



E.B. Horsman & Son

The Electrical Distributor of Choice!

*proud distributor
of*

Thomas & Betts

Visit our

You Tube Channel

www.youtube.com/user/ebhorsman

Shop Online



ebhorsman.com



Table of Contents

.....

| | |
|--|----------|
| Nylon Flexible Conduits – Overview | E2–E7 |
| Conduits..... | E8–E25 |
| PMAFIX [®] Fittings | E26 |
| Thread Codes | E27 |
| Connectors for Nylon Flexible Conduits..... | E28–E29 |
| Fittings for Nylon Flexible Conduits..... | E30–E54 |
| Accessories for Nylon Flexible Conduits..... | E55–E57 |
| Large-Size Nylon Flexible Conduits and Fittings..... | E58–E62 |
| Large-Size Nylon Flexible Accessories | E63 |
| Divisible-System Nylon Flexible Conduits and Fittings..... | E64 |
| Divisible-System Nylon Flexible Accessories | E65 |
| Special Products | E66–E70 |
| Accessories and Tools | E71–E79 |
| Hazardous Location ATEX Systems | E80–E91 |
| Technical Information | E92–E103 |

Nylon Flexible Conduits Overview

Mechanical Engineering

A considerable number of PMA® cable protection systems are used in mechanical engineering. A few examples illustrate how varied the range of mechanical engineering applications is. You will find our products in machine tools, packaging machines, printing machines, as well as heating, ventilation, conveyer and filling systems. PMA® products also make a vital contribution to the smooth operation of high-voltage and emergency power systems, can production machinery and woodworking machines, etc. PMA® cable protection solutions safeguard cables, wires and data links against heat, cold, tensile stress, pressure stress and other external influences in the important mechanical engineering industry.



Automation

In the field of automation, there is a need for products that can withstand the stress of motion-intensive applications. Solutions developed by PMA® fully meet these requirements. Special conduit designs, supports and abrasion-protection sleeves provide optimal protection along the entire length of all moving elements, enabling engineers to achieve a massive reduction in torsional forces. There is a good reason why leading robotics manufacturers rely on PMA® technology.



Railway/Railway Infrastructure

PMA® products have proven their dependability in railway construction projects around the world. This is the reason why large corporations including Siemens, Alstom, Bombardier, Deutsche Bahn and SNCF have chosen us as supplier over a period of many years. Our special railway engineering product line provides protection and safety on signalling systems, couplings, trucks and gangways, as well as with roof and underfloor equipment. The range of applications is very extensive. PMA® products contribute to the safe operation of trams, locomotives, freight cars, high-speed trains and even roller coasters.



Countless Applications

PMA® cable protection products can be used in an extremely wide range of applications. The list is virtually endless and includes industries such as telecommunications, construction equipment and medical equipment. Wherever there is a need for cable protection, the PMA® product portfolio provides safe, dependable, forward-looking solutions. We can also develop custom solutions to meet your individual needs.



Nylon Flexible Conduits Overview

PMAFIX® Pro Connectors

State-of-the-Art Design and Manufacturing Procedure for Highest Sealing Performance

The PMAFIX® Pro fitting series employs two-component injection-molding technology in a radical new design to set new standards for the cable protection industry in critical performance parameters, particularly sealing security.

Connectors: Male and female threads in polyamide and metal, straight, 45°, 90° and strain-relief types

Conduits: The PMAFIX® Pro system is compatible with the entire PMAFLEX® Pro and PMAFLEX® conduit range

Modes of Protection: IP68 and IP69K both in static and dynamic installations



PMA® EX-SYSTEM Connectors, Conduits and Accessories

Electrostatic load discharging for explosion-endangered areas

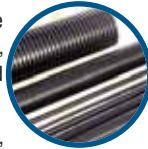
The EX-System includes conduits, fittings and accessories for flexible protection of cables, wires and hoses against mechanical damage, UV-radiation and weathering in explosion-endangered areas classified as zones 1/21 (gas/dust) according to ATEX 137.

Connectors: Straight, 45° elbow, 90° elbow and 90° curved elbow, distributors

Conduits: Highly flexible, conduit sizes from Ø 10 to 50

Applications: Areas where combustible gases, liquids or solids and atmospheric oxygen can form an explosive atmosphere and where any form of ignition has to be avoided

Installation: Simple push-in installation (IP66), safety and sealing system (IP68)



PMAFIX®/PMAFLEX® Connectors and Conduits

Best selling and very popular

This product line offers solutions that meet the highest expectations: IP66–IP69K. It is based on a perfected system technology that makes installation easy. You can choose from a very large, varied range of connectors and conduit that has demonstrated its dependability in all types of applications for more than 20 years.

Connectors: Male and female thread in polyamide or metal, straight, 45° elbow, 90° elbow and 90° curved elbow, distribution

Conduits: More than 20 different types of conduit: light to heavy, flexible to highly flexible, conduit size from Ø 6 to 125

Safety System: Unique safety clip system for connection with PMA conduit

Modes of Protection: IP66, IP68GT, IP68, IP69K



PMA® SMART LINE Connectors and Conduits

Modern, versatile and attractive

One-piece design, IP66 protection and simple, fast installation are the outstanding features of the Smart Line. Other characteristics, including a modern, functional design and an excellent price/performance ratio, make this product line a very attractive solution.

Connectors: Straight, 45° elbow and 90° elbow

Conduits: Conduit types made of PA6, PA12 and PP

Modes of Protection: IP66



AUTOMATION Accessories and Robotics

Protection and dependability in automation applications

PMA® products provide optimal cable protection in all automation applications. They give you dependable protection against abrasion, and they prevent wearing through the insulation. They are very flexible and deliver long service life in motion-intensive applications.








Applications:

Special conduit and accessories for robotics and automation applications provide:

- Reduced mechanical stress
- Longer service life
- Flexible design for motion-intensive applications



Nylon Flexible Conduits Overview

| | | PMAFLEX [®] PRO | | | | PMAFLEX [®] | | | | | | | |
|--|--|--|---------|-----|-----|----------------------|-----|-----|------|-----|-----|------|---|
| Key: | I o | recommended suitable (application details to be considered) | | PHT | PLU | POH | PSX | CYF | CYFH | CYL | ESD | ESDP | |
| | | | | | | | | | | | | | |
| APPLICATION AREAS | MACHINE BUILDING  | General Applications | static | | | | | | | • | | | |
| | | | dynamic | • | | | | | | o | | | |
| | | Heavy Loads | static | | | | | | | | | | |
| | | | dynamic | | | | | | | | | | |
| | | Outdoor Applications | static | | | | | | | | | | |
| | | | dynamic | | | | | | | | | | |
| | | Antistatic Requirements | static | | | | | | | | | • | • |
| | | | dynamic | | | | | | | | | • | • |
| | TRACTION  | Outdoor Applications with Sunlight Exposure | static | | | | | | | | | | |
| | | | dynamic | | | | | | | | | | |
| | | Outdoor Applications | static | o | | | | | | | | | |
| | | | dynamic | o | | | | | | | | | |
| | | Indoor Applications | static | | • | • | | | | | | | |
| | TRACTION INFRA  | Outdoor Applications with Sunlight Exposure | static | | | | | | | | | | |
| | | Indoor and Tunnel Applications | static | | • | | | | | | | | |
| | AUTOMATION  | Moving Systems | static | • | | | | | | | o | | |
| | | Systems with Extreme Movements | static | | | | | | | | | | |
| | | Moving Systems with Antistatic Requirements | static | | | | | | | | | • | • |
| | SHIP + OFF-SHORE  | Outdoor General Applications | static | | | | | | | | | | |
| | | | dynamic | o | | | | | | | | | |
| Indoor Applications | | static | | | | | | | | o | | | |
| | | dynamic | | | | | | | | | o | | |
| | Passenger Area | static | | | o | | | | | o | | | |
| ENERGY  | Outdoor Applications with Sunlight Exposure | static | | | | | | | | | | | |
| | Indoor Applications | static | | | o | | | | | o | | | |
| | Exposed to Radiation | static | | | | • | | | | | | | |
| OTHERS  | Vehicle Building | static | o | | | | | • | • | | | | |
| | Telecommunications | indoor | | | | | | | | o | | | |
| | | outdoor | | | | | | | | | | | |
| | Building Construction | indoor | | | • | | | | | | | | |
| | | outdoor | | | | | | | | | | | |
| | Ex Hazardous Areas (ATEX) | static | | | | | | | | | o | | |
| | High-Temperature Applications | static | o | | | • | | | | | | | |
| Find on page | | | E18 | E18 | E19 | E19 | | E9 | E9 | E9 | E10 | E10 | |

Nylon Flexible Conduits

Overview

| PMAFLEX [®] | | | | | | | | | | | | | | PMAFLEX [®] MULTI-LAYER | | | | | PMA [®] FLEX-PLUS (UL LISTED) | | | SMART LINE | | | COFLEX | | EX | |
|----------------------|-----|------|-----|---------|-----|-----|-----|-----|-----|-----|------|-----|-----|----------------------------------|------|------|-------|-------|--|-----|-----|------------|------|------|--------|------|-----|---|
| PCL | PCS | PCSL | PEL | PIS/PIH | POS | PUF | PVD | R90 | TEC | VAM | VAML | VCS | VOH | XCYL | XPCL | XSOL | XSOLL | XVCSH | CUS | PUS | VUS | LLPA | LLPF | LLPO | PACO | PPCO | ESX | |
| • | | | | | | | | | | | | | | • | • | | | | • | • | ○ | • | • | • | • | • | | |
| ○ | • | | | • | • | | | | | | | | | ○ | ○ | ○ | | | ○ | • | | | ○ | | • | | ○ | |
| | • | | | | | | | | | | | | | | | ○ | | | | | • | | | | | | | |
| | • | ○ | | • | | | | | | | | | | | | | ○ | | | | • | | | | | | | |
| | • | ○ | | • | | | | | | | | | | | | | ○ | | | | • | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | ○ |
| | • | ○ | | ○ | | | | | | | ○ | ○ | • | | | | ○ | | | | | | | | | ○ | | ○ |
| | • | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | ○ | | ○ |
| | • | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | ○ | | ○ |
| | • | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | ○ | | ○ |
| | • | ○ | | ○ | | | | | | | | | | | | | | | | | | | | | | ○ | | ○ |
| ○ | • | | | • | • | • | | • | | | | | | ○ | ○ | ○ | | | ○ | • | | | ○ | | ○ | | ○ | |
| | | | | • | | • | | • | | | | | | | | | | | | | | | | | | ○ | | ○ |
| | • | • | | ○ | | | | | | | | | ○ | | | | | | | | • | ○ | | | | ○ | | ○ |
| | • | • | | • | ○ | | | | | | | | | | | | | | | | • | | | | | ○ | | ○ |
| ○ | | | | | | | | | | | • | • | • | ○ | ○ | | | | | • | | • | • | • | • | • | ○ | • |
| ○ | • | • | | • | | | | | | | • | • | | | | | | | | ○ | • | | ○ | | ○ | | ○ | |
| ○ | • | ○ | | | | | | | | | | | ○ | | | | | | | • | | ○ | | | ○ | | ○ | |
| ○ | | | ○ | | ○ | | | | | | • | ○ | • | | • | • | | | | • | | ○ | • | • | ○ | ○ | ○ | |
| | | | | | | | • | | ○ | | | | | | | | | | | | | | ○ | ○ | ○ | • | • | |
| ○ | | | • | | | | | | | | | | • | | • | | | | | • | | ○ | ○ | • | • | • | ○ | |
| | | | | | | | | | | | • | • | | | | | | | | • | | ○ | | • | | • | | |
| | | ○ | | | | | | | | | | | | | | | | | | • | | ○ | | • | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | • |
| E11 | E11 | E12 | E12 | E13 | E13 | E14 | E14 | — | E15 | E15 | E16 | E16 | E17 | E21 | E21 | E22 | E22 | E23 | E24 | E24 | E25 | — | — | — | E20 | E20 | — | |

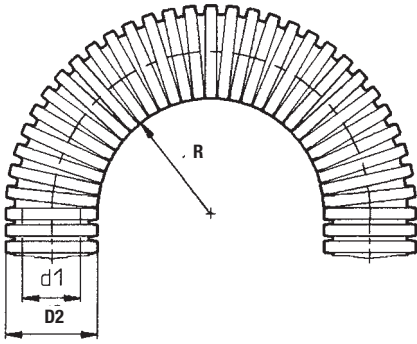
Nylon Flexible Conduits

Overview

| | | PMAFLEX® PRO | | | | PMAFLEX® | | | | | |
|--|---|--------------|----------|----------|----------|-----------|------------|-----------|------------|-----------|-----|
| | | PHT (PAE) | PLU (PO) | POH (PO) | PSX (PE) | CYF (PA6) | CYFH (PA6) | CYL (PA6) | ESD (PA12) | ESDP (PO) | |
| Key: ✓ = correct | | | | | | | | | | | |
| MATERIAL PROPERTIES | Ductility | | | | | | | | | | |
| | Reverse Bending Resistance | | | | | | | | | | |
| | Compression Resistance | | | | | | | | | | |
| | Low-Temperature Performance | | | | | | | | | | |
| | High-Temperature Performance | | | | | | | | | | |
| | Resistance to Weathering | | | | | | | | | | |
| APPROVALS | UL Recognition File | | | | | | | ✓ | | | |
| | Bi-National Recognition UL and CSA C22.2 No. 227.3-05 | | | | | | | ✓ | | | |
| | Bi-National Recognition UL and CSA C22.2 No. 227.2.1 | | | | | | | | | | |
| | Free from Halogens and Cadmium | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Non Flame Propagating EN61386 | | | | ✓ | ✓ | ✓ | ✓ | | | |
| | EN45545 | | | | ✓ | | | | | | |
| | NF F 16-101 + 102 | | | | ✓ | | | | | | |
| | BS6853 | | | ✓ | ✓ | | | | | | |
| | DIN 5510-2 | | | | ✓ | | | | | | |
| | UNI CEI 11170-3 Ed. 2005 | | | | ✓ | | | | | | |
| NFPA130 (ASTM E162 - ASTM E662 - ASTM E1354) BSS7239/SMP 800-C | | | | | | | | | | | |
| DNV (Type approved) | | | ✓ | | | | | ✓ | ✓ | | |
| Lloyd's Register (Type approved) | | | ✓ | | | | | ✓ | ✓ | | |
| Bureau Veritas (Type approved) | | | ✓ | | | | | ✓ | ✓ | | |
| TEMP. RANGE | Continuous Operating Temperature (Acc. to DO 9.21-4510) | Min. | -50 | -25 | -25 | -100 | -30 | -30 | -40 | -40 | -20 |
| | | Max. | 135 | 95 | 95 | 170 | 90 | 90 | 105 | 90 | 90 |
| | Short-Term Max. Operating Temperature 168h (Acc. to DO 9.21-4360) | | 180 | | 120 | 200 | 125 | 125 | 160 | 150 | |
| SIZES | Nominal Widths Min. | | 07 | 10 | 10 | 10 | 07 | 23 | 07 | 07 | 10 |
| | Nominal Widths Max. | | 48 | 48 | 48 | 48 | 17 | 48 | 125 | 95 | 48 |
| | Metric Size Min. | | 10 | 12 | 12 | 12 | 10 | 25 | 10 | 10 | 12 |
| | Metric Size Max. | | 50 | 50 | 50 | 50 | 20 | 50 | 146 | 106 | 50 |

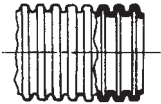
Conduits

PMAFLEX® Conduits

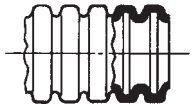


** stat. R = lowest recommended bending radius for static (fixed) installation.

*** dyn. R = lowest recommended bending radius for dynamic (flexible) installation.



Coarse profile G
High pullout strength



Fine profile T
Tight bending radius

PMAFLEX® covers more than 20 different conduit types for a variety of applications in cable protection. The PMAFLEX® range offers conduits for technically demanding applications and special requirements.

Conduit sizes range from 6 to 125 diameters, from lightweight to heavyweight, and pliable to highly flexible. Standard colours are black and grey.

Many conduits are specially approved, e.g. CSA, UL Recognition, NF, SNCF, DB, etc.

XPCLT-12SG

| X | PCL | T | - 12 | S | G |
|----------------------------|-------------|---------------------------|----------------------|------------------|---------------------------|
| MULTI-LAYER CONDUIT | TYPE | PROFILE | NOMINAL WIDTH | COLOUR | COLOUR INNER LAYER |
| | | T = FINE PROFILE | | B = BLACK | G = GREEN |
| | | D = FINE PROFILE | | S = GREY | B = BLUE |
| | | C = COARSE PROFILE | | | |



Conduits

CYF/CYFH Flexible, Medium/Heavy

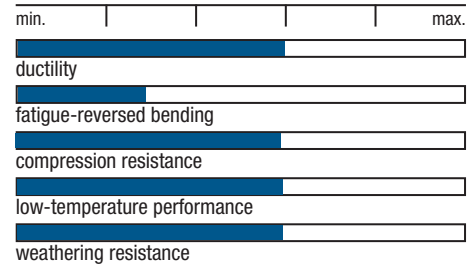
- Use in automobile and truck industries
- High-grade, specially modified polyamide 6
- CYF: medium-wall (NW 07 to 17); CYFH: heavy-wall (NW 23 to 48)
- Self extinguishing
- Free from halogens and cadmium
- Good impact strength at low temperatures and in dry conditions

Temperature range: -30° C to 90° C; Short term to 125° C

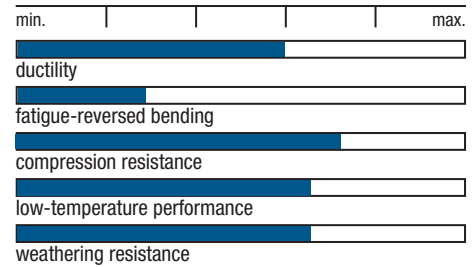
Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.



CYF Index



CYFH Index



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) |
|-------------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|
| | NW | Metric | | | | |
| CYFT-07B | 7 | 10 | 6.2 | 10.0 | 15 | 100 |
| CYFT-10B | 10 | 12 | 9.6 | 13.0 | 20 | |
| CYFT-12B | 12 | 16 | 12.0 | 15.8 | 30 | |
| CYFT-17B | 17 | 20 | 16.2 | 21.2 | 40 | |
| CYFHG-23B | 23 | 25 | 21.4 | 28.5 | 50 | |
| CYFHG-29B | 29 | 32 | 27.2 | 34.4 | 60 | 50 |
| CYFHG-36B | 36 | 40 | 35.8 | 42.4 | 70 | |
| CYFHG-48B | 48 | 50 | 46.8 | 54.4 | 80 | |

For actual cat. number, add product unit at the end. Example: CYFT-07B.100

Fine profile T
Tight bending radius

Coarse profile G
High pullout strength

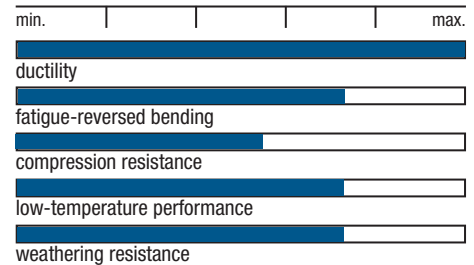
***† stat. R = lowest recommended bending radius for static (fixed) installation.

CYL Very Flexible, Medium

- Use in machine building and installation industries
- High-grade, specially formulated polyamide 6
- Very good flexibility
- Good impact strength at low temperatures and in dry conditions
- Self extinguishing
- Free from halogens and cadmium



CYL Index



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc. (see page E102-E103)

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) |
|-------------------|------------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|
| | | NW | Metric | | | | |
| CYLT-07B | CYLT-07S | 7 | 10 | 6.2 | 10.0 | 15 | 50 |
| CYLT-10B | CYLT-10S | 10 | 12 | 9.6 | 13.0 | 20 | |
| CYLT-12B* | CYLT-12S* | 12 | 16 | 12.0 | 15.8 | 30 | |
| CYLT-17B* | CYLT-17S* | 17 | 20 | 16.2 | 21.2 | 40 | |
| CYLT-23B* | CYLT-23S* | 23 | 25 | 22.6 | 28.5 | 45 | |
| CYLT-29B* | CYLT-29S* | 29 | 32 | 29.0 | 34.5 | 55 | 30 |
| CYLT-36B* | CYLT-36S* | 36 | 40 | 36.5 | 42.5 | 60 | |
| CYLT-48B* | CYLT-48S* | 48 | 50 | 47.5 | 54.5 | 70 | |
| CYLG-23B* | CYLG-23S* | 23 | 25 | 21.9 | 28.5 | 45 | 50 |
| CYLG-29B* | CYLG-29S* | 29 | 32 | 27.6 | 34.5 | 55 | |
| CYLG-36B* | CYLG-36S* | 36 | 40 | 36.0 | 42.5 | 60 | 30 |
| CYLG-48B* | CYLG-48S* | 48 | 50 | 47.0 | 54.5 | 70 | |
| CYLG-56B | CYLG-56S | 56 | 68 | 56.3 | 67.2 | 120 | |
| CYLG-70B | CYLG-70S | 70 | 80 | 68.0 | 80.0 | 160 | 10 |
| CYLG-95B | CYLG-95S | 95 | 106 | 91.9 | 106.0 | 210 | |
| CYLG-125B | CYLG-125S | 125 | 146 | 126.5 | 146.5 | 450 | |

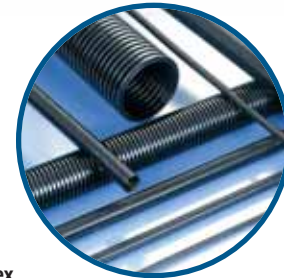
* CSA certified

For actual cat. number, add product unit at the end. Example: CYLT-07B.50

Conduits

ESD Very Flexible, Medium

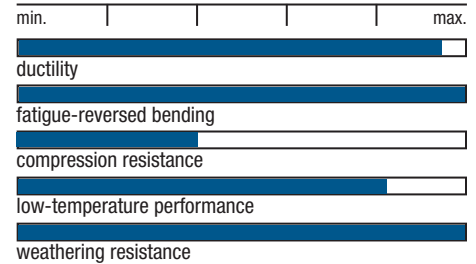
- For dynamic applications in robotics and automation where electrostatic charge and uncontrolled discharge need to be avoided
- High-grade, specially modified polyamide 12
- Prevents electrostatic charging
- For indoor and outdoor use (very good cold temperature performance)
- Excellent UV resistance and high dynamic-load resistance
- Free from halogens and cadmium



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|-------------------------|--------------------------|-----------------------|---------------------|
| | NW | Metric | | | | |
| ESDT-07B | 07 | 10 | 6.2 | 10.0 | 15 | 50 |
| ESDT-10B | 10 | 12 | 9.6 | 13.0 | 20 | |
| ESDT-12B | 12 | 16 | 12.0 | 15.8 | 30 | |
| ESDT-17B | 17 | 20 | 16.4 | 21.1 | 40 | |
| ESDT-23B | 23 | 25 | 22.6 | 28.4 | 45 | |
| ESDT-29B | 29 | 32 | 29.0 | 34.3 | 55 | 30 |
| ESDT-36B | 36 | 40 | 36.5 | 42.5 | 60 | |
| ESDT-48B | 48 | 50 | 47.5 | 54.5 | 70 | |
| ESDG-56B | 56 | 68 | 56.5 | 67.0 | 110 | 10 |
| ESDG-70B | 70 | 80 | 67.5 | 80.0 | 150 | |
| ESDG-95B | 95 | 106 | 91.5 | 106.0 | 170 | |

For actual cat. number, add product unit at the end. Example: ESDT-07B.50

ESD Index



Temperature range: -40 to 90 °C

Short term: Max. 150 °C

Chemical Resistance: Fuels, mineral oils, fats, alkalies, acids, etc.

ESDP Very Flexible, Medium


- For dynamic applications in automation, electronics and clean rooms where electrostatic charging and uncontrolled discharge must be avoided
- High-grade, specially modified polyolefin
- Prevents electrostatic charging
- Minimal migration
- Very good dynamic load resistance and good impact resistance
- Free from halogens and cadmium




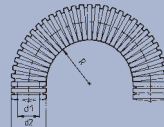
NEW!

| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|-------------------------|--------------------------|-----------------------|---------------------|
| | NW | Metric | | | | |
| ESDPT-07B | 7 | 10 | 6.2 | 10.0 | 15 | 50 |
| ESDPT-10B | 10 | 12 | 9.6 | 13.0 | 20 | |
| ESDPT-12B | 12 | 16 | 12.0 | 15.8 | 30 | |
| ESDPT-17B | 17 | 20 | 16.4 | 21.1 | 40 | |
| ESDPT-23B | 23 | 25 | 22.6 | 28.4 | 45 | |
| ESDPT-29B | 29 | 32 | 29.0 | 34.3 | 55 | 30 |
| ESDPT-36B | 36 | 40 | 36.5 | 42.5 | 60 | |
| ESDPT-48B | 48 | 50 | 47.5 | 54.5 | 70 | |

For actual cat. number, add product unit at the end. Example: ESDPT-07B.50

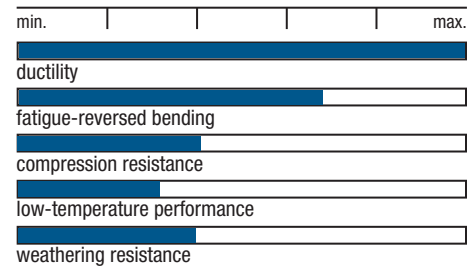
 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



**† stat. R = lowest recommended bending radius for static (fixed) installation.

ESDP Index



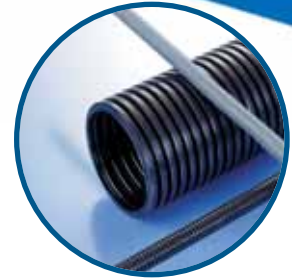
Continuous temperature range: -20 to 90 °C

Chemical Resistance: Fuels, mineral oils, fats, alkalies, strong acids, etc.

Conduits

PCL Very Flexible, Medium

- Specially modified polyamide 6/6.6 for cold impact
- Very good flexibility
- Self extinguishing
- Free from halogens and cadmium
- Good resistance to weathering

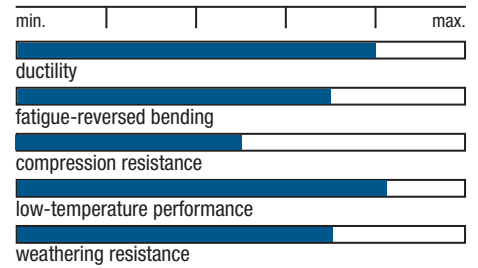


| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) | |
|----------------|---------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|----|
| | | NW | Metric | | | | | |
| PCLT-07B | PCLT-07S | 7 | 10 | 6.2 | 10.0 | 15 | 50 | |
| PCLT-10B | PCLT-10S | 10 | 12 | 9.6 | 13.0 | 20 | | |
| PCLT-12B* | PCLT-12S | 12 | 16 | 12.0 | 15.8 | 30 | | |
| PCLT-17B* | PCLT-17S* | 17 | 20 | 16.2 | 21.2 | 40 | | |
| PCLT-23B* | PCLT-23S* | 23 | 25 | 22.6 | 28.5 | 45 | | |
| PCLT-29B* | PCLT-29S* | 29 | 32 | 29.0 | 34.5 | 55 | 30 | |
| PCLT-36B* | PCLT-36S* | 36 | 40 | 36.5 | 42.5 | 60 | | |
| PCLT-48B* | PCLT-48S* | 48 | 50 | 47.5 | 54.5 | 70 | | |
| PCLG-17B* | PCLG-17S* | 17 | 20 | 15.3 | 21.2 | 40 | | 50 |
| PCLG-23B* | PCLG-23S* | 23 | 25 | 21.9 | 28.5 | 45 | | |
| PCLG-29B* | PCLG-29S* | 29 | 32 | 27.6 | 34.5 | 55 | | |
| PCLG-36B* | PCLG-36S* | 36 | 40 | 36.0 | 42.5 | 60 | | |
| PCLG-48B* | PCLG-48S* | 48 | 50 | 47.0 | 54.5 | 70 | 30 | |
| PCLG-56B | PCLG-56S | 56 | 68 | 56.3 | 67.2 | 130 | | |
| PCLG-70B | PCLG-70S | 70 | 80 | 67.5 | 80.0 | 160 | | 10 |
| PCLG-95B | PCLG-95S | 95 | 106 | 91.5 | 106.0 | 210 | | |
| PCLG-125B | PCLG-125S | 125 | 146 | 126.5 | 146.5 | 450 | | 6 |

*CSA certified.

For actual cat. number, add product unit at the end. Example: PCLT-07B.50

PCL Index



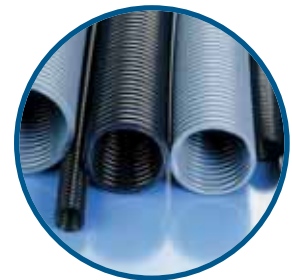
Temperature range: -50 to 105 °C

Short term: Max. 160 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

PCS Highly Flexible, Heavy

- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility and is self extinguishing
- Good mechanical strength at low temperatures and dry conditions
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|
| | | NW | Metric | | | | |
| PCST-07B | PCST-07S | 7 | 10 | 6.0 | 10.0 | 15/40 | 100 |
| PCST-10B | PCST-10S | 10 | 12 | 9.2 | 13.0 | 20/50 | |
| PCST-12B* | PCST-12S* | 12 | 16 | 11.8 | 15.8 | 25/70 | |
| PCST-17B* | PCST-17S* | 17 | 20 | 16.0 | 21.2 | 35/80 | 50 |
| PCSG-17B* | PCSG-17S* | 17 | 20 | 15.2 | 21.2 | 35/85 | |
| PCSG-23B* | PCSG-23S* | 23 | 25 | 22.0 | 28.5 | 40/110 | |
| PCSG-29B* | PCSG-29S* | 29 | 32 | 27.7 | 34.4 | 50/130 | |
| PCSG-36B* | PCSG-36S* | 36 | 40 | 35.8 | 42.4 | 60/180 | |
| PCSG-48B* | PCSG-48S* | 48 | 50 | 46.8 | 54.4 | 70/220 | 30 |
| PCSG-56B | PCSG-56S | 56 | 68 | 56.1 | 67.2 | 130/280 | |
| PCSG-70B | PCSG-70S | 70 | 80 | 66.5 | 80.0 | 170/360 | |
| PCSG-95B | PCSG-95S | 95 | 106 | 91.0 | 106.0 | 250/470 | |

*CSA certified.

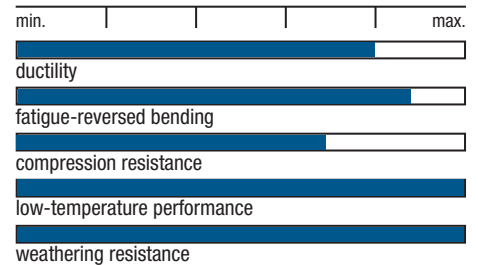
For actual cat. number, add product unit at the end. Example: PCST-07B.100

Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength

**† stat. R = lowest recommended bending radius for static (fixed) installation.

PSC Index



Temperature range: -50 to 95 °C

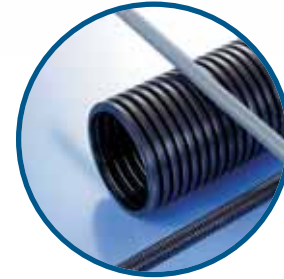
Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

Conduits

PCSL Very Flexible, Medium-Duty

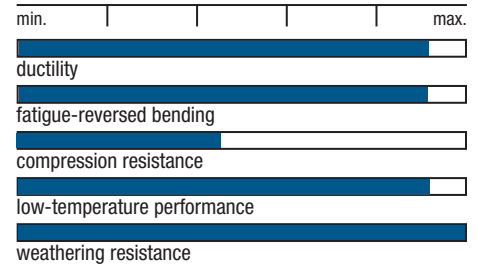
- Use in dynamic installations in railway vehicles, or in external applications like solar systems and signalling
- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility
- Good mechanical strength at low temperatures and dry conditions
- Self-extinguishing properties
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius_ (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| PCSLT-07B | PCSLT-07S | 7 | 10 | 6.2 | 10.0 | 15 | 50 |
| PCSLT-10B | PCSLT-10S | 10 | 12 | 9.6 | 13.0 | 20 | |
| PCSLT-12B | PCSLT-12S | 12 | 16 | 11.9 | 15.8 | 25 | |
| PCSLT-17B | PCSLT-17S | 17 | 20 | 16.4 | 21.1 | 30 | |
| PCSLG-17B | PCSLG-17S | 17 | 20 | 15.2 | 21.1 | 30 | |
| PCSLG-23B | PCSLG-23S | 23 | 25 | 21.7 | 28.4 | 40 | |
| PCSLG-29B | PCSLG-29S | 29 | 32 | 27.4 | 34.3 | 50 | |
| PCSLG-36B | PCSLG-36S | 36 | 40 | 35.8 | 42.3 | 60 | 30 |
| PCSLG-48B | PCSLG-48S | 48 | 50 | 46.7 | 54.2 | 70 | |

For actual cat. number, add product unit at the end. Example: PCSLT-07B.50

PCSL Index



Temperature range: -50 to 95 °C

Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

PEL Highly Flexible, Light/Soft

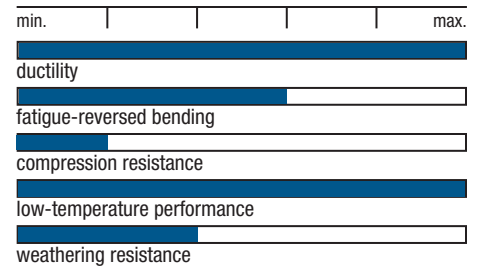
- Use in electrical cabinets and appliance construction
- Specially modified polyethylene
- Self extinguishing
- Low stiffness



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|-------------------|------------------|
| | | NW | Metric | | | | |
| PELT-10S | PELT-10SL | 10 | 12 | 9.7 | 12.7 | 20 | 50 |
| PELT-12S | PELT-12SL | 12 | 16 | 11.5 | 15.5 | 30 | |
| PELT-17S | PELT-17SL | 17 | 20 | 16.0 | 20.9 | 35 | |
| PELT-23S | PELT-23SL | 23 | 25 | 22.5 | 27.5 | 40 | |
| PELT-29S | PELT-29SL | 29 | 32 | 28.5 | 33.8 | 50 | 30 |
| PELT-36S | PELT-36SL | 36 | 40 | 34.0 | 41.6 | 60 | |
| PELT-48S | PELT-48SL | 48 | 50 | 47.0 | 53.2 | 70 | |


For actual cat. number, add product unit at the end. Example: PELT-10S.50

PEL Index




Temperature range: -50 to 60 °C

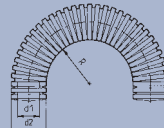
Chemical resistance: Fuels, mineral oils, fats, alkalies, acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pullout strength

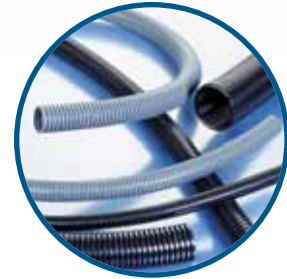


**† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

PIS/PIH Highly Flexible, Medium- and Heavy-Duty

- Use in dynamic applications in robotics and automation
- High-grade, specially modified polyamide 12
- PIS: medium-wall (nominal width 07 to 48)
- PIH: heavy-wall (nominal width 56 to 125)
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Self extinguishing
- Excellent flexibility
- Free from halogens and cadmium
- Good mechanical strength at low temperatures and dry conditions

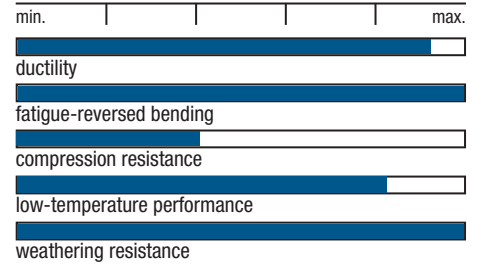


| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|
| | | NW | Metric | | | | |
| PIST-07B | PIST-07S | 7 | 10 | 6.2 | 10.0 | 15/40 | 50 |
| PIST-10B | PIST-10S | 10 | 12 | 9.6 | 13.0 | 20/50 | |
| PIST-12B | PIST-12S | 12 | 16 | 11.9 | 15.8 | 25/65 | |
| PIST-17B | PIST-17S | 17 | 20 | 16.4 | 21.1 | 30/65 | |
| PIST-23B | PIST-23S | 23 | 25 | 22.6 | 28.4 | 35/90 | |
| PIST-29B | PIST-29S | 29 | 32 | 29.0 | 34.3 | 45/110 | 30 |
| PIST-36B | PIST-36S | 36 | 40 | 36.5 | 42.5 | 60/165 | |
| PIST-48B | PIST-48S | 48 | 50 | 47.5 | 54.5 | 70/180 | |
| PISG-17B | PISG-17S | 17 | 20 | 15.2 | 21.1 | 30/80 | |
| PISG-23B | PISG-23S | 23 | 25 | 21.7 | 28.4 | 40/100 | |
| PISG-29B | PISG-29S | 29 | 32 | 27.4 | 34.3 | 50/120 | 50 |
| PISG-36B | PISG-36S | 36 | 40 | 35.8 | 42.3 | 60/180 | |
| PISG-48B | PISG-48S | 48 | 50 | 46.7 | 54.2 | 70/200 | |
| PIHG-56B | PIHG-56S | 56 | 68 | 56.3 | 67.2 | 110/270 | |
| PIHG-70B | PIHG-70S | 70 | 80 | 67.2 | 79.6 | 150/350 | |
| PIHG-95B | PIHG-95S | 95 | 106 | 91.3 | 106.0 | 170/450 | 30 |
| PIHG-125B | PIHG-125S | 125 | 146 | 126.5 | 146.5 | 350/480 | |

_ UL Recognized Component.

For actual cat. number, add product unit at the end. Example: PIST-07B.50

PIS/PIH Index



Temperature range: -50 to 95 °C

Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

POS Very Flexible, Medium-Duty

- Use in automation as well as in machine building and industrial installations, especially where continuous movements occur
- High-grade, specially modified polyolefin
- Excellent reversed bending performance and flexibility
- Very good insulating characteristics
- Good impact resistance
- Free from halogens and cadmium

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius † (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|---------------------|------------------|
| | | NW | Metric | | | | |
| POST-07B | POST-07S | 7 | 10 | 6.2 | 10.0 | 15 | 50 |
| POST-10B | POST-10S | 10 | 12 | 9.6 | 13.0 | 20 | |
| POST-12B | POST-12S | 12 | 16 | 11.9 | 15.8 | 30 | |
| POST-17B | POST-17S | 17 | 20 | 16.2 | 21.2 | 35 | |
| POST-23B | POST-23S | 23 | 25 | 22.6 | 28.5 | 40 | |
| POST-29B | POST-29S | 29 | 32 | 29.0 | 34.5 | 50 | 30 |
| POST-36B | POST-36S | 36 | 40 | 36.5 | 42.5 | 60 | |
| POST-48B | POST-48S | 48 | 50 | 47.5 | 54.5 | 70 | |
| POSG-29B | POSG-29S | 29 | 32 | 27.6 | 34.5 | 50 | |
| POSG-36B | POSG-36S | 36 | 40 | 36.0 | 42.5 | 60 | |
| POSG-48B | POSG-48S | 48 | 50 | 47.0 | 54.5 | 70 | 30 |
| POSG-70B | POSG-70S | 70 | 80 | 67.2 | 79.6 | 150 | |
| POSG-95B | POSG-95S | 95 | 106 | 91.3 | 106.0 | 170 | |

For actual cat. number, add product unit at the end. Example: POST-07B.50

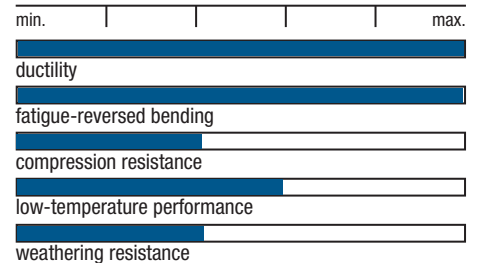
Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength

**† stat. R = lowest recommended bending radius for static (fixed) installation.



POS Index



Temperature range: -25 to 95 °C

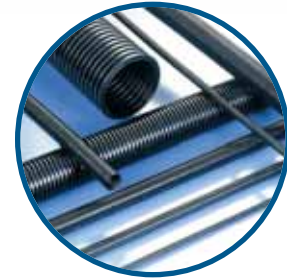
Short term: Max. 130 °C

Chemical resistance: Strong acids

Conduits

PUE Highly Flexible, Medium

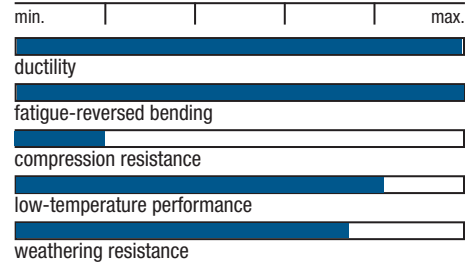
- Use in dynamic applications in robotics and automation
- Specially modified polyurethane
- Free from halogens and cadmium
- Excellent chafing properties



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| PUET-12B | 12 | 16 | 11.8 | 15.8 | 25/45 | 50 |
| PUET-17B | 17 | 20 | 16.0 | 21.2 | 30/50 | |
| PUET-23B | 23 | 25 | 22.4 | 28.5 | 35/70 | |
| PUET-29B | 29 | 32 | 28.8 | 34.5 | 40/90 | 30 |
| PUET-36B | 36 | 40 | 35.8 | 42.4 | 50/120 | |
| PUET-48B | 48 | 50 | 48.6 | 54.5 | 60/130 | |
| PUEG-56B | 56 | 68 | 56.3 | 67.2 | 90/170 | 30 |
| PUEG-70B | 70 | 80 | 68.2 | 80.5 | 100/220 | |

For actual cat. number, add product unit at the end. Example: PUET-12B.50

PUE Index



Temperature range: -60 to 50 °C

Chemical resistance: Fuels, mineral oils and fats, etc.

PVD Pliable, Medium

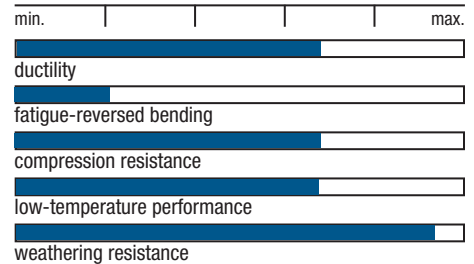
- Use in machine building applications with long-term high-temperature requirements
- Also used in the chemical and food industries
- Specially formulated PVDF
- Excellent chemical resistance to high temperatures over the long term
- Self extinguishing
- Free from halogens and cadmium
- Excellent UV resistance and very good abrasion resistance
- High stiffness



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| PVDT-10P | 10 | 12 | 9.5 | 12.6 | 10 | 50 |
| PVDT-12P | 12 | 16 | 11.8 | 15.5 | 30 | |
| PVDT-17P | 17 | 20 | 16.0 | 20.8 | 40 | |
| PVDT-23P | 23 | 25 | 22.6 | 28.0 | 45 | |
| PVDT-29P | 29 | 32 | 29.0 | 34.1 | 50 | |


For actual cat. number, add product unit at the end. Example: PVDT-10P.50


PVD Index

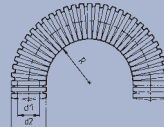


Temperature range: -60 to 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, strong acids, etc.

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength

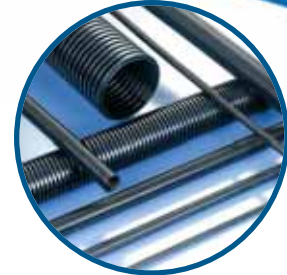


**† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

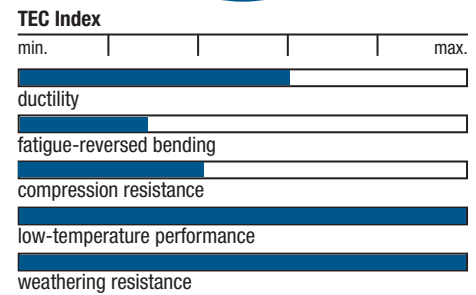
TEC Flexible, Light-Duty

- Use in chemical installations or applications with increased temperature requirements
- Specially formulated PFA
- Very good resistance to extreme low and high temperatures
- Self extinguishing
- Excellent resistance to highly corrosive chemicals



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| TECT-10B | 10 | 12 | 9.9 | 13.0 | 9 | 50 |
| TECT-13B | 13 | — | 12.5 | 16.0 | 12 | |
| TECT-17B | 17 | 20 | 16.8 | 21.1 | 15 | |
| TECT-23B | 23 | 25 | 23.8 | 28.8 | 26 | |
| TECT-29B | 29 | 32 | 28.2 | 33.0 | 30 | |

For actual cat. number, add product unit at the end. Example: TECT-10B.50



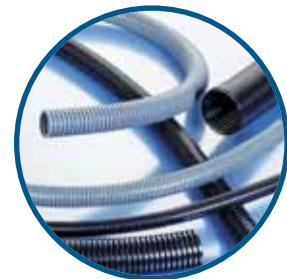
Temperature range: --200 to 200 °C

Short term: Max. 260 °C

Chemical resistance: Fuels, mineral oils, fats, alkalis, strong acids, etc.

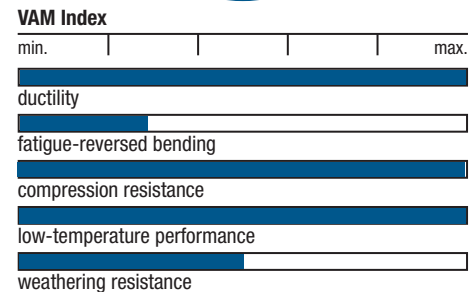
VAM Flexible, Heavy

- In passenger areas of railway vehicles
- Excellent fire safety characteristics allow application in public buildings like hospitals, hotels, airports, train and subway
- High-grade, specially formulated polyamide 6
- Good resistance to ultraviolet rays and weathering
- High impact and compression strength
- High stiffness
- Free from halogens and cadmium
- Outstanding self-extinguishing characteristics
- Minimal development of smoke and gases



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|------------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| VAMT-07B | VAMT-07S | 7 | 10 | 6.0 | 10.0 | 20 | 50 |
| VAMT-10B | VAMT-10S | 10 | 12 | 9.2 | 13.0 | 25 | |
| VAMT-12B | VAMT-12S | 12 | 16 | 11.8 | 15.8 | 30 | |
| VAMT-17B | VAMT-17S | 17 | 20 | 16.0 | 21.2 | 40 | |
| VAMG-17B | VAMG-17S | 17 | 20 | 15.2 | 21.2 | 40 | |
| VAMG-23B | VAMG-23S | 23 | 25 | 22.0 | 28.5 | 50 | 30 |
| VAMG-29B | VAMG-29S | 29 | 32 | 27.7 | 34.4 | 60 | |
| VAMG-36B | VAMG-36S | 36 | 40 | 35.8 | 42.4 | 70 | |
| VAMG-48B | VAMG-48S | 48 | 50 | 46.8 | 54.4 | 80 | |


For actual cat. number, add product unit at the end. Example: VAMT-07B.50




Temperature range: -40 to 105 °C

Short term: Max. 160 °C

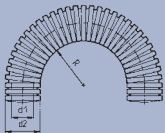
Chemical resistance: Fuels, mineral oils, fats, alkalis, weak acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pullout strength



***† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

VAML Flexible, Medium

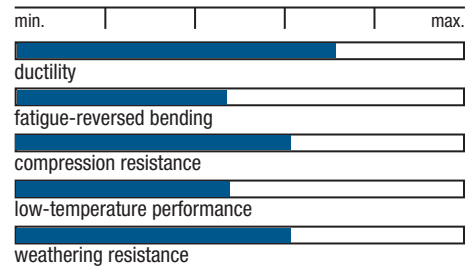
- Use in passenger areas of railway vehicles
- Excellent fire safety characteristics for public buildings
- Specially modified polyamide 6
- Good impact strength
- Good resistance to ultraviolet rays and weathering
- Outstanding self-extinguishing characteristics
- Minimal development of smoke and gases
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| VAMLT-07B | VAMLT-07S | 7 | 10 | 6.2 | 10.0 | 15 | 50 |
| VAMLT-10B | VAMLT-10S | 10 | 12 | 9.6 | 13.0 | 20 | |
| VAMLT-12B | VAMLT-12S | 12 | 16 | 12.0 | 15.8 | 30 | |
| VAMLG-17B | VAMLG-17S | 17 | 20 | 15.3 | 21.2 | 40 | |
| VAMLG-23B | VAMLG-23S | 23 | 25 | 22.6 | 28.5 | 45 | |
| VAMLG-29B | VAMLG-29S | 29 | 32 | 27.6 | 34.5 | 55 | |
| VAMLG-36B | VAMLG-36S | 36 | 40 | 36.0 | 42.5 | 65 | 30 |
| VAMLG-48B | VAMLG-48S | 48 | 50 | 47.0 | 54.5 | 75 | |
| VAMLG-56B | VAMLG-56S | 56 | 68 | 56.3 | 67.2 | 140 | |
| VAMLG-70B | VAMLG-70S | 70 | 80 | 67.5 | 80.0 | 160 | 10 |
| VAMLG-95B | VAMLG-95S | 95 | 106 | 91.5 | 106.0 | 210 | |
| VAMLG-125B | VAMLG-125S | 125 | 148 | 126.0 | 146.5 | 450 | 6 |

For actual cat. number, add product unit at the end. Example: VAMLT-07B.50

VAML Index



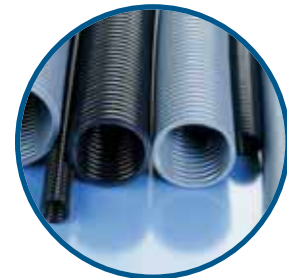
Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

VCS Flexible, Heavy

- Use in external applications, static installations in railway vehicles
- High-grade, specially formulated polyamide 6
- Very good resistance to ultraviolet rays and weathering
- Good flexibility
- Self extinguishing
- High compression and impact strengths at low temperature and low humidity
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| VCST-07B | VCST-07S | 7 | 10 | 6.0 | 10.0 | 20 | 100 |
| VCST-10B | VCST-10S | 10 | 12 | 9.2 | 13.0 | 25 | |
| VCST-12B* | VCST-12S* | 12 | 16 | 11.8 | 15.8 | 30 | |
| VCST-17B* | VCST-17S* | 17 | 20 | 16.0 | 21.2 | 40 | 50 |
| VCSG-17B* | VCSG-17S* | 17 | 20 | 15.2 | 21.2 | 40 | |
| VCSG-23B* | VCSG-23S* | 23 | 25 | 22.0 | 28.5 | 50 | |
| VCSG-29B* | VCSG-29S* | 29 | 32 | 27.7 | 34.4 | 60 | 30 |
| VCSG-36B* | VCSG-36S* | 36 | 40 | 35.8 | 42.4 | 70 | |
| VCSG-48B* | VCSG-48S* | 48 | 50 | 46.8 | 54.4 | 80 | |
| VCSG-56B | VCSG-56S | 56 | 68 | 56.1 | 67.2 | 150 | 10 |
| VCSG-70B | VCSG-70S | 70 | 80 | 66.5 | 80.0 | 200 | |
| VCSG-95B | VCSG-95S | 95 | 106 | 91.0 | 106.0 | 300 | |

For actual cat. number, add product unit at the end. Example: VCST-07B.100

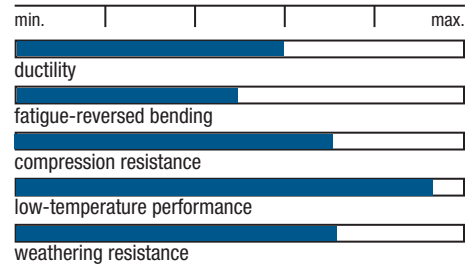
Fine profile T
Tight bending radius

Coarse profile G
High pullout strength

*** stat. R =

lowest recommended bending radius for static (fixed) installation.

VCS Index



Temperature range: -50 to 105 °C

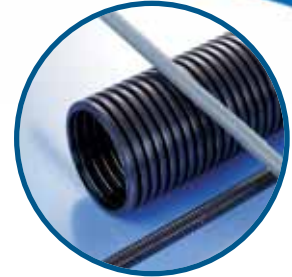
Short term: Max. 160 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

Conduits

VOH Pliable, Very Heavy

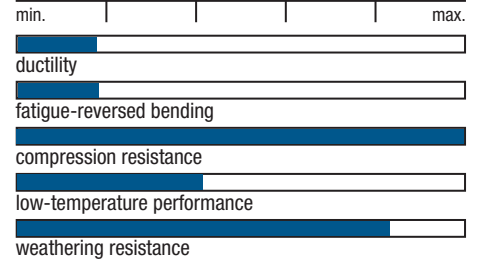
- Use to make exterior connections on heavy machine equipment
- High-grade specially modified polyamide 6
- High degree of mechanical protection and outstanding pullout resistance
- For exterior applications in machinery and installations from nominal width 17 according to UL standards
- Self extinguishing
- Robust construction
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| VOHD-07B | VOHD-07S | 7 | 10 | 5.8 | 10.0 | 30 | 50 |
| VOHD-10B | VOHD-10S | 10 | 12 | 9.0 | 13.0 | 35 | |
| VOHD-12B | VOHD-12S | 12 | 16 | 11.6 | 15.8 | 40 | |
| VOHG-17B | VOHG-17S | 17 | 20 | 14.5 | 21.0 | 60 | |
| VOHG-23B | VOHG-23S | 23 | 25 | 21.1 | 28.5 | 70 | |
| VOHG-29B | VOHG-29S | 29 | 32 | 26.6 | 34.5 | 80 | |
| VOHG-36B | VOHG-36S | 36 | 40 | 35.0 | 42.5 | 90 | 30 |
| VOHG-48B | VOHG-48S | 48 | 50 | 46.5 | 54.5 | 100 | |
| VOHG-56B | VOHG-56S | 56 | 68 | 55.5 | 67.2 | 135 | |
| VOHG-70B | VOHG-70S | 70 | 80 | 67.0 | 80.0 | 200 | |
| VOHG-95B | VOHG-95S | 95 | 106 | 90.5 | 106.0 | 300 | |
| VOHG-125B | VOHG-125S | 125 | 146 | 126.0 | 146.5 | 300 | |

For actual cat. number, add product unit at the end. Example: VOHD-07B.50


VOH Index




Temperature range: -40 to 105 °C

Short term: Max. 160 °C

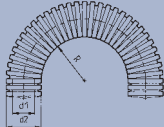
Chemical resistance: Fuels, mineral oils, fats, alkalis, weak acids, etc.



Fine profile T
Tight bending radius



Coarse profile G
High pullout strength



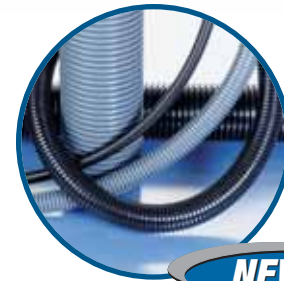
**† stat. R =

lowest recommended bending radius for static (fixed) installation.

Conduits

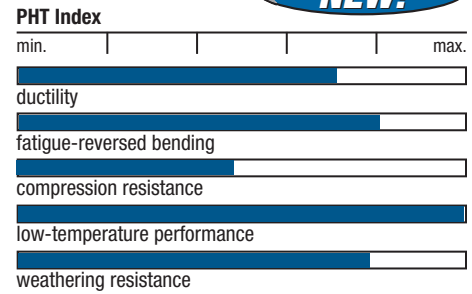
PHT Highly Flexible, Medium/Heavy-Duty

- For applications at high and very low temperatures
- For dynamic applications
- High-grade, specially formulated polyamide elastomer
- High resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility and high compression strength
- Extremely good impact resistance at very low temperatures
- Enhanced temperature range compared to standard polyamides
- Free from halogens and cadmium



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat./DYN Radius (mm) | Product Unit (m) |
|----------------|--------------|--------|----------------------|-----------------------|-----------------------|------------------|
| | NW | Metric | | | | |
| PHTT-07B | 07 | 10 | 6.2 | 10.0 | 15/40 | 50 |
| PHTT-10B | 10 | 12 | 9.6 | 13.0 | 20/55 | |
| PHTT-12B | 12 | 16 | 12.0 | 15.8 | 30/65 | |
| PHTT-17B | 17 | 20 | 16.2 | 21.2 | 40/70 | |
| PHTT-23B | 23 | 25 | 22.6 | 28.5 | 45/95 | |
| PHTT-17B | 17 | 20 | 15.2 | 21.2 | 40/75 | |
| PHTG-23B | 23 | 25 | 22.0 | 28.5 | 45/100 | |
| PHTG-29B | 29 | 32 | 27.7 | 34.5 | 55/120 | |
| PHTG-36B | 36 | 40 | 35.8 | 42.5 | 60/180 | 30 |
| PHTG-48B | 48 | 50 | 46.8 | 54.5 | 70/200 | |

For actual cat. number, add product unit at the end. Example: PHTT-07B.50



Temperature range: -50 to 135 °C
Short term: Max. 180 °C


PLU Flexible, Medium-Duty, Semi-Rigid, for Static Applications


- For static applications with the highest fire safety performance requirements (e.g. London Underground)
- Specially modified polyolefin
- Self-extinguishing properties
- Very good insulating characteristics
- Very good flexibility
- Impact resistance
- Free from halogens and cadmium

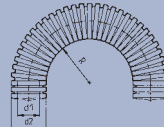


| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| PLUT-10B | PLUT-10S | 10 | 9.5 | 13.0 | 20 | 50 | 50 |
| PLUT-12B | PLUT-12S | 12 | 11.8 | 15.8 | 30 | | |
| PLUG-17B | PLUG-17S | 17 | 15.3 | 21.2 | 40 | | |
| PLUG-23B | PLUG-23S | 23 | 22.2 | 28.5 | 45 | | |
| PLUG-29B | PLUG-29S | 29 | 28.7 | 34.5 | 55 | | |
| PLUG-36B | PLUG-36S | 36 | 36.3 | 42.5 | 65 | | |
| PLUG-48B | PLUG-48S | 48 | 47.3 | 54.5 | 70 | | |
| | | | | | | | |

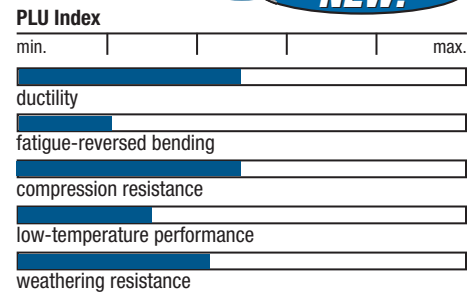
For actual cat. number, add product unit at the end. Example: PLUT-10B.50

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



**† stat. R = lowest recommended bending radius for static (fixed) installation.



Temperature range: -25 to 95 °C
Chemical resistance: Strong acids and alkalies

Conduits

POH Very Flexible, Very Supple, Very High Stability, Medium-Duty, Highest Levels of Fire and Passenger Safety

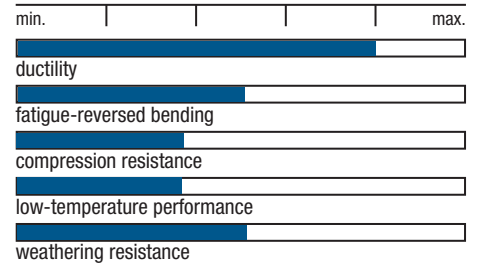
- For applications with the highest fire safety performance requirements
- Specially modified polyolefin
- Excellent fire safety characteristics
- Self extinguishing
- Free from halogens and cadmium
- High ductility and formability enable easy installation
- Very good flexibility
- Very good insulating characteristics
- Impact resistance



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| POHT-10B | POHT-10S | 10 | 12 | 9.2 | 13.0 | 13.0 | 50 |
| POHT-12B | POHT-12S | 12 | 16 | 11.8 | 15.8 | 15.8 | |
| POHG-17B | POHG-17S | 17 | 20 | 15.7 | 21.2 | 21.2 | |
| POHG-23B | POHG-23S | 23 | 25 | 22.0 | 28.5 | 28.5 | |
| POHG-29B | POHG-29S | 29 | 32 | 27.4 | 34.4 | 34.4 | |
| POHG-36B | POHG-36S | 36 | 40 | 35.8 | 42.4 | 42.4 | |
| POHG-48B | POHG-48S | 48 | 50 | 46.8 | 54.5 | 54.5 | 30 |

For actual cat. number, add product unit at the end. Example: POHT-10B.50

POH Index



Temperature range: -25 to 95 °C

Short term: Max. 120 °C

Chemical resistance: Strong acids and alkalis

PSX Flexible, Light-Wall

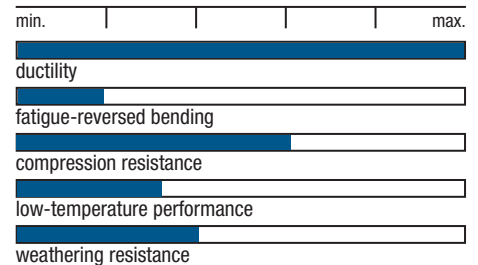
- For applications with the highest fire safety performance requirements
- For applications with extreme temperature conditions
- For applications exposed to radiation
- Specially modified polyetherimide
- Excellent fire safety characteristics
- Self extinguishing
- Very good insulating characteristics
- High radiation resistance
- Good flexibility
- Impact resistant
- Low smoke density and toxicity
- Free from halogens and cadmium
- High impact strength also at low temperatures



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| PSXT-10B | 10 | 12 | 9.8 | 13.0 | 20 | 50 |
| PSXT-12B | 12 | 16 | 12.2 | 15.8 | 30 | |
| PSXG-17B | 17 | 20 | 15.8 | 21.2 | 40 | |
| PSXG-23B | 23 | 25 | 22.3 | 28.5 | 45 | |
| PSXG-29B | 29 | 32 | 28.0 | 34.5 | 55 | |
| PSXG-36B | 36 | 40 | 36.5 | 42.5 | 60 | |
| PSXG-48B | 48 | 50 | 47.5 | 54.5 | 70 | 30 |

For actual cat. number, add product unit at the end. Example: PSXT-10B.50

PSX Index



Temperature range: -100 to 170 °C

Short term: Max. 200 °C

Chemical resistance: Oils, fats, acids, alcohols and hot water

Fine profile T
Tight bending radius

Coarse profile G
High pullout strength

**† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits PACO Flexible, Divisible

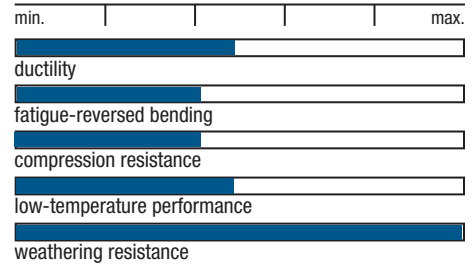
- Use in machine building and plant construction
- Specially modified polyamide 6
- Easy installation and trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time
- Self extinguishing
- Free from halogens and cadmium



| Cat. No. Black | Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|-----------------|----------------------|-----------------------|--------------------|------------------|
| PACO-07B | 07 | 6.5 | 10.1 | 45 | 50 |
| PACO-10B | 10 | 8.8 | 13.5 | 55 | |
| PACO-12B | 12 | 11.3 | 16.3 | 60 | |
| PACO-14B | 14 | 13.2 | 18.7 | 75 | |
| PACO-17B | 17 | 16.5 | 21.8 | 90 | |
| PACO-20B | 20 | 20.2 | 25.7 | 105 | |
| PACO-23B | 23 | 23.9 | 31.3 | 125 | |
| PACO-29B | 29 | 27.8 | 35.9 | 150 | 25 |
| PACO-37B | 37 | 32.5 | 41.9 | 170 | |
| PACO-45B | 45 | 43.0 | 54.2 | 200 | |
| PACO-70B | 70 | 66.5 | 79.8 | 300 | |

For actual cat. number, add product unit at the end. Example: PACO-07B.50

PACO Index



Temperature range: -40 to 100 °C

Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

PPCO Flexible, Divisible

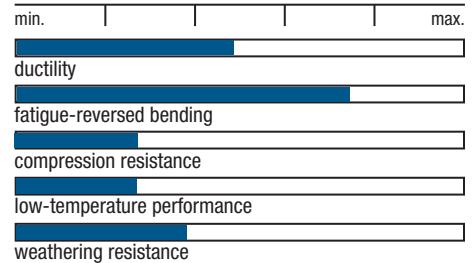
- Use in machine building and plant construction
- Specially modified polypropylene PP
- Easy installation and trouble-free retrofitting, applicable also for repairs
- Can be opened and closed again in longitudinal direction any time



| Cat. No. Black | Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|-----------------|----------------------|-----------------------|--------------------|------------------|
| PPCO-07B | 07 | 6.3 | 10.0 | 60 | 50 |
| PPCO-10B | 10 | 8.4 | 13.4 | 70 | |
| PPCO-12B | 12 | 11.0 | 16.1 | 80 | |
| PPCO-14B | 14 | 12.5 | 18.5 | 95 | |
| PPCO-17B | 17 | 16.0 | 21.5 | 110 | |
| PPCO-20B | 20 | 19.2 | 25.3 | 130 | |
| PPCO-23B | 23 | 23.4 | 30.8 | 155 | |
| PPCO-29B | 29 | 27.3 | 35.5 | 180 | |
| PPCO-37B | 37 | 31.0 | 41.4 | 190 | |
| PPCO-45B | 45 | 42.7 | 54.0 | 205 | 10 |
| PPCO-70B | 70 | 66.0 | 79.5 | 300 | |

For actual cat. number, add product unit at the end. Example: PPCO-07B.50

PPCO Index



Temperature range: -20 to 95 °C

Short term: Max. 120 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

Fine profile T
Tight bending radius

Coarse profile G
High pullout strength

*** stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

XCYL Very Flexible, Medium-Duty

- Use in machine building and equipment
- Outer layer: high-grade, specially formulated polyamide 6
- Inner layer: specially modified polyolefin
- Very long lifetime — more than 20 years
- Excellent cold temperature performance
- Low-friction inner layer facilitates cable insertion
- Very good resistance to ultraviolet rays and atmospheric corrosion
- Very good mechanical strength while simultaneously highly flexible
- Impermeable to water and steam

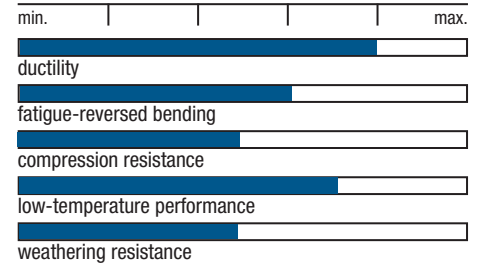


NEW!

| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| XCYL-12BB | 12 | 16 | 11.7 | 15.5 | 30 | 50 |
| XCYL-17BB | 17 | 20 | 15.2 | 21.0 | 40 | |
| XCYL-23BB | 23 | 25 | 21.7 | 28.4 | 50 | |
| XCYL-29BB | 29 | 32 | 27.5 | 34.3 | 60 | |
| XCYL-36BB | 36 | 40 | 35.8 | 42.2 | 70 | 30 |
| XCYL-48BB | 48 | 50 | 46.8 | 54.3 | 80 | |

For actual cat. number, add product unit at the end. Example: XCYL-12BB.50

XCYL Index



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

XPCL Highly Flexible, Medium-Duty

- Use in machine building and equipment with high requirements
- Outer layer: high-grade, specially formulated polyamide 6
- Intermediate layer: special bonding compound
- Inner layer: specially modified polyolefin
- Self extinguishing
- Very long lifetime, 15–20 years for standard applications
- Easy cable insertion, low-friction inner layer
- Impermeable to water and steam
- Excellent flexibility
- Good mechanical strength even at low temperatures and low humidity

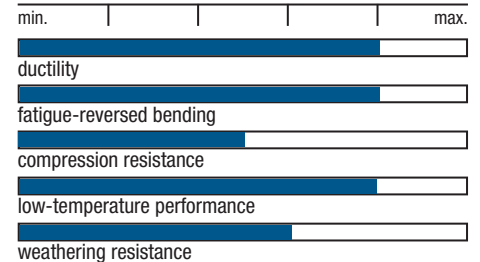


NEW!

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| XPCL-12BB | XPCL-12SB | 12 | 16 | 11.8 | 15.6 | 30 | 50 |
| XPCL-17BB | XPCL-17SB | 17 | 20 | 16.6 | 21.0 | 40 | 50 |
| XPCL-17BB | XPCL-17SB | 17 | 20 | 15.6 | 20.9 | 40 | 50 |
| XPCL-23BB | XPCL-23SB | 23 | 25 | 21.9 | 28.5 | 45 | 50 |
| XPCL-29BB | XPCL-29SB | 29 | 32 | 27.6 | 34.5 | 55 | 50 |
| XPCL-36BB | XPCL-36SB | 36 | 40 | 36.0 | 42.5 | 60 | 30 |
| XPCL-48BB | XPCL-48SB | 48 | 50 | 47.0 | 54.5 | 70 | 30 |


For actual cat. number, add product unit at the end. Example: XPCL-12BB.50


XPCL Index

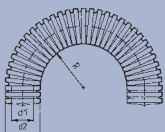


Temperature range: -50 to 105 °C

Short term: Max. 160 °C

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



**† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

XSOL Highly Flexible, Medium-Duty

- All-purpose, especially in long-term external applications, e.g. energy technology, transportation
- Outer layer: high-grade, specially formulated polyamide 12
- Intermediate layer: special bonding compound
- Inner layer: high-grade, specially modified polyamide 6
- Very long lifetime, up to 20–30 years
- Very high flexibility
- Very good mechanical strength
- High impact resistance at low temperature and humidity
- Excellent fire safety characteristics
- Excellent chemical resistance
- Free from halogens and cadmium



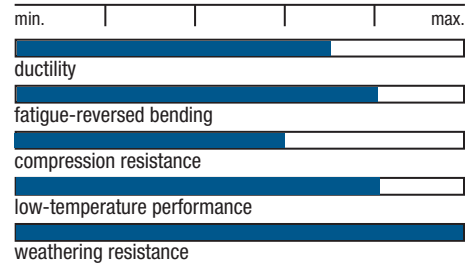
NEW!



| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| XSOLT-12BG | 12 | 16 | 11.8 | 15.6 | 50 | 50 |
| XSOLG-17BG | 17 | 20 | 15.2 | 21.0 | | |
| XSOLG-23BG | 23 | 25 | 22.0 | 28.5 | | |
| XSOLG-29BG | 29 | 32 | 27.5 | 34.5 | | |
| XSOLG-36BG | 36 | 40 | 35.8 | 42.5 | 30 | 30 |
| XSOLG-48BG | 48 | 50 | 46.8 | 54.5 | | |

For actual cat. number, add product unit at the end. Example: XSOLT-12BG.50

XSOL Index



Temperature range: -50 to 95 °C

Short term: Max. 150 °C

XSOLL Highly Flexible, Medium-Duty


- All-purpose, especially in long-term external applications, e.g. energy technology, transportation, etc.
- Outer layer: high-grade, specially formulated polyamide 12
- Intermediate layer: special bonding compound
- Inner layer: high-grade, specially modified polyamide 6
- Very long lifetime — greater than 20 years
- Very good resistance to UV and weathering
- High flexibility and very good mechanical strength
- High impact resistance at low temperature and humidity
- Good fire safety characteristics
- Excellent chemical resistance
- Free from halogens and cadmium




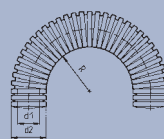
NEW!

| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| XSOLLT-12BG | 12 | 16 | 11.8 | 15.8 | 50 | 50 |
| XSOLLG-17BG | 17 | 20 | 15.2 | 21.2 | | |
| XSOLLG-23BG | 23 | 25 | 22.0 | 28.5 | | |
| XSOLLG-29BG | 29 | 32 | 27.7 | 34.4 | | |
| XSOLLG-36BG | 36 | 40 | 35.8 | 42.4 | 30 | 30 |
| XSOLLG-48BG | 48 | 50 | 46.8 | 54.4 | | |

For actual cat. number, add product unit at the end. Example: XSOLLT-12BG.50

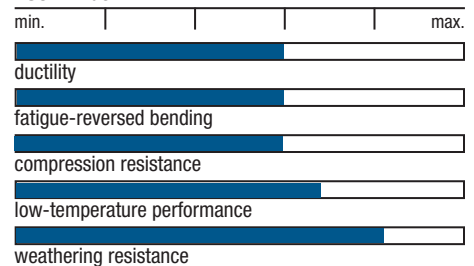
 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



**† stat. R = lowest recommended bending radius for static (fixed) installation.

XSOLL Index



Temperature range: -40 to 95 °C

Short term: Max. 150 °C

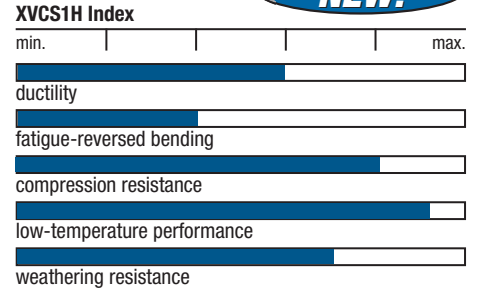
Conduits

XVCS1H Flexible, Heavy-Duty

- Use in track side applications
- Outer layer: high-grade, specially formulated polyamide 6
- Inner layer: specially modified polyolefin
- High conduit ductility and formability enable easy installation
- Very long lifetime — greater than 20 years
- Excellent cold temperature performance
- Low friction inner layer facilitates cable insertion
- Very good resistance to ultraviolet rays and atmospheric corrosion
- Very good mechanical strength while simultaneously highly flexible
- Impermeable to water and steam



NEW!




| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|-------------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | NW | Metric | | | | |
| XVCS1H-12BG† | 12 | 16 | 11.7 | 15.5 | 30 | 50 |
| XVCS1H-17BG | 17 | 20 | 15.2 | 21.0 | 40 | |
| XVCS1H-23BG | 23 | 25 | 21.7 | 28.4 | 50 | |
| XVCS1H-29BG | 29 | 32 | 27.5 | 34.3 | 60 | |
| XVCS1H-36BG | 36 | 40 | 35.8 | 42.2 | 70 | |
| XVCS1H-48BG | 48 | 50 | 46.8 | 54.3 | 80 | 30 |


† XVCS1H-12BG is not a UL Recognized Component.
For actual cat. number, add product unit at the end. Example: XVCS1H-12BG.50

Temperature range: -50 to 90 °C

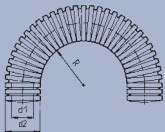
Short term: Max. 120 °C



Fine profile T
Tight bending radius



Coarse profile G
High pullout strength



***† stat. R =

lowest recommended bending radius for static (fixed) installation.

Conduits CUS Flexible, Heavy

- Use in machine building and in electrical installations
- High-grade, specially modified polyamide 6
- Cost effective
- Very good flexibility
- Good impact strength also at low temperatures and dry conditions
- Self extinguishing
- Free from halogens and cadmium



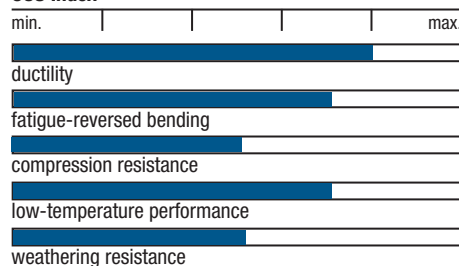
NEW!



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| CUSG-17B | CUSG-17S | 17 | 20 | 16.2 | 21.2 | 40 | 31 |
| CUSG-23B | CUSG-23S | 23 | 25 | 21.9 | 28.5 | 45 | |
| CUSG-29B | CUSG-29S | 29 | 32 | 27.6 | 34.4 | 55 | |
| CUSG-36B | CUSG-36S | 36 | 40 | 36.0 | 42.4 | 60 | |
| CUSG-48B | CUSG-48S | 48 | 50 | 47.0 | 54.4 | 70 | |

For actual cat. number, add product unit at the end. Example: CUSG-17B.31

CUS Index



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

PUS Very Flexible, Heavy

- Use in long-term external and dynamic applications, like solar systems, signalling, CCTV
- High-grade, specially modified polyamide 12
- Excellent resistance to ultraviolet rays and atmospheric corrosion
- Excellent flexibility and is self extinguishing
- Good mechanical strength at low temperatures and dry conditions
- Free from halogens and cadmium



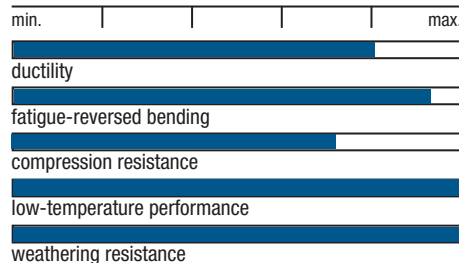
NEW!



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat./DYN Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|------------------------|------------------|
| | | NW | Metric | | | | |
| PUSG-17B | PUSG-17S | 17 | 20 | 15.2 | 21.2 | 35/85 | 31 |
| PUSG-23B | PUSG-23S | 23 | 25 | 22.0 | 28.5 | 40/110 | |
| PUSG-29B | PUSG-29S | 29 | 32 | 27.7 | 34.4 | 50/130 | |
| PUSG-36B | PUSG-36S | 36 | 40 | 35.8 | 42.4 | 60/180 | |
| PUSG-48B | PUSG-48S | 48 | 50 | 46.8 | 54.4 | 70/220 | |

For actual cat. number, add product unit at the end. Example: PUSG-17B.31


PUS Index




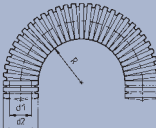
Temperature range: -50 to 95 °C

Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids, etc.

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



**† stat. R = lowest recommended bending radius for static (fixed) installation.

Conduits

VUS Flexible, Heavy

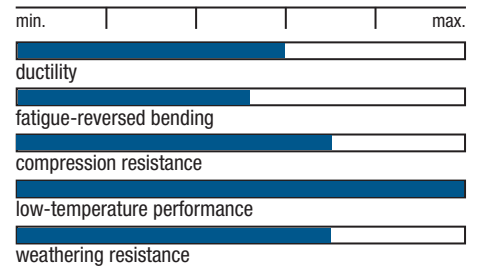
- Meet high requirements in machine building and plant construction
- Use where high compression resistance is required
- Great for external applications
- High-grade, specially modified polyamide 6
- Very good resistance to ultraviolet rays and weathering
- Good flexibility and self-extinguishing
- High mechanical strength at low temperatures and low humidity
- Free from halogens and cadmium



NEW!



VUS Index




| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | Product Unit (m) |
|----------------|---------------|--------------|--------|----------------------|-----------------------|--------------------|------------------|
| | | NW | Metric | | | | |
| VUSG-17B | VUSG-17S | 17 | 20 | 15.2 | 21.2 | 40 | 31 |
| VUSG-23B | VUSG-23S | 23 | 25 | 22.0 | 28.5 | 50 | |
| VUSG-29B | VUSG-29S | 29 | 32 | 27.7 | 34.4 | 60 | |
| VUSG-36B | VUSG-36S | 36 | 40 | 35.8 | 42.4 | 70 | |
| VUSG-48B | VUSG-48S | 48 | 50 | 46.8 | 54.4 | 80 | |


For actual cat. number, add product unit at the end. Example: VUSG-17B.31

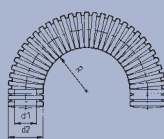
Temperature range: -50 to 105 °C

Short term: Max. 160 °C

Chemical resistance: Fuels, mineral oils, fats, alkalis, weak acids, etc.

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



***† stat. R = lowest recommended bending radius for static (fixed) installation.

PMAFIX[®] Fittings

BVND-P167GT/01

| B | V | N | D | - P | 16 | 7 | GT/ | 01 |
|--|--|---|---|--|---------------------------------|--|--|--------------------------|
| COLOURS | PMAFIX[®] TYPE | PMAFIX[®] SERIES | MODE OF INGRESS PROTECTION (PAGE E76) | CODE OF THREAD (PAGE E77) | SIDE OF THREAD (TABLE 2) | NOMINAL WIDTH PMAFLEX[®] (TABLE 1) | SAFETY RETAINING CLIP TYPE | MODIFICATION CODE |
| B =Black S =Grey N =Black with Metal Thread M =Grey with Metal Thread A =Black – Anthracite T =Transparent X =Special Colour | V =Reinforced S =Series V with Swiveling Coupler E =Ex Certified | N =Straight W =90° Elbow B =90° Curved Elbow A =45° Elbow O =90° Elbow with Flange I =With Female Thread Y =Y Piece T =T Piece V =V Piece | D =Self-Sealing IP66 L =With Sealing Ring IP67 on Conduit R =With Sealing Ring IP68 on Conduit V =With Gasket-Reinforced IP68 Z =Add. combined Sealing with Strain Relief IP50/IP68 | P =PG Thread M =Metric Thread F =Metric Fine Thread N =NPT Thread (USA) G =Whitworth Thread (Italy) U =UNEF Round Connector | (See p. E27) | 7 =Nominal-Width Conduit (See p. E27) | GT =Universal Safety Clip .. =Oval Clip | |

PMAFIX[®] Connector Series



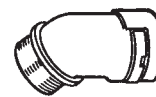
Series N



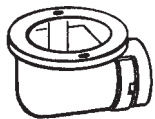
Series W



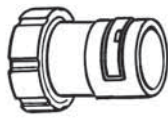
Series B



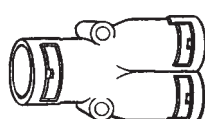
Series A



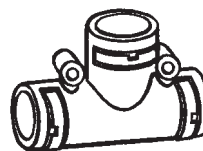
Series O



Series I



Series Y



Series T



Series V

Threaded Codes

Table 1
PMAFIX[®]/PMAFLEX[®] Code

| Nominal Width | UK Sizes | PMA Code |
|---------------|----------|----------|
| 7 | 10 | M |
| 10 | 12 | 0 |
| 12 | 16 | 2 |
| 17 | 20 | 7 |
| 23 | 25 | 3 |
| 29 | 32 | 9 |
| 36 | 40 | 6 |
| 48 | 50 | 8 |

Types of Connector for Female Thread Adapters

| Type | PMA Code |
|---------------------------------|----------|
| AMP | A |
| Souriau (ex BURNDY) | B |
| With O-Ring Groove (MIL C 5015) | G |

Table 2
Thread Codes

| Thread Metric | PMA Code | Thread PG | PMA Code | Thread Whitworth (in.) | PMA Code | Thread NPT (in.) | PMA Code | Thread UNEF | PMA Code |
|---------------|------------|-----------|------------|------------------------|------------|------------------|------------|----------------|------------|
| M12x1.5 | M12 | PG07 | P07 | G 1/4 | G00 | | | 3/8-28 UNEF | U09 |
| M16x1.5 | M16 | PG09 | P09 | G 3/8 | G01 | | | 7/16-28 UNEF | U10 |
| M20x1.5 | M20 | PG11 | P11 | G 1/2 | G02 | N 1/2 | N02 | 1/2-28 UNEF | U12 |
| | | PG13.5 | P13 | G 3/4 | G04 | N 3/4 | N04 | 9/16-24 UNEF | U13 |
| M25x1.5 | M25 | PG16 | P16 | G 1 | G06 | N 1 | N06 | 5/8-24 UNEF | U15 |
| M32x1.5 | M32 | PG21 | P21 | G 1-1/4 | G07 | N 1-1/4 | N07 | 11/16-24 UNEF | U16 |
| M40x1.5 | M40 | PG29 | P29 | G 1-1/2 | G08 | N 1-1/2 | N08 | 3/4-20 UNEF | U18 |
| M50x1.5 | M50 | PG36 | P36 | G 2 | G09 | N 2 | N09 | 13/16-20 UNEF | U20 |
| M63x1.5 | M63 | PG42 | P42 | G 2-1/4 | G10 | | | 7/8-20 UNEF | U21 |
| | | PG48 | P48 | G 2-1/2 | G11 | | | 15/16-20 UNEF | U23 |
| | | | | | | | | 1-20 UNEF | U24 |
| M 8x1.0 | F08 | | | | | | | 1-1/16-18 UNEF | U26 |
| M12x1.0 | F12 | | | | | | | 1-3/16-18 UNEF | U29 |
| M18x1.0 | F18 | | | | | | | 1-1/4-18 UNEF | U30 |
| M30x1.5 | F30 | | | | | | | 1-5/16-18 UNEF | U32 |
| | | | | | | | | 1-3/8-18 UNEF | U34 |
| | | | | | | | | 1-7/16-18 UNEF | U35 |
| | | | | | | | | 1-5/8-18 UNEF | U40 |
| | | | | | | | | 1-11/16-20 UN | U41 |
| | | | | | | | | 1-3/4-18 UNS | U43 |
| | | | | | | | | 2-18 UNS | U50 |
| | | | | | | | | 2-1/4-16 UN | U56 |
| | | | | | | | | 2-3/8-12 UN | U57 |
| | | | | | | | | 2-1/2-16 UN | U62 |

Connectors for Nylon Flexible Conduits

PMAFIX® Connector Safety and Sealing Systems

IP66 — IP66 Static, IP54 Dynamic

- One-piece fitting
- Conical sealing method
- Easy push-in installation
- Pre-installed safety clip AFN2
- Fits any type of conduit profile (T and G)
- Excellent pullout strength
- Re-opening only possible with a screwdriver for safety reasons



IP68GT — IP68 static, IP67 dynamic, IP69K

- Single-piece PMAFIX® IP68GT fitting with **integrated sealing ring** and pre-installed locking clip
- Simple push-in assembly (as with the proven PMAFIX® IP66 system)
- Extra-long sealing ring guarantees the highest level of ingress protection
- Compatible with all types of PMA® conduits
- Identical approvals as with the PMAFIX® IP68 system
- The complete PMAFIX® IP68 product range is available as a GT single-component version
- Fast modification of specification drawings through simple addition of "GT" to the existing order number (e.g. BVNV-M257 becomes BVNV-M257GT)



IP68 — IP68 static, IP67 dynamic, IP69K

- High sealing through **additional seal ring**
- For highest dynamic applications
- Fits any type of conduit profile (T and G)
- Excellent pullout strength
- Re-opening only possible with a screwdriver for safety reasons
- Additional water-protection ring WPS for IP69K ingress protection in conjunction with the IP68 system
- To be applied right after the IP68 connector onto the conduit



IP69K

Connectors for Nylon Flexible Conduits

IP66 Installation



1 Push in conduit with a slight twist. (Open using screwdriver on conduit side.)



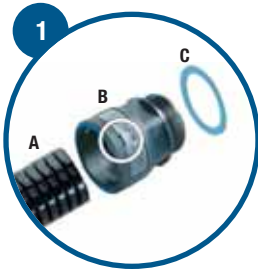
2 Pull back slightly to ensure the locking mechanism is fully engaged.



3 To re-open, use a screwdriver.

Locking clip pre-installed in all IP66 connectors

IP68GT Installation



1 (A) Conduit
(B) Connector (pre-installed sealing ring and locking clip)
(C) Flat Gasket or O-ring



2 Push in conduit with a slight twist. Pull back slightly to ensure the locking mechanism is fully engaged.

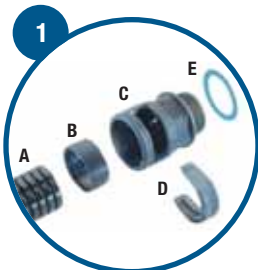


3 To re-open, use a screwdriver.

Pre-installed sealing ring and locking clip in all IP68GT connectors

For safety reasons, oval clip will not fit if sealing ring is not fully installed. Follow O-ring manufacturer's guidelines when using O-rings for sealing purposes.

IP68 Installation (IP69K)



1 (A) Conduit
(B) Sealing Ring
(C) Connector
(D) Oval Clip
(E) Flat Gasket (or O-ring seal)



2 Push sealing ring onto end of conduit to achieve IP68. For ease of installation, moisten sealing ring with water or grease.



3 Push conduit with sealing ring fully into connector. This guarantees PMA's unique IP68/67 rating.*



4 Install retaining oval clip.



5 To re-open, use a screwdriver.



6 Mount WPS half shells at the base of the connector onto the conduit.

* For safety reasons, oval clip will not fit if sealing ring is not fully installed. Follow O-ring manufacturer's guidelines when using O-rings for sealing purposes.

Fittings for Nylon Flexible Conduits VN Straight, Metric, Polyamide

The designation PMAFIX® describes a very large range of fittings for PMA conduits with the patented PMA® safety clip system. Fittings are available for ingress protection IP66 and IP68. IP66 fittings are fitted with a pre-installed universal safety clip that ensures a quick push-in installation. IP68 fittings for increased requirements will be delivered with a special conduit sealing ring. The new PMAFIX IP68GT fittings combine simplest push-in assembly with highest sealing performance.

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Can be easily re-opened with a screwdriver
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

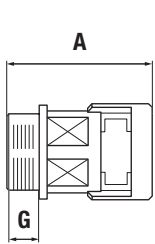


Temperature range: -40 to 105 °C

Short term: Max. 160 °C

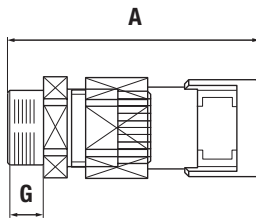
Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)



G
Thread
Length

A
Overall
Length



G
Thread Length

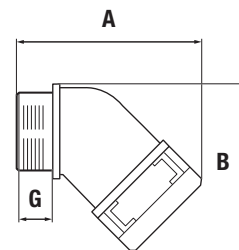
A
Overall Length



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Fits to Conduit | | Thread Length (mm) | Overall Length (mm) |
|------------------|--------------------|------------------|-----------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| _VND-M12MGT | _VNV-M12M | M12x1.5 | 7 | 10 | 11.0 | 34.5 |
| _VND-M120GT | _VNV-M120 | | 10 | 12 | | 36.5 |
| _VND-M160GT | _VNV-M160 | M16x1.5 | 12 | 16 | | 36.5 |
| _VND-M162GT | _VNV-M162 | | 10 | 12 | | 39.5 |
| _VND-M200GT | _VNV-M200 | M20x1.5 | 12 | 16 | | 39.5 |
| _VND-M202GT | _VNV-M202 | | 17 | 20 | | 47.5 |
| _VND-M207GT | _VNV-M207 | | 23 | 25 | 51.0 | |
| _VND-M203GT | _VNV-M203 | | 17 | 20 | 48.5 | |
| _VND-M257GT | _VNV-M257 | M25x1.5 | 23 | 25 | 12.0 | 52.0 |
| _VND-M253GT | _VNV-M253 | | 29 | 32 | | 55.5 |
| _VND-M323GT | _VNV-M323 | M32x1.5 | 29 | 32 | 15.0 | 56.0 |
| _VND-M329GT | _VNV-M329 | | | | | 60.0 |
| _VND-M409GT | _VNV-M409 | M40x1.5 | 36 | 40 | 19.0 | 72.5 |
| _VND-M406GT | _VNV-M406 | | | | | 72.0 |
| _VND-M506GT | _VNV-M506 | M50x1.5 | 48 | 50 | | 72.5 |
| _VND-M508GT | _VNV-M508 | | | | | 72.0 |
| _VND-M638GT | _VNV-M638 | M63x1.5 | | | | 72.0 |

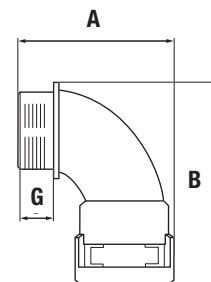
_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).



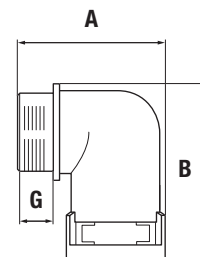
G
Thread
Length

A x B
External
dimensions



G
Thread
Length

A x B
External
dimensions



G
Thread
Length

A x B
External
dimensions

Fittings for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Polyamide

- For cable protection systems in a wide range of applications
- For separation of damp and dry areas
- High-grade formulated polyamide 6, very high impact resistance
- Easy installation: simply push the conduit in
- High conduit pullout strength
- Integrated strain relief optimally holds and seals cables
- If several conductors are used with the connector, multi-hole bushings should be considered
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Conduit Size | | Bushing dia. Range (mm) | Thread Length (mm) | Overall Length (mm) |
|---------------|-----------------|---------------|--------------|--------|-------------------------|--------------------|---------------------|
| | | | NW | Metric | | | |
| _VNDZ-M160GT | — | M16x1.5 | 10 | 12 | 5.0–10.0 | 8.0 | 62.0 |
| _VNDZ-M162GT | _VNZ-M162S | | 12 | 16 | | | |
| _VNDZ-M207GT | _VNZ-M207S | M20x1.5 | 17 | 20 | 10.0–14.0 | 10.0 | 71.5 |
| _VNDZ-M253GT | _VNZ-M253S | M25x1.5 | 23 | 25 | 13.0–18.0 | | 81.0 |
| _VNDZ-M329GT | _VNZ-M329S | M32x1.5 | 29 | 32 | 18.0–25.0 | 12.0 | 85.0 |
| _VNDZ-M406GT | _VNZ-M406S | M40x1.5 | 36 | 40 | 22.0–32.0 | | 116.5 |
| _VNDZ-M508GT | _VNZ-M508S | M50x1.5 | 48 | 50 | 30.0–38.0 | 12.0 | 120.5 |
| _VNDZ-M638GT | _VNZ-M638S | M63x1.5 | 48 | 50 | 34.0–44.0 | | |

_ = Insert "B" to order black or "S" to order grey.

Note: MDE multiple sealing inserts are available for this product.

▲ IP68GT available. Please replace final "S" with "GT".

(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2) and strain-relief bushing
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), strain-relief bushing, conduit seal (NVN3) and thread gasket (SNV4)

VA 45° Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide 6
- Extremely high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------|-----------------|---------------|--------------|--------|--------------------|--------------------------|
| | | | NW | Metric | | |
| _VAD-M120GT | — | M12x1.5 | 10 | 12 | 11.0 | 43.5 x 37.0 |
| _VAD-M160GT | _VAV-M160 | | | | | 43.5 x 38.0 |
| _VAD-M162GT | _VAV-M162 | M16x1.5 | 12 | 16 | 15.0 | 48.0 x 40.0 |
| _VAD-M202GT | _VAV-M202 | | | | | 48.0 x 41.5 |
| _VAD-M207GT | _VAV-M207 | M20x1.5 | 17 | 20 | 12.0 | 55.5 x 51.5 |
| _VAD-M253GT | _VAV-M253 | M25x1.5 | 23 | 25 | | 65.0 x 58.5 |
| _VAD-M329GT | _VAV-M329 | M32x1.5 | 29 | 32 | 15.0 | 73.5 x 66.5 |
| _VAD-M406GT | _VAV-M406 | M40x1.5 | 36 | 40 | | 92.5 x 85.5 |
| _VAD-M506GT | _VAV-M506 | M50x1.5 | 48 | 50 | 19.0 | 92.5 x 89.5 |
| _VAD-M508GT | _VAV-M508 | | | | | 100.0 x 96.0 |
| _VAD-M638GT | _VAV-M638 | M63x1.5 | | | | 100.0 x 104.0 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.

(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits VB 90° Curved Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide
- Easy installation, high conduit pull-out strength
- Easy threading of wires and cables
- Self extinguishing
- Free from halogens and phosphor
- Excellent impact strength
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|--------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| _VBD-M207GT | _VBV-M207 | M20x1.5 | 17 | 20 | 11.0 | 47.5 x 73.0 |
| _VBD-M257GT | _VBV-M257 | M25x1.5 | 23 | 25 | 12.0 | 48.5 x 76.0 |
| _VBD-M253GT | _VBV-M253 | | | | | 57.5 x 83.0 |
| _VBD-M323GT | _VBV-M323 | M32x1.5 | 29 | 32 | 15.0 | 61.0 x 87.5 |
| _VBD-M329GT | _VBV-M329 | | | | | 70.5 x 93.0 |
| _VBD-M409GT | _VBV-M409 | M40x1.5 | 36 | 40 | 19.0 | 74.5 x 98.5 |
| _VBD-M406GT | _VBV-M406 | | | | | 85.0 x 121.0 |
| _VBD-M506GT | _VBV-M506 | M50x1.5 | 48 | 50 | 19.0 | 85.0 x 125.0 |
| _VBD-M508GT | _VBV-M508 | | | | | 98.5 x 130.0 |
| _VBD-M638GT | _VBV-M638 | M63x1.5 | | | | 98.5 x 138.0 |

_ = Insert with "B" to order black or "S" to order grey.

For smaller conduit sizes NW 07 to NW 12, appropriate standard elbows of type VW are available.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, (pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VW 90° Elbow, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy installation: simply push the conduit in
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|--------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| _VWD-M12MGT | _VWV-M12M | M12x1.5 | 7 | 10 | 11.0 | 32.0 x 35.0 |
| _VWD-M120GT | _VWV-M120 | | 10 | 12 | | 34.0 x 39.5 |
| _VWD-M160GT | _VWV-M160 | M16x1.5 | 12 | 16 | 11.0 | 34.0 x 40.5 |
| _VWD-M162GT | _VWV-M162 | | | | | 38.5 x 46.0 |
| _VWD-M200GT | — | M20x1.5 | 10 | 12 | 12.0 | 34.0 x 42.5 |
| _VWD-M202GT | _VWV-M202 | | 12 | 16 | | 38.5 x 47.5 |
| _VWD-M207GT | _VWV-M207 | M25x1.5 | 17 | 20 | 15.0 | 43.5 x 58.5 |
| _VWD-M253GT | _VWV-M253 | | 23 | 25 | | 54.0 x 65.0 |
| _VWD-M329GT | _VWV-M329 | M32x1.5 | 29 | 29 | 19.0 | 64.5 x 73.0 |
| _VWD-M406GT | _VWV-M406 | M40x1.5 | 36 | 36 | | 78.0 x 96.0 |
| _VWD-M508GT | _VWV-M508 | M50x1.5 | 48 | 48 | | 91.5 x 106.0 |

_ = Insert with "B" to order black or "S" to order grey.

For the sizes NW 17 to NW 48, curved elbows of type VB are available.

▲ IP68GT available. Please add "GT" after the Catalog no.
(Functional description PMAFIX IP68GT, (pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits

VN Straight, Metric, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- High-grade specially formulated polyamide
- Threads made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black ▲ | Cat. No. IP68, Grey ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|---------------------------|--------------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| NVNV-M120-10 | MVNV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 40.0 |
| NVNV-M120-5 | MVNV-M120-5 | | | | 5.0 | 35.0 |
| NVNV-M160-10 | MVNV-M160-10 | | | | 10.0 | 40.0 |
| NVNV-M160-5 | MVNV-M160-5 | M16x1.5 | 12 | 16 | 5.0 | 35.0 |
| NVNV-M162-10 | MVNV-M162-10 | | | | 10.0 | 43.0 |
| NVNV-M162-5 | MVNV-M162-5 | | | | 5.0 | 38.0 |
| NVNV-M202-10 | MVNV-M202-10 | M20x1.5 | 17 | 20 | 10.0 | 43.0 |
| NVNV-M202-6 | MVNV-M202-6 | | | | 6.0 | 39.0 |
| NVNV-M207-10 | MVNV-M207-10 | | | | 10.0 | 51.0 |
| NVNV-M207-6 | MVNV-M207-6 | M25x1.5 | 23 | 25 | 6.0 | 47.0 |
| NVNV-M257-11 | MVNV-M257-11 | | | | 11.0 | 52.0 |
| NVNV-M257-7 | MVNV-M257-7 | | | | 7.0 | 48.0 |
| NVNV-M253-11 | MVNV-M253-11 | M32x1.5 | 29 | 32 | 11.0 | 54.0 |
| NVNV-M253-7 | MVNV-M253-7 | | | | 7.0 | 50.0 |
| NVNV-M323-13 | MVNV-M323-13 | | | | 13.0 | 57.3 |
| NVNV-M323-8 | MVNV-M323-8 | M40x1.5 | 36 | 40 | 8.0 | 51.0 |
| NVNV-M329-13 | MVNV-M329-13 | | | | 13.0 | 57.3 |
| NVNV-M329-8 | MVNV-M329-8 | | | | 8.0 | 52.3 |
| NVNV-M409-13 | MVNV-M409-13 | M50x1.5 | 48 | 50 | 13.0 | 57.3 |
| NVNV-M409-8 | MVNV-M409-8 | | | | 8.0 | 52.3 |
| NVNV-M406-13 | MVNV-M406-13 | | | | 13.0 | 71.4 |
| NVNV-M406-8 | MVNV-M406-8 | M63x1.5 | | | 8.0 | 66.4 |
| NVNV-M506-14 | MVNV-M506-14 | | | | 14.0 | 72.4 |
| NVNV-M506-9 | MVNV-M506-9 | | | | 9.0 | 67.4 |
| NVNV-M508-14 | MVNV-M508-14 | | | | 14.0 | 72.4 |
| NVNV-M508-9 | MVNV-M508-9 | | | | 9.0 | 67.4 |
| NVNV-M638-14 | MVNV-M638-14 | | | | 14.0 | 72.4 |

▲ IP68GT available. Please add "GT" prior to the thread length (for example, NVNV-M120GT-10).
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4 or OR)

Fittings for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Metal/Polyamide



| Cat. No. Complete, Black ▲ | Cat. No. Fitting * ▲ | Cat. No. Insert | Thread Metric | Fits to Conduit Size | | Terminal Range (mm) | Thread Length (mm) | Overall Length (mm) |
|----------------------------|----------------------|-----------------|---------------|----------------------|--------|---------------------|--------------------|---------------------|
| | | | | NW | Metric | | | |
| NVNZ-M120S/P1 | NVNZ-M120R/P | DE-M120/P1 | M12x1.5 | 10 | 12 | 4.0-6.5 | 5.0 | 48.5 |
| NVNZ-M120S/P2 | | DE-M120/P2 | | | | 5.0-8.0 | | |
| NVNZ-M120S/P3 | | DE-M120/P3 | | | | 6.5-9.5 | | |
| NVNZ-M160S/P1 | NVNZ-M160R/P | DE-M160/P1 | M16x1.5 | | | 4.0-6.5 | 6.0 | 49.5 |
| NVNZ-M160S/P2 | | DE-M160/P2 | | | | 5.0-8.0 | | |
| NVNZ-M160S/P3 | | DE-M160/P3 | | | | 6.5-9.5 | | |
| NVNZ-M202S/P1 | NVNZ-M202R/P | DE-M202/P1 | M20x1.5 | 12 | 16 | 4.0-6.5 | 6.5 | 54.0 |
| NVNZ-M202S/P3 | | DE-M202/P3 | | | | 6.5-9.5 | | |
| NVNZ-M202S/P4 | | DE-M202/P4 | | | | 7.0-10.5 | | |
| NVNZ-M207S/P3 | NVNZ-M207R/P | DE-M207/P3 | M20x1.5 | 17 | 20 | 6.5-9.5 | 6.5 | 60.0 |
| NVNZ-M207S/P4 | | DE-M207/P4 | | | | 7.0-10.5 | | |
| NVNZ-M207S/P5 | | DE-M207/P5 | | | | 9.0-13.0 | | |
| NVNZ-M253S/P5 | NVNZ-M253R/P | DE-M253/P5 | M25x1.5 | 23 | 25 | 9.0-13.0 | 7.5 | 72.5 |
| NVNZ-M253S/P6 | | DE-M253/P6 | | | | 11.5-15.5 | | |
| NVNZ-M257S/P4 | NVNZ-M257R/P | DE-M257/P4 | | | | 7.0-10.0 | | |
| NVNZ-M257S/P5 | | DE-M257/P5 | M25x1.5 | 17 | 20 | 9.0-13.0 | 7.5 | 61.5 |
| NVNZ-M257S/P6 | | DE-M257/P6 | | | | 11.5-15.5 | | |
| NVNZ-M323S/P4 | NVNZ-M323R/P | DE-M323/P4 | | | | 14.0-18.0 | | |
| NVNZ-M323S/P5 | NVNZ-M323R1/P | DE-M323/P5 | M32x1.5 | 23 | 25 | 17.0-20.5 | 8.0 | 73.0 |
| NVNZ-M329S/P2 | NVNZ-M329R/P | DE-M329/P2 | | | | 14.0-18.0 | | |
| NVNZ-M329S/P3 | | DE-M329/P3 | | | | 17.0-20.5 | | |
| NVNZ-M329S/P4 | | DE-M329/P4 | 20.0-25.0 | | | | | |
| NVNZ-M406S/P1 | NVNZ-M406R/P | DE-M406/P1 | M40x1.5 | 36 | 40 | 20.0-25.0 | 9.0 | 87.0 |
| NVNZ-M406S/P2 | | DE-M406/P2 | | | | 24.0-28.0 | | |
| NVNZ-M409S/P1 | NVNZ-M409R/P | DE-M409/P1 | | | | 11.5-15.5 | | |
| NVNZ-M409S/P2 | | DE-M409/P2 | M40x1.5 | 29 | 32 | 14.0-18.0 | 8.0 | 73.0 |
| NVNZ-M409S/P3 | | DE-M409/P3 | | | | 17.0-20.5 | | |
| NVNZ-M409S/P4 | | DE-M409/P4 | | | | 20.0-25.0 | | |
| NVNZ-M409S/P5 | | DE-M409/P5 | 24.0-28.0 | | | | | |
| NVNZ-M506S/P1 | NVNZ-M506R/P | DE-M506/P1 | M50x1.5 | 36 | 40 | 27.0-32.0 | 9.0 | 89.5 |
| NVNZ-M506S/P3 | | DE-M506/P3 | | | | 32.0-36.0 | | |
| NVNZ-M508S/P2 | NVNZ-M508R/P | DE-M508/P2 | | | | 32.0-36.0 | | |
| NVNZ-M508S/P3 | | DE-M508/P3 | M63x1.5 | 48 | 50 | 36.0-40.0 | 10.0 | 90.5 |
| NVNZ-M638S/P1 | NVNZ-M638R/P | DE-M638/P1 | | | | 35.0-40.0 | | |
| NVNZ-M638S/P2 | | DE-M638/P2 | | | | 39.0-44.0 | | |

* = without insert

Note: MDE multiple sealing inserts are available for this product.

▲ IP68GT available. Please replace "S" or "R" with "GT" (for example, NVNZ-M120GT/P1, NVNZ-M120GT/P). (Functional description PMAFIX IP68GT, pages E28-E29).

- Use in railway vehicle and heavy machine construction and for the separation of damp and dry areas
- High-grade, specially formulated polyamide 6
- Threads made of nickel-plated brass
- Sealing bushings are made from TPE-V
- Very high impact resistance
- Integrated strain-relief and optimal ingress protection at the cable (up to IP68/10 bar)
- High thread and system pullout resistance
- Vibration-resistant connection to PMAFLEX[®] conduits
- Easy assembly
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles
- For several conductors, multi-hole bushings are available (MDE)

Temperature range: -40 to 105 °C
Short term: Max. 135 °C

Content of delivery:

IP68GT

Complete Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT), sealing bushing and O-ring (OR)

Fitting* Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and O-ring (OR)

IP68

Complete Fitting with oval clips (OVN2), sealing bushing, conduit seal (NVN3) and O-ring (OR)

Fitting* Fitting with oval clips (OVN2), conduit seal (NVN3) and O-ring (OR)

Fittings for Nylon Flexible Conduits

VNZ Straight, Metric, Strain Relief, Metal/Polyamide (cont'd)



| Cat. No. Complete, Black ▲ | Cat. No. Fitting * ▲ | Cat. No. Insert | Thread Metric | Fits to Conduit Size | | Terminal Range (mm) | Thread Length (mm) | Overall Length (mm) |
|----------------------------|----------------------|-----------------|---------------|----------------------|--------|---------------------|--------------------|---------------------|
| | | | | NW | Metric | | | |
| NVNZ-M160S/P1-L | NVNZ-M160R/P-L | DE-M160/P1 | M16x1.5 | 10 | 12 | 4.0-6.5 | 15.0 | 58.5 |
| NVNZ-M160S/P2-L | | DE-M160/P2 | | | | 5.0-8.0 | | |
| NVNZ-M160S/P3-L | | DE-M160/P3 | | | | 6.5-9.5 | | |
| NVNZ-M202S/P1-L | NVNZ-M202R/P-L | DE-M202/P1 | M20x1.5 | 12 | 16 | 4.0-6.5 | 15.0 | 62.5 |
| NVNZ-M202S/P3-L | | DE-M202/P3 | | | | 6.5-9.5 | | |
| NVNZ-M202S/P4-L | | DE-M202/P4 | | | | 7.0-10.5 | | |
| NVNZ-M207S/P3-L | NVNZ-M207R/P-L | DE-M207/P3 | M20x1.5 | 17 | 20 | 6.5-9.5 | 15.0 | 68.5 |
| NVNZ-M207S/P4-L | | DE-M207/P4 | | | | 7.0-10.5 | | |
| NVNZ-M207S/P5-L | | DE-M207/P5 | | | | 9.0-13.0 | | |
| NVNZ-M257S/P5-L | NVNZ-M257R/P-L | DE-M257/P5 | M25x1.5 | | | 9.0-13.0 | 15.0 | 69.0 |
| NVNZ-M257S/P6-L | | DE-M257/P6 | | | | 11.5-15.5 | | |
| NVNZ-M323S/P4-L | NVNZ-M323R/P-L | DE-M323/P4 | M32x1.5 | 23 | 25 | 14.0-18.0 | 15.0 | 80.0 |
| NVNZ-M323S/P5-L | NVNZ-M323R1/P-L | DE-M323/P5 | | | | 17.0-20.5 | | |
| NVNZ-M329S/P2-L | NVNZ-M329R/P-L | DE-M329/P2 | M32x1.5 | 29 | 32 | 14.0-18.0 | 15.0 | 91.0 |
| NVNZ-M329S/P3-L | | DE-M329/P3 | | | | 17.0-20.5 | | |
| NVNZ-M409S/P3-L | NVNZ-M409R/P-L | DE-M409/P3 | | | | 17.0-20.5 | | |
| NVNZ-M409S/P4-L | | DE-M409/P4 | M40x1.5 | | | 20.0-25.0 | 15.0 | 80.0 |
| NVNZ-M409S/P5-L | | DE-M409/P5 | | | | 24.0-28.0 | | |
| NVNZ-M506S/P1-L | NVNZ-M506R/P-L | DE-M506/P1 | M50x1.5 | 36 | 40 | 27.0-32.0 | 15.0 | 94.5 |
| NVNZ-M506S/P3-L | | DE-M506/P3 | | | | 32.0-36.0 | | |
| NVNZ-M508S/P2-L | NVNZ-M508R/P-L | DE-M508/P2 | | | | 32.0-36.0 | | |
| NVNZ-M508S/P3-L | | DE-M508/P3 | M50x1.5 | 48 | 50 | 36.0-40.0 | 15.0 | 97.0 |
| NVNZ-M638S/P1-L | NVNZ-M638R/P-L | DE-M638/P1 | | | | 35.0-40.0 | | |
| NVNZ-M638S/P2-L | | DE-M638/P2 | M63x1.5 | | | 39.0-44.0 | | 95.5 |

* = without insert

Note: MDE multiple sealing inserts are available for this product.

▲ IP68GT available. Please replace "S" or "R" with "GT" (for example, NVNZ-M120GT/P1).
(Functional description PMAFIX IP68GT, pages E28-E29).

Fittings for Nylon Flexible Conduits VA 45° Elbow, Metric, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Body made of specially formulated polyamide 6
- Threads made of nickel-plated brass
- Very high impact resistance
- High thread and system pullout resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Easy assembly
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVAV-M120-10 | MVAV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 48.5 x 37.0 |
| NVAV-M120-5 | MVAV-M120-5 | | | | 5.0 | 43.5 x 37.0 |
| NVAV-M162-10 | MVAV-M162-10 | M16x1.5 | 12 | 16 | 10.0 | 53.0 x 40.5 |
| NVAV-M162-5 | MVAV-M162-5 | | | | 5.0 | 48.0 x 40.5 |
| NVAV-M207-10 | MVAV-M207-10 | M20x1.5 | 17 | 20 | 10.0 | 60.5 x 51.5 |
| NVAV-M207-6 | MVAV-M207-6 | | | | 6.0 | 56.5 x 51.5 |
| NVAV-M253-11 | MVAV-M253-11 | M25x1.5 | 23 | 25 | 11.0 | 70.0 x 60.5 |
| NVAV-M253-7 | MVAV-M253-7 | | | | 7.0 | 66.0 x 60.5 |
| NVAV-M257-11 | MVAV-M257-11 | | | | 17 | 20 |
| NVAV-M323-13 | MVAV-M323-13 | M32x1.5 | 23 | 25 | 13.0 | 72.0 x 64.5 |
| NVAV-M329-13 | MVAV-M329-13 | | | | 13.0 | 77.0 x 68.0 |
| NVAV-M329-8 | MVAV-M329-8 | M40x1.5 | 29 | 32 | 8.0 | 72.0 x 68.0 |
| NVAV-M406-13 | MVAV-M406-13 | | | | 13.0 | 94.0 x 87.5 |
| NVAV-M406-8 | MVAV-M406-8 | M50x1.5 | 36 | 40 | 8.0 | 89.0 x 87.5 |
| NVAV-M409-13 | MVAV-M409-13 | | | | 13.0 | 77.0 x 73.0 |
| NVAV-M506-14 | MVAV-M506-14 | M63x1.5 | 36 | 40 | 14.0 | 95.0 x 92.5 |
| NVAV-M508-14 | MVAV-M508-14 | | | | 14.0 | 102.0 x 101.0 |
| NVAV-M508-9 | MVAV-M508-9 | M63x1.5 | 48 | 50 | 9.0 | 97.0 x 101.0 |
| NVAV-M638-14 | MVAV-M638-14 | | | | 14.0 | 102.0 x 104.0 |
| NVAV-M638-10 | MVAV-M638-10 | | | | 10.0 | 98.0 x 104.0 |

▲ IP68GT available. Please add "GT" prior to the thread length (e.g. NVAV-M120GT-10).
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4 or OR)

VB 90° Curved Elbow, Metric, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Body made of high-grade formulated polyamide
- Threads made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system connection strength
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread Metric | Fits to Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|------------------|----------------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVBV-M207-10 | MVBV-M207-10 | M20x1.5 | 17 | 20 | 10.0 | 51.0 x 73.0 |
| NVBV-M207-6 | MVBV-M207-6 | | | | 6.0 | 47.0 x 73.0 |
| NVBV-M257-11 | MVBV-M257-11 | M25x1.5 | 23 | 25 | 11.0 | 52.0 x 76.0 |
| NVBV-M257-7 | MVBV-M257-7 | | | | 7.0 | 48.0 x 76.0 |
| NVBV-M253-11 | MVBV-M253-11 | | | | 11.0 | 62.5 x 85.0 |
| NVBV-M253-7 | MVBV-M253-7 | M32x1.5 | 23 | 25 | 7.0 | 58.5 x 85.0 |
| NVBV-M323-13 | MVBV-M323-13 | | | | 13.0 | 64.5 x 89.0 |
| NVBV-M323-8 | MVBV-M323-8 | M40x1.5 | 29 | 32 | 8.0 | 59.5 x 89.0 |
| NVBV-M329-13 | MVBV-M329-13 | | | | 13.0 | 74.0 x 94.5 |
| NVBV-M329-8 | MVBV-M329-8 | M50x1.5 | 36 | 40 | 8.0 | 69.0 x 94.5 |
| NVBV-M409-13 | MVBV-M409-13 | | | | 13.0 | 75.5 x 100.5 |
| NVBV-M409-8 | MVBV-M409-8 | M63x1.5 | 48 | 50 | 8.0 | 70.5 x 100.5 |
| NVBV-M406-13 | MVBV-M406-13 | | | | 13.0 | 86.5 x 123.0 |
| NVBV-M406-8 | MVBV-M406-8 | M50x1.5 | 36 | 40 | 8.0 | 81.5 x 123.0 |
| NVBV-M506-14 | MVBV-M506-14 | | | | 14.0 | 87.5 x 130.0 |
| NVBV-M506-9 | MVBV-M506-9 | M63x1.5 | 48 | 50 | 9.0 | 82.5 x 130.0 |
| NVBV-M508-14 | MVBV-M508-14 | | | | 14.0 | 100.5 x 135.0 |
| NVBV-M508-9 | MVBV-M508-9 | M63x1.5 | 48 | 50 | 9.0 | 95.5 x 135.0 |
| NVBV-M638-10 | MVBV-M638-10 | | | | 14.0 | 100.5 x 138.0 |
| NVBV-M638-14 | MVBV-M638-14 | | | | 10.0 | 96.5 x 138.0 |

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 10 to NW 12.

▲ IP68GT available. Please add "GT" prior to the thread length (e.g. NVBV-M207GT-10).
(Functional description PMAFIX IP68GT, pages E28–E29).



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits

VW 90° Elbow, Metric, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Body made of high-grade formulated polyamide
- Threads made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread Metric | Fits to Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|------------------|----------------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVWV-M120-10 | MVWV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 37.5 x 39.5 |
| NVWV-M120-5 | MVWV-M120-5 | | | | 5.0 | 32.5 x 39.5 |
| NVWV-M160-10 | MVWV-M160-10 | | | | 10.0 | 37.5 x 41.5 |
| NVWV-M160-5 | MVWV-M160-5 | M16x1.5 | 12 | 16 | 5.0 | 32.5 x 41.5 |
| NVWV-M162-10 | MVWV-M162-10 | | | | 10.0 | 42.0 x 46.5 |
| NVWV-M162-5 | MVWV-M162-5 | | | | 5.0 | 37.0 x 46.5 |
| NVWV-M202-10 | MVWV-M202-10 | M20x1.5 | 17 | 20 | 10.0 | 42.0 x 49.0 |
| NVWV-M202-6 | MVWV-M202-6 | | | | 6.0 | 38.0 x 49.0 |
| NVWV-M207-10 | MVWV-M207-10 | | | | 10.0 | 47.0 x 58.5 |
| NVWV-M207-6 | MVWV-M207-6 | M25x1.5 | 23 | 25 | 6.0 | 43.0 x 58.5 |
| NVWV-M253-11 | MVWV-M253-11 | | | | 11.0 | 59.0 x 67.0 |
| NVWV-M253-7 | MVWV-M253-7 | | | | 7.0 | 55.0 x 67.0 |
| NVWV-M329-13 | MVWV-M329-13 | M32x1.5 | 29 | 32 | 13.0 | 68.0 x 74.5 |
| NVWV-M329-8 | MVWV-M329-8 | | | | 8.0 | 63.0 x 74.5 |
| NVWV-M406-13 | MVWV-M406-13 | | | | 13.0 | 80.5 x 98.0 |
| NVWV-M406-8 | MVWV-M406-8 | M50x1.5 | 48 | 50 | 8.0 | 75.5 x 98.0 |
| NVWV-M508-14 | MVWV-M508-14 | | | | 14.0 | 95.5 x 111.0 |
| NVWV-M508-9 | MVWV-M508-9 | | | | 9.0 | 90.5 x 111.0 |
| NVWV-M638-14 | MVWV-M638-14 | M63x1.5 | 48 | 50 | 14.0 | 94.5 x 114.0 |
| NVWV-M638-10 | MVWV-M638-10 | | | | 10.0 | 90.5 x 114.0 |

▲ IP68GT available. Please add "GT" prior to the thread length (e.g. NVWV-M120GT-10).
(Functional description PMAFIX IP68GT, pages E28-E29).

VWZ 90° Elbow, Metric, Strain Relief, Metal/Polyamide

- Use in railway vehicle construction and heavy machine construction
- Separate damp and dry areas
- PA straight fitting made from high-grade formulated polyamide with nickel-plated brass female threads
- Zinc diecast 90° elbow, with TPE-V bushing
- With corresponding seals, IP68 static/IP67 dynamic cable = IP68 (10 bar)
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68 Complete, Black ▲ | Cat. No. Fitting * ▲ | Cat. No. Insert | Thread Metric | Conduit Size | | Terminal Range (mm) | Thread Length (mm) | Overall Length (mm) |
|---------------------------------------|-------------------------|--------------------|------------------|--------------|--------|---------------------------|--------------------------|---------------------------|
| | | | | NW | Metric | | | |
| NVWZ-M160S/P1 | NVWZ-M160R/P | DE-M160/P1 | M16x1.5 | 10 | 12 | 4.0-6.5 | 8.0 | 65.0 |
| NVWZ-M160S/P2 | | DE-M160/P2 | | | | 5.0-8.0 | | |
| NVWZ-M160S/P3 | | DE-M160/P3 | | | | 6.5-9.5 | | |
| NVWZ-M202S/P1 | NVWZ-M202R/P | DE-M202/P1 | M20x1.5 | 12 | 16 | 4.0-6.5 | 8.0 | 74.5 |
| NVWZ-M202S/P3 | | DE-M202/P3 | | | | 6.5-9.5 | | |
| NVWZ-M202S/P4 | | DE-M202/P4 | | | | 7.0-10.5 | | |
| NVWZ-M207S/P3 | NVWZ-M207R/P | DE-M207/P3 | M20x1.5 | 17 | 20 | 6.5-9.5 | 8.0 | 81.0 |
| NVWZ-M207S/P4 | | DE-M207/P4 | | | | 7.0-10.5 | | |
| NVWZ-M207S/P5 | | DE-M207/P5 | | | | 9.0-13.0 | | |
| NVWZ-M257S/P5 | NVWZ-M257R/P | DE-M257/P5 | M25x1.5 | 48 | 50 | 9.0-13.0 | 8.0 | 84.0 |
| NVWZ-M257S/P6 | | DE-M257/P6 | | | | 11.5-15.5 | | |

* = without insert

▲ IP68GT available. Please replace "S" with "GT" (for example NVWZ-M160GT/P1).
(Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C
Short term: Max. 135 °C

Content of delivery:

- IP68GT
- Complete Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT), sealing bushing and O-ring (OR)
- Fitting* Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and O-ring (OR)
- IP68
- Complete Fitting with oval clips (OVN2), sealing bushing, conduit seal (NVN3) and O-ring (OR)
- Fitting* Fitting with oval clips (OVN2), conduit seal (NVN3) and O-ring (OR)

Fittings for Nylon Flexible Conduits VN Straight, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

| Cat. No. IP68 | Cat. No. IP68 ▲ | Thread PG | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|--------------------|--------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| VND-P07MGT-11 | VNV-P07M | 7 | 7 | 10 | 11.0 | 34.5 |
| VND-P07MGT-8 | — | | | | 8.0 | 31.5 |
| VND-P070GT-11 | VNV-P070 | | 10 | 12 | 11.0 | 36.5 |
| VND-P070GT-8 | — | | | | 8.0 | 33.5 |
| VND-P072GT-11 | VNV-P072 | | 12 | 16 | 11.0 | 39.0 |
| VND-P072GT-8 | — | | | | 8.0 | 36.0 |
| VND-P09MGT-11 | VNV-P09M | 9 | 7 | 10 | 11.0 | 34.5 |
| VND-P09MGT-8 | — | | | | 8.0 | 31.5 |
| VND-P090GT-11 | VNV-P090 | | 10 | 12 | 11.0 | 36.5 |
| VND-P090GT-8 | — | | | | 8.0 | 33.5 |
| VND-P092GT-11 | VNV-P092 | | 12 | 16 | 11.0 | 39.0 |
| VND-P092GT-8 | — | | | | 8.0 | 36.0 |
| VND-P097GT-11 | VNV-P097 | 17 | 20 | 11.0 | 47.5 | |
| VND-P097GT-8 | — | | | 8.0 | 44.5 | |
| VND-P11MGT-11 | VNV-P11M | | | 11 | 7 | 10 |
| VND-P11MGT-8 | — | 8.0 | 31.5 | | | |
| VND-P110GT-11 | VNV-P110 | 10 | 12 | | 11.0 | 36.5 |
| VND-P110GT-8 | — | | | | 8.0 | 33.5 |
| VND-P112GT-11 | VNV-P112 | 12 | 16 | | 11.0 | 39.0 |
| VND-P112GT-8 | — | | | | 8.0 | 36.0 |
| VND-P117GT-11 | VNV-P117 | 17 | 20 | 11.0 | 47.5 | |
| VND-P117GT-8 | — | | | 8.0 | 44.5 | |
| VND-P13MGT-11 | VNV-P13M | 13.5 | 7 | 10 | 11.0 | 34.5 |
| VND-P13MGT-8 | — | | | | 8.0 | 31.5 |
| VND-P130GT-11 | VNV-P130 | | 10 | 12 | 11.0 | 36.5 |
| VND-P130GT-8 | — | | | | 8.0 | 33.5 |
| VND-P132GT-11 | VNV-P132 | | 12 | 16 | 11.0 | 39.0 |
| VND-P132GT-8 | — | | | | 8.0 | 36.0 |
| VND-P137GT-11 | VNV-P137 | 17 | 20 | 11.0 | 47.5 | |
| VND-P137GT-8 | — | | | 8.0 | 44.0 | |
| VND-P160GT-11 | — | 16 | 10 | 12 | 11.0 | 36.5 |
| VND-P160GT-8 | — | | | | 8.0 | 33.5 |
| VND-P162GT-11 | VNV-P162 | | 12 | 16 | 11.0 | 39.0 |
| VND-P163GT-11 | VNV-P163 | | | | 23 | 25 |
| VND-P163GT-8 | — | | 8.0 | 48.0 | | |
| VND-P167GT-11 | VNV-P167 | | 17 | 20 | 11.0 | 47.5 |
| VND-P167GT-8 | — | 8.0 | | | 44.5 | |
| VND-P213GT | VNV-P213 | 21 | 23 | 25 | — | 52.0 |
| VND-P296GT | VNV-P296 | 29 | 36 | 40 | 12.0 | 67.5 |
| VND-P299GT | VNV-P299 | | 29 | 32 | | 53.0 |
| VND-P366GT | VNV-P366 | | 36 | 36 | | 40 |
| VND-P368GT | VNV-P368 | 36 | — | — | — | — |
| VND-P428GT | VNV-P428 | 42 | 48 | 50 | 13.0 | 68.5 |
| VND-P488GT | VNV-P488 | 48 | | | | |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28-E29).

Fittings for Nylon Flexible Conduits

VNZ Straight, PG, Strain Relief, Polyamide

- For cable protection systems in a wide range of applications
- Separate damp and dry areas
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- High conduit pullout strength
- Easy mounting: simple push-in installation
- Integrated strain-relief optimally holds and seals cables
- If several conductors are used with the connector, multi-hole bushings should be considered
- Very good chemical properties
- Free from halogens and cadmium
- Excellent impact strength
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C
Short term: Max. 160 °C



Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT), strain-relief bushing and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), strain-relief bushing, conduit seal (NVN3) and thread gasket (SNV4)
- For several conductors, multi-hole bushings are available (MDE)

| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Metric | Conduit Size | | Terminal Range (mm) | Thread Length (mm) | Overall Length (mm) |
|---------------|-----------------|---------------|--------------|--------|---------------------|--------------------|---------------------|
| | | | NW | Metric | | | |
| VNDZ-P090GT | VNZ-P090S | 9 | 10 | 12 | 4.0–8.0 | 8.0 | 53.0 |
| VNDZ-P112GT | VNZ-P112S | 11 | 12 | 16 | 5.0–10.0 | | 59.0 |
| VNDZ-P132GT | VNZ-P132S | 13.5 | | | 17 | 20 | 6.0–12.0 |
| VNDZ-P137GT | VNZ-P137S | 13.5 | 23 | 25 | | | 10.0–14.0 |
| VNDZ-P167GT | VNZ-P167S | 16 | | | 29 | 32 | 13.0–18.0 |
| VNDZ-P163GT | VNZ-P163S | 16 | 29 | 32 | | | 18.0–25.0 |
| VNDZ-P213GT | VNZ-P213S | 21 | | | | | |
| VNDZ-P299GT | VNZ-P299S | 29 | | | | 85.0 | |

_ = Insert "B" to order black or "S" to order grey.

Note: MDE multiple sealing inserts are available for this product.

▲ IP68GT available. Please replace "S" at the end with "GT" (for example, BVNZ-P112GT/P1).
 (Functional description PMAFIX IP68GT, pages E28–E29).

Fittings for Nylon Flexible Conduits VA 45° Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread PG | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------|-----------------|-----------|--------------|--------|--------------------|--------------------------|
| | | | NW | Metric | | |
| VAD-P090GT | VAV-P090 | 9 | 10 | 12 | 11.0 | 43.0 x 37.0 |
| VAD-P112GT | VAV-P112 | 11 | 12 | 16 | | 48.0 x 40.0 |
| VAD-P132GT | VAV-P132 | 13.5 | 17 | 20 | | 48.0 x 41.5 |
| VAD-P137GT | VAV-P137 | | | | | 55.5 x 51.5 |
| VAD-P167GT | VAV-P167 | 16 | 21 | 25 | 12.0 | 55.5 x 51.5 |
| VAD-P213GT | VAV-P213 | 21 | 23 | 25 | | 63.0 x 58.0 |
| VAD-P299GT | VAV-P299 | 29 | 29 | 32 | 13.0 | 69.0 x 66.0 |
| VAD-P366GT | VAV-P366 | 36 | 36 | 40 | | 86.0 x 86.0 |
| VAD-P488GT | VAV-P488 | 48 | 48 | 50 | | 94.0 x 100.0 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VB 90° Curved Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX conduits
- High conduit pullout strength
- Smooth elbow allows easy guidance through connector
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread PG | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------|-----------------|-----------|--------------|--------|--------------------|--------------------------|
| | | | NW | Metric | | |
| VBD-P167GT | VBV-P167 | 16 | 17 | 20 | 11.0 | 47.5 x 73.0 |
| VBD-P213GT | VBV-P213 | 21 | 23 | 25 | 12.0 | 57.5 x 85.0 |
| VBD-P299GT | VBV-P299 | 29 | 29 | 32 | | 67.5 x 96.0 |
| VBD-P366GT | VBV-P366 | 36 | 36 | 40 | 13.0 | 79.0 x 123.0 |
| VBD-P488GT | VBV-P488 | 48 | 48 | 50 | | 92.5 x 135.0 |

_ = Insert "B" to order black or "S" to order grey.

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 07 to NW 12.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits

VW 90° Elbow, PG, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread PG | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------|-----------------|-----------|--------------|--------|--------------------|--------------------------|
| | | | NW | Metric | | |
| VWD-P07MGT-11 | VWV-P07M | 7 | 7 | 10 | 11.0 | 32.0 x 35.0 |
| VWD-P07MGT-8 | — | | | | 8.0 | 29.0 x 35.0 |
| VWD-P070GT-11 | VWV-P070 | | | | 11.0 | 34.0 x 39.5 |
| VWD-P070GT-8 | — | | | | 8.0 | 31.0 x 39.5 |
| VWD-P072GT-11 | VWV-P072 | | | | 11.0 | 38.5 x 44.5 |
| VWD-P072GT-8 | — | | | | 8.0 | 35.5 x 44.5 |
| VWD-P09MGT-11 | VWV-P09M | 9 | 7 | 10 | 11.0 | 32.0 x 36.5 |
| VWD-P09MGT-8 | — | | | | 8.0 | 29.0 x 36.5 |
| VWD-P090GT-11 | VWV-P090 | | | | 11.0 | 34.0 x 39.5 |
| VWD-P090GT-8 | — | | | | 8.0 | 31.0 x 39.5 |
| VWD-P092GT-11 | VWV-P092 | | | | 11.0 | 38.5 x 44.5 |
| VWD-P092GT-8 | — | | | | 8.0 | 35.5 x 44.5 |
| VWD-P11MGT-11 | VWV-P11M | 11 | 7 | 10 | 11.0 | 32.0 x 38.0 |
| VWD-P11MGT-8 | — | | | | 8.0 | 29.0 x 38.0 |
| VWD-P110GT-11 | VWV-P110 | | | | 11.0 | 34.0 x 41.0 |
| VWD-P110GT-8 | — | | | | 8.0 | 31.0 x 41.0 |
| VWD-P112GT-11 | VWV-P112 | | | | 11.0 | 38.5 x 46.0 |
| VWD-P112GT-8 | — | | | | 8.0 | 35.5 x 46.0 |
| VWD-P13MGT-11 | VWV-P13M | 13.5 | 7 | 10 | 11.0 | 32.0 x 39.5 |
| VWD-P13MGT-8 | — | | | | 8.0 | 29.0 x 39.5 |
| VWD-P130GT-11 | VWV-P130 | | | | 11.0 | 34.0 x 42.5 |
| VWD-P130GT-8 | — | | | | 8.0 | 31.0 x 42.5 |
| VWD-P132GT-11 | VWV-P132 | | | | 11.0 | 38.5 x 47.5 |
| VWD-P132GT-8 | — | | | | 8.0 | 35.5 x 47.5 |
| VWD-P137GT-11 | VWV-P137 | 16 | 17 | 20 | 11.0 | 43.5 x 58.5 |
| VWD-P137GT-8 | — | | | | 8.0 | 40.5 x 58.5 |
| VWD-P167GT-11 | VWV-P167 | | | | 11.0 | 43.5 x 58.5 |
| VWD-P167GT-8 | — | | | | 8.0 | 40.5 x 58.5 |
| VWD-P213GT | VWV-P213 | | | | 12.0 | 54.0 x 67.0 |
| VWD-P299GT | VWV-P299 | | | | 12.0 | 61.5 x 74.5 |
| VWD-P366GT | VWV-P366 | 13.0 | 72.0 x 98.0 | | | |
| VWD-P488GT | VWV-P488 | 13.0 | 85.5 x 111.0 | | | |

_ = Insert "B" to order black or "S" to order grey.

Curved elbows of type VB are available for the sizes NW 17 to NW 48.

▲ IP68GT available. Please add "GT" after the catalogue no.

(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits VN Straight, PG, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Body made of high-grade, specially formulated polyamide
- Threads made of nickel-plated brass
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread PG | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------------|-----------------------|-----------|--------------|--------|--------------------|---------------------|
| | | | NW | Metric | | |
| NVNV-P090 | MVNV-P090 | 9 | 10 | 12 | 12.0 | 42.0 |
| NVNV-P112 | MVNV-P112 | 11 | 12 | 16 | | 45.0 |
| NVNV-P137 | MVNV-P137 | 13.5 | 17 | 20 | 13.0 | 54.0 |
| NVNV-P167 | MVNV-P167 | 16 | | | | |
| NVNV-P213 | MVNV-P213 | 21 | 23 | 25 | 14.0 | 57.0 |
| NVNV-P293 | MVNV-P293 | 29 | | | | |
| NVNV-P299 | MVNV-P299 | 29 | 29 | 32 | 17.0 | 58.5 |
| NVNV-P366 | MVNV-P366 | 36 | 36 | 40 | | 75.5 |
| NVNV-P488 | MVNV-P488 | 48 | 48 | 50 | | |

▲ IP68GT available. Please add "GT" after the order no. (Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VNZ Straight, PG, Strain Relief, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Separate damp and dry areas
- Body made of high-grade, specially formulated polyamide 6
- Threads made of nickel-plated brass
- Sealing bushings made of TPE-V
- Integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)
- High thread and system pullout resistance
- Vibration-resistant connection to PMAFLEX® conduits
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68 Complete, Black ▲ | Cat. No. IP68 Fitting ▲ | Cat. No. Insert | Thread PG | Conduit Size | | Terminal Range (mm) | Thread Length (mm) | Overall Length (mm) | |
|---------------------------------|-------------------------|-----------------|-----------|--------------|--------|---------------------|--------------------|---------------------|----|
| | | | | NW | Metric | | | | |
| NVNZ-P090S/P3 | NVNZ-P090R/P | DE-P090/P3 | 9 | 10 | 12 | 6.5-9.5 | 6.0 | 49.5 | |
| NVNZ-P110S/P1 | NVNZ-P110R/P | DE-P110/P1 | | | | 4.0-6.5 | | 52.0 | |
| NVNZ-P110S/P3 | | DE-P110/P3 | | | | 6.5-9.5 | | 52.0 | |
| NVNZ-P112S/P1 | NVNZ-P112R/P | DE-P112/P1 | 11 | 12 | 16 | 4.0-6.5 | 6.5 | 53.5 | |
| NVNZ-P112S/P3 | | DE-P112/P3 | | | | 6.5-9.5 | | | |
| NVNZ-P112S/P4 | | DE-P112/P4 | | | | 7.0-10.5 | | | |
| NVNZ-P160S/P1 | NVNZ-P160R/P1 | DE-P110/P1 | 16 | 17 | 20 | 4.5-6.5 | 6.5 | 52.5 | |
| NVNZ-P167S/P3 | NVNZ-P167R/P | DE-P167/P3 | | | | 6.5-9.5 | | | |
| NVNZ-P167S/P4 | | DE-P167/P4 | | | | 7.0-10.5 | | | |
| NVNZ-P167S/P5 | | DE-P167/P5 | 16 | 17 | 20 | 9.0-13.0 | 6.5 | 61.0 | |
| NVNZ-P167S/P6 | | DE-P167/P6 | | | | 11.5-15.5 | | | |
| NVNZ-P213S/P4 | NVNZ-P213R/P | DE-P213/P4 | | | | 21 | | | 23 |
| NVNZ-P213S/P5 | NVNZ-P213R1/P | DE-P213/P5 | 17.0-20.5 | | | | | | |
| NVNZ-P299S/P3 | NVNZ-P299R/P | DE-P299/P3 | 29 | 29 | 32 | | 17.0-20.5 | 8.0 | |
| NVNZ-P299S/P4 | | DE-P299/P4 | | | | 20.0-25.0 | | | |
| NVNZ-P299S/P5 | | DE-P299/P5 | | | | 24.0-28.0 | | | |
| NVNZ-P366S/P1 | NVNZ-P366R/P | DE-P366/P1 | 36 | 36 | 40 | 27.0-32.0 | 9.0 | 88.0 | |
| NVNZ-P366S/P2 | | DE-P366/P2 | | | | 29.0-34.0 | | | |
| NVNZ-P366S/P3 | | DE-P366/P3 | | | | 32.0-36.0 | | | |
| NVNZ-P488S/P1 | NVNZ-P488R/P | DE-P488/P1 | 48 | 48 | 50 | 35.0-40.0 | 10.0 | 90.5 | |
| NVNZ-P488S/P2 | NVNZ-P488R/P | DE-P488/P2 | | | | 39.0-44.0 | | | |

* = without insert

Note: MDE multi-hole bushings are available for this product.

▲ IP68GT available. Please replace "S" or "R" with "GT" (for example NVNZ-P112GT/P1) (Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C
Short term: Max. 135 °C

Content of delivery:

- IP68GT Complete Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT), sealing bushing and O-ring (OR)
 - Fitting* Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and O-ring (OR)
 - IP68 Complete Fitting with oval clips (OVN2), sealing bushing, conduit seal (NVN3) and O-ring (OR)
 - Fitting* Fitting with oval clips (OVN2), conduit seal (NVN3) and O-ring (OR)
 - Bushing Sealing bushing
- For several conductors, multi-hole bushings are available (MDE)

Fittings for Nylon Flexible Conduits

VA 45° Elbow, PG, Metal/Polyamide

- For cable protection systems in a wide range of applications
- Body made of high-grade, specially formulated polyamide
- Threads made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread PG | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|--------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVAV-P090 | MVAV-P090 | 9 | 10 | 12 | 12.0 | 50.5 x 37.0 |
| NVAV-P112 | MVAV-P112 | 11 | 12 | 16 | 13.0 | 55.0 x 40.5 |
| NVAV-P137 | MVAV-P137 | 13.5 | 17 | 20 | | 63.5 x 50.0 |
| NVAV-P167 | MVAV-P167 | 16 | 17 | 20 | | 63.5 x 50.0 |
| NVAV-P213 | MVAV-P213 | 21 | 23 | 25 | 14.0 | 73.0 x 60.5 |
| NVAV-P299 | MVAV-P299 | 29 | 29 | 32 | 17.0 | 78.0 x 68.0 |
| NVAV-P366 | MVAV-P366 | 36 | 36 | 40 | | 98.0 x 87.5 |
| NVAV-P488 | MVAV-P488 | 48 | 48 | 50 | | 105.0 x 101.0 |

▲ IP68GT available. Please add "GT" after the catalogue no.
 (Functional description PMAFIX IP68GT, pages E28–E29).

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VB 90° Curved Elbow, PG, Metal/Polyamide

- For cable protection systems in a wide range of applications
- Body made of high-grade, specially formulated polyamide
- Threads made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Cat. No. IP68, Grey ▲ | Thread PG | Fits to Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|--------------|----------------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVBV-P167 | MVBV-P167 | 16 | 17 | 20 | 13.0 | 54.0 x 73.0 |
| NVBV-P213 | MVBV-P213 | 21 | 23 | 25 | 14.0 | 65.5 x 85.0 |
| NVBV-P299 | MVBV-P299 | 29 | 29 | 32 | | 75.0 x 96.0 |
| NVBV-P366 | MVBV-P366 | 36 | 36 | 40 | | 90.5 x 123.0 |
| NVBV-P488 | MVBV-P488 | 48 | 48 | 50 | 17.0 | 103.5 x 135.0 |

Appropriate standard elbows of type VW are available for smaller conduit sizes NW 07 to NW 12.

▲ IP68GT available. Please add "GT" after the catalogue no.
 (Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits VW 90° Elbow, PG, Metal/Polyamide

- Use in railway vehicle and heavy machine construction
- Body made of high-grade, specially formulated polyamide
- Threads made of nickel-plated brass
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Very good chemical properties
- Polyamide free from halogens and cadmium
- Extremely high thread and system pullout resistance
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black ▲ | Cat. No. IP68, Grey ▲ | Thread PG | Fits to Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------------------|--------------------------|--------------|----------------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NVWV-P090 | MVWV-P090 | 9 | 10 | 12 | 12.0 | 39.5 x 39.5 |
| NVWV-P112 | MVWV-P112 | 11 | 12 | 16 | | 45.5 x 45.0 |
| NVWV-P137 | MVWV-P137 | 13.5 | 17 | 20 | 13.0 | 50.0 x 58.5 |
| NVWV-P167 | MVWV-P167 | 16 | 17 | 20 | | 50.0 x 58.5 |
| NVWV-P213 | MVWV-P213 | 21 | 23 | 25 | 14.0 | 62.0 x 67.0 |
| NVWV-P299 | MVWV-P299 | 29 | 29 | 32 | | 69.0 x 74.5 |
| NVWV-P366 | MVWV-P366 | 36 | 36 | 40 | 17.0 | 83.5 x 98.0 |
| NVWV-P488 | MVWV-P488 | 48 | 48 | 50 | | 96.5 x 111.0 |

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Curved elbows of type VB are available for the sizes NW 17 to NW 48.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Fittings for Nylon Flexible Conduits

VN Straight, Whitworth, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 ▲ | Cat. No. IP68 ▲ | Thread Whitworth (in.) | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|--------------------|--------------------|---------------------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| _VND-G00MGT | VNV-G00M | 1/4 | 7 | 10 | 11.0 | 34.5 |
| _VND-G000GT | VNV-G000 | | 10 | 12 | | 36.5 |
| _VND-G010GT | VNV-G010 | | 10 | 12 | | 36.5 |
| _VND-G012GT | VNV-G012 | 3/8 | 12 | 16 | 13.0 | 39.0 |
| _VND-G022GT | VNV-G022 | | 12 | 16 | | 41.0 |
| _VND-G027GT | VNV-G027 | 1/2 | 17 | 20 | 14.0 | 49.5 |
| _VND-G043GT | VNV-G043 | | 23 | 25 | | 54.0 |
| _VND-G069GT | VNV-G069 | 1 | 29 | 32 | 15.0 | 56.0 |
| _VND-G076GT | VNV-G076 | | 36 | 40 | | 71.0 |
| _VND-G088GT | VNV-G088 | 1-1/2 | 48 | 50 | 18.0 | 71.5 |
| _VND-G098GT | VNV-G098 | 2 | 48 | 50 | | 71.5 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VA 45° Elbow, Whitworth, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Whitworth (in.) | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|--------------------|---------------------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| _VAD-G000GT | VAV-G000 | 1/4 | 10 | 12 | 11.0 | 43.5 x 37.0 |
| _VAD-G012GT | VAV-G012 | | 12 | 16 | | 48.0 x 40.0 |
| _VAD-G027GT | VAV-G027 | | 17 | 20 | | 57.5 x 51.5 |
| _VAD-G043GT | VAV-G043 | 3/8 | 23 | 25 | 14.0 | 67.0 x 60.0 |
| _VAD-G069GT | VAV-G069 | | 29 | 32 | | 73.5 x 67.0 |
| _VAD-G076GT | VAV-G076 | 1/2 | 36 | 40 | 15.0 | 91.5 x 85.5 |
| _VAD-G088GT | — | | 48 | 50 | | 99.0 x 96.0 |
| _VAD-G098GT | VAV-G098 | 1 | 48 | 50 | 18.0 | 99.0 x 101.0 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits VW 90° Elbow, Whitworth, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread Whitworth (in.) | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|--------------------|---------------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| _VWD-G00MGT | _VWV-G00M | 1/4 | 7 | 10 | 11.0 | 32.0 x 36.5 |
| _VWD-G000GT | _VWV-G000 | | 10 | 12 | | 34.0 x 39.5 |
| _VWD-G010GT | _VWV-G010 | 3/8 | 12 | 16 | | 34.0 x 40.5 |
| _VWD-G012GT | _VWV-G012 | | | | 38.5 x 46.0 | |
| _VWD-G022GT | _VWV-G022 | 1/2 | 17 | 20 | 13.0 | 40.5 x 47.5 |
| _VWD-G027GT | _VWV-G027 | | | | | 45.5 x 58.5 |
| _VWD-G043GT | _VWV-G043 | 3/4 | 23 | 25 | | 14.0 |
| _VWD-G069GT | _VWV-G069 | 1 | 29 | 32 | 64.5 x 73.5 | |
| _VWD-G076GT | _VWV-G076 | 1-1/4 | 36 | 40 | 77.0 x 96.0 | |
| _VWD-G088GT | _VWV-G088 | 1-1/2 | 48 | 50 | 18.0 | 90.5 x 106.0 |
| _VWD-G098GT | _VWV-G098 | | | | | 2 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits

VN Straight, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread NPT (in.) | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|---------------|-----------------|------------------|--------------|--------|--------------------|---------------------|
| | | | NW | Metric | | |
| _VND-N022GT | _VNV-N022 | 1/2 | 12 | 16 | 13.0 | 41.5 |
| _VND-N027GT | _VNV-N027 | | 17 | 20 | | 49.5 |
| _VND-N043GT | _VNV-N043 | 3/4 | 23 | 25 | 14.0 | 54.0 |
| _VND-N069GT | _VNV-N069 | | 29 | 32 | | 56.0 |
| _VND-N076GT | _VNV-N076 | 1-1/4 | 36 | 40 | 18.0 | 71.0 |
| _VND-N088GT | _VNV-N088 | 1-1/2 | 48 | 50 | | 71.5 |
| _VND-N098GT | _VNV-N098 | 2 | 48 | 50 | | 71.5 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no. (Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VA 45° Elbow, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread NPT (in.) | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|---------------|-----------------|------------------|--------------|--------|--------------------|--------------------------|
| | | | NW | Metric | | |
| _VAD-N022GT | _VAV-N022 | 1/2 | 12 | 16 | 13.0 | 50.0 x 41.5 |
| _VAD-N027GT | _VAV-N027 | | 17 | 20 | | 57.5 x 51.5 |
| _VAD-N043GT | _VAV-N043 | 3/4 | 23 | 25 | 14.0 | 67.0 x 60.0 |
| _VAD-N069GT | _VAV-N069 | | 29 | 32 | | 73.5 x 67.0 |
| _VAD-N076GT | _VAV-N076 | 1-1/4 | 36 | 40 | 18.0 | 91.5 x 85.5 |
| _VAD-N088GT | _VAV-N088 | 1-1/2 | 48 | 50 | | 99.0 x 96.0 |
| _VAD-N098GT | _VAV-N098 | 2 | 48 | 50 | | 99.0 x 101.0 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no. (Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

Fittings for Nylon Flexible Conduits VW 90° Elbow, NPT, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Easy mounting: simple conduit push-in installation
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Thread NPT (in.) | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|--------------------|---------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| _VWD-N022GT | _VWV-N022 | 1/2 | 12 | 16 | 13.0 | 40.5 x 47.5 |
| _VWD-N027GT | _VWV-N027 | | 17 | 20 | | 45.5 x 58.5 |
| _VWD-N043GT | _VWV-N043 | 3/4 | 23 | 25 | 14.0 | 56.0 x 66.5 |
| _VWD-N069GT | _VWV-N069 | 1 | 29 | 32 | 15.0 | 64.5 x 73.5 |
| _VWD-N076GT | _VWV-N076 | 1-1/4 | 36 | 40 | 18.0 | 77.0 x 96.0 |
| _VWD-N088GT | _VWV-N088 | 1-1/2 | 48 | 50 | | 90.5 x 106.0 |
| _VWD-N098GT | _VWV-N098 | 2 | 48 | 50 | | 90.5 x 111.0 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and thread gasket (SNV4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4)

VO Flange 90°, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Standard flange seal FGO4 made from EPDM
- Flange seal FGO4/01 made from NBR on demand
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Conduit Size | | Dimensions (mm) Width x Length x Depth | Screw Sizes |
|------------------|--------------------|--------------|--------|---|----------------|
| | | NW | Metric | | |
| _VOD-P167GT | _VOV-P167 | 17 | 20 | 46.0 x 66.0 x 35.5 | 2 x M5 |
| _VOD-P213GT | _VOV-P213 | 23 | 25 | 65.5 x 70.0 x 43.0 | 2 x M6 |
| _VOD-P299GT | _VOV-P299 | 29 | 32 | 67.0 x 78.0 x 49.5 | 4 x M6 |
| _VOD-P366GT | _VOV-P366 | 36 | 40 | 85.0 x 102.0 x 65.5 | 4 x M6 |
| _VOD-P488GT | _VOV-P488 | 48 | 50 | 86.0 x 119.0 x 77.5 | 4 x M6 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2) and flange gasket (FGO4)
- IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and flange gasket (FGO4)
- IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and flange gasket (FGO4)

Fittings for Nylon Flexible Conduits

VI Female Thread Adapter, Metric, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black | Cat. No. IP68, Black ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|-------------------------|---------------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| BVID-M12MGT | — | M12x1.5 | 7 | 10 | 8.0 | 32.0 |
| BVID-M160GT | BVIR-M160 | M16x1.5 | 10 | 12 | | 33.5 |
| BVID-M162GT | BVIR-M162 | M16x1.5 | 12 | 16 | | 36.5 |
| — | BVIR-M202 | M20x1.5 | 12 | 16 | | 36.5 |
| BVID-M207GT | BVIR-M207 | M20x1.5 | 17 | 20 | | 44.5 |
| BVID-M253GT | BVIR-M253 | M25x1.5 | 23 | 25 | | 48.5 |
| — | BVIR-M257 | M25x1.5 | 17 | 20 | 10.0 | 44.5 |
| BVID-M329GT | BVIR-M329 | M32x1.5 | 29 | 32 | | 51.5 |
| BVID-M406GT | BVIR-M406 | M40x1.5 | 36 | 40 | | 65.5 |
| BVID-M508GT | BVIR-M508 | M50x1.5 | 48 | 50 | | 65.5 |
| BVID-M638GT | BVIR-M638 | M63x1.5 | 48 | 50 | | 65.5 |

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

- VIR: IP68 static/IP67 dynamic, conduit side
- VID: IP66 static/IP54 dynamic, conduit side

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Fitting with pre-installed universal safety clips (AFN2)
- IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

VI Female Thread Adapter, Metric, Metal/Polyamide

- Use in machine railway construction and heavy-duty applications
- Body made of high-grade, specially formulated polyamide 6
- Threads made of nickel-plated brass
- Very high impact resistance
- High thread and system pullout resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|---------------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| NVIR-M120 | M12x1.5 | 10 | 12 | 7.0 | 35.5 |
| NVIR-M162 | M16x1.5 | 12 | 16 | 9.0 | 40.5 |
| NVIR-M207 | M20x1.5 | 17 | 20 | 10.5 | 50.5 |
| NVIR-M253 | M25x1.5 | 23 | 25 | 10.5 | 53.0 |
| NVIR-M329 | M32x1.5 | 29 | 32 | 11.0 | 55.0 |
| NVIR-M406 | M40x1.5 | 36 | 40 | 13.5 | 71.0 |
| NVIR-M508 | M50x1.5 | 48 | 50 | 15.0 | 73.0 |
| NVIR-M638 | M63x1.5 | 48 | 50 | 17.5 | 78.0 |

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

- VIR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

Fittings for Nylon Flexible Conduits FI/VI Female Thread Adapter, PG, Polyamide

- For machine, automobile and rail vehicle building
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP67, Black | Cat. No. IP68, Black | Thread PG | Fits to Conduit Size | | Thread Length (mm) | Overall Length (mm) | | |
|-------------------------|-------------------------|--------------|----------------------|--------|-----------------------|------------------------|------|------|
| | | | NW | Metric | | | | |
| BFIL-P07M | — | 7 | 7 | 10 | 8.0 | 29.0 | | |
| BFIL-P070 | — | | | | | 34.5 | | |
| — | BVIR-P070 | | | | | 33.5 | | |
| BFIL-P090 | — | 9 | 10 | 12 | | 32.5 | | |
| — | BVIR-P090 | | | | | 33.5 | | |
| BFIL-P112 | — | | | | | 11 | 12 | 16 |
| — | BVIR-P112 | 36.5 | | | | | | |
| BFIL-P117 | — | 13.5 | 17 | 20 | 35.0 | | | |
| BFIL-P132 | — | | | | 12 | 16 | 17 | 32.5 |
| BFIL-P137 | — | | | | | | | 17 |
| BFIL-P160 | — | 16 | 10 | 12 | | | | |
| BFIL-P167 | — | | | | 17 | 20 | 7.0 | |
| — | BVIR-P167 | | | | | | | 8.0 |
| BFIL-P217 | — | 21 | 23 | 25 | | | | 8.0 |
| BFIL-P213 | — | | | | 29 | 29 | 32 | 10.5 |
| BFIL-P293 | — | | | | | | | 23 |
| BFIL-P299 | — | 36 | 29 | 32 | | | | |
| BFIL-P363 | — | | | | 29 | 32 | 16.0 | |
| BFIL-P369 | — | | | | | | | 36 |
| BFIL-P366 | — | 48 | 48 | 50 | | | | |
| BFIL-P488 | — | | | | 36 | 25 | 13.0 | |
| — | — | | | | | | | 48 |
| — | — | 21 | 23 | 25 | | | | |
| — | — | | | | 29 | 29 | 32 | |
| — | — | | | | | | | 36 |
| — | — | 48 | 48 | 50 | | | | |
| — | — | | | | 29 | 32 | 16.0 | |
| — | — | | | | | | | 36 |
| — | — | 48 | 48 | 50 | | | | |
| — | — | | | | 21 | 23 | 25 | |
| — | — | | | | | | | 29 |
| — | — | 36 | 29 | 32 | | | | |
| — | — | | | | 48 | 48 | 50 | |

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

VIR: IP68 static/IP67 dynamic, conduit side
FIL: IP67 static/IP65 dynamic, conduit side
Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP67 Fitting with oval clips (OVN2) and conduit seal (NFN3)
- IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

VI Female Thread Adapter PG, Metal/Polyamide

- For machine, vehicle and traction building
- Body made of high-grade, specially formulated polyamide 6
- Threads made of nickel-plated brass
- Very high impact resistance
- High thread and system connection strengths
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68, Black ▲ | Thread PG | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|---------------------------|--------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| NVIZR-P07M | 7 | 7 | 10 | 6.0 | 33.0 |
| NVIZR-P090 | 9 | 10 | 12 | 9.0 | 37.5 |
| NVIZR-P110 | 11 | 10 | 12 | 9.0 | 39.5 |
| NVIZR-P112 | 11 | 12 | 16 | 9.0 | 41.5 |
| NVIZR-P167 | 16 | 17 | 20 | 9.5 | 49.5 |
| NVIZR-P213 | 21 | 23 | 25 | 10.0 | 56.5 |
| NVIZR-P299 | 29 | 29 | 32 | 12.5 | 56.5 |
| NVIZR-P366 | 36 | 36 | 40 | 13.0 | 73.0 |
| NVIZR-P488 | 48 | 48 | 50 | 14.0 | 75.0 |

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

VUZR: IP68 static/IP67 dynamic, conduit side
Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

Fittings for Nylon Flexible Conduits

VI Female Thread Adapter, UNEF for AMP CPC Series, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Suitable for the AMP connector Series CPC
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black | Cat. No. IP68, Black ▲ | Thread UNEF | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|-------------------------|---------------------------|----------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| BVIDA-U15MGT | BVIRA-U15M | 5/8 in.-24 | 7 | 10 | 8.0 | 31.5 |
| BVIDA-U150GT | BVIRA-U150 | 5/8 in.-24 | 10 | 12 | | 33.5 |
| BVIDA-U152GT | BVIRA-U152 | 5/8 in.-24 | 12 | 16 | | 36.5 |
| BVIDA-U180GT | BVIRA-U180 | 1/4 in.-20 | 10 | 12 | | 33.5 |
| BVIDA-U182GT | BVIRA-U182 | 1/4 in.-20 | 12 | 16 | | 36.5 |
| BVIDA-U187GT | BVIRA-U187 | 1/4 in.-20 | 17 | 20 | | 44.5 |
| BVIDA-U232GT | BVIRA-U232 | 15/16 in.-20 | 12 | 16 | | 38.5 |
| BVIDA-U237GT | BVIRA-U237 | 15/16 in.-20 | 17 | 20 | | 46.5 |
| BVIDA-U233GT | BVIRA-U233 | 15/16 in.-20 | 23 | 25 | | 48.5 |
| BVIDA-U347GT | BVIRA-U347 | 13/8 in.-18 | 17 | 20 | | 46.5 |
| BVIDA-U343GT | BVIRA-U343 | 13/8 in.-18 | 23 | 25 | 48.5 | |
| BVIDA-U402GT | BVIRA-U402 | 15/8 in.-18 | 12 | 16 | 7.0 | 55.5 |
| BVIDA-U407GT | BVIRA-U407 | 15/8 in.-18 | 17 | 20 | | 61.5 |
| BVIDA-U403GT | BVIRA-U403 | 15/8 in.-18 | 23 | 25 | | 60.5 |

▲ IP68GT available. Please add "GT" after the catalogue no. (Functional description PMAFIX IP68GT, pages E28-E29).

VIRA: IP68 static/IP67 dynamic, conduit side

VIDA: IP66 static/IP54 dynamic, conduit side

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

IP66 Fitting with pre-installed universal safety clips (AFN2)

IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

VI Female Thread Adapter, UNEF for Souriau

UTG-6/ITT Cannon Trident, Polyamide

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Suitable for the Souriau connector Series UTG-6 - ITT Cannon Trident
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black | Cat. No. IP68, Black ▲ | Thread UNEF | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|-------------------------|---------------------------|----------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| BVIDB-U162GT | BVIRB-U162 | 11/16 in.-24 | 12 | 16 | 4.0 | 43.5 |
| BVIDB-U202GT | BVIRB-U202 | 13/16 in.-20 | 12 | 16 | 4.5 | 44.0 |
| BVIDB-U232GT | BVIRB-U232 | 15/16 in.-20 | 12 | 16 | 4.5 | 49.0 |
| BVIDB-U237GT | BVIRB-U237 | 15/16 in.-20 | 17 | 20 | 4.5 | 52.0 |
| BVIDB-U267GT | BVIRB-U267 | 11/16 in.-18 | 17 | 20 | 4.5 | 52.0 |
| BVIDB-U297GT | BVIRB-U297 | 13/16 in.-18 | 17 | 20 | 6.5 | 55.5 |
| BVIDB-U293GT | BVIRB-U293 | 13/16 in.-18 | 23 | 25 | 6.5 | 52.0 |
| BVIDB-U323GT | BVIRB-U323 | 15/16 in.-18 | 23 | 25 | 6.5 | 52.0 |
| BVIDB-U357GT | BVIRB-U357 | 17/16 in.-18 | 17 | 20 | 6.5 | 58.5 |
| BVIDB-U353GT | BVIRB-U353 | 17/16 in.-18 | 23 | 25 | 6.5 | 54.0 |
| BVIDB-U359GT | BVIRB-U359 | 17/16 in.-18 | 29 | 32 | 6.5 | 50.5 |

▲ IP68GT available. Please add "GT" after the catalogue no. (Functional description PMAFIX IP68GT, pages E28-E29).

VIRB: IP68 static/IP67 dynamic, conduit side

VIDB: IP66 static/IP54 dynamic, conduit side

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

IP66 Fitting with pre-installed universal safety clips (AFN2)

IP68GT Fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)

IP68 Fitting with oval clips (OVN2) and conduit seal (NVN3)

Fittings for Nylon Flexible Conduits VI Female Thread Adapter, UNEF for MIL C 5015

- Use in machine, vehicle and traction building industries
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Very good chemical properties
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black | Cat. No. IP68, Black ▲ | Thread UNEF | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|-------------------------|---------------------------|-----------------|--------------|--------|-----------------------|------------------------|
| | | | NW | Metric | | |
| — | BVIVG-U152 | 5/ in.-24 | 12 | 16 | 8.0 | 36.5 |
| — | BVIVG-U187 | 3/4 in.-20 | 17 | 20 | | 46.5 |
| — | BVIVG-U210 | 7/8 in.-20 | 10 | 07 | | 37.0 |
| BVIDG-U212GT | BVIVG-U212 | 7/8 in.-20 | 12 | 16 | 9.0 | 38.5 |
| BVIDG-U217GT | BVIVG-U217 | 7/8 in.-20 | 17 | 20 | | 46.5 |
| BVIDG-U242GT | BVIVG-U242 | 1 in.-20 | 12 | 16 | | 40.5 |
| — | BVIVG-U243 | 1 in.-20 | 23 | 25 | | 55.0 |
| BVIDG-U247GT | BVIVG-U247 | 1 in.-20 | 17 | 20 | | 47.5 |
| — | BVIVG-U292 | 1-3/16 in.-18 | 12 | 16 | | 40.5 |
| BVIDG-U293GT | BVIVG-U293 | 1-3/16 in.-18 | 23 | 25 | | 55.0 |
| BVIDG-U297GT | BVIVG-U297 | 1-3/16 in.-18 | 17 | 20 | | 47.5 |
| — | BVIVG-U299 | 1-3/16 in.-18 | 29 | 29 | | 47.0 |
| — | BVIVG-U352 | 1-7/16 in.-18 | 12 | 16 | | 39.0 |
| BVIDG-U353GT | BVIVG-U353 | 1-7/16 in.-18 | 23 | 25 | | 52.0 |
| — | BVIVG-U356 | 1-7/16 in.-18 | 36 | 40 | | 63.0 |
| BVIDG-U357GT | BVIVG-U357 | 1-7/16 in.-18 | 17 | 20 | 10.0 | 46.5 |
| BVIDG-U359GT | BVIVG-U359 | 1-7/16 in.-18 | 29 | 29 | | 52.0 |
| BVIDG-U433GT | BVIVG-U433 | 1-3/4-18 UNS | 23 | 25 | | 52.0 |
| BVIDG-U436GT | BVIVG-U436 | 1-3/4-18 UNS | 36 | 40 | | 62.5 |
| — | BVIVG-U437 | 1-3/4-18 UNS | 17 | 20 | | 46.5 |
| BVIDG-U439GT | BVIVG-U439 | 1-3/4-18 UNS | 29 | 32 | | 51.5 |
| — | BVIVG-U503 | 2 in.-18 UNS | 23 | 25 | | 51.5 |
| — | BVIVG-U503/01 | 2 in.-18 UNS | 23 | 25 | | 62.5 |
| BVIDG-U506GT | BVIVG-U506 | 2 in.-18 UNS | 36 | 40 | | 62.5 |
| — | BVIVG-U508 | 2 in.-18 UNS | 48 | 50 | | 64.5 |
| BVIDG-U509GT | BVIVG-U509 | 2 in.-18 UNS | 29 | 32 | | 55.0 |
| — | BVIVG-U563 | 2-1/4 in.-16 UN | 23 | 25 | | 51.0 |
| BVIDG-U566GT | BVIVG-U566 | 2-1/4 in.-16 UN | 36 | 40 | 62.0 | |
| — | BVIVG-U568 | 2-1/4 in.-16 UN | 48 | 50 | 64.0 | |
| BVIDG-U569GT | BVIVG-U569 | 2-1/4 in.-16 UN | 29 | 32 | 51.0 | |
| — | BVIVG-U628 | 2-1/4 in.-16 UN | 48 | 500 | 64.0 | |

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28-E29).

VI: IP68 static/IP67 dynamic, conduit- and thread side

VIDG: IP66 static/IP54 dynamic, conduit- and thread side

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

IP66 Fitting with pre-installed universal safety clips (AFN2) and O-ring (OR)

IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and O-ring (OR)

IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and O-ring (OR)

FI Female Thread Adapter, Fine-Metric, Transparent

- Use in machine and vehicle building, in connection with electronic sensors
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Light-emitting diodes are recognizable through the connector
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Very good chemical properties, free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP67, Transparent | Thread Fine-Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|-------------------------------|-----------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| TFIL-F08M | 8 | 7 | 10 | 6.5 | 29.5 |
| TFIL-F12M | 12 | | | | 56.0 |
| TFIL-F18M | 18 | | | | 56.5 |
| TFIL-F30M | 30 | 10 | 12 | 6.0 | 57.0 |
| TFIL-F120 | 12 | | | | |
| TFIL-F180 | 18 | | | | |
| TFIL-F300 | 30 | | | | |

FIL: IP67 static / IP65 dynamic, conduit side

Temperature range: -40 to 105 °C
Short term: Max. 120 °C

Content of delivery:

Fitting with oval clips (OVN2) and conduit seal (NFN3)

Fittings for Nylon Flexible Conduits

VY Y Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 ▲ | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|--------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| _VYD-100707GT | _VYR-100707 | 10 | 12 | 7 | 10 |
| _VYD-121010GT | _VYR-121010 | 12 | 16 | 10 | 12 |
| _VYD-171212GT | _VYR-171212 | 17 | 20 | 12 | 16 |
| _VYD-231717GT | _VYR-231717 | 23 | 25 | 17 | 20 |
| _VYD-292323GT | _VYR-292323 | 29 | 32 | 23 | 25 |
| _VYD-362929GT | _VYR-362929 | 36 | 40 | 29 | 32 |
| _VYD-483636GT | _VYR-483636 | 48 | 50 | 36 | 40 |

_ = Insert "B" to order black or "S" to order grey.

The input/output sizes can be adapted with the AVD/AVR conduit adapters.

▲ IP68GT available. Please add "GT" after the catalogue no.

(Functional description PMAFIX IP68GT, pages E28-E29).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Distributor fitting with pre-installed universal safety clips (AFN2)
- IP68GT Distributor fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Distributor fitting with oval clips (OVN2) and conduit seal (NVN3)

FV V Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP67 | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| _FVD-100707GT | _FVL-100707 | 10 | 12 | 7 | 10 |
| _FVD-101010GT | _FVL-101010 | 10 | 12 | 10 | 12 |
| _FVD-121010GT | _FVL-121010 | 12 | 16 | 10 | 12 |
| _FVD-171010GT | _FVL-171010 | 17 | 20 | 10 | 12 |
| _FVD-171212GT | _FVL-171212 | 17 | 20 | 12 | 16 |
| _FVD-231717GT | _FVL-231717 | 23 | 25 | 17 | 20 |

_ = Insert "B" to order black or "S" to order grey.

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

- IP66 Distributor fitting with pre-installed universal safety clips (AFN2)
- IP67 Distributor fitting with oval clips (OVN2) and conduit seal (NFN3)

Fittings for Nylon Flexible Conduits

FT/VT T Pieces

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP67 ▲ | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|--------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| FTD-101010GT | — | 10 | 12 | 10 | 12 |
| FTD-121212GT | — | 12 | 16 | 12 | 16 |
| FTD-171717GT | — | 17 | 20 | 17 | 20 |
| FTD-292323GT | FTL-292323 (!) | 29 | 32 | 23 | 25 |
| FTD-292929GT | — | 29 | 32 | 29 | 32 |
| — | _VTR-101010 | 10 | 12 | 10 | 12 |
| — | _VTR-121212 | 12 | 16 | 12 | 16 |
| — | _VTR-171717 | 17 | 20 | 17 | 20 |
| _VDD-232323GT | _VTR-232323 | 23 | 25 | 23 | 25 |
| — | _VTR-292929 | 29 | 32 | 29 | 32 |
| VTD-363636GT | _VTR-363636 | 36 | 40 | 36 | 40 |
| VTD-484848GT | _VTR-484848 | 48 | 50 | 48 | 50 |

_ = Insert "B" to order black or "S" to order grey.

▲ IP68GT available. Please add "GT" after the catalogue no.
(Functional description PMAFIX IP68GT, pages E28–E29).

(!) Please note: The article "FTL" (IP67) will be discontinued! For new applications we recommend _VTR (IP68).

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

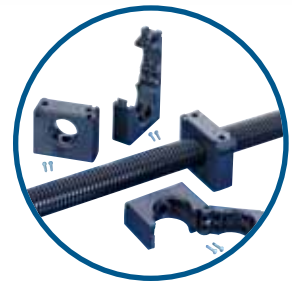
Content of delivery:

- IP66 Distributor fitting with pre-installed universal safety clips (AFN2)
- IP67 Distributor fitting with oval clips (OVN2) and conduit seal (NFN3)
- IP68GT Distributor fitting with pre-installed universal safety clips (AFN2) and conduit seal (NVN3-GT)
- IP68 Distributor fitting with oval clips (OVN2) and conduit seal (NVN3)

Accessories for Nylon Flexible Conduits

GPS One-Piece System Supports

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- One-piece construction, stackable
- Excellent impact resistance
- Heavy design, high retention forces
- Applicable with standard metal C rails
- Easy pre-installation by conduit snap-in
- Clasp for easy pre-mounting and final assembly
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) conduit profile
- The following nominal widths can be combined for stacking:
NW 17 with NW 23, NW 29 with NW 36, NW 48 with NW 56



| Cat. No. Fine Profile | Fits to Conduit Size | | | Dimensions (mm) | | |
|--------------------------|----------------------|--------|--------|-----------------|--------|-------|
| | NW | Metric | DIN-NW | Width | Height | Depth |
| BGPS-17 | 17 | 20 | 2 | 70.0 | 51.0 | 30.0 |
| BGPS-23 | 23 | 25 | | | | |
| BGPS-29 | 29 | 32 | 3 | 85.0 | 65.0 | |
| BGPS-36 | 36 | 40 | | | | |
| BGPS-48 | 48 | 50 | 4 | 115.0 | 92.5 | |
| BGPS-56 | 56 | — | | | | |

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

System supports with two (2) screws for securing the lid (optional).

Mounting accessories not included

GP System Supports for Stacking

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide
- Variable stacking possibilities — due to the block system, a high rigidity is guaranteed
- Strain relief due to gripping around conduit
- Especially suitable for dynamic applications due to rounded edges
- Variety of support possibilities
- Self extinguishing, free from halogens and cadmium
- Excellent impact strength



| Cat. No. Fine Profile | Cat. No. Coarse Profile | Conduit Size | | Dimensions (mm) | | |
|--------------------------|----------------------------|--------------|--------|-----------------|--------|-------|
| | | NW | Metric | Width | Height | Depth |
| _GP-16T | _GP-16G | 17 | 20 | 47.5 | 66.0 | 36.0 |
| _GP-21T | _GP-21G | 23 | 25 | | | |
| _GP-29T | _GP-29G | 29 | 32 | 61.5 | | |
| _GP-36T | _GP-36G | 36 | 40 | | | |
| _GP-48T | _GP-48G | 48 | 50 | 76.0 | | |
| — | _GP-56G | 56 | — | 87.0 | 78.0 | |

_ = Insert "B" to order black or "S" to order grey.

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

System supports with two (2) screws for securing the lid (optional).

Mounting accessories not included

Accessories for Nylon Flexible Conduits

SGB Tube Clamps

- Especially suitable for mounting static conduits
- Body: galvanized steel according to DIN 3016
- Coating: elastomer (EPDM) free from halogens
- Smooth connection to PMAFLEX[®] corrugated conduits
- Good ozone and aging resistance



Temperature range: -50 to 105 °C

| Cat. No. Fine Profile, Black | Fits to Conduit Size | | Width (mm) | Fixing Screw |
|---------------------------------|----------------------|--------|------------|--------------|
| | NW | Metric | | |
| SGB-07 | 7 | 10 | 13.0 | (1) M4 |
| SGB-09 | 10 | 12 | | |
| SGB-11 | 12 | 16 | | |
| SGB-16 | 17 | 20 | 16.0 | (1) M5 |
| SGB-21 | 23 | 25 | | |
| SGB-29 | 29 | 32 | 19.0 | (1) M6 |
| SGB-36 | 36 | 40 | | |
| SGB-48 | 48 | 50 | | |

GN Half Shells

- Used for fixing PMA[®] conduits to beam systems, particularly in traction and machine applications
- High-grade, specially formulated polyamide
- Variable combinations
- Strain relief due to gripping around conduit
- Especially suitable for dynamic applications due to rounded edges
- Variety of support possibilities
- Self extinguishing
- Free from halogens and cadmium
- Excellent impact strength



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

| Cat. No. Fine Profile, Black | Cat. No. Coarse Profile, Black | Conduit Size | | Outside Diameter (mm) | Width (mm) |
|---------------------------------|-----------------------------------|--------------|--------|-----------------------|------------|
| | | NW | Metric | | |
| BGN-S12T | — | 12 | 16 | 26.5 | 34.0 |
| BGN-S17T | BGN-S17G | 17 | 20 | 32.0 | |
| BGN-S23T | BGN-S23G | 23 | 25 | 39.5 | |
| BGN-S29T | BGN-S29G | 29 | 32 | 47.0 | |
| BGN-S36T | — | 36 | 40 | 55.0 | 36.5 |
| — | BGN-S36G | 36 | 40 | 55.0 | 34.0 |
| BGN-S48T | — | 48 | 50 | 66.5 | 36.5 |
| — | BGN-S48G | 48 | 50 | 66.5 | 34.0 |
| — | BGN-S70G | 70 | 80 | 93.5 | 38.0 |

Accessories for Nylon Flexible Conduits

GL Tube Clamps

- Used in general machine and installation applications
- High-grade, specially formulated polyamide
- Self extinguishing
- Free from halogens and cadmium



Temperature range: -40 to 105 °C

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Width (mm) | Fixing Screw |
|-------------------|------------------|--------------|--------|------------|-----------------|
| | | NW | Metric | | |
| BGL-07 | SGL-07 | 07 | 10 | 25.0 | (1) M4 |
| BGL-10 | SGL-10 | 10 | 12 | 27.0 | |
| BGL-12 | SGL-12 | 12 | 16 | 31.0 | |
| BGL-17 | SGL-17 | 17 | 20 | 39.5 | (1) M5 |
| BGL-23 | SGL-23 | 23 | 25 | 49.0 | |
| BGL-29 | SGL-29 | 29 | 32 | 57.0 | (1) M6 |

GH Tube Clamps

- Used in general machine and installation applications
- High-grade, specially formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- Nominal widths: 23–95



Temperature range: -40 to 105 °C

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Width (mm) | Fixing Screw |
|-------------------|------------------|--------------|--------|------------|-----------------|
| | | NW | Metric | | |
| BGH-23 | SGH-23 | 23 | 25 | 58.0 | (2) M5 |
| BGH-29 | SGH-29 | 29 | 32 | 70.0 | |
| BGH-36 | SGH-36 | 36 | 40 | 80.0 | (2) M6 |
| BGH-48 | SGH-48 | 48 | 50 | 94.0 | |

Large-Size Nylon Flexible Conduits and Connectors GGV Flange, Straight

- Use in railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
- High-grade, specially formulated polyamide 6
- Flange seal FG04 made from EPDM
- Flange seal FG04/01 made from NBR on special request
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Ingress protection: IP68, IP69K
- Very good chemical properties
- Free from halogens and cadmium
- If the application temperature is above 70° C, we recommend using an additional internal conduit support sleeve (BES)



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

| Cat. No. Black | Conduit Size NW | Dimensions (mm) | | |
|-------------------|--------------------|-----------------|--------|-------|
| | | Width | Height | Depth |
| BGGV-56 | 56 | 82.0 | 97.0 | 42.0 |
| BGGV-70 | 70 | 97.0 | 114.0 | 48.0 |
| BGGV-95 | 95 | 126.0 | 146.0 | 53.0 |

Content of delivery:

Flange part, fixation clamps (including two screws), conduit seal (NVN3) and flange seal (FG04 or FG04/01)

GOV Flange, 90° Elbow

- Use in railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
- High-grade, specially formulated polyamide 6
- Flange seal FG04 made from EPDM
- Flange seal FG04/01 made from NBR on special request
- Very high impact strength
- Vibration-proof connection to PMAFLEX® conduits
- High conduit pullout strength
- Ingress protection: IP68, IP69K
- Very good chemical properties
- Free from halogens and cadmium
- If the application temperature is above 70° C, we recommend using an additional internal conduit support sleeve (BES)



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

| Cat. No. Black | Conduit Size NW | Dimensions (mm) | | |
|-------------------|--------------------|-----------------|--------|-------|
| | | Width | Height | Depth |
| BGOV-56 | 56 | 82.0 | 97.0 | 101.0 |
| BGOV-70 | 70 | 97.0 | 114.0 | 115.0 |
| BGOV-95 | 95 | 126.0 | 146.0 | 151.0 |

Content of delivery:

Flange part, fixation clamps (including two screws), conduit seal (NVN3) and flange seal (FG04 or FG04/01)

Large-Size Nylon Flexible Conduits and Fittings

GG Flange, Straight

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Flange seal FGO4 made from EPDM
- Flange seal FGO4/01 made from NBR
- Very high impact strength
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Ingress protection: IP50 (IP65 with conduit sealing ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

Flange part, fixation clamps (including two screws), flange seal (FG04 or FG04/01) and conduit sealing ring (SG03, optional for IP65)

| Cat. No. Black | Cat. No. Grey | Conduit Size NW | Dimensions (mm) | | |
|-------------------|------------------|--------------------|-----------------|--------|-------|
| | | | Width | Height | Depth |
| BGG-56 | SGG-56 | 56 | 82.0 | 97.0 | 42.0 |
| BGG-70 | SGG-70 | 70 | 97.0 | 114.0 | 48.0 |
| BGG-95 | SGG-95 | 95 | 126.0 | 146.0 | 53.0 |
| BGG-125 | SGG-125 | 125 | — | 194.0 | 79.0 |

GO Flange, 90° Elbow

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Flange seal FGO4 made from EPDM
- Flange seal FGO4/01 made from NBR
- Very high impact strength
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Ingress protection: IP50 (IP65 with conduit sealing ring)
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

Flange part, fixation clamps (including two screws), flange seal (FG04 or FG04/01) and conduit sealing ring (SG03, optional for IP65)

| Cat. No. Black | Cat. No. Grey | Conduit Size NW | Dimensions (mm) | | |
|-------------------|------------------|--------------------|-----------------|--------|-------|
| | | | Width | Height | Depth |
| BGO-56 | SGO-56 | 56 | 82.0 | 97.0 | 101.0 |
| BGO-70 | SGO-70 | 70 | 97.0 | 114.0 | 115.0 |
| BGO-95 | SGO-95 | 95 | 126.0 | 146.0 | 149.0 |

Large-Size Nylon Flexible Conduits and Fittings GG Straight, Male Thread

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Easy mounting with locking clamps
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Ingress protection: IP50 (IP65 when using sealing ring on conduit and thread gasket)
- Very good chemical properties
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Thread | Conduit Size NW | Thread Length (mm) | Height (mm) | Depth (mm) |
|----------------|---------------|---------|-----------------|--------------------|-------------|------------|
| BGG-M6356 | SGG-M6356 | M63x1.5 | 56 | 18.0 | 98.0 | 57.5 |
| BGG-P3656 | SGG-P3656 | PG 36 | | | | 57.3 |

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

Threaded connector body, fixation clamps (including two screws) and conduit sealing ring (SG03, optional for IP65)

GI Straight, Female Thread

- For cable protection systems in a wide range of applications
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Easy mounting with locking clamps
- Vibration-proof connection to PMAFLEX[®] conduits
- High conduit pullout strength
- Ingress protection: IP50 (IP65 on conduit side when using sealing ring on conduit)
- Very good chemical properties
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Thread | Conduit Size NW | Thread Length (mm) | Height (mm) | Depth (mm) |
|----------------|---------------|---------|-----------------|--------------------|-------------|------------|
| BGI-M7556 | SIG-M7556 | M75x1.5 | 56 | 15.0 | 98.0 | 53.3 |

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

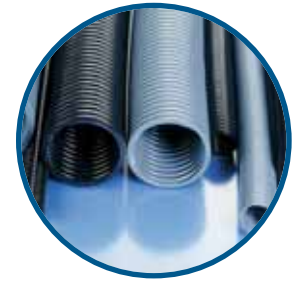
Threaded connector body, fixation clamps (including two screws) and conduit sealing ring (SG03, optional for IP65)

Large-Size Nylon Flexible Conduits and Fittings

Jumbo Conduits



| Cat. No. Black | Cat. No. Grey | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Stat./Dyn. Radius (mm) | Product Unit (m) |
|-------------------|------------------|--------------|--------|----------------------------|-----------------------------|---------------------------|------------------------|
| | | NW | Metric | | | | |
| PCLG-56B | PCLG-56S | 56 | 68 | 56.3 | 67.2 | 130/_ | 30 |
| PCLG-70B | PCLG-70S | 70 | 80 | 67.5 | 80.0 | 160/_ | 30/10 |
| PCLG-95B | PCLG-95S | 95 | 106 | 91.5 | 106.0 | 210/_ | 30/10 |
| PCLG-125B | PCLG-125S | 125 | 146 | 126.5 | 146.5 | 450/_ | 6 |
| PIHG-56B | PIHG-56S | 56 | 68 | 56.3 | 67.2 | 110/270 | 30 |
| PIHG-70B | PIHG-70S | 70 | 80 | 67.2 | 79.6 | 150/350 | 30/10 |
| PIHG-95B | PIHG-95S | 95 | 106 | 91.3 | 106.0 | 170/450 | 30/10 |
| PIHG-125B | PIHG-125S | 125 | 146 | 126.5 | 146.5 | 350/480 | 20 |
| VOHG-56B | VOHG-56S | 56 | 68 | 55.5 | 67.2 | 135/_ | 30 |
| VOHG-70B | VOHG-70S | 70 | 80 | 67.0 | 80.0 | 200/_ | 10 |
| VOHG-95B | VOHG-95S | 95 | 106 | 90.5 | 106.0 | 300/_ | 10 |
| VOHG-125B | VOHG-125S | 125 | 146 | 126.0 | 146.5 | 480/_ | 6 |
| VCSG-56B | VCSG-56S | 56 | 68 | 56.1 | 67.2 | 150/_ | 30 |
| VCSG-70B | VCSG-70S | 70 | 80 | 66.5 | 80.0 | 200/_ | 10 |
| VCSG-95B | VCSG-95S | 95 | 106 | 91.0 | 106.0 | 300/_ | 10 |
| PCSG-56B | PCSG-56S | 56 | 68 | 56.1 | 67.2 | 130/280 | 30 |
| PCSG-70B | PCSG-70S | 70 | 80 | 66.5 | 80.0 | 170/360 | 10 |
| PCSG-95B | PCSG-95S | 95 | 106 | 91.0 | 106.0 | 250/470 | 10 |
| PUEG-56B | — | 56 | 68 | 56.3 | 67.2 | 90/170 | 30 |
| PUEG-70B | — | 70 | 80 | 68.2 | 80.2 | 100/220 | 30 |
| CYLG-56B | CYLG-56S | 56 | 68 | 56.3 | 67.2 | 120/_ | 30 |
| CYLG-70B | CYLG-70S | 70 | 80 | 68.0 | 80.0 | 160/_ | 30/10 |
| CYLG-90B | CYLG-95S | 95 | 106 | 91.9 | 106.0 | 210/_ | 10 |
| CYLG-125B | CYLG-125S | 125 | 146 | 126.5 | 146.5 | 450/_ | 6 |



For actual cat. number, add product unit at the end. Example: PCLG-56B.30

Large-Size Nylon Flexible Conduits and Fittings

PACO Flexible Medium, Divisible

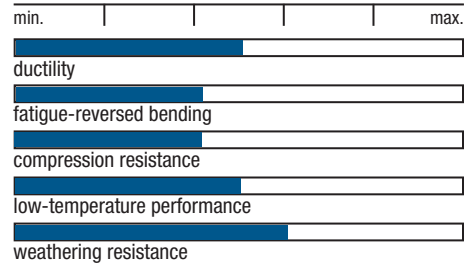
- Use in machine building and plant construction
- Specially modified polyamide 6
- Easy installation, trouble-free retrofitting, also applicable for repairs
- Can be opened and closed again in longitudinal direction any time
- Self extinguishing
- Free from halogens and cadmium



| Cat. No. Black | Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Stat Radius* (mm) | Product Unit (m) | |
|----------------|-----------------|----------------------|-----------------------|-------------------|------------------|----|
| PACO-07B | 07 | 6.5 | 10.1 | 45 | 50 | |
| PACO-10B | 10 | 8.8 | 13.5 | 55 | | |
| PACO-12B | 12 | 11.3 | 16.3 | 60 | | |
| PACO-14B | 14 | 13.2 | 18.7 | 75 | | |
| PACO-17B | 17 | 16.5 | 21.8 | 90 | | |
| PACO-20B | 20 | 20.2 | 25.7 | 105 | | |
| PACO-23B | 23 | 23.9 | 31.3 | 125 | | |
| PACO-29B | 29 | 27.8 | 35.9 | 150 | | |
| PACO-37B | 37 | 32.5 | 41.9 | 170 | | 25 |
| PACO-45B | 45 | 43.0 | 54.2 | 200 | | |
| PACO-70B | 70 | 66.5 | 79.8 | 300 | 10 | |

For actual cat. number, add product unit at the end. Example: PACO-07B.50

PACO Index



Temperature range: -40 to 100 °C

Short term: Max. 150 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids and bases, etc.

PPCO Very Flexible Medium, Divisible

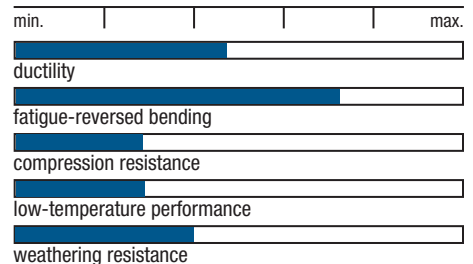
- Use in machine building and plant construction
- Specially modified polypropylene
- Easy installation, trouble-free retrofitting, also applicable for repairs
- Can be opened and closed again in longitudinal direction any time



| Cat. No. Black | Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Stat Radius* (mm) | Product Unit (m) | |
|----------------|-----------------|----------------------|-----------------------|-------------------|------------------|----|
| PPCO-07B | 07 | 6.3 | 10.0 | 60 | 50 | |
| PPCO-10B | 10 | 8.4 | 13.4 | 70 | | |
| PPCO-12B | 12 | 11.0 | 16.1 | 80 | | |
| PPCO-14B | 14 | 12.5 | 18.5 | 95 | | |
| PPCO-17B | 17 | 16.0 | 21.5 | 110 | | |
| PPCO-20B | 20 | 19.2 | 25.3 | 130 | | |
| PPCO-23B | 23 | 23.4 | 30.8 | 155 | | |
| PPCO-29B | 29 | 27.3 | 35.5 | 180 | | |
| PPCO-37B | 37 | 31.0 | 41.4 | 190 | | 25 |
| PPCO-45B | 45 | 42.7 | 54.0 | 205 | | |
| PPCO-70B | 70 | 66.0 | 79.5 | 300 | 10 | |

For actual cat. number, add product unit at the end. Example: PPCO-07B.50


PPCO Index




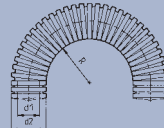
Temperature range: -20 to 95 °C

Short term: Max. 120 °C

Chemical resistance: Fuels, mineral oils, fats, alkalies, weak acids and bases, etc.

 Fine profile T
Tight bending radius

 Coarse profile G
High pullout strength



*** stat. R = lowest recommended bending radius for static (fixed) installation.

Large-Size Nylon Flexible Accessories

GH Tube Clamps

- For mounting conduits in a wide range of applications
- High-grade, specially formulated polyamide 6
- One-piece design
- Integrated rib provides axial strain relief
- Allows turning of the conduit to avoid torsion stresses
- Pre-fixation on the conduit possible
- Allows solid fixation with two screws
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles
- No corrosion



Temperature range: -40 to 105 °C

| Cat. No. Black | Cat. No. Grey | Conduit Size | | Width (mm) | Fixing Screw |
|-------------------|------------------|--------------|--------|------------|-----------------|
| | | NW | Metric | | |
| BGH-56 | SGH-56 | 56 | 63 | 26.0 | (2) M8 |
| BGH-70 | SGH-70 | 70 | 80 | 30.0 | |
| BGH-95 | SGH-95 | 95 | 106 | 30.0 | |
| | | | | | |

SGS Tube Clamps

- For mounting of static conduits
- Galvanized steel
- Elastomer profile (EPDM)
- Elastomer free from halogens
- Smooth connection to PMAFLEX[®] corrugated conduits
- Good ozone and aging resistance

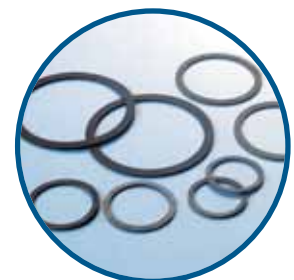


Temperature range: -50 to 105 °C

| Cat. No. Black | Conduit Size NW | Dimensions (mm) | | |
|-------------------|--------------------|-----------------|--------|-------|
| | | Width | Height | Depth |
| SGS-36 | 36 | 80.0 | 48.0 | 19.0 |
| SGS-48 | 48 | 94.0 | 58.0 | |
| SGS-56 | 56 | 118.0 | 72.0 | 24.0 |
| SGS-70 | 70 | 130.0 | 85.0 | |
| SGS-95 | 95 | 156.0 | 110.0 | |
| SGS-125 | 125 | 200.0 | 152.0 | |

SGO3 Conduit Sealing Rings

- Used at the conduit end for sealing between the PMAGRIP flanges GG/GI/GO and PMAFLEX[®] Jumbo conduits
- Nitrile rubber



Temperature range: -40 to 105 °C

| Cat. No. Black | Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Width (mm) |
|-------------------|--------------------|-------------------------|--------------------------|------------|
| SGO3-56 | 56 | 49.5 | 61.0 | 1.5 |
| SGO3-70 | 70 | 61.5 | 74.0 | |
| SGO3-95 | 95 | 86.0 | 102.0 | |
| SGO3-125 | 125 | 122.0 | 142.0 | 2.0 |

Divisible-System Nylon Flexible Conduits and Fittings

TN Divisible Connectors, Metric

- Connect with divisible PMA® COFLEX conduits and PMA® COFIX locknuts
- For installation upon fully assembled cable looms in plant construction or machine repairs
- High-grade, specially formulated polyamide 6
- High impact resistance
- Easy installation
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40 to 100 °C
Short term: Max. 130 °C

| Cat. No. Black | Thread Metric | Coflex Conduit Size NW | Inside Diameter (mm) | Outside Diameter (mm) | Outside Diameter (mm) |
|----------------|---------------|------------------------|----------------------|-----------------------|-----------------------|
| BTNO-M1610 | M16x1.5 | 10 | 11.0 | 25.5 | 36.0 |
| BTNO-M2014 | M20x1.5 | 14 | 14.5 | 29.0 | 41.0 |
| BTNO-M2520 | M25x1.5 | 20 | 19.0 | 35.0 | 43.0 |
| BTNO-M3223 | M32x1.5 | 23 | 26.0 | 44.0 | 50.5 |
| BTNO-M4037 | M40x1.5 | 37 | 32.0 | 53.0 | 59.0 |
| BTNO-M5045 | M50x1.5 | 45 | 42.0 | 69.0 | 67.5 |

GTN Divisible Locknuts, Metric

- Connect with divisible PMA® COFLEX conduits and PMA® COFIX locknuts
- For installation upon fully assembled cable looms in plant construction or machine repairs
- High-grade, specially formulated polyamide 6
- High impact resistance
- Easy installation
- Very good chemical properties
- Free from halogens and cadmium



Temperature range: -40 to 100 °C
Short term: Max. 130 °C

| Cat. No. Black | Thread Metric | Coflex Connector | Outside Diameter (mm) | Inside Diameter (mm) |
|----------------|---------------|------------------|-----------------------|----------------------|
| BGTN-M1610 | M16x1.5 | BTNO-M1610 | 21.5 | 8.0 |
| BGTN-M2014 | M20x1.5 | BTNO-M2014 | 29.0 | 8.0 |
| BGTN-M2520 | M25x1.5 | BTNO-M2520 | 35.5 | 9.0 |
| BGTN-M3223 | M32x1.5 | BTNO-M3223 | 44.0 | 12.0 |
| BGTN-M4037 | M40x1.5 | BTNO-M4037 | 52.5 | 15.0 |
| BGTN-M5045 | M50x1.5 | BTNO-M5045 | 69.0 | 15.0 |

Divisible-System Nylon Flexible Accessories

FH System Supports

- Use in machine building and plant construction
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Optimal axial strain relief due to integrated rib
- Quick installation due to single-hole fixing
- For increased stress due to heavy cables and wires, closing with cable ties is possible
- Very good chemical properties
- Free from halogens and cadmium
- Fits to rail system supports FHS



Temperature range: -40 to 105 °C
Short term: Max. 160 °C

| Cat. No. Black | Fixing Screw | Coflex Conduit Size NW | Dimensions (mm) Width x Length x Depth |
|-------------------|--------------|------------------------------|---|
| BFH-09 | M5 | 10 | 20 x 19 x 23 |
| BFH-01 | M5 | 14 | 20 x 24 x 27 |
| BFH-20 | M6 | 20 | 20 x 35 x 40 |
| BFH-23 | M6 | 23 | 20 x 43 x 45,5 |
| BFH-37 | M6 | 37 | 20 x 52 x 52 |
| BFH-48 | M6 | 45 | 20 x 66 x 66 |

GB Tube Clamps

- Use to mount of static conduits
- Galvanized steel according to DIN 3016
- Elastomer profile (EPDM), free from halogens
- Smooth connection to PMAFLEX® corrugated conduits
- Good ozone and aging resistance



Temperature range: : -50 to 105 °C

Chemical resistance: Very good weather, ozone and aging resistance, resistant to mineral oils and fats

| Cat. No. Black | Conduit Size | | Coflex Conduit Size NW | Width (mm) |
|-------------------|--------------|--------|------------------------------|------------|
| | NW | Metric | | |
| SGB-09 | 10 | 12 | 10 | 13.0 |
| SGB-14 | — | — | 14 | |
| SGB-20 | — | — | 20 | |
| SGB-23 | — | — | 23 | 15.0 |
| SGB-36 | 36 | 40 | 37 | |
| SGB-48 | 48 | 50 | 45 | 19.0 |

Special Products

SB 90° Curved Elbow, Metric, Metal/ Polyamide, Swivel

- For applications with high technical requirements, mainly in machine building
- Suitable for occasional rotation
- Body made of high-grade formulated polyamide 6
- Threads and integrated swivel adapter made from nickel-plated brass
- Very high impact resistance
- High thread and system pullout resistance

- Round guidance within the connector
- Easy introduction of wires and cables
- Vibration-proof connection to PMAFLEX® conduits
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4 or OR)

| Cat. No. IP68, Black | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|-------------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NSBV-M207-10 | M20x1.5 | 17 | 20 | 10.0 | 62.5 x 74.5 |
| NSBV-M253-11 | M25x1.5 | 23 | 25 | 11.0 | 73.0 x 87.5 |
| NSBV-M329-13 | M32x1.5 | 29 | 32 | 13.0 | 86.5 x 98.0 |
| NSBV-M406-13 | M40x1.5 | 36 | 40 | 13.0 | 98.5 x 127.5 |
| NSBV-M409-13 | M40x1.5 | 29 | 32 | 13.0 | 86.5 x 98.0 |
| NSBV-M508-14 | M50x1.5 | 48 | 50 | 14.0 | 113.0 x 139.0 |
| NSBV-M638-14 | M63x1.5 | 48 | 50 | 14.0 | 110.0 x 139.0 |

SB 90° Curved Elbow, PG, Metal/Polyamide, Swivel

- For applications with high technical requirements, mainly in machine building
- Suitable for occasional rotation
- Body made of high-grade formulated polyamide 6
- Threads and integrated swivel adapter made from nickel-plated brass
- Very high impact resistance
- High thread and system pullout resistance

- Round guidance within the connector
- Easy introduction of wires and cables
- Vibration-proof connection to PMAFLEX® conduits
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

Fitting with oval clips (OVN2), conduit seal (NVN3) and thread gasket (SNV4 or OR)

| Cat. No. IP68, Black | Thread PG | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|-------------------------|--------------|--------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NSBV-P167-6.5 | 16 | 17 | 20 | 6.5 | 58.0 x 75.5 |
| NSBV-P213-7 | 21 | 23 | 25 | 7.0 | 69.0 x 87.5 |
| NSBV-P299-8 | 29 | 29 | 32 | 8.0 | 80.0 x 98.0 |
| NSBV-P366-9 | 36 | 36 | 40 | 9.0 | 91.5 x 127.5 |
| NSBV-P488-10 | 48 | 48 | 50 | 10.0 | 106.0 x 139.0 |

SWA Swivel Adapters, Metric

- Allow PMA® connectors to swivel freely in applications where such movements are occasionally necessary
- Nickel-plated brass

- Connect to PMA® connectors with metal threads
- Include thread edge protection
- Include corresponding seals up to IP67/IP68



Temperature range: -40 to 105 °C

Content of delivery:

Adapter and thread gasket (SNV4 or OR)

| Cat. No. IP67 | Thread Metric | Outside Diameter (mm) | Length (mm) |
|------------------|------------------|--------------------------|-------------|
| SWA-M16-10 | M16x1.5 | 23.0 | 37.5 |
| SWA-M20-10 | M20x1.5 | 27.0 | 38.5 |
| SWA-M25-11 | M25x1.5 | 32.0 | 41.0 |
| SWA-M32-13 | M32x1.5 | 45.0 | 46.5 |
| SWA-M40-13 | M40x1.5 | 55.0 | 47.5 |
| SWA-M50-14 | M50x1.5 | 59.0 | 49.5 |
| SWA-M63-14 | M63x1.5 | 75.0 | 52.0 |

Special Products

SWA Swivel Adapters, PG

- Allow PMA® connectors to swivel freely in applications where such movements are occasionally necessary
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- With thread edge protection
- With corresponding seals up to IP67/IP68



| Cat. No. IP67 | Thread PG | Outside Diameter (mm) | Length (mm) |
|------------------|--------------|--------------------------|-------------|
| SWA-P09 | 9 | 23.0 | 44.5 |
| SWA-P11 | 11 | 27.0 | 45.5 |
| SWA-P16 | 16 | 32.0 | 48.0 |
| SWA-P21 | 21 | 40.0 | 51.0 |
| SWA-P29 | 29 | 50.0 | 52.0 |
| SWA-P36 | 36 | 59.0 | 55.0 |
| SWA-P48 | 48 | 70.0 | 55.0 |

Temperature range: -40 to 105 °C

Content of delivery:

Adapter and thread gasket (SNV4 or OR)

SCA Spin Couplers, Metric

- Allow the easy positioning of elbow connectors with metal threads
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- High fastening torque
- Include thread edge protection
- Up to IP68 (IEC 60529/EN 60529)



| Cat. No. IP68 | Thread Metric | Outside Diameter (mm) | Length (mm) |
|------------------|------------------|--------------------------|-------------|
| SCA-M16-10 | M16x1.5 | 22.0 | 32.0 |
| SCA-M20-10 | M20x1.5 | 26.0 | 33.0 |
| SCA-M25-11 | M25x1.5 | 32.0 | 35.0 |
| SCA-M32-13 | M32x1.5 | 39.0 | 39.5 |
| SCA-M40-13 | M40x1.5 | 50.0 | 41.0 |
| SCA-M50-14 | M50x1.5 | 59.0 | 43.5 |
| SCA-M63-14 | M63x1.5 | 75.0 | 45.5 |

Temperature range: -40 to 105 °C

Content of delivery:

Adapter and thread gasket (SNV4 or OR)

SCA Spin Couplers, PG

- Allow the easy positioning of elbow connectors with metal threads
- Nickel-plated brass
- Connect to PMA® connectors with metal threads
- High fastening torque
- Include thread edge protection
- Up to IP68 (IEC 60529/EN 60529)



| Cat. No. IP68 | Thread PG | Outside Diameter (mm) | Length (mm) |
|------------------|--------------|--------------------------|-------------|
| SCA-P09 | 9 | 22.0 | 35.0 |
| SCA-P11 | 11 | 26.0 | 36.0 |
| SCA-P16 | 16 | 29.0 | 38.0 |
| SCA-P21 | 21 | 39.0 | 41.0 |
| SCA-P29 | 29 | 44.0 | 42.5 |
| SCA-P36 | 36 | 59.0 | 49.0 |
| SCA-P48 | 48 | 69.0 | 50.5 |

Temperature range: -40 to 105 °C

Content of delivery:

Adapter and thread gasket (SNV4 or OR)

Special Products

VN-REM Connection to Solid Tube, Metric

- Use in railway vehicle construction and other applications where metric metal tubes are to be connected with the flexible PMAFLEX® system
- High-grade, specially formulated polyamide 6; hose clamp made of galvanized bright steel
- Very high impact resistance
- Quick connection of solid metal tubes with flexible PMA® conduits
- Available with or without hose clamp
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68 Without Clamp ▲ | Cat. No. IP68 With Clamp ▲ | Conduit Size | | Steel Tube Metric | Inside Diameter (mm) | Overall Length (mm) |
|-------------------------------|----------------------------|--------------|--------|-------------------|----------------------|---------------------|
| | | NW | Metric | | | |
| VNR-REM162 | VNR-REM162-24 | 12 | 16 | M16 | 16.0 | 54.0 |
| VNR-REM207 | VNR-REM207-28 | 17 | 20 | M20 | 20.0 | 65.0 |
| VNR-REM253 | VNR-REM253-32 | 23 | 25 | M25 | 26.0 | 71.0 |
| VNR-REM329 | VNR-REM329-44 | 29 | 32 | M32 | 32.0 | 71.0 |
| VNR-REM406 | VNR-REM406-50 | 36 | 40 | M40 | 40.0 | 90.0 |
| VNR-REM508 | VNR-REM508-65 | 48 | 50 | M50 | 50.0 | 90.0 |

▲ = Insert "B" to order black or "S" to order grey.

IP68GT available. Please add "GT" to catalogue no. or insert before clamp size (e.g. BVNR-REM162GT, BVNR-REM162GT24).
(Functional description PMAFIX IP68GT, pages E28–E29).

VNR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

IP68 Fitting with oval clips (OVN2), conduit seal (NVN3) and clamp according to catalogue number

IP68GT Fitting with pre-installed universal safety clips (AFN2), conduit seal (NVN3-GT) and clamp according to catalogue number

VN-RE Connector for Solid Tube, PG

- Use in railway vehicle with PG dimensions, construction and other applications where metal tubes are to be connected with the flexible PMAFLEX® system
- High-grade, specially formulated polyamide 6; hose clamp made of galvanized bright steel
- Very high impact resistance
- Quick connection of solid metal tubes with flexible PMA® conduits
- Available with or without hose clamp
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP68 Without Clamp ▲ | Cat. No. IP68 With Clamp ▲ | Conduit Size | | Steel Tube PG | Inside Diameter (mm) | Overall Length (mm) |
|-------------------------------|----------------------------|--------------|--------|---------------|----------------------|---------------------|
| | | NW | Metric | | | |
| VNR-RE12 | VNR-RE12-24 | 12 | 16 | PG11 | 18.5 | 56.0 |
| VNR-RE1317 | VNR-RE1317-28 | 17 | 20 | PG13 | 20.4 | 65.0 |
| VNR-RE17 | VNR-RE17-28 | 17 | 20 | PG16 | 22.5 | 65.0 |
| VNR-RE23 | VNR-RE23-32 | 23 | 25 | PG21 | 28.5 | 71.0 |
| VNR-RE29 | VNR-RE29-44 | 29 | 32 | PG29 | 37.0 | 71.0 |
| VNR-RE36 | VNR-RE36-50 | 36 | 40 | PG36 | 47.0 | 84.0 |
| VNR-RE48 | VNR-RE48-65 | 48 | 50 | PG48 | 59.3 | 90.0 |

▲ = Insert "B" to order black or "S" to order grey.

IP68GT available. Please add "GT" to catalogue no. or insert before clamp size (e.g. BVNR-RE(12)GT, BVNR-RE(12)GT24).
(Functional description PMAFIX IP68GT, pages E28–E29).

VNR: IP68 static/IP67 dynamic, conduit side

Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

Fitting with oval clips (OVN2), conduit seal (NVN3) and clamp according to catalogue number

Special Products

VSG Connection Splices for Flexible Conduits

- Use in railway vehicle construction and machine tooling
- High-grade formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- High pullout strength
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66 | Cat. No. IP68 | Conduit Size | | Outside Diameter (mm) | Overall Length (mm) |
|------------------|------------------|--------------|--------|--------------------------|------------------------|
| | | NW | Metric | | |
| _VSGD-1212GT | VSGR-1212 | 12 | 16 | 23.5 | 66.0 |
| _VSGD-1717GT | VSGR-1717 | 17 | 20 | 30.0 | 89.0 |
| _VSGD-2323GT | VSGR-2323 | 23 | 25 | 37.0 | 103.0 |
| _VSGD-2929GT | VSGR-2929 | 29 | 32 | 44.0 | 100.0 |
| _VSGD-3636GT | VSGR-3636 | 36 | 40 | 53.0 | 130.0 |
| _VSGD-4848GT | VSGR-4848 | 48 | 50 | 61.0 | 136.0 |

_ = Insert "B" to order black or "S" to order grey.

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Connection splice with pre-installed universal safety clips (AFN2)
- IP68 Connection splice with oval clips (OVN2) and conduit seal (NVN3)

AV Conduit Adapters

- Use in connection with PMAFIX[®]/PMAFLEX[®] system
- High-grade, specially formulated polyamide 6
- Very high impact resistance
- Allow variable application of the PMAFIX[®] system, particularly of PMA[®] distribution pieces
- High conduit pullout strength
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



| Cat. No. IP66, Black | Cat. No. IP68, Black | Input Fits Conduit Size | | Outputs Fit Conduit Size | | Overall Length (mm) |
|-------------------------|-------------------------|-------------------------|--------|--------------------------|--------|------------------------|
| | | NW | Metric | NW | Metric | |
| BAVD-10/07GT | BAVR-10/07 | 10 | 12 | 07 | 10 | 43.0 |
| BAVD-12/10GT | BAVR-12/10 | 12 | 16 | 10 | 12 | 46.0 |
| BAVD-17/10GT | BAVR-17/10 | 17 | 20 | 10 | 12 | 53.0 |
| BAVD-17/12GT | BAVR-17/12 | 17 | 20 | 12 | 16 | 54.0 |
| BAVD-23/10GT | BAVR-23/10 | 23 | 25 | 10 | 12 | 54.0 |
| BAVD-23/12GT | BAVR-23/12 | 23 | 25 | 12 | 16 | 53.0 |
| BAVD-23/17GT | BAVR-23/17 | 23 | 25 | 17 | 20 | 62.0 |
| BAVD-29/10GT | BAVR-29/10 | 29 | 32 | 10 | 12 | 56.5 |
| BAVD-29/12GT | BAVR-29/12 | 29 | 32 | 12 | 16 | 55.0 |
| BAVD-29/17GT | BAVR-29/17 | 29 | 32 | 17 | 20 | 61.0 |
| BAVD-29/23GT | BAVR-29/23 | 29 | 32 | 23 | 25 | 64.0 |
| BAVD-36/29GT | BAVR-36/29 | 36 | 40 | 29 | 32 | 81.0 |
| BAVD-48/36GT | BAVR-48/36 | 48 | 50 | 36 | 40 | 88.5 |

Temperature range: -40 to 105 °C
Short term: Max. 160 °C

Content of delivery:

- IP66 Adapter with pre-installed universal safety clips (AFN2)
- IP68 Adapter with oval clips (OVN2) and conduit seal (NVN3)

Special Products

RKS Conduit Terminal Sleeves

- Used at the end of conduits where no connectors with threads are necessary
- Specially modified polyamide
- Self extinguishing
- Free from halogens and cadmium



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

| Cat. No. Black | Conduit Size | | Inside Diameter (mm) | Outside Diameter (mm) | Length (mm) |
|-------------------|--------------|--------|-------------------------|--------------------------|-------------|
| | NW | Metric | | | |
| RKS-07 | 7 | 10 | 4.5 | 12.5 | 16.0 |
| RKS-10 | 10 | 12 | 8.0 | 15.5 | 16.0 |
| RKS-12 | 12 | 16 | 10.0 | 19.0 | 20.0 |
| RKS-17 | 17 | 20 | 13.0 | 24.0 | 21.0 |
| RKS-23 | 23 | 25 | 20.0 | 32.0 | 22.0 |
| RKS-29 | 29 | 32 | 25.0 | 38.0 | 22.0 |
| RKS-36 | 36 | 40 | 33.5 | 46.0 | 25.0 |
| RKS-48 | 48 | 50 | 45.0 | 58.0 | 25.0 |
| RKS-56 | 56 | 63 | 54.0 | 71.0 | 28.0 |

SS/SV Abrasion-Protection Sleeves

- Abrasion protection for corrugated conduits exposed to chafing
- High-grade, specially modified polyamide 6
- Increase the lifetime of moving conduits
- Excellent chafing characteristics
- Very good chemical properties
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

Content of delivery:

Abrasion-protection sleeves with assembling screws

| Cat. No. Black | Conduit Size | | Outside Diameter (mm) | Dimensions Length (mm) |
|-------------------|--------------|--------|--------------------------|---------------------------|
| | NW | Metric | | |
| BSS-17 | 17 | 20 | 42.0 | 22.0 |
| BSS-23 | 23 | 25 | 49.0 | 26.0 |
| BSS-29 | 29 | 32 | 55.0 | 26.0 |
| BSS-36 | 36 | 40 | 63.0 | 30.0 |
| BSS-48 | 48 | 50 | 75.0 | 30.0 |
| BSS-56G | 56 | — | 90.0 | 33.0 |
| BSV-70G | 70 | — | 108.0 | 60.0 |

Accessories and Tools

AFN2 Universal Safety Clips

- Pre-installed in the IP66 and IP68GT range of connectors
- Allow for a quick and easy connection to PMAFLEX® conduits by just pushing the conduit into the connector
- High-grade formulated polyamide
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

| Cat. No. IP66, Dark Grey | Conduit Size NW | Conduit to Profile | Dimensions (mm) | | |
|-----------------------------|--------------------|-----------------------|-----------------|--------|-----------|
| | | | Width | Length | Thickness |
| AFN2-07GT | 7 | G + T | 14.0 | 14.0 | 7.0 |
| AFN2-10GT | 10 | | 17.5 | 17.0 | 8.0 |
| AFN2-12GT | 12 | | 20.5 | 20.0 | 7.3 |
| AFN2-17GT | 17 | | 26.5 | 22.0 | 8.0 |
| AFN2-23GT | 23 | | 34.0 | 27.5 | 11.8 |
| AFN2-29GT | 29 | | 40.5 | 32.0 | 11.8 |
| AFN2-36GT | 36 | | 49.5 | 38.8 | 9.5 |
| AFN2-48GT | 48 | | 62.0 | 47.0 | 9.5 |

OVN2 Oval Clips

- Secure the conduit within the PMAFIX® connectors and distributors
- Connections made with a high degree of safety
- High-grade formulated polyamide
- Easy to install
- Self extinguishing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

| Cat. No. IP68, Dark Grey | Conduit Size NW | Conduit to Profile | Dimensions (mm) | | |
|-----------------------------|--------------------|-----------------------|-----------------|--------|-----------|
| | | | Width | Length | Thickness |
| OVN2-07 | 7 | G + T | 14.0 | 14.0 | 6.0 |
| OVN2-10 | 10 | | 17.5 | 17.0 | 7.0 |
| OVN2-12 | 12 | | 21.0 | 19.0 | 6.0 |
| OVN2-17 | 17 | | 26.5 | 22.5 | 7.0 |
| OVN2-23 | 23 | | 34.0 | 27.5 | 10.5 |
| OVN2-29 | 29 | | 40.5 | 32.0 | 10.5 |
| OVN2-36 | 36 | | 49.5 | 39.0 | 8.5 |
| OVN2-48 | 48 | | 62.0 | 47.0 | 8.5 |

WPS Water-Impact Protection

- Increased protection of PMAFIX® fittings against water jet impact
- Meet increased ingress protection requirements regarding high-pressure/steam jet cleaning
- High-grade, specially formulated polyamide 6, extremely shock resistant
- Self extinguishing
- Free from halogens and cadmium
- Based on PMAFIX®/PMAFLEX® system with ingress protection of IP68
- Additional protection against water jet impact; increased protection up to IP69K
- Two-piece water-impact protection with click ring
- Fits all PMAFLEX® conduit profiles



Temperature range: -40 to 105 °C

Short term: Max. 160 °C

| Cat. No. IP69K, Black | Conduit Size NW | Conduit to Profile | Outside | Thickness (mm) |
|--------------------------|--------------------|-----------------------|---------------|----------------|
| | | | Diameter (mm) | |
| WPS-NW10 | 10 | G + T | 22.0 | 8.0 |
| WPS-NW12 | 12 | | 26.0 | 8.0 |
| WPS-NW17 | 17 | | 33.0 | 8.0 |
| WPS-NW23 | 23 | | 40.0 | 9.0 |
| WPS-NW29 | 29 | | 47.0 | 9.5 |
| WPS-NW36 | 36 | | 59.0 | 10.0 |
| WPS-NW48 | 48 | | 71.0 | 10.0 |

Accessories and Tools

MN Hexagonal Locknuts, Metric, Polyamide

- High-grade, specially formulated polyamide 6, 30% reinforced fiberglass
- High tightening torques
- Safe system connection
- Very good chemical properties
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Thread Metric | Wrench Size (mm) | Height Min. (mm) |
|----------------|---------------|---------------|------------------|------------------|
| BMN-M12 | GMN-M12 | M12x1.5 | 18.0 | 5.0 |
| BMN-M16 | GMN-M16 | M16x1.5 | 22.0 | |
| BMN-M20 | GMN-M20 | M20x1.5 | 26.0 | 6.0 |
| BMN-M25 | GMN-M25 | M25x1.5 | 32.0 | 5.6 |
| BMN-M32 | GMN-M32 | M32x1.5 | 41.0 | 7.0 |
| BMN-M40 | GMN-M40 | M40x1.5 | 50.0 | |
| BMN-M50 | GMN-M50 | M50x1.5 | 60.0 | 8.0 |
| BMN-M63 | GMN-M63 | M63x1.5 | 75.0 | |

Temperature range: -40 to 105 °C

Short term: Max. 150 °C

MN Hexagonal Locknuts, PG, Polyamide

- High-grade, specially formulated polyamide 6, 30% reinforced fiberglass
- High tightening torques
- Safe system connection
- Very good chemical properties
- Free from halogens and cadmium



| Cat. No. Black | Cat. No. Grey | Thread PG | Wrench Size (mm) | Height Min. (mm) |
|----------------|---------------|-----------|------------------|------------------|
| BMN-07 | GMN-07 | 7 | 19.0 | 5.0 |
| BMN-09 | GMN-09 | 9 | 22.0 | |
| BMN-11 | GMN-11 | 11 | 24.0 | |
| BMN-13 | GMN-13 | 13.5 | 27.0 | 6.0 |
| BMN-16 | GMN-16 | 16 | 30.0 | |
| BMN-21 | GMN-21 | 21 | 36.0 | 7.0 |
| BMN-29 | GMN-29 | 29 | 46.0 | |
| BMN-36 | GMN-36 | 36 | 60.0 | 8.0 |
| BMN-48 | GMN-48 | 48 | 70.0 | |

Temperature range: -40 to 105 °C

Short term: Max. 150 °C

Accessories and Tools

MM Hexagonal Locknuts, Metric, Metal

- Brass galvanically nickel plated
- Maximum possible torque
- Safe system connection



| Cat. No. Metal | Thread Metric | Wrench Size (mm) | Height Min. (mm) |
|-------------------|------------------|---------------------|------------------|
| GMM-M12 | M12x1.5 | 15.0 | 2.8 |
| GMM-M16 | M16x1.5 | 19.0 | 2.8 |
| GMM-M20 | M20x1.5 | 24.0 | 3.0 |
| GMM-M25 | M25x1.5 | 30.0 | 3.5 |
| GMM-M32 | M32x1.5 | 36.0 | 4.0 |
| GMM-M40 | M40x1.5 | 46.0 | 4.5 |
| GMM-M50 | M50x1.5 | 60.0 | 5.0 |
| GMM-M63 | M63x1.5 | 70.0 | 5.5 |

Hexagonal Locknuts, PG, Metal

- Brass galvanically nickel plated
- Maximum possible torque
- Safe system connection

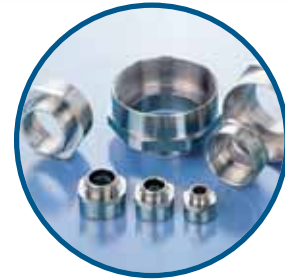


| Cat. No. Metal | Thread PG | Wrench Size (mm) | Height Min. (mm) |
|-------------------|--------------|---------------------|------------------|
| GMM-07 | 7 | 15.0 | 2.8 |
| GMM-09 | 9 | 18.0 | 2.8 |
| GMM-11 | 11 | 21.0 | 3.0 |
| GMM-13 | 13.5 | 23.0 | 3.0 |
| GMM-16 | 16 | 26.0 | 3.0 |
| GMM-21 | 21 | 32.0 | 3.5 |
| GMM-29 | 29 | 41.0 | 4.0 |
| GMM-36 | 36 | 51.0 | 5.0 |
| GMM-42 | 42 | 60.0 | 5.0 |
| GMM-48 | 48 | 64.0 | 5.5 |

Accessories and Tools

ME Enlargers, Metric, Brass

- Used to enlarge metric threads
- Easy mounting, equipped with hexagonal ring
- Brass galvanically nickel plated
- For enlargement of an existing thread



| Cat. No. Metal Standard | Thread Outside | | Thread Inside | | Inside Diameter (mm) | Total Length (mm) | Wrench Size |
|-------------------------------|----------------|--------|---------------|-------------|----------------------------|-------------------------|----------------|
| | Metric | Length | Metric | Length (mm) | | | |
| M12M16M | M12x1.5 | 5 | M16x1.5 | 7.0 | 8.0 | 16.0 | 18 |
| M16M20M | M16x1.5 | 5 | M20x1.5 | 7.5 | 12.0 | 16.5 | 22 |
| M20M25M | M20x1.5 | 6 | M25x1.5 | 8.0 | 15.0 | 18.5 | 27 |
| M25M32M | M25x1.5 | 7 | M32x1.5 | 9.0 | 21.0 | 20.5 | 34 |
| M32M40M | M32x1.5 | 8 | M40x1.5 | 10.0 | 26.0 | 23.5 | 42 |
| M40M50M | M40x1.5 | 8 | M50x1.5 | 13.0 | 34.0 | 30.0 | 52 |
| M50M63M | M50x1.5 | 9 | M63x1.5 | 16.0 | 44.0 | 32.5 | 65 |

MR Reducers, Metric, Brass

- Used to reduce metric threads
- Available in round and hexagonal form
- Brass galvanically nickel plated

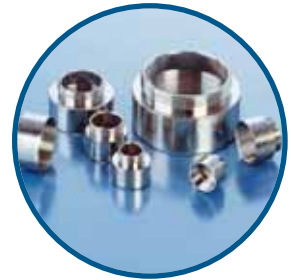


| Cat. No. Metal Standard | Cat. No. Metal Hexagonal | Thread Outside Metric | Thread inside Metric |
|----------------------------|-----------------------------|--------------------------|-------------------------|
| M16M12M | M16M12M/6 | M16x1.5 | M12x1.5 |
| M20M12M | M20M12M/6 | M20x1.5 | M12x1.5 |
| M20M16M | M20M16M/6 | M20x1.5 | M16x1.5 |
| M25M16M | M25M16M/6 | M25x1.5 | M16x1.5 |
| M25M20M | M25M20M/6 | M25x1.5 | M20x1.5 |
| M32M20M | M32M20M/6 | M32x1.5 | M20x1.5 |
| M32M25M | M32M25M/6 | M32x1.5 | M25x1.5 |
| M40M25M | M40M25M/6 | M40x1.5 | M25x1.5 |
| M40M32M | M40M32M/6 | M40x1.5 | M32x1.5 |
| M50M32M | M50M32M/6 | M50x1.5 | M32x1.5 |
| M50M40M | M50M40M/6 | M50x1.5 | M40x1.5 |
| M63M40M | M63M40M/6 | M63x1.5 | M40x1.5 |
| M63M50M | M63M50M/6 | M63x1.5 | M50x1.5 |

Accessories and Tools

ME Enlargers, PG, Brass

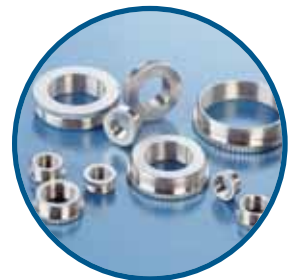
- Used to enlarge PG threads
- Brass galvanically nickel plated



| Cat. No. Metal, Standard | Thread Outside | | Thread Inside | | Outside Diameter (mm) | Total Length (mm) |
|-----------------------------|----------------|-------------|---------------|-------------|--------------------------|----------------------|
| | PG | Length (mm) | PG | Length (mm) | | |
| 0709M | 7.0 | 5.0 | 9.0 | | 17.0 | 15.0 |
| 0911M | 9.0 | 6.0 | 11.0 | 7.0 | 20.0 | 16.5 |
| 0913M | | | 13.5 | 7.5 | 22.0 | 17.5 |
| 1113M | 11.0 | 6.5 | 13.5 | 8.0 | 22.0 | 17.5 |
| 1116M | | | 16.0 | 8.5 | 24.0 | 19.0 |
| 1121M | | | 21.0 | 10.0 | 30.0 | 21.0 |
| 1316M | | | 16.0 | 7.5 | 24.0 | 19.0 |
| 1321M | 13.5 | 6.5 | 21.0 | 8.5 | 30.0 | 21.0 |
| 1621M | | | 21.0 | 8.5 | 30.0 | 21.0 |
| 1629M | 16.0 | 7.0 | 29.0 | 11.0 | 39.0 | 22.5 |
| 2129M | | | 29.0 | 11.5 | 39.0 | 23.0 |
| 2936M | 29.0 | 8.0 | 36.0 | 12.0 | 50.0 | 27.5 |
| 4248M | 42.0 | 10.0 | 48.0 | 1.0 | 64.0 | 33.0 |

MR Reducers, PG, Brass

- Used to reduce PG threads
- Brass galvanically nickel plated



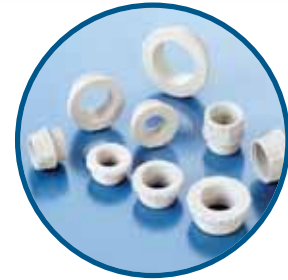
| Cat. No. IP66 | Thread Outside | | Thread Inside | Outside Diameter (mm) | Total Length (mm) |
|------------------|----------------|-------------|---------------|--------------------------|----------------------|
| | PG | Length (mm) | PG | | |
| 0907M | 9.0 | 6.0 | 7 | 17.0 | 8.5 |
| 1107M | 11.0 | | 7 | 20.0 | |
| 1109M | | 9 | | | |
| 1307M | 13.5 | 6.5 | 7 | 22.0 | 9.0 |
| 1309M | | | 9 | | |
| 1311M | | | 11 | | |
| 1607M | | | 7 | | |
| 1609M | 16.0 | 6.5 | 9 | 24.0 | 9.5 |
| 1611M | | | 11 | | |
| 1613M | | | 13.5 | | |
| 2111M | | | 11 | | |
| 2113M | 21.0 | 7.0 | 13.5 | 30.0 | 10.0 |
| 2116M | | | 16 | | |
| 2916M | 29.0 | 8.0 | 16 | 39.0 | 11.5 |
| 2921M | | | 21 | | |
| 3621M | 36.0 | 9.0 | 21 | 50.0 | 12.5 |
| 3629M | | | 29 | | |
| 4229M | 42.0 | 10.0 | 29 | 57.0 | 14.0 |
| 4236M | | | 36 | | |
| 4836M | | | 36 | | |
| 4842M | | | 42 | | |

Accessories and Tools

NR Reducers, PG, Polyamide

- Reduce connecting threads
- Polyamide reinforced fiberglass

| Cat. No. | Thread Outside PG | Thread Inside PG | Length (mm) | Outside Diameter (mm) |
|----------|----------------------|---------------------|-------------|--------------------------|
| 1109N | 11 | 9 | 18.0 | 22.5 |
| 1309N | 13.5 | 9 | 11.5 | 27.0 |
| 1311N | 13.5 | 11 | 21.5 | 25.0 |
| 1609N | 16 | 9 | 13.0 | 29.0 |
| 1611N | 16 | 11 | 12.5 | 28.5 |
| 1613N | 16 | 13.5 | 24.5 | 35.5 |
| 2113N | 21 | 13.5 | 13.5 | 46.0 |
| 2116N | 21 | 16 | 13.5 | 54.5 |
| 2921N | 29 | 21 | 13.5 | |
| 3629N | 36 | 29 | 21.5 | |



Temperature range: -40 to 105 °C

NVN3 Sealing Rings, Reinforced, IP68

- Connect PMAFIX[®] connectors ("V" Series and PMAFLEX[®] corrugated conduits)
- Specially modified polyester elastomer
- Suitable for sealing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

| Cat. No. | Conduit Size 1 head only | | Length (mm) |
|----------|--------------------------|--------|-------------|
| | NW | Metric | |
| NVN3-07 | 7 | 10 | 9.0 |
| NVN3-09 | 10 | 12 | 12.0 |
| NVN3-11 | 12 | 16 | 16.5 |
| NVN3-16 | 17 | 23 | 13.0 |
| NVN3-21 | 23 | 25 | 14.0 |
| NVN3-29 | 29 | 32 | 17.5 |
| NVN3-36 | 36 | 40 | |
| NVN3-48 | 48 | 50 | |

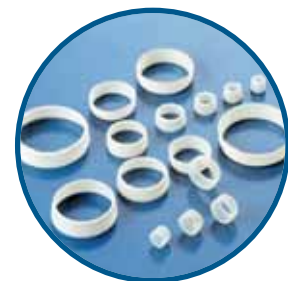


Temperature range: -40 to 105 °C

NFN3 Sealing Rings, IP67

- Connect PMAFIX[®] connectors ("F" Series and PMAFLEX[®] corrugated conduits)
- Specially modified polyester elastomer
- Suitable for sealing
- Free from halogens and cadmium
- Fits fine (T) and coarse (G) conduit profiles

| Cat. No. | Conduit Size 1 head only | | Length (mm) |
|----------|--------------------------|--------|-------------|
| | NW | Metric | |
| NFN3-07 | 7 | 10 | 9.0 |
| NFN3-09 | 10 | 12 | |
| NFN3-11 | 12 | 16 | |
| NFN3-16 | 17 | 23 | |
| NFN3-21 | 23 | 25 | |
| NFN3-29 | 29 | 32 | |
| NFN3-36 | 36 | 40 | 11.0 |
| NFN3-48 | 48 | 50 | |



Temperature range: -40 to 105 °C

Accessories and Tools

SVN4 Flat Gaskets, Metric

- Suitable for the reinforced PMAFIX[®] connectors with polyamide or metal threads
- Guarantee ingress protection of up to IP68
- NBR reinforced with aramide fibers (asbestos free)

| Cat. No. IP68 | Thread Metric | Inside Diameter (mm) | Outside Diameter (mm) | Width (mm) |
|---------------|---------------|----------------------|-----------------------|------------|
| SVN4-M12 | M12x1.5 | 12.0 | 20.0 | 1.5 |
| SVN4-M12/02 | | | 23.0 | |
| SVN4-M16 | | | 22.0 | |
| SVN4-M16/02 | M16x1.5 | 16.0 | 25.0 | |
| SVN4-M20 | | | 27.0 | |
| SVN4-M20/02 | M20x1.5 | 20.0 | 33.0 | |
| SVN4-M25 | | | 35.0 | |
| SVN4-M25/02 | | | 39.0 | |
| SVN4-M32 | M32x1.5 | 32.0 | 43.0 | |
| SVN4-M32/02 | | | 49.0 | |
| SVN4-M40 | | | 55.0 | |
| SVN4-M40/02 | M40x1.5 | 40.0 | 64.0 | |
| SVN4-M50 | | | 69.0 | |
| SVN4-M50/02 | M50x1.5 | 50.0 | 74.0 | |
| SVN4-M63 | | | 75.0 | |



Temperature range: -40 to 105 °C
Short term: Max. 350 °C

SVN4 Flat Gaskets, PG

- Suitable for the reinforced PMAFIX[®] connectors with polyamide or metal threads
- Guarantee ingress protection of up to IP68
- NBR reinforced with aramide fibers (asbestos free)

| Cat. No. IP68 | Thread PG | Inside Diameter (mm) | Outside Diameter (mm) | Width (mm) |
|---------------|-----------|----------------------|-----------------------|------------|
| SVN4-07 | 7 | 12.5 | 16.5 | 1.5 |
| SVN4-09 | 9 | 15.2 | 20.0 | |
| SVN4-11 | 11 | 18.6 | 24.0 | |
| SVN4-13 | 13.5 | 20.4 | 31.0 | |
| SVN4-16 | 16 | 22.5 | 31.0 | |
| SVN4-21 | 21 | 28.3 | 37.0 | |
| SVN4-29 | 29 | 37.0 | 48.0 | |
| SVN4-36 | 36 | 47.0 | 57.0 | |
| SVN4-42 | 42 | 54.0 | 60.0 | |
| SVN4-48 | 48 | 59.3 | 69.0 | |

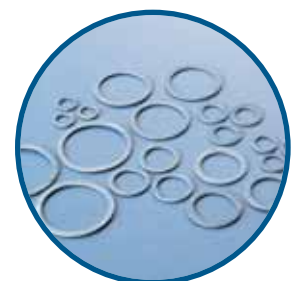


Temperature range: -40 to 105 °C
Short term: Max. 350 °C

SVN4 Flat Gaskets, Whitworth

- Suitable for the reinforced PMAFIX[®] connectors with polyamide or metal threads
- Guarantee ingress protection of up to IP68
- NBR reinforced with aramide fibers (asbestos free)

| Cat. No. IP68 | Thread Whitworth (mm) | Inside Diameter (mm) | Outside Diameter (mm) | Width (mm) |
|---------------|-----------------------|----------------------|-----------------------|------------|
| SVN4-G00 | 1/4 | 13.2 | 20.0 | 1.5 |
| SVN4-G01 | 3/8 | 16.7 | 22.0 | |
| SVN4-G02 | 1/2 | 21.0 | 28.0 | |
| SVN4-G04 | 3/4 | 26.5 | 34.0 | |
| SVN4-G06 | 1 | 33.3 | 42.0 | |
| SVN4-G07 | 1-1/4 | 41.9 | 53.0 | |
| SVN4-G08 | 1-1/2 | 47.8 | 62.0 | |
| SVN4-G09 | 2 | 59.6 | 69.0 | |



Temperature range: -40 to 105 °C
Short term: Max. 350 °C

Accessories and Tools

514 Plug Screws, Metric

- Suitable for an accurate termination where there are no threaded holes in casings and distribution boxes
- Product with metric thread: PA-GF
- Free from halogens and cadmium
- IP54



Temperature range: -40 to 100 °C

Short term: Max. 150 °C

| Cat. No. Grey | Fits to Thread Metric | Outside Diameter (mm) | Height (mm) | Thread Length (mm) |
|------------------|--------------------------|--------------------------|-------------|-----------------------|
| 514-M12 | M12x1.5 | 15.0 | 8.0 | 6.0 |
| 514-M16 | M16x1.5 | 20.0 | 9.0 | |
| 514-M20 | M20x1.5 | 24.0 | 9.5 | |
| 514-M25 | M25x1.5 | 30.0 | 11.5 | 8.0 |
| 514-M32 | M32x1.5 | 37.0 | 12.0 | |
| 514-M40 | M40x1.5 | 46.0 | 13.0 | |
| 514-M50 | M50x1.5 | 56.0 | 15.0 | 10.0 |
| 514-M63 | M63x1.5 | 70.0 | 17.0 | 12.0 |

514 Plug Screws, PG

- Suitable for an accurate termination where there are no threaded holes in casings and distribution boxes
- Product with PG thread: PS
- Free from halogens and cadmium
- IP54



Temperature range: -40 to 100 °C

Short term: Max. 150 °C

| Cat. No. Grey | Thread PG | Outside Diameter (mm) | Height (mm) | Thread Length (mm) |
|------------------|--------------|--------------------------|-------------|-----------------------|
| 514-07 | 7 | 15.0 | 8.0 | 6.0 |
| 514-09 | 9 | 19.0 | 9.5 | 6.5 |
| 514-11 | 11 | 22.0 | 10.0 | 6.5 |
| 514-13 | 13.5 | 25.0 | 10.0 | 6.5 |
| 514-16 | 16 | 27.0 | 10.0 | 6.5 |
| 514-21 | 21 | 33.0 | 12.0 | 8.0 |
| 514-29 | 29 | 44.0 | 11.5 | 8.0 |
| 514-36 | 36 | 55.0 | 14.0 | 10.0 |
| 514-48 | 48 | 68.0 | 16.0 | 12.0 |

Accessories and Tools

PMACUT Cutting Tools

- Excellent tools for cutting all PMA® conduits
- Guarantee precise and safe 90° angle cuts
- Material: Metal
- Colour: Red



| Cat. No. Cutting Tool | Cat. No. Spare Blade | Cutting Range (mm) | For PMAFLEX NW |
|--------------------------|-------------------------|-----------------------|-------------------|
| PMACUT-38 | FP-38 | 0-38 | 7-29 |
| PMACUT-52 | FP-52 | 0-52 | 23-48 |

EWZ Draw-In Tools

- Suitable for drawing in cables or wires into PMA® COFLEX or other slit conduits
- Designed in a handy shape and equipped with a practical hand grip for wedging or with hole for direct holding of the wires
- Can be used whenever drawing-in assistance for slit conduits is helpful
- Material: Polyamide
- Colour: Black



| Cat. No. Black with Holes | Cat. No. Black with Handle | Conduit Size NW | Dimensions (mm) Width x Length x Depth |
|------------------------------|-------------------------------|--------------------|---|
| EWZ-02 | EWZ-03 | 7.5-34 | 117.7 x 45.2 x 71.9 |

Hazardous Location ATEX Systems

ATEX 95



Polyamide Cable Protection: 30 years of experience, now ATEX 95 is certified

- Products for the protection of cables, wires and hoses against not only mechanical damage but also the influences of UV radiation, weathering and chemicals
- Products made of specially modified, load-discharging polyamide materials (PA11, PA12) for use in explosion-endangered zones 1/2 (gas) and 21/22 (dust)
- ATEX marking:

CE 1258 **II 2G Ex eb IIC SEV 05 ATEX 0105 II 2D Ex tb IIIC**

- Identical in function to the standard product range PMAFIX®/PMAFLEX® successfully used in applications such as railway, machinery, automation, etc., for more than 30 years
- Two sealing systems to IP66 or IP68 ratings
- System safety: For security reasons, re-opening is only possible with the use of a screwdriver
- Flexible conduits, excellent for applications with continual reversed bending
- Quick and simple installation, reduced total installation costs compared to other explosion-proof cable protection systems
- No corrosion, long service life
- Low weight

Areas of Application

PMA® Ex-System products constitute an equipment group II category 2G device in accordance with Directive 94/9/EC (ATEX 95) Appendix I which may be implemented in zones 1/2 as well as in gas groups IIA, IIB and IIC which are subject to explosion risk due to combustible substances, in accordance with Directive 99/92/EC (ATEX 137). The requirements in accordance with EN 60079-14 shall be adhered to on use/installation.

The products constitute an equipment group II category 2D device in accordance with Directive 94/9/EC (ATEX 95) Appendix I which may be implemented in zones 21/22 with explosive air/dust mixtures in accordance with Directive 99/92/EC (ATEX 137). The requirements in accordance with EN 60079-14 shall be adhered to on use/installation.

Operation, Service and Maintenance

The defined ambient and operating temperature range is -20° C to 85° C and -40° C to 85° C for conduit type XESX (temperature range for electrical equipment in accordance with EN 60079-0).

A visual examination of the cable protection system shall be performed during periodic maintenance of systems and components, at intervals no longer than 5 years. In the event of visible damage (holes, cracks, signs of heavy wear) to conduits, fittings or accessories, the damaged parts shall be replaced. (In the event of apparent mechanical damage, it shall be ensured that no incorrect handling takes place.)

Only ATEX-approved original PMA® parts shall be used for the replacement of ATEX approved parts.

These operating and assembly instructions include important information for service and maintenance and should be retained.

Assembly

To ensure the discharge of electrical currents and proper antistatic behaviour, ATEX-approved PMA® conduits shall be used exclusively in combination with special PMA® connectors and accessories which are also ATEX-approved. These connectors and accessories (seals, fasteners) are also made of discharging material and are designated with the conformity marking.

The ATEX approved connectors or accessories shall always be in direct contact with a metallic surface (ground). No insulating materials (e.g. adhesives) and no components which are not ATEX approved shall be used between the discharging plastic parts or between plastic parts and metal surfaces.

Hazardous Location ATEX Systems

ATEX Multilayer Conduits

The PMA® EX-system is suitable for the protection of cables, wires and hoses against mechanical damage, UV radiation and weathering in explosion-endangered areas classified as zones 1/2 (gas) and 21/22 (dust) according to ATEX 137.

The multilayer conduit offers electrostatic load-discharging properties and comes with a range of compatible ATEX approved fittings and installation accessories.

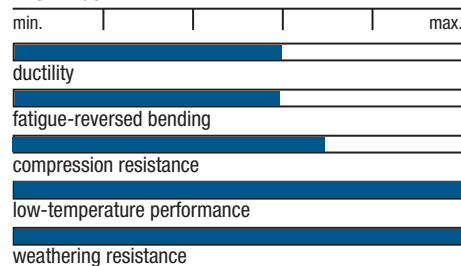


XESX Highly Flexible, Medium Wall

The PMA® Ex-System multilayer conduit type XESX offers an electrostatically discharging property, very high mechanical load capacity and low-temperature impact strength. Excellent UV and weathering resistance allow outdoor installation exposed to constant sunlight.


- Specially modified polyamide and polyethylene
- Electrostatic discharging
- Free from halogens and cadmium
- Very high mechanical load capacity and low-temperature impact strength
- Very good UV-resistance
- High abrasion resistance
- Highest dynamic load capacity
- Very good chemical properties

XESX-Index




| Cat. No. Black | Conduit Size NW | Rec. Fitting Thread Metric | Inside Diameter (mm) | Outside Diameter (mm) | Stat. Radius* (mm) | PU Meter |
|----------------|-----------------|----------------------------|----------------------|-----------------------|--------------------|----------|
| XESXT-12BY | 12 | M16/M20 | 11.8 | 15.6 | 30/70 | 50 |
| XESXG-17BY | 17 | M20/M25 | 15.2 | 21.0 | 35/85 | 50 |
| XESXG-23BY | 23 | M25/M32 | 22.0 | 28.5 | 40/110 | 50 |
| XESXG-29BY | 29 | M32/M40 | 27.5 | 34.4 | 50/130 | 50 |
| XESXG-36BY | 36 | M40/M50 | 35.8 | 42.4 | 60/180 | 30 |
| XESXG-48BY | 48 | M50/M63 | 46.8 | 54.4 | 70/220 | 30 |

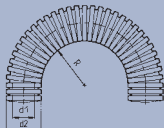
For actual cat. number, add product unit at the end. Example: XESXT-12BY.50



Fine profile T
Tight bending radius



Coarse profile G
High pullout strength



***† stat. R = lowest recommended bending radius for static (fixed) installation.

Hazardous Location ATEX Systems

ATEX Connectors



PMA® Ex-System connectors together with PMA® Ex-System protection conduits are used for flexible protection of cables, wires and hoses against mechanical damage, UV radiation and weathering in explosion-endangered areas classified as zones 1/2 (gas) and 21/22 (dust) according to ATEX 137.

Connectors are available with ingress protection up to and including IP66 or IP68.

IP66 connectors are fitted with a pre-installed universal safety clip which ensures a quick push-in installation of the conduit.

IP68 connectors for increased requirements will be delivered with a special conduit sealing ring.



IP66

IP66 static

IP54 dynamic

- One-piece fitting, conical sealing method
- Easy push-in installation
- Pre-installed safety clip AFN2
- Fits any type of conduit profile (T and G)
- Excellent pullout strength
- For safety reasons, re-opening is only possible with a screwdriver



IP68

IP68 static

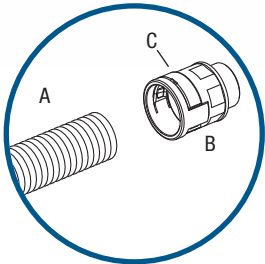
IP67 dynamic

- High sealing through additional sealing ring
- For highest dynamic applications
- Fits any type of conduit profile (T and G)
- Excellent pullout strength
- For safety reasons, re-opening is only possible with a screwdriver

Hazardous Location ATEX Systems

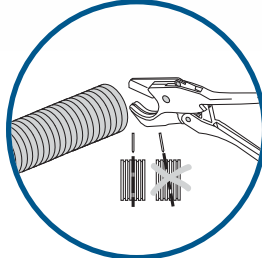
IP66

Installation of IP66 Safety System



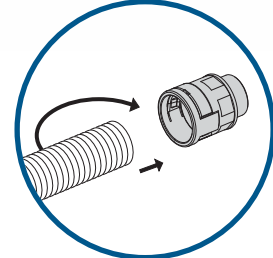
1

A. Conduit
B. Fitting
C. Universal safety clip



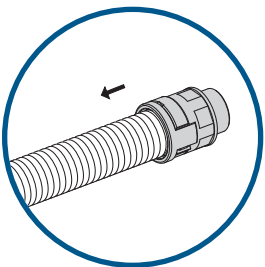
2

Straight cut of conduit (A).



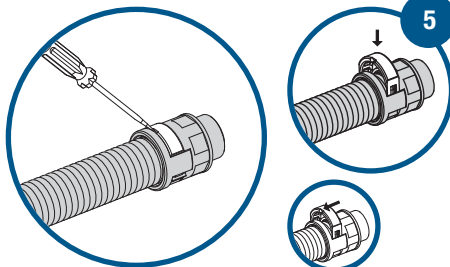
3

Push in the conduit (A) with a slight twist until the stop.



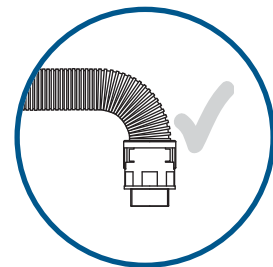
4

Pull back the conduit (A) slightly to ensure the locking mechanism is fully engaged.



5

To re-open use a screwdriver. The screwdriver slot at the oval clip (C) must point towards the conduit.

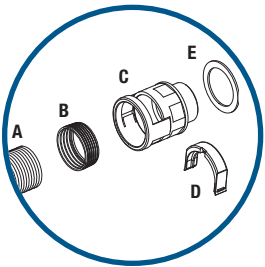


6

If bending the conduit, please maintain the recommended bending radius.

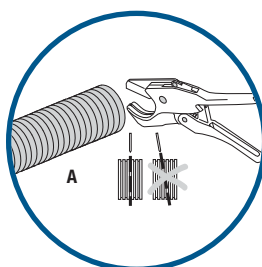
IP68

Installation of IP68 Safety System



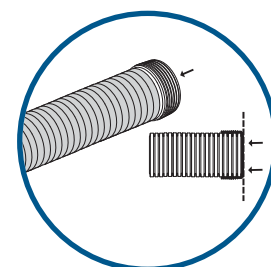
1

A. Conduit
B. Ex Sealing ring (yellow)
C. Fitting
D. Oval clip
E. Thread seal (O-ring or flat seal)



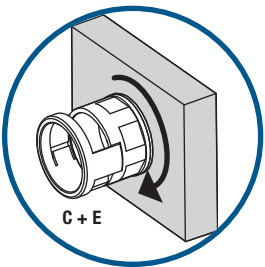
2

Straight cut of conduit (A).



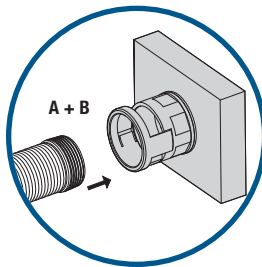
3

Push seal cap (B) completely onto conduit in order to achieve IP68.



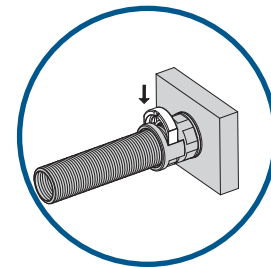
4

Place seal (E) onto fitting thread (C) and screw in.



5

Push conduit with sealing ring (A+B) into the fitting until the sealing ring is no longer visible in the locking element window.



6

Insert oval clip (D) in locking element window and click into place. The screwdriver slot must point towards the conduit. To re-open, use a screwdriver.

Hazardous Location ATEX Systems END Straight, Metric, IP66

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



These PMA® Ex-System connectors allow a quick push-in installation of PMA® Ex-System conduits

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP66 | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| BEND-M120GT | M12x1.5 | 10 | 12 | 11.0 | 36.5 |
| BEND-M160GT | M16x1.5 | 10 | 12 | | |
| BEND-M162GT | M16x1.5 | 12 | 16 | | |
| BEND-M202GT | M20x1.5 | 12 | 16 | | |
| BEND-M207GT | M20x1.5 | 17 | 20 | 12.0 | 39.5 |
| BEND-M257GT | M25x1.5 | 17 | 20 | | 47.5 |
| BEND-M253GT | M25x1.5 | 23 | 25 | 15.0 | 48.5 |
| BEND-M323GT | M32x1.5 | 23 | 25 | | 52.0 |
| BEND-M329GT | M32x1.5 | 29 | 32 | 19.0 | 55.5 |
| BEND-M409GT | M40x1.5 | 29 | 32 | | 56.0 |
| BEND-M406GT | M40x1.5 | 36 | 40 | | 60.0 |
| BEND-M506GT | M50x1.5 | 36 | 40 | | 72.5 |
| BEND-M508GT | M50x1.5 | 48 | 50 | 19.0 | 72.0 |
| BEND-M638GT | M63x1.5 | 48 | 50 | | 72.5 |
| | | | | | 72.0 |

EAD 45° Elbow, Metric, IP66

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



These PMA® Ex-System connectors allow a quick push-in installation of PMA® Ex-System conduits

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP66 | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| BEAD-M120GT | M12x1.5 | 10 | 12 | 11.0 | 43.5 x 37.0 |
| BEAD-M160GT | M16x1.5 | | | | 43.5 x 38.0 |
| BEAD-M162GT | M16x1.5 | | 16 | | 48.0 x 40.0 |
| BEAD-M202GT | M20x1.5 | | | | 48.0 x 41.5 |
| BEAD-M207GT | M20x1.5 | 17 | 20 | 12.0 | 55.5 x 51.5 |
| BEAD-M253GT | M25x1.5 | 23 | 25 | | 65.0 x 58.5 |
| BEAD-M329GT | M32x1.5 | 29 | 32 | 15.0 | 73.5 x 66.5 |
| BEAD-M406GT | M40x1.5 | 36 | 40 | 19.0 | 92.5 x 85.5 |
| BEAD-M506GT | M50x1.5 | | | | 92.5 x 89.5 |
| BEAD-M508GT | M50x1.5 | | 50 | | 100.0 x 96.0 |
| BEAD-M638GT | M63x1.5 | | | | 100.0 x 104.0 |

Hazardous Location ATEX Systems

EBD 90° Curved Elbow, Metric, IP66

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



| Cat. No. IP66 | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| BEED-M207GT | M20x1.5 | 17 | 20 | 11.0 | 47.5 x 73.0 |
| BEED-M257GT | M25x1.5 | | 20 | | 12.0 |
| BEED-M253GT | M25x1.5 | 23 | 25 | 15.0 | |
| BEED-M323GT | M32x1.5 | | 25 | | 19.0 |
| BEED-M329GT | M32x1.5 | 29 | 21 | 19.0 | |
| BEED-M409GT | M40x1.5 | 29 | 32 | | 19.0 |
| BEED-M406GT | M40x1.5 | 36 | 40 | 19.0 | |
| BEED-M506GT | M50x1.5 | 36 | 40 | | 19.0 |
| BEED-M508GT | M50x1.5 | 48 | 50 | 19.0 | |
| BEED-M638GT | M63x1.5 | 48 | 50 | | 19.0 |

These PMA[®] Ex-System connectors allow a quick push-in installation of PMA[®] Ex-System conduits

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

EWD 90° Elbow, Metric, IP66

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



| Cat. No. IP66 | Thread Metric | Conduit Size | | Thread Length (mm) | Overall Length (mm) |
|------------------|------------------|--------------|--------|-----------------------|------------------------|
| | | NW | Metric | | |
| BEWD-M120GT | M12x1.5 | 10 | 12 | 11.0 | 34.0 x 39.5 |
| BEWD-M160GT | M16x1.5 | | | | 12 |
| BEWD-M162GT | | 12 | 16 | | |
| BEWD-M202GT | M20x1.5 | | | | 12 |

These PMA[®] Ex-System connectors allow a quick push-in installation of PMA[®] Ex-System conduits

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

Hazardous Location ATEX Systems ENV Straight, Metric, Metal Thread, IP68

- Specially modified electrostatic-discharging polyamide
- Threads made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance



The metal threads and the level IP68 rating allow use of these PMA[®] Ex-System fittings in applications with increased requirements

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP68 | Thread Metric | Fit to Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|------------------|---------------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NENV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 40.0 |
| NENV-M160-10 | M16x1.5 | 10 | 12 | | |
| NENV-M162-10 | M16x1.5 | 12 | 16 | | |
| NENV-M202-10 | M20x1.5 | 12 | 16 | | |
| NENV-M207-10 | M20x1.5 | 17 | 20 | 11.0 | 51.0 |
| NENV-M257-11 | M25x1.5 | 17 | 20 | | |
| NENV-M253-11 | M25x1.5 | 23 | 25 | | |
| NENV-M323-13 | M32x1.5 | 23 | 25 | | |
| NENV-M329-13 | M32x1.5 | 29 | 32 | 13.0 | 52.0 |
| NENV-M409-13 | M40x1.5 | 29 | 32 | | |
| NENV-M406-13 | M40x1.5 | 36 | 40 | | |
| NENV-M506-14 | M50x1.5 | 36 | 40 | | |
| NENV-M508-14 | M50x1.5 | 48 | 50 | 14.0 | 54.0 |
| NENV-M638-14 | M63x1.5 | 48 | 50 | | |

ENZ Straight with Strain Relief, Metric, Metal Thread, IP68

- Specially modified electrostatic-discharging polyamide
- Strain-relief socket made of nickel-plated brass
- Sealing insert made of TPE-V
- With corresponding seals IP68 static / IP67 dynamic on cable = IP68 (10 bar)
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance



The metal threads and the level IP68 rating allow use of these PMA[®] Ex-System fittings in applications with increased requirements. Due to the integrated Pflitsch sealing bushing, cables are held and, at the same time, sealed to an IP68 level (10 bar). Furthermore, these connectors can be used where damp and dry areas have to be separated.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

Content of delivery:

Complete: Fitting with oval clips (OVN2), Pflitsch sealing bushing (DE), conduit seal (NEN3) and O-ring (OR)

| Cat. No. IP68 | Bushing Range (mm) | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|-----------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | | NW | Metric | | |
| NENZ-M120S/P1 | 4.5–6.0 | M12x1.5 | 10 | 12 | 5.0 | 48.5 |
| NENZ-M120S/P2 | 5.0–8.0 | | | | | |
| NENZ-M120S/P3 | 6.5–9.5 | | | | | |
| NENZ-M160S/P1 | 4.0–6.5 | M16x1.5 | 12 | 16 | 6.0 | 49.5 |
| NENZ-M160S/P2 | 5.0–8.0 | | | | | |
| NENZ-M160S/P3 | 6.5–9.5 | | | | | |
| NENZ-M202S/P1 | 4.0–6.5 | M20x1.5 | 12 | 16 | 6.5 | 54.0 |
| NENZ-M202S/P3 | 6.5–9.5 | | | | | |
| NENZ-M202S/P4 | 7.0–10.5 | | 17 | 20 | 7.5 | 61.5 |
| NENZ-M207S/P3 | 6.5–9.5 | | | | | |
| NENZ-M207S/P4 | 7.0–10.5 | | | | | |
| NENZ-M207S/P5 | 9.0–13.0 | M25x1.5 | 23 | 25 | 8.0 | 73.0 |
| NENZ-M257S/P5 | 9.0–13.0 | | | | | |
| NENZ-M257S/P6 | 11.5–15.5 | | | | | |
| NENZ-M323S/P4 | 14.0–18.0 | M32x1.5 | 29 | 32 | 8.0 | 73.0 |
| NENZ-M323S/P5 | 17.0–20.5 | | | | | |
| NENZ-M409S/P4 | 20.0–25.0 | | | | | |
| NENZ-M409S/P5 | 24.0–28.0 | M40x1.5 | 36 | 40 | 10.0 | 89.5 |
| NENZ-M506S/P1 | 27.0–32.0 | | | | | |
| NENZ-M506S/P3 | 32.0–36.0 | | | | | |
| NENZ-M508S/P2 | 32.0–36.0 | M50x1.5 | 48 | 50 | 10.0 | 92.0 |
| NENZ-M508S/P3 | 36.0–40.0 | | | | | |
| NENZ-M638S/P1 | 35.0–40.0 | | | | | |
| NENZ-M638S/P2 | 39.0–44.0 | M63x1.5 | 4 | | | 90.5 |

Hazardous Location ATEX Systems

EAV 45° Elbow, Metric, Metal Thread, IP68

- Specially modified electrostatic-discharging polyamide
- Threads made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance

| Cat. No. IP68 | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NEAV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 48.5 x 37.0 |
| NEAV-M162-10 | M16x1.5 | 12 | 16 | | 53.0 x 40.5 |
| NEAV-M207-10 | M20x1.5 | 17 | 20 | | 60.5 x 51.5 |
| NEAV-M257-11 | M25x1.5 | 23 | 25 | 11.0 | 61.5 x 54.5 |
| NEAV-M253-11 | M25x1.5 | | | | 70.0 x 60.5 |
| NEAV-M323-13 | M32x1.5 | | | | 72.0 x 64.5 |
| NEAV-M329-13 | M32x1.5 | 29 | 32 | 13.0 | 77.0 x 68.0 |
| NEAV-M409-13 | M40x1.5 | | | | 77.0 x 73.0 |
| NEAV-M406-13 | M40x1.5 | | | | 94.0 x 87.5 |
| NEAV-M506-14 | M50x1.5 | 36 | 40 | 14.0 | 95.0 x 92.5 |
| NEAV-M508-14 | M50x1.5 | | | | 102.0 x 101.0 |
| NEAV-M638-14 | M63x1.5 | | | | 102.0 x 104.0 |



The metal threads and the level IP68 rating allow use of these PMA[®] Ex-System fittings in applications with increased requirements

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

EBV 90° Curved Elbow, Metric, Metal Thread, IP68

- Specially modified electrostatic-discharging polyamide
- Threads made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance

| Cat. No. IP68 | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NEBV-M207-10 | M20x1.5 | 17 | 20 | 10.0 | 51.0 x 73.0 |
| NEBV-M257-11 | M25x1.5 | | | | 52.0 x 76.0 |
| NEBV-M253-11 | M32x1.5 | 23 | 25 | 11.0 | 62.5 x 85.0 |
| NEBV-M323-13 | | | | | 64.5 x 89.0 |
| NEBV-M329-13 | | | | | 74.0 x 94.5 |
| NEBV-M409-13 | M40x1.5 | 29 | 32 | 13.0 | 75.5 x 100.5 |
| NEBV-M406-13 | | | | | 86.5 x 123.0 |
| NEBV-M506-14 | M50x1.5 | 36 | 40 | 14.0 | 87.5 x 130.0 |
| NEBV-M508-14 | | | | | 100.5 x 135.0 |
| NEBV-M638-14 | | | | | 100.5 x 138.0 |



The metal threads and the level IP68 rating allow use of these PMA[®] Ex-System fittings in applications with increased requirements

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

EWV 90° Elbow, Metric, Metal Thread, IP68

- Specially modified electrostatic-discharging polyamide
- Threads made of nickel-plated brass
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Extremely high thread and system pullout resistance

| Cat. No. IP68 | Thread Metric | Conduit Size | | Thread Length (mm) | External Dimensions (mm) |
|------------------|------------------|--------------|--------|-----------------------|-----------------------------|
| | | NW | Metric | | |
| NEWV-M120-10 | M12x1.5 | 10 | 12 | 10.0 | 37.5 x 39.5 |
| NEWV-M160-10 | M16x1.5 | | | | 37.5 x 41.5 |
| NEWV-M162-10 | M20x1.5 | | | | 16 |
| NEWV-M202-10 | | 42.0 x 49.0 | | | |



The metal threads and the level IP68 rating allow use of these PMA[®] Ex-System fittings in applications with increased requirements

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

Hazardous Location ATEX Systems ENR-REM Connector for Metal Tube

- Specially modified electrostatic-discharging polyamide
- Clamp made of stainless steel
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



| Cat. No. Without Clamp, IP68 | Cat. No. With Clamp IP68 | Input Fits to Conduit Size | | External Dimensions (mm) |
|---------------------------------|-----------------------------|----------------------------|--------|-----------------------------|
| | | NW | Metric | |
| BENR-REM162 | BENR-REM162-24 | 12 | M16 | 54.0 |
| BENR-REM207 | BENR-REM207-28 | 17 | M20 | 65.0 |
| BENR-REM253 | BENR-REM253-32 | 23 | M25 | 71.0 |
| BENR-REM329 | BENR-REM329-44 | 29 | M32 | 71.0 |
| BENR-REM406 | BENR-REM406-50 | 36 | M40 | 90.0 |
| BENR-REM508 | BENR-REM508-65 | 48 | M50 | 90.0 |

With these products, solid metal tubes can easily and quickly be connected to flexible PMA® Ex-System conduits. The connection is fixed onto the solid tube with a stainless steel hose clamp.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

ESGD/ESGR Splice Connector

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



| Cat. No. IP66 | Cat. No. IP68 | Input Fits to Conduit Size | | External Dimensions (mm) |
|------------------|------------------|----------------------------|--------|-----------------------------|
| | | NW | Metric | |
| BESGD-1212GT | BESGR-1212 | 12 | 16 | 66.0 |
| BESGD-1717GT | BESGR-1717 | 17 | 20 | 89.0 |
| BESGD-2323GT | BESGR-2323 | 23 | 25 | 103.0 |
| BESGD-2929GT | BESGR-2929 | 29 | 32 | 100.0 |
| BESGD-3636GT | BESGR-3636 | 36 | 40 | 130.0 |
| BESGD-4848GT | BESGR-4848 | 48 | 50 | 136.0 |

These PMA® connection splices are used for an optimum connection of PMA® Ex-System conduits and enable the highest grade of safety and sealing.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

EYD/EYR Y Piece

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



| Cat. No. IP66 | Cat. No. IP68 | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| BEYD-12/10GT | BEYR-12/10 | 12 | 16 | 10 | 12 |
| BEYD-17/12GT | BEYR-17/12 | 17 | 20 | 12 | 16 |
| BEYD-23/17GT | BEYR-23/17 | 23 | 25 | 17 | 20 |
| BEYD-29/23GT | BEYR-29/23 | 29 | 32 | 23 | 25 |
| BEYD-36/29GT | BEYR-36/29 | 36 | 40 | 29 | 32 |
| BEYD-48/36GT | BEYR-48/36 | 48 | 50 | 36 | 40 |

These PMA® Ex-System junctions allow the splitting of cable looms and rerouting of the split looms into different directions.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

Hazardous Location ATEX Systems ETD/ETR T Piece

- High-grade, specially modified polyamide 12
- Electrostatically discharging
- Extremely shock resistant
- Free from halogens and cadmium
- Very good chemical properties

NEW!



These PMA® Ex-System junctions allow the splitting of cable looms and rerouting of the split looms into different directions.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP66 | Cat. No. IP68 | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| BETD-101010GT | BETR-101010 | 10 | 12 | 10 | 12 |
| BETD-121212GT | BETR-121212 | 12 | 16 | 12 | 16 |
| BETD-171717GT | BETR-171717 | 17 | 20 | 17 | 20 |
| BETD-232323GT | BETR-232323 | 23 | 25 | 23 | 25 |
| BETD-292929GT | BETR-292929 | 29 | 32 | 29 | 32 |
| BETD-363636GT | BETR-363636 | 36 | 40 | 36 | 40 |
| BETD-484848GT | BETR-484848 | 48 | 50 | 48 | 50 |

EAVD/EAVR Conduit Adapter

- High-grade, specially modified polyamide 12
- Electrostatically discharging
- Very high impact resistant
- Free from halogens and cadmium
- Very good chemical properties

NEW!



PMA® Ex-System conduit adapters allow variable applications of conduit sizes within the PMA® Ex-System, particularly with PMA® Ex-System junctions.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP66 | Cat. No. IP68 | Input Fits to Conduit Size | | Outputs Fit to Conduit Size | |
|------------------|------------------|----------------------------|--------|-----------------------------|--------|
| | | NW | Metric | NW | Metric |
| BEAVD-12/10GT | BEAVR-12/10 | 12 | 16 | 10 | 12 |
| BEAVD-17/12GT | BEAVR-17/12 | 17 | 20 | 12 | 16 |
| BEAVD-23/17GT | BEAVR-23/17 | 23 | 25 | 17 | 20 |
| BEAVD-29/23GT | BEAVR-29/23 | 29 | 32 | 23 | 25 |
| BEAVD-36/29GT | BEAVR-36/29 | 36 | 40 | 29 | 32 |
| BEAVD-48/36GT | BEAVR-48/36 | 48 | 50 | 36 | 40 |

Hazardous Location ATEX Systems

HEAK EMC Connector

- Nickel-plated aluminum
- Up to IP68 in connection with the PMAFIX® product range
- Thread 1: casing side
Thread 2: conduit side
- At thread 2 PMAFIX® straight and elbows fittings may be applied; also standard cable glands may be applicable for screened cables depending on final use
- Low transfer impedances
- 360° Clamping effect: High degree of safety in case of short-circuiting

NEW!

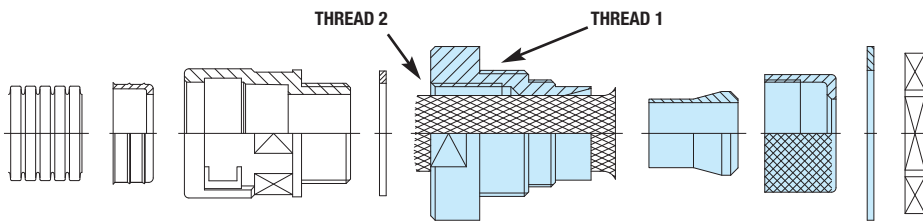


This PMA® Ex-System EMC connector can be used together with PMA® tinned copper braids and PMA® Ex-System conduits and connectors to provide shielding against electromagnetic interference in explosion-endangered areas.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. IP68 | Thread metric | | Fits to NW | Fits to F.CK | Fits to F.CU | ID min. (mm) | Thread Length (mm) | Overall Length (mm) |
|------------------|---------------|---------|---------------|-----------------|-----------------|-----------------|-----------------------|------------------------|
| | 1 | 2 | | | | | | |
| HEAK-M32/25-13 | M32x1.5 | M25x1.5 | 23 | 20 | 20 | 16.8 | 13.0 | 42.0 |
| HEAK-M40/32-13 | M40x1.5 | M32x1.5 | 29 | 20/(25) | | 22.4 | | 51.0 |
| HEAK-M50/40-14 | M50x1.5 | M40x1.5 | 36 | 30/(35) | 40 | 32.4 | 14.0 | 58.0 |
| HEAK-M63/63-14 | M63x1.5 | M63x1.5 | 48 | 35 | | 43.4 | | 57.5 |



CONTENT OF DELIVERY INCLUDES SHADED PRODUCTS.

Hazardous Location ATEX Systems EH-0 One-Piece System Support

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength



These one-piece PMA® Ex-System supports are designed to secure PMA® Ex-System corrugated conduits in explosion-endangered zones 1/21 (gas/dust) according to ATEX 137.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. | Conduit Size | | Dimensions (mm) Width x Height x Depth | Fixing Screw |
|----------|--------------|--------|---|--------------|
| | NW | Metric | | |
| BEH-10-0 | 10 | 12 | 20.5 x 24.5 x 20.0 | 1 x M5 |
| BEH-12-0 | 12 | 16 | 24.0 x 27.0 x 20.0 | 1 x M5 |
| BEH-17-0 | 17 | 20 | 30.0 x 34.0 x 20.0 | 1 x M6 |
| BEH-23-0 | 23 | 25 | 38.5 x 42.0 x 20.0 | 1 x M6 |
| BEH-29-0 | 29 | 32 | 45.5 x 48.0 x 20.0 | 1 x M6 |
| BEH-36-0 | 36 | 40 | 55.5 x 56.0 x 20.0 | 1 x M6 |
| BEH-48-0 | 48 | 50 | 67.5 x 68.0 x 20.0 | 1 x M6 |

EPS One-Piece System Support

- Specially modified electrostatic-discharging polyamide
- Self-extinguishing
- Free from halogens and cadmium
- Excellent impact strength
- Useable with standard type C rails



These one-piece system supports have clasps for easy pre-mounting and final assembly as well as for securing conduits to type C standard rails. Because they grip all around the conduit, they act as strain-relief. Partially stackable.

Temperature range: -50 to 90 °C (material limits)

ATEX use: -20 to 85 °C

| Cat. No. | Conduit Size | | Dimensions (mm) Width x Height x Depth |
|----------|--------------|--------|---|
| | NW | Metric | |
| BEPS-17 | 17 | 20 | 70.0 x 51.0 x 30.0 |
| BEPS-23 | 23 | 25 | 70.0 x 51.0 x 30.0 |
| BEPS-29 | 29 | 32 | 85.0 x 65.0 x 30.0 |
| BEPS-36 | 36 | 40 | 85.0 x 65.0 x 30.0 |
| BEPS-48 | 48 | 50 | 115.0 x 92.5 x 30.0 |

Hexagonal Locknuts, Metric, Metal

- Brass galvanically nickel-plated
- Maximum possible torque
- Safe system connections



Hexagonal lock nuts are suitable for a wide range of applications and maximum possible torques guarantee safe system connections.

| Cat. No. | Thread Metric | Wrench Size (mm) | Height Min. (mm) |
|----------|---------------|------------------|------------------|
| GMM-M12 | M12x1.5 | 15.0 | 2.8 |
| GMM-M16 | M16x1.5 | 19.0 | 2.8 |
| GMM-M20 | M20x1.5 | 24.0 | 3.0 |
| GMM-M25 | M25x1.5 | 30.0 | 3.5 |
| GMM-M32 | M32x1.5 | 36.0 | 4.0 |
| GMM-M40 | M40x1.5 | 46.0 | 4.5 |
| GMM-M50 | M50x1.5 | 60.0 | 5.0 |
| GMM-M63 | M63x1.5 | 70.0 | 5.5 |

Technical Information

Testing Methods

Conformance with standards: Additional services to benefit you

PMA® products conform to worldwide standards and regulations. As a pioneer in the field of cable protection, we have always given high priority to our own testing facilities, and we have consciously introduced stringent in-house standards. This approach has enabled us to exercise a significant influence on the development of international standards. Standards committees with responsibility for cable systems regularly ask our company to provide advice or participate as an active member.

High quality products from A-Z

From basic items to high-tech products, all of our products meet the most stringent quality requirements. Some of their outstanding features include:

- Resistance to temperature, weathering, UV radiation and chemical agents
- High system pullout resistance
- Excellent fire protection characteristics (flammability, smoke density, and toxicity)
- Excellent system ingress protection up to IP69K
- Extremely long service life
- Conformance to the EN ISO 9001:2000 quality standard

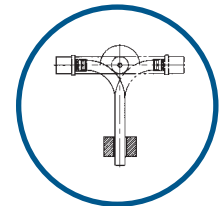
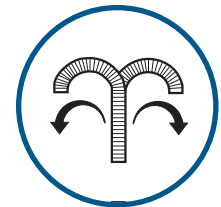


Technical Information

Reversed Bending Test with Swinging Movements

DO 9.21-4425 IEC EN 61386

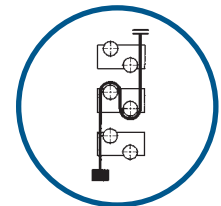
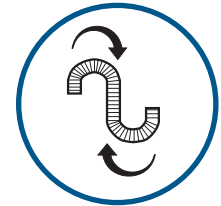
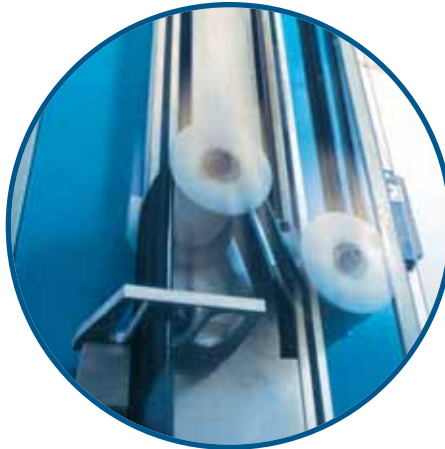
This standard is based on a cyclic reversed bending test (pivoting) of conduits under various conditions (temperature). The conduits are dynamically loaded and evaluated at the upper and lower application temperature limits. The test is performed based on IEC EN 61386. The minimum requirement corresponds to the specifications of IEC EN 61386. For PMA[®], the test is not considered completed for final evaluation until cracking or fracture. The number of cycles to fracture determines the fatigue strength of the conduit.



Reversed Bending Test

DO 9.21-4420

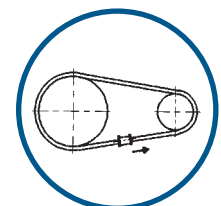
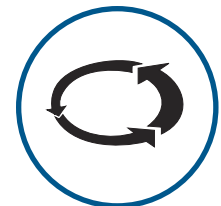
This standard describes a cyclic reversed bending test with additional tensile loading (lifting) on flexible conduits under standard ambient conditions (23 °C/50% relative humidity). The conduit is loaded until fracture. The number of cycles to fracture determines the fatigue strength of the conduit.



Reversed Bending Test

DO 9.21-4220

This standard describes a cyclic bending test (rotation in an oval pattern) on flexible conduits under standard ambient conditions (23 °C/50% relative humidity). The conduit is tested until failure. The number of cycles to fracture determines the fatigue strength of the conduit.

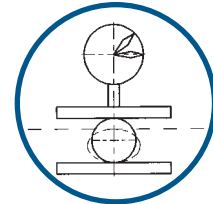
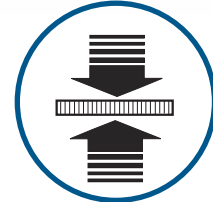


Technical Information

Peak Load Test

DO 9.21-4320 IEC EN 61386

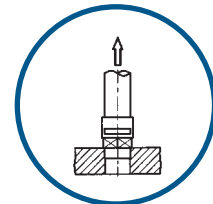
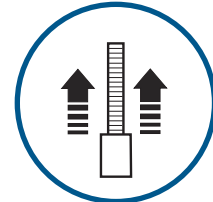
This standard describes the peak load test on conduits under standard ambient conditions (23 °C/50% relative humidity). The conduit is deformed by a defined amount between two plates. The restoring force established over a specific time (by relaxation of the conduit) describes the crushing pressure or compressive strength.



Pullout Test

DO 9.21-4610 IEC EN 61386

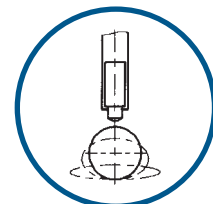
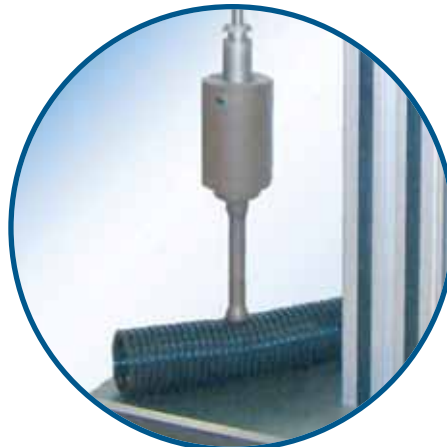
This standard defines the system pullout test on conduits and connectors under standard ambient conditions (23 °C/50% relative humidity). The conduits are mounted with the appropriate system connectors. The pullout strength of the system is determined in a tensile test.



Impact Test

DO 9.21-4330 IEC EN 61386

This standard describes the impact strength test on conduits at various temperatures. The specimen is placed on a steel plate, centered under an impact head with a defined profile. The head impacts the center of the specimen surface. In contrast to international specifications, deformation behavior (buckling) is determined rather than fracture behavior. The impact test is considered to be passed if no fracture or cracking can be detected after the impact, and there is no excessive permanent deformation of the conduit in accordance with PMA[®] specifications.

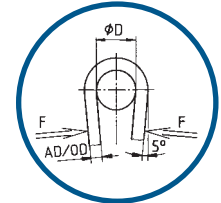
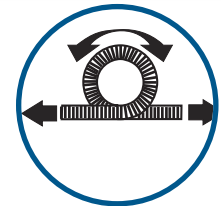


Technical Information

Cold Bending Test

DO 9.21-4380

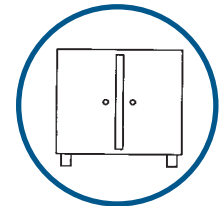
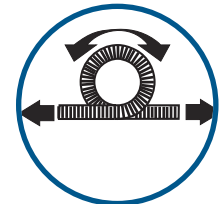
This standard describes a bending test on conduits at low temperatures. The specimens are stored in a controlled-climate cabinet at the specified test temperature. Loading is achieved by winding the specimen around a test mandrel with a defined diameter. The various products are classified based on the mandrel diameter which can be achieved.



Thermal Aging Test

DO 9.21-4360

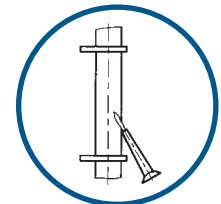
This standard describes a bending test on thermally aged specimens. The test conduits are stored in a controlled-climate oven at the specified test temperature. After removal from the oven, they are cooled to room temperature. Loading is achieved by winding the specimen around a test mandrel with a defined diameter. The various products are classified based on the mandrel diameter which can be achieved.



Self-Extinguishing Test

DO 9.21-4430 IEC EN 61386

This standard describes a flame test on conduits based on international specifications. The conduit is exposed to a defined flame from a standard burner. The time of ignition, flame propagation behavior, as well as time of extinguishing after removal of the flame source are significant parameters for evaluating the flame behavior of the products.



Technical Information

Ingress Protection (IP)

according to EN 60529/DIN 40050

Ingress Protection (IP)

A standard to classify product performance regarding ingress protection.

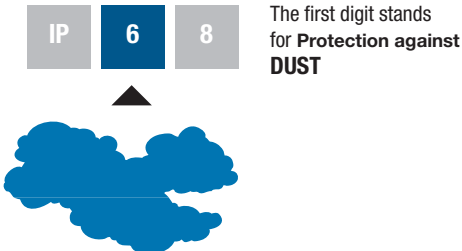
Different number – different protection!

For example, products classified as IPx8 are not automatically protected against water jets! Immersion tests for classifications IPx7 and IPx8 differ from the tests for protection against water jets for IPx6, IPx5 or IPx4.

Therefore, PMA[®] cable protection systems are tested regarding different sealing requirements.



PMA[®] products offer complete protection!



| Protection against contact and penetration of foreign objects | | |
|---|---|--|
| Degree of protection (contact/foreign bodies) | | |
| 0 | No protection | No contact protection, no protection against solid particles and bodies. |
| 1 | Protection against large foreign bodies | Protection against large contact area with hands and foreign bodies with $\varnothing > 50$ mm. |
| 2 | Protection against medium foreign bodies | Protection against contact with fingers, protection against foreign bodies $\varnothing > 12.5$ mm. |
| 3 | Protection against small foreign bodies | Protection against contact with tools and foreign bodies, wires or the like with $\varnothing > 2.5$ mm. |
| 4 | Protection against foreign grains | See 3, but $\varnothing > 1$ mm. |
| 5 | Dust protected | Full contact protection. Protection against dust deposits inside. |
| 6 | Dust tight | Full contact protection. Protection against dust penetration. |

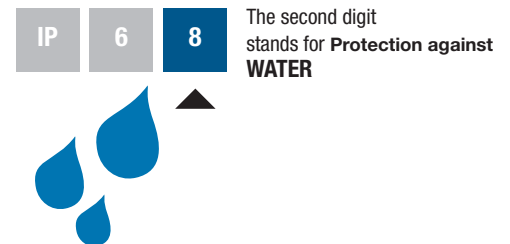
Compliance certified by an independent test laboratory.

Official approval documents available on request. Please contact your Regional Sales Office.

Technical Information

| | PMA® Products | | PMAFIX Pro | PMAFIX IP68 + WPS | PMAFIX IP68/IP68GT | PMAFIX IP66 | SMART-LINE |
|--|---------------|---|------------|-------------------|--------------------|-------------|------------|
| | IPx4 | Splash water from all directions | ✓ | ✓ | ✓ | ✓ | ✓ |
| | IPx5 | Water jets at any angle | ✓ | ✓ | ✓ | ✓ | ✓ |
| | IPx6 | Powerful water jets from any angle | ✓ | ✓ | ✓ | ✓ | ✓ |
| | IPx7 | Submersion (1m, 30 min.) | ✓ | ✓ | ✓ | | |
| | IPx8 | Submersion at time and pressure >IPx7 | ✓ | ✓ | ✓ | | |
| | IPx9K | High-pressure (up to 80 bar) water from any angle | ✓ | ✓* | ✓* | ✓* | ✓* |

* EN 60529/DIN 40050 can be fulfilled without WPS (Water impact protection ring).
PMA® recommends the use of the WPS ring for trouble-free practical applications.



| Protection against fluids | | |
|------------------------------|--|---|
| Degree of protection (water) | | |
| 0 | No protection | No protection against water. |
| 1 | Protection against large foreign bodies | Protection against vertical water drops. |
| 2 | Protection against medium foreign bodies | Protection against inclined water drops (any angle up to 15° to vertical line). |
| 3 | Protection against small foreign bodies | Protection against water sprayed from an angle up to 60° to vertical line. |
| 4 | Protection against foreign grains | Protection against water splashed from all directions. |
| 5 | Dust protected | Protection against water jets from any angle. |
| 6 | Dust tight | Protection against powerful water jets from any angle. |
| 7 | Protection against immersion | Protection against water penetration 1m below water. |
| 8 | Protection against submersion | Protection against water pressure for an indefinite time (customer tailored). |
| 9K | Protection against high-pressure cleaning | Protection against water from any angle at high pressure. |

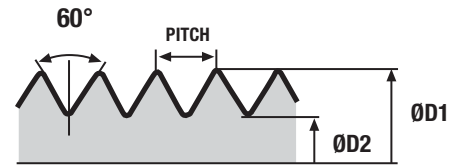
Technical Information

Thread Dimensions

Metric Fine Thread

EN 60423

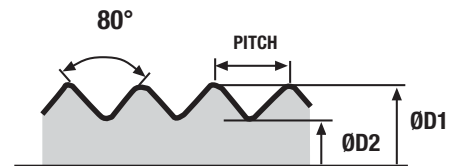
| Metric | Pitch | Major Ø D1 | Minor Ø D2 | Hole -0/+0.3 |
|--------|-------|------------|------------|--------------|
| 12 | 1.5 | 12 | 10.16 | 12.0 |
| 16 | 1.5 | 16 | 14.16 | 16.0 |
| 20 | 1.5 | 20 | 18.16 | 20.0 |
| 25 | 1.5 | 25 | 23.16 | 25.0 |
| 32 | 1.5 | 32 | 30.16 | 32.0 |
| 40 | 1.5 | 40 | 38.16 | 40.0 |
| 50 | 1.5 | 50 | 48.16 | 50.0 |
| 63 | 1.5 | 63 | 61.16 | 63.0 |



PG Thread

DIN 40430

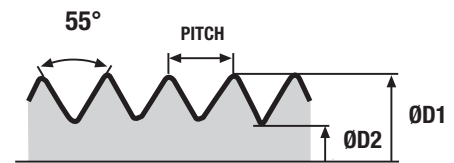
| PG | Pitch | Major Ø D1 | Minor Ø D2 | Hole |
|----|-------|------------|------------|------|
| 07 | 1.270 | 12.5 | 11.28 | 12.7 |
| 09 | 1.411 | 15.2 | 13.86 | 15.4 |
| 11 | 1.411 | 18.6 | 17.26 | 18.8 |
| 13 | 1.411 | 20.4 | 19.06 | 20.7 |
| 16 | 1.411 | 22.5 | 21.16 | 22.8 |
| 21 | 1.588 | 28.3 | 26.78 | 28.6 |
| 29 | 1.588 | 37.0 | 35.48 | 37.4 |
| 36 | 1.588 | 47.0 | 45.48 | 47.5 |
| 48 | 1.588 | 59.3 | 57.78 | 59.8 |



Whitworth Pipe Thread

DIN 259 BL. 3, ISO 228/1

| Whitworth (in.) | Pitch | Major Ø D1 | Minor Ø D2 | Hole |
|-----------------|-------|------------|------------|-------|
| 1/4 | 1.337 | 13.157 | 11.445 | 13.4 |
| 3/8 | 1.337 | 16.662 | 14.950 | 17.0 |
| 1/2 | 1.814 | 20.955 | 18.631 | 21.3 |
| 3/4 | 1.814 | 26.441 | 24.117 | 26.8 |
| 1 | 2.309 | 33.249 | 30.291 | 33.7 |
| 1-1/4 | 2.309 | 41.910 | 38.952 | 42.4 |
| 1-1/2 | 2.309 | 47.803 | 44.845 | 48.31 |
| 2 | 2.309 | 59.614 | 56.656 | 60.2 |

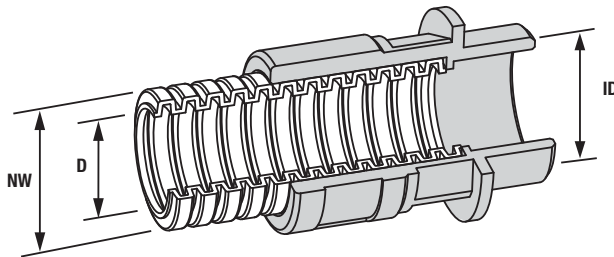
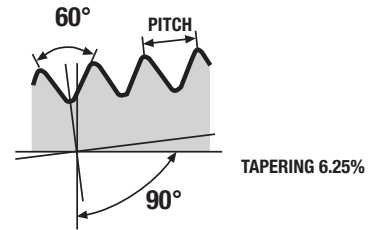


Technical Information

American Standard Taper Pipe Thread

NSI B2.1/ANSI B2.2

| NPT (in.) | Pitch | Major Ø | Hole |
|-----------|-------|---------|------|
| 1/4 | 1.411 | 13.616 | 13.9 |
| 3/8 | 1.411 | 17.055 | 17.4 |
| 1/2 | 1.814 | 21.223 | 21.6 |
| 3/4 | 1.814 | 26.568 | 26.9 |
| 1 | 2.209 | 33.227 | 33.7 |
| 1-1/4 | 2.209 | 41.984 | 42.4 |
| 1-1/2 | 2.209 | 48.053 | 48.5 |
| 2 | 2.209 | 60.091 | 60.6 |



COMPARISON TABLE—INSIDE DIAMETER THREADS TO INSIDE DIAMETER CONDUITS

| Conduit | | Connector | | | Connector | | |
|---------------------|------------------------------|-------------|---------------------------|-----------|-------------|---------------------------|------------------|
| Nominal Width NW | Inside diameter (nom.) ID | Thread Size | Inside diameter (nom.) ID | | Thread Size | Inside diameter (nom.) ID | |
| | | | Metal | Polyamide | | Metal Thread | Polyamide Thread |
| NW07 | 6.2 | PG07 | — | 8.0 | M10 | — | — |
| NW10 | 9.6 | PG09 | 9.5 | 10.0 | M12 | 5.7 | 8.0 |
| | | | | | M16 | — | 11.0 |
| NW12 | 12.0 | PG11 | 12.5 | 13.0 | M16 | 9.7 | 11.0 |
| — | — | PG13.5 | 14.5 | 14.5 | — | — | — |
| NW17 | 16.2 | PG16 | 16.5 | 17.5 | M20 | 13.7 | 14.6 |
| NW23 | 22.6 | PG21 | 22.5 | 22.5 | M25 | 18.6 | 19.0 |
| NW29 | 29.0 | PG29 | 30.5 | 30.5 | M32 | 25.7 | 26.0 |
| NW36 | 36.5 | PG36 | 40.5 | 37.5 | M40 | 33.4 | 32.0 |
| — | — | PG42 | — | 48.0 | — | — | — |
| NW48 | 47.5 | PG48 | 52.0 | 50.0 | M50 | 42.7 | 54.0 |
| | | | | | M63 | 54.0 | 53.0 |

Technical Information

Recommended torques for PMA® fittings

For threaded bore holes

| Thread | Metal [NM] | Polyamide [NM] |
|--------|------------|----------------|
| M12 | 5 | 3 |
| M16 | 6 | 4 |
| M20 | 7 | 5 |
| M25 | 10 | 8 |
| M32 | 10 | 10 |
| M40 | 15 | 15 |
| M50 | 15 | 15 |
| M63 | 15 | 15 |

| Thread | Metal [NM] | Polyamide [NM] |
|--------|------------|----------------|
| PG07 | 4 | 2 |
| PG09 | 5 | 3 |
| PG11 | 6 | 4 |
| PG13.5 | 7 | 5 |
| PG16 | 7 | 5 |
| PG21 | 10 | 10 |
| PG29 | 15 | 15 |
| PG36 | 15 | 15 |
| PG48 | 15 | 15 |

With locknuts

| Thread | Metal Lock Nut* G-MXX [NM] | Polyamide Lock Nut** B/GMN-MXX [NM] |
|--------|-------------------------------|--|
| M12 | 3 | 3 |
| M16 | 6 | 4 |
| M20 | 7 | 5 |
| M25 | 8 | 8 |
| M32 | 10 | 10 |
| M40 | 15 | 15 |
| M50 | 15 | 15 |
| M63 | 15 | 15 |

| Thread | Metal Lock Nut* G-MXX [NM] | Polyamide Lock Nut B/GMN-MXX [NM] |
|--------|-------------------------------|--------------------------------------|
| PG07 | 2 | 2.5 |
| PG09 | 3 | 3 |
| PG11 | 6 | 4 |
| PG13.5 | 7 | 5 |
| PG16 | 7 | 5 |
| PG21 | 10 | 8 |
| PG29 | 15 | 10 |
| PG36 | 15 | 15 |
| PG48 | 15 | 15 |

* Thread combination: metal + metal.

** Thread combination: metal + polyamide or polyamide + polyamide.

Note: Data represents approximate values. For application, please take into account the influence of the counter-thread.

Strain-Relief fittings

ACCORDING TO EN 50262 (MANUFACTURERS' SPECIFICATIONS)

| Thread | Metal | Metal | Polyamide |
|--------|-------|-------|-----------|
| M12 | 5.0 | 6.0 | 0.7 |
| M16 | 5.0 | 8.0 | 2.0 |
| M20 | 7.5 | 10.0 | 3.0 |
| M25 | 10.0 | 10.0 | 5.0 |
| M32 | 15.0 | 15.0 | 7.5 |
| M40 | 20.0 | 20.0 | 7.5 |
| M50 | 20.0 | 20.0 | 7.5 |
| M63 | 20.0 | 20.0 | 7.5 |

These values were gauged at standard ambiente conditions (23° C/50% relative humidity).

ACCORDING TO DIN VDE 0619

| Thread | Metal NVNZ-PXXXX [NM] | Metal NVNZ-PXXXX/P [NM] | Polyamide S/BVNZ-PXXXX [NM] |
|--------|--------------------------|----------------------------|--------------------------------|
| PG07 | 6.25 | 6.25 | 1.0 |
| PG09 | 6.25 | 6.25 | 2.0 |
| PG11 | 6.25 | 6.25 | 2.5 |
| PG13.5 | 6.25 | 6.25 | 3.0 |
| PG16 | 7.5 | 7.5 | 3.5 |
| PG21 | 10.0 | 10.0 | 5.0 |
| PG29 | 10.0 | 10.0 | 7.5 |
| PG36 | 10.0 | 10.0 | 7.5 |
| PG48 | 10.0 | 10.0 | 7.5 |

Technical Information

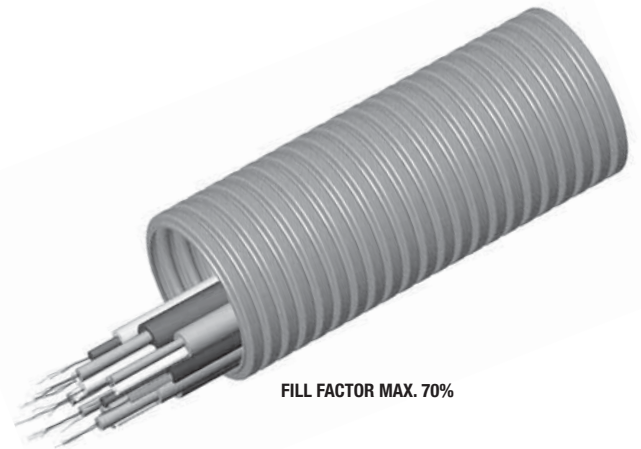
Fill factor, relevant guidelines

The question of conduit capacity or fill factor arises in the use of cable protection systems. This describes the extent to which a conduit can or should be filled with cables and/or conductors based on the available cross-sectional area.

In all cases, PMA[®] recommends that a conduit capacity of **70%** not be exceeded. Application-specific procedures and standards must also be considered.

This ensures that operation is not unnecessarily impaired by increased friction between the individual conductors in dynamically moving systems.

In addition, subsequent installation of additional conductors and/or cables is possible if necessary.



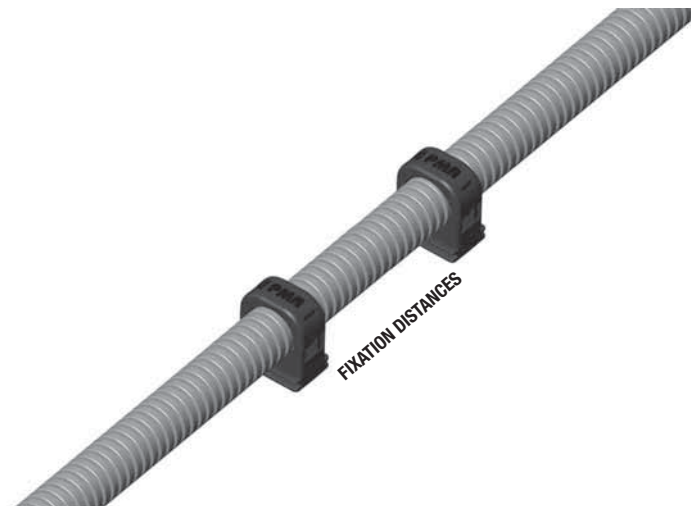
Wiring installation: Fastening

PMA recommends that cable protection systems be fastened with a spacing of **300 to 500 mm** between supports. This spacing can be varied depending on the application and location. This recommendation applies for all available dimensions. For larger diameters, the increased load due to the cables and conductors in the conduit is accounted for by adherence to the support spacing. PMA supplies suitable system supports for various strength requirements and applications.

European standard **EN 50343:2003-5.15** "Railway applications - Rolling stock - Rules for installation of cabling" specifies the following spacing between supports for fastening conductors:

- Horizontal wiring:** 300 mm
- Vertical wiring:** 500 mm

Application-specific guidelines and standards should also be considered.



Technical Information

Chemical Resistance

| Chemical | Formula | PA6 Polyamide 6 | PA12 Polyamide 12 | PP Polypropylene | TPU Thermoplastic Polyurethane elastomer | PFA Perfluoralkoxy copolymer PVDF Polyvinylidene fluoride |
|-------------------------|---------|----------------------|----------------------|---------------------|---|--|
| | | PA66 Polyamide 66 | PA11 Polyamide 11 | PE Polyethylene | | |
| Acetic acid (10%) | C2H4O2 | • | •• | ••• | ○ | ••• |
| Acetone | C3H6O | ••• | ••• | ••• | ○ | ••• |
| Aonia (30%) | NH3 | ••• | ••• | ••• | ○ | ••• |
| Benzine | — | ••• | ••• | •• | • | ••• |
| Brake fluid | — | ••• | ••• | ••• | | ••• |
| Caustic soda | HNaO | ••• | ••• | ••• | • | ••• |
| Ethyl alcohol (40%) | C2H6O | ••• | ••• | ••• | • | ••• |
| Glycol | C2H6O2 | ••• | ••• | ••• | ○ | ••• |
| Hydrochloric acid (10%) | HCL | ○ | • | ••• | ○ | ••• |
| Methanol | CH4O | •• | ••• | ••• | • | ••• |
| Methyl ethyl ketone | C4H8O | ••• | ••• | ••• | ○ | ••• |
| Nitric acid (10%) | HNO3 | ○ | ○ | •• | ○ | ••• |
| Ozone | O3 | •• | •• | •• | • | ••• |
| Paint thinner | — | ••• | ••• | • | ○ | ••• |
| Perchlorethylene | C2Cl4 | •• | •• | •• | ○ | ••• |
| Paraffin | — | ••• | ••• | • | ○ | ••• |
| Phosphoric acid (10%) | H3O4P | • | •• | ••• | ○ | ••• |
| Sea water | — | ••• | ••• | ••• | •• | ••• |
| Soap solution | — | ••• | ••• | ••• | •• | ••• |
| Sodium chloride | NaCl | ••• | ••• | ••• | ••• | ••• |
| Sulphuric acid (10%) | H2SO4 | • | •• | ••• | ○ | ••• |
| Toluene | C7H8 | ••• | ••• | • | ○ | ••• |
| Trichlorethylene | C2HCl3 | • | •• | ○ | ○ | ••• |
| Turpentine | — | ••• | ••• | ○ | ○ | ••• |
| Urine | — | ••• | ••• | ••• | ••• | ••• |

* Synthetic additives can affect the oil resistance of plastics.
Please contact your Thomas & Betts Regional Sales Office for further information.

- Excellent resistance/suitable for permanent contact
- Resistant/suitable for occasional contact
- Relatively resistant/suitable for short-term contact
- Not recommended

Important:

The chemical resistance of plastic products is also dependant on factors such as temperature, amount of time exposed to chemicals (e.g. occasional contact or immersed) as well as the concentration of the specific chemicals.

The stated chemical resistances are valid for a temperature of -20° C. The chemical resistance table above is to serve only as a guide for the use of polyamide products in conjunction with the listed chemicals. Each specific application should be controlled for suitability by the end-user.

Technical Information

Chemical Resistance

| Chemical | Formula | PA6 Polyamide 6 | PA12 Polyamide 12 | PP Polypropylene | TPU Thermoplastic Polyurethane elastomer | PFA Perfluoralkoxy copolymer PVDF Polyvinylidene fluoride |
|---------------------------------------|---------|----------------------|----------------------|---------------------|---|--|
| | | PA66 Polyamide 66 | PA11 Polyamide 11 | PE Polyethylene | | |
| Resistance to Oils and Greases | | | | | | |
| Cutting oils* | — | ••• | ••• | •• | • | ••• |
| Diesel oil | — | ••• | ••• | •• | •• | ••• |
| ASTM oil No. 3 | — | ••• | ••• | •• | • | ••• |
| Fuel oil | — | ••• | ••• | •• | • | ••• |
| Hydraulic oils* | — | ••• | ••• | •• | • | ••• |
| Mineral oils | — | ••• | ••• | •• | ••• | ••• |
| Spark-erosion liquids | — | ••• | ••• | •• | • | ••• |
| Skydrol | — | • | •• | •• | ○ | ••• |
| Transformer oils* | — | ••• | ••• | •• | • | ••• |

* Synthetic additives can affect the oil resistance of plastics. Please contact your Thomas & Betts Regional Sales Office3 for further information.

- Excellent resistance/suitable for permanent contact
- Resistant/suitable for occasional contact
- Relatively resistant/suitable for short-term contact
- Not recommended

Important:

The chemical resistance of plastic products is also dependant on factors such as temperature, amount of time exposed to chemicals (e.g. occasional contact or immersed) as well as the concentration of the specific chemicals. The stated chemical resistances are valid for a temperature of -20° C. The chemical resistance table above is to serve only as a guide for the use of polyamide products in conjunction with the listed chemicals. Each specific application should be controlled for suitability by the end-user.

Lower Mainland Locations

Burnaby
3935 2nd Avenue
Burnaby, BC V5C 3W9
Tel: 604-292-4800

Langley
#101 - 20550 Duncan Way
Langley, BC V3A 7A3
Tel: 604-533-1275

Richmond
12360 Vickers Way
Richmond, BC V6V 1H9
Tel: 604-273-1981

Surrey
13055 80th Avenue
Surrey, BC V3W 3B1
Tel: 604-596-7111

Island Locations

Campbell River
1030 B - 9th Avenue
Campbell River, BC V9W 4C2
Tel: 250-287-9265

Courtenay
2615 Moray Place
Courtenay, BC V9N 8A9
Tel: 250-334-0338

Duncan
5286 Polkey Road
Duncan, BC V9L 6W3
Tel: 250-748-3377

Parksville
#105 - 425 E. Stanford Avenue
Parksville, BC V9P 2N4
Tel: 250-954-1797

Interior Locations

Cranbrook
Unit A #800 Industrial Road. #2
Cranbrook, BC V1C 4C9
Tel: 250-489-4591

Kamloops
B-983 Camosun Crescent
Kamloops, BC V2C 6G1
Tel: 250-374-3191

Penticton
401 Okanagan Avenue
Penticton, BC V2A 3K1
Tel: 250-492-4032

Vernon
5203 24th Street
Vernon, BC V1T 8X7
Tel: 250-545-2191

Williams Lake
527 S. MacKenzie Avenue
Williams Lake, BC V2G 1C8
Tel: 250-392-7795

Alberta Locations

Unit 9, 7223 68 Avenue,
Edmonton, Alberta T6B 3T6

Northern Locations

Dawson Creek
1101 97th Avenue
Dawson Creek, BC V1G 1N5
Tel: 250-782-4896

Fort Nelson
PO Box 3266 - 5016 48th Avenue
Fort Nelson, BC V0C 1R0
Tel: 250-233-8570

Kitimat
622 Commercial Avenue
Kitimat, BC V8C 2C5
Tel: 250-632-3774

Prince George
2255 S. Quinn Street
Prince George, BC V2N 2X4
Tel: 250-563-0575

Terrace
5000 Pohle Avenue
Terrace, BC V8G 4S8
Tel: 250-635-6379

Specialty Divisions

Process, Automation &
Controls Group
Tel: 778-545-9916

Projects Group
Tel: 604-596-7111

Data Communications Group
Tel: 778-545-9916

Lighting Specialist
Tel: 778-545-9916



Head Office
19295 25th Avenue
Surrey, BC V3Z 3X1
Tel: 778-545-9916
Fax: 778-545-3099
Toll Free: 1-888-467-7626

Visit our

You Tube Channel

www.youtube.com/user/ebhorsman

Shop Online



ebhorsman.com