7	23246.9	7.0 (.28)	25.0 (.98)	100
BO8	23247.9	7.5 (.30)	25.0 (.98)	100
BO9	23248.9	8.0 (.31)	25.0 (.98)	100
BO10	23249.9	9.3 (.37)	20.0 (.79)	100
BO11	23250.9	10.0 (.39)	20.0 (.79)	100
BO12	23251.9	12.0 (.47)	25.0 (.98)	100
BO13	23252.9	13.0 (.51)	25.0 (.98)	100
BO14	23254.9	5.0 (.20)	25.0 (.98)	100
BO15	23253.9	9.0 (.35)	20.0 (.79)	100
BO16	23255.9	11.0 (.43)	20.0 (.79)	100

## For Standard Multi-Cable Cord Grips

- Maintain Cord Grip Protection Rating
- Ensure Strain Relief



Material Specifications		Polyamide (PA)		
Temperature Range		-20 to 100°C (-4 to 212°F)		
Color		Red		
Size	Cat. No.	Dimensions mm (in.)		Std. Pk.
		Diameter	Length	
MFV5.5	26430.9	5.5 (.22)	20.0 (.79)	50
MFV7	26431.9	7.0 (.28)	20.0 (.79)	50
MFV8	26432.9	8.0 (.31)	23.0 (.91)	50
MFV10	26433.9	10.0 (.40)	27.0 (1.06)	50
MFV12	26434.9	12.0 (.47)	32.0 (1.26)	50
MFV14	26435.9	14.0 (.55)	32.0 (1.26)	50
MFV17	26436.9	17.0 (.67)	35.0 (1.38)	25
MFV21	26437.9	21.0 (.83)	38.0 (1.50)	25

## Materials – High Performance Cord Grips

**PVDF**



**FIG. 1**

**PA 6-(3)**



**FIG. 2**

**MS**



**FIG. 3**

**VA**



**FIG. 4**

<p><b>PVDF</b>  Polyvinylidene fluoride  Fluorine content 59%  Colors: transparent            black – RAL 9005            blue – RAL 5015  Permanently: -40°C                    up to +135°C</p>	<p><b>PA 6-3</b>  Amorphous special polyamide  Extremely hard thermoplastic  Colors: grey – RAL 7032            black – RAL 9005  Permanently: -20°C                    up to +100°C</p>	<p><b>CUZn39Pb3</b>      <b>Ms</b>  Brass 20401 (Ms 58)  Copper/Zinc alloy  Surface: galv. nickel-plated  On request: bare/chromated:                    blue, black,                    olive, yellow</p>	<p><b>Stainless Steel 1.4404 (316L)</b>  X2CrNiMo 17-12-2  Metallurgical Composition:  17% Cr.  11% Ni.  2% Mo.</p>
<p>PVDF is a high-molecular, semi-crystalline thermoplastic with good mechanical and thermal properties:</p> <ul style="list-style-type: none"> <li>• Tension resistance</li> <li>• Excellent aging resistance</li> <li>• Weathering resistance</li> <li>• High stability, rigidity, tenacity</li> <li>• Low cold flow</li> <li>• High thermal stability</li> <li>• High thermoforming resistance</li> <li>• Sterilizability</li> <li>• Food-compatible (FDA)</li> </ul> <p><b>Chemical Resistance:</b></p> <ul style="list-style-type: none"> <li>• Ozone, halogen</li> <li>• Sulphur dioxide</li> <li>• Saline solutions</li> <li>• Inorganic acids and alkalis</li> <li>• Alcohol</li> <li>• Chlorinated hydrocarbons</li> </ul> <p><b>Limited Resistance:</b></p> <ul style="list-style-type: none"> <li>• Aldehydes, ketones and esters</li> <li>• Sulphur trioxide, fuming sulphuric acid</li> <li>• Acetane hydride</li> <li>• Cyclic esters, amines</li> <li>• Hot alkalis</li> <li>• 50% soda lye</li> </ul> <p><b>Fire Behavior:</b></p> <ul style="list-style-type: none"> <li>• ASTM D 568 self-extinguishing</li> <li>• UL 94, V-0</li> </ul>	<p>PA 6-3 combines a host of mechanical and thermal properties:</p> <ul style="list-style-type: none"> <li>• High impact resistance</li> <li>• Good thermoforming resistance</li> <li>• High inherent stability</li> <li>• Low water absorption</li> <li>• Physiologically recognized as safe</li> <li>• High pressure resistance</li> <li>• High creep resistance</li> <li>• Falls in line with the health requirements made on plastics as per the German Food Act</li> </ul> <p><b>Chemical Resistance:</b></p> <ul style="list-style-type: none"> <li>• Halogenated aliphatic and aromatic compounds</li> <li>• Diluted mineral acids</li> <li>• Mineral oils</li> <li>• Esters</li> <li>• Saline solutions</li> <li>• Termite resistant</li> </ul> <p><b>Limited Chemical Resistance:</b></p> <ul style="list-style-type: none"> <li>• Aldehydes</li> <li>• Ketones</li> <li>• Concentrated sulphuric acid</li> <li>• Hot water</li> <li>• Alcohol</li> </ul> <p><b>Fire Behavior:</b></p> <ul style="list-style-type: none"> <li>• Glow wire testing in accordance with VDE 0471, Section 2/70</li> <li>• UL 94 V-2</li> </ul>	<p>Brass is an alloy of copper with zinc. Basically differentiation is made between pure (binary) brass and special brass.</p> <p>The material CUZn39Pb3 is the principal alloy for metal-cutting and particularly suited for working on automatic machines.</p> <p><b>Corrosion Behavior:</b>  Brass possesses good resistance to water, steam, various saline solutions and many organic liquids, however, not to oxidizing acids. Under certain conditions (water with high Cl content, low carbon hardness and low flow rates), corrosion may be incurred in the form of dezincification.</p> <p><b>Surface Refinement:</b>  Galv. Nickel-plated. Due to their special mechanical and chemical properties, nickel deposits are suitable for protection against wear and corrosion. Nickel can be polished well and is magnetic.</p>	<p><b>General:</b>  Alloy 316L is a molybdenum bearing austenitic stainless steel with excellent corrosion resistance and strength properties. It also provides excellent fabricability and formability.</p> <p><b>Corrosion Resistance:</b>  316L Stainless Steel provides excellent resistance to pitting-type corrosion such as encountered in sea and coast environment. They also provide good resistance to chemicals and elevated temperature strength.</p> <p>They are particularly useful in one to five percent sulfuric acid solutions up to 150°F as well as acetic, phosphoric, formic and tartaric acids and in certain chloride, bromide and iodide solutions.</p> <p><b>Applications:</b></p> <ul style="list-style-type: none"> <li>• Marine</li> <li>• Pharmaceutical Equipment</li> <li>• Photographic Equipment</li> <li>• Chemical Equipment</li> <li>• Paper &amp; Textile Processing Equipment</li> </ul>

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**TPE**

**FIG. 6**
**TPE-V**

**FIG. 7**
**LSR**

**FIG. 8**
**TPE**

Thermoplastic Elastomer  
UNI color code = (CC)  
(see Page 11)

Permanently: -40°C up to +130°C

TPE thermoplastic elastomers combine the special highly elastic properties of the elastomers with the processing possibilities of thermoplasts. They are multi-purpose materials, in their spectrum suitable for a large range of application possibilities.

- Good abrasion resistance
- High tensile strength
- Excellent ozone and weathering resistance
- Good chemical resistance, particularly to aqueous liquids, oils and carbons
- Halogen free
- RoHS, WEEE-conform

**Chemical Resistance:**

- Aqueous solutions of acids
- Carbons
- Oils

**Severe Attack, Considerable Moisture Expansion with:**

- Servo steering liquids
- Cyclic alkane

**Fire Behavior:**

- UL 94: HB

**TPE-V**

Thermoplastic elastomer  
Fully cross-linked  
Color: natural

Permanently: -40°C up to +135°C

TPE-V thermoplastic rubber is a fully vulcanized polyolefin material. It is multi-purpose, suitable for a wide range of applications.

- Good abrasion resistance
- High tensile resistance
- Excellent ozone and weathering resistance
- Good chemical resistance, particularly to watery liquids, oils and hydrocarbons
- Excellent hot-air-aging process at temperatures up to +150°C
- Halogen free

**Chemical Resistance:**

- Alcohol
- Watery solutions of acids
- Hydrocarbons
- Oils

**Severe Corrosion, Serious Swelling with:**

- Power-assisted steering fluids
- Cyclohexane
- Dekalin
- Bromobenzene

**Fire Behavior:**

- UL 94; HB

**LSR**

Silicone  
Synthetic rubber  
Color: natural, transparent

Permanently: -60°C up to +200°C

Silicone – when appropriately processed – is harmless physiologically and with foods, as well as being aroma and taste neutral. Silicone has excellent insulation properties.

The material does not have any volatile constituents, prohibited, for example in enameling lines in the automotive industry and can therefore be employed there.

**Chemical Resistance:**

- Temperature briefly approx. -90°C up to +300°C
- Weathering influences – very good
- Ozone – good
- Oil – satisfactory

**Limited or Nonchemical Resistant:**

- Diverse oils
- Fuels
- Benzene
- Steam

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## Materials – Standard & Econolite Cord Grips

**Polyamide (PA)**



**Polystyrene (PS)**



**Nickel Plated Brass (NPB)**



**Stainless Steel (SS)  
1.4404 (316L)**



<p><b>Polyamide PA 6-3</b></p>	<p><b>Polystyrene (PS)</b></p>	<p><b>Nickel Plated Brass (NPB)</b></p> <p>Brass 2.0401 CUZn39Pb3</p>	<p><b>Stainless Steel 1.4404 (316L)</b></p> <p>X2CrNiMo 17-12-2 Metallurgical Composition: 17% Cr. 11% Ni. 2% Mo.</p>
<p><b>General:</b> Extremely hard amorphous thermoplastic which combines a multitude of mechanical and thermal qualities.</p> <ul style="list-style-type: none"> <li>• High impact strength</li> <li>• Good thermoforming resistance</li> <li>• High inherent stability</li> <li>• Physiologically recognized as safe</li> <li>• High pressure resistance</li> <li>• Good tracking resistance</li> </ul> <p><b>Excellent Chemical Resistance to:</b></p> <ul style="list-style-type: none"> <li>• Halogenated aliphates and aromas</li> <li>• Diluted mineral acids</li> <li>• Mineral oils</li> <li>• Ester</li> <li>• Saline solutions</li> <li>• Termite resistant</li> <li>• Seawater</li> </ul> <p><b>Conditional Chemical Resistance to:</b></p> <ul style="list-style-type: none"> <li>• Aldehydes</li> <li>• Ketones</li> <li>• Concentrated sulphuric acids</li> <li>• Hot water</li> <li>• Alcohol</li> </ul> <p><b>Applications:</b></p> <ul style="list-style-type: none"> <li>• Automotive</li> <li>• Construction</li> <li>• Mechanical Engineering</li> <li>• Communication</li> <li>• Agricultural Equipment</li> <li>• Household Goods</li> <li>• Health</li> <li>• Packaging</li> </ul>	<p><b>General:</b> Polystyrene is a strong plastic material created from ethylene and benzene that can be injected, extruded or blow molded, making it a very useful and versatile manufacturing material.</p> <p><b>Chemical Resistance:</b> Polystyrene shows good resistance to aqueous solutions of salts, acids and alkalis, insofar as strong oxidizing agents not involved. Many organic substances cause swelling dissolution or embrittlement, e.g. aromatic hydrocarbons, ethers, esters, aldehydes, ketones and halogenated hydrocarbons. Polystyrene is highly resistant to foodstuff and beverages; some species and essential oils cause incipient dissolution or embrittlement.</p> <p><b>Advantages of PS:</b></p> <ul style="list-style-type: none"> <li>• Good impact resistance</li> <li>• Food contact acceptable</li> <li>• Good heat resistance</li> <li>• General purpose</li> <li>• Good processability</li> </ul> <p><b>Disadvantages of PS:</b></p> <ul style="list-style-type: none"> <li>• Poor solvent resistance</li> <li>• Attacked by many chemicals</li> <li>• Subject to stress and environmental cracking</li> <li>• Poor thermal stability</li> </ul>	<p><b>General:</b> Brass is an alloy of copper with zinc. The proportions of zinc and copper can be varied to create a range of brasses with varying properties. CuZn39Pb3 is the principal alloy for metal cutting and particularly suited for machining.</p> <p><b>Corrosion Resistance:</b> Brass possesses good resistance to water, steam, various saline solutions and many organic liquids. Not resistant to oxidizing salts. Under certain conditions (water with high Cl content, low carbonic hardness and low flow rates) corrosion may be incurred in the form of zinc elution.</p> <p><b>Surface Refinement:</b> Due to their special mechanical and chemical properties, deposits of nickel are suitable for wear and corrosion protection.</p> <p><b>Applications:</b> Typical examples of applications are all kinds of form-turned pieces.</p>	<p><b>General:</b> Alloy 316L is a molybdenum bearing austenitic stainless steel with excellent corrosion resistance and strength properties. It also provides excellent fabricability and formability.</p> <p><b>Corrosion Resistance:</b> 316L Stainless Steel provides excellent resistance to pitting-type corrosion such as encountered in sea and coast environment. They also provide good resistance to chemicals and elevated temperature strength.</p> <p>They are particularly useful in one to five percent sulfuric acid solutions up to 150°F as well as acetic, phosphoric, formic and tartaric acids and in certain chloride, bromide, and iodide solutions.</p> <p><b>Applications:</b></p> <ul style="list-style-type: none"> <li>• Marine</li> <li>• Pharmaceutical Equipment</li> <li>• Photographic Equipment</li> <li>• Chemical Equipment</li> <li>• Paper &amp; Textile Processing</li> <li>• Equipment</li> </ul>

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**Stainless Steel (SS)  
1.4305 (303)**



**Ethylene-Propylene  
Caoutchouc (EPDM)**



**Thermoplastic  
Elastomer (TPE)**



**Soft Rubber (SR)**



**Stainless Steel 1.4305 (303)**

X8CrNiS 18-9

Metallurgical Composition:

0.10%C

18% Cr.

8% Ni.

**General:**

Alloy 303 is a non-magnetic, austenitic, free machining stainless steel with good mechanical and corrosion resistant properties.

**Corrosion Resistance:**

Good resistant to mildly corrosive atmospheres. Grade 303 should not be exposed to marine or similar environments, as these will result in rapid pitting corrosion.

Grade 303, like other common austenitic stainless steel, is subject to stress corrosion cracking in chloride containing environments above about 140°F. Good resistance to oxidation at temperatures up to 1700°F.

**Applications:**

- Household and food industries
- Medical and pharmaceutical parts
- Cord grips
- Nuts & bolts
- Bushings & shafts
- Aircraft fittings
- Electrical switchgear components

**Ethylene-Propylene  
Caoutchouc (EPDM)**

**General:**

EPDM Ethylene propylene Diene Monomer, a synthetic rubber is an elastomer which is characterized by a wide range of applications.

- Good heat and aging resistance
- Excellent ozone and weathering resistance
- Very good electrical isolation ability
- Very good resistance to UV exposure
- Good heat resistance
- Halogen free
- Phosphate free
- Silicone free

**Chemical Resistance:**

- Hot water and superheated steam to +150°C
- Brake fluids on Glycol base to +150°C
- Many organic and inorganic acids
- Detergent, soda and caustic potash solutions
- Silicone oils and greases
- Many polar solvents (alcohols, ketone, ester)

**Limited or Nonchemical Resistance:**

- Petroleum products (oils, fats, fuels)

**Fire Behavior:**

- UL 94; HB

**Thermoplastic Elastomer (TPE)**

**General:**

TPE Thermoplastic Elastomers combine the special elastic properties of elastomers with the processing potential of thermoplastics. They are multipurpose materials suited to a wide range of applications. TPE has high resistance to environmental conditions and high chemical resistance to many media.

- Good abrasion resistance
- High tensile strength
- UV resistant
- Outstanding ozone and weather resistance
- Halogen free
- Plasticizer free

**Chemical Resistance:**

- Alcohols
- Aqueous acid solutions
- Oils
- Short chain hydrocarbons
- Ethyl alcohol
- Brake fluid
- Diethyl ether
- Acetic acids
- Antifreeze compounds
- Lithium lubrication grease
- Methyl alcohol
- Nitroethane
- Hydrochloric acid
- Water

**Severe Corrosion/Swelling with:**

- Cyclic alkanes
- Servo steering fluids

**Soft Rubber (SR)**

**General:**

Styrene-Butadiene or Styrene-Butadiene-Rubber is a synthetic rubber copolymer consisting of styrene and butadiene. It has good abrasion resistance and good aging stability when protected by additives.

- Good physical properties
- Good notched impact strength
- Good abrasion resistance
- Very good dielectric strength

**Chemical Resistance:**

- Most moderate chemicals, wet or dry
- Organic acids
- Alcohols
- Ketones
- Aldehydes
- Mineral oil
- Ethanol
- Carbon dioxide
- Sodium chloride
- Soap and detergent solutions

**Limited or Nonchemical Resistance:**

- Weather, UV, Ozone
- Strong acids
- Fats, Oils and Greases
- Most hydrocarbons

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## Torque Recommendations 1 lbf-in. (Nm)

The listed torque values are for reference only. Due to wide range of cable insulation materials used and the varying degrees of hardness between material types, torque value for Dome Nuts can vary depending on the cable jacket's characteristics. We recommend that applied torques be determined empirically by testing the actual cable and Cord Grip used.

### Cord Grips with Metric External Thread

External Thread Sizes	Non-Metallic Cord Grips		Metallic Cord Grips	
	Dome Nut	External Thread/Locknut	Dome Nut	External Thread/Locknut
M6	–	–	18.0 (2.0)	18.0 (2.0)
M8	–	–	35.0 (4.0)	35.0 (4.0)
M10	–	–	53.0 (6.0)	53.0 (6.0)
M12	35.0 (4.0)	35.0 (4.0)	53.0 (6.0)	53.0 (6.0)
M16	53.0 (6.0)	53.0 (6.0)	71.0 (8.0)	71.0 (8.0)
M20	71.0 (8.0)	71.0 (8.0)	88.0 (10.0)	88.0 (10.0)
M25	88.0 (10.0)	88.0 (10.0)	88.0 (10.0)	88.0 (10.0)
M32	88.0 (10.0)	88.0 (10.0)	132.0 (15.0)	132.0 (15.0)
M40	88.0 (10.0)	88.0 (10.0)	177.0 (20.0)	177.0 (20.0)
M50	88.0 (10.0)	88.0 (10.0)	177.0 (20.0)	177.0 (20.0)
M63	88.0 (10.0)	88.0 (10.0)	177.0 (20.0)	177.0 (20.0)
M75	–	–	354.0 (40.0)	354.0 (40.0)

### Cord Grips with PG External Thread

External Thread Sizes	Non-Metallic Cord Grips		Metallic Cord Grips	
	Dome Nut	External Thread/Locknut	Dome Nut	External Thread/Locknut
PG7	22.0 (2.5)	22.0 (2.5)	55.0 (6.25)	55.0 (6.25)
PG9	33.0 (3.75)	33.0 (3.75)	55.0 (6.25)	55.0 (6.25)
PG11	33.0 (3.75)	33.0 (3.75)	55.0 (6.25)	55.0 (6.25)
PG13.5	33.0 (3.75)	33.0 (3.75)	55.0 (6.25)	55.0 (6.25)
PG16	44.0 (5.0)	44.0 (5.0)	66.0 (7.5)	66.0 (7.5)
PG21	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
PG29	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
PG36	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
PG42	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
PG48	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)

### Cord Grips with NPT External Thread

External Thread Sizes	Non-Metallic Cord Grips		Metallic Cord Grips	
	Dome Nut	External Thread/Locknut	Dome Nut	External Thread/Locknut
NPT3/8"	33.0 (3.75)	33.0 (2.5)	55.0 (6.25)	55.0 (6.25)
NPT1/2"	44.0 (5.0)	44.0 (5.0)	66.0 (7.5)	66.0 (7.5)
NPT3/4"	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
NPT1"	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
NPT1-1/4"	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
NPT1-1/2"	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)
NPT2"	66.0 (7.5)	66.0 (7.5)	88.0 (10.0)	88.0 (10.0)

## External Thread Dimensions

CONTA-CLIP Cord Grips are available in three different External Thread types.

- Metric Thread
- PG Thread
- NPT Thread

### Metric Thread

Size	Outside Diameter	Pitch	Drill Sizes	Clearance Hole Diameter
M6x0.75	6.0mm	0.75mm	5.10mm	6.0 (+0.3mm)
M8x1	8.0mm	1.00mm	6.90mm	8.0 (+0.3mm)
M10x1	10.0mm	1.00mm	8.90mm	10.0 (+0.3mm)
M10x1.5	10.0mm	1.50mm	8.90mm	10.0 (+0.3mm)
M12x1.5	12.0mm	1.50mm	10.30mm	12.0 (+0.3mm)
M16x1.5	16.0mm	1.50mm	14.30mm	16.0 (+0.3mm)
M18x1.5	18.0mm	1.50mm	16.30mm	18.0 (+0.3mm)
M20x1.5	20.0mm	1.50mm	18.30mm	20.0 (+0.3mm)
M24x1.5	24.0mm	1.50mm	22.30mm	24.0 (+0.3mm)
M25x1.5	25.0mm	1.50mm	23.30mm	25.0 (+0.3mm)
M30x2	30.0mm	2.00mm	27.80mm	30.0 (+0.3mm)
M32x1.5	32.0mm	1.50mm	30.30mm	30.0 (+0.3mm)
M36x2	36.0mm	2.00mm	33.80mm	36.0 (+0.3mm)
M40x1.5	40.0mm	1.50mm	38.30mm	40.0 (+0.3mm)
M45x2	45.0mm	2.00mm	42.80mm	45.0 (+0.3mm)
M50x1.5	50.0mm	1.50mm	48.30mm	50.0 (+0.3mm)
M56x2	56.0mm	2.00mm	53.80mm	56.0 (+0.3mm)
M63x1.5	63.0mm	1.50mm	61.30mm	63.0 (+0.3mm)
M72x2	72.0mm	2.00mm	69.80mm	72.0 (+0.3mm)
M75x1.5	75.0mm	1.50mm	73.30mm	75.0 (+0.3mm)
M80x2	80.0mm	2.00mm	77.80mm	80.0 (+0.3mm)
M105x2	105.0mm	2.00mm	102.80mm	105.0 (+0.3mm)

### PG Thread

Size	Outside Diameter	Pitch	Drill Sizes	Clearance Hole Diameter
PG7	12.5mm	1.270mm	11.20mm	12.5 (+0.2mm)
PG9	15.2mm	1.410mm	13.80mm	15.2 (+0.2mm)
PG11	18.6mm	1.410mm	17.20mm	18.5 (+0.2mm)
PG13.5	20.4mm	1.410mm	19.00mm	20.5 (+0.2mm)
PG16	22.5mm	1.410mm	21.10mm	22.5 (+0.2mm)
PG21	28.3mm	1.588mm	26.70mm	28.5 (+0.2mm)
PG29	37.0mm	1.588mm	35.40mm	37.0 (+0.2mm)
PG36	47.0mm	1.588mm	45.40mm	47.0 (+0.2mm)
PG42	54.0mm	1.588mm	52.40mm	54.0 (+0.2mm)
PG48	59.3mm	1.588mm	57.70mm	59.5 (+0.2mm)

### NPT Thread

Size	Outside Diameter	Pitch	Drill Sizes	Clearance Hole Diameter
NPT1/4"	13.716mm	1.411mm	11.10mm	–
NPT3/8"	17.145mm	1.411mm	14.50mm	–
NPT1/2"	21.336mm	1.814mm	17.90mm	–
NPT3/4"	26.670mm	1.814mm	23.20mm	–
NPT1"	33.401mm	2.209mm	29.20mm	–
NPT1-1/4"	42.164mm	2.209mm	37.90mm	–
NPT1-1/2"	48.260mm	2.209mm	43.90mm	–
NPT2"	60.325mm	2.209mm	55.90mm	–

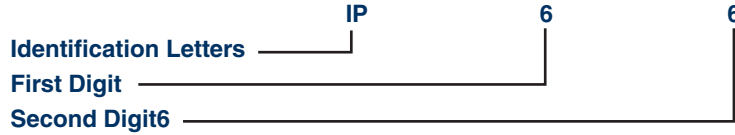
The European standard EN50262 for Metric Cord Grips for electrical installation came into force on 01.01.2000 and the standard VDE 0619 which included the standards DIN 46319 for metric sizes and DIN 46320 for PG sizes were withdrawn. The new standard is valid in all European Community countries and countries not belonging to the European Community and cooperating in CENELEC (European Committee for Electrotechnical standardization) will accept the standard.

Cord Grips with PG External Thread will be available for the years to come, but we recommend the use of Cord Grips with Metric External Thread for all equipment intended to be exported into the European community.

## IP Ratings per EN60529/IEC 529

IP Ratings are defined by two numerals

Example:



First Digit: Protection Against Ingress of Foreign Objects			Second Digit: Protection Against Ingress of Water	
1st Digit	Protection of persons against access to hazardous parts	Protection of equipment against ingress of solid foreign objects	2nd Digit	Protection of equipment against ingress of water
0	No protection	No protection	0	No protection
1	Protection against touch by hand	Protection against solid foreign objects with a diameter of 50mm or larger	1	Protected against vertically falling water drops
2	Protection against touch by finger	Protection against solid foreign objects with a diameter of 12.5mm or larger	2	Protected against vertically falling drops of water up to 15° from the vertical
3	Protection against touching with tools, wires, etc., with a diameter of 2.5mm or larger	Protection against solid foreign objects with a diameter of 2.5mm or larger	3	Protected against water sprays up to 60° from the vertical
4	Protection against touching with tools, wires, etc., with a diameter of 1.0mm or larger	Protection against solid foreign objects with a diameter of 1.0mm or larger	4	Protection against splashed water from any direction  Limited ingress permitted
5	Protection against touching with tools, wires, etc., with a diameter of 1.0mm or larger	Dust protected. Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation or to impair safety	5	Protected against low pressure water jets.  Water, hosed at low pressure shall have no harmful effect.
6	Protection against touching with tools, wires, etc., with a diameter of 1.0mm or larger	Dust tight. No ingress of dust.	6	Protected against powerful jets of water.  Water, hosed at high pressure from all directions shall have no harmful effect.
			7	Protected against the effects of temporary immersion in water under standardized pressure and time conditions
			8	Protected against the effects of long submersion in water



## NEMA to IP Cross Reference

This cross reference is an approximation of NEMA to International Protection Ratings (IP) and is for reference purposes only. These correlations should not be interpreted to imply that complete qualifications, published by the various regulatory bodies, are identical to one another.

Protection Ratings To EN 60529/IEC 529	NEMA RATINGS									
	1	2	3	3R	4	4X	5	6	12	13
IP00	•	•	•	•	•	•	•	•	•	•
IP10	•	•	•	•	•	•	•	•	•	•
IP11		•	•	•	•	•	•	•	•	•
IP20			•	•	•	•	•	•	•	•
IP21			•	•	•	•	•	•	•	•
IP22			•	•	•	•	•	•	•	•
IP23			•	•	•	•	•	•	•	•
IP30			•	•	•	•	•	•	•	•
IP31			•	•	•	•	•	•	•	•
IP32			•	•	•	•	•	•	•	•
IP33			•		•	•	•	•	•	•
IP40			•		•	•	•	•	•	•
IP41			•		•	•	•	•	•	•
IP42			•		•	•	•	•	•	•
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IP53			•		•	•		•	•	•
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IP55			•		•	•		•		
IP56			•		•	•		•		
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18499.7	167	18602.6	205	19015.6	82	19161.6	47	19221.4	119
18500.6	167	18603.6	205	19016.6	82	19162.6	47	19221.5	119
18500.7	167	18604.6	205	19017.6	83	19163.6	47	19221.6	119
18510.4	172	18605.6	205	19018.6	83	19164.6	47	19225.0	118
18510.5	172	18606.6	205	19019.6	83	19165.6	46	19225.1	118
18510.6	173	18607.6	205	19020.6	83	19200.0	118	19225.4	119
18511.4	172	18610.6	203	19021.6	83	19200.1	118	19225.5	119
18511.5	172	18611.6	203	19022.6	83	19200.4	119	19225.6	119
18511.6	173	18612.6	203	19023.6	83	19200.5	119	19227.0	118
18512.4	172	18613.6	203	19037.6	86	19200.6	119	19227.1	118
18512.5	172	18614.6	203	19040.6	86	19201.4	119	19227.4	119
18512.6	173	18615.6	199	19041.6	86	19201.5	119	19227.5	119
18513.4	172	18616.6	205	19044.6	86	19201.6	119	19227.6	119
18513.5	172	18617.6	203	19045.6	86	19203.4	119	19230.0	120
18513.6	173	18620.6	199	19046.6	86	19203.5	119	19230.1	120
18514.4	172	18621.6	201	19049.6	86	19203.6	119	19230.4	121
18514.5	172	18622.6	201	19050.6	86	19204.4	119	19230.5	121
18514.6	173	18623.6	199	19051.6	86	19204.5	119	19230.6	121
18515.4	172	18624.6	201	19052.6	86	19204.6	119	19230.7	121
18515.5	172	18625.6	199	19055.6	86	19205.4	119	19231.0	120
18515.6	173	18626.6	199	19056.6	86	19205.5	119	19231.1	120
18516.4	172	18628.6	199	19057.6	86	19205.6	119	19231.4	121
18516.5	172	18630.6	201	19060.6	86	19207.4	119	19231.5	121
18516.6	173	18631.6	199	19061.6	86	19207.5	119	19231.6	121
18517.4	172	18632.6	199	19062.6	86	19207.6	119	19231.7	121
18517.5	172	18633.6	199	19063.6	86	19208.4	119	19232.0	120
18517.6	173	18635.6	201	19064.6	86	19208.5	119	19232.1	120
18518.4	172	18636.6	199	19065.6	86	19208.6	119	19232.4	121
18518.5	172	18636.6	201	19072.6	87	19209.0	118	19232.5	121
18518.6	173	18638.6	201	19075.6	87	19209.1	118	19232.6	121
18519.4	172	18639.6	207	19076.6	87	19209.4	119	19232.7	121
18519.5	172	18640.6	207	19079.6	87	19209.5	119	19233.0	120
18519.6	173	18641.6	209	19080.6	87	19209.6	119	19233.1	120
18520.4	172	18642.6	207	19081.6	87	19209.7	119	19233.4	121
18520.5	172	18643.6	199	19084.6	87	19210.0	118	19233.5	121
18520.6	173	18643.6	207	19085.6	87	19210.1	118	19233.6	121
18521.4	172	18655.6	219	19086.6	87	19210.4	119	19233.7	121
18521.5	172	18660.9	307	19087.6	87	19210.5	119	19234.0	120
18521.6	173	18661.9	307	19090.6	87	19210.6	119	19234.1	120
18522.6	173	18662.9	307	19091.6	87	19210.7	119	19234.4	121
18523.6	173	18663.9	307	19092.6	87	19211.0	118	19234.5	121
18524.6	173	18664.9	307	19095.6	87	19211.1	118	19234.6	121
18525.6	173	18665.9	307	19096.6	87	19211.4	119	19234.7	121
18526.6	173	18666.9	307	19097.6	87	19211.5	119	19235.0	120
18527.6	175	18667.9	307	19098.6	87	19211.6	119	19235.1	120
18528.6	175	18668.9	307	19099.6	87	19211.7	119	19235.4	121
18529.6	175	18669.9	307	19100.6	87	19215.0	118	19235.5	121
18530.6	175	18670.9	307	19140.6	46	19215.1	118	19235.6	121
18531.6	175	18671.9	307	19141.6	46	19215.4	119	19235.7	121
18532.6	175	18672.9	307	19142.6	46	19215.5	119	19236.0	120
18533.6	175	18673.9	307	19145.6	47	19215.6	119	19236.1	120
18534.6	175	18674.9	307	19146.6	47	19215.7	119	19236.4	121
18535.6	175	18675.9	307	19147.6	47	19217.0	118	19236.5	121
18536.6	175	18676.9	307	19148.6	47	19217.1	118	19236.6	121
18537.6	175	19001.6	81	19149.6	47	19217.4	119	19236.7	121
18538.6	175	19002.6	81	19150.6	47	19217.5	119	19237.0	120
18539.6	175	19003.6	81	19151.6	47	19217.6	119	19237.1	120
18540.6	175	19004.6	81	19152.6	47	19217.7	119	19237.4	121
18550.6	193	19005.6	81	19153.6	47	19218.0	118	19237.5	121
18551.6	193	19006.6	81	19154.6	47	19218.1	118	19237.6	121
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19239.4	121	19261.7	121	19279.7	123	19294.7	123	19309.7	123
19239.5	121	19265.0	120	19281.0	122	19295.0	122	19310.0	122
19239.6	121	19265.1	120	19281.1	122	19295.1	122	19310.1	122
19239.7	121	19265.4	121	19281.4	123	19295.4	123	19310.4	123
19241.0	120	19265.5	121	19281.5	123	19295.5	123	19310.5	123
19241.1	120	19265.6	121	19281.6	123	19295.6	123	19310.6	123
19241.4	121	19265.7	121	19281.7	123	19295.7	123	19310.7	123
19241.5	121	19266.0	120	19283.0	122	19296.0	122	19312.0	122
19241.6	121	19266.1	120	19283.1	122	19296.1	122	19312.1	122
19241.7	121	19266.4	121	19283.4	123	19296.4	123	19312.4	123
19243.0	120	19266.5	121	19283.5	123	19296.5	123	19312.5	123
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19243.5	121	19267.0	120	19284.0	122	19297.0	122	19313.0	122
19243.6	121	19267.1	120	19284.1	122	19297.1	122	19313.1	122
19243.7	121	19267.4	121	19284.4	123	19297.4	123	19313.4	123
19244.0	120	19267.5	121	19284.5	123	19297.5	123	19313.5	123
19244.1	120	19267.6	121	19284.6	123	19297.6	123	19313.6	123
19244.4	121	19267.7	121	19284.7	123	19297.7	123	19313.7	123
19244.5	121	19268.0	122	19285.0	122	19298.0	122	19314.0	124
19244.6	121	19268.1	122	19285.1	122	19298.1	122	19314.1	124
19244.7	121	19268.4	123	19285.4	123	19298.4	123	19314.4	125
19246.0	120	19268.5	123	19285.5	123	19298.5	123	19314.5	125
19246.1	120	19268.6	123	19285.6	123	19298.6	123	19314.6	125
19246.4	121	19268.7	123	19285.7	123	19298.7	123	19314.7	125
19246.5	121	19273.0	122	19286.0	122	19301.0	122	19323.0	124
19246.6	121	19273.1	122	19286.1	122	19301.1	122	19323.1	124
19246.7	121	19273.4	123	19286.4	123	19301.4	123	19323.4	125
19247.0	120	19273.5	123	19286.5	123	19301.5	123	19323.5	125
19247.1	120	19273.6	123	19286.6	123	19301.6	123	19323.6	125
19247.4	121	19273.7	123	19286.7	123	19301.7	123	19323.7	125
19247.5	121	19274.0	122	19287.0	122	19304.0	122	19324.0	124
19247.6	121	19274.1	122	19287.1	122	19304.1	122	19324.1	124
19247.7	121	19274.4	123	19287.4	123	19304.4	123	19324.4	125
19248.0	120	19274.5	123	19287.5	123	19304.5	123	19324.5	125
19248.1	120	19274.6	123	19287.6	123	19304.6	123	19324.6	125
19248.4	121	19274.7	123	19287.7	123	19304.7	123	19324.7	125
19248.5	121	19275.0	122	19288.0	124	19305.0	122	19325.0	124
19248.6	121	19275.1	122	19288.1	124	19305.1	122	19325.1	124
19249.0	120	19275.4	123	19288.4	125	19305.4	123	19325.4	125
19249.1	120	19275.5	123	19288.5	125	19305.5	123	19325.5	125
19249.4	121	19275.6	123	19288.6	125	19305.6	123	19325.6	125
19249.5	121	19275.7	123	19288.7	125	19305.7	123	19325.7	125
19249.6	121	19276.0	122	19289.0	124	19306.0	122	19326.0	124
19250.0	120	19276.1	122	19289.1	124	19306.1	122	19326.1	124
19250.1	120	19276.4	123	19289.4	125	19306.4	123	19326.4	125
19250.4	121	19276.5	123	19289.5	125	19306.5	123	19326.5	125
19250.5	121	19276.6	123	19289.6	125	19306.6	123	19326.6	125
19250.6	121	19276.7	123	19289.7	125	19306.7	123	19326.7	125
19255.0	120	19277.0	122	19290.0	120	19307.0	122	19327.0	124
19255.1	120	19277.1	122	19290.1	120	19307.1	122	19327.1	124
19255.4	121	19277.4	123	19290.4	121	19307.4	123	19327.4	125
19255.5	121	19277.5	123	19290.5	121	19307.5	123	19327.5	125
19255.6	121	19277.6	123	19290.6	121	19307.6	123	19327.6	125
19255.7	121	19277.7	123	19290.7	121	19307.7	123	19327.7	125
19260.0	120	19278.0	122	19293.0	122	19308.0	122	19328.0	124
19260.1	120	19278.1	122	19293.1	122	19308.1	122	19328.1	124
19260.4	121	19278.4	123	19293.4	123	19308.4	123	19328.4	125
19260.5	121	19278.5	123	19293.5	123	19308.5	123	19328.5	125
19260.6	121	19278.6	123	19293.6	123	19308.6	123	19328.6	125
19260.7	121	19278.7	123	19293.7	123	19308.7	123	19328.7	125
19261.0	120	19279.0	122	19294.0	122	19309.0	122	19329.0	124
19261.1	120	19279.1	122	19294.1	122	19309.1	122	19329.1	124
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19403.1	126	19414.1	128	19427.1	128	19438.1	128	19451.1	130
19403.4	127	19414.4	129	19427.4	129	19438.4	129	19451.4	131
19403.5	127	19414.5	129	19427.5	129	19438.5	129	19451.5	131
19403.6	127	19414.6	129	19427.6	129	19438.6	129	19451.6	131
19403.7	127	19414.7	129	19427.7	129	19438.7	129	19451.7	131
19404.0	126	19416.0	128	19428.0	128	19439.0	128	19452.0	130
19404.1	126	19416.1	128	19428.1	128	19439.1	128	19452.1	130
19404.4	127	19416.4	129	19428.4	129	19439.4	129	19452.4	131
19404.5	127	19416.5	129	19428.5	129	19439.5	129	19452.5	131
19404.6	127	19416.6	129	19428.6	129	19439.6	129	19452.6	131
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19405.0	126	19417.0	128	19429.0	128	19441.0	128	19453.0	130
19405.1	126	19417.1	128	19429.1	128	19441.1	128	19453.1	130
19405.4	127	19417.4	129	19429.4	129	19441.4	129	19453.4	131
19405.5	127	19417.5	129	19429.5	129	19441.5	129	19453.5	131
19405.6	127	19417.6	129	19429.6	129	19441.6	129	19453.6	131
19405.7	127	19417.7	129	19429.7	129	19441.7	129	19453.7	131
19406.0	126	19418.0	128	19430.0	128	19443.0	128	19463.0	130
19406.1	126	19418.1	128	19430.1	128	19443.1	128	19463.1	130
19406.4	127	19418.4	129	19430.4	129	19443.4	129	19463.4	131
19406.5	127	19418.5	129	19430.5	129	19443.5	129	19463.5	131
19406.6	127	19418.6	129	19430.6	129	19443.6	129	19463.6	131
19406.7	127	19418.7	129	19430.7	129	19443.7	129	19463.7	131
19407.0	126	19419.0	128	19431.0	128	19444.0	130	19464.0	130
19407.1	126	19419.1	128	19431.1	128	19444.1	130	19464.1	130
19407.4	127	19419.4	129	19431.4	129	19444.4	131	19464.4	131
19407.5	127	19419.5	129	19431.5	129	19444.5	131	19464.5	131
19407.6	127	19419.6	129	19431.6	129	19444.6	131	19464.6	131
19407.7	127	19419.7	129	19431.7	129	19444.7	131	19464.7	131
19408.0	126	19420.0	128	19432.0	128	19445.0	130	19465.0	130
19408.1	126	19420.1	128	19432.1	128	19445.1	130	19465.1	130
19408.4	127	19420.4	129	19432.4	129	19445.4	131	19465.4	131
19408.5	127	19420.5	129	19432.5	129	19445.5	131	19465.5	131
19408.6	127	19420.6	129	19432.6	129	19445.6	131	19465.6	131
19408.7	127	19420.7	129	19432.7	129	19445.7	131	19465.7	131
19409.0	128	19421.0	128	19433.0	128	19446.0	130	19466.0	130
19409.1	128	19421.1	128	19433.1	128	19446.1	130	19466.1	130
19409.4	129	19421.4	129	19433.4	129	19446.4	131	19466.4	131
19409.5	129	19421.5	129	19433.5	129	19446.5	131	19466.5	131
19409.6	129	19421.6	129	19433.6	129	19446.6	131	19466.6	131
19409.7	129	19421.7	129	19433.7	129	19446.7	131	19466.7	131
19410.0	128	19423.0	128	19434.0	128	19447.0	130	19467.0	130
19410.1	128	19423.1	128	19434.1	128	19447.1	130	19467.1	130
19410.4	129	19423.4	129	19434.4	129	19447.4	131	19467.4	131
19410.5	129	19423.5	129	19434.5	129	19447.5	131	19467.5	131
19410.6	129	19423.6	129	19434.6	129	19447.6	131	19467.6	131
19410.7	129	19423.7	129	19434.7	129	19447.7	131	19467.7	131
19411.0	128	19424.0	128	19435.0	128	19448.0	130	19468.0	130
19411.1	128	19424.1	128	19435.1	128	19448.1	130	19468.1	130
19411.4	129	19424.4	129	19435.4	129	19448.4	131	19468.4	131
19411.5	129	19424.5	129	19435.5	129	19448.5	131	19468.5	131
19411.6	129	19424.6	129	19435.6	129	19448.6	131	19468.6	131
19411.7	129	19424.7	129	19435.7	129	19448.7	131	19468.7	131
19412.0	128	19425.0	128	19436.0	128	19449.0	130	19469.0	130
19412.1	128	19425.1	128	19436.1	128	19449.1	130	19469.1	130
19412.4	129	19425.4	129	19436.4	129	19449.4	131	19469.4	131
19412.5	129	19425.5	129	19436.5	129	19449.5	131	19469.5	131
19412.6	129	19425.6	129	19436.6	129	19449.6	131	19469.6	131
19412.7	129	19425.7	129	19436.7	129	19449.7	131	19469.7	131
19413.0	128	19426.0	128	19437.0	128	19450.0	130	19470.0	130
19413.1	128	19426.1	128	19437.1	128	19450.1	130	19470.1	130
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19471.5	131	19492.6	133	19527.0	152	19539.0	152	19551.0	152
19471.6	131	19493.6	133	19527.1	152	19539.1	152	19551.1	152
19471.7	131	19494.6	133	19527.4	153	19539.4	153	19551.4	153
19472.0	130	19495.6	133	19527.5	153	19539.5	153	19551.5	153
19472.1	130	19496.6	133	19527.6	153	19539.6	153	19551.6	153
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19472.7	131	19500.6	133	19528.4	153	19540.4	153	19553.6	153
19473.0	130	19501.6	133	19528.5	153	19540.5	153	19553.7	153
19473.1	130	19502.6	133	19528.6	153	19540.6	153	19554.6	153
19473.4	131	19503.6	133	19528.7	153	19540.7	153	19554.7	153
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19473.6	131	19505.6	133	19529.1	152	19541.1	152	19555.7	153
19473.7	131	19506.6	133	19529.4	153	19541.4	153	19556.6	153
19474.0	130	19510.4	148	19529.5	153	19541.5	153	19556.7	153
19474.1	130	19510.5	148	19529.6	153	19541.6	153	19557.6	153
19474.4	131	19510.6	149	19529.7	153	19541.7	153	19557.7	153
19474.5	131	19511.4	148	19530.0	152	19542.0	152	19558.6	153
19474.6	131	19511.5	148	19530.1	152	19542.1	152	19558.7	153
19474.7	131	19511.6	149	19530.4	153	19542.4	153	19559.6	153
19475.0	130	19512.6	149	19530.5	153	19542.5	153	19559.7	153
19475.1	130	19513.6	149	19530.6	153	19542.6	153	19560.6	153
19475.4	131	19514.6	149	19530.7	153	19542.7	153	19560.7	153
19475.5	131	19520.0	152	19532.0	152	19543.0	152	19561.6	153
19475.6	131	19520.1	152	19532.1	152	19543.1	152	19561.7	153
19475.7	131	19520.4	153	19532.4	153	19543.4	153	19562.6	153
19476.0	130	19520.5	153	19532.5	153	19543.5	153	19562.7	153
19476.1	130	19520.6	153	19532.6	153	19543.6	153	19565.4	154
19476.4	131	19520.7	153	19532.7	153	19543.7	153	19565.5	154
19476.5	131	19521.0	152	19533.0	152	19545.0	152	19565.6	155
19476.6	131	19521.1	152	19533.1	152	19545.1	152	19566.4	154
19476.7	131	19521.4	153	19533.4	153	19545.4	153	19566.5	154
19477.0	130	19521.5	153	19533.5	153	19545.5	153	19566.6	155
19477.1	130	19521.6	153	19533.6	153	19545.6	153	19567.6	155
19477.4	131	19521.7	153	19533.7	153	19545.7	153	19568.6	155
19477.5	131	19522.0	152	19534.0	152	19546.0	152	19569.6	155
19477.6	131	19522.1	152	19534.1	152	19546.1	152	19570.6	155
19477.7	131	19522.4	153	19534.4	153	19546.4	153	19571.6	155
19478.0	130	19522.5	153	19534.5	153	19546.5	153	19572.6	155
19478.1	130	19522.6	153	19534.6	153	19546.6	153	19573.6	155
19478.4	131	19522.7	153	19534.7	153	19546.7	153	19574.6	155
19478.5	131	19523.0	152	19535.0	152	19547.0	152	19575.6	155
19478.6	131	19523.1	152	19535.1	152	19547.1	152	19577.6	155
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19479.1	130	19523.6	153	19535.6	153	19547.6	153	19580.6	155
19479.4	131	19523.7	153	19535.7	153	19547.7	153	19581.6	155
19479.5	131	19524.0	152	19536.0	152	19548.0	152	19582.6	155
19479.6	131	19524.1	152	19536.1	152	19548.1	152	19583.6	155
19479.7	131	19524.4	153	19536.4	153	19548.4	153	19584.6	155
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19480.1	132	19524.6	153	19536.6	153	19548.6	153	19586.6	155
19480.4	133	19524.7	153	19536.7	153	19548.7	153	19587.6	155
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19480.6	133	19525.1	152	19537.1	152	19549.1	152	19590.6	155
19480.7	133	19525.4	153	19537.4	153	19549.4	153	19591.6	155
19486.6	133	19525.5	153	19537.5	153	19549.5	153	19592.6	155
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20965.6	93	21101.5	165	21120.1	166	21155.7	165	21193.7	171
20965.7	93	21102.0	164	21120.4	167	21156.6	165	21195.6	171
20966.6	93	21102.1	164	21120.5	167	21156.7	165	21195.7	171
20966.7	93	21102.4	165	21131.0	168	21157.6	165	21261.0	122
20967.6	93	21102.5	165	21131.1	168	21157.7	165	21261.1	122
20967.7	93	21103.0	164	21131.4	169	21158.6	165	21261.4	123
20968.6	93	21103.1	164	21131.5	169	21158.7	165	21261.5	123
20968.7	93	21103.4	165	21132.0	168	21159.6	165	21261.6	123
20969.6	93	21103.5	165	21132.1	168	21159.7	165	21261.7	123
20969.7	93	21104.0	164	21132.4	169	21160.6	165	21283.0	122
20970.6	93	21104.1	164	21132.5	169	21160.7	165	21283.1	122
20970.7	93	21104.4	165	21133.0	168	21163.6	167	21283.4	123
20971.6	93	21104.5	165	21133.1	168	21163.7	167	21283.5	123
20971.7	93	21105.0	164	21133.4	169	21164.6	167	21283.6	123
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21305.4	119	21316.4	119	21327.6	119	21343.6	121	21358.6	123
21305.5	119	21316.5	119	21327.7	119	21343.7	121	21358.7	123
21305.6	119	21316.6	119	21328.0	118	21344.0	120	21360.0	122
21305.7	119	21317.0	118	21328.1	118	21344.1	120	21360.1	122
21306.0	118	21317.1	118	21328.4	119	21344.4	121	21360.4	123
21306.1	118	21317.4	119	21328.5	119	21344.5	121	21360.5	123
21306.4	119	21317.5	119	21328.6	119	21344.6	121	21360.6	123
21306.5	119	21317.6	119	21328.7	119	21344.7	121	21360.7	123
21306.6	119	21318.0	118	21329.0	118	21345.0	120	21362.0	122
21306.7	119	21318.1	118	21329.1	118	21345.1	120	21362.1	122
21307.0	118	21318.4	119	21329.4	119	21345.4	121	21362.4	123
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21307.6	119	21319.0	118	21330.0	118	21346.0	120	21364.0	122
21307.7	119	21319.1	118	21330.1	118	21346.1	120	21364.1	122
21308.0	118	21319.4	119	21330.4	119	21346.4	121	21364.4	123
21308.1	118	21319.5	119	21330.5	119	21346.5	121	21364.5	123
21308.4	119	21319.6	119	21330.6	119	21346.6	121	21364.6	123
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21309.0	118	21320.4	119	21331.4	119	21347.4	121	21365.4	123
21309.1	118	21320.5	119	21331.5	119	21347.5	121	21365.5	123
21309.4	119	21320.6	119	21331.6	119	21347.6	121	21365.6	123
21309.5	119	21320.7	119	21331.7	119	21347.7	121	21365.7	123
21309.6	119	21321.0	118	21332.0	120	21348.0	120	21366.0	122
21309.7	119	21321.1	118	21332.1	120	21348.1	120	21366.1	122
21310.0	118	21321.4	119	21332.4	121	21348.4	121	21366.4	123
21310.1	118	21321.5	119	21332.5	121	21348.5	121	21366.5	123
21310.4	119	21321.6	119	21332.6	121	21348.6	121	21366.6	123
21310.5	119	21321.7	119	21332.7	121	21348.7	121	21366.7	123
21310.6	119	21322.0	118	21333.0	120	21349.0	120	21367.0	122
21310.7	119	21322.1	118	21333.1	120	21349.1	120	21367.1	122
21311.0	118	21322.4	119	21333.4	121	21349.4	121	21367.4	123
21311.1	118	21322.5	119	21333.5	121	21349.5	121	21367.5	123
21311.4	119	21322.6	119	21333.6	121	21349.6	121	21367.6	123
21311.5	119	21322.7	119	21333.7	121	21349.7	121	21367.7	123
21311.6	119	21323.0	118	21335.0	124	21350.0	120	21368.0	122
21311.7	119	21323.1	118	21335.1	124	21350.1	120	21368.1	122
21312.0	118	21323.4	119	21335.4	125	21350.4	121	21368.4	123
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21312.6	119	21324.0	118	21340.0	120	21351.0	120	21369.0	122
21312.7	119	21324.1	118	21340.1	120	21351.1	120	21369.1	122
21313.0	118	21324.4	119	21340.4	121	21351.4	121	21369.4	123
21313.1	118	21324.5	119	21340.5	121	21351.5	121	21369.5	123
21313.4	119	21324.6	119	21340.6	121	21351.6	121	21369.6	123
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21313.7	119	21325.1	118	21341.1	120	21353.1	120	21370.1	122
21314.0	118	21325.4	119	21341.4	121	21353.4	121	21370.4	123
21314.1	118	21325.5	119	21341.5	121	21353.5	121	21370.5	123
21314.4	119	21325.6	119	21341.6	121	21353.6	121	21370.6	123
21314.5	119	21325.7	119	21341.7	121	21353.7	121	21370.7	123
21314.6	119	21326.0	118	21342.0	120	21357.0	120	21376.0	120
21314.7	119	21326.1	118	21342.1	120	21357.1	120	21376.1	120
21315.0	118	21326.4	119	21342.4	121	21357.4	121	21376.4	121
21315.1	118	21326.5	119	21342.5	121	21357.5	121	21376.5	121
21315.4	119	21326.6	119	21342.6	121	21357.6	121	21376.6	121
21315.5	119	21326.7	119	21342.7	121	21357.7	121	21376.7	121
21315.6	119	21327.0	118	21343.0	120	21358.0	122	21377.0	120
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21378.4	121	21404.4	125	21416.1	124	21455.1	128	21473.1	128
21378.5	121	21404.5	125	21416.4	125	21455.4	129	21473.4	129
21378.6	121	21404.6	125	21416.5	125	21455.5	129	21473.5	129
21378.7	121	21404.7	125	21416.6	125	21455.6	129	21473.6	129
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21379.4	123	21405.4	125	21419.1	124	21456.1	128	21475.1	128
21379.5	123	21405.5	125	21419.4	125	21456.4	129	21475.4	129
21379.6	123	21405.6	125	21419.5	125	21456.5	129	21475.5	129
21379.7	123	21405.7	125	21419.6	125	21456.6	129	21475.6	129
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21381.4	123	21406.4	125	21424.1	126	21457.1	128	21477.1	128
21381.5	123	21406.5	125	21424.4	127	21457.4	129	21477.4	129
21381.6	123	21406.6	125	21424.5	127	21457.5	129	21477.5	129
21381.7	123	21406.7	125	21424.6	127	21457.6	129	21477.6	129
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21383.4	123	21407.4	127	21447.1	128	21458.1	130	21479.1	128
21383.5	123	21407.5	127	21447.4	129	21458.4	131	21479.4	129
21383.6	123	21407.6	127	21447.5	129	21458.5	131	21479.5	129
21383.7	123	21407.7	127	21447.6	129	21458.6	131	21479.6	129
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21384.4	123	21408.4	127	21448.1	128	21459.1	130	21481.1	130
21384.5	123	21408.5	127	21448.4	129	21459.4	131	21481.4	131
21384.6	123	21408.6	127	21448.5	129	21459.5	131	21481.5	131
21384.7	123	21408.7	127	21448.6	129	21459.6	131	21481.6	131
21385.0	122	21409.0	126	21448.7	129	21459.7	131	21481.7	131
21385.1	122	21409.0	132	21449.0	128	21460.0	130	21482.0	130
21385.4	123	21409.1	126	21449.1	128	21460.1	130	21482.1	130
21385.5	123	21409.4	127	21449.4	129	21460.4	131	21482.4	131
21385.6	123	21409.5	127	21449.5	129	21460.5	131	21482.5	131
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21399.1	124	21410.0	126	21450.0	128	21461.0	130	21483.0	130
21399.4	125	21410.1	126	21450.1	128	21461.1	130	21483.1	130
21399.5	125	21410.4	127	21450.4	129	21461.4	131	21483.4	131
21399.6	125	21410.5	127	21450.5	129	21461.5	131	21483.5	131
21399.7	125	21410.6	127	21450.6	129	21461.6	131	21483.6	131
21400.0	124	21410.7	127	21450.7	129	21461.7	131	21483.7	131
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21400.4	125	21412.1	126	21451.1	128	21462.1	130	21484.1	130
21400.5	125	21412.4	127	21451.4	129	21462.4	131	21484.4	131
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21401.0	124	21412.7	127	21451.7	129	21462.7	131	21484.7	131
21401.1	124	21413.0	126	21452.0	128	21465.0	128	21485.0	130
21401.4	125	21413.1	126	21452.1	128	21465.1	128	21485.1	130
21401.5	125	21413.4	127	21452.4	129	21465.4	129	21485.4	131
21401.6	125	21413.5	127	21452.5	129	21465.5	129	21485.5	131
21401.7	125	21413.6	127	21452.6	129	21465.6	129	21485.6	131
21402.0	124	21413.7	127	21452.7	129	21465.7	129	21485.7	131
21402.1	124	21414.0	124	21453.0	128	21467.0	126	21486.0	130
21402.4	125	21414.1	124	21453.1	128	21467.1	126	21486.1	130
21402.5	125	21414.4	125	21453.4	129	21467.4	127	21486.4	131
21402.6	125	21414.5	125	21453.5	129	21467.5	127	21486.5	131
21402.7	125	21414.6	125	21453.6	129	21467.6	127	21486.6	131
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22952.9	312	23105.9	318	23218.9	297	25000.0	18	25170.4	20
22953.9	312	23106.9	318	23219.9	297	25001.0	18	25171.4	20
22956.9	310	23107.9	318	23230.9	300	25002.0	18	25172.4	20
22957.9	310	23110.9	300	23231.9	300	25003.0	18	25173.4	20
22958.9	310	23111.9	300	23232.9	300	25004.0	18	25174.4	20
22960.9	310	23112.9	300	23233.9	300	25005.0	18	25175.4	20
22961.9	310	23140.9	319	23234.9	300	25006.0	18	25176.4	20
22962.9	310	23141.9	319	23235.9	300	25007.0	18	25177.4	20
22963.9	310	23142.9	319	23236.9	300	25008.0	18	25178.4	20
22964.9	310	23143.9	319	23237.9	300	25009.0	18	25179.4	20
22965.9	310	23144.9	319	23238.9	300	25010.0	18	25180.4	20
23000.9	296	23145.9	319	23239.9	300	25011.0	18	25181.4	20
23001.9	296	23146.9	319	23240.9	321	25012.0	18	25182.4	20
23002.9	296	23147.9	319	23241.9	321	25013.0	18	25183.4	20
23003.9	296	23148.9	319	23242.9	321	25014.0	18	25184.4	20
23004.9	296	23149.9	319	23243.9	321	25015.0	18	25185.4	20
23005.9	296	23150.9	300	23244.9	321	25016.0	18	25186.4	20
23006.9	296	23151.9	300	23245.9	321	25017.0	18	25187.4	20
23007.9	296	23152.9	300	23246.9	321	25018.0	18	25200.5	20
23008.9	296	23153.9	300	23247.9	321	25019.0	18	25201.5	20
23009.9	296	23154.9	300	23248.9	321	25020.0	18	25202.5	20
23010.9	296	23155.9	300	23249.9	321	25021.0	18	25203.5	20
23011.9	296	23156.9	300	23250.9	321	25022.0	18	25204.5	20
23012.9	296	23157.9	300	23251.9	321	25023.0	18	25205.5	20
23013.9	296	23158.9	300	23252.9	321	25024.0	18	25206.5	20
23014.9	296	23159.9	300	23253.9	321	25025.0	18	25207.5	20
23015.9	296	23160.9	301	23254.9	321	25026.0	18	25208.5	20
23016.9	296	23161.9	301	23255.9	321	25027.0	18	25209.5	20
23017.9	296	23162.9	301	23256.9	320	25040.1	19	25210.5	20
23018.9	296	23163.9	301	23257.9	320	25041.1	19	25211.5	20
23019.9	296	23164.9	301	23260.9	320	25042.1	19	25212.5	20
23020.9	296	23165.9	301	23261.9	320	25043.1	19	25213.5	20
23021.9	296	23166.9	301	23262.9	320	25044.1	19	25214.5	20
23022.9	296	23167.9	301	23263.9	320	25045.1	19	25215.5	20
23023.9	296	23168.9	301	23264.9	320	25046.1	19	25216.5	20
23024.9	296	23169.9	301	23265.9	320	25047.1	19	25217.5	20
23025.9	296	23170.9	300	23266.9	320	25048.1	19	25218.5	20
23026.9	296	23171.9	300	23267.9	320	25049.1	19	25219.5	20
23027.9	296	23172.9	300	23268.9	320	25050.1	19	25220.5	20
23028.9	296	23173.9	300	23269.9	320	25051.1	19	25221.5	20
23029.9	296	23174.9	300	23270.9	320	25052.1	19	25222.5	20
23050.9	293	23175.9	300	23271.9	320	25053.1	19	25223.5	20
23051.9	293	23176.9	300	23272.9	320	25054.1	19	25224.5	20
23052.9	293	23177.9	300	23273.9	320	25055.1	19	25225.5	20
23053.9	293	23178.9	300	23274.9	320	25056.1	19	25226.5	20
23054.9	293	23179.9	300	23275.9	320	25057.1	19	25227.5	20
23055.9	293	23180.9	320	23276.9	320	25058.1	19	25240.9	319
23056.9	293	23181.9	320	23277.9	320	25059.1	19	25320.4	21
23057.9	293	23188.9	300	23278.9	320	25060.1	19	25321.4	21
23058.9	293	23190.9	300	23279.9	320	25061.1	19	25322.4	21
23059.9	293	23192.9	300	23280.9	320	25062.1	19	25323.4	21
23060.9	293	23194.9	300	23281.9	320	25063.1	19	25324.4	21
23061.9	293	23200.9	297	23282.9	320	25064.1	19	25325.4	21
23062.9	293	23201.9	297	23283.9	320	25065.1	19	25326.4	21
23063.9	293	23202.9	297	23284.9	320	25066.1	19	25327.4	21
23064.9	293	23203.9	297	23285.9	320	25067.1	19	25328.4	21
23065.9	293	23204.9	297	23287.9	320	25160.4	20	25329.4	21
23066.9	293	23205.9	297	23289.9	320	25161.4	20	25330.4	21
23067.9	293	23206.9	297	23290.9	320	25162.4	20	25331.4	21
23068.9	293	23207.9	297	23291.9	320	25163.4	20	25332.4	21
23069.9	293	23208.9	297	23292.9	320	25164.4	20	25333.4	21
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25337.4	21	25427.6	22	25537.9	313	25719.9	306	25839.9	302
25338.4	21	25428.6	22	25538.9	313	25720.9	292	25840.9	302
25339.4	21	25429.6	22	25540.9	319	25721.9	292	25841.9	302
25340.4	21	25431.6	22	25541.9	319	25722.9	292	25842.9	302
25341.4	21	25471.6	26	25542.9	319	25723.9	292	25843.9	302
25342.4	21	25472.6	26	25543.9	319	25724.9	292	25844.9	302
25343.4	21	25473.6	26	25544.9	319	25725.9	292	25845.9	302
25344.4	21	25474.6	26	25545.9	319	25726.9	292	25850.9	303
25345.4	21	25475.6	26	25546.9	319	25727.9	292	25851.9	303
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25361.5	21	25479.6	26	25552.9	319	25731.9	298	25855.9	303
25362.5	21	25480.6	26	25553.9	319	25732.9	298	25856.9	303
25363.5	21	25481.6	26	25554.9	319	25733.9	298	25857.9	303
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25365.5	21	25483.6	26	25556.9	319	25735.9	298	25859.9	303
25366.5	21	25484.6	26	25557.9	319	25736.9	298	25860.9	303
25367.5	21	25485.6	26	25590.9	318	25737.9	298	25861.9	303
25368.5	21	25486.6	26	25591.9	318	25738.9	298	25862.9	303
25369.5	21	25487.6	26	25592.9	318	25740.9	299	25863.9	303
25370.5	21	25488.6	26	25593.9	318	25741.9	299	25864.9	303
25371.5	21	25489.6	26	25594.9	318	25742.9	299	25865.9	303
25372.5	21	25490.6	26	25595.9	318	25743.9	299	25866.9	303
25373.5	21	25491.6	26	25596.9	318	25744.9	299	25867.9	303
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25376.5	21	25494.6	26	25601.9	298	25747.9	299	25888.9	303
25377.5	21	25495.6	26	25602.9	298	25793.9	306	25889.9	303
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25387.5	21	25505.9	294	25612.9	314	25807.9	306	26501.6	264
25400.6	22	25506.9	294	25613.9	314	25809.9	306	26502.6	264
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25404.6	22	25510.9	292	25617.9	314	25813.9	307	26506.6	264
25405.6	22	25511.9	292	25618.9	314	25814.9	307	26507.6	264
25406.6	22	25512.9	292	25619.9	314	25815.9	307	26510.9	284
25407.6	22	25513.9	292	25620.9	314	25816.9	307	26511.9	284
25408.6	22	25514.9	292	25622.9	314	25817.9	307	26512.9	284
25409.6	22	25515.9	292	25623.9	314	25818.9	307	26513.9	284
25410.6	22	25516.9	292	25624.9	314	25819.9	307	26514.9	284
25411.6	22	25517.9	292	25663.9	314	25820.9	307	26515.9	284
25412.6	22	25518.9	313	25664.9	314	25821.9	313	26516.9	284
25413.6	22	25519.9	313	25700.9	311	25825.9	310	26517.9	285
25414.6	22	25520.9	313	25701.9	311	25826.9	310	26518.9	285
25415.6	22	25521.9	313	25702.9	311	25827.9	310	26519.9	285
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25417.6	22	25524.9	313	25704.9	311	25829.9	310	26521.9	285
25418.6	22	25525.9	313	25705.9	311	25830.9	302	26522.9	285
25419.6	22	25526.9	313	25706.9	311	25831.9	302	26523.9	285
25420.6	22	25528.9	313	25707.9	310	25832.9	302	26815.6	24
25421.6	22	25529.9	313	25708.9	310	25833.9	302	26816.6	24
25422.6	22	25530.9	313	25710.9	306	25834.9	302	26817.6	24
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26823.6	24	94016.9	307	94082.9	305	94244.9	306	95038.6	31
26824.6	24	94017.9	307	94083.9	305	94245.9	306	95039.6	31
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26829.6	24	94022.9	307	94088.9	305	94250.9	306	95045.6	31
26830.6	24	94023.9	307	94089.9	305	94251.9	306	95046.6	31
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26834.6	24	94027.9	307	94093.9	305	94255.9	304	95050.6	31
26900.6	22	94028.9	307	94094.9	305	94256.9	304	95060.7	32
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26902.6	22	94030.9	307	94096.9	305	94258.9	304	95062.7	32
26903.6	22	94031.9	307	94097.9	305	94259.9	304	95063.7	32
26904.6	22	94032.9	307	94098.9	305	94260.9	304	95064.7	32
26905.6	61	94033.9	307	94099.9	305	94261.9	304	95065.7	32
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26910.6	67	94036.9	307	94102.9	305	94264.9	304	95068.7	32
26911.6	22	94037.9	307	94103.9	305	94265.9	304	95069.7	32
26912.6	22	94038.9	307	94200.9	306	94266.9	304	95070.7	32
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26918.6	67	94041.9	307	94203.9	306	94269.9	304	95073.7	32
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26950.6	30	94044.9	307	94206.9	306	94272.9	304	95076.7	32
26951.6	30	94045.9	307	94207.9	306	94273.9	304	95077.7	32
26952.6	30	94046.9	307	94208.9	306	94274.9	304	95078.7	32
26953.6	30	94047.9	307	94209.9	306	94275.9	304	95079.7	32
26954.6	30	94048.9	307	94210.9	306	94276.9	304	95080.7	32
26955.6	30	94049.9	307	94211.9	306	94277.9	304	95081.7	32
26956.6	30	94050.9	307	94212.9	306	94278.9	304	95082.7	32
26957.6	30	94051.9	307	94213.9	306	94279.9	304	95083.7	32
26958.6	30	94052.9	305	94214.9	306	94280.9	304	95084.7	32
26959.6	30	94053.9	305	94215.9	306	94281.9	304	95085.7	32
26960.6	30	94054.9	305	94216.9	306	94282.9	304	95086.7	32
26961.6	30	94055.9	305	94217.9	306	94283.9	304	95087.7	32
26962.6	30	94056.9	305	94218.9	306	94284.9	304	95088.7	32
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26964.6	30	94058.9	305	94220.9	306	94286.9	304	95130.7	33
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26966.6	30	94060.9	305	94222.9	306	94288.9	304	95133.7	33
26967.6	30	94061.9	305	94223.9	306	94289.9	304	95134.7	33
26968.6	30	94062.9	305	94224.9	306	94290.9	304	95136.7	33
26969.6	30	94063.9	305	94225.9	306	94291.9	304	95137.7	33
26970.6	30	94064.9	305	94226.9	306	94292.9	304	95138.7	33
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94004.9	307	94070.9	305	94232.9	306	94298.9	304	95146.7	33
94005.9	307	94071.9	305	94233.9	306	94299.9	304	95147.7	33
94006.9	307	94072.9	305	94234.9	306	94300.9	304	95148.7	33
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94008.9	307	94074.9	305	94236.9	306	94302.9	304	95150.7	33
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95157.7	33	95350.1	60	95420.1	66	95436.5	67	95506.6	84
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95303.6	61	95360.5	61	95421.1	66	95437.5	67	95546.6	85
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95307.6	61	95363.4	61	95422.4	67	95439.0	66	95553.6	85
95308.6	61	95363.5	61	95422.5	67	95439.1	66	95556.6	85
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95310.6	61	95364.5	61	95423.1	66	95439.5	67	95558.6	85
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95312.6	61	95365.5	61	95423.5	67	95440.1	66	95560.7	151
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95322.6	61	95370.5	61	95426.1	66	95442.5	67	95570.5	73
95323.6	61	95371.4	61	95426.4	67	95443.0	66	95570.6	73
95324.6	61	95371.5	61	95426.5	67	95443.1	66	95571.0	72
95330.0	60	95372.4	61	95427.0	66	95443.4	66	95571.1	72
95330.1	60	95372.5	61	95427.1	66	95443.5	67	95571.4	73
95331.0	60	95373.4	61	95427.4	67	95450.6	78	95571.5	73
95331.1	60	95373.5	61	95427.5	67	95451.6	78	95571.6	73
95332.0	60	95374.4	61	95428.0	66	95452.6	78	95572.0	72
95332.1	60	95374.5	61	95428.1	66	95453.6	78	95572.1	72
95333.0	60	95375.4	61	95428.4	67	95454.6	78	95572.4	73
95333.1	60	95375.5	61	95428.5	67	95455.6	78	95572.5	73
95334.0	60	95376.4	61	95429.0	66	95456.6	78	95572.6	73
95334.1	60	95376.5	61	95429.1	66	95458.6	80	95573.4	73
95335.0	60	95377.4	61	95429.4	67	95459.6	80	95573.5	73
95335.1	60	95377.5	61	95429.5	67	95460.6	80	95573.6	73
95336.0	60	95390.6	67	95430.0	66	95461.6	80	95574.0	72
95336.1	60	95391.6	67	95430.1	66	95462.6	80	95574.1	72
95337.0	60	95392.6	67	95430.4	67	95463.6	80	95575.0	72
95337.1	60	95393.6	67	95430.5	67	95464.6	80	95575.1	72
95338.0	60	95394.6	67	95431.0	66	95470.6	79	95575.6	73
95338.1	60	95395.6	67	95431.1	66	95471.6	79	95576.0	72
95339.0	60	95396.6	67	95431.4	67	95472.6	79	95576.1	72
95339.1	60	95397.6	67	95431.5	67	95473.6	79	95576.4	73
95340.0	60	95398.6	67	95432.0	66	95474.6	79	95576.5	73
95340.1	60	95399.6	67	95432.1	66	95475.6	79	95576.6	73
95341.0	60	95400.6	67	95432.4	67	95476.6	79	95577.0	72
95341.1	60	95401.6	67	95432.5	67	95482.6	84	95577.1	72
95342.0	60	95402.6	67	95433.0	66	95485.6	84	95577.4	73
95342.1	60	95403.6	67	95433.1	66	95486.6	84	95577.5	73
95343.0	60	95404.6	67	95433.4	67	95487.6	84	95577.6	73
95343.1	60	95405.6	67	95433.5	67	95490.6	84	95578.0	72
95345.0	60	95406.6	67	95434.0	66	95491.6	84	95578.1	72
95345.1	60	95407.6	67	95434.1	66	95492.6	84	95578.4	73
95346.0	60	95408.6	67	95434.4	67	95493.6	84	95578.5	73
95346.1	60	95409.6	67	95434.5	67	95496.6	84	95578.6	73
95347.0	60	95410.6	67	95435.0	66	95497.6	84	95579.0	72
95347.1	60	95411.6	67	95435.1	66	95498.6	84	95579.1	72
95348.0	60	95412.6	67	95435.4	67	95501.6	84	95579.4	73
95348.1	60	95413.6	67	95435.5	67	95502.6	84	95579.5	73
95349.0	60	95414.6	67	95436.0	66	95503.6	84	95579.6	73

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95580.1	72	95642.6	91	95711.0	48	95757.4	50	95836.6	59
95580.4	73	95643.6	91	95711.1	49	95757.5	50	95837.6	59
95580.5	73	95650.0	90	95712.0	48	95760.4	51	95838.6	59
95580.6	73	95650.1	90	95712.1	49	95760.5	51	95839.6	59
95581.0	72	95651.0	90	95713.0	48	95762.4	51	95840.6	59
95581.1	72	95651.1	90	95713.1	49	95762.5	51	95841.6	59
95581.4	73	95652.0	90	95714.0	48	95763.4	51	95842.6	59
95581.5	73	95652.1	90	95714.1	49	95763.5	51	95843.6	59
95581.6	73	95653.0	90	95715.0	48	95765.4	51	95844.6	59
95582.0	72	95653.1	90	95715.1	49	95765.5	51	95845.6	59
95582.1	72	95654.0	90	95716.0	48	95766.4	51	95846.6	59
95582.4	73	95654.1	90	95716.1	49	95766.5	51	95847.6	59
95582.5	73	95655.0	90	95717.0	48	95767.4	51	95848.6	59
95582.6	73	95655.1	90	95717.1	49	95767.5	51	95849.6	59
95583.0	72	95656.0	90	95718.0	48	95768.4	51	95850.6	59
95583.1	72	95656.1	90	95718.1	49	95768.5	51	95910.0	54
95583.4	73	95657.0	90	95719.0	48	95771.4	51	95910.1	55
95583.5	73	95657.1	90	95719.1	49	95771.5	51	95911.0	54
95583.6	73	95658.0	90	95720.0	48	95772.4	51	95911.1	55
95584.0	72	95658.1	90	95720.1	49	95772.5	51	95912.0	54
95584.1	72	95659.0	90	95721.0	48	95773.4	51	95912.1	55
95584.6	73	95659.1	90	95721.1	49	95773.5	51	95913.0	54
95585.4	73	95660.0	90	95722.0	48	95774.4	51	95913.1	55
95585.5	73	95660.1	90	95722.1	49	95774.5	51	95914.0	54
95585.6	73	95661.0	90	95723.0	48	95775.4	51	95914.1	55
95586.4	73	95661.1	90	95723.1	49	95775.5	51	95915.0	54
95586.5	73	95662.0	90	95727.0	48	95776.4	51	95915.1	55
95586.6	73	95662.1	90	95727.1	49	95776.5	51	95916.0	54
95587.4	73	95663.0	90	95728.0	48	95777.4	51	95916.1	55
95587.5	73	95663.1	90	95728.1	49	95777.5	51	95917.0	54
95587.6	73	95670.6	52	95729.0	48	95800.6	58	95917.1	55
95588.4	73	95671.6	52	95729.1	49	95801.6	58	95918.0	54
95588.5	73	95672.6	52	95730.0	48	95802.6	58	95918.1	55
95589.4	73	95673.6	52	95730.1	49	95803.6	58	95919.0	54
95589.5	73	95674.6	52	95731.0	48	95804.6	58	95919.1	55
95590.4	73	95675.6	52	95731.1	49	95805.6	58	95920.0	54
95590.5	73	95676.6	52	95732.0	48	95806.6	58	95920.1	55
95591.4	73	95677.6	52	95732.1	49	95807.6	58	95921.0	54
95591.5	73	95678.6	52	95733.0	48	95808.6	58	95921.1	55
95604.0	156	95679.6	52	95733.1	49	95809.6	58	95922.0	54
95615.6	91	95680.6	52	95740.4	50	95810.6	58	95922.1	55
95616.6	91	95681.6	52	95740.5	50	95811.6	58	95923.0	54
95617.6	91	95682.6	52	95742.4	50	95812.6	58	95923.1	55
95618.6	91	95683.6	52	95742.5	50	95813.6	58	95930.4	56
95619.6	91	95684.6	52	95743.4	50	95814.6	58	95930.5	56
95620.6	91	95685.6	52	95743.5	50	95815.6	58	95931.4	56
95621.6	91	95686.6	52	95745.4	50	95816.6	58	95931.5	56
95622.6	91	95687.6	52	95745.5	50	95817.6	58	95932.4	56
95623.6	91	95690.6	53	95746.4	50	95818.6	58	95932.5	56
95624.6	91	95691.6	53	95746.5	50	95819.6	58	95933.4	56
95625.6	91	95692.6	53	95747.4	50	95820.6	58	95933.5	56
95626.6	91	95693.6	53	95747.5	50	95821.6	58	95934.4	56
95627.6	91	95694.6	53	95748.4	50	95822.6	58	95934.5	56
95628.6	91	95695.6	53	95748.5	50	95823.6	58	95935.4	56
95630.6	91	95696.6	53	95751.4	50	95824.6	58	95935.5	56
95631.6	91	95697.6	53	95751.5	50	95825.6	58	95936.4	56
95632.6	91	95698.6	53	95752.4	50	95826.6	58	95936.5	56
95633.6	91	95699.6	53	95752.5	50	95827.6	58	95937.4	56
95634.6	91	95700.6	53	95753.4	50	95828.6	58	95937.5	56
95635.6	91	95701.6	53	95753.5	50	95829.6	58	95938.4	56
95636.6	91	95702.6	53	95754.4	50	95830.6	59	95938.5	56
95637.6	91	95703.6	53	95754.5	50	95831.6	59	95939.4	56
95638.6	91	95704.6	53	95755.4	50	95832.6	59	95939.5	56
95639.6	91	95705.6	53	95755.5	50	95833.6	59	95940.4	56
95640.6	91	95710.0	48	95756.4	50	95834.6	59	95940.5	56

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95941.5	56	96001.1	102	96012.1	102	96057.5	103	96069.5	105
95942.4	56	96001.4	103	96012.4	103	96057.6	103	96069.6	105
95942.5	56	96001.5	103	96012.5	103	96057.7	103	96069.7	105
95943.4	56	96001.6	103	96012.6	103	96058.0	102	96070.0	104
95943.5	56	96001.7	103	96012.7	103	96058.1	102	96070.1	104
95944.4	56	96002.0	102	96013.0	102	96058.4	103	96070.4	105
95944.5	56	96002.1	102	96013.1	102	96058.5	103	96070.5	105
95945.4	56	96002.4	103	96013.4	103	96058.6	103	96070.6	105
95945.5	56	96002.5	103	96013.5	103	96058.7	103	96070.7	105
95946.4	56	96002.6	103	96013.6	103	96060.0	104	96071.0	102
95946.5	56	96002.7	103	96013.7	103	96060.1	104	96071.1	102
95947.4	56	96003.0	102	96014.4	103	96060.4	105	96071.4	103
95947.5	56	96003.1	102	96014.5	103	96060.5	105	96071.5	103
95948.4	56	96003.4	103	96014.6	103	96060.6	105	96076.0	102
95948.5	56	96003.5	103	96016.4	103	96060.7	105	96076.1	102
95949.4	56	96003.6	103	96016.6	103	96061.0	104	96076.4	103
95949.5	56	96003.7	103	96016.6	103	96061.1	104	96076.5	103
95950.4	56	96004.0	102	96017.4	103	96061.4	105	96076.6	103
95950.5	56	96004.1	102	96017.5	103	96061.5	105	96076.7	103
95971.4	57	96004.4	103	96017.6	103	96061.6	105	96078.0	104
95971.5	57	96004.5	103	96017.7	103	96061.7	105	96078.1	104
95972.4	57	96004.6	103	96020.4	103	96062.0	104	96078.4	105
95972.5	57	96004.7	103	96020.5	103	96062.1	104	96078.5	105
95973.4	57	96005.0	102	96020.6	103	96062.4	105	96079.0	102
95973.5	57	96005.1	102	96021.4	103	96062.5	105	96079.1	102
95974.4	57	96005.4	103	96021.5	103	96062.6	105	96079.4	103
95974.5	57	96005.5	103	96021.6	103	96062.7	105	96079.5	103
95975.4	57	96005.6	103	96051.0	102	96063.0	104	96081.0	102
95975.5	57	96005.7	103	96051.1	102	96063.1	104	96081.1	102
95976.4	57	96006.0	102	96051.4	103	96063.4	105	96081.4	103
95976.5	57	96006.1	102	96051.5	103	96063.5	105	96081.5	103
95977.4	57	96006.4	103	96051.6	103	96063.6	105	96081.6	103
95977.5	57	96006.5	103	96051.7	103	96063.7	105	96081.7	103
95978.4	57	96006.6	103	96052.0	102	96064.0	104	96082.0	102
95978.5	57	96006.7	103	96052.1	102	96064.1	104	96082.1	102
95979.4	57	96007.0	102	96052.4	103	96064.4	105	96082.4	103
95979.5	57	96007.1	102	96052.5	103	96064.5	105	96082.5	103
95980.4	57	96007.4	103	96052.6	103	96064.6	105	96082.6	103
95980.5	57	96007.5	103	96052.7	103	96064.7	105	96082.7	103
95981.4	57	96007.6	103	96053.0	102	96065.0	104	96083.0	102
95981.5	57	96007.7	103	96053.1	102	96065.1	104	96083.1	102
95982.4	57	96008.0	102	96053.4	103	96065.4	105	96083.4	103
95982.5	57	96008.1	102	96053.5	103	96065.5	105	96083.5	103
95983.4	57	96008.4	103	96053.6	103	96065.6	105	96083.6	103
95983.5	57	96008.5	103	96053.7	103	96065.7	105	96083.7	103
95984.4	57	96008.6	103	96054.0	102	96066.0	104	96085.0	102
95984.5	57	96008.7	103	96054.1	102	96066.1	104	96085.1	102
95985.4	57	96009.0	102	96054.4	103	96066.4	105	96085.4	103
95985.5	57	96009.1	102	96054.5	103	96066.5	105	96085.5	103
95986.4	57	96009.4	103	96054.6	103	96066.6	105	96085.6	103
95986.5	57	96009.5	103	96054.7	103	96066.7	105	96085.7	103
95987.4	57	96009.6	103	96055.0	102	96067.0	104	96087.0	102
95987.5	57	96009.7	103	96055.1	102	96067.1	104	96087.1	102
95988.4	57	96010.0	102	96055.4	103	96067.4	105	96087.4	103
95988.5	57	96010.1	102	96055.5	103	96067.5	105	96087.5	103
95989.4	57	96010.4	103	96055.6	103	96067.6	105	96087.6	103
95989.5	57	96010.5	103	96055.7	103	96067.7	105	96087.7	103
95990.4	57	96010.6	103	96056.0	102	96068.0	104	96088.0	102
95990.5	57	96010.7	103	96056.1	102	96068.1	104	96089.1	102
96000.0	102	96011.0	102	96056.4	103	96068.4	105	96089.4	103
96000.1	102	96011.1	102	96056.5	103	96068.5	105	96089.5	103
96000.4	103	96011.4	103	96056.6	103	96068.6	105	96089.6	103
96000.5	103	96011.5	103	96056.7	103	96068.7	105	96089.7	103
96000.6	103	96011.6	103	96057.0	102	96069.0	104	96090.0	102
96000.7	103	96011.7	103	96057.1	102	96069.1	104	96090.1	102

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96090.5	103	96106.5	105	96127.0	104	96138.0	106	96150.0	106
96090.6	103	96106.6	105	96127.1	104	96138.1	106	96150.1	106
96090.7	103	96106.7	105	96127.4	105	96138.4	107	96150.4	107
96092.0	102	96107.0	104	96127.5	105	96138.5	107	96150.5	107
96092.1	102	96107.1	104	96127.6	105	96138.6	107	96150.6	107
96092.4	103	96107.4	105	96127.7	105	96138.7	107	96150.7	107
96092.5	103	96107.5	105	96128.0	104	96139.0	106	96152.0	106
96092.6	103	96107.6	105	96128.1	104	96139.1	106	96152.1	106
96092.7	103	96107.7	105	96128.4	105	96139.4	107	96152.4	107
96094.0	104	96108.0	102	96128.5	105	96139.5	107	96152.5	107
96094.1	104	96108.1	102	96128.6	105	96139.6	107	96152.6	107
96094.4	105	96108.4	103	96128.7	105	96139.7	107	96152.7	107
96094.5	105	96108.5	103	96129.0	104	96141.0	106	96153.0	106
96094.6	105	96108.6	103	96129.1	104	96141.1	106	96153.1	106
96094.7	105	96109.0	104	96129.4	105	96141.4	107	96153.4	107
96096.0	104	96109.1	104	96129.5	105	96141.5	107	96153.5	107
96096.1	104	96109.4	105	96129.6	105	96141.6	107	96153.6	107
96096.4	105	96109.5	105	96129.7	105	96141.7	107	96153.7	107
96096.5	105	96109.6	105	96130.0	104	96142.0	106	96154.0	106
96096.6	105	96110.0	104	96130.1	104	96142.1	106	96154.1	106
96096.7	105	96110.1	104	96130.4	105	96142.4	107	96154.4	107
96098.0	104	96110.4	105	96130.5	105	96142.5	107	96154.5	107
96098.1	104	96110.5	105	96130.6	105	96142.6	107	96154.6	107
96098.4	105	96110.6	105	96130.7	105	96142.7	107	96154.7	107
96098.5	105	96120.0	104	96131.0	104	96143.0	106	96155.0	106
96098.6	105	96120.1	104	96131.1	104	96143.1	106	96155.1	106
96098.7	105	96120.4	105	96131.4	105	96143.4	107	96155.4	107
96099.0	104	96120.5	105	96131.5	105	96143.5	107	96155.5	107
96099.1	104	96120.6	105	96131.6	105	96143.6	107	96155.6	107
96099.4	105	96120.7	105	96131.7	105	96143.7	107	96155.7	107
96099.5	105	96121.0	104	96132.0	104	96144.0	106	96156.0	106
96099.6	105	96121.1	104	96132.1	104	96144.1	106	96156.1	106
96099.7	105	96121.4	105	96132.4	105	96144.4	107	96156.4	107
96100.0	104	96121.5	105	96132.5	105	96144.5	107	96156.5	107
96100.1	104	96121.6	105	96132.6	105	96144.6	107	96156.6	107
96100.4	105	96121.7	105	96132.7	105	96144.7	107	96156.7	107
96100.5	105	96122.0	104	96133.0	106	96145.0	106	96157.0	106
96100.6	105	96122.1	104	96133.1	106	96145.1	106	96157.1	106
96100.7	105	96122.4	105	96133.4	107	96145.4	107	96157.4	107
96102.0	104	96122.5	105	96133.5	107	96145.5	107	96157.5	107
96102.1	104	96122.6	105	96133.6	107	96145.6	107	96157.6	107
96102.4	105	96122.7	105	96133.7	107	96145.7	107	96157.7	107
96102.5	105	96123.0	104	96134.0	106	96146.0	106	96158.0	106
96102.6	105	96123.1	104	96134.1	106	96146.1	106	96158.1	106
96102.7	105	96123.4	105	96134.4	107	96146.4	107	96158.4	107
96103.0	104	96123.5	105	96134.5	107	96146.5	107	96158.5	107
96103.1	104	96123.6	105	96134.6	107	96146.6	107	96158.6	107
96103.4	105	96123.7	105	96134.7	107	96146.7	107	96158.7	107
96103.5	105	96124.0	104	96135.0	106	96147.0	106	96159.0	106
96103.6	105	96124.1	104	96135.1	106	96147.1	106	96159.1	106
96103.7	105	96124.4	105	96135.4	107	96147.4	107	96159.4	107
96104.0	104	96124.5	105	96135.5	107	96147.5	107	96159.5	107
96104.1	104	96124.6	105	96135.6	107	96147.6	107	96159.6	107
96104.4	105	96124.7	105	96135.7	107	96147.7	107	96159.7	107
96104.5	105	96125.0	104	96136.0	106	96148.0	106	96160.0	106
96104.6	105	96125.1	104	96136.1	106	96148.1	106	96160.1	106
96104.7	105	96125.4	105	96136.4	107	96148.4	107	96160.4	107
96105.0	104	96125.5	105	96136.5	107	96148.5	107	96160.5	107
96105.1	104	96125.6	105	96136.6	107	96148.6	107	96160.6	107
96105.4	105	96125.7	105	96136.7	107	96148.7	107	96160.7	107
96105.5	105	96126.0	104	96137.0	106	96149.0	106	96161.0	106
96105.6	105	96126.1	104	96137.1	106	96149.1	106	96161.1	106
96105.7	105	96126.4	105	96137.4	107	96149.4	107	96161.4	107
96106.0	104	96126.5	105	96137.5	107	96149.5	107	96161.5	107
96106.1	104	96126.6	105	96137.6	107	96149.6	107	96161.6	107

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96162.0	106	96173.0	106	96186.0	106	96207.6	109	96218.6	109
96162.1	106	96173.1	106	96186.1	106	96207.7	109	96218.7	109
96162.4	107	96173.4	107	96186.4	107	96208.0	108	96219.0	108
96162.5	107	96173.5	107	96186.5	107	96208.1	108	96219.1	108
96162.6	107	96173.6	107	96186.6	107	96208.4	109	96219.4	109
96162.7	107	96173.7	107	96186.7	107	96208.5	109	96219.5	109
96163.0	106	96175.0	106	96187.0	106	96208.6	109	96219.6	109
96163.1	106	96175.1	106	96187.1	106	96208.7	109	96219.7	109
96163.4	107	96175.4	107	96187.4	107	96209.0	108	96220.0	108
96163.5	107	96175.5	107	96187.5	107	96209.1	108	96220.1	108
96163.6	107	96175.6	107	96187.6	107	96209.4	109	96220.4	109
96163.7	107	96175.7	107	96187.7	107	96209.5	109	96220.5	109
96164.0	104	96176.0	106	96189.0	106	96209.6	109	96220.6	109
96164.1	104	96176.1	106	96189.1	106	96209.7	109	96220.7	109
96164.4	105	96176.4	107	96189.4	107	96210.0	108	96221.0	108
96164.5	105	96176.5	107	96189.5	107	96210.1	108	96221.1	108
96164.6	105	96176.6	107	96189.6	107	96210.4	109	96221.4	109
96164.7	105	96176.7	107	96189.7	107	96210.5	109	96221.5	109
96165.0	104	96178.0	106	96190.6	220	96210.6	109	96221.6	109
96165.1	104	96178.1	106	96191.6	220	96210.7	109	96221.7	109
96165.4	105	96178.4	107	96192.6	220	96211.0	108	96222.0	108
96165.5	105	96178.5	107	96193.6	220	96211.1	108	96222.1	108
96165.6	105	96178.6	107	96194.6	220	96211.4	109	96222.4	109
96165.7	105	96178.7	107	96195.6	220	96211.5	109	96222.5	109
96166.0	104	96179.0	106	96196.6	220	96211.6	109	96222.6	109
96166.1	104	96179.1	106	96197.6	220	96211.7	109	96222.7	109
96166.4	105	96179.4	107	96200.0	108	96212.0	108	96223.0	108
96166.5	105	96179.5	107	96200.1	108	96212.1	108	96223.1	108
96166.6	105	96179.6	107	96200.4	109	96212.4	109	96223.4	109
96166.7	105	96179.7	107	96200.5	109	96212.5	109	96223.5	109
96167.0	104	96180.0	106	96200.6	109	96212.6	109	96223.6	109
96167.1	104	96180.1	106	96200.7	109	96212.7	109	96223.7	109
96167.4	105	96180.4	107	96201.0	108	96213.0	108	96224.0	108
96167.5	105	96180.5	107	96201.1	108	96213.1	108	96224.1	108
96167.6	105	96180.6	107	96201.4	109	96213.4	109	96224.4	109
96167.7	105	96180.7	107	96201.5	109	96213.5	109	96224.5	109
96168.0	104	96181.0	106	96201.6	109	96213.6	109	96224.6	109
96168.1	104	96181.1	106	96201.7	109	96213.7	109	96224.7	109
96168.4	105	96181.4	107	96202.0	108	96214.0	108	96225.0	108
96168.5	105	96181.5	107	96202.1	108	96214.1	108	96225.1	108
96168.6	105	96181.6	107	96202.4	109	96214.4	109	96225.4	109
96168.7	105	96181.7	107	96202.5	109	96214.5	109	96225.5	109
96169.0	104	96182.0	106	96202.6	109	96214.6	109	96225.6	109
96169.1	104	96182.1	106	96202.7	109	96214.7	109	96225.7	109
96169.4	105	96182.4	107	96203.0	108	96215.0	108	96226.0	108
96169.5	105	96182.5	107	96203.1	108	96215.1	108	96226.1	108
96169.6	105	96182.6	107	96203.4	109	96215.4	109	96226.4	109
96169.7	105	96182.7	107	96203.5	109	96215.5	109	96226.5	109
96170.0	104	96183.0	106	96203.6	109	96215.6	109	96226.6	109
96170.1	104	96183.1	106	96203.7	109	96215.7	109	96226.7	109
96170.4	105	96183.4	107	96204.0	108	96216.0	108	96227.0	108
96170.5	105	96183.5	107	96204.1	108	96216.1	108	96227.1	108
96170.6	105	96183.6	107	96204.4	109	96216.4	109	96227.4	109
96170.7	105	96183.7	107	96204.5	109	96216.5	109	96227.5	109
96171.0	104	96184.0	106	96204.6	109	96216.6	109	96227.6	109
96171.1	104	96184.1	106	96204.7	109	96216.7	109	96227.7	109
96171.4	105	96184.4	107	96205.0	108	96217.0	108	96228.0	108
96171.5	105	96184.5	107	96205.1	108	96217.1	108	96228.1	108
96171.6	105	96184.6	107	96205.4	109	96217.4	109	96228.4	109
96171.7	105	96184.7	107	96205.5	109	96217.5	109	96228.5	109
96172.0	106	96185.0	106	96205.6	109	96217.6	109	96228.6	109
96172.1	106	96185.1	106	96205.7	109	96217.7	109	96228.7	109
96172.4	107	96185.4	107	96207.0	108	96218.0	108	96229.0	108
96172.5	107	96185.5	107	96207.1	108	96218.1	108	96229.1	108
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96229.6	109	96240.6	111	96251.6	109	96264.6	111	96311.0	110
96229.7	109	96240.7	111	96251.7	109	96264.7	111	96311.1	110
96230.0	108	96241.0	110	96252.0	108	96265.0	110	96311.4	111
96230.1	108	96241.1	110	96252.1	108	96265.1	110	96311.5	111
96230.4	109	96241.4	111	96252.4	109	96265.4	111	96311.6	111
96230.5	109	96241.5	111	96252.5	109	96265.5	111	96311.7	111
96230.6	109	96241.6	111	96252.6	109	96265.6	111	96312.0	110
96230.7	109	96241.7	111	96252.7	109	96265.7	111	96312.1	110
96231.0	110	96242.0	106	96253.0	108	96270.0	110	96312.4	111
96231.1	110	96242.1	106	96253.1	108	96270.1	110	96312.5	111
96231.4	111	96242.4	107	96253.4	109	96270.4	111	96312.6	111
96231.5	111	96242.5	107	96253.5	109	96270.5	111	96312.7	111
96231.6	111	96242.6	107	96253.6	109	96270.6	111	96313.0	112
96231.7	111	96242.7	107	96253.7	109	96270.7	111	96313.1	112
96232.0	110	96243.0	106	96254.0	108	96271.6	221	96313.4	113
96232.1	110	96243.1	106	96254.1	108	96272.6	221	96313.5	113
96232.4	111	96243.4	107	96254.4	109	96273.6	221	96313.6	113
96232.5	111	96243.5	107	96254.5	109	96274.6	221	96313.7	113
96232.6	111	96243.6	107	96254.6	109	96302.0	110	96314.0	110
96232.7	111	96243.7	107	96254.7	109	96302.1	110	96314.1	110
96233.0	110	96244.0	108	96255.0	108	96302.4	111	96314.4	111
96233.1	110	96244.1	108	96255.1	108	96302.5	111	96314.5	111
96233.4	111	96244.4	109	96255.4	109	96302.6	111	96314.6	111
96233.5	111	96244.5	109	96255.5	109	96302.7	111	96314.7	111
96233.6	111	96244.6	109	96255.6	109	96304.0	110	96315.0	110
96233.7	111	96244.7	109	96255.7	109	96304.1	110	96315.1	110
96234.0	110	96245.0	108	96256.0	108	96304.4	111	96315.4	111
96234.1	110	96245.1	108	96256.1	108	96304.5	111	96315.5	111
96234.4	111	96245.4	109	96256.4	109	96304.6	111	96315.6	111
96234.5	111	96245.5	109	96256.5	109	96304.7	111	96315.7	111
96234.6	111	96245.6	109	96256.6	109	96305.0	110	96316.0	110
96234.7	111	96245.7	109	96256.7	109	96305.1	110	96316.1	110
96235.0	110	96246.0	108	96257.0	108	96305.4	111	96316.4	111
96235.1	110	96246.1	108	96257.1	108	96305.5	111	96316.5	111
96235.4	111	96246.4	109	96257.4	109	96305.6	111	96316.6	111
96235.5	111	96246.5	109	96257.5	109	96305.7	111	96316.7	111
96235.6	111	96246.6	109	96257.6	109	96306.0	110	96317.0	110
96235.7	111	96246.7	109	96257.7	109	96306.1	110	96317.1	110
96236.0	110	96247.0	108	96258.0	108	96306.4	111	96317.4	111
96236.1	110	96247.1	108	96258.1	108	96306.5	111	96317.5	111
96236.4	111	96247.4	109	96258.4	109	96306.6	111	96317.6	111
96236.5	111	96247.5	109	96258.5	109	96306.7	111	96317.7	111
96236.6	111	96247.6	109	96258.6	109	96307.0	110	96318.0	112
96236.7	111	96247.7	109	96258.7	109	96307.1	110	96318.1	112
96237.0	110	96248.0	108	96261.0	108	96307.4	111	96318.4	113
96237.1	110	96248.1	108	96261.1	108	96307.5	111	96318.5	113
96237.4	111	96248.4	109	96261.4	109	96307.6	111	96318.6	113
96237.5	111	96248.5	109	96261.5	109	96307.7	111	96318.7	113
96237.5	111	96248.6	109	96261.6	109	96308.0	110	96319.0	110
96237.7	111	96248.7	109	96261.7	109	96308.1	110	96319.1	110
96238.0	110	96249.0	108	96262.0	108	96308.4	111	96319.4	111
96238.1	110	96249.1	108	96262.1	108	96308.5	111	96319.5	111
96238.4	111	96249.4	109	96262.4	109	96308.6	111	96319.6	111
96238.5	111	96249.5	109	96262.5	109	96308.7	111	96319.7	111
96238.6	111	96249.6	109	96262.6	109	96309.0	110	96320.0	110
96238.7	111	96249.7	109	96262.7	109	96309.1	110	96320.1	110
96239.0	110	96250.0	108	96263.0	110	96309.4	111	96320.4	111
96239.1	110	96250.1	108	96263.1	110	96309.5	111	96320.5	111
96239.4	111	96250.4	109	96263.4	111	96309.6	111	96320.6	111
96239.5	111	96250.5	109	96263.5	111	96309.7	111	96320.7	111
96239.6	111	96250.6	109	96263.6	111	96310.0	110	96321.0	110
96239.7	111	96250.7	109	96263.7	111	96310.1	110	96321.1	110
96240.0	110	96251.0	108	96264.0	110	96310.4	111	96321.4	111
96240.1	110	96251.1	108	96264.1	110	96310.5	111	96321.5	111
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96381.1	112	96393.1	114	96421.1	114	96432.1	114	96443.5	115
96381.4	113	96393.4	115	96421.4	115	96432.4	115	96443.6	115
96381.5	113	96393.5	115	96421.5	115	96432.5	115	96443.7	115
96381.6	113	96393.6	115	96421.6	115	96432.6	115	96444.4	115
96381.7	113	96393.7	115	96421.7	115	96432.7	115	96444.5	115
96382.0	112	96394.0	114	96422.0	114	96433.0	114	96444.6	115
96382.1	112	96394.1	114	96422.1	114	96433.1	114	96444.7	115
96382.4	113	96394.4	115	96422.4	115	96433.4	115	96447.0	114
96382.5	113	96394.5	115	96422.5	115	96433.5	115	96447.1	114
96382.6	113	96394.6	115	96422.6	115	96433.6	115	96447.4	115
96382.7	113	96394.7	115	96422.7	115	96433.7	115	96447.5	115
96383.0	112	96395.0	114	96423.0	114	96434.0	114	96447.6	115
96383.1	112	96395.1	114	96423.1	114	96434.1	114	96447.7	115
96383.4	113	96395.4	115	96423.4	115	96434.4	115	96448.0	114
96383.5	113	96395.5	115	96423.5	115	96434.5	115	96448.1	114
96383.6	113	96395.6	115	96423.6	115	96434.6	115	96448.4	115
96383.7	113	96395.7	115	96423.7	115	96434.7	115	96448.5	115
96385.0	112	96412.0	114	96424.0	114	96435.0	114	96448.6	115
96385.1	112	96412.1	114	96424.1	114	96435.1	114	96448.7	115
96385.4	113	96412.4	115	96424.4	115	96435.4	115	96449.0	114
96385.5	113	96412.5	115	96424.5	115	96435.5	115	96449.1	114
96385.6	113	96412.6	115	96424.6	115	96435.6	115	96449.4	115
96385.7	113	96412.7	115	96424.7	115	96435.7	115	96449.5	115
96386.0	114	96413.0	114	96425.0	114	96436.0	114	96449.6	115
96386.1	114	96413.1	114	96425.1	114	96436.1	114	96449.7	115
96386.4	115	96413.4	115	96425.4	115	96436.4	115	96450.0	114
96386.5	115	96413.5	115	96425.5	115	96436.5	115	96450.1	114
96386.6	115	96413.6	115	96425.6	115	96436.6	115	96450.4	115
96386.7	115	96413.7	115	96425.7	115	96436.7	115	96450.5	115
96387.0	114	96415.0	114	96426.0	114	96437.0	114	96450.6	115
96387.1	114	96415.1	114	96426.1	114	96437.1	114	96450.7	115
96387.4	115	96415.4	115	96426.4	115	96437.4	115	96460.6	116
96387.5	115	96415.5	115	96426.5	115	96437.5	115	96460.7	116
96387.6	115	96415.6	115	96426.6	115	96437.6	115	96461.6	116
96387.7	115	96415.7	115	96426.7	115	96437.7	115	96461.7	116
96388.0	114	96416.0	114	96427.0	114	96438.0	114	96462.6	116
96388.1	114	96416.1	114	96427.1	114	96438.1	114	96462.7	116
96388.4	115	96416.4	115	96427.4	115	96438.4	115	96464.6	116
96388.5	115	96416.5	115	96427.5	115	96438.5	115	96464.7	116
96388.6	115	96416.6	115	96427.6	115	96438.6	115	96465.6	116
96388.7	115	96416.7	115	96427.7	115	96438.7	115	96465.7	116
96389.0	114	96417.0	114	96428.0	114	96439.0	114	96466.6	116
96389.1	114	96417.1	114	96428.1	114	96439.1	114	96466.7	116
96389.4	115	96417.4	115	96428.4	115	96439.4	115	96467.6	116
96389.5	115	96417.5	115	96428.5	115	96439.5	115	96467.7	116
96389.6	115	96417.6	115	96428.6	115	96439.6	115	96468.6	116
96389.7	115	96417.7	115	96428.7	115	96439.7	115	96468.7	116
96390.0	114	96418.0	114	96429.0	114	96440.0	114	96469.6	116
96390.1	114	96418.1	114	96429.1	114	96440.1	114	96469.7	116
96390.4	115	96418.4	115	96429.4	115	96440.4	115	96470.6	116
96390.5	115	96418.5	115	96429.5	115	96440.5	115	96470.7	116
96390.6	115	96418.6	115	96429.6	115	96440.6	115	96471.6	116
96390.7	115	96418.7	115	96429.7	115	96440.7	115	96471.7	116
96391.0	114	96419.0	114	96430.0	114	96441.0	114	96472.6	116
96391.1	114	96419.1	114	96430.1	114	96441.1	114	96472.7	116
96391.4	115	96419.4	115	96430.4	115	96441.4	115	96473.6	116
96391.5	115	96419.5	115	96430.5	115	96441.5	115	96473.7	116
96391.6	115	96419.6	115	96430.6	115	96441.6	115	96474.6	116
96391.7	115	96419.7	115	96430.7	115	96441.7	115	96474.7	116
96392.0	114	96420.0	114	96431.0	114	96442.0	114	96475.6	116
96392.1	114	96420.1	114	96431.1	114	96442.1	114	96475.7	116
96392.4	115	96420.4	115	96431.4	115	96442.4	115	96476.6	116
96392.5	115	96420.5	115	96431.5	115	96442.5	115	96476.7	116
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96478.7	116	96506.4	145	96530.0	150	96542.0	150	96563.4	103
96480.6	116	96506.5	145	96530.1	150	96542.1	150	96563.5	103
96481.6	116	96506.6	145	96530.4	151	96542.4	151	96563.6	103
96482.6	116	96506.7	145	96530.5	151	96542.5	151	96563.7	103
96483.4	45	96507.6	145	96530.6	151	96542.6	151	96564.0	102
96483.5	45	96507.7	145	96530.7	151	96542.7	151	96564.1	102
96484.4	45	96520.0	150	96532.0	150	96544.0	150	96564.4	103
96484.5	45	96520.1	150	96532.1	150	96544.1	150	96564.5	103
96485.4	45	96520.4	151	96532.4	151	96544.4	151	96564.6	103
96485.5	45	96520.5	151	96532.5	151	96544.5	151	96564.7	103
96486.4	45	96520.6	151	96532.6	151	96544.6	151	96565.0	102
96486.5	45	96520.7	151	96532.7	151	96544.7	151	96565.1	102
96487.4	45	96521.0	150	96533.0	150	96545.0	150	96565.4	103
96487.5	45	96521.1	150	96533.1	150	96545.1	150	96565.5	103
96488.4	45	96521.4	151	96533.4	151	96545.4	151	96565.6	103
96488.5	45	96521.5	151	96533.5	151	96545.5	151	96565.7	103
96489.4	45	96521.6	151	96533.6	151	96545.6	151	96566.0	102
96489.5	45	96521.7	151	96533.7	151	96545.7	151	96566.1	102
96490.4	45	96522.0	150	96534.0	150	96546.0	150	96566.4	103
96490.5	45	96522.1	150	96534.1	150	96546.1	150	96566.5	103
96491.4	45	96522.4	151	96534.4	151	96546.4	151	96566.6	103
96491.5	45	96522.5	151	96534.5	151	96546.5	151	96566.7	103
96492.4	45	96522.6	151	96534.6	151	96546.6	151	96567.0	102
96492.5	45	96522.7	151	96534.7	151	96546.7	151	96567.1	102
96493.4	45	96523.0	150	96535.0	150	96547.0	150	96567.4	103
96493.5	45	96523.1	150	96535.1	150	96547.1	150	96567.5	103
96494.4	45	96523.4	151	96535.4	151	96547.4	151	96567.6	103
96494.5	45	96523.5	151	96535.5	151	96547.5	151	96567.7	103
96500.0	144	96523.6	151	96535.6	151	96547.6	151	96568.0	102
96500.1	144	96523.7	151	96535.7	151	96547.7	151	96568.1	102
96500.4	145	96524.0	150	96536.0	150	96548.0	150	96568.4	103
96500.5	145	96524.1	150	96536.1	150	96548.1	150	96568.5	103
96500.6	145	96524.4	151	96536.4	151	96548.4	151	96568.6	103
96500.7	145	96524.5	151	96536.5	151	96548.5	151	96568.7	103
96501.0	144	96524.6	151	96536.6	151	96548.6	151	96569.6	151
96501.1	144	96524.7	151	96536.7	151	96548.7	151	96569.7	151
96501.4	145	96525.0	150	96537.0	150	96549.0	150	96570.0	99
96501.5	145	96525.1	150	96537.1	150	96549.1	150	96570.1	99
96501.6	145	96525.4	151	96537.4	151	96549.4	151	96570.6	99
96501.7	145	96525.5	151	96537.5	151	96549.5	151	96570.7	99
96502.0	144	96525.6	151	96537.6	151	96549.6	151	96571.0	99
96502.1	144	96525.7	151	96537.7	151	96549.7	151	96571.1	99
96502.4	145	96526.0	150	96538.0	150	96550.0	150	96571.6	99
96502.5	145	96526.1	150	96538.1	150	96550.1	150	96571.7	99
96502.6	145	96526.4	151	96538.4	151	96550.4	151	96572.0	99
96502.7	145	96526.5	151	96538.5	151	96550.5	151	96572.1	99
96503.0	144	96526.6	151	96538.6	151	96550.6	151	96572.6	99
96503.1	144	96526.7	151	96538.7	151	96550.7	151	96572.7	99
96503.4	145	96527.0	150	96539.0	150	96551.0	150	96573.0	99
96503.5	145	96527.1	150	96539.1	150	96551.1	150	96573.1	99
96503.6	145	96527.4	151	96539.4	151	96551.4	151	96573.6	99
96503.7	145	96527.5	151	96539.5	151	96551.5	151	96573.7	99
96504.0	144	96527.6	151	96539.6	151	96551.6	151	96574.0	99
96504.1	144	96527.7	151	96539.7	151	96551.7	151	96574.1	99
96504.4	145	96528.0	150	96540.0	150	96552.6	151	96574.6	99
96504.5	145	96528.1	150	96540.1	150	96552.7	151	96574.7	99
96504.6	145	96528.4	151	96540.4	151	96553.6	151	96575.0	99
96504.7	145	96528.5	151	96540.5	151	96553.7	151	96575.1	99
96505.0	144	96528.6	151	96540.6	151	96559.6	151	96575.6	99
96505.1	144	96528.7	151	96540.7	151	96559.7	151	96575.7	99
96505.4	145	96529.0	150	96541.0	150	96561.6	151	96576.0	99
96505.5	145	96529.1	150	96541.1	150	96561.7	151	96576.1	99
96505.6	145	96529.4	151	96541.4	151	96562.6	151	96576.6	99
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96577.6	99	96801.1	156	96812.1	156	96823.1	158	96853.5	161
96577.7	99	96801.4	157	96812.4	157	96823.4	159	96853.6	161
96578.6	99	96801.5	157	96812.5	157	96823.5	159	96853.7	161
96578.7	99	96801.6	157	96812.6	157	96823.6	159	96854.0	160
96579.6	99	96801.7	157	96812.7	157	96823.7	159	96854.1	160
96579.7	99	96802.0	156	96813.0	156	96824.0	158	96854.4	161
96750.6	71	96802.1	156	96813.1	156	96824.1	158	96854.5	161
96751.6	71	96802.4	157	96813.4	157	96824.4	159	96854.6	161
96752.6	71	96802.5	157	96813.5	157	96824.5	159	96854.7	161
96753.6	71	96802.6	157	96813.6	157	96824.6	159	96855.0	160
96754.6	71	96802.7	157	96813.7	157	96824.7	159	96855.1	160
96755.6	71	96803.0	156	96814.0	156	96825.0	158	96855.4	161
96757.6	71	96803.1	156	96814.1	156	96825.1	158	96855.5	161
96758.6	71	96803.4	157	96814.4	157	96825.4	159	96855.6	161
96759.6	71	96803.5	157	96814.5	157	96825.5	159	96855.7	161
96760.6	71	96803.6	157	96814.6	157	96825.6	159	96856.0	160
96761.6	71	96803.7	157	96814.7	157	96825.7	159	96856.1	160
96762.6	71	96804.0	156	96815.0	156	96826.0	158	96856.4	161
96763.6	71	96804.1	156	96815.1	156	96826.1	158	96856.5	161
96764.6	71	96804.4	157	96815.4	157	96826.4	159	96856.6	161
96765.4	70	96804.5	157	96815.5	157	96826.5	159	96856.7	161
96765.5	71	96804.6	157	96815.6	157	96826.6	159	96857.0	160
96766.4	70	96804.7	157	96815.7	157	96826.7	159	96857.1	160
96766.5	71	96805.0	156	96816.0	156	96827.0	158	96857.4	161
96767.4	70	96805.1	156	96816.1	156	96827.1	158	96857.5	161
96767.5	71	96805.4	157	96816.4	157	96827.4	159	96857.6	161
96768.4	70	96805.5	157	96816.5	157	96827.5	159	96857.7	161
96768.5	71	96805.6	157	96816.6	157	96827.6	159	96858.0	160
96769.4	70	96805.7	157	96816.7	157	96827.7	159	96858.1	160
96769.5	71	96806.0	156	96817.0	156	96828.0	158	96858.4	161
96770.4	70	96806.1	156	96817.1	156	96828.1	158	96858.5	161
96770.5	71	96806.4	157	96817.4	157	96828.4	159	96858.6	161
96772.4	70	96806.5	157	96817.5	157	96828.5	159	96858.7	161
96772.5	71	96806.6	157	96817.6	157	96828.6	159	96859.0	160
96773.4	70	96806.7	157	96817.7	157	96828.7	159	96859.1	160
96773.5	71	96807.0	156	96818.0	156	96829.0	158	96859.4	161
96775.6	77	96807.1	156	96818.1	156	96829.1	158	96859.5	161
96777.6	77	96807.4	157	96818.4	157	96829.4	159	96859.6	161
96778.6	77	96807.5	157	96818.5	157	96829.5	159	96859.7	161
96779.6	77	96807.6	157	96818.6	157	96829.6	159	96860.0	160
96780.6	77	96807.7	157	96818.7	157	96829.7	159	96860.1	160
96781.6	77	96808.0	156	96819.0	158	96831.6	159	96860.4	161
96782.6	77	96808.1	156	96819.1	158	96831.7	159	96860.5	161
96783.6	77	96808.4	157	96819.4	159	96832.6	159	96860.6	161
96784.6	77	96808.5	157	96819.5	159	96832.7	159	96860.7	161
96785.4	76	96808.6	157	96819.6	159	96833.6	159	96861.0	160
96785.5	77	96808.7	157	96819.7	159	96833.7	159	96861.1	160
96786.4	76	96809.0	156	96820.0	158	96834.6	159	96861.4	161
96786.5	77	96809.1	156	96820.1	158	96834.7	159	96861.5	161
96787.4	76	96809.4	157	96820.4	159	96835.6	159	96861.6	161
96787.5	77	96809.5	157	96820.5	159	96835.7	159	96861.7	161
96789.4	76	96809.6	157	96820.6	159	96836.6	159	96862.0	160
96789.5	77	96809.7	157	96820.7	159	96836.7	159	96862.1	160
96790.4	76	96810.0	156	96821.0	158	96837.6	159	96862.4	161
96790.5	77	96810.1	156	96821.1	158	96837.7	159	96862.5	161
96791.4	76	96810.4	157	96821.4	159	96850.6	161	96862.6	161
96791.5	77	96810.5	157	96821.5	159	96851.6	161	96862.7	161
96792.4	76	96810.6	157	96821.6	159	96852.0	160	96863.0	160
96792.5	77	96810.7	157	96821.7	159	96852.1	160	96863.1	160
96800.0	156	96811.0	156	96822.0	158	96852.4	161	96863.4	161
96800.1	156	96811.1	156	96822.1	158	96852.5	161	96863.5	161
96800.4	157	96811.4	157	96822.4	159	96852.6	161	96863.6	161
96800.5	157	96811.5	157	96822.5	159	96852.7	161	96863.7	161
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96864.5	161	96875.5	163	97010.6	191	97271.6	195	97706.9	298
96864.6	161	96875.6	163	97011.6	189	97272.6	195	97707.9	298
96864.7	161	96875.7	163	97012.6	191	97274.6	195	97708.9	298
96865.0	160	96876.0	162	97013.6	189	97275.6	195	97709.9	298
96865.1	160	96876.1	162	97014.6	191	97276.6	193	97710.9	298
96865.4	161	96876.4	163	97020.6	217	97277.6	195	97711.9	298
96865.5	161	96876.5	163	97021.6	217	97278.6	195	97712.9	298
96865.6	161	96876.6	163	97022.6	217	97279.6	185	97713.9	298
96865.7	161	96876.7	163	97023.6	217	97281.6	195	97714.9	298
96866.0	160	96877.6	163	97025.6	217	97282.6	195	97715.9	295
96866.1	160	96877.7	163	97026.6	217	97283.6	193	97716.9	295
96866.4	161	96878.6	163	97027.6	217	97284.6	195	97717.9	295
96866.5	161	96878.7	163	97028.6	217	97285.6	195	97718.9	295
96866.6	161	96879.6	163	97029.6	217	97286.6	193	97719.9	295
96866.7	161	96879.7	163	97030.6	217	97287.6	195	97720.9	295
96867.0	160	96901.6	88	97031.6	217	97288.6	193	97721.9	295
96867.1	160	96902.6	88	97032.6	217	97289.6	195	97722.9	295
96867.4	161	96903.6	88	97035.6	217	97292.6	193	97730.9	298
96867.5	161	96906.6	88	97036.6	217	97600.6	197	97731.9	298
96867.6	161	96907.6	88	97037.6	217	97600.9	295	97732.9	298
96867.7	161	96908.6	88	97130.6	187	97601.6	197	97733.9	298
96868.0	160	96909.6	88	97131.6	185	97601.9	295	97734.9	298
96868.1	160	96912.6	88	97132.6	187	97602.6	197	97735.9	298
96868.4	161	96913.6	88	97133.6	185	97602.9	295	97736.9	298
96868.5	161	96914.6	88	97134.6	187	97603.6	197	97737.9	298
96868.6	161	96917.6	88	97135.6	187	97603.9	295	97738.9	298
96868.7	161	96918.6	88	97139.6	185	97604.6	197	97739.9	298
96869.0	160	96919.6	88	97140.6	187	97604.9	295	97740.1	289
96869.1	160	96921.6	88	97141.6	185	97605.6	197	97740.2	289
96869.4	161	96922.6	88	97142.6	187	97605.9	295	97740.6	288
96869.5	161	96923.6	88	97143.6	185	97606.6	197	97740.7	289
96869.6	161	96924.6	88	97144.6	187	97606.9	295	97741.1	289
96869.7	161	96926.6	88	97145.6	185	97607.6	197	97741.2	289
96870.0	160	96927.6	88	97146.6	187	97607.9	295	97741.6	288
96870.1	160	96928.6	88	97147.6	187	97608.6	197	97741.7	289
96870.4	161	96929.6	88	97149.6	185	97608.9	295	97742.1	289
96870.5	161	96930.6	88	97150.6	185	97609.6	197	97742.2	289
96870.6	161	96933.6	89	97151.6	187	97610.6	197	97742.6	288
96870.7	161	96934.6	89	97152.6	185	97610.9	294	97742.7	289
96871.0	160	96937.6	89	97153.6	187	97611.6	197	97743.1	289
96871.1	160	96938.6	89	97154.6	185	97611.9	294	97743.2	289
96871.4	161	96939.6	89	97155.6	187	97612.6	197	97743.6	288
96871.5	161	96940.6	89	97156.6	185	97612.9	294	97743.7	289
96871.6	161	96943.6	89	97157.6	187	97613.6	197	97744.1	289
96871.7	161	96944.6	89	97158.6	185	97613.9	294	97744.2	289
96872.0	162	96945.6	89	97158.6	187	97614.6	197	97744.6	288
96872.1	162	96948.6	89	97160.6	187	97614.9	294	97744.7	289
96872.4	163	96949.6	89	97161.6	185	97615.6	197	97745.1	289
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96872.6	163	96952.6	89	97163.6	187	97618.6	197	97745.6	288
96872.7	163	96953.6	89	97164.6	185	97619.6	197	97745.7	289
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96873.5	163	96958.6	89	97168.6	187	97624.6	197	97747.7	289
96873.6	163	96959.6	89	97169.6	187	97625.6	197	97748.6	288
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97763.7	289	98003.6	228	98105.2	224	98182.6	247	98272.6	236
97764.7	289	98004.6	228	98106.2	224	98183.1	247	98273.6	236
97765.7	289	98005.6	228	98107.2	224	98183.2	246	98274.6	236
97766.7	289	98006.6	228	98108.2	224	98183.6	247	98275.6	236
97767.7	289	98007.6	228	98109.2	224	98184.1	247	98276.6	236
97768.7	289	98008.6	228	98110.2	224	98184.2	246	98277.6	236
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97770.7	289	98010.6	228	98112.2	224	98185.1	247	98279.6	236
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97777.9	299	98014.6	228	98120.1	225	98187.1	247	98283.6	236
97778.9	299	98015.6	228	98121.1	225	98187.2	246	98284.6	236
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97783.9	301	98024.6	230	98126.1	225	98189.1	247	98301.2	238
97784.9	301	98025.6	230	98127.1	225	98189.2	246	98302.2	238
97785.9	301	98026.6	230	98128.1	225	98189.6	247	98303.2	238
97786.9	301	98027.6	230	98129.1	225	98190.6	247	98304.2	238
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97788.9	301	98029.6	230	98131.1	225	98192.6	247	98306.2	238
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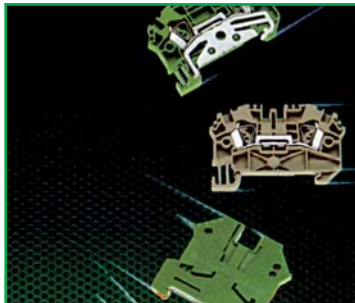
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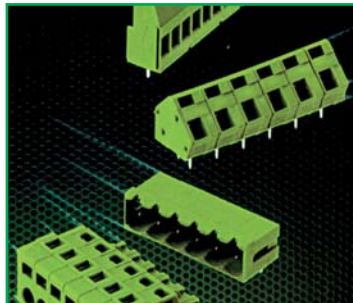
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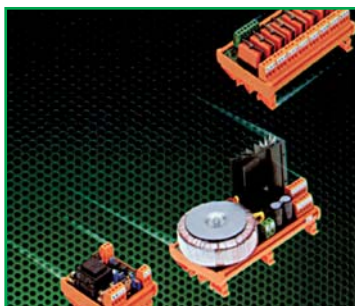
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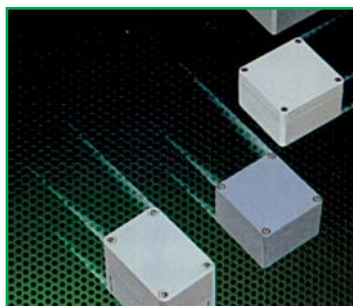
Conta Strips



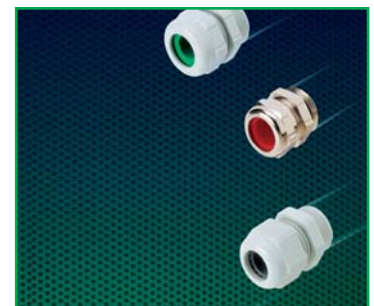
Interface Modules



Enclosures



Cord Grips



Ferrules



Tools



Mini Cable Trays



Cut Here



# Terms & Conditions

## GENERAL

No additions or modifications to the Terms and Conditions of Sale herein shall be binding upon CONTA-CLIP, Inc. unless authorized in writing by an Officer of CONTA-CLIP, Inc.

The conditions and provisions herein constitute and are essential portions of this agreement. No prior agreement, oral or in writing, shall have validity, force or effect whatever unless incorporated herein. Should any provision or condition or Buyer's order conflict with any provision herein contained, the provisions of this agreement shall prevail and be binding. The rights and obligations under this agreement shall be governed by the Laws of the State of NJ. Errors and omissions by Seller may be corrected by Seller, if any, all or a part of one or more of the terms and conditions of this agreement should be declared illegal by any court of law, such part or such term or terms be considered deleted from this agreement, the remaining to be unaffected and in full force and effect.

## ORDER ACCEPTANCE

All customer orders will be in written form and are subject to acceptance by an authorized individual of CONTA-CLIP, Inc. in Belle Mead, NJ. Typographical and other errors made in quotations, order entry and acknowledgements are subject to correction. The minimum order is \$100 net.

## PRICES AND CONDITIONS

All prices are based on CONTA-CLIP, Inc.'s current Price List and are those in effect at the time of shipment. CONTA-CLIP, Inc. reserves the right to change prices at any time without prior notification. All quotations must be confirmed in writing and are valid for (30) days from the date of quotation, unless otherwise specified and must be signed by individuals authorized to make quotations. Unless otherwise stated on the quotation, prices are FOB Belle Mead, NJ. Prices exclude sales, use, excise, or other taxes which arise out of the sale. When applicable and required, such taxes will be added to the sale price.

## TAXES

The Purchaser shall provide CONTA-CLIP, Inc. with a Resale Tax Certificate for the purchased goods. If purchased items are not for resale, the Purchaser will be responsible to pay all applicable sales, use, excise or similar taxes charged.

## SHIPMENT AND FREIGHT

The shipment method and routing will be defined by the Purchaser on the purchase order. If instructions are not provided, CONTA-CLIP, Inc. will choose the shipment method based upon the best way. All shipments will be sent prepaid with the shipping charges added to Purchaser's invoice, unless otherwise directed by the Purchaser on the purchase order or provided for by a separate agreement between the parties.

## DELIVERIES

Delivery dates given on a quotation or in an order acknowledgement are based upon good faith estimates and are not guaranteed by CONTA-CLIP, Inc. CONTA-CLIP, Inc. shall not be liable for delays in delivery or in performance due to causes beyond its control including transportation and customs delays, acts of God, acts of the Purchaser, acts of civil or military authority, fires, strikes or other labor disturbances, war, riot or national disasters.

In the event of such delay the promised date or performance shall be extended for a period equal to the time lost by reason of the delay. All stock items, unless reserved specifically for a customer, are subject to prior sale.

## PAYMENT TERMS

Payment is due within (30) days from the invoice date. In the event of referral to an attorney or agency for collection of a delinquent account, a collection fee of 10% of the overdue amount plus interest charges of one and one half percent per month will be due.

## ORDER CANCELLATION

Orders placed by the Purchaser may be cancelled by the Purchaser with CONTA-CLIP, Inc.'s written consent subject to assessment of a cancellation charge based on any costs incurred by CONTA-CLIP, Inc. in relation to production, processing and transportation of the cancelled order.

## CLAIMS

Purchaser claims of shortages or deductions for erroneous charges must be made within (10) business days of Purchaser's receipt of ordered product or such claims will not be allowed.

## RETURN GOODS

Any product returned to CONTA-CLIP, Inc. by the Purchaser will be accepted only if the following conditions are met:

All products returned to CONTA-CLIP, Inc. must be accompanied with a Returned Material Authorization Number obtained from CONTA-CLIP, Inc. No returned product will be accepted without the Returned Material Authorization Number clearly marked and visible on each carton.

All returned product is subject to inspection by CONTA-CLIP, Inc. This material must conform to current catalog descriptions and be in resaleable condition.

Custom made, specially designed, obsolete products or those products designated as non-returnable in the current price list are not returnable for credit. All returned material is to be shipped freight prepaid. No "freight collect" shipments will be accepted.

The credit amount will be calculated on a last invoice basis. In the event that the original invoice cannot be found, credit will be issued based on prices reflected in the price list from two years back.

A restocking charge will apply to any returned product and the percentage will be determined by CONTA-CLIP, Inc. No restocking charge will apply to product deemed nonconforming.

Any nonconforming product returned under warranty by Purchaser will be repaired or replaced at no charge for labor or parts if deemed deficient by CONTA-CLIP, Inc. provided the return complies with the following requirements:

- a. Purchaser must submit a written claim to CONTA-CLIP, Inc. describing the specific nature of the relevant details relating to the nonconformance. Purchaser must not return nonconforming product to CONTA-CLIP, Inc. until a Returned Material Authorization Number has been requested by the Purchase and issued by CONTA-CLIP, Inc.
- b. A return on nonconforming product must be made by Purchaser within (10) business days after the issuance date of the Returned Material Authorization.
- c. Failure to satisfy any of these requirements for nonconforming products could result in a warranty claim as provided for under Limited Warranty to be disallowed.

Should any product returned to CONTA-CLIP, Inc. not meet the prescribed requirements as defined herein under Returned Goods (10.), CONTA-CLIP, Inc. reserves the right to either refuse receipt of returned product or to send back any returned product which was already received at the Purchaser's expense.

## LIMITED WARRANTY

CONTA-CLIP, Inc. warrants to the Purchaser that the products purchased will be of merchantable quality and free from defects of material and workmanship and will be of kind and quality designated or so specified in the contract. This warranty shall only apply to defects appearing within one year from the date of the CONTA-CLIP, Inc. invoice, with the exception of tools which will carry a six month warranty. CONTA-CLIP, Inc. will not be liable for any modification to its products by the purchaser.

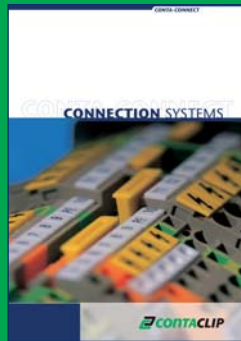
Satisfaction of this warranty will be limited to (a) the replacement of the product by CONTA-CLIP, Inc. or (b) repair or modification of the product by CONTA-CLIP, Inc. or (c) issuance of a credit for the nonconforming products delivered under the order involved. Rights under this warranty are available only if CONTA-CLIP, Inc. is notified promptly in writing of the alleged nonconformance and CONTA-CLIP, Inc.'s examination of the product discloses that the nonconformance was not due to misuse, improper installation, improper operation, improper maintenance, alteration, modification, accident or unusual degradation of the equipment or parts due to physical environments in excess of the limits.

There are no warranties which extend beyond this provision. This warranty is in lieu of all other warranties whether expressed, implied or statutory including implied warranties of merchantability or fitness. The Buyer acknowledges that we are not relying on the seller's skill or judgment to select or furnish goods suitable for any particular purpose. This warranty extends only to the purchaser from CONTA-CLIP, Inc. or its authorized distributor.

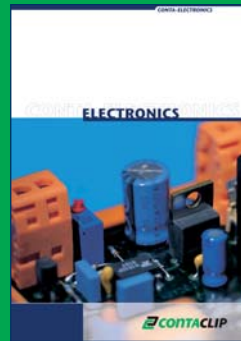
*We reserve the right to correct errors, omissions and make revisions without notice.*

*At CONTA-CLIP we do our best to ensure that all information in this catalog is accurate. However, we cannot be held responsible for errors in this catalog. We reserve the right to make changes to technical specifications and products listed in this catalog. All product recommendations are based on our knowledge and experience with the products listed in this catalog or on data sheets. It is the customer's responsibility to ensure the suitability of our products for each particular application.*

**CONTA-CONNECT**



**CONTA-ELECTRONICS**



**CONTA-CON**



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