
PRODUCT CATALOGUE

PMA® Flexible cable protection systems

For applications with high requirements

PMA



PMA® cable protection products from ABB can be used in an extremely wide range of applications. The list is virtually endless, including rail vehicles and infrastructure, industrial machines, electrical systems on ships, solar and wind energy generation installations, telecommunications, construction and medical equipment. Wherever cables are installed and exposed to mechanical stresses and environmental hazards. Today and tomorrow we guarantee best quality regarding products, technical support, service and delivery.

Table of contents

004–007	Introduction
008–037	PMA® conduits
038–049	PMAFIX Pro Connectors
050–092	PMAFIX Connectors IP66 IP68 (IP69)
093–097	PMAFIXPlus Connectors IP68 (IP69)
098–101	Special connectors
102–111	Accessories
112–123	PMA TRUST™ & support systems
124–131	PMA® JUMBO sizes
132–137	PMA® Divisible System
138–145	PMA® Smart Line IP66
146–155	PMAJACK Plastic and metal braids
156–168	Technical annex
169–185	Index
185	Important information
186	Further information

Introduction

A swiss manufacturer with a global presence

There is no better reference than satisfied customers.
PMA® cable protection provides customized specific solutions for customers worldwide.

ABB's PMA manufacturing site is located in Uster (Switzerland), close to Zurich. The majority of what we produce for the world market is made at this location. Also our research and development department is located here.

Thanks of our large network of professional partners in all of the major industrialised countries around the globe, we are able to guarantee best quality regarding products, technical support, service and fast delivery.

ABB is focused on providing solutions that address the critical issues in every area of operations, allowing customers to focus on plant sustainability, cost, quality, flexibility, safety and regulatory challenges.





Setting new standards and trends

Customer needs are a top priority at ABB, and we work every day to ensure all our customer requirements are met in our products. We offer cable protection solutions and services that are tailored to meet requirements in every type of application. Our range extends from basic items right up to the most demanding high-tech products. We can develop system solutions and special products that are designed to meet specific customer requirements. Our intensive research and development activities, which include the field of new materials, are a major reason why PMA products from ABB continue to set new standards and trends in the cable protection marketplace. These efforts together with excellent quality and service have helped us build up an outstanding reputation with leading corporations around the world.

From pioneer to market leader

ABB has been developing, producing, and selling top-quality PMA cable protection systems since 1975. Our high-quality Swiss products have rapidly earned us an excellent reputation worldwide and established us as the market leader. Our range of more than 6,500 products gives customers the protection they need in railway, mechanical engineering, and shipbuilding applications worldwide. PMA products are also the solution of choice in automation, building installations and other projects where power and data cables require dependable protection.

Unique benefits of PMA products from ABB

Service to the customer is what motivates us. In addition to series production, PMA can build fittings and conduits to meet individual requirements as a special service to our customers.

- A safe, reliable system that is easy to install
- Vibration-proof connections
- System connection strength
- Ingress protection conforming to recognized test methods
- High impact strength even at low temperatures
- High compression strength (peak load)
- Long-term reversed-bending resistance
- Good chemical resistance
- Fire protection (flammability and smoke generation)
- Good weather resistance
- Long wearing
- ...and much more

Introduction

Areas of applications



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 are; you will find our products in machine tools, packaging machines, printing machines, as well as heating, ventilation, conveyor, 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.

Rail vehicles/Rail infrastructure

PMA products from ABB have proven their dependability in railway construction projects around the world. This is the reason why large corporations including Siemens, Alstom, Bombardier, PESA, CSR/CNR, 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 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.

Worldwide recognitions

All PMA products are rigorously tried and tested to meet the demands of industry worldwide.



**Automation/Robotics**

In the field of automation, there is a need for products that can withstand the stress of motion-intensive applications. Solutions developed by ABB for the automation industry 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 good reason why leading robotics manufacturers rely on ABB technology.

**Countless applications**

PMA cable protection products from ABB 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 or will develop them specially for you to meet your individual needs.

PMA® conduits

Conduit guide

Products				PMAFLEX Pro			PMAFLEX					
				PHT	POH	PSX	CYL	ESD	PCL	PEL	PIS/PIH	POS
Application areas												
Machine building 	General applications	static				●		●				
		dynamic	●			●		●		●	●	
	Heavy loads	static										
		dynamic										
	Outdoor applications	static									●	
		dynamic									●	
	Antistatic requirements	static					●					
		dynamic					●					
Traction vehicles 	Outdoor applications with sunlight exposure	static								●		
		dynamic								●		
	Outdoor applications	static	●							●		
		dynamic	●							●		
	Indoor applications	static		●								
Rail infrastructure 	Outdoor applications with sunlight exposure	static										
	Indoor and tunnel applications	static		●								
Automation/ Robotics 	Moving systems	dynamic	●			●		●		●	●	
	Systems with extreme movements	dynamic								●		
	Moving systems with antistatic requirements	dynamic					●					
Ship + Off-shore 	Outdoor general applications	static								●		
		dynamic	●							●	●	
	Indoor applications	static				●		●				
		dynamic				●		●		●		
	Passenger area	static		●		●		●				
Energy 	Outdoor applications with sunlight exposure	static										
	Indoor applications	static		●		●		●	●		●	
	Exposed to radiation	static			●							
Food & Beverage 	General applications	static										
		dynamic										
Others 	Vehicle building	static	●									
	Telecommunications	indoor					●			●		
		outdoor										
	Building constructions	indoor		●								
		outdoor										
	Ex hazardous areas (ATEX, IECEx)	static						●				
	High temperature applications	static	●		●							
Page no.				15	15	16	17	17	18	19	20	21

- * See PMA Ex-System brochure
- ** See PMA Automation brochure

- ⑥ Please see catalogue EX-System
- ⑦ Please see catalogue Automation Products

Key

- Recommended
- Suitable (application details to be considered)

PMA® conduits

Conduit guide

Products				PMAFLEX Pro			PMAFLEX						
				PHT	POH	PSX	CYL	ESD	PCL	PEL	PIS/PIH	POS	
Material properties	Ductility												
	Reversed bending resistance												
	Compression resistance												
	Low temperature performance												
	High temperature performance												
	Resistance to weathering												
	Approvals		Bi-National Recognition File UL1696 & CSA C22.2 No. 227.3-05	 				●		●		●	
CSA C22.2 No. 227.3-05								●		●			
Bi-National Listing File UL1660 & CSA C22.2 No. 227.2.1													
		Free from halogens, REACH + RoHS compliant			●	●	●	●	●	●	●	●	
		Non flame propagating EN61386						●		●			
		EN 45545-2											
		NFPA 130 (ASTM E162 – ASTM E662)											
		BSS 7239/SMP 800-C ASTM E1354											
		PN-K 2511											
		GOST 12.1.044-89									●		
		DNV (Type approved)			●		●		●		●		
		Lloyd's Register (Type approved)			●		●		●		●		
		Bureau Veritas (Type approved)			●		●		●		●		
Hazardous		ATEX											
		IECEX											
Food & Beverage		NSF											
		Ecolab											
Temperature range	Continuous operating temperature (acc. to DO 9.21-4510)		Min. (–)	–50	–25	–100	–40	–40	–50	–50	–25		
	Short term max. operating temperature 168h (acc. to DO 9.21-4360)		Max. (+)	135	95	170	105	90	105	60	95		
Sizes	Nominal width min.			07	10	10	07	07	07	10	07	07	
	Nominal width max.			48	48	48	125	95	125	48	125	95	
	Metric size min.			10	12	12	10	10	10	12	10	10	
	Metric size max.			50	50	50	146	106	146	50	146	106	
Page no.				15	15	16	17	17	18	19	20	21	

PMAFLEX							PMAFLEX Multilayer							PMA overextruded	PMAFLEX Plus (UL-Listed)	Divisible System	PMA Smart Line								
PUE	PVD	VAM	VAML	VCS	VOH	PLR	XESX	XPCL	XR90	XTPC	XSOL	XVCS1H	XVCS2H	XVCSF	XPCS	XPCSF	JFBD	JXPCSF	JLLPA	CUS	PUS	PACOF	PCOF	LLPA	LLPF

PMA® conduits

Overview

Conduits to protect cables. We offer many different conduit types for diverse applications with various technical requirements.

The product groups:

- PMAFLEX Pro
- PMAFLEX
- PMAFLEX Plus
- PMAFLEX Multilayer
- PMA Divisible System
- PMA Smart Line
- PMA overbraided
- PMA overextruded

Many conduits are specially approved, e.g. CSA, UL Recognition, DNV, Lloyds, Bureau Veritas etc. All conduits are REACH and RoHS compliant.

Conduit sizes range from 6mm to 125mm Ø, from lightweight to heavyweight, and from pliable to highly flexible. PMA also offers slit and divisible conduits. Standard colours are black and grey.



PMA® CONDUITS

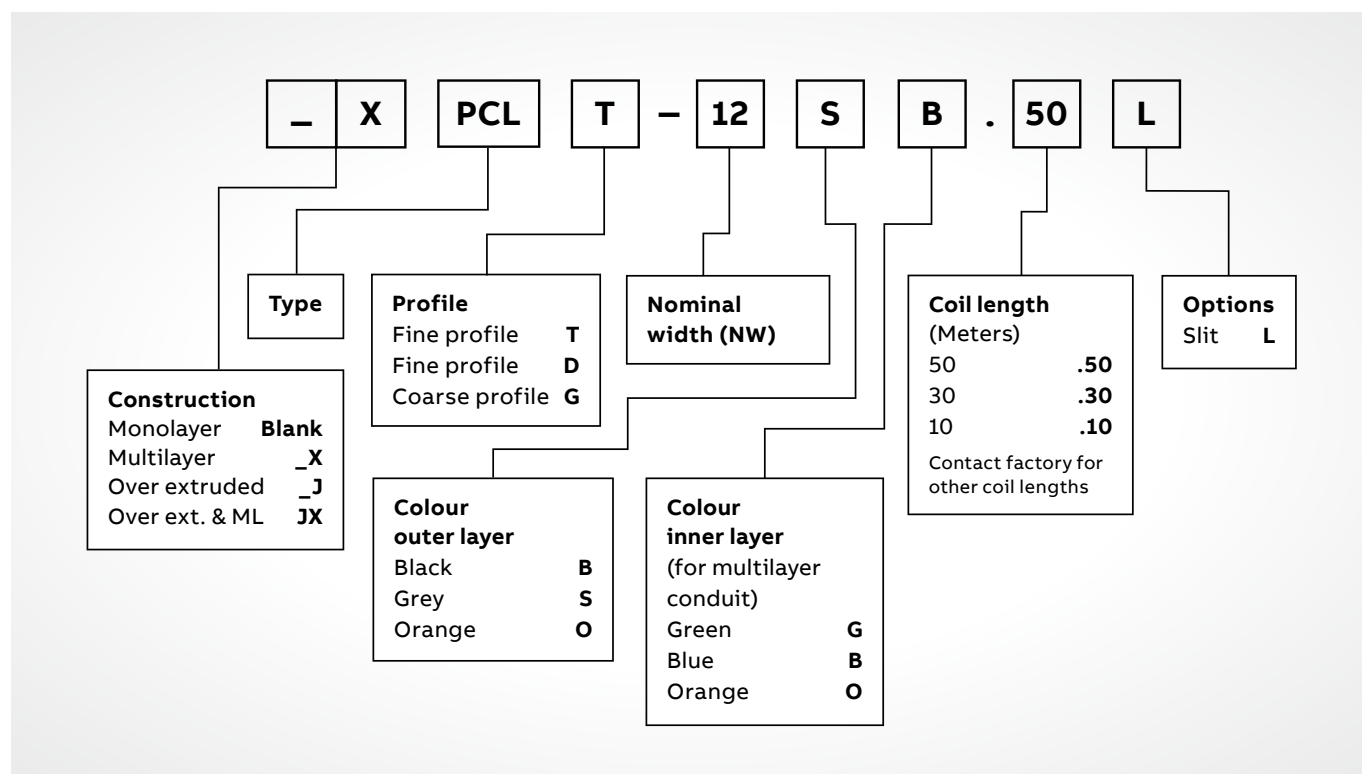
PMA offers a large range of very different mono- and multilayer conduit types which fulfill high technical demands to protect humans and cables.



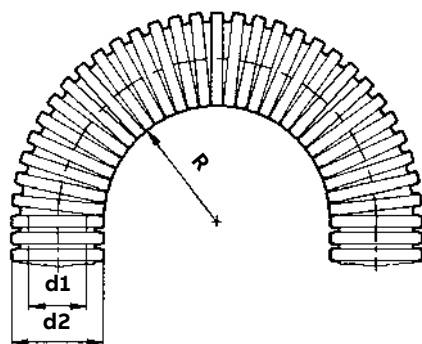
PMA conduits

Part number codes

For part number explanation only, not to be used as a configuration tool.



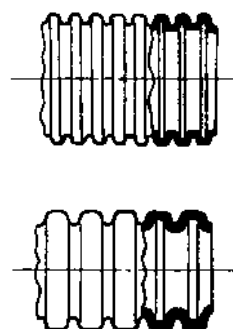
Radius



Stat. radius = Lowest recommended bending radius for static (fixed) installation.

Dyn. radius = Lowest recommended bending radius for dynamic (flexible) installation.

Profile



Fine profile T
Tight bending radius.

Coarse profile G
High pull-out strength.

PMAFLEX Pro

Type PHT & POH conduit

Type PHT - Highly flexible, medium/heavy-duty

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
		NW	Metric				
	PHTT-07B	07	10	6.7	10.0	15/40	50
	PHTT-10B	10	12	9.7	12.8	20/50	50
	PHTT-12B	12	16	12.1	15.6	25/65	50
	PHTT-17B	17	20	16.8	21.1	35/85	50
	PHTT-23B	23	25	23.3	28.4	45/110	50
	PHTG-17B	17	20	15.6	21.1	40/85	50
	PHTG-23B	23	25	22.0	28.4	50/110	50
	PHTG-29B	29	32	27.9	34.5	60/135	50
	PHTG-36B	36	40	36.2	42.4	75/170	30
	PHTG-48B	48	50	47.3	54.5	90/220	30

PHT Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance (PHTT-17B)	
Compression resistance (PHTG-17B)	
Low temperature performance	
Weathering resistance	

For applications at high and very low temperatures / dynamic applications
 Specially formulated polyamide elastomer. Both excellent flexibility and high compression strength
 Enhanced temperature range compared to standard polyamides
 High resistance to ultra violet rays and weathering

Materials	Temperature range	Colour
Specially formulated polyamide elastomer	-50°C to +135°C	Black
Certification	Impact resistance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +180°C Extremely good at low temperatures	High

Type POH - Very flexible, medium-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	POHT-10B	POHT-10S	10	12	10.0	12.8	20	50
	POHT-12B	POHT-12S	12	16	12.3	15.6	25	50
	POHG-17B	POHG-17S	17	20	16.0	21.1	40	50
	POHG-23B	POHG-23S	23	25	22.1	28.4	50	50
	POHG-29B	POHG-29S	29	32	28.0	34.5	60	50
	POHG-36B	POHG-36S	36	40	36.4	42.4	75	30
	POHG-48B	POHG-48S	48	50	47.0	54.5	90	30

For highest fire and passenger safety requirements
 Excellent fire safety characteristics acc. to BS 6853 1a (interior)
 Good ductility and reversed bending characteristics

POH Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polypropylene	-25°C to +95°C	Black/Grey
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +120°C acc. to BS 6853 1a (interior)	-

PMAFLEX Pro
Type PSX conduit

Type PSX - Flexible, light-duty

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	PSXT-10B	10	12	9.8	12.8	20	50
	PSXT-12B	12	16	12.2	15.6	25	50
	PSXT-17B	17	20	16.9	21.1	35	50
	PSXG-23B	23	25	21.9	28.4	45	50
	PSXG-29B	29	32	27.9	34.5	55	50
	PSXG-36B	36	40	36.2	42.4	65	30
	PSXG-48B	48	50	47.0	54.5	85	30

For applications with highest fire safety performance requirements / with extreme temperature conditions / exposed to radiation.
Chemical resistance: To oils, fats, acids, alcohols and hot water (good resistance to hydrolysis)
Excellent high and low temperature properties
High radiation resistance
Very good ductility

PSX Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyetherimide	–100°C to +170°C	Black
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +200°C Low smoke density and toxicity	–

PMAFLEX

Type CYL & ESD conduit

Type CYL - Very flexible, medium-duty conduit

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	CYLT-07B	CYLT-07S	07	10	6.6	10.0	15	50
	CYLT-10B	CYLT-10S	10	12	9.8	12.8	20	50
	CYLT-12B	CYLT-12S	12	16	12.1	15.6	25	50
	CYLT-17B	CYLT-17S	17	20	16.8	21.1	35	50
	CYLT-23B	CYLT-23S	23	25	23.2	28.4	45	50
	CYLT-29B	CYLT-29S	29	32	28.8	34.5	55	50
	CYLT-36B	CYLT-36S	36	40	36.7	42.4	65	30
	CYLT-48B	CYLT-48S	48	50	48.2	54.5	80	30
	CYLG-23B	CYLG-23S	23	25	21.9	28.4	50	50
	CYLG-29B	CYLG-29S	29	32	27.8	34.5	60	50
	CYLG-36B	CYLG-36S	36	40	36.1	42.4	75	30
	CYLG-48B	CYLG-48S	48	50	46.9	54.5	90	30
	CYLG-56B	CYLG-56S	56	68	56.7	67.5	120	30
	CYLG-70B	CYLG-70S	70	80	67.5	79.6	140	10
	CYLG-95B	CYLG-95S	95	106	91.6	107.0	190	10
	CYLG-125B	CYLG-125S	125	146	125.5	146.0	260	06
For machine building and installation industries / static and slightly dynamic applications Very good ductility and good reversed bending characteristics Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity								
			Materials		Temperature range		Colour	
			Specially formulated polyamide 6		-40°C to +105°C		Black/Grey	
			Certification		Short-term to: +160°C			
			Free from halogens, REACH compliant		Self extinguishing		UV Resistance	
			and RoHS compliant		acc. to UL 94 V2		-	

Approvals



CYL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Type ESD - Very flexible, medium-duty conduit

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
		NW	Metric				
	ESDT-07B	07	10	6.7	10.0	15/40	50
	ESDT-10B	10	12	9.7	12.8	20/50	50
	ESDT-12B	12	16	12.0	15.6	25/65	50
	ESDT-17B	17	20	16.6	21.1	35/85	50
	ESDT-23B	23	25	23.0	28.4	40/110	50
	ESDT-29B	29	32	28.7	34.5	50/135	50
	ESDT-36B	36	40	36.8	42.4	60/170	30
	ESDT-48B	48	50	48.0	54.5	75/220	30
	ESDG-56B	56	68	55.8	67.5	110/270	30
	ESDG-70B	70	80	67.4	79.6	130/320	10
ESDG-95B	95	106	91.5	107.0	170/430	10	
ESD Index							
min.	max.						
Ductility	For dynamic applications in robotics and automation where electrostatic charge and uncontrolled discharge need to be avoided Prevents electrostatic charging. For indoor and outdoor use (very good cold temperature performance)						
Fatigue reversed bending	Materials		Temperature range			Colour	
Compression resistance	Specially modified polyamide 12		-40°C to +90°C			Black	
Low temperature performance	Certification		Short-term to: +150°C				
Weathering resistance	Free from halogens, REACH compliant		Fatigue resistance			UV Resistance	
	and RoHS compliant		Excellent fatigue resistance			Excellent	

ESD Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

PMAFLEX

Type PCL conduit

Type PCL - Very flexible, medium-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	PCLT-07B	PCLT-07S	07	10	6.6	10.0	15	50
	PCLT-10B	PCLT-10S	10	12	9.8	12.8	20	50
	PCLT-12B	PCLT-12S	12	16	12.1	15.6	25	50
	PCLT-17B	PCLT-17S	17	20	16.8	21.1	35	50
	PCLT-23B	PCLT-23S	23	25	23.2	28.4	45	50
	PCLT-29B	PCLT-29S	29	32	28.8	34.5	55	50
	PCLT-36B	PCLT-36S	36	40	36.7	42.4	65	30
	PCLT-48B	PCLT-48S	48	50	48.2	54.5	80	30
	PCLG-17B	PCLG-17S	17	20	15.8	21.1	40	50
	PCLG-23B	PCLG-23S	23	25	21.9	28.4	50	50
	PCLG-29B	PCLG-29S	29	32	27.8	34.5	60	50
	PCLG-36B	PCLG-36S	36	40	36.1	42.4	75	30
	PCLG-48B	PCLG-48S	48	50	46.9	54.5	90	30
	PCLG-56B	PCLG-56S	56	68	56.7	67.5	120	30
	PCLG-70B	PCLG-70S	70	80	67.5	79.6	140	10
	PCLG-95B	PCLG-95S	95	106	91.6	107.0	190	10
	PCLG-125B	PCLG-125S	125	146	125.5	146.0	260	6
Approvals 								
PCL Index min. Ductility Fatigue reversed bending Compression resistance Low temperature performance Weathering resistance max. Very good ductility and good reversed bending characteristics. Very good long-term properties Very good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity								
			Materials		Temperature range		Colour	
			Specially formulated polyamide 6		-50°C to +105°C		Black/Grey	
			Certification		Short-term to: +160°C			
			Free from halogens, REACH compliant		Self extinguishing		UV Resistance	
			and RoHS compliant		acc. to UL 94 V2		-	

PMAFLEX

Type PEL conduit

Type PEL - Highly flexible, light-duty, soft

	Order no. (grey)	Order no. (grey, slit)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	PELT-10S	PELT-10SL	10	12	9.8	12.8	20	50
	PELT-12S	PELT-12SL	12	16	12.2	15.6	25	50
	PELT-17S	PELT-17SL	17	20	16.8	21.1	30	50
	PELT-23S	PELT-23SL	23	25	23.2	28.4	40	50
	PELT-29S	PELT-29SL	29	32	28.9	34.5	45	30
	PELT-36S	PELT-36SL	36	40	37.0	42.4	55	30
PELT-48S	PELT-48SL	48	50	48.2	54.5	70	30	
For electrical cabinets and appliance construction								
Very good ductility								
Suitable for small bending radii								
Good resistance against strong acids and bases								
PEL Index								
min.			max.					
Ductility								
Fatigue reversed bending								
Compression resistance								
Low temperature performance								
Weathering resistance								

PMAFLEX

Type PIS/PIH conduit

Type PIS/PIH - Highly flexible, medium- and heavy-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./dyn. radius (mm)	PU (m)
			NW	Metric				
	PIST-07B	PIST-07S	07	10	6.7	10.0	15/40	50
	PIST-10B	PIST-10S	10	12	9.7	12.8	20/50	50
	PIST-12B	PIST-12S	12	16	12.0	15.6	25/65	50
	PIST-17B	PIST-17S	17	20	16.7	21.1	30/85	50
	PIST-23B	PIST-23S	23	25	23.2	28.4	40/110	50
	PIST-29B	PIST-29S	29	32	28.9	34.5	50/135	50
	PIST-36B	PIST-36S	36	40	36.8	42.4	60/170	30
	PIST-48B	PIST-48S	48	50	48.0	54.5	75/220	30
	PISG-17B	PISG-17S	17	20	15.8	21.1	35/85	50
	PISG-23B	PISG-23S	23	25	22.0	28.4	45/110	50
	PISG-29B	PISG-29S	29	32	27.8	34.5	55/135	50
	PISG-36B	PISG-36S	36	40	36.2	42.4	65/170	30
	PISG-48B	PISG-48S	48	50	47.1	54.5	85/220	30
	PIHG-56B	PIHG-56S	56	68	57.0	67.5	110/270	30
	PIHG-70B	PIHG-70S	70	80	68.0	79.6	130/320	30
	PIHG-95B	PIHG-95S	95	106	92.5	107.0	170/430	30
	PIHG-125B	PIHG-125S	125	146	126.9	146.0	230/580	20
Approvals 								
PIS/PIH Index min. max. Ductility Fatigue reversed bending Compression resistance Low temperature performance Weathering resistance								
			Materials		Temperature range		Colour	
			Specially modified polyamide 12		-50°C to +95°C		Black/Grey	
			Certification		Short-term to: +150°C			
			Free from halogens, REACH compliant		Weathering characteristics		UV Resistance	
			and RoHS compliant		Excellent		Excellent	

For robotics and automation applications. UL 94 V0. Excellent UV resistance and weathering characteristics
 PIS: Medium-wall (Nominal width 07 to 48) / PIH: Heavy-wall (Nominal width 56 to 125)

Very good reversed bending characteristics. Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

PMAFLEX

Type POS & PUE conduit

Type POS - Highly flexible, medium-duty

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
		NW	Metric				
	POST-10B	10	12	9.9	12.8	20/50	50
	POST-12B	12	16	12.1	15.6	35/75	50
	POST-17B	17	20	16.7	21.1	30/85	50
	POST-23B	23	25	23.2	28.4	40/110	50
	POST-29B	29	32	28.8	34.5	50/135	50
	POST-36B	36	40	36.6	42.4	60/170	30
	POST-48B	48	50	48.2	54.5	75/220	30
	POSG-29B	29	32	27.8	34.4	55/135	50
	POSG-36B	36	40	36.2	42.4	65/170	30
	POSG-48B	48	50	47.2	54.5	85/220	30
	POSG-70B	70	80	67.4	79.6	130/320	30
	POSG-95B	95	106	92.3	106.0	170/430	30

POS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For automation as well as for machine building and industrial installations, especially where continuous movements occur
Excellent reversed bending performance and flexibility
Good impact resistance. Good resistance against strong acids

Materials	Temperature range	Colour
Specially modified polypropylene	-25°C to +95°C	Black
Certification	Short-term to: +130°C	
Free from halogens, REACH compliant and RoHS compliant	Fatigue resistance	UV Resistance
	-	-

Type PUE - Highly flexible, medium-duty

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
		NW	Metric				
	PUET-23B	23	25	23.1	28.4	40/75	50
	PUET-29B	29	32	29.0	34.5	45/90	30
	PUET-36B	36	40	36.8	42.4	55/110	30
	PUET-48B	48	50	48.4	54.5	70/140	21
	PUEG-56B	56	68	57.2	67.5	90/170	30
	PUEG-70B	70	80	68.4	79.6	105/220	30

PUE Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For robotic applications with multi-axial movements
Specially suitable for tight bending-radii
Highest reversed bending resistance
Excellent chafing characteristics

Materials	Temperature range	Colour
Specially formulated polyurethane	-60°C to +50°C	Black
Certification		
Free from halogens, REACH compliant and RoHS compliant	Fatigue resistance	UV Resistance
	-	-

PMAFLEX

Type PVD & VAM conduit

Type PVD - Pliable, medium-duty

	Order no. (transparent)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	PVDT-10P	10	12	9.6	12.8	20	50
	PVDT-12P	12	16	12.0	15.6	25	50
	PVDT-17P	17	20	16.6	21.1	35	50
	PVDT-23P	23	25	23.0	28.4	45	50
	PVDT-29P	29	32	28.7	34.5	55	50

For long-term high temperature requirements in machine building applications
Excellent chemical resistance also at high temperatures
Very good abrasion resistance
High stiffness

PVD Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially formulated PVDF	-60°C to +150°C	Transparent
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Self-extinguishing / free from cadmium	Excellent

Type VAM - Flexible, heavy-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	VAMT-10B	VAMT-10S	10	12	9.6	12.8	25	50
	VAMT-12B	VAMT-12S	12	16	12.0	15.6	30	50
	VAMG-17B	VAMG-17S	17	20	15.5	21.1	45	50
	VAMG-23B	VAMG-23S	23	25	21.6	28.4	60	50
	VAMG-29B	VAMG-29S	29	32	27.6	34.5	70	50
	VAMG-36B	VAMG-36S	36	40	35.8	42.4	85	30
	VAMG-48B	VAMG-48S	48	50	46.6	54.5	110	30

For high fire and passenger safety requirements in interior applications such as passenger areas or public buildings
HL3 acc. to EN 45545-2
NFPA 130 compliant
High impact and compression strength
High stiffness

VAM Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially formulated polyamide 6	-40°C to +105°C	Black/Grey
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +160°C Minimal development of smoke and gases	-

PMAFLEX

Type VAML & VCS conduit

Type VAML - Flexible, medium-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	VAMLT-10B	VAMLT-10S	10	12	9.7	12.8	20	50
	VAMLT-12B	VAMLT-12S	12	16	12.1	15.6	25	50
	VAMLG-17B	VAMLG-17S	17	20	15.8	21.1	40	50
	VAMLG-23B	VAMLG-23S	23	25	21.9	28.4	50	50
	VAMLG-29B	VAMLG-29S	29	32	27.9	34.5	60	50
	VAMLG-36B	VAMLG-36S	36	40	36.2	42.4	75	30
	VAMLG-48B	VAMLG-48S	48	50	47.0	54.5	90	30
	VAMLG-56B	VAMLG-56S	56	68	56.9	67.5	120	30
	VAMLG-70B	VAMLG-70S	70	80	68.0	79.6	140	10
	VAMLG-95B	VAMLG-95S	95	106	92.5	107.0	190	10
	VAMLG-125B	VAMLG-125S	125	146	126.9	146.0	260	6
VAML Index min. Ductility max. Fatigue reversed bending Compression resistance Low temperature performance Weathering resistance								
For high fire and passenger safety requirements in interior applications such as passenger areas or public buildings HL3 acc. to EN 45545-2 NFPA 130 compliant Good flexibility. Good impact strength								
			Materials		Temperature range		Colour	
			Specially formulated polyamide 6		-40°C to +105°C		Black/Grey	
			Certification		Short-term to: +160°C			
			Free from halogens, REACH compliant and RoHS compliant		Fire performance		UV Resistance	
					Minimal development of smoke and gases		-	

Type VCS - Flexible, heavy-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	VCST-07B	VCST-07S	07	10	6.6	10.0	20	100
	VCST-10B	VCST-10S	10	12	9.6	12.8	25	50
	VCST-12B	VCST-12S	12	16	12.0	15.6	30	50
	VCST-17B	VCST-17S	17	20	16.5	21.1	40	50
	VCSG-17B	VCSG-17S	17	20	15.7	21.1	45	50
	VCSG-23B	VCSG-23S	23	25	21.8	28.4	60	50
	VCSG-29B	VCSG-29S	29	32	27.6	34.5	70	50
	VCSG-36B	VCSG-36S	36	40	35.7	42.4	85	30
	VCSG-48B	VCSG-48S	48	50	46.7	54.5	110	30
	VCSG-56B	VCSG-56S	56	68	56.2	67.5	135	30
	VCSG-70B	VCSG-70S	70	80	67.1	79.6	160	10
	VCSG-95B	VCSG-95S	95	106	91.0	107.0	220	10
VCS Index min. Ductility max. Fatigue reversed bending Compression resistance Low temperature performance Weathering resistance								
For static external installations High compression and impact strengths at low temperatures and low humidity Good ductility. Very good resistance to ultra violet rays and weathering								
			Materials		Temperature range		Colour	
			Specially formulated polyamide 6		-50°C to +105°C		Black/Grey	
			Certification		Short-term to: +160°C			
			Free from halogens, REACH compliant and RoHS compliant		Fatigue resistance		UV Resistance	
					-		Very good	

PMAFLEX

Type VOH & PLR conduit

Type VOH - Pliable, very heavy-duty

	Order no. (black)	Order no. (grey)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
VOH	VOHD-07B	VOHD-07S	07	10	6.3	10.0	20	50
	VOHD-10B	VOHD-10S	10	12	9.5	12.8	25	50
	VOHD-12B	VOHD-12S	12	16	11.9	15.6	30	50
	VOHG-17B	VOHG-17S	17	20	15.1	21.1	45	50
	VOHG-23B	VOHG-23S	23	25	21.6	28.4	60	50
	VOHG-29B	VOHG-29S	29	32	27.3	34.5	70	50
	VOHG-36B	VOHG-36S	36	40	35.6	42.4	85	30
	VOHG-48B	VOHG-48S	48	50	46.5	54.5	110	30
	VOHG-56B	VOHG-56S	56	68	55.7	67.5	135	10
	VOHG-70B	VOHG-70S	70	80	67.0	79.6	160	10
	VOHG-95B	VOHG-95S	95	106	91.3	107.0	220	10
	VOHG-125B	VOHG-125S	125	146	125.4	146.0	300	6



For applications in heavy machine and plant construction

High compression resistance
Highest degree of mechanical protection
Very good UV and weathering resistance
Good fire safety characteristics

VOH Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +160°C Good	Very good

Type PLR - flexible, medium-wall

	Order no. (black)	Order no. (grey)	Conduit size			Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric	Profile				
PLR	PLRT-07B	PLRT-07S	07	10	T	6.8	10.0	15	50
	PLRT-10B	PLRT-10S	10	12	T	9.8	12.8	20	50
	PLRT-12B	PLRT-12S	12	16	T	12.2	15.6	25	50
	PLRG-17B	PLRG-17S	17	20	G	15.9	21.1	40	50
	PLRG-23B	PLRG-23S	23	25	G	22.0	28.4	50	50
	PLRG-29B	PLRG-29S	29	32	G	28.0	34.5	60	50
	PLRG-36B	PLRG-36S	36	40	G	36.3	42.4	75	30
	PLRG-48B	PLRG-48S	48	50	G	47.2	54.5	90	30



In light rail rolling stock applications e.g. Tram, Metro, Monorail
HL2 acc. to EN 45545-2

Good pressure resistance
Very good fire safety characteristics

PLR Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Short-term to: +160°C Self-extinguishing / Very good	-

PMAFLEX Multilayer

Type XPCL & XSOL conduit

Type XPCL - Highly flexible, medium-duty

	Order no. (black/blue)	Order no. (grey/blue)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric				
	XPCLT-10BB	XPCLT-10SB	10	12	9.6	12.8	20	50
	XPCLT-12BB	XPCLT-12SB	12	16	11.9	15.6	25	50
	XPCLT-17BB	XPCLT-17SB	17	20	16.5	21.1	35	50
	XPCLG-17BB	XPCLG-17SB	17	20	15.7	21.1	40	50
	XPCLG-23BB	XPCLG-23SB	23	25	21.9	28.4	50	50
	XPCLG-29BB	XPCLG-29SB	29	32	27.6	34.5	60	50
	XPCLG-36BB	XPCLG-36SB	36	40	36.0	42.4	75	30
	XPCLG-48BB	XPCLG-48SB	48	50	47.1	54.5	90	30

For machine building and equipment with high requirements
 Allows easy cable insertion due to low friction inner layer
 Very good ductility and good reversed bending characteristics
 Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

XPCL Index

min.	max.	Materials	Temperature range	Colour
Ductility		Outer layer: Specially formulated polyamide 6	-50°C to +105°C	Black/Blue
Fatigue reversed bending		Intermediate layer: Specially bonding compound	Short-term to: +160°C	Grey/Blue
Compression resistance		Inner layer: Specially modified polyethylene		
Low temperature performance		Certification	Fire performance	UV Resistance
Weathering resistance		Free from halogens, REACH compliant and RoHS compliant	Self-extinguishing	-

Type XSOL - Highly flexible, medium-duty

	Order no. (black/green)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	XSOLT-10BG	10	12	9.5	12.8	20	50
	XSOLT-12BG	12	16	11.9	15.6	25	50
	XSOLG-17BG	17	20	15.6	21.1	40	50
	XSOLG-23BG	23	25	21.9	28.4	50	50
	XSOLG-29BG	29	32	27.7	34.5	60	50
	XSOLG-36BG	36	40	36.4	42.4	75	30
	XSOLG-48BG	48	50	47.2	54.5	90	30

All-purpose, especially in long-term external applications, e.g. energy technology
 Very good resistance to UV and weathering
 Very high ductility and reversed bending resistance
 Very good mechanical strength
 High impact resistance even under extreme conditions, such as low temperatures and low humidity

Approvals



XSOL Index

min.	max.	Materials	Temperature range	Colour
Ductility		Outer layer: Specially formulated polyamide 12	-50°C to +95°C	Black/Green
Fatigue reversed bending		Intermediate layer: Specially bonding compound	Short-term to: +150°C	
Compression resistance		Inner layer: Specially modified polyamide 6		
Low temperature performance		Certification	Fire performance	UV Resistance
Weathering resistance		Free from halogens, REACH compliant and RoHS compliant	Good fire safety characteristics Self-extinguishing	Very good

PMAFLEX Multilayer

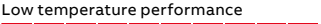
Type XVCS1H & XVCS2H conduit

Type XVCS1H - Flexible, heavy-duty

	Order no. (black/green)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	XVCS1H-10BG	10	12	9.5	12.8	20	50
	XVCS1H-12BG	12	16	11.8	15.6	25	50
	XVCS1H-17BG	17	20	15.5	21.1	40	50
	XVCS1H-23BG	23	25	21.7	28.4	50	50
	XVCS1H-29BG	29	32	27.5	34.5	60	50
	XVCS1H-36BG	36	40	35.8	42.4	75	30
	XVCS1H-48BG	48	50	47.1	54.5	90	30

For track side applications and other exterior static applications
Easy layouting through: High conduit ductility and formability / Low friction inner layer facilitates cable insertion
Excellent impact characteristics at low temperatures

XVCS1H Index

min.	max.	Materials	Temperature range	Colour
Ductility		Outer layer: Specially formulated polyamide 6	-50°C to +90°C	Black/Green
Fatigue reversed bending		Intermediate layer: Specially bonding compound	Short-term to: +120°C	
Compression resistance		Inner layer: Specially modified polyolefin		
Low temperature performance		Certification	Atmospheric corrosion resistance	UV Resistance
Weathering resistance		Free from halogens, REACH compliant and RoHS compliant	Very good	Very good

Type XVCS2H - Flexible, heavy-duty

	Order no. (black/green)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	XVCS2H-10BG	10	12	9.2	12.8	20	50
	XVCS2H-12BG	12	16	11.7	15.6	25	50
	XVCS2H-17BG	17	20	15.2	21.1	35	50
	XVCS2H-23BG	23	25	22.0	28.4	40	50
	XVCS2H-29BG	29	32	27.7	34.5	50	50
	XVCS2H-36BG	36	40	35.8	42.4	60	30
	XVCS2H-48BG	48	50	46.8	54.5	70	30

For track side applications and other exterior static applications with high UV exposure
Easy layouting through: High conduit ductility and formability / Low friction inner layer facilitates cable insertion
Excellent impact characteristics at low temperatures

XVCS2H Index

min.	max.	Materials	Temperature range	Colour
Ductility		Outer layer: Specially formulated polyamide 12	-50°C to +90°C	Black/Green
Fatigue reversed bending		Intermediate layer: Specially bonding compound	Short-term to: +120°C	
Compression resistance		Inner layer: Specially modified polyolefin		
Low temperature performance		Certification	Atmospheric corrosion resistance	UV Resistance
Weathering resistance		Free from halogens, REACH compliant and RoHS compliant	Excellent	Excellent

Type XVCSF & XPCS conduit

	Order no. (black/blue)	Profile (T/G)	Conduit size		rec. fitting thread size		Inside Ø	Outside Ø	Stat. radius (mm)	Weight (kg/100m)	PU (m)
			NW	Metric	PG	Metric					
							(mm)	(mm)	(mm)		
	XVCSTF-07BB	T	7	9	9	M12x1.5	6.7	10.0	15	2.5	50
	XVCSTF-10BB	T	10	12	9	M12x1.5	9.6	12.8	20	3.1	50
	XVCSTF-12BB	T	12	16	11	M16x1.5	11.9	15.6	25	4.2	50
	XVCSTFG-17BB	G	17	20	16	M20x1.5	15.6	21.1	40	7.5	50
	XVCSTFG-23BB	G	23	25	21	M25x1.5	21.5	28.4	50	12.0	50
	XVCSTFG-29BB	G	29	32	29	M32x1.5	27.7	34.5	60	15.0	50
	XVCSTFG-36BB	G	36	40	36	M40x1.5	35.9	42.4	75	19.0	30
	XVCSTFG-48BB	G	48	50	48	M50x1.5	46.8	54.5	90	25.0	30

Fire performance	UV Resistance
Self-extinguishing	Very good

Fire performance	UV Resistance
Self-extinguishing	Excellent

PMAFLEX Multilayer

Type XPCSF & XTPC conduit

Type XPCSF - Very flexible, heavy-duty

	Order no. (black/orange)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	Dyn. radius (mm)	PU (m)
		NW	Metric					
	XPCSFT-07BO	07	10	6.5	10.0	15	40	100
	XPCSFT-10BO	10	12	9.6	12.8	20	50	50
	XPCSFT-12BO	12	16	11.8	15.6	25	65	50
	XPCSFG-17BO	17	20	15.5	21.1	35	85	50
	XPCSFG-23BO	23	25	21.5	28.4	45	110	50
	XPCSFG-29BO	29	32	27.4	34.5	55	135	50
	XPCSFG-36BO	36	40	36.0	42.4	65	170	30
	XPCSFG-48BO	48	50	47.1	54.5	85	220	30

For dynamic outside applications in railway vehicles

For outdoor applications with highest requirements to UV and weathering resistance

Extensive railway approvals

Excellent flexibility

Very good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

HL3 acc. to EN 45545-2

XPCSF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 12	–40°C to +95°C	Black/Orange
Inner layer: Specially formulated polyamide 12	Short-term to: +150°C	
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Self-extinguishing	Excellent

Type XTPC - Highly flexible, medium-duty

	Order no. (black/orange)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	Dyn. radius (mm)	PU (m)
		NW	Metric					
	XTPCG-17BB.50	17	20	15.2	21.1	30	75	50
	XTPCG-23BB.50	23	25	21.2	28.4	40	100	50
	XTPCG-29BB.50	29	32	26.8	34.5	50	120	50
	XTPCG-36BB.50	36	40	35.5	42.4	60	150	30
	XTPCG-48BB.50	48	50	46.5	54.5	80	190	30
	XTPCG-56BB.50	56	68	56.2	67.5	105	235	30
	XTPCG-70BB.50	70	80	67.3	79.6	120	280	30

For dynamic conduit systems in robotics and automation industry

For outdoor applications with good requirements to UV and weathering resistance

With wear indication function. High resistance to continuous bending

No abrupt conduit failure due to high tear propagation resistance

Very high abrasion resistance. High resistance to torsion

Suitable for tight bending-radii

Long service life

XTPC Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Thermoplastic copolyester	–40°C to +105°C	Black/Blue
Inner layer: Thermoplastic copolyester	Short-term to: +150°C	
Certification	Fire performance	UV Resistance
Free from halogens, REACH compliant and RoHS compliant	Self-extinguishing	Good

PMA overextruded conduits

Type JFBD & JXPCSF conduit

Type JFBD - Flexible, medium-duty



Approvals



ECOLAB

Order no.	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	Dyn. radius (mm)	PU (mm)
	NW	Metric					
JFBDT-12C01	12	16	12.0	16.0	40	100	50
JFBDG-17C01	17	20	15.7	21.5	55	125	50
JFBDG-23C01	23	25	21.8	28.7	75	170	50
JFBDG-29C01	29	32	27.6	34.9	90	210	50
JFBDG-36C01	32	40	36.3	43.0	110	260	30
JFBDG-48C01	48	50	47.3	54.8	140	330	30

Smooth easy to clean out layer
High reversed bending stresses
Excellent flexibility in combination with high strength
High resistance to chemicals and cleaning agents
For indoor food zone – non contact
Outer layer made from FDA compliant material
Corrosion free

JFBD Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Colour
Conduit: made from high-grade, specially formulated polyamide 12	Corrugated conduit: blue
Overextrusion: made from modified polyamide elastomer	Overextrusion: blue, translucent
Certification	UV Resistance
FDA 21 CFR / EU 10/2011 compliant outer layer material; ECOLAB certificate	-

Type JXPCSF - Highly flexible, heavy-duty



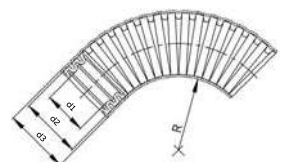
JXPCSF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Order no. (black/orange)	Profile (T/G)	Conduit size		d1 (mm)	d2 (mm)	d3 (mm)	Stat. radius (mm)	Dyn. radius (mm)	Weight (kg/100m)	PU (m)
		NW	Metric							
JXPCSFT-12BO	T	12	16	11.8	15.6	16.0	40	100	4.9	50
JXPCSFG-17BO	G	17	20	15.5	21.1	21.6	55	125	8.6	50
JXPCSFG-23BO	G	23	25	21.5	28.4	28.8	75	170	13.5	50
JXPCSFG-29BO	G	29	32	27.4	34.5	34.8	90	210	16.7	50
JXPCSFG-36BO	G	36	40	36.0	42.4	42.8	110	260	21.6	30
JXPCSFG-48BO	G	48	50	47.1	54.5	54.8	140	330	29.4	30

Over-extruded conduit for rail applications designed specifically to prevent the accumulation of ice under extreme climate conditions
For dynamic or static external applications in railway vehicles - on the roof, between carriages and on bogies
Excellent flexibility. Smooth outer layer prevents accumulation of ice
Easy cleaning and high resistance to chemicals and cleaning agents. Compatible with PMAFIX Pro and accessories
EN 45545-2 HL3 (R22 & R23)

Materials	Temperature range	Colour
Multi layer conduit: specially formulated polyamide 12	-50°C to +95°C	Black/Orange
Overextrusion: specially formulated polyamide 12	Short-term to: +150°C	
Certification	Fire performance	UV Resistance
Free from halogens and cadmium	Self-extinguishing	Excellent
RoHS and REACH compliant		



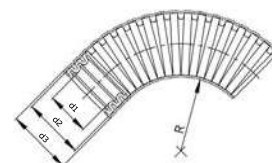
Type JLLPA conduit

Type JLLPA - Flexible, heavy-duty



JLLPA Index

min.	max.	Materials	Temperature range	Colour
Ductility		Conduit: High-grade, specially formulated polyamide 6	-18°C to +105°C	Black
Fatigue reversed bending		Overextrusion: modified polyamide 6	Short-term to: +160°C	
Compression resistance				
Low temperature performance		Certification	Fire performance	UV Resistance
Weathering resistance		Free from halogens and cadmium	Self-extinguishing	Very good
		RoHS and REACH compliant		



PMAFLEX Plus

Type CUS & PUS conduit

Type CUS - Very flexible, medium-duty

	Order no. (black)	Order no. (grey)	Conduit size			Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m/ft)
			Inch	NW	Metric				
	CUSG-17B	CUSG-17S	½	17	20	15.5	21.1	40	31/100
	CUSG-23B	CUSG-23S	¾	23	25	21.7	28.4	50	31/100
	CUSG-29B	CUSG-29S	1	29	32	27.4	34.5	60	31/100
	CUSG-36B	CUSG-36S	1 ¼	36	40	35.5	42.4	75	31/100
	CUSG-48B	CUSG-48S	1 ½	48	50	46.5	54.5	90	31/100

For machine building and installation industries

For electrical installations, especially in the US market

Inexpensive solution for requirements acc. to UL 1660 (UL Listing)

Good ductility and reversed bending characteristics

Very good mechanical properties even under extreme conditions, such as low temperatures and low humidity

Approvals



CUS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant and RoHS compliant	Fire protection	UV Resistance
	Self-extinguishing, acc. to UL 94 V2	-

Type PUS - Very flexible, heavy-duty

	Order no. (black)	Order no. (grey)	Conduit size			Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m/ft)
			Inch	NW	Metric				
	PUSG-17B	PUSG-17S	½	17	20	15.5	21.1	35/85	31/100
	PUSG-23B	PUSG-23S	¾	23	25	21.6	28.4	45/110	31/100
	PUSG-29B	PUSG-29S	1	29	32	27.5	34.5	55/135	31/100
	PUSG-36B	PUSG-36S	1 ¼	36	40	35.9	42.4	65/170	31/100
	PUSG-48B	PUSG-48S	1 ½	48	50	47.0	54.5	85/220	31/100

For long-term external applications with approval acc. to UL 1660 (UL Listing)

For dynamic applications

Very good reversed bending resistance

Very good mechanical strength at low temperatures

Excellent resistance to ultra violet rays and weathering

cULus listed

Approvals



PUS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 12	-50°C to +95°C	Black/Grey
Certification	Short-term to: +150°C	
Free from halogens, REACH compliant and RoHS compliant	Fire protection	UV Resistance
	Self-extinguishing, acc. to UL 94 V2	Excellent

PMAFLEX Plus

Type PACOF conduit

Type PACOF - Flexible, divisible

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	PACOF-07B	07	10	5.6	10.0	30	50
	PACOF-10B	10	12	8.5	12.8	33	50
	PACOF-12B	12	16	11.0	15.6	35	50
	PACOF-17B	17	20	15.5	21.1	45	50
	PACOF-23B	23	25	22.1	28.4	70	50
	PACOF-29B	29	32	27.2	34.5	120	50
	PACOF-36B	36	40	32.0	42.4	145	30
	PACOF-48B	48	50	43.9	54.1	150	30
	PACOF-70B	70	80	62.0	79.0	190	10
HL3 according to EN45545-2							
NFPA 130 compliant							
For machine building and plant construction							
For trouble-free retrofitting and applicable for repairs							
Can be opened and closed again in longitudinal direction any time							
Good ductility							
Good compression resistance							
PACOF Index							
min.	max.						
Ductility							
Fatigue reversed bending							
Compression resistance							
Low temperature performance							
Weathering resistance							
		Materials		Temperature range		Colour	
		Specially modified polyamide 6		-40°C to +105°C		Black	
		Certification		Short-term to: +160°C			
		Free from halogens, REACH compliant		Fire performance		UV Resistance	
		and RoHS compliant		-		-	

PMA Divisible System

Type PPCOF conduit

Type PPCOF - Flexible, divisible

	Order no. (black)	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
		NW	Metric				
	PPCOF-07B	07	10	5.6	10.0	25	50
	PPCOF-10B	10	12	8.5	12.8	28	50
	PPCOF-12B	12	16	11.0	15.6	35	50
	PPCOF-17B	17	20	15.1	21.1	45	50
	PPCOF-23B	23	25	22.1	28.4	60	50
	PPCOF-29B	29	32	26.6	34.5	100	50
	PPCOF-36B	36	40	31.8	42.4	120	30
	PPCOF-48B	48	50	43.9	54.1	140	30
	PPCOF-70B	70	80	60.5	78.0	200	10
PPCOF Index		For machine building and plant construction For trouble-free retrofitting and applicable for repairs Can be opened and closed again in longitudinal direction any time Good reversed bending resistance					
min.	max.	Materials		Temperature range		Colour	
Ductility		Specially modified polypropylene PP		-20°C to +105°C		Black	
Fatigue reversed bending				Short-term to +150°C			
Compression resistance							
Low temperature performance		Certification		Fire performance		UV Resistance	
Weathering resistance		-		-		-	

PMA Smart Line

Type LLPA conduit

Type LLPA - Very flexible, medium-duty Smartline

	Order no. (black)	Order no. (grey)	Conduit size			Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
			NW	Metric	Profile				
	LLPA-07A	LLPA-07S	07	10	T	6.6	10.0	15	50
	LLPA-10A	LLPA-10S	10	12	T	9.8	12.8	20	50
	LLPA-12A	LLPA-12S	12	16	T	12.1	15.6	25	50
	LLPA-17A	LLPA-17S	17	20	T	16.8	21.1	35	50
	LLPA-23A	LLPA-23S	23	25	T	23.2	28.4	45	50
	LLPA-29A	LLPA-29S	29	32	T	28.8	34.5	55	50
	LLPA-36A	LLPA-36S	36	40	T	36.7	42.4	65	30
	LLPA-48A	LLPA-48S	48	50	T	48.2	54.5	80	30
	LLPAG-17A	LLPAG-17S	17	20	G	15.8	21.1	40	50
	LLPAG-23A	LLPAG-23S	23	25	G	21.9	28.4	50	50
	LLPAG-29A	LLPAG-29S	29	32	G	27.8	34.5	60	50
	LLPAG-36A	LLPAG-36S	36	40	G	36.1	42.4	75	30
	LLPAG-48A	LLPAG-48S	48	50	G	46.9	54.5	90	30
	LLPAG-56A	LLPAG-56S	56	68	G	56.7	67.5	120	30
	LLPAG-70A	LLPAG-70S	70	80	G	67.5	79.6	140	10
	LLPAG-95A	LLPAG-95S	95	106	G	91.6	107.0	190	10
	LLPAG-125A	LLPAG-125S	125	146	G	125.5	146.0	260	06
Approvals  									
LLPA Index min. max. Ductility Fatigue reversed bending Compression resistance Low temperature performance Weathering resistance									
For machine building, installation and construction industries Good ductility Good mechanical characteristics									
Materials Specially modified polyamide 6					Temperature range -40°C to +105°C			Colour Black/Grey	
Certification Free from halogens, REACH compliant and RoHS compliant					Short-term to: +160°C			Self extinguishing acc. to UL 94 V2	
								UV Resistance -	

PMA Smart Line

Type LLPF

Type LLPF - Very flexible, medium-duty

	Order no. (black)	Order no. (grey)	Conduit size			Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)		
			NW	Metric	Profile						
	LLPF-07A	LLPF-07S	7	10	T	6.8	10.0	15	50		
	LLPF-10A	LLPF-10S	10	12	T	9.8	12.8	20	50		
	LLPF-12A	LLPF-12S	12	16	T	12.2	15.6	25	50		
	LLPF-17A	LLPF-17S	17	20	T	16.8	21.1	35	50		
	LLPF-23A	LLPF-23S	23	25	T	23.4	28.4	45	50		
	LLPF-29A	LLPF-29S	29	32	T	29.1	34.5	55	50		
	LLPFG-17A	LLPFG-17S	17	20	G	15.8	21.1	40	50		
	LLPFG-23A	LLPFG-23S	23	25	G	21.9	28.4	50	50		
	LLPFG-29A	LLPFG-29S	29	32	G	27.8	34.5	60	50		
	LLPFG-36A	LLPFG-36S	36	40	G	36.1	42.4	75	30		
	LLPFG-48A	LLPFG-48S	48	50	G	46.9	54.5	90	30		
	For machine building, installation and construction industries For applications with high fire safety requirements UL 94 V0										
LLPF Index											
min.	max.		Good pressure resistance Very good fire safety characteristics								
Ductility											
Fatigue reversed bending											
Compression resistance											
Low temperature performance											
Weathering resistance											
			Materials		Temperature range			Colour			
			Specially modified polyamide 6		–40°C to +105°C			Black/Grey			
			Certification		Short-term to: +160°C						
			Free from halogens, REACH compliant		Fire protection			UV Resistance			
			and RoHS compliant		Self-extinguishing			–			

PMA overbraided conduits

PMA stainless steel overbraiding for conduits

PMA stainless steel overbraiding for conduits

	Order no. (black)	Conduit size		for conduit profile	fits to metal connector	braid spec (mm)	d1 Ø (mm)	d2 Ø (mm)	weight net without conduit (kg/100 m)	PU (m)
		NW	Metric							
	xxxT-12x/S	12	16	T	MONK-M162	24 x 8 x 0.30	*	17.5	11.9	50
	xxxT-17x/S	17	20	T	MONK-M207	32 x 7 x 0.30	*	23.0	13.8	50
	xxxG-17x/S	17	20	G	MONK-M207	32 x 7 x 0.30	*	23.0	13.8	50
	xxxG-23x/S	23	25	G	MONK-M253	36 x 8 x 0.30	*	31.0	17.8	50
	xxxG-29x/S	29	32	G	MONK-M329	36 x 10 x 0.30	*	36.0	22.2	50
	xxxG-36x/S	36	40	G	MONK-M406	36 x 12 x 0.30	*	44.5	26.7	30
	xxxG-48x/S	48	50	G	MONK-M508	36 x 14 x 0.30	*	58.5	30.7	30
Our customer service or your local distribution partner will be pleased to help you concerning product availability and lead time Application: in machine and railway construction; for high mechanical loads; in areas with hot swarf and flying sparks Characteristics: increased mechanical conduit protection; extremely high abrasion resistance Coverage: > 90% Suitable for PMAFLEX, PMA Smart Line; Special metal fittings (MONK)										
Materials						Temperature range			Colour	
Braid made with stainless steel AISI						-70°C to +1000°C			Metal	
Certification						Fire performance			UV Resistance	
RoHS compliant						-			-	



PMAFIX Pro

Introduction

Next generation cable protection. The extremely successful and technically proven PMAFIX System has been developed further to create the PMAFIX Pro product range.

The new generation fittings are the product of experience gained over many years in the most varied application areas. The PMAFIX Pro has two components, an outer body and an inner sealing element. The sealing element functions both as a seal and as a locking mechanism providing all ingress protection grades up to IP68 and IP69 even in applications where there is long term continuous movement. PMAFIX Pro is manufactured by using multiple component injection moulding process.

Key features

- Meets all ingress protection categories up to and including IP68 and IP69, also when the conduit connection is continually in motion
- Manufactured with newest 2-component injection moulding technology
- Fulfills highest international quality and standard requirements
- Intelligent safety locking mechanism
- Allows simple “push-in” installation of conduits
- Due to the integrated conduit supports, conduit remains centralised with little deformation even when bent sharply directly at the fitting





PMAFIX Pro

General technical details

—
01 patent
—
02 Up to 100 bar

Material

- Fittings made from specially modified polyamide 6
- Threads made from nickel-plated brass or polyamide 6
- Sealings made from cross linked polyester elastomer
- Self-extinguishing
- Free from halogens, REACH + RoHS compliant
- Temperature range: -50°C to +105°C, short-term to +160°C

Characteristics

- Highest assembly reliability – the fitting only locks when the sealing element is fully inserted
- Highest operational safety assured through visual and acoustic correct assembly controls
- Excellent resistance to ultra violet rays and weathering
- Highest impact resistance through fully closed design
- Highest conduit pull out strength
- Vibration-proof connection to PMA conduits
- Fits conduit profiles – fine (T) and coarse (G)
- To avoid accidental opening, disassembling only possible with a screwdriver



—
01



—
02

IP68 + IP69

Static + dynamic

- Highest sealing through fully closed system also in highest dynamic applications
- Extra long ribbed sealing areas (cross linked material)
- 360° locking and sealing element shields against high pressure water jets (up to 100 bar)
- Content of delivery: Locking and sealing element and thread seal for male threads (O-Ring and/or flat gasket)

electrosuisse»

BOMBARDIER
Transportation



TRENITALIA



EN

ALSTOM



SIEMENS

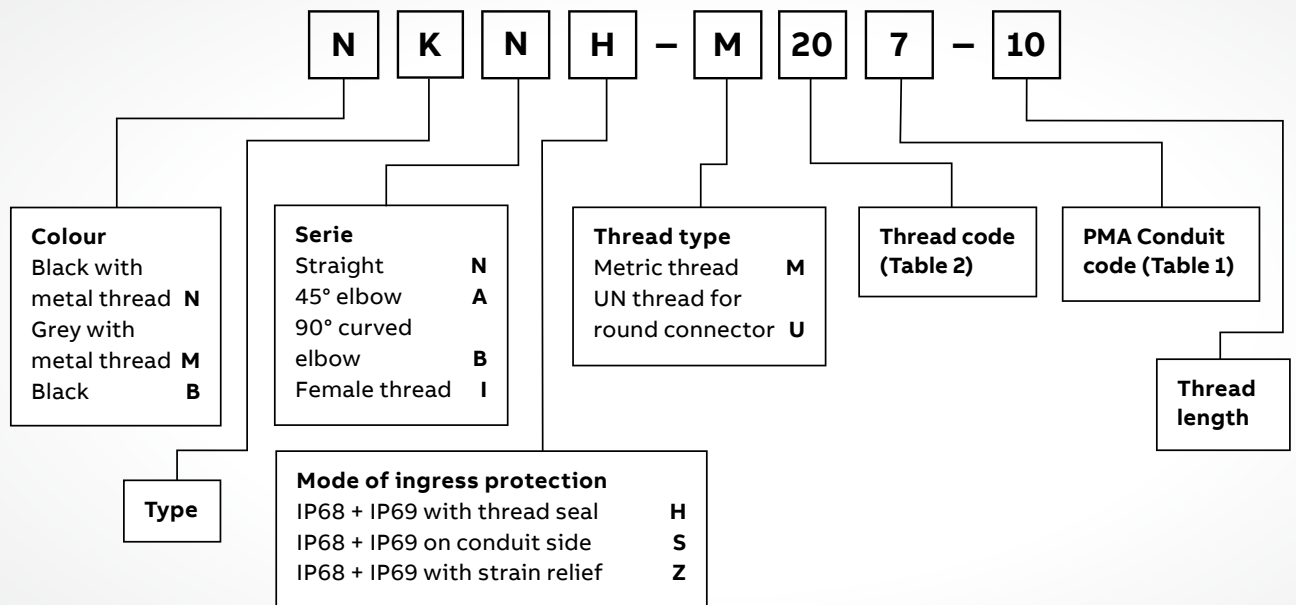


IRIS
Certification

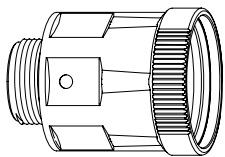


PMAFIX Pro

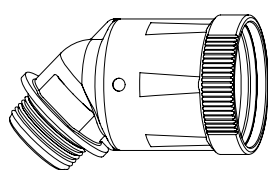
Part number codes



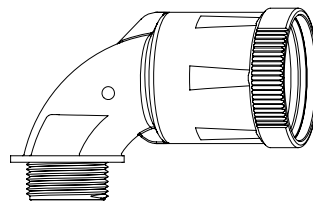
Connector series IP68 + IP69



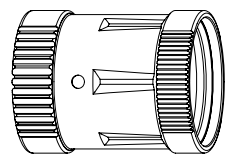
01



02



03



04

- 01 Straight (N)
- 02 45° elbow (A)
- 03 90° curved elbow (B)
- 04 Female thread (I)

PMAFIX Pro

Size codes, installation

Table 1: Conduit codes

Nominal width	Metric size	PMA code
10	12	0
12	16	2
17	20	7
23	25	3
29	32	9
36	40	6
48	50	8

Table 2: Thread codes

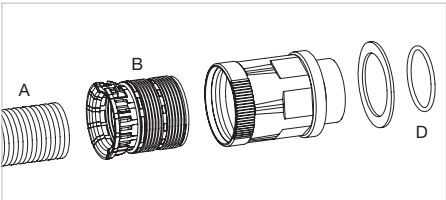
Thread Metric	PMA code
M12x1.5	M12
M16x1.5	M16
M20x1.5	M20
M25x1.5	M25
M32x1.5	M32
M40x1.5	M40
M50x1.5	M50
M63x1.5	M63

Thread UN	PMA code
7⁄8–20 UNEF	U21
1–20 UNEF	U24
1 3⁄16–18 UNEF	U29
1 7⁄16–18 UNEF	U35
1 3⁄4–18 UNS	U43
2–18 UNS	U50
2 1⁄4–16 UN	U56

Additional code for female thread connectors

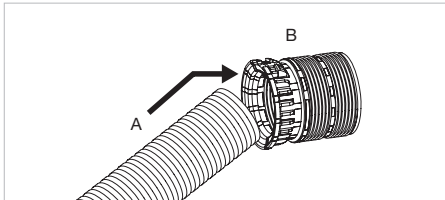
Type	PMA code
With O-ring groove (MIL C 5015)	G

Installation IP68 + IP69



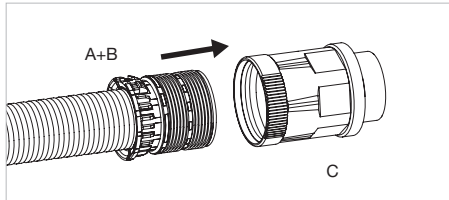
01

A = Corrugated conduit
B = Sealing and locking element
C = Fitting body
D = Thread seal (O-ring or flat gasket*)



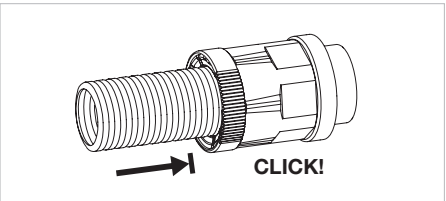
02

Place corrugated conduit (A) at a slight angle against the sealing element (B), then push right into the end.



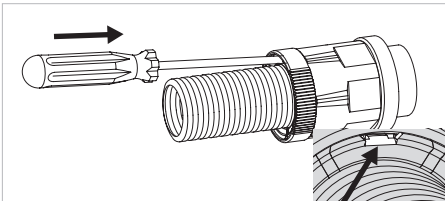
03

Push the conduit and sealing element (A+B) together into the outer body of the fitting (C). Water or a lubricating agent can help facilitate the push-in process.



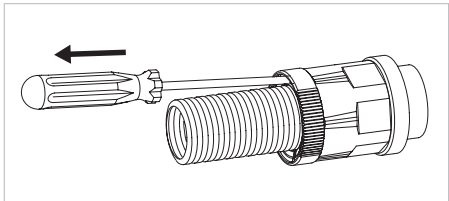
04

The locking mechanism engages when the sealing element is pushed in fully.



05

To disengage the locking mechanism introduce a size 1 screwdriver parallel to the conduit into the opening shown in the detail drawing.

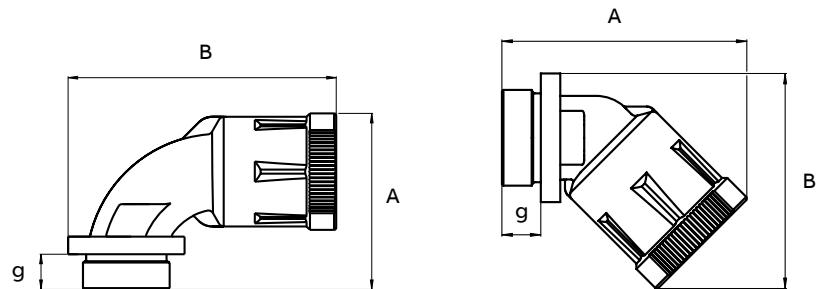


06

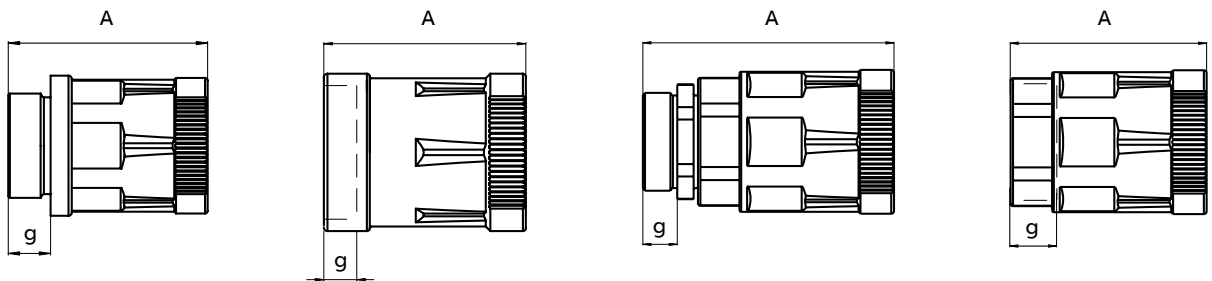
Pull the conduit and screwdriver out of the fitting together keeping the screwdriver parallel to the conduit.

PMAFIX Pro

Connectors metric, metal thread



g = Thread length
A x B = External dimensions



g = Thread length
A = Overall length

Type KNH - Connector straight, metric metal thread

	Order no. black IP68 + IP69	Order no. grey IP68 + IP69	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	NKNH-M120-10	MKNH-M120-10	M12 x 1.5	10	12	10.0	45.0
	NKNH-M160-10	MKNH-M160-10	M16 x 1.5	10	12	10.0	45.0
	NKNH-M162-10	MKNH-M162-10	M16 x 1.5	12	16	10.0	50.5
	NKNH-M202-10	MKNH-M202-10	M20 x 1.5	12	16	10.0	50.5
	NKNH-M207-10	MKNH-M207-10	M20 x 1.5	17	20	10.0	56.0
	NKNH-M257-11	MKNH-M257-11	M25 x 1.5	17	20	11.0	57.0
	NKNH-M253-11	MKNH-M253-11	M25 x 1.5	23	25	11.0	59.5
	NKNH-M323-13	MKNH-M323-13	M32 x 1.5	23	25	13.0	61.5
	NKNH-M329-13	MKNH-M329-13	M32 x 1.5	29	32	13.0	67.0
	NKNH-M409-13	MKNH-M409-13	M40 x 1.5	29	32	13.0	68.5
	NKNH-M406-13	MKNH-M406-13	M40 x 1.5	36	40	13.0	74.0
	NKNH-M506-14	MKNH-M506-14	M50 x 1.5	36	40	14.0	75.0
	NKNH-M508-14	MKNH-M508-14	M50 x 1.5	48	50	14.0	81.0
	NKNH-M638-14	MKNH-M638-14	M63 x 1.5	48	50	14.0	81.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

Connectors metric, metal thread

Type KNZ

Type KNZ - Connector straight with strain relief, metric metal thread



	Order no. IP68 + IP69 Compl., black	Order no. fitting*	Order no. insert	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
KNZ, patent	NKNZ-M120/P1	NKNZ-M120R/P	EK 150p7	M12 x 1.5	10	12	4.0–6.5	5.0	53.5
	NKNZ-M120/P2		EK 150p8	M12 x 1.5	10	12	5.0–8.0	5.0	53.5
	NKNZ-M120/P3		EK 150p9	M12 x 1.5	10	12	6.5–9.5	5.0	53.5
	NKNZ-M160/P1	NKNZ-M160R/P	E 150p7	M16 x 1.5	10	12	4.0–6.5	6.0	54.5
	NKNZ-M160/P2		E 150p8	M16 x 1.5	10	12	5.0–8.0	6.0	54.5
	NKNZ-M160/P3		E 150p9	M16 x 1.5	10	12	6.5–9.5	6.0	54.5
	NKNZ-M202/P1	NKNZ-M202R/P	E 152p7	M20 x 1.5	12	16	4.0–6.5	6.5	60.5
	NKNZ-M202/P3		E 152p9	M20 x 1.5	12	16	6.5–9.5	6.5	60.5
	NKNZ-M202/P4		E 152p11	M20 x 1.5	12	16	7.0–10.5	6.5	60.5
	NKNZ-M207/P3	NKNZ-M207R/P	E 152p9	M20 x 1.5	17	20	6.5–9.5	6.5	66.5
	NKNZ-M207/P4		E 152p11	M20 x 1.5	17	20	7.0–10.5	6.5	66.5
	NKNZ-M207/P5		E 152p13	M20 x 1.5	17	20	9.0–13.0	6.5	66.5
	NKNZ-M257/P4	NKNZ-M257R/P	E 153p11	M25 x 1.5	17	20	7.0–10.5	7.5	67.5
	NKNZ-M257/P5		E 153p13	M25 x 1.5	17	20	9.0–13.0	7.5	67.5
	NKNZ-M257/P6		E 153p16	M25 x 1.5	17	20	11.5–15.5	7.5	67.5
	NKNZ-M253/P5	NKNZ-M253R/P	EK 154p13	M25 x 1.5	23	25	9.0–13.0	7.5	75.0
	NKNZ-M253/P6	NKNZ-M253R1/P	EK 154p16	M25 x 1.5	23	25	11.5–15.5	7.5	75.0
	NKNZ-M323/P2	NKNZ-M323R/P	E 154p13	M32 x 1.5	23	25	9.0–13.0	8.0	76.0
	NKNZ-M323/P4		E 154p18	M32 x 1.5	23	25	14.0–18.0	8.0	76.0
	NKNZ-M323/P5	NKNZ-M323R1/P	E 154p20	M32 x 1.5	23	25	17.0–20.5	8.0	76.0
	NKNZ-M329/P2	NKNZ-M329R/P	EK 155p18	M32 x 1.5	29	32	14.0–18.0	8.0	83.0
	NKNZ-M329/P3		EK 155p20	M32 x 1.5	29	32	17.0–20.5	8.0	83.0
	NKNZ-M329/P4		EK 155p25	M32 x 1.5	29	32	20.0–25.0	8.0	83.0
	NKNZ-M409/P1	NKNZ-M409R/P	E 155p16	M40 x 1.5	29	32	11.5–15.5	8.0	83.0
	NKNZ-M409/P2		E 155p18	M40 x 1.5	29	32	14.0–18.0	8.0	83.0
	NKNZ-M409/P3		E 155p20	M40 x 1.5	29	32	17.0–20.5	8.0	83.0
	NKNZ-M409/P4		E 155p25	M40 x 1.5	29	32	20.0–25.0	8.0	83.0
	NKNZ-M409/P5		E 155p28	M40 x 1.5	29	32	24.0–28.0	8.0	83.0
	NKNZ-M406/P1	NKNZ-M406R/P	E 156p25HF	M40 x 1.5	36	40	20.0–25.0	9.0	87.5
	NKNZ-M406/P2		EK 156p28	M40 x 1.5	36	40	24.0–28.0	9.0	87.5
	NKNZ-M506/P1	NKNZ-M506R/P	E 156p32	M50 x 1.5	36	40	27.0–32.0	10.0	90.0
	NKNZ-M506/P3		E 156p36	M50 x 1.5	36	40	32.0–36.0	10.0	90.0
	NKNZ-M508/P2	NKNZ-M508R/P	E 157p36HF	M50 x 1.5	48	50	32.0–36.0	10.0	100.0
	NKNZ-M508/P3		E 157p40HF	M50 x 1.5	48	50	36.0–40.0	10.0	100.0
	NKNZ-M638/P1	NKNZ-M638R/P	E 158pm1x35	M63 x 1.5	48	50	32.0–35.0	10.0	100.0
	NKNZ-M638/P2		E 158p44	M63 x 1.5	48	50	39.0–44.0	10.0	100.0

Approvals



* without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: -40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available. R/P version of fitting has to be used in combination with multiple sealing inserts

Connectors metric, metal thread

Type KNZ

Type KNZ - Connector straight with strain relief, metric long metal thread



	Order no. IP68 + IP69 Compl., black	Order no. fitting*	Order no. insert	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
 KNZ, patent	NKNZ-M160/P1-L	NKNZ-M160R/P-L	E 150p7	M16 x 1.5	10	16	4.0–6.5	15.0	63.5
	NKNZ-M160/P2-L		E 150p8	M16 x 1.5	10	16	5.0–8.0	15.0	63.5
	NKNZ-M160/P3-L		E 150p9	M16 x 1.5	10	16	6.5–9.5	15.0	63.5
	NKNZ-M202/P1-L	NKNZ-M202R/P-L	E 152p7	M20 x 1.5	12	20	4.0–6.5	15.0	69.0
	NKNZ-M202/P3-L		E 152p9	M20 x 1.5	12	20	6.5–9.5	15.0	69.0
	NKNZ-M202/P4-L		E 152p11	M20 x 1.5	12	20	7.0–10.5	15.0	69.0
	NKNZ-M207/P3-L	NKNZ-M207R/P-L	E 152p9	M20 x 1.5	17	20	6.5–9.5	15.0	75.0
	NKNZ-M207/P4-L		E 152p11	M20 x 1.5	17	20	7.0–10.5	15.0	75.0
	NKNZ-M207/P5-L		E 152p13	M20 x 1.5	17	20	9.0–13.0	15.0	75.0
	NKNZ-M257/P5-L	NKNZ-M257R/P-L	E 153p13	M25 x 1.5	17	25	9.0–13.0	15.0	75.0
	NKNZ-M257/P6-L		E 153p16	M25 x 1.5	17	25	11.5–15.5	15.0	75.0
	NKNZ-M323/P2-L	NKNZ-M323R/P-L	E 154p13	M32 x 1.5	23	32	9.0–13.0	15.0	83.0
	NKNZ-M323/P4-L		E 154p18	M32 x 1.5	23	32	14.0–18.0	15.0	83.0
	NKNZ-M323/P5-L	NKNZ-M323R1/P-L	E 154p20	M32 x 1.5	23	32	17.0–20.5	15.0	83.0
	NKNZ-M329/P2-L	NKNZ-M329R/P-L	EK 155p18	M32 x 1.5	29	32	14.0–18.0	15.0	90.0
	NKNZ-M329/P3-L		EK 155p20	M32 x 1.5	29	40	17.0–20.5	15.0	90.0
	NKNZ-M409/P3-L	NKNZ-M409R/P-L	E 155p20	M40 x 1.5	29	40	17.0–20.5	15.0	90.0
	NKNZ-M409/P4-L		E 155p25	M40 x 1.5	29	40	20.0–25.0	15.0	90.0
	NKNZ-M409/P5-L		E 155p28	M40 x 1.5	29	50	24.0–28.0	15.0	90.0
	NKNZ-M506/P1-L	NKNZ-M506R/P-L	E 156p32	M50 x 1.5	36	50	27.0–32.0	15.0	95.0
	NKNZ-M506/P3-L		E 156p36	M50 x 1.5	36	50	32.0–36.0	15.0	95.0
	NKNZ-M508/P2-L	NKNZ-M508R/P-L	E 157p36HF	M50 x 1.5	48	50	32.0–36.0	15.0	105.0
	NKNZ-M508/P3-L		E 157p40HF	M50 x 1.5	48	50	36.0–40.0	15.0	105.0
	NKNZ-M638/P1-L	NKNZ-M638R/P-L	E 158pm1x35	M63 x 1.5	48	63	32.0–35.0	15.0	105.0
	NKNZ-M638/P2-L		E 158p44	M63 x 1.5	48	63	39.0–44.0	15.0	105.0

Approvals



* without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: -40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available. R/P version of fitting has to be used in combination with multiple sealing inserts

Connectors metric, metal thread

Type KAH & KBH

Type KAH - Connector 45° elbow, metric metal thread

	Order no. black IP68 + IP69	Order no. grey IP68 + IP69	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NKAH-M120-10	MKAH-M120-10	M12 x 1.5	10	12	10.0	55.5 x 43.0
	NKAH-M160-10	MKAH-M160-10	M16 x 1.5	10	12	10.0	55.5 x 45.0
	NKAH-M162-10	MKAH-M162-10	M16 x 1.5	12	16	10.0	62.5 x 50.0
	NKAH-M202-10	MKAH-M202-10	M20 x 1.5	12	16	10.0	62.5 x 52.0
	NKAH-M207-10	MKAH-M207-10	M20 x 1.5	17	20	10.0	71.0 x 59.5
	NKAH-M257-11	MKAH-M257-11	M25 x 1.5	17	20	11.0	72.0 x 62.5
	NKAH-M253-11	MKAH-M253-11	M25 x 1.5	23	25	11.0	80.0 x 68.0
	NKAH-M323-13	MKAH-M323-13	M32 x 1.5	23	25	13.0	82.0 x 72.0
	NKAH-M329-13	MKAH-M329-13	M32 x 1.5	29	32	13.0	93.0 x 79.5
	NKAH-M409-13	MKAH-M409-13	M40 x 1.5	29	32	13.0	94.5 x 85.5
	NKAH-M406-13	MKAH-M406-13	M40 x 1.5	36	40	13.0	105.5 x 93.5
	NKAH-M506-14	MKAH-M506-14	M50 x 1.5	36	40	14.0	106.5 x 98.5
	NKAH-M508-14	MKAH-M508-14	M50 x 1.5	48	50	14.0	120.0 x 111.0
	NKAH-M638-14	MKAH-M638-14	M63 x 1.5	48	50	14.0	120.0 x 114.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

Type KBH - Connector 90° curved elbow, metric metal thread

	Order no. black IP68 + IP69	Order no. grey IP68 + IP69	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NKBH-M120-10	MKBH-M120-10	M12 x 1.5	10	12	10.0	44.0 x 62.5
	NKBH-M160-10	MKBH-M160-10	M16 x 1.5	10	12	10.0	44.0 x 64.5
	NKBH-M162-10	MKBH-M162-10	M16 x 1.5	12	16	10.0	47.5 x 72.0
	NKBH-M202-10	MKBH-M202-10	M20 x 1.5	12	16	10.0	47.5 x 74.0
	NKBH-M207-10	MKBH-M207-10	M20 x 1.5	17	20	10.0	53.0 x 81.0
	NKBH-M257-11	MKBH-M257-11	M25 x 1.5	17	20	11.0	54.0 x 84.0
	NKBH-M253-11	MKBH-M253-11	M25 x 1.5	23	25	11.0	63.0 x 92.0
	NKBH-M323-13	MKBH-M323-13	M32 x 1.5	23	25	13.0	65.0 x 96.0
	NKBH-M329-13	MKBH-M329-13	M32 x 1.5	29	32	13.0	75.0 x 108.0
	NKBH-M409-13	MKBH-M409-13	M40 x 1.5	29	32	13.0	76.5 x 114.0
	NKBH-M406-13	MKBH-M406-13	M40 x 1.5	36	40	13.0	87.5 x 126.0
	NKBH-M506-14	MKBH-M506-14	M50 x 1.5	36	40	14.0	88.5 x 131.0
	NKBH-M508-14	MKBH-M508-14	M50 x 1.5	48	50	14.0	101.0 x 145.5
	NKBH-M638-14	MKBH-M638-14	M63 x 1.5	48	50	14.0	101.0 x 148.5

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength
Smooth elbow allows easy threading of wires and cables

Connectors, female polyamide UNEF thread

Type KIHG

Type KIHG - Connector straight, UN female thread for MIL-C5015

	Order no. black IP68 + IP69	Thread UN	Shell size MIL	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
KIHG, patent 	BKIHG-U212	7/8"-20 UNEF	16	12	16	9.0	47.0
	BKIHG-U217	7/8"-20 UNEF	16	17	20	9.0	52.5
	BKIHG-U242	1"-20 UNEF	18	12	16	9.0	47.0
	BKIHG-U247	1"-20 UNEF	18	17	20	9.0	52.5
	BKIHG-U243	1"-20 UNEF	18	23	23	9.0	55.5
	BKIHG-U292	1 3/16"-18 UNEF	20	12	16	9.0	50.5
	BKIHG-U297	1 3/16"-18 UNEF	20	17	20	9.0	52.5
	BKIHG-U293	1 3/16"-18 UNEF	20	23	25	9.0	55.5
	BKIHG-U299	1 3/16"-18 UNEF	20	29	32	9.0	61.0
	BKIHG-U357	1 7/16"-18 UNEF	24	17	20	9.0	58.0
	BKIHG-U353	1 7/16"-18 UNEF	24	23	25	9.0	55.5
	BKIHG-U359	1 7/16"-18 UNEF	24	29	32	9.0	61.0
	BKIHG-U433	1 3/4"-18 UNS	32	23	25	10.0	62.5
	BKIHG-U439	1 3/4"-18 UNS	32	29	32	10.0	62.0
	BKIHG-U503	2"-18 UNS	36	23	25	10.0	67.0
	BKIHG-U509	2"-18 UNS	36	29	32	10.0	67.5
Approvals 	BKIHG-U506	2"-18 UNS	36	36	40	10.0	67.0
	BKIHG-U508	2"-18 UNS	36	48	50	10.0	73.5
	BKIHG-U566	2 1/4"-16 UN	40	36	40	10.0	72.0
	BKIHG-U568	2 1/4"-16 UN	40	48	50	10.0	73.5

For applications in railway vehicles and heavy machine construction
Suitable for MIL connector, series C5015

Connectors metric, female metal thread

Type KIS

Type KIS - Connector straight, metric metal female thread

	Order no. black IP68 + IP69	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NKIS-M162	M16 x 1.5	12	16	9.0	49.0
	NKIS-M207	M20 x 1.5	17	20	10.5	56.0
	NKIS-M253	M25 x 1.5	23	25	10.5	58.5
	NKIS-M329	M32 x 1.5	29	32	11.0	65.5
	NKIS-M406	M40 x 1.5	36	40	13.5	72.0
	NKIS-M508	M50 x 1.5	48	50	15.0	83.0
	NKIS-M638	M63 x 1.5	48	50	17.5	84.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength
No seal on female thread side

Connectors nylon straight fitting

Type JKNH & JKBH

Type JKNH - Connector two-piece, straight, IP69, metric thread

	Order no. blue	Thread size metric	Fits to conduit size NW	Dimensions					Weight kg/100 pcs	Packing unit/pcs
				g (mm)	Ø ID (mm)	Ø D (mm)	L max. (mm)	sw (mm)		
	JKNH-M162	M16 x 1.5	12	11.0	11.0	28.5	47.5	25	0.8	10
	JKNH-M202	M20 x 1.5	12	12.5	11.0	28.5	47.5	25	0.9	10
	JKNH-M207	M20 x 1.5	17	14.5	11.0	35.0	53.5	32	1.4	10
	JKNH-M257	M25 x 1.5	17	16.5	12.0	35.0	54.5	32	1.5	10
	JKNH-M253	M25 x 1.5	23	19.0	12.0	42.0	57.0	38	1.7	10
	JKNH-M323	M32 x 1.5	23	23.0	15.0	43.0	60.5	38	2.0	10
	JKNH-M329	M32 x 1.5	29	26.0	15.0	51.5	65.5	46	3.2	10
	JKNH-M409	M40 x 1.5	29	29.0	19.0	51.5	69.5	46	3.7	10
	JKNH-M406	M40 x 1.5	36	32.0	19.0	65.0	75.0	60	5.9	10
	JKNH-M506	M50 x 1.5	36	37.5	19.0	65.0	75.0	60	6.2	10
Approvals 	JKNH-M508	M50 x 1.5	48	42.0	19.0	75.0	81.0	70	7.5	10
	JKNH-M638	M63 x 1.5	48	48.5	19.0	75.0	81.0	70	7.8	10

Very high impact resistance - easy push-in assembly
Corrosion-free
Excellent conduit pull-out strength
IP69 system protection for indoor splash zone areas

Type JKBH - 90° curved elbow, IP69, metric thread

	Order no. blue	Thread size metric	Fits to conduit size NW	Dimensions									Weight kg/100 pcs	Packing unit/pcs
				g (mm)	d1 (mm)	d2 (mm)	d3 (mm)	SW (mm)	A (mm)	B (mm)	R (mm)			
	JKBH-M162	M16 x 1.5	12	11	8.0	28.5	24.0	15.0	44.5	72.0	28.0	1.5	10	
	JKBH-M202	M20 x 1.5	12	11	11.8	28.5	28.0	15.0	44.5	74.0	28.0	1.3	10	
	JKBH-M207	M20 x 1.5	17	11	11.5	35.0	29.0	20.0	50.0	81.0	29.5	2.5	10	
	JKBH-M257	M25 x 1.5	17	12	16.5	35.0	35.0	20.0	51.0	84.0	29.5	2.2	10	
	JKBH-M253	M25 x 1.5	23	12	16.0	43.0	35.0	26.0	59.5	92.0	35.0	3.9	10	
	JKBH-M323	M32 x 1.5	23	15	22.5	43.0	40.0	26.0	63.0	94.5	35.0	3.2	10	
	JKBH-M329	M32 x 1.5	29	15	23.0	51.5	43.0	33.0	73.0	108.0	41.5	6.8	10	
Approvals 	JKBH-M409	M40 x 1.5	29	19	28.5	51.5	51.0	33.0	77.0	112.0	41.5	6.0	10	
	JKBH-M406	M40 x 1.5	36	19	29.5	60.5	55.0	41.0	87.5	126.0	49.0	11.0	10	
	JKBH-M506	M50 x 1.5	36	19	37.0	60.5	59.0	41.0	87.5	128.0	49.0	9.0	10	
	JKBH-M508	M50 x 1.5	48	19	38.5	73.0	69.0	46.0	100.5	145.5	55.5	18.0	10	
	JKBH-M638	M63 x 1.5	48	19	48.0	73.0	75.0	55.0	100.5	148.5	55.5	14.0	10	

Very high impact resistance - easy push-in assembly
Corrosion-free
Excellent conduit pull-out strength
IP69 system protection for indoor splash zone areas

PMAFIX IP66, IP68 (IP69)

General technical details

PMAFIX connectors. The designation PMAFIX describes a very large range of connectors for PMA conduits with the patented PMA safety clip system.

Connectors are available for degrees of ingress protection IP66 and IP68 according to IEC 60529. IP66 connectors are fitted with a pre-installed universal safety clip which ensures a quick “push-in” installation. IP68 connectors for increased requirements will be delivered with a special conduit seal cap. The new PMAFIX IP68GT fittings combine simplest push-in assembly with highest sealing performance. It is also possible to upgrade to IP69 by retrofitting water impact protection.

Material

- Fittings made from specially formulated polyamide 6
- Threads made from nickel-plated brass or polyamide 6
- Self-extinguishing
- Free from halogens, REACH + RoHS compliant
- Very good chemical properties
- Temperature range: –40°C to +105°C, short-term to +160°C

Characteristics

- Excellent conduit pull-out strength
- High impact resistance
- Vibration-proof connection to PMA corrugated conduits
- Fits conduit profiles – fine (T) and coarse (G)
- To avoid accidental opening, disassembly is only possible with a screwdriver





PMAFIX

General technical details



Patent



Patent



Patent

IP66

IP66 static

IP54 dynamic

- One piece fitting
- Conical sealing method
- Easy “push-in” installation
- Pre-installed safety clip AFN2
- Content of delivery: Connector with pre-installed safety clip

IP68GT

IP68, IP69 static

IP67, IP69 dynamic

- The single piece PMAFIX IP68GT fitting with integrated sealing cap and pre-installed locking clip
- Simple push-in assembly (as with the proven PMAFIX IP66 system)
- The extra long sealing cap guarantees the highest level of ingress protection
- Identical approvals as for the PMAFIX IP68 system component version
- Fast modification of specification drawings through simple addition of “GT” to the existing order number (e.g. BVNV-M257 → BVNV-M257GT)
- Additional water protection ring WPS for IP69 ingress protection in conjunction with the IP68 system to be applied right after the IP68 connector onto the conduit
- Content of delivery: Connector with integrated sealing cap, pre-installed safety clip and thread seal for male thread (O-ring and/or flat gasket)

IP68

IP68, IP69 static

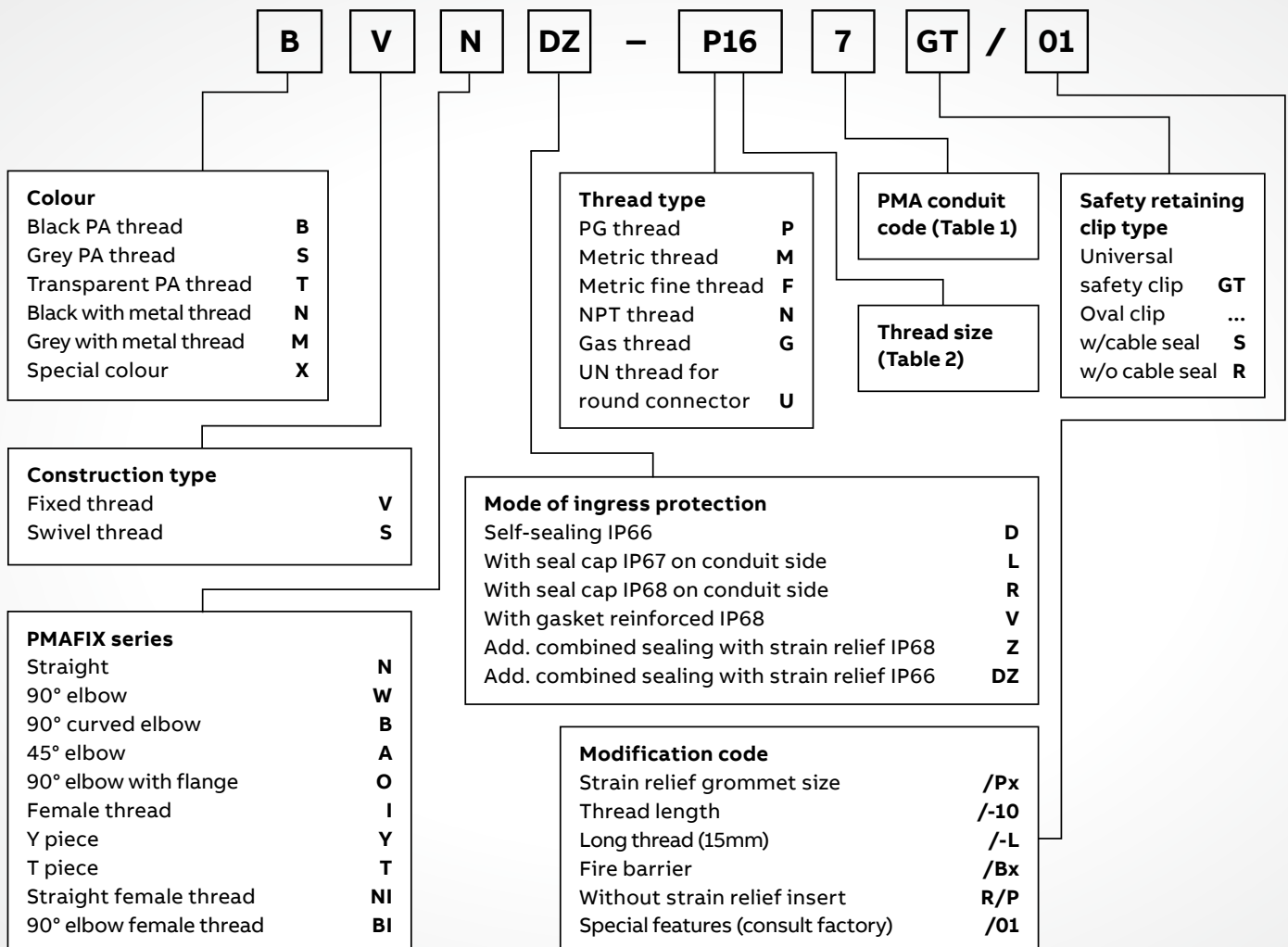
IP67, IP69 dynamic

- High sealing through additional seal cap
- For highest dynamic applications
- Additional water protection ring WPS for IP69 ingress protection in conjunction with the IP68 system to be applied right after the IP68 connector onto the conduit
- Content of delivery: Connector with sealing cap, safety clip and thread seal for male thread (O-ring and/or flat gasket)

PMAFIX connectors

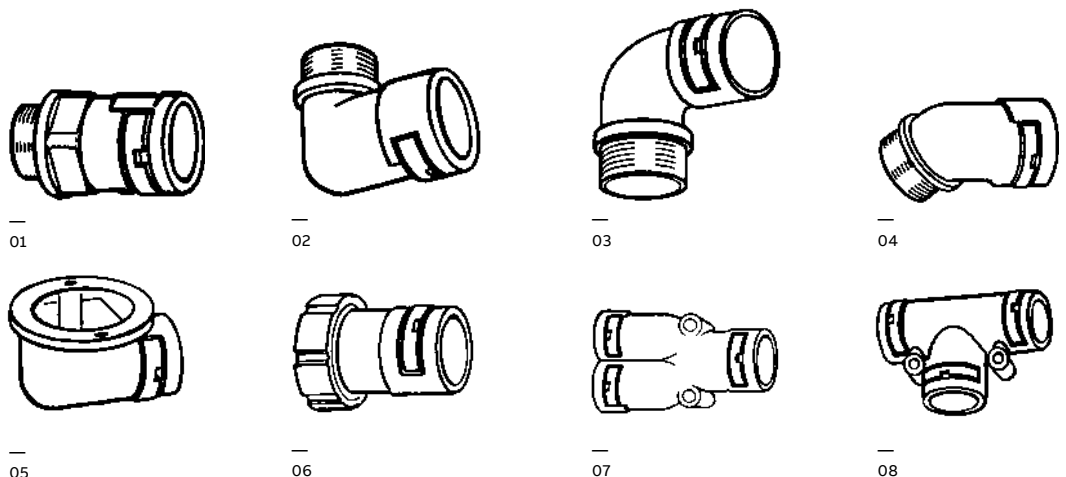
Part number codes

For part number explanation only, not to be used as a configuration tool.



Connector series

- 01 Serie N
- 02 Serie W
- 03 Serie B
- 04 Serie A
- 05 Serie O
- 06 Serie I
- 07 Serie Y
- 08 Serie T



Size codes

Additional code for female thread connectors

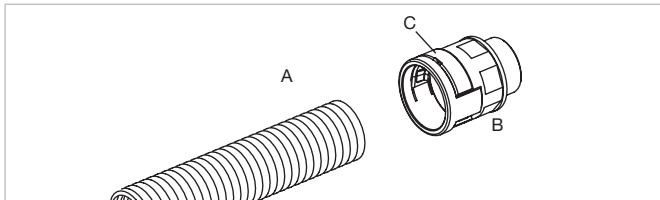
Type	PMA code
AMP	A
Souriau (ex Burndy) UTG 6	B
With O-ring groove (MIL C 5015)	G
Souriau UTO/UTS	S

[illegible]

PMAFIX

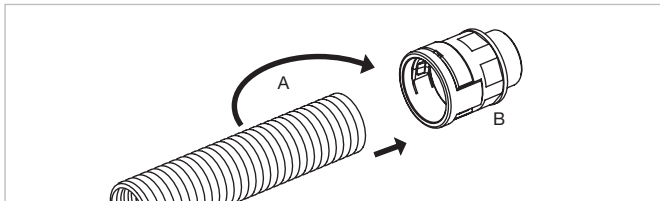
Installation

Installation IP66



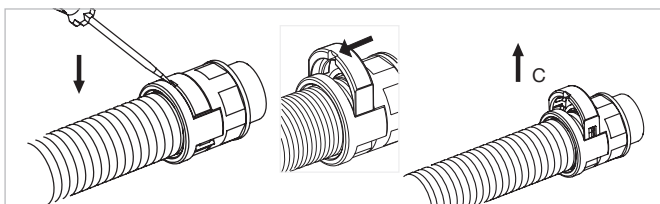
01

A = Conduit
B = Fitting
C = Universal safety clip



02

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

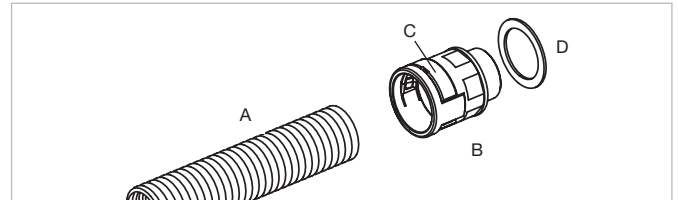


03

To re-open use a screwdriver.
The screwdriver slot in the oval clip (C) should be on the conduit side.

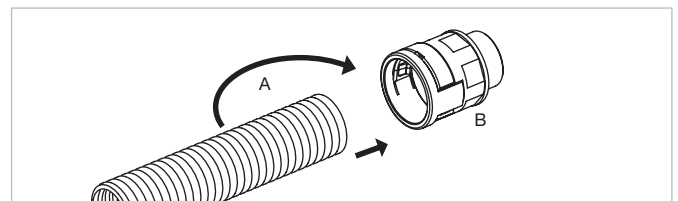
Locking clip pre-installed in all IP66 connectors.

Installation IP68GT



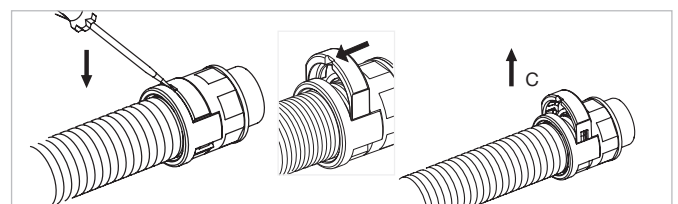
01

A = Conduit
B = Fitting with integrated sealing cap
C = Universal safety clip
D = Thread seal (either O-ring or flat gasket*, not both)



02

Push in the conduit (A) right into the end of the fitting (B) with a slight twist. Additional insertion resistance will be felt when the end of the fitting has been reached.



03

To re-open use a screwdriver.
The screwdriver slot in the oval clip (C) should be on the conduit side.

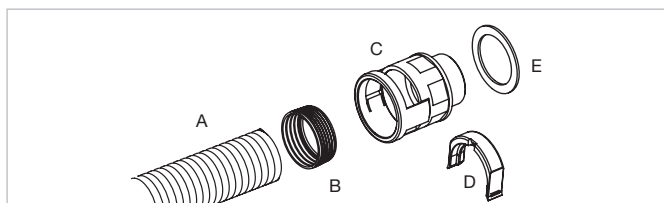
Pre-installed sealing cap and locking clip in all IP68GT connectors.

* Ensure to follow O-ring manufacturers guidelines when using O-rings for sealing purposes.

PMAFIX

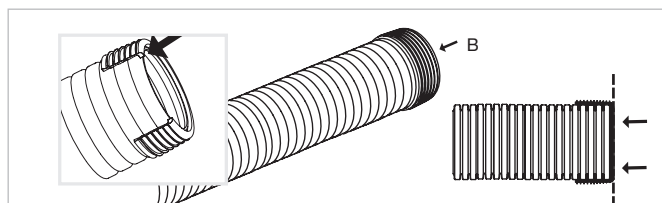
Installation

Installation IP68 (IP69)



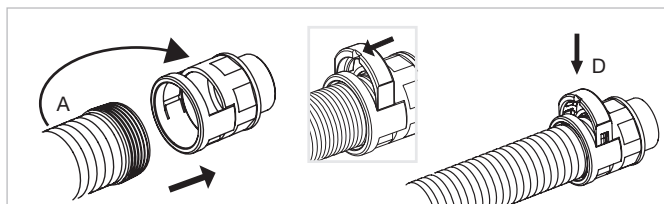
01

A = Conduit
B = Sealing cap
C = Fitting
D = Oval clip
E = Thread seal (O-ring or flat seal*)



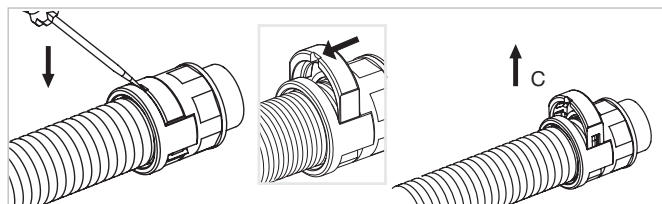
02

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



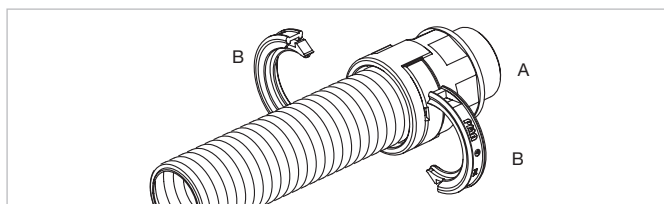
03

Push in the conduit (A) with a slight twist until the stop. Insert oval clip (D) in the locking element window and click into place. Screwdriver slot in the oval clip should be on conduit side.



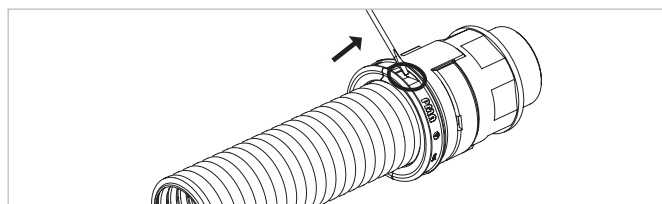
04

To re-open use a screwdriver.



05

For IP69:
Based on IP68 System
A = Conduit with IP68 fitting
B = WPS half shells



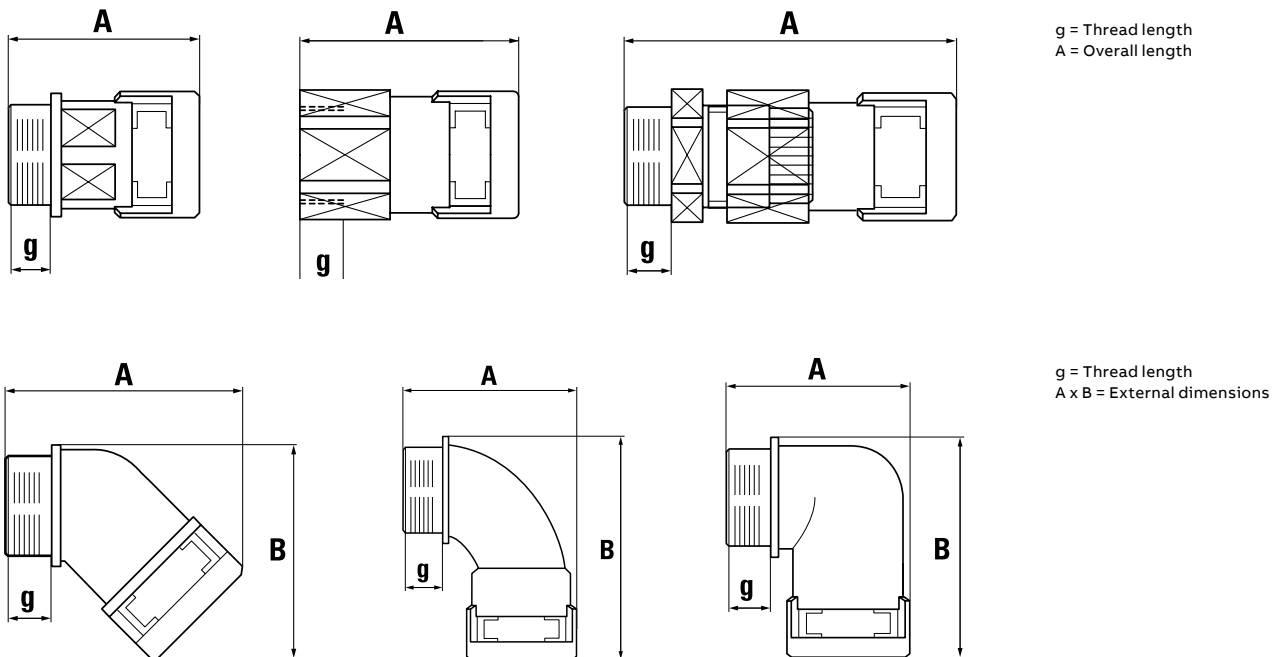
06

To re-open use a screwdriver.

* For safety reasons, oval clip will not fit if seal cap is not fully installed.

Ensure to follow O-ring manufacturers guidelines when using O-rings for sealing purposes.

Fitting dimensions



PMAFIX

Connectors metric, polyamide thread

Type VN - Connector straight, metric thread

	Order no. IP66 ①	Order no. IP68* ① ②	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVND-M12MGT	BVNV-M12M	M12 x 1.5	07	10	11.0	34.5
	BVND-M120GT	BVNV-M120	M12 x 1.5	10	12	11.0	36.5
	BVND-M160GT	BVNV-M160	M16 x 1.5	10	12	11.0	36.5
	BVND-M162GT	BVNV-M162	M16 x 1.5	12	16	11.0	39.5
	BVND-M200GT	BVNV-M200	M20 x 1.5	10	12	11.0	36.5
	BVND-M202GT	BVNV-M202	M20 x 1.5	12	16	11.0	39.5
	BVND-M207GT	BVNV-M207	M20 x 1.5	17	20	11.0	47.5
	BVND-M203GT	BVNV-M203	M20 x 1.5	23	25	11.0	51.0
	BVND-M257GT	BVNV-M257	M25 x 1.5	17	20	12.0	48.5
	BVND-M253GT	BVNV-M253	M25 x 1.5	23	25	12.0	52.0
	BVND-M323GT	BVNV-M323	M32 x 1.5	23	25	15.0	55.5
	BVND-M329GT	BVNV-M329	M32 x 1.5	29	32	15.0	56.0
	BVND-M409GT	BVNV-M409	M40 x 1.5	29	32	19.0	60.0
	BVND-M406GT	BVNV-M406	M40 x 1.5	36	40	19.0	72.5
	BVND-M506GT	BVNV-M506	M50 x 1.5	36	40	19.0	72.0
	BVND-M508GT	BVNV-M508	M50 x 1.5	48	50	19.0	72.5
	BVND-M638GT	BVNV-M638	M63 x 1.5	48	50	19.0	72.0

Approvals



- ① Please replace "B" for black with "S" for grey in front of the order no.
② IP68GT available. Please add "GT" after the order no.

For cable protection systems in a wide range of applications

Connectors metric, polyamide thread

Type VNDZ/VNZ & VA

Type VNDZ/VNZ - Connector straight with strain relief, metric thread

	Order no. IP66 ①	Order no. IP68 ① ③	Thread metric	Fits to conduit size		Terminal range	Thread length (mm)	Overall length (mm)
				NW	Metric			
	BVNDZ-M160GT	–	M16 x 1.5	10	12	5.0–10.0	8.0	62.0
	BVNDZ-M162GT	BVNZ-M162S	M16 x 1.5	12	16	5.0–10.0	8.0	62.0
	BVNDZ-M207GT	BVNZ-M207S	M20 x 1.5	17	20	10.0–14.0	8.0	72.0
	BVNDZ-M253GT	BVNZ-M253S	M25 x 1.5	23	25	13.0–18.0	8.0	81.0
	BVNDZ-M329GT	BVNZ-M329S	M32 x 1.5	29	32	18.0–25.0	10.0	85.0
	BVNDZ-M406GT	BVNZ-M406S	M40 x 1.5	36	40	22.0–32.0	10.0	108.5
	BVNDZ-M508GT	BVNZ-M508S	M50 x 1.5	48	50	30.0–38.0	12.0	119.5
	BVNDZ-M638GT	BVNZ-M638S	M63 x 1.5	48	50	34.0–44.0	12.0	119.5

For machine and plant construction

For separation of damp and dry areas

Integrated strain relief optimally holds and seals cables

If several conductors are used with the connector multiple sealing inserts should be considered

Note: For several conductors multiple sealing inserts MDE are available

Type VA - Connector 45° elbow, metric thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVAD-M120GT	–	M12 x 1.5	10	12	11.0	43.5 x 37.0
	BVAD-M160GT	BVAV-M160	M16 x 1.5	10	12	11.0	43.5 x 38.0
	BVAD-M162GT	BVAV-M162	M16 x 1.5	12	16	11.0	48.0 x 40.0
	BVAD-M202GT	BVAV-M202	M20 x 1.5	12	16	11.0	48.0 x 41.5
	BVAD-M207GT	BVAV-M207	M20 x 1.5	17	20	11.0	55.5 x 51.5
	BVAD-M253GT	BVAV-M253	M25 x 1.5	23	25	12.0	65.0 x 58.5
	BVAD-M329GT	BVAV-M329	M32 x 1.5	29	32	15.0	73.5 x 66.5
	BVAD-M406GT	BVAV-M406	M40 x 1.5	36	40	19.0	92.5 x 85.5
	BVAD-M506GT	BVAV-M506	M50 x 1.5	36	40	19.0	92.5 x 89.5
	BVAD-M508GT	BVAV-M508	M50 x 1.5	48	50	19.0	100.0 x 96.0
	BVAD-M638GT	BVAV-M638	M63 x 1.5	48	50	19.0	100.0 x 104.0

Approvals



① Please replace "B" for black with "S" for grey in front of the order no.

② IP68GT available. Please add "GT" after the order no.

③ IP68GT available. Please replace "S" at the end with "GT" (e.g. BVNZ-M207GT)

Connectors metric, polyamide thread

Type VB & VW

Type VB - Connector 90° curved elbow, metric thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVBD-M207GT	BVBV-M207	M20 x 1.5	17	20	11.0	47.5 x 73.0
	BVBD-M257GT	BVBV-M257	M25 x 1.5	17	20	12.0	48.5 x 76.0
	BVBD-M253GT	BVBV-M253	M25 x 1.5	23	25	12.0	57.5 x 83.0
	BVBD-M323GT	BVBV-M323	M32 x 1.5	23	25	15.0	61.0 x 87.5
	BVBD-M329GT	BVBV-M329	M32 x 1.5	29	32	15.0	70.5 x 93.0
	BVBD-M409GT	BVBV-M409	M40 x 1.5	29	32	19.0	74.5 x 98.5
	BVBD-M406GT	BVBV-M406	M40 x 1.5	36	40	19.0	85.0 x 121.0
	BVBD-M506GT	BVBV-M506	M50 x 1.5	36	40	19.0	85.0 x 125.0
	BVBD-M508GT	BVBV-M508	M50 x 1.5	48	50	19.0	98.5 x 130.0
	BVBD-M638GT	BVBV-M638	M63 x 1.5	48	50	19.0	98.5 x 138.0

Approvals



For cable protection systems in a wide range of applications

Smooth elbow allows easy threading of wires and cables

Note: For smaller conduit sizes NW 10 to NW 12 appropriate standard elbows of type VW are also available

Type VW - Connector 90° elbow, metric thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVWD-M12MGT	BVWV-M12M	M12 x 1.5	07	10	11.0	32.0 x 35.0
	BVWD-M120GT	BVWV-M120	M12 x 1.5	10	12	11.0	34.0 x 39.5
	BVWD-M160GT	BVWV-M160	M16 x 1.5	10	12	11.0	34.0 x 40.5
	BVWD-M162GT	BVWV-M162	M16 x 1.5	12	16	11.0	38.5 x 46.0
	BVWD-M200GT	—	M20 x 1.5	10	12	11.0	34.0 x 42.5
	BVWD-M202GT	BVWV-M202	M20 x 1.5	12	16	11.0	38.5 x 47.5
	BVWD-M207GT	BVWV-M207	M20 x 1.5	17	20	11.0	43.5 x 58.5
	BVWD-M253GT	BVWV-M253	M25 x 1.5	23	25	12.0	54.0 x 65.0
	BVWD-M329GT	BVWV-M329	M32 x 1.5	29	32	15.0	64.5 x 73.0
	BVWD-M406GT	BVWV-M406	M40 x 1.5	36	40	19.0	78.0 x 96.0
	BVWD-M508GT	BVWV-M508	M50 x 1.5	48	50	19.0	91.5 x 106.0

Approvals



For cable protection systems in a wide range of applications

Note: For sizes NW 17 to NW 48 curved elbows of type VB are also available

① Please replace "B" for black with "S" for grey in front of the order no.

② IP68GT available. Please add "GT" after the order no.

Connectors metric, metal thread

Type VNV

Type VNV - Connector straight, NPT metal thread

	Order no. IP68, black ④	Order no. IP68, grey ④	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	NVNV-M120-10	MVNV-M120-10	M12 x 1.5	10	12	10.0	40.0
	NVNV-M120-5	MVNV-M120-5	M12 x 1.5	10	12	5.0	35.0
	NVNV-M160-10	MVNV-M160-10	M16 x 1.5	10	12	10.0	40.0
	NVNV-M160-5	MVNV-M160-5	M16 x 1.5	10	12	5.0	35.0
	NVNV-M162-10	MVNV-M162-10	M16 x 1.5	12	16	10.0	43.0
	NVNV-M162-5	MVNV-M162-5	M16 x 1.5	12	16	5.0	38.0
	NVNV-M202-10	MVNV-M202-10	M20 x 1.5	12	16	10.0	43.0
	NVNV-M202-6	MVNV-M202-6	M20 x 1.5	12	16	6.0	39.0
	NVNV-M207-10	MVNV-M207-10	M20 x 1.5	17	20	10.0	51.0
	NVNV-M207-6	MVNV-M207-6	M20 x 1.5	17	20	6.0	47.0
	NVNV-M257-11	MVNV-M257-11	M25 x 1.5	17	20	11.0	52.0
	NVNV-M257-7	MVNV-M257-7	M25 x 1.5	17	20	7.0	48.0
	NVNV-M253-11	MVNV-M253-11	M25 x 1.5	23	25	11.0	54.0
	NVNV-M253-7	MVNV-M253-7	M25 x 1.5	23	25	7.0	50.0
	NVNV-M323-13	MVNV-M323-13	M32 x 1.5	23	25	13.0	56.0
	NVNV-M323-8	MVNV-M323-8	M32 x 1.5	23	25	8.0	51.0
	NVNV-M329-13	MVNV-M329-13	M32 x 1.5	29	32	13.0	57.3
	NVNV-M329-8	MVNV-M329-8	M32 x 1.5	29	32	8.0	52.3
	NVNV-M409-13	MVNV-M409-13	M40 x 1.5	29	32	13.0	57.3
	NVNV-M409-8	MVNV-M409-8	M40 x 1.5	29	32	8.0	52.3
	NVNV-M406-13	MVNV-M406-13	M40 x 1.5	36	40	13.0	71.4
	NVNV-M406-8	MVNV-M406-8	M40 x 1.5	36	40	8.0	66.4
	NVNV-M506-14	MVNV-M506-14	M50 x 1.5	36	40	14.0	72.4
	NVNV-M506-9	MVNV-M506-9	M50 x 1.5	36	40	9.0	67.4
	NVNV-M508-14	MVNV-M508-14	M50 x 1.5	48	50	14.0	72.4
	NVNV-M508-9	MVNV-M508-9	M50 x 1.5	48	50	9.0	67.4
	NVNV-M638-14	MVNV-M638-14	M63 x 1.5	48	50	14.0	72.4
	NVNV-M638-10	MVNV-M638-10	M63 x 1.5	48	50	10.0	68.4

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

④ IP68GT available. Please add
"GT" prior to the thread length
(for example NVNV-M120GT-10)

Connectors NPT, metal thread

Type VNV

Type VNV - Connector straight, metric metal thread

	Order no. IP68, black ⁴	Thread NPT	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NVNV-N022	½"	12	16	15.4	48.1
	NVNV-N027	½"	17	20	15.4	56.4
	NVNV-N043	¾"	23	25	15.7	58.7
	NVNV-N069	1"	29	32	19.6	63.9
	NVNV-N076	1¼"	36	40	20.2	78.6
	NVNV-N088	1½"	48	50	20.6	79.0
	NVNV-N098	2"	48	50	21.4	79.8

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

⁴ IP68GT available. Please add
"GT" prior to the thread length
(for example NVNV-N022GT)

Connectors with strain relief, metric, metal thread

Type VNZ

Type VNZ - Connector straight with strain relief, metric metal thread



	Order no. IP68 Compl., black ⑤	Order no. fitting* ⑤	Order no. insert	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
VNZ	NVNZ-M120S/P1	NVNZ-M120R/P	EK 150p7	M12 x 1.5	10	12	4.0–6.5	5.0	48.5
	NVNZ-M120S/P2		EK 150p8	M12 x 1.5	10	12	5.0–8.0	5.0	48.5
	NVNZ-M120S/P3		EK 150p9	M12 x 1.5	10	12	6.5–9.5	5.0	48.5
	NVNZ-M160S/P1	NVNZ-M160R/P	E 150p7	M16 x 1.5	10	12	4.0–6.5	6.0	49.5
	NVNZ-M160S/P2		E 150p8	M16 x 1.5	10	12	5.0–8.0	6.0	49.5
	NVNZ-M160S/P3		E 150p9	M16 x 1.5	10	12	6.5–9.5	6.0	49.5
	NVNZ-M202S/P1	NVNZ-M202R/P	E 152p7	M20 x 1.5	12	16	4.0–6.5	6.0	54.0
	NVNZ-M202S/P3		E 152p9	M20 x 1.5	12	16	6.5–9.5	6.0	54.0
	NVNZ-M202S/P4		E 152p11	M20 x 1.5	12	16	7.0–10.5	6.0	54.0
	NVNZ-M207S/P3	NVNZ-M207R/P	E 152p9	M20 x 1.5	17	20	6.5–9.5	6.5	60.0
	NVNZ-M207S/P4		E 152p11	M20 x 1.5	17	20	7.0–10.5	6.5	60.0
	NVNZ-M207S/P5		E 152p13	M20 x 1.5	17	20	9.0–13.0	6.5	60.0
	NVNZ-M253S/P5	NVNZ-M253R/P	EK 154p13	M25 x 1.5	23	25	9.0–13.0	7.5	72.5
	NVNZ-M253S/P6		EK 154p16	M25 x 1.5	23	25	11.5–15.5	7.5	72.5
	NVNZ-M257S/P4		E 153p11	M25 x 1.5	17	20	7.0–10.5	7.5	61.5
	NVNZ-M257S/P5	NVNZ-M257R/P	E 153p13	M25 x 1.5	17	20	9.0–13.0	7.5	61.5
	NVNZ-M257S/P6		E 153p16	M25 x 1.5	17	20	11.5–15.5	7.5	61.5
	NVNZ-M323S/P4		E 154p18	M32 x 1.5	23	25	14.0–18.0	8.0	73.0
	NVNZ-M323S/P5	NVNZ-M323R1/P	E 154p20	M32 x 1.5	23	25	17.0–20.5	8.0	73.0
	NVNZ-M329S/P2		EK 155p18	M32 x 1.5	29	32	14.0–18.0	8.0	73.0
	NVNZ-M329S/P3		EK 155p20	M32 x 1.5	29	32	17.0–20.5	8.0	73.0
	NVNZ-M329S/P4	NVNZ-M329R/P	EK 155p25	M32 x 1.5	29	32	20.0–25.0	8.0	73.0
	NVNZ-M406S/P1		E 156p25HF	M40 x 1.5	36	40	20.0–25.0	9.0	87.0
	NVNZ-M406S/P2		EK 156p28	M40 x 1.5	36	40	24.0–28.0	9.0	87.0
	NVNZ-M409S/P1	NVNZ-M409R/P	E 155p16	M40 x 1.5	29	32	11.5–15.5	8.0	73.0
	NVNZ-M409S/P2		E 155p18	M40 x 1.5	29	32	14.0–18.0	8.0	73.0
	NVNZ-M409S/P3		E 155p20	M40 x 1.5	29	32	17.0–20.5	8.0	73.0
	NVNZ-M409S/P4	NVNZ-M409R/P	E 155p25	M40 x 1.5	29	32	20.0–25.0	8.0	73.0
	NVNZ-M409S/P5		E 155p28	M40 x 1.5	29	32	24.0–28.0	8.0	73.0
	NVNZ-M506S/P1		E 156p32	M50 x 1.5	36	40	27.0–32.0	9.0	89.5
	NVNZ-M506S/P3	NVNZ-M506R/P	E 156p36	M50 x 1.5	36	40	32.0–36.0	9.0	89.5
	NVNZ-M508S/P2		E 157p36HF	M50 x 1.5	48	50	32.0–36.0	9.0	92.0
	NVNZ-M508S/P3		E 157p40HF	M50 x 1.5	48	50	36.0–40.0	9.0	92.0
	NVNZ-M638S/P1	NVNZ-M638R/P	E 158pm1x35	M63 x 1.5	48	50	32.0–35.0	10.0	90.5
	NVNZ-M638S/P2		E 158p44	M63 x 1.5	48	50	39.0–44.0	10.0	90.5

*without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: -40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available. R/P version of fitting has to be used in combination with multiple sealing inserts

⑤ IP68GT available. Please replace "S" or "R" with "GT" (e.g. NVNZ-M120GT/P1, NVNZ-M120GT/P)

Fire barrier connectors with strain relief, metric, metal thread

Type VNZ

Type VNZ - Fire barrier connector straight with strain relief, metric metal thread



	Order no. IP68 Compl., black ⑤	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
			NW	Metric			
	NVNZ-M120S/B1	M12 x 1.5	10	12	4.0–6.5	5.0	48.5
	NVNZ-M120S/B2	M12 x 1.5	10	12	5.0–8.0	5.0	48.5
	NVNZ-M120S/B3	M12 x 1.5	10	12	6.5–9.5	5.0	48.5
	NVNZ-M160S/B1	M16 x 1.5	10	12	4.0–6.5	6.0	49.5
	NVNZ-M160S/B2	M16 x 1.5	10	12	5.0–8.0	6.0	49.5
	NVNZ-M160S/B3	M16 x 1.5	10	12	6.5–9.5	6.0	49.5
	NVNZ-M202S/B1	M20 x 1.5	12	16	4.0–6.5	6.0	54.0
	NVNZ-M202S/B3	M20 x 1.5	12	16	6.5–9.5	6.0	54.0
	NVNZ-M202S/B4	M20 x 1.5	12	16	7.0–10.5	6.0	54.0
	NVNZ-M207S/B1	M20 x 1.5	17	20	4.0–6.5	6.5	60.0
	NVNZ-M207S/B2	M20 x 1.5	17	20	5.0–8.0	6.5	60.0
	NVNZ-M207S/B3	M20 x 1.5	17	20	6.5–9.5	6.5	60.0
	NVNZ-M207S/B4	M20 x 1.5	17	20	7.0–10.5	6.5	60.0
	NVNZ-M207S/B5	M20 x 1.5	17	20	9.0–13.0	6.5	60.0
	NVNZ-M253S/B5	M25 x 1.5	23	25	9.0–13.0	7.5	72.5
	NVNZ-M253S/B6	M25 x 1.5	23	25	11.5–15.5	7.5	72.5
	NVNZ-M257S/B4	M25 x 1.5	17	20	7.0–10.0	7.5	61.5
	NVNZ-M257S/B5	M25 x 1.5	17	20	9.0–13.0	7.5	61.5
	NVNZ-M257S/B6	M25 x 1.5	17	20	11.5–15.5	7.5	61.5
	NVNZ-M323S/B4	M32 x 1.5	23	25	14.0–18.0	8.0	73.0
	NVNZ-M323S/B5	M32 x 1.5	23	25	17.0–20.5	8.0	73.0
	NVNZ-M329S/B2	M32 x 1.5	29	32	14.0–18.0	8.0	73.0
	NVNZ-M329S/B3	M32 x 1.5	29	32	17.0–20.5	8.0	73.0
	NVNZ-M329S/B4	M32 x 1.5	29	32	20.0–25.0	8.0	73.0
	NVNZ-M406S/B1	M40 x 1.5	36	40	20.0–25.0	9.0	87.0
	NVNZ-M406S/B2	M40 x 1.5	36	40	24.0–28.0	9.0	87.0
	NVNZ-M409S/B1	M40 x 1.5	29	32	11.5–15.5	8.0	73.0
	NVNZ-M409S/B2	M40 x 1.5	29	32	14.0–18.0	8.0	73.0
	NVNZ-M409S/B3	M40 x 1.5	29	32	17.0–20.5	8.0	73.0
	NVNZ-M409S/B4	M40 x 1.5	29	32	20.0–25.0	8.0	73.0
	NVNZ-M409S/B5	M40 x 1.5	29	32	24.0–28.0	8.0	73.0
	NVNZ-M506S/B1	M50 x 1.5	36	40	27.0–32.0	9.0	89.5
	NVNZ-M506S/B3	M50 x 1.5	36	40	32.0–36.0	9.0	89.5
	NVNZ-M508S/B2	M50 x 1.5	48	50	32.0–36.0	9.0	92.0
	NVNZ-M508S/B3	M50 x 1.5	48	50	36.0–40.0	9.0	92.0
	NVNZ-M638S/B1	M63 x 1.5	48	50	32.0–35.0	10.0	90.5
	NVNZ-M638S/B2	M63 x 1.5	48	50	39.0–44.0	10.0	90.5

*without insert

Fire barrier function, according to standard EN45545-2/-3

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from T80S

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: -40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available.

R/P version of fitting has to be used in combination with multiple sealing inserts

⑤ IP68GT available. Please
replace "S" or "R" with "GT"
(e.g. NVNZ-M120GT/P1,
NVNZ-M120GT/P)

Connectors with strain relief, metric, long metal thread

Type VNZ

Type VNZ - Connector straight with strain relief, metric long metal thread



	Order no. IP68 Compl., black ⑤	Order no. fitting* ⑤	Order no. insert	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
	NVNZ-M120S/P1-L	NVNZ-M120R/P-L	EK 150p7	M12 x 1.5	10	12	4.0–6.5	15.0	66.5
	NVNZ-M120S/P3-L			M12 x 1.5	10	12	6.5–9.5	15.0	66.5
	NVNZ-M160S/P1-L	NVNZ-M160R/P-L	E 150p7	M16 x 1.5	10	12	4.0–6.5	15.0	58.5
	NVNZ-M160S/P2-L		E 150p8	M16 x 1.5	10	12	5.0–8.0	15.0	58.5
	NVNZ-M160S/P3-L		E 150p9	M16 x 1.5	10	12	6.5–9.5	15.0	58.5
	NVNZ-M202S/P1-L	NVNZ-M202R/P-L	E 152p7	M20 x 1.5	12	16	4.0–6.5	15.0	62.5
	NVNZ-M202S/P3-L		E 152p9	M20 x 1.5	12	16	6.5–9.5	15.0	62.5
	NVNZ-M202S/P4-L		E 152p11	M20 x 1.5	12	16	7.0–10.5	15.0	62.5
	NVNZ-M207S/P3-L	NVNZ-M207R/P-L	E 152p9	M20 x 1.5	17	20	6.5–9.5	15.0	68.5
	NVNZ-M207S/P4-L		E 152p11	M20 x 1.5	17	20	7.0–10.5	15.0	68.5
	NVNZ-M207S/P5-L		E 152p13	M20 x 1.5	17	20	9.0–13.0	15.0	68.5
	NVNZ-M257S/P5-L	NVNZ-M257R/P-L	E 153p13	M25 x 1.5	17	20	9.0–13.0	15.0	69.0
	NVNZ-M257S/P6-L		E 153p16	M25 x 1.5	17	20	11.5–15.5	15.0	69.0
	NVNZ-M323S/P4-L	NVNZ-M323R/P-L	E 154p18	M32 x 1.5	23	25	14.0–18.0	15.0	80.0
	NVNZ-M323S/P5-L	NVNZ-M323R1/P-L	E 154p20	M32 x 1.5	23	25	17.0–20.5	15.0	80.0
	NVNZ-M329S/P2-L	NVNZ-M329R/P-L	E 155p18	M32 x 1.5	29	32	14.0–18.0	15.0	91.0
	NVNZ-M329S/P3-L		E 155p20	M32 x 1.5	29	32	17.0–20.5	15.0	91.0
	NVNZ-M409S/P3-L	NVNZ-M409R/P-L	E 155p20	M40 x 1.5	29	32	17.0–20.5	15.0	80.0
	NVNZ-M409S/P4-L		E 155p25	M40 x 1.5	29	32	20.0–25.0	15.0	80.0
	NVNZ-M409S/P5-L		E 155p28	M40 x 1.5	29	32	24.0–28.0	15.0	80.0
	NVNZ-M506S/P1-L	NVNZ-M506R/P-L	E 156p32	M50 x 1.5	36	40	27.0–32.0	15.0	94.5
	NVNZ-M506S/P3-L		E 156p36	M50 x 1.5	36	40	32.0–36.0	15.0	94.5
	NVNZ-M508S/P2-L	NVNZ-M508R/P-L	E 157p36HF	M50 x 1.5	48	50	32.0–36.0	15.0	97.0
	NVNZ-M508S/P3-L		E 157p40HF	M50 x 1.5	48	50	36.0–40.0	15.0	97.0
	NVNZ-M638S/P1-L	NVNZ-M638R/P-L	E 158pm1X35	M63 x 1.5	48	50	32.0–35.0	15.0	95.5
	NVNZ-M638S/P2-L		E 158p44	M63 x 1.5	48	50	39.0–44.0	15.0	95.5

*without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: –40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available

R/P version of fitting has to be used in combination with multiple sealing inserts

⑤ IP68GT available. Please
replace “S” or “R” with “GT”
(e.g. NVNZ-M120GT/P1-L)

Connectors metric, metal thread

Type VAV

Type VAV - Connector 45° elbow, metric metal thread

	Order no. IP68, black ④	Order no. IP68, grey ④	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NVAV-M120-10	MVAV-M120-10	M12 x 1.5	10	12	10.0	48.5 x 37.0
	NVAV-M120-5	MVAV-M120-5	M12 x 1.5	10	12	5.0	43.5 x 37.0
	NVAV-M162-10	MVAV-M162-10	M16 x 1.5	12	16	10.0	53.0 x 40.5
	NVAV-M162-5	MVAV-M162-5	M16 x 1.5	12	16	5.0	48.0 x 40.5
	NVAV-M207-10	MVAV-M207-10	M20 x 1.5	17	20	10.0	60.5 x 51.5
	NVAV-M207-6	MVAV-M207-6	M20 x 1.5	17	20	6.0	56.5 x 51.5
	NVAV-M253-11	MVAV-M253-11	M25 x 1.5	23	25	11.0	70.0 x 60.5
	NVAV-M253-7	MVAV-M253-7	M25 x 1.5	23	25	7.0	66.0 x 60.5
	NVAV-M329-13	MVAV-M329-13	M32 x 1.5	29	32	13.0	77.0 x 68.0
	NVAV-M329-8	MVAV-M329-8	M32 x 1.5	29	32	8.0	72.0 x 68.0
	NVAV-M406-13	MVAV-M406-13	M40 x 1.5	36	40	13.0	94.0 x 87.5
	NVAV-M406-8	MVAV-M406-8	M40 x 1.5	36	40	8.0	89.0 x 87.5
	NVAV-M508-14	MVAV-M508-14	M50 x 1.5	48	50	14.0	102.0 x 101.0
	NVAV-M508-9	MVAV-M508-9	M50 x 1.5	48	50	9.0	97.0 x 101.0
	NVAV-M638-14	MVAV-M638-14	M63 x 1.5	48	50	14.0	102.0 x 104.0
	NVAV-M638-10	MVAV-M638-10	M63 x 1.5	48	50	10.0	98.0 x 104.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

④ IP68GT available. Please add "GT" prior to the thread length (e.g. NVAV-M120GT-10, NVBV-M120GT-10)



PMA® CABLE PROTECTION

PMA provides information and guidance on application specific challenges, and develops products to meet the needs of the industry.



Connectors metric, metal thread

Type VBV

Type VBV - Connector 90° curved elbow, metric metal thread

	Order no. IP68, black ④	Order no. IP68, grey ④	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NVBV-M207-10	MVBV-M207-10	M20 x 1.5	17	20	10.0	51.0 x 73.0
	NVBV-M207-6	MVBV-M207-6	M20 x 1.5	17	20	6.0	47.0 x 73.0
	NVBV-M257-11	MVBV-M257-11	M25 x 1.5	17	20	11.0	52.0 x 76.0
	NVBV-M257-7	MVBV-M257-7	M25 x 1.5	17	20	7.0	48.0 x 76.0
	NVBV-M253-11	MVBV-M253-11	M25 x 1.5	23	25	11.0	62.5 x 85.0
	NVBV-M253-7	MVBV-M253-7	M25 x 1.5	23	25	7.0	58.5 x 85.0
	NVBV-M323-13	MVBV-M323-13	M32 x 1.5	23	25	13.0	64.5 x 89.0
	NVBV-M323-8	MVBV-M323-8	M32 x 1.5	23	25	8.0	59.5 x 89.0
	NVBV-M329-13	MVBV-M329-13	M32 x 1.5	29	32	13.0	74.0 x 94.5
	NVBV-M329-8	MVBV-M329-8	M32 x 1.5	29	32	8.0	69.0 x 94.5
	NVBV-M409-13	MVBV-M409-13	M40 x 1.5	29	32	13.0	75.5 x 100.5
	NVBV-M409-8	MVBV-M409-8	M40 x 1.5	29	32	8.0	70.5 x 100.5
	NVBV-M406-13	MVBV-M406-13	M40 x 1.5	36	40	13.0	86.5 x 123.0
	NVBV-M406-8	MVBV-M406-8	M40 x 1.5	36	40	8.0	81.5 x 123.0
	NVBV-M506-14	MVBV-M506-14	M50 x 1.5	36	40	14.0	87.5 x 130.0
	NVBV-M506-9	MVBV-M506-9	M50 x 1.5	36	40	9.0	82.5 x 130.0
	NVBV-M508-14	MVBV-M508-14	M50 x 1.5	48	50	14.0	100.5 x 135.0
	NVBV-M508-9	MVBV-M508-9	M50 x 1.5	48	50	9.0	95.5 x 135.0
Approvals 	NVBV-M638-10	MVBV-M638-10	M63 x 1.5	48	50	14.0	100.5 x 138.0
	NVBV-M638-14	MVBV-M638-14	M63 x 1.5	48	50	10.0	96.5 x 138.0

For applications in railway vehicles and heavy machine construction

High thread and system connection strength

Smooth elbow allows easy threading of wires and cables

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

④ IP68GT available. Please add "GT" prior to the thread length (e.g. NVAV-M120GT-10, NVBV-M120GT-10)

Connectors metric, metal thread

Type VWV

Type VWV - Connector 90° elbow, metric metal thread

	Order no. IP68, black ④	Order no. IP68, grey ④	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NVWV-M120-10	MVWV-M120-10	M12 x 1.5	10	12	10.0	37.5 x 39.5
	NVWV-M120-5	MVWV-M120-5	M12 x 1.5	10	12	5.0	32.5 x 39.5
	NVWV-M160-10	MVWV-M160-10	M16 x 1.5	10	12	10.0	37.5 x 41.5
	NVWV-M160-5	MVWV-M160-5	M16 x 1.5	10	12	5.0	32.5 x 41.5
	NVWV-M162-10	MVWV-M162-10	M16 x 1.5	12	16	10.0	42.0 x 46.5
	NVWV-M162-5	MVWV-M162-5	M16 x 1.5	12	16	5.0	37.0 x 46.5
	NVWV-M202-10	MVWV-M202-10	M20 x 1.5	12	16	10.0	42.0 x 49.0
	NVWV-M202-6	MVWV-M202-6	M20 x 1.5	12	16	6.0	38.0 x 49.0
	NVWV-M207-10	MVWV-M207-10	M20 x 1.5	17	20	10.0	47.0 x 58.5
	NVWV-M207-6	MVWV-M207-6	M20 x 1.5	17	20	6.0	43.0 x 58.5
	NVWV-M253-11	MVWV-M253-11	M25 x 1.5	23	25	11.0	59.0 x 67.0
	NVWV-M253-7	MVWV-M253-7	M25 x 1.5	23	25	7.0	55.0 x 67.0
	NVWV-M329-13	MVWV-M329-13	M32 x 1.5	29	32	13.0	68.0 x 74.5
	NVWV-M329-8	MVWV-M329-8	M32 x 1.5	29	32	8.0	63.0 x 74.5
	NVWV-M406-13	MVWV-M406-13	M40 x 1.5	36	40	13.0	80.5 x 98.0
	NVWV-M406-8	MVWV-M406-8	M40 x 1.5	36	40	8.0	75.5 x 98.0
	NVWV-M508-14	MVWV-M508-14	M50 x 1.5	48	50	14.0	95.5 x 111.0
	NVWV-M508-9	MVWV-M508-9	M50 x 1.5	48	50	9.0	90.5 x 111.0
Approvals 	NVWV-M638-14	MVWV-M638-14	M63 x 1.5	48	50	14.0	94.5 x 114.0
	NVWV-M638-10	MVWV-M638-10	M63 x 1.5	48	50	10.0	90.5 x 114.0

For applications in railway vehicles and heavy machine construction

High thread and system connection strength

Note: Curved elbows of type VB are also available for sizes NW 17 to NW 48

④ IP68GT available. Please add
“GT” prior to the thread length
(e.g. NVWV-M120GT-10)

Connectors with strain relief, metric, metal thread

Type VWZ

Type VWZ - Connector 90° elbow with strain relief, metric metal thread



	Order no. IP68 Compl., black ⑤	Order no. fitting* ⑤	Order no. insert	Thread metric	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
	NVWZ-M160S/P1	NVWZ-M160R/P	E 150p7	M16 x 1.5	10	12	4.0–6.5	8.0	65.0
	NVWZ-M160S/P2	–	E 150p8	M16 x 1.5	10	12	5.0–8.0	8.0	65.0
	NVWZ-M160S/P3	–	E 150p9	M16 x 1.5	10	12	6.5–9.5	8.0	65.0
	NVWZ-M202S/P1	NVWZ-M202R/P	E 152p7	M20 x 1.5	12	16	4.0–6.5	8.0	74.5
	NVWZ-M202S/P3	–	E 152p9	M20 x 1.5	12	16	6.5–9.5	8.0	74.5
	NVWZ-M202S/P4	–	E 152p11	M20 x 1.5	12	16	7.0–10.5	8.0	74.5
	NVWZ-M207S/P1	NVWZ-M207R/P	E 152p7	M20 x 1.5	17	20	4.0–6.5	8.0	81.0
	NVWZ-M207S/P3	–	E 152p9	M20 x 1.5	17	20	6.5–9.5	8.0	81.0
	NVWZ-M207S/P4	–	E 152p11	M20 x 1.5	17	20	7.0–10.5	8.0	81.0
	NVWZ-M207S/P5	–	E 152p13	M20 x 1.5	17	20	9.0–13.0	8.0	81.0
	NVWZ-M257S/P5	NVWZ-M257R/P	E 153p13	M25 x 1.5	17	20	9.0–13.0	8.0	84.0
	NVWZ-M257S/P6	–	E 153p16	M25 x 1.5	17	20	11.5–15.5	8.0	84.0

*without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Straight connector: Specially formulated polyamide 6

90° elbow: Zinc diecast

Female thread and locknut: Nickel-plated brass

Pflitsch sealing insert: TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: –40°C to +135°C

⑤ IP68GT available. Please
replace “S” or “R” with “GT”
(e.g. NVWZ-M160GT/P1)

Connectors PG, polyamide thread

Type VN

Type VN - Connector straight, PG thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVND-P07MGT-11	BVNV-P07M	07	07	10	11.0	34.5
	BVND-P07MGT-8	–	07	07	10	8.0	31.5
	BVND-P070GT-11	BVNV-P070	07	10	12	11.0	36.5
	BVND-P070GT-8	–	07	10	12	8.0	33.5
	BVND-P072GT-11	BVNV-P072	07	12	16	11.0	39.0
	BVND-P072GT-8	–	07	12	16	8.0	36.0
	BVND-P09MGT-11	BVNV-P09M	09	07	10	11.0	34.5
	BVND-P09MGT-8	–	09	07	10	8.0	31.5
	BVND-P090GT-11	BVNV-P090	09	10	12	11.0	36.5
	BVND-P090GT-8	–	09	10	12	8.0	33.5
	BVND-P092GT-11	BVNV-P092	09	12	16	11.0	39.0
	BVND-P092GT-8	–	09	12	16	8.0	36.0
	BVND-P097GT-11	BVNV-P097	09	17	20	11.0	47.5
	BVND-P097GT-8	–	09	17	20	8.0	44.5
	BVND-P11MGT-11	BVNV-P11M	11	07	10	11.0	34.5
	BVND-P11MGT-8	–	11	07	10	8.0	31.5
	BVND-P110GT-11	BVNV-P110	11	10	12	11.0	36.5
	BVND-P110GT-8	–	11	10	12	8.0	33.5
	BVND-P112GT-11	BVNV-P112	11	12	16	11.0	39.0
	BVND-P112GT-8	–	11	12	16	8.0	36.0
	BVND-P117GT-11	BVNV-P117	11	17	20	11.0	47.5
	BVND-P117GT-8	–	11	17	20	8.0	44.5
	BVND-P13MGT-11	BVNV-P13M	13.5	07	10	11.0	34.5
	BVND-P13MGT-8	–	13.5	07	10	8.0	31.5
	BVND-P130GT-11	BVNV-P130	13.5	10	12	11.0	36.5
	BVND-P130GT-8	–	13.5	10	12	8.0	33.5
	BVND-P132GT-11	BVNV-P132	13.5	12	16	11.0	39.0
	BVND-P132GT-8	–	13.5	12	16	8.0	36.0
	BVND-P137GT-11	BVNV-P137	13.5	17	20	11.0	47.5
	BVND-P137GT-8	–	13.5	17	20	8.0	44.5
	BVND-P160GT-11	–	16	10	12	11.0	36.5
	BVND-P160GT-8	–	16	10	12	8.0	33.5
	BVND-P162GT-11	BVNV-P162	16	12	16	11.0	39.0
	BVND-P163GT-11	BVNV-P163	16	23	25	11.0	51.0
	BVND-P163GT-8	–	16	23	25	8.0	48.0
	BVND-P167GT-11	BVNV-P167	16	17	20	11.0	47.5
	BVND-P167GT-8	–	16	17	20	8.0	44.5
	BVND-P213GT	BVNV-P213	21	23	25	12.0	52.0
	BVND-P296GT	BVNV-P296	29	36	40	12.0	67.5
	BVND-P299GT	BVNV-P299	29	29	32	12.0	53.0
	BVND-P366GT	BVNV-P366	36	36	40	13.0	66.0
	BVND-P368GT	BVNV-P368	36	48	50	13.0	68.5
	BVND-P428GT	BVNV-P428	42	48	50	13.0	68.5
	BVND-P488GT	BVNV-P488	48	48	50	13.0	66.5

Approvals



- ① Please replace "B" for black with "S" for grey in front of the order no.
 ② IP68GT available. Please add "GT" after the order no.

For cable protection systems in a wide range of applications

Connectors PG, polyamide thread

Type VNDZ/VNZ & VA

Type VNDZ/VNZ - Connector straight with strain relief, PG thread

	Order no. IP66 ①	Order no. IP68 ① ③	Thread PG	Fits to conduit size		Terminal range	Thread length (mm)	Overall length (mm)
				NW	Metric			
	BVNDZ-P090GT	BVNZ-P090S	09	10	12	4.0–8.0	7.5	56.0
	BVNDZ-P112GT	BVNZ-P112S	11	12	16	5.0–10.0	8.0	60.5
	BVNDZ-P132GT	BVNZ-P132S	13.5	12	16	6.0–12.0	9.0	62.0
	BVNDZ-P137GT	BVNZ-P137S	13.5	17	20	6.0–12.0	9.0	69.0
	BVNDZ-P167GT	BVNZ-P167S	16	17	20	10.0–14.0	10.0	72.0
	BVNDZ-P163GT	BVNZ-P163S	16	23	25	10.0–14.0	10.0	79.0
	BVNDZ-P213GT	BVNZ-P213S	21	23	25	13.0–18.0	11.0	82.0
	BVNDZ-P299GT	BVNZ-P299S	29	29	32	18.0–25.0	11.0	85.0
	BVNDZ-P366GT	BVNZ-P366S	36	36	40	22.0–32.0	13.0	112.0
	BVNDZ-P488GT	BVNZ-P488S	48	48	50	34.0–44.0	14.0	112.0

For machine and plant construction

For separation of damp and dry areas

Integrated strain relief optimally holds and seals cables

If several conductors are used with the connector multiple sealing inserts should be considered

Note: For several conductors multiple sealing inserts MDE are available

Type VA - Connector 45° elbow, PG thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread PG	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVAD-P090GT	BVAV-P090	09	10	12	11.0	43.5 x 37.0
	BVAD-P112GT	BVAV-P112	11	12	16	11.0	48.0 x 40.0
	BVAD-P132GT	BVAV-P132	13.5	12	16	11.0	48.0 x 41.5
	BVAD-P137GT	BVAV-P137	13.5	17	20	11.0	55.5 x 51.5
	BVAD-P167GT	BVAV-P167	16	17	20	11.0	55.5 x 51.5
	BVAD-P213GT	BVAV-P213	21	23	25	11.0	63.0 x 58.0
	BVAD-P299GT	BVAV-P299	29	29	32	12.0	69.0 x 66.0
	BVAD-P366GT	BVAV-P366	36	36	40	13.0	86.0 x 86.0
	BVAD-P488GT	BVAV-P488	48	48	50	13.0	94.0 x 100.0

Approvals



For cable protection systems in a wide range of applications

① Please replace "B" for black with "S" for grey in front of the order no.

② IP68GT available. Please add "GT" after the order no.

③ IP68GT available. Please replace "S" at the end with "GT" (e.g. BVNZ-P167GT).

Connectors PG, polyamide thread

Type VB

Type VB - Connector 90° curved elbow, PG thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVBD-P167GT	BVBV-P167	16	17	20	11.0	47.5 x 73.0
	BVBD-P213GT	BVBV-P213	21	23	25	12.0	57.5 x 85.0
	BVBD-P299GT	BVBV-P299	29	29	32	12.0	67.5 x 96.0
	BVBD-P366GT	BVBV-P366	36	36	40	13.0	79.0 x 123.0
	BVBD-P488GT	BVBV-P488	48	48	50	13.0	92.5 x 135.0

Approvals



For cable protection systems in a wide range of applications

Smooth elbow allows easy threading of wires and cables

Note: For smaller conduit sizes NW 07 to NW 12 appropriate standard elbows of type VW are also available

① Please replace "B" for black with
"S" for grey in front of the order no.

② IP68GT available. Please add
"GT" after the order no.

Connectors PG, polyamide thread

Type VW

Type VW - Connector 90° elbow, PG thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVWD-P07MGT-11	BVWV-P07M	07	07	10	11.0	32.0 x 35.0
	BVWD-P07MGT-8	–	07	07	10	8.0	29.0 x 35.0
	BVWD-P070GT-11	BVWV-P070	07	10	12	11.0	34.0 x 39.5
	BVWD-P070GT-8	–	07	10	12	8.0	31.0 x 39.5
	BVWD-P072GT-11	BVWV-P072	07	12	16	11.0	38.5 x 44.5
	BVWD-P072GT-8	–	07	12	16	8.0	35.5 x 44.5
	BVWD-P09MGT-11	BVWV-P09M	09	07	10	11.0	32.0 x 36.5
	BVWD-P09MGT-8	–	09	07	10	8.0	29.0 x 36.5
	BVWD-P090GT-11	BVWV-P090	09	10	12	11.0	34.0 x 39.5
	BVWD-P090GT-8	–	09	10	12	8.0	31.0 x 39.5
	BVWD-P092GT-11	BVWV-P092	09	12	16	11.0	38.5 x 44.5
	BVWD-P092GT-8	–	09	12	16	8.0	35.5 x 44.5
	BVWD-P11MGT-11	BVWV-P11M	11	07	10	11.0	32.0 x 38.0
	BVWD-P11MGT-8	–	11	07	10	8.0	29.0 x 38.0
	BVWD-P110GT-11	BVWV-P110	11	10	12	11.0	34.0 x 41.0
	BVWD-P110GT-8	–	11	10	12	8.0	31.0 x 41.0
	BVWD-P112GT-11	BVWV-P112	11	12	16	11.0	38.5 x 46.0
	BVWD-P112GT-8	–	11	12	16	8.0	35.5 x 46.0
	BVWD-P13MGT-11	BVWV-P13M	13.5	07	10	11.0	32.0 x 39.5
	BVWD-P13MGT-8	–	13.5	07	10	8.0	29.0 x 39.5
	BVWD-P130GT-11	BVWV-P130	13.5	10	12	11.0	34.0 x 42.5
	BVWD-P130GT-8	–	13.5	10	12	8.0	31.0 x 42.5
	BVWD-P132GT-11	BVWV-P132	13.5	12	16	11.0	38.5 x 47.5
	BVWD-P132GT-8	–	13.5	12	16	8.0	35.5 x 47.5
	BVWD-P137GT-11	BVWV-P137	13.5	17	20	11.0	43.5 x 58.5
	BVWD-P137GT-8	–	13.5	17	20	8.0	40.5 x 58.5
	BVWD-P167GT-11	BVWV-P167	16	17	20	11.0	43.5 x 58.5
	BVWD-P167GT-8	–	16	17	20	8.0	40.5 x 58.5
	BVWD-P213GT	BVWV-P213	21	23	25	12.0	54.0 x 67.0
	BVWD-P299GT	BVWV-P299	29	29	32	12.0	61.5 x 74.5
	BVWD-P366GT	BVWV-P366	36	36	40	13.0	72.0 x 98.0
	BVWD-P488GT	BVWV-P488	48	48	50	13.0	85.5 x 111.0

Approvals



For cable protection systems in a wide range of applications

Note: For sizes NW 17 to NW 48 curved elbows of type VB are also available

① Please replace "B" for black with "S" for grey in front of the order no.

② IP68GT available. Please add "GT" after the order no.

Connectors PG, metal thread

Type VNV

Type VNV - Connector straight, PG metal thread

	Order no. IP68, black ②	Order no. IP68, grey ②	Thread PG	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	NVNV-P090	MVNV-P090	09	10	12	12.0	42.0
	NVNV-P112	MVNV-P112	11	12	16	12.0	45.0
	NVNV-P137	MVNV-P137	13.5	17	20	13.0	54.0
	NVNV-P167	MVNV-P167	16	17	20	13.0	54.0
	NVNV-P213	MVNV-P213	21	23	25	14.0	57.0
	NVNV-P293	MVNV-P293	29	23	25	14.0	57.0
	NVNV-P299	MVNV-P299	29	29	32	14.0	58.5
	NVNV-P366	MVNV-P366	36	36	40	17.0	75.5
	NVNV-P488	MVNV-P488	48	48	50	17.0	75.5

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

② IP68GT available. Please add
"GT" after the order no.

Connectors PG, with strain relief, metal thread

Type VNZ

Type VNZ - Connector straight with strain relief, PG metal thread



	Order no. IP68 Compl., black ⑤	Order no. fitting* ⑤	Order no. insert	Thread PG	Fits to conduit size		Terminal range (mm)	Thread length (mm)	Overall length (mm)
					NW	Metric			
	NVNZ-P090S/P1	NVNZ-P090R/P	E 150p7	09	10	12	4.0–6.5	6.0	49.5
	NVNZ-P090S/P3	–	E 150p9	09	10	12	6.5–9.5	6.0	49.5
	NVNZ-P110S/P1	NVNZ-P110R/P	E 151p7	11	10	12	4.0–6.5	6.0	52.0
	NVNZ-P110S/P3	–	E 151p9	11	10	12	6.5–9.5	6.0	52.0
	NVNZ-P112S/P1	NVNZ-P112R/P	E 151p7	11	12	16	4.0–6.5	6.0	53.5
	NVNZ-P112S/P3	–	E 151p9	11	12	16	6.5–9.5	6.0	53.5
	NVNZ-P112S/P4	–	E 151p11	11	12	16	7.0–10.5	6.0	53.5
	NVNZ-P160S/P1	NVNZ-P160R/P	E 152p11	16	10	12	4.0–6.5	6.5	52.5
	NVNZ-P167S/P3	NVNZ-P167R/P	E 153p9	16	17	20	6.5–9.5	6.5	61.0
	NVNZ-P167S/P4	–	E 153p11	16	17	20	7.0–10.5	6.5	61.0
	NVNZ-P167S/P5	–	E 153p13	16	17	20	9.0–13.0	6.5	61.0
	NVNZ-P167S/P6	–	E 153p16	16	17	20	11.5–15.5	6.5	61.0
	NVNZ-P213S/P1	NVNZ-P213R/P	E 154p11	21	23	25	7.0–10.5	7.0	72.0
	NVNZ-P213S/P4	–	E 154p18	21	23	25	14.0–18.0	7.0	72.0
	NVNZ-P213S/P5	NVNZ-P213R1/P	E 154p20	21	23	25	17.0–20.5	7.0	72.0
	NVNZ-P299S/P3	NVNZ-P299R/P	E 155p20	29	29	32	17.0–20.5	8.0	73.5
	NVNZ-P299S/P4	–	E 155p25	29	29	32	20.0–25.0	8.0	73.5
	NVNZ-P299S/P5	–	E 155p28	29	29	32	24.0–28.0	8.0	73.5
	NVNZ-P366S/P1	NVNZ-P366R/P	E 156p32	36	36	40	27.0–32.0	9.0	88.0
	NVNZ-P366S/P2	–	E 156p34	36	36	40	29.0–34.0	9.0	88.0
	NVNZ-P366S/P3	–	E 156p36	36	36	40	32.0–36.0	9.0	88.0
	NVNZ-P488S/P1	NVNZ-P488R/P	E 158pm 1x35	48	48	50	32.0–35.0	10.0	90.5
	NVNZ-P488S/P2	–	E 158p44	48	48	50	39.0–44.0	10.0	90.5

*without insert

For applications in railway vehicles and heavy machine construction

For the separation of damp and dry areas

Sealing inserts are made from TPE-V

With integrated strain relief and optimal ingress protection at the cable (up to IP68/10 bar)

High thread and system connection strength

Temperature range sealing insert Pflitsch: –40°C to +135°C

Note: For several conductors multiple sealing inserts MDE are available

R/P version of fitting has to be used in combination with multiple sealing inserts

Connectors PG, metal thread

Type VAV & VBV

Type VAV - Connector 45° elbow, PG metal thread

	Order no. IP68, black ②	Order no. IP68, grey ②	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NVAV-P090	MVAV-P090	09	10	12	12.0	50.5 x 37.0
	NVAV-P112	MVAV-P112	11	12	16	12.0	55.0 x 40.5
	NVAV-P137	MVAV-P137	13.5	17	20	13.0	63.5 x 50.0
	NVAV-P167	MVAV-P167	16	17	20	13.0	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	14.0	78.0 x 68.0
	NVAV-P366	MVAV-P366	36	36	40	17.0	98.0 x 87.5
	NVAV-P488	MVAV-P488	48	48	50	17.0	105.0 x 101.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

Type VBV - Connector 90° curved elbow, PG metal thread

	Order no. IP68, black ②	Order no. IP68, grey ②	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	14.0	75.0 x 96.0
	NVBV-P366	MVBV-P366	36	36	40	17.0	90.5 x 123.0
	NVBV-P488	MVBV-P488	48	48	50	17.0	103.5 x 135.0

Approvals



For applications in railway vehicles and heavy machine construction
High thread and system connection strength

Smooth elbow allows easy threading of wires and cables

Note: For smaller conduit sizes NW 10 to NW 12 appropriate standard elbows of type VW are also available

② IP68GT available. Please add
"GT" after the order no.

Connectors PG, metal thread

Type VWV

Type VWV - Connector 90° elbow, PG metal thread

	Order no. IP68, black ②	Order no. IP68, grey ②	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	NVWV-P090	MVWV-P090	09	10	12	12.0	39.5 x 39.5
	NVWV-P112	MVWV-P112	11	12	16	12.0	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	13.0	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	14.0	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	17.0	96.5 x 111.0

Approvals



For applications in railway vehicles and heavy machine construction

High thread and system connection strength

Note: Curved elbows of type VB are also available for sizes NW 17 to NW 48

② IP68GT available. Please add
"GT" after the order no.

Connectors GAS, polyamide thread

Type VN & VW

Type VN - Connector straight, GAS thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread GAS	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVND-G00MGT	BVNV-G00M	1/4"	07	10	11.0	34.5
	BVND-G000GT	BVNV-G000	1/4"	10	12	11.0	36.5
	BVND-G010GT	BVNV-G010	3/8"	10	12	11.0	36.5
	BVND-G012GT	BVNV-G012	3/8"	12	16	11.0	39.0
	BVND-G022GT	BVNV-G022	1/2"	12	16	13.0	41.0
	BVND-G027GT	BVNV-G027	1/2"	17	20	13.0	49.5
	BVND-G043GT	BVNV-G043	3/4"	23	25	14.0	54.0
	BVND-G069GT	BVNV-G069	1"	29	32	15.0	56.0
	BVND-G076GT	BVNV-G076	1 1/4"	36	40	18.0	71.0
	BVND-G088GT	BVNV-G088	1 1/2"	48	50	18.0	71.5
	BVND-G098GT	BVNV-G098	2"	48	50	18.0	71.5

For cable protection systems in a wide range of applications

Type VW - Connector 90° elbow, GAS thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread GAS	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVWD-G00MGT	BVWV-G00M	1/4"	07	10	11.0	32.0 x 36.5
	BVWD-G000GT	BVWV-G000	1/4"	10	12	11.0	34.0 x 39.5
	BVWD-G010GT	BVWV-G010	3/8"	10	12	11.0	34.0 x 40.5
	BVWD-G012GT	BVWV-G012	3/8"	12	16	11.0	38.5 x 46.0
	BVWD-G022GT	BVWV-G022	1/2"	12	16	13.0	40.5 x 47.5
	BVWD-G027GT	BVWV-G027	1/2"	17	20	13.0	45.5 x 58.5
	BVWD-G043GT	BVWV-G043	3/4"	23	25	14.0	56.0 x 66.5
	BVWD-G069GT	BVWV-G069	1"	29	32	15.0	64.5 x 73.5
	BVWD-G076GT	BVWV-G076	1 1/4"	36	40	18.0	77.0 x 96.0
	BVWD-G088GT	BVWV-G088	1 1/2"	48	50	18.0	90.5 x 106.0
	BVWD-G098GT	BVWV-G098	2"	48	50	18.0	90.5 x 111.0

For cable protection systems in a wide range of applications

① Please replace "B" for black with
"S" for grey in front of the order no.

② IP68GT available. Please add
"GT" after the order no.

Connectors NPT, polyamide thread

Type VN & VA

Type VN - Connector straight, NPT thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread NPT	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVND-N022GT	BVNV-N022	½"	12	16	13.0	41.5
	BVND-N027GT	BVNV-N027	½"	17	20	13.0	49.5
	BVND-N043GT	BVNV-N043	¾"	23	25	14.0	54.0
	BVND-N069GT	BVNV-N069	1"	29	32	15.0	56.0
	BVND-N076GT	BVNV-N076	1¼"	36	40	18.0	71.0
	BVND-N088GT	BVNV-N088	1½"	48	50	18.0	71.5
	BVND-N098GT	BVNV-N098	2"	48	50	18.0	71.5

Approvals



For cable protection systems in a wide range of applications

Type VA - Connector 45° elbow, NPT thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread NPT	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVAD-N022GT	BVAV-N022	½"	12	16	13.0	50.0 x 41.5
	BVAD-N027GT	BVAV-N027	½"	17	20	13.0	57.5 x 51.5
	BVAD-N043GT	BVAV-N043	¾"	23	25	14.0	67.0 x 60.0
	BVAD-N069GT	BVAV-N069	1"	29	32	15.0	73.5 x 67.0
	BVAD-N076GT	BVAV-N076	1¼"	36	40	18.0	91.5 x 85.5
	BVAD-N088GT	BVAV-N088	1½"	48	50	18.0	99.0 x 96.0
	-	BVAV-N098	2"	48	50	18.0	99.0 x 101.0

Approvals



For cable protection systems in a wide range of applications

- ① Please replace "B" for black with "S" for grey in front of the order no.
② IP68GT available. Please add "GT" after the order no.

Connectors NPT, polyamide thread

Type VW

Type VW - Connector 90° elbow, NPT thread

	Order no. IP66 ①	Order no. IP68 ① ②	Thread NPT	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
	BVWD-N022GT	BVWV-N022	½"	12	16	13.0	40.5 x 47.5
	BVWD-N027GT	BVWV-N027	½"	17	20	13.0	45.5 x 58.5
	BVWD-N043GT	BVWV-N043	¾"	23	25	14.0	56.0 x 66.5
	BVWD-N069GT	BVWV-N069	1"	29	32	15.0	64.5 x 73.5
	BVWD-N076GT	BVWV-N076	1¼"	36	40	18.0	77.0 x 96.0
	BVWD-N088GT	BVWV-N088	1½"	48	50	18.0	90.5 x 106.0
	BVWD-N098GT	BVWV-N098	2"	48	50	18.0	90.5 x 111.0

Approvals



For applications in railway vehicles and heavy machine construction

High thread and system connection strength

Note: Curved elbows of type VB are also available for sizes NW 17 to NW 48

① Please replace "B" for black with "S" for grey in front of the order no.

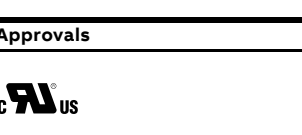
② IP68GT available. Please add "GT" after the order no.

Swivel connectors, metric/PG/NPT metal thread

Type SBV & SWV/SBV

Type SBV - Swivel connector 90° curved elbow, metric/PG metal thread

	Order no. IP68, black ④	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
			NW	Metric		
	NSBV-M207-10	M20 x 1.5	17	20	10.0	62.5 x 74.5
	NSBV-M253-11	M25 x 1.5	23	25	11.0	73.0 x 87.5
	NSBV-M329-13	M32 x 1.5	29	32	13.0	86.5 x 98.0
	NSBV-M406-13	M40 x 1.5	36	40	13.0	98.5 x 127.5
	NSBV-M409-13	M40 x 1.5	29	32	13.0	86.5 x 98.0
	NSBV-M508-14	M50 x 1.5	48	50	14.0	113.5 x 139.0
	NSBV-M638-14	M63 x 1.5	48	50	14.0	110.0 x 139.0

	Order no. IP68, black ④	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
			NW	Metric		
	NSBV-P167-6.5	16	17	20	6.5	58.0 x 74.5
	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

Approvals



For applications with high technical requirements mainly in machine building

Suitable for occasional rotation

Thread and integrated swivel adapter made from nickel-plated brass

High thread and system connection strength

Smooth elbow allows easy threading of wires and cables

Type SWV/SBV - Swivel connector 90° curved elbow, NPT metal thread

	Order no. IP68, black ④	Thread NPT	Fits to conduit size		Thread length (mm)	External dimensions (mm)
			NW	Metric		
	NSWV-N022/01	½"	12	16	15.4	57.0 x 48.5
	NSBV-N027/01	½"	17	20	15.4	66.5 x 74.5
	NSBV-N043/01	¾"	23	25	15.7	77.5 x 87.5
	NSBV-N069/01	1"	29	32	19.6	92.0 x 98.0
	NSBV-N076/01	1¼"	36	40	20.2	104.5 x 125.5
	NSBV-N088/01	1½"	48	50	20.6	118.5 x 138.5
	NSBV-N098/01	2"	48	50	21.4	119.5 x 138.5

Approvals



For applications with high technical requirements mainly in heavy machine building and rail applications

Suitable for occasional rotation

Thread and integrated swivel adapter made from colourless anodized aluminium

High thread and system connection strength

Smooth elbow allows easy threading of wires and cables

④ IP68GT available. Please add "GT" prior to the thread length (for example NSBV-M329GT-13)

Swivel connectors, metric/NPT metal thread

Type SNV

Type SNV - Swivel connector, straight, IP68 metric metal thread

	Order no. IP68, black ④	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NSNV-M120-10	M12 x 1.5	10	12	10.0	50.5
	NSNV-M162-10	M16 x 1.5	12	16	10.0	53.5
	NSNV-M207-10	M20 x 1.5	17	20	10.0	62.5
	NSNV-M253-11	M25 x 1.5	23	25	11.0	67.5
	NSNV-M329-13	M32 x 1.5	29	32	13.0	72.0
	NSNV-M329-7	M32 x 1.5	29	32	7.0	66.0
	NSNV-M406-13	M40 x 1.5	36	40	13.0	85.5
	NSNV-M406-7	M40 x 1.5	36	40	7.0	79.5
	NSNV-M409-13	M40 x 1.5	29	32	13.0	72.0
	NSNV-M508-14	M50 x 1.5	48	50	14.0	87.5
Approvals 	NSNV-M638-14	M63 x 1.5	48	50	14.0	84.0

For applications in railway vehicles and heavy machine construction
 Specially formulated polyamide 6
 Thread and integrated swivel adapter made from nickel-plated brass
 Very high impact resistance. High thread and system connection strength. Suitable for occasional rotation
 Easy introduction of wires and cables
 Vibration-proof connection to PMAFLEX conduits
 Very good chemical properties
 Free from halogens and cadmium
 Fits both conduit profiles – fine (T) and coarse (G)
 IP68, IP69

Type SNV - Swivel connector, straight, NPT metal thread

	Order no. IP68, black ④	Thread NPT	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NSNV-N022/01	½"	12	16	15.4	58.0
	NSNV-N027/01	½"	17	20	15.4	66.5
	NSNV-N043/01	¾"	23	25	15.7	72.0
	NSNV-N069/01	1"	29	32	19.6	77.5
	NSNV-N076/01	1¼"	36	40	20.2	91.5
	NSNV-N088/01	1½"	48	50	20.6	92.0
	NSNV-N098/01	2"	48	50	21.4	93.0

Approvals



For applications with high technical requirements mainly in machine building
 Specially formulated polyamide 6
 Thread and integrated swivel adapter made from colourless anodized aluminium
 Very high impact resistance. High thread and system connection strength. Suitable for occasional rotation
 Easy introduction of wires and cables
 Vibration-proof connection to PMAFLEX conduits
 Very good chemical properties
 Free from halogens and cadmium
 Fits both conduit profiles – fine (T) and coarse (G)
 IP68, IP69

④ IP68GT available. Please add
 "GT" prior to the thread length
 (for example NSBV-M329GT-13)

Swivel connectors with female NPT metal thread

Type SNIV & SBIV

Type SNIV - Swivel connector straight, female NPT metal thread, IP68

	Order no. black ^④	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NSNIV-N022/01	½ "	12	16	13.6	59.0
	NSNIV-N027/01	½ "	17	20	13.6	67.0
	NSNIV-N043/01	¾ "	23	25	14.1	72.5
	NSNIV-N069/01	1 "	29	32	16.8	76.5
	NSNIV-N076/01	1¼ "	36	40	17.3	91.5
	NSNIV-N088/01	1½ "	48	50	17.3	93.5
	NSNIV-N098/01	2 "	48	50	17.8	93.0

Approvals



For applications with high technical requirements mainly in machine building

Type SBIV - 360° Swivel connector, 90° curved elbow, IP68, female NPT metal thread

	Order no. IP68, black ^④	Thread NPT	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NSBIV-N022/01	½ "	12	16	13.6	48.5 x 46.5
	NSBIV-N027/01	½ "	17	20	13.6	67.0 x 74.5
	NSBIV-N043/01	¾ "	23	25	14.1	78.0 x 87.5
	NSBIV-N069/01	1 "	29	32	16.8	91.0 x 98.0
	NSBIV-N076/01	1¼ "	36	40	17.3	104.5 x 125.5
	NSBIV-N088/01	1½ "	48	50	17.3	119.5 x 138.5
	NSBIV-N098/01	2 "	48	50	17.8	119.0 x 138.5

Approvals



Technical requirements mainly in heavy machine building and rail applications
 Suitable for occasional rotation
 Specially formulated polyamide 6
 Thread and integrated swivel adapter made from colourless anodized aluminium
 Very high impact resistance
 High thread and system connection strength
 Suitable for occasional rotation
 Easy introduction of wires and cables
 Vibration-proof connection to PMAFLEX conduits
 Very good chemical properties
 Free from halogens and cadmium
 Fits both conduit profiles – fine (T) and coarse (G)
 IP68, IP69

^④ IP68GT available. Please add
 "GT" prior to the thread length
 (for example NSBV-M329GT-13)

Flanges, connectors with female, metric thread

Type VO & VI

Type VO - Flange 90°

	Order no. IP66 ①	Order no. IP68 ① ②	Fits to conduit size		Width x Length x Depth (mm)	Screw sizes
			NW	Metric		
VO	BVOD-P167GT	BVOV-P167	17	20	46.0 x 65.5 x 35.8	2 x M5
	BVOD-P213GT	BVOV-P213	23	25	65.5 x 70.5 x 43.2	2 x M6
	BVOD-P299GT	BVOV-P299	29	32	67.0 x 78.0 x 49.5	4 x M6
	BVOD-P366GT	BVOV-P366	36	40	85.0 x 102.0 x 65.5	4 x M6
	BVOD-P488GT	BVOV-P488	48	50	86.0 x 119.0 x 77.5	4 x M6



For cable protection systems in a wide range of applications
 Flange seal FGO4 made from EPDM, flange seal FGO4/01 made from NBR
 Temperature range with FGO4: -40°C to +105°C
 Temperature range with FGO4/01: -25°C to +70°C

Type VI - Connector straight, female metric thread

	Order no. IP66, black	Order no. IP68, black ②	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
VI	BVID-M12MGT	–	M12 x 1.5	07	10	8.0	32.0
	BVID-M160GT	BVIR-M160	M16 x 1.5	10	12	8.0	33.5
	BVID-M162GT	BVIR-M162	M16 x 1.5	12	16	8.0	36.5
	–	BVIR-M202	M20 x 1.5	12	16	8.0	36.5
	BVID-M207GT	BVIR-M207	M20 x 1.5	17	20	8.0	44.5
	BVID-M253GT	BVIR-M253	M25 x 1.5	23	25	8.0	48.5
	–	BVIR-M257	M25 x 1.5	17	20	8.0	44.5
	BVID-M329GT	BVIR-M329	M32 x 1.5	29	32	10.0	51.5
	BVID-M406GT	BVIR-M406	M40 x 1.5	36	40	10.0	65.5
	BVID-M508GT	BVIR-M508	M50 x 1.5	48	50	10.0	65.5
	BVID-M638GT	BVIR-M638	M63 x 1.5	48	50	10.0	65.5

Approvals



For cable protection systems in a wide range of applications
 VID: IP66 static/IP54 dynamic, conduit side
 VIR: IP68 static/IP67 dynamic, conduit side
 No seal on female thread side

- ① Please replace "B" for black with "S" for grey in front of the order no.
 ② IP68GT available. Please add "GT" after the order no.

Connectors with female, metric metal thread

Type VIR

Type VIR - Connector straight, female metric metal thread

	Order no. IP68, black ②	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NVIR-M120	M12 x 1.5	10	12	7.5	35.0
	NVIR-M160	M16 x 1.5	10	12	9.0	40.5
	NVIR-M162	M16 x 1.5	12	16	9.0	42.0
	NVIR-M207	M20 x 1.5	17	20	10.0	50.0
	NVIR-M253	M25 x 1.5	23	25	10.0	56.0
	NVIR-M329	M32 x 1.5	29	32	11.0	55.5
	NVIR-M406	M40 x 1.5	36	40	13.0	71.0
	NVIR-M508	M50 x 1.5	48	50	15.0	75.0
	NVIR-M638	M63 x 1.5	48	50	17.5	76.0

Approvals



For applications in railway vehicles and heavy machine construction
 High thread and system connection strengths
 VIR: IP68 static/IP67 dynamic, conduit side
 No seal on female thread side

① Please replace "B" for black with
 "S" for grey in front of the order no.

② IP68GT available. Please add
 "GT" after the order no.

Connector straight, PG female thread

Type FIL/VIR & VIZR

Type FIL/VIR - Connector straight, female PG thread

	Order no. IP67, black	Order no. IP68, black ②	Thread PG	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BFIL-P07M	–	07	07	10	8.0	29.0
	BFIL-P070	–	07	10	12	8.0	34.5
	–	BVIR-P070	07	10	12	8.0	33.5
	BFIL-P090	–	09	10	12	8.0	32.5
	–	BVIR-P090	09	10	12	8.0	33.5
	BFIL-P112	–	11	12	16	8.0	32.5
	–	BVIR-P112	11	12	16	8.0	36.5
	BFIL-P117	–	11	17	20	8.0	35.0
	BFIL-P132	–	13.5	12	16	8.0	32.5
	BFIL-P137	–	13.5	17	20	8.0	33.5
	BFIL-P160	–	16	10	12	7.0	37.0
	BFIL-P167	–	16	17	20	8.0	33.5
	–	BVIR-P167	16	17	20	8.0	44.5
	BFIL-P217	–	21	17	20	10.5	35.5
	BFIL-P213	–	21	23	25	8.0	39.0
	BFIL-P293	–	29	23	25	9.0	42.0
	BFIL-P299	–	29	29	32	9.0	43.0
	BFIL-P369	–	36	29	32	16.0	52.0
	BFIL-P366	–	36	36	25	13.0	64.0
	BFIL-P488	–	48	48	50	13.0	65.0

For cable protection systems in a wide range of applications

VIR: IP68 static/IP67 dynamic, conduit side

FIL: IP67 static/IP65 dynamic, conduit side

No seal on female thread side

Type VIZR - Connector straight, female PG metal thread

	Order no. IP68, black ②	Thread PG	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	NVIZR-P07M	07	07	10	6.0	35.0
	NVIZR-P090	09	10	12	9.0	38.5
	NVIZR-P110	11	10	12	9.0	41.0
	NVIZR-P112	11	12	16	9.0	42.0
	NVIZR-P137	13.5	17	20	8.0	46.5
	NVIZR-P167	16	17	20	9.5	48.0
	NVIZR-P213	21	23	25	10.0	58.0
	NVIZR-P299	29	29	32	12.5	57.0
	NVIZR-P366	36	36	40	13.0	76.0
	NVIZR-P488	48	48	50	14.0	75.0

For applications in railway vehicles and heavy machine construction

High thread and system connection strengths

VIZR: IP68 static/IP67 dynamic, conduit side

No seal on female thread side

② IP68GT available. Please add
"GT" after the order no.

Connectors with female UNEF thread

Type VI

Type VI - Connector straight, UNEF female thread for AMP connectors

	Order no. IP66, black	Order no. IP68, black ②	Thread UNEF	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	BVIDA-U15MGT	BVIRA-U15M	5/8" -24	07	10	8.0	31.5
	BVIDA-U150GT	BVIRA-U150	5/8" -24	10	12	8.0	33.5
	BVIDA-U152GT	BVIRA-U152	5/8" -24	12	16	8.0	36.5
	BVIDA-U180GT	BVIRA-U180	3/4" -20	10	12	8.0	33.5
	BVIDA-U182GT	BVIRA-U182	3/4" -20	12	16	8.0	36.5
	BVIDA-U187GT	BVIRA-U187	3/4" -20	17	20	8.0	44.5
	BVIDA-U232GT	BVIRA-U232	1 5/16" -20	12	16	8.0	38.5
	BVIDA-U237GT	BVIRA-U237	1 5/16" -20	17	20	8.0	46.5
	BVIDA-U233GT	BVIRA-U233	1 5/16" -20	23	25	8.0	48.5
	BVIDA-U347GT	BVIRA-U347	1 3/8" -18	17	20	8.0	46.5
	BVIDA-U343GT	BVIRA-U343	1 3/8" -18	23	25	8.0	48.5
	BVIDA-U402GT	BVIRA-U402	1 5/8" -18	12	16	7.0	55.5
	BVIDA-U407GT	BVIRA-U407	1 5/8" -18	17	20	7.0	61.5
	BVIDA-U403GT	BVIRA-U403	1 5/8" -18	23	25	7.0	60.5

For cable protection systems in a wide range of applications

Suitable for the AMP connector serie CPC

VIDA: IP66 static/IP54 dynamic, conduit side. VIRA: IP68 static/IP67 dynamic, conduit side

No seal on female thread side

Type VI - Connector straight, UNEF female thread for Souriau connectors

	Order no. IP66, black	Order no. IP68, black ②	Thread UNEF	Fits to NW	Shell size UTG-6	Thread length (mm)	Overall length (mm)
	BVIDB-U162GT	BVIRB-U162	1 1/16" -24	12	12-8	4.0	43.5
	BVIDB-U202GT	BVIRB-U202	1 3/16" -20	12	14-12	4.5	44.0
	BVIDB-U232GT	BVIRB-U232	1 5/16" -20	12	16-19	4.5	49.0
	BVIDB-U237GT	BVIRB-U237	1 5/16" -20	17	16-19	4.5	52.0
	BVIDB-U267GT	BVIRB-U267	1 1/2" -18	17	18-23	4.5	52.0
	BVIDB-U297GT	BVIRB-U297	1 3/16" -18	17	20-28	6.5	55.5
	BVIDB-U293GT	BVIRB-U293	1 3/16" -18	23	20-28	6.5	52.0
	BVIDB-U323GT	BVIRB-U323	1 5/16" -18	23	22-35	6.5	52.0
	BVIDB-U357GT	BVIRB-U357	1 7/16" -18	17	24-48	6.5	58.5
	BVIDB-U353GT	BVIRB-U353	1 7/16" -18	23	24-48	6.5	54.0
	BVIDB-U359GT	BVIRB-U359	1 7/16" -18	29	24-48	6.5	50.5

For cable protection systems in a wide range of applications

Suitable for the Souriau connector series UTG-6/ITT Cannon Trident

VIDB: IP66 static/IP54 dynamic, conduit side. VIRB: IP68 static/IP67 dynamic, conduit side

No seal on female thread side

	Order no. IP68, black ②	Thread UNEF	Fits to NW	Shell size UTG-6	Thread length (mm)	Overall length (mm)
	BVIRS-U162	1 1/16" -24	12	12	9.4	47.5
	BVIRS-U202	1 3/16" -20	12	14	9.4	47.5
	BVIRS-U237	1 5/16" -20	17	16	10.0	56.0
	BVIRS-U267	1 1/2" -18	17	18	9.2	55.5
	BVIRS-U293	1 3/16" -18	23	20	9.8	56.0
	BVIRS-U323	1 5/16" -18	23	22	9.8	56.0
	BVIRS-U359	1 7/16" -18	29	24	9.7	55.5

② IP68GT available. Please add
"GT" after the order no.

For cable protection systems in a wide range of applications

Suitable for the Souriau connector series UTO and UTS

VIRS: IP68 static/IP67 dynamic, conduit side. No seal on female thread side

Connectors with female UN thread

Type VI

Type VI - Connector straight, UN female thread for MIL-C5015

	Order no. IP66, black	Order no. IP68, black ②	Thread UN	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
	–	BVIVG-U152*	5/8"–24 UNEF	12	16	8.0	36.5
	–	BVIVG-U187*	3/4"–20 UNEF	17	20	9.0	46.5
	–	BVIVG-U210*	7/8"–20 UNEF	10	07	9.0	37.0
	BVIDG-U212GT	BVIVG-U212*	7/8"–20 UNEF	12	16	9.0	38.5
	BVIDG-U217GT	BVIVG-U217*	7/8"–20 UNEF	17	20	9.0	46.5
	BVIDG-U242GT	BVIVG-U242*	1"–20 UNEF	12	16	9.0	40.5
	–	BVIVG-U243*	1"–20 UNEF	23	25	9.0	55.0
	BVIDG-U247GT	BVIVG-U247*	1"–20 UNEF	17	20	9.0	47.5
	–	BVIVG-U292*	1 3/16"–18 UNEF	12	16	9.0	40.5
	BVIDG-U293GT	BVIVG-U293*	1 3/16"–18 UNEF	23	25	9.0	55.0
	BVIDG-U297GT	BVIVG-U297*	1 3/16"–18 UNEF	17	20	9.0	47.5
	–	BVIVG-U299*	1 3/16"–18 UNEF	29	32	9.0	47.0
	–	BVIVG-U349*	1 3/8"–18 UNEF	29	32	9.0	52.0
	–	BVIVG-U352*	1 7/16"–18 UNEF	12	16	9.0	39.0
	BVIDG-U353GT	BVIVG-U353*	1 7/16"–18 UNEF	23	25	9.0	52.0
	–	BVIVG-U356*	1 7/16"–18 UNEF	36	40	9.0	63.0
	BVIDG-U357GT	BVIVG-U357*	1 7/16"–18 UNEF	17	20	9.0	46.5
	BVIDG-U359GT	BVIVG-U359*	1 7/16"–18 UNEF	29	29	9.0	52.0
	BVIDG-U433GT	BVIVG-U433*	1 3/4"–18 UNS	23	25	10.0	52.0
	BVIDG-U436GT	BVIVG-U436*	1 3/4"–18 UNS	36	40	10.0	62.5
	–	BVIVG-U437*	1 3/4"–18 UNS	17	20	10.0	46.5
	BVIDG-U439GT	BVIVG-U439*	1 3/4"–18 UNS	29	32	10.0	51.5
	–	BVIVG-U503*	2"–18 UNS	23	25	10.0	51.5
	BVIDG-U506GT	BVIVG-U506*	2"–18 UNS	36	40	10.0	62.5
	–	BVIVG-U508*	2"–18 UNS	48	50	10.0	64.5
	BVIDG-U509GT	BVIVG-U509*	2"–18 UNS	29	32	10.0	55.0
	–	BVIVG-U563*	2 1/4"–16 UN	23	25	10.0	51.0
	BVIDG-U566GT	BVIVG-U566*	2 1/4"–16 UN	36	40	10.0	62.0
	–	BVIVG-U568*	2 1/4"–16 UN	48	50	10.0	64.0
	BVIDG-U569GT	BVIVG-U569*	2 1/4"–16 UN	29	32	10.0	51.0
	–	BVIVG-U628*	2 1/2"–16 UN	48	50	10.0	64.0

Approvals



For applications in machine, vehicle and traction building industries

Suitable for MIL connector series C5015

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

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

No seal on female thread side

* UL Recognition according to UL 1619

② IP68GT available. Please add
"GT" after the order no.

Y, T pieces, conduit adapters

Type VY & VT

Type VY - Y piece

	Order no. IP66 ①	Order no. IP68 ① ②	1 x conduit size		2 x conduit size	
			NW	Metric	NW	Metric
	BVYD-100707GT	BVYR-100707	10	12	07	10
	BVYD-121010GT	BVYR-121010	12	16	10	12
	BVYD-171212GT	BVYR-171212	17	20	12	16
	BVYD-231717GT	BVYR-231717	23	25	17	20
	BVYD-292323GT	BVYR-292323	29	32	23	25
	BVYD-362929GT	BVYR-362929	36	40	29	32
	BVYD-483636GT	BVYR-483636	48	50	36	40

Approvals



Sizes can be adapted with AV conduit adapters to fit smaller conduit dimensions

Type VT - T piece

	Order no. IP66 ①	Order no. IP68 ① ②	3 x conduit size	
			NW	Metric
	BVTD-101010GT	BVTR-101010	10	12
	BVTD-121212GT	BVTR-121212	12	16
	BVTD-171717GT	BVTR-171717	17	20
	BVTD-232323GT	BVTR-232323	23	25
	BVTD-292929GT	BVTR-292929	29	32
	BVTD-363636GT	BVTR-363636	36	40
	BVTD-484848GT	BVTR-484848	48	50

Approvals



Sizes can be adapted with AV conduit adapters to fit smaller conduit dimensions

- ① Please replace "B" for black with "S" for grey in front of the order no.
 ② IP68GT available. Please add "GT" after the order no.

Y, T pieces, conduit adapters

Type AV

Type AV - Conduit adapter

	Order no. IP66, black	Order no. IP68, black	Fits to fitting for		Fits to fitting size		Overall length (mm)
			NW	Metric	NW	Metric	
AV 	–	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

Approvals



Allows conduit size reduction of PMA connectors, particularly of T and Y pieces

Connections, connection splices, metric, PG

Type VNR-REM & VSG

Type VNR-REM - Connection to solid metal tube, metric/PG

	Order no. IP66 without clamp ① ②	Order no. IP68 with clamp ① ②	Fits to conduit size		Steel tube metric	Inside Ø (mm)	Overall length (mm)
			NW	Metric			
	BVNR-REM162	BVNR-REM162-24	12	16	M16	16.0	54.0
	BVNR-REM187	BVNR-REM187-28	17	20	M18	18.5	65.0
	BVNR-REM207	BVNR-REM207-28	17	20	M20	20.0	65.0
	BVNR-REM253	BVNR-REM253-32	23	25	M25	26.0	71.0
	BVNR-REM329	BVNR-REM329-44	29	32	M32	32.0	71.0
	BVNR-REM406	BVNR-REM406-50	36	40	M40	40.0	90.0
	BVNR-REM508	BVNR-REM508-65	48	50	M50	50.0	90.0
	Order no. IP66 without clamp ① ②	Order no. IP68 with clamp ① ②	Fits to conduit size		Steel tube PG	Inside Ø (mm)	Overall length (mm)
			NW	Metric			
	BVNR-RE12	BVNR-RE12-24	12	16	PG11	18.5	56.0
	BVNR-RE1317	BVNR-RE1317-28	17	20	PG13	20.4	65.0
	BVNR-RE17	BVNR-RE17-28	17	20	PG16	22.5	65.0
	BVNR-RE23	BVNR-RE23-32	23	25	PG21	28.5	71.0
	BVNR-RE29	BVNR-RE29-44	29	32	PG29	37.0	71.0
	BVNR-RE36	BVNR-RE36-50	36	40	PG36	47.0	84.0
	BVNR-RE48	BVNR-RE48-65	48	50	PG48	59.3	90.0

Quick connection of solid metal tubes with flexible PMA conduits

Jubilee clip made of galvanised bright steel

Available with or without jubilee clip

IP68 on corrugated conduit side, on tube side up to IP68 with sealant

Type VSG - Connection splice for flexible conduits

	Order no. IP66 ①	Order no. IP68 ①	Fits to conduit size		Inside Ø (mm)	Overall length (mm)
			NW	Metric		
	BVSGD-1212GT	BVSGR-1212	12	16	23.5	66.0
	BVSGD-1717GT	BVSGR-1717	17	20	29.5	87.0
	BVSGD-2323GT	BVSGR-2323	23	25	37.0	103.0
	BVSGD-2929GT	BVSGR-2929	29	32	44.0	100.0
	BVSGD-3636GT	BVSGR-3636	36	40	53.5	130.0
	BVSGD-4848GT	BVSGR-4848	48	50	66.0	133.0

Approvals



Designed for optimal connection of PMA conduits

① Please replace "B" for black with "S" for grey in front of the order no.

② IP68GT available. Please add "GT" to order no. or insert before clamp size (e.g. BVNR-REM162GT, BVNR-REM162GT-24)

PMA FIXPlus fittings with metric threads

Type UNV-M-UL & UAV-M-UL

Type UNV-M-UL - Connector straight, metric thread

	Order no. black	Order no. grey	Thread metric	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	BUNV-M207-UL	SUNV-M207-UL	M20 x 1.5	17	11.0	29.5	47.5
	BUNV-M257-UL	SUNV-M257-UL	M25 x 1.5	17	12.0	32.0	48.5
	BUNV-M253-UL	SUNV-M253-UL	M25 x 1.5	23	12.0	37.0	52.0
	BUNV-M323-UL	SUNV-M323-UL	M32 x 1.5	23	15.0	43.0	55.5
	BUNV-M329-UL	SUNV-M329-UL	M32 x 1.5	29	15.0	44.0	56.0
	BUNV-M409-UL	SUNV-M409-UL	M40 x 1.5	29	19.0	49.0	60.0
	BUNV-M406-UL	SUNV-M406-UL	M40 x 1.5	36	19.0	55.0	72.5
	BUNV-M506-UL	SUNV-M506-UL	M50 x 1.5	36	19.0	59.0	72.0
	BUNV-M508-UL	SUNV-M508-UL	M50 x 1.5	48	19.0	69.0	72.5
	BUNV-M638-UL	SUNV-M638-UL	M63 x 1.5	48	19.0	75.0	72.0

Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPlus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nut delivered with the fitting

Type UAV-M-UL - Connector 45° elbow, metric thread

	Order no. black	Order no. grey	Thread metric	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)	Overall height (mm)
	BUAV-M207-UL	SUAV-M207-UL	M20 x 1.5	17	11.0	29.5	55.5	51.5
	BUAV-M253-UL	SUAV-M253-UL	M25 x 1.5	23	12.0	37.0	65.0	58.5
	BUAV-M329-UL	SUAV-M329-UL	M32 x 1.5	29	15.0	44.0	73.5	66.5
	BUAV-M406-UL	SUAV-M406-UL	M40 x 1.5	36	19.0	53.5	92.5	85.5
	BUAV-M506-UL	SUAV-M506-UL	M50 x 1.5	36	19.0	53.5	92.5	89.5
	BUAV-M508-UL	SUAV-M508-UL	M50 x 1.5	48	19.0	66.0	100.0	96.0
	BUAV-M638-UL	SUAV-M638-UL	M63 x 1.5	48	19.0	66.0	100.0	104.0

Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPlus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nut delivered with the fitting

PMA FIXPLus fittings with metric threads

Type UWV-M-UL

Type UWV-M-UL - Connector 90° elbow, metric thread

	Order no. black	Order no. grey	Thread metric	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)	Overall height (mm)
UNV-M-UL	BUWV-M207-UL	SUWV-M207-UL	M20 x 1.5	17	11.0	29.5	58.5	43.5
	BUWV-M253-UL	SUWV-M253-UL	M25 x 1.5	23	12.0	37.0	65.0	54.0
	BUWV-M329-UL	SUWV-M329-UL	M32 x 1.5	29	15.0	44.0	73.0	64.5
	BUWV-M406-UL	SUWV-M406-UL	M40 x 1.5	36	19.0	53.5	69.0	78.0
	BUWV-M508-UL	SUWV-M508-UL	M50 x 1.5	48	19.0	66.0	106.0	91.5



Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPLus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nut delivered with the fitting

PMA FIXPlus fittings with NPT threads

Type UNV-N-UL & UAV-N-UL

Type UNV-N-UL - Connector straight, NPT thread

	Order no. black	Order no. grey	Thread size NPT	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	BUNV-N027-UL	SUNV-N027-UL	1/2"	17	13.0	29.5	49.5
	BUNV-N043-UL	SUNV-N043-UL	3/4"	23	14.0	37.0	54.0
	BUNV-N069-UL	SUNV-N069-UL	1"	29	15.0	44.0	56.0
	BUNV-N076-UL	SUNV-N076-UL	1 1/4"	36	18.0	55.0	71.0
	BUNV-N088-UL	SUNV-N088-UL	1 1/2"	48	18.0	69.0	71.5
	BUNV-N098-UL	SUNV-N098-UL	2"	48	18.0	69.0	71.5

Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPlus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nuts available on request

Type UAV-N-UL - Connector 45° elbow, metric thread

	Order no. black	Order no. grey	Thread size NPT	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)	Overall height (mm)
	BUAV-N027-UL	SUAV-N027-UL	1/2"	17	13.0	29.5	57.5	51.5
	BUAV-N043-UL	SUAV-N043-UL	3/4"	23	14.0	37.0	67.0	60.0
	BUAV-N069-UL	SUAV-N069-UL	1"	29	15.0	44.0	73.5	67.0
	BUAV-N076-UL	SUAV-N076-UL	1 1/4"	36	18.0	53.5	91.5	85.5
	BUAV-N088-UL	SUAV-N088-UL	1 1/2"	36	18.0	66.0	99.0	96.0
	BUAV-N098-UL	SUAV-N097-UL	2"	48	18.0	66.0	99.0	101.0

Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPlus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nuts available on request

PMA FIXPLus fittings with NPT threads

Type UWV-M-UL

Type UWV-M-UL - Connector 90° elbow, NPT thread

	Order no. black	Order no. grey	Thread size NPT	Fits to conduit size NW	Thread length (mm)	Outside Ø (mm)	Overall length (mm)	Overall height (mm)
	BUWV-N027-UL	SUWV-N027-UL	½"	17	13.0	29.5	58.5	45.5
	BUWV-N043-UL	SUWV-N043-UL	¾"	23	14.0	37.0	66.5	56.0
	BUWV-N069-UL	SUWV-N069-UL	1"	29	15.0	44.0	73.5	64.5
	BUWV-N076-UL	SUWV-N076-UL	1¼"	36	18.0	53.5	96.0	77.0
	BUWV-N088-UL	SUWV-N088-UL	1½"	48	18.0	66.0	106.0	90.5
	BUWV-N098-UL	SUWV-N098-UL	2"	48	18.0	66.0	111.0	90.5

Approvals



Extremely high impact resistance
 Vibration-resistant connection to PMA FLEXPLus conduits
 Easy installation
 High conduit pull-out strength
 Very good chemical properties
 Free from halogens and cadmium
 Fits conduit profile coarse (G)
 Lock nuts available on request



Special connectors

Introduction

Meeting the demands of our customers. We are always looking for ways to offer our best services.

In addition to the broad ranges of connectors offered within the PMAFIX Pro, PMAFIX and Smartline product lines, PMA offers further application specific connector solutions such as the MPNK-M series for high temperatures applications, JENQ-M series for Food and Beverage applications and the MONK-M to terminate an overbraided conduit.





Metal connectors, metric

Type MPNK & MONK

Type MPNK - Metal connector for PMA conduits, metric thread

	Order no. metal	Thread metric	Fits to conduit size NW	Fits to conduit size profile	Inside Ø min. (mm)	Thread length (mm)
	MPNK-M160	M16 x 1.5	10	T	12.0	12.0
	MPNK-M162	M16 x 1.5	12	T	12.0	12.0
	MPNK-M207	M20 x 1.5	17	T	15.8	14.0
	MPNK-M253	M25 x 1.5	23	G	19.0	15.0
	MPNK-M329	M32 x 1.5	29	G	26.5	18.0

For high temperature applications
 Suitable for high mechanical loads
 Nickel-plated brass
 Seals made from silicon
 Easy introduction of wires and cables
 Vibration-proof connection to PMAFLEX conduits
 Very good chemical properties
 IP68

Type MONK - Metal connector for overbraided conduits, metric thread

	Order no. metal	Thread metric	Fits to conduit size NW	Fits to conduit profile	Inside Ø min. (mm)	Thread length (mm)
	MONK-M162	M16 x 1.5	12	T	12.0	12.0
	MONK-M207	M20 x 1.5	17	T	16.0	14.0
	MONK-M253	M25 x 1.5	23	G	19.0	15.0
	MONK-M329	M32 x 1.5	29	G	26.5	18.0
	MONK-M406	M40 x 1.5	36	G	35.0	15.0
	MONK-M508	M50 x 1.5	48	G	45.0	16.0

For termination of overbraided conduits
 For high temperature applications and applications in areas with hot metal shavings and flying sparks
 Nickel-plated brass
 Seals made from silicon

Stainless steel liquid tight fitting

Type JENQ

Type JENQ - for overextruded conduit, IP69

	Order no.	Thread size metric	Fits to conduit size NW	Thread length (mm)	Inside Ø min. (mm)	Ø D (mm)	Wrench size (mm)	sw
	JENQ-M162-10	M16 x 1.5	12	10.0	9.2	31.9	35.9	30.0
	JENQ-M207-10	M20 x 1.5	17	10.0	13.0	35.0	36.9	32.0
	JENQ-M253-11	M25 x 1.5	23	11.0	18.3	44.5	41.6	40.0
	JENQ-M329-13	M32 x 1.5	29	13.0	24.0	55.5	48.7	50.0
	JENQ-M406-13	M40 x 1.5	36	13.0	32.4	61.5	51.2	57.0
	JENQ-M506-14	M50 x 1.5	48	14.0	42.3	78.0	57.4	74.0

Approvals



IP 69 rating
 For termination of overextruded conduits
 For high hygienic requirements
 Suitable for food & beverage industry
 Unique single piece design Stainless Steel 316L material
 Seals made from FDA compliant material
 Easy cleaning
 High thread and system connection strengths
 High resistance to chemicals and cleaning agents
 Easy assembly

Accessories

Introduction

For flexible and application friendly solutions. PMA offers a vast array of practical accessories in order to complete the PMA cable protection system.

We offer lock nuts produced from polyamide or metal, thread reducers and enlargers, conduit adapters, swivel adapters as well as different mounting clips for conduits. All these practical products will help to create the PMA line for our customers even more flexible and application friendly.





Flat gaskets, metric, PG, NPT, GAS

Type SVN4

Type SVN4 - Flat thread gasket, metric/NPT/PG/GAS

SVN4	Order no.	Fits to thread metric	Inside Ø (mm)	Outside Ø (mm)	Thickness (mm)
	SVN4-M12	M12 x 1.5	12.0	20.0	1.5
	SVN4-M12/02	M12 x 1.5	12.0	23.0	1.5
	SVN4-M16	M16 x 1.5	16.0	22.0	1.5
	SVN4-M16/02	M16 x 1.5	16.0	25.0	1.5
	SVN4-M20	M20 x 1.5	20.0	27.0	1.5
	SVN4-M20/02	M20 x 1.5	20.0	33.0	1.5
	SVN4-M25	M25 x 1.5	25.0	35.0	1.5
	SVN4-M25/01	M25 x 1.5	25.0	31.0	1.5
	SVN4-M25/02	M25 x 1.5	25.0	39.0	1.5
	SVN4-M32	M32 x 1.5	32.0	43.0	1.5
	SVN4-M32/02	M32 x 1.5	32.0	49.0	1.5
	SVN4-M40	M40 x 1.5	40.0	55.0	1.5
	SVN4-M40/01	M40 x 1.5	40.0	51.0	1.5
	SVN4-M40/02	M40 x 1.5	40.0	64.0	1.5
	SVN4-M50	M50 x 1.5	50.0	69.0	1.5
	SVN4-M50/01	M50 x 1.5	50.0	59.0	1.5
	SVN4-M50/02	M50 x 1.5	50.0	74.0	1.5
	SVN4-M63	M63 x 1.5	63.0	75.0	1.5

Order no.	Fits to thread PG	Inside Ø (mm)	Outside Ø (mm)	Thickness (mm)
SVN4-07	07	12.5	16.5	1.5
SVN4-09	07	15.2	20.0	1.5
SVN4-11	11	18.6	24.0	1.5
SVN4-13	13.5	20.4	31.0	1.5
SVN4-16	16	22.5	31.0	1.5
SVN4-21	21	28.3	37.0	1.5
SVN4-29	29	37.0	48.0	1.5
SVN4-36	36	47.0	57.0	1.5
SVN4-42	42	54.0	60.0	1.5
SVN4-48	48	59.3	69.0	1.5

Order no.	Fits to thread PG	Inside Ø (mm)	Outside Ø (mm)	Thickness (mm)
SVN4-N02/01	½"	28.0	21.6	1.5
SVN4-N04/01	¾"	36.0	27.0	1.5
SVN4-N06/01	1"	46.0	33.7	1.5
SVN4-N07/01	1¼"	55.0	42.5	1.5
SVN4-N08/01	1 ½"	70.0	48.6	1.5
SVN4-N09/01	2"	70.0	60.7	1.5

Order no.	Fits to thread GAS	Inside Ø (mm)	Outside Ø (mm)	Thickness (mm)
SVN4-G00	¼"	13.2	20.0	1.5
SVN4-G01	⅜"	16.7	22.0	1.5
SVN4-G02	½"	21.0	28.0	1.5
SVN4-G04	¾"	26.5	34.0	1.5
SVN4-G06	1"	33.3	42.0	1.5
SVN4-G07	1¼"	41.9	53.0	1.5
SVN4-G08	1½"	47.8	62.0	1.5
SVN4-G09	2"	59.6	69.0	1.5

For sealing of polyamide or metal threads of PMA fittings. For ingress protection at the thread up to IP68

For solid sealing of uneven rough contact areas around the thread hole or when no constructive measures for O-Rings are provided

NBR reinforced with aramide fibres (asbestos-free). Temperature range: -50°C to +200°C, short-term to +350°C

Note: Depending on flange sizes flat thread gaskets can have different widths. Please indicate fitting for which gasket is needed for replacement orders

Locking clips, water impact protection

Type AFN2, OVN2 & WPS

Type AFN2 - Universal safety clip

	Order no. dark grey	Fits to conduit size		Width (mm)	Length (mm)	Thickness (mm)
		NW	Profile			
	AFN2-07GT	07	G + T	14.0	14.0	7.0
	AFN2-10GT	10	G + T	17.5	17.0	8.0
	AFN2-12GT	12	G + T	20.5	20.0	7.3
	AFN2-17GT	17	G + T	26.5	22.0	8.0
	AFN2-23GT	23	G + T	34.0	27.5	11.8
	AFN2-29GT	29	G + T	40.5	32.0	11.8
	AFN2-36GT	36	G + T	50.0	39.0	9.5
	AFN2-48GT	48	G + T	62.0	47.0	9.5

Pre-installed in PMA connectors IP66 and IP68GT

Allows simple push-in assembly of PMA conduits

Type OVN2 - Oval clip

	Order no. dark grey	Fits to conduit size		Width (mm)	Length (mm)	Thickness (mm)
		NW	Profile			
	OVN2-07	07	G + T	14.0	14.0	6.0
	OVN2-10	10	G + T	17.5	17.0	7.0
	OVN2-12	12	G + T	21.0	19.0	6.0
	OVN2-17	17	G + T	26.5	22.5	7.0
	OVN2-23	23	G + T	34.0	27.5	10.5
	OVN2-29	29	G + T	40.5	32.0	10.5
	OVN2-36	36	G + T	49.5	39.0	8.5
	OVN2-48	48	G + T	62.0	47.0	8.5

Provides reliable fixation of PMA conduits within PMA IP68 fittings

Type WPS - Water impact protection

	Order no. black	Fits to conduit size		Outside Ø (mm)	Thickness (mm)
		NW	Profile		
	WPS-NW10	10	G + T	22.0	8.0
	WPS-NW12	12	G + T	26.0	8.0
	WPS-NW17	17	G + T	33.0	8.0
	WPS-NW23	23	G + T	40.0	9.0
	WPS-NW29	29	G + T	47.0	9.5
	WPS-NW36	36	G + T	59.0	10.0
	WPS-NW48	48	G + T	71.0	10.0

Increased protection of PMAFIX fittings against water jet impact – increased protection up to IP69

For increased ingress protection requirements regarding high pressure/steam jet cleaning

Based on PMAFIX IP68 system

Two-piece water impact protection with click cap

Retrofit installation possible

Sealing caps

Type NVN3, NFN3 & NR

Type NVN3 - Sealing cap, reinforced

	Order no.	Fits to conduit size		Length (mm)
		NW	Metric	
	NVN3-07	07	10	9.0
	NVN3-09	10	12	9.0
	NVN3-11	12	16	12.0
	NVN3-16	17	23	16.5
	NVN3-21	23	25	13.0
	NVN3-29	29	32	14.0
	NVN3-36	36	40	17.5
	NVN3-48	48	50	17.5

In connection with PMAFIX connectors ("V" series) and PMA corrugated conduits

For ingress protection IP68 static/IP67 dynamic

Specially modified polyesterelastomer

Free from halogens and cadmium

Fits both conduit profiles: fine (T) and coarse (G)

Temperature range: -40°C to +105°C

Type NFN3 - Sealing cap

	Order no.	NW	Fits to conduit size	Length (mm)
			Profile	
	NFN3-07	07	10	9.0
	NFN3-09	10	12	9.0
	NFN3-11	12	16	9.0
	NFN3-16	17	23	9.0
	NFN3-21	23	25	9.0
	NFN3-29	29	32	9.0
	NFN3-36	36	40	11.0
	NFN3-48	48	50	11.0

In connection with PMAFIX connectors ("F" series) and PMA corrugated conduits

For ingress protection IP67 static/IP65 dynamic

Specially modified polyesterelastomer

Free from halogens and cadmium

Fits conduit profiles: fine (T) and coarse (G)

Temperature range: -40°C to +105°C

Type KNH2 - PMAFIX Pro sealing and locking element

	Order no.	Fits to conduit size		Outside Ø (mm)	Overall length (mm)
		NW	Metric		
	KNH2-NW10	10	12	22.0	28.0
	KNH2-NW12	12	16	25.5	33.5
	KNH2-NW17	17	20	31.5	38.5
	KNH2-NW23	23	25	38.5	41.0
	KNH2-NW29	29	32	46.5	46.5
	KNH2-NW36	36	40	55.5	50.5
	KNH2-NW48	48	50	68.0	56.5

For use in connection with PMAFIX PRO connectors PMA corrugated conduits for ingress protection IP68 and IP69 static and dynamic

Specially modified PA6/Polyester-elastomer

Free from halogens and cadmium

Fits conduit profiles: fine (T) and coarse (G)

Temperature range: -40°C to +105°C

Enlargers, reducers, metric and PG

Type ME, MR & NR

Type ME - Enlarger, brass, metric thread

	Order no.	Thread outside		Thread inside		Wrench size (mm)	Inside Ø (mm)	Overall length (mm)
		Metric	Length (mm)	Metric	Length (mm)			
	M12M16M	M12 x 1.5	5.0	M16 x 1.5	7.0	18	8.0	16.0
	M16M20M	M16 x 1.5	5.0	M20 x 1.5	7.5	22	12.0	16.5
	M20M25M	M20 x 1.5	6.0	M25 x 1.5	8.0	27	15.0	18.5
	M25M32M	M25 x 1.5	7.0	M32 x 1.5	9.0	34	21.0	20.5
	M32M40M	M32 x 1.5	8.0	M40 x 1.5	10	42	26.0	23.5
	M40M50M	M40 x 1.5	8.0	M50 x 1.5	13	52	34.0	30.0
	M50M63M	M50 x 1.5	9.0	M63 x 1.5	16	65	44.0	32.5

For enlargement of an existing thread
 Nickel-plated brass
 Hexagonal form
 Temperature range: -60°C to +200°C

Type MR - Reducer, brass, metric thread

	Order no. standard	Order no. hexagonal	Thread outside metric	Thread inside metric
	M16M12M	M16M12M/6	M16 x 1.5	M12 x 1.5
	M20M12M	M20M12M/6	M20 x 1.5	M12 x 1.5
	M20M16M	M20M16M/6	M20 x 1.5	M16 x 1.5
	M25M16M	M25M16M/6	M25 x 1.5	M16 x 1.5
	M25M20M	M25M20M/6	M25 x 1.5	M20 x 1.5
	M32M20M	M32M20M/6	M32 x 1.5	M20 x 1.5
	M32M25M	M32M25M/6	M32 x 1.5	M25 x 1.5
	M40M25M	M40M25M/6	M40 x 1.5	M25 x 1.5
	M40M32M	M40M32M/6	M40 x 1.5	M32 x 1.5
	M50M32M	M50M32M/6	M50 x 1.5	M32 x 1.5
	M50M40M	M50M40M/6	M50 x 1.5	M40 x 1.5
	M63M40M	M63M40M/6	M63 x 1.5	M40 x 1.5
	M63M50M	M63M50M/6	M63 x 1.5	M50 x 1.5

Reduction of threaded or clearance holes to smaller thread sizes
 Nickel-plated brass
 Temperature range: -60°C to +200°C
 Round form without O-ring, XXXX/6 hexagonal form with O-ring

Type NR - Reducer, PG

	Order no.	Thread outside PG	Thread inside PG	Length (mm)	Inside Ø (mm)	Outside Ø (mm)
	1109N	11	09	22.5	10.5	24.5
	1309N	13.5	09	15.0	10.0	26.0
	1311N	13.5	11	24.0	11.5	26.0
	1609N	16	09	16.0	10.0	29.0
	1611N	16	11	16.0	11.5	29.0
	1613N	16	13.5	27.0	13.5	29.0
	2113N	21	13.5	16.0	13.5	35.5
	2116N	21	16	16.0	15.5	35.5
	2921N	29	21	17.0	22.0	43.0
	3629N	36	29	24.0	30.5	54.0

Reduction of threaded or clearance holes to smaller PG thread sizes
 High-grade, glass fibre reinforced Polyamid 6
 Temperature range: -30°C to +100°C

Enlargers, reducers, PG

Type ME & MR

Type ME - Enlarger, brass, PG thread

	Order no. metal, standard	Thread outside		Thread inside		Outside Ø (mm)	Overall length (mm)
		PG	Length (mm)	PG	Length (mm)		
	0709M	07	5.0	09	07	17.0	15.0
	0911M	09	6.0	11	07	20.0	16.5
	0913M	09	6.0	13	7.5	22.0	17.5
	1113M	11	6.0	13	08	22.0	17.5
	1116M	11	6.5	16	8.5	24.0	19.0
	1121M	11	6.5	21	10	30.0	21.0
	1316M	13.5	6.5	16	7.5	24.0	19.0
	1321M	13.5	6.5	21	8.5	30.0	21.0
	1621M	16	6.5	21	8.5	30.0	21.0
	1629M	16	6.5	29	11	39.0	22.5
	2129M	21	7.0	29	11.5	39.0	23.0
	2936M	29	8.0	36	12	50.0	27.5
	4248M	42	10.0	48	17	64.0	33.0

For enlargement of an existing thread
Nickel-plated brass
Temperature range: -60°C to +200°C

Type MR - Reducer, brass, PG thread

	Order no. metal, standard	Thread outside		Thread inside PG	Outside Ø (mm)	Overall length (mm)
		PG	Length (mm)			
	0907M	09	6.0	07	17.0	8.5
	1107M	11	6.0	07	20.0	8.5
	1109M	11	6.0	09	20.0	8.5
	1307M	13.5	6.5	07	22.0	9.0
	1309M	13.5	6.5	09	22.0	9.0
	1311M	13.5	6.5	11	22.0	9.0
	1607M	16	6.5	07	24.0	9.5
	1609M	16	6.5	09	24.0	9.5
	1611M	16	6.5	11	24.0	9.5
	1613M	16	6.5	13.5	24.0	9.5
	2111M	21	7.0	11	30.0	10.0
	2113M	21	7.0	13.5	30.0	10.0
	2116M	21	7.0	16	30.0	10.0
	2916M	29	8.0	16	39.0	11.5
	2921M	29	8.0	21	39.0	11.5
	3621M	36	9.0	21	50.0	12.5
	3629M	36	9.0	29	50.0	12.5
	4229M	42	10	29	57.0	14.0
	4236M	42	10	36	57.0	14.0
	4836M	48	10	36	64.0	14.0
	4842M	48	10	42	64.0	14.0

Reduction of threaded or clearance holes to smaller thread sizes
Nickel-plated brass
Temperature range: -60°C to +200°C

Plug screws, metric, PG

Type 514

Type 514 - Plug screw, metric/PG thread

	Order no. grey	Fits to thread metric	Outside Ø (mm)	Height (mm)	Thread length (mm)
	514-M12	M12 x 1.5	15.0	10.0	6.0
	514-M16	M16 x 1.5	20.0	10.5	6.0
	514-M20	M20 x 1.5	24.0	10.5	6.0
	514-M25	M25 x 1.5	30.0	13.0	8.0
	514-M32	M32 x 1.5	37.0	13.5	8.0
	514-M40	M40 x 1.5	46.0	14.0	8.0
	514-M50	M50 x 1.5	56.0	16.5	10.0
	514-M63	M63 x 1.5	70.0	17.0	12.0
	Order no. grey	Fits to thread PG	Outside Ø (mm)	Height (mm)	Thread length (mm)
	514-07	07	15.0	10.0	6.0
	514-09	09	19.0	10.0	6.0
	514-11	11	22.0	10.0	6.0
	514-13	13.5	25.0	10.0	6.0
	514-16	16	27.0	10.0	6.0
	514-21	21	33.0	12.5	8.0
	514-29	29	44.5	13.0	8.0
	514-36	36	55.5	15.0	10.0
	514-48	48	69.5	17.0	12.0

For closing off unused threaded holes

Polyamide 6 glass fibre reinforced

Free from halogens and cadmium

IP54

Temperature range: -30°C to +100°C

Lock nuts, metric, PG

Type MN

Type MN - Hexagonal lock nut, polyamide, metric/PG thread

	Order no. black	Order no. grey	Fits to thread metric	Wrench size (mm)	Height (mm)
	BMN-M12	GMN-M12	M12 x 1.5	17	5.0
	BMN-M16	GMN-M16	M16 x 1.5	22	5.0
	BMN-M20	GMN-M20	M20 x 1.5	26	5.6
	BMN-M25	GMN-M25	M25 x 1.5	32	6.0
	BMN-M32	GMN-M32	M32 x 1.5	41	7.0
	BMN-M40	GMN-M40	M40 x 1.5	50	7.0
	BMN-M50	GMN-M50	M50 x 1.5	60	8.0
	BMN-M63	GMN-M63	M63 x 1.5	75	8.0
	Order no. black	Order no. grey	Fits to thread PG	Wrench size (mm)	Height (mm)
	BMN-07	GMN-07	07	19	5.0
	BMN-09	GMN-09	09	22	5.0
	BMN-11	GMN-11	11	24	5.0
	BMN-13	GMN-13	13.5	27	6.0
	BMN-16	GMN-16	16	30	6.0
	BMN-21	GMN-21	21	36	7.0
	BMN-29	GMN-29	29	46	7.0
	BMN-36	GMN-36	36	60	8.0
	BMN-48	GMN-48	48	70	8.0

Glass fibre reinforced Polyamid 6
High tightening torques

Lock nuts, metric, PG

Type MM

Type MM - Hexagonal lock nut, brass, metric/PG thread

	Order no.	Fits to thread metric	Wrench size (mm)	Height (mm)
	GMM-M12	M12 x 1.5	15	2.8
	GMM-M16	M16 x 1.5	19	2.8
	GMM-M20	M20 x 1.5	24	3.0
	GMM-M25	M25 x 1.5	30	3.5
	GMM-M32	M32 x 1.5	36	4.0
	GMM-M40	M40 x 1.5	46	4.5
	GMM-M50	M50 x 1.5	60	5.0
	GMM-M63	M63 x 1.5	70	5.5
	Order no.	Fits to thread PG	Wrench size (mm)	Height (mm)
	GMM-07	07	15	2.8
	GMM-09	09	18	2.8
	GMM-11	11	21	3.0
	GMM-13	13.5	23	3.0
	GMM-16	16	26	3.0
	GMM-21	21	32	3.5
	GMM-29	29	41	4.0
	GMM-36	36	51	5.0
	GMM-42	42	60	5.0
	GMM-48	48	64	5.5

Nickel-plated brass

Maximum possible torque

Safe system connection

PMA TRUST™

Modular support system

For use in rolling stock applications. The most versatile, compact and lightest design of its kind on the market.

PMA® TRUST™ modular support system is a lightweight, compact solution with high impact resistance. Thanks to the new design, external dimensions are reduced to the very minimum and internal spacing between adjoining conduits is very small. The system is specifically designed for use in railway vehicle construction and other applications where fixation of parallel running conduits and cables is required.



PMA TRUST™ modular support system

Type BGPM, BGPMR & BGPMK

Type BGPM - PMA TRUST™ modular support system

	Order no. black	Conduit profile T/G	Conduit size NW	No. of conduits	Nom. dimensions (mm)			Weight kg/100 pcs	Packing unit/pcs
					Length	Depth	Height		
	BGPM-1x12	T	12	1	42.5	30.0	28.0	2.0	10
	BGPM-1x17	T/G	17	1	48.0	30.0	33.0	2.7	10
	BGPM-3x17	T/G	17	3	97.0	30.0	33.0	4.5	5
	BGPM-1x23	T/G	23	1	55.0	30.0	40.0	3.3	10
	BGPM-2x23	T/G	23	2	87.0	30.0	40.0	4.6	10
	BGPM-3x23	T/G	23	3	119.0	30.0	40.0	5.7	5
	BGPM-4x23	T/G	23	4	151.0	30.0	40.0	7.2	5
	BGPM-1x29	T/G	29	1	61.0	30.0	46.0	4.0	10
	BGPM-3x29	T/G	29	3	137.5	30.0	46.0	7.0	5
	BGPM-1x36	T/G	36	1	70.0	30.0	55.0	5.4	10
	BGPM-2x36	T/G	36	2	116.5	30.0	55.0	7.6	10
	BGPM-3x36	T/G	36	3	163.0	30.0	55.0	9.9	5
	BGPM-4x36	T/G	36	4	209.5	30.0	55.0	12.4	5
	BGPM-1x48	T/G	48	1	82.0	30.0	66.0	6.9	10
	BGPM-3x48	T/G	48	3	199.5	30.0	66.0	13.4	5
	BGPM-4x48	T/G	48	4	258.5	30.0	66.0	17.1	5

For applications in rail vehicle construction and other applications where fixation of parallel running conduits and cables is required

Light weight and compact design

Conduit rotation possible preventing torsion

Axial fixation of conduit and/or cables

Quick installation, possible with one hand

Type BGPMR - PMA TRUST™ reducers

	Order no. black	Conduit profile T/G	Conduit size NW	Fits to multiple holder BGPM (NW)	Fits to reduction BGPMR	Nom. dimensions A (mm)	Weight kg/100 pcs	Packing unit/pcs
	BGPMR-10T/17	T	10	17	17	30.0	0.5	5
	BGPMR-12T/17	T	12	17	17	30.0	0.4	5
	BGPMR-17GT/23	T/G	17	23	23	30.0	0.7	5
	BGPMR-23GT/29	T/G	23	29	29	30.0	0.7	5
	BGPMR-29GT/36	T/G	29	36	36	30.0	1.2	5
	BGPMR-36GT/48	T/G	36	48	—	30.0	2.0	5

Reducers for BGPM modular system support for downsizing corrugated conduits

Provides axial strain relief for conduits, but allows rotation

Combination of multiple reductions possible

Easy installation

Type BGPMK - PMA TRUST™ cable clamping adapter

	Order no. black	Clamping range		Fits to multiple holder BGPM & reduction BGPMR (NW)	Nom. dimensions A (mm)	Weight kg/100 pcs	Packing unit/pcs
		1 fold BGPM & BGMPR	2, 3 & 4 fold BGPM & BGMPR*				
	BGPMK-36/34-30	34-30	33-31	36	30.0	1.4	5
	BGPMK-36/28-24	28-24	27-25	36	30.0	1.8	5

*We recommend to use cable with the slight reduced clamping range to ensure both optimum cable clamping as well as pre-assembly

Cable clamping adapters for BGPM Multiple Holders and BGPMR reduction half-shells for supporting and holding cables

Provides axial strain relief for cables

Flexible configuration in multiple holders & reductions possible

Easy installation

System supports, half-shells

Type VH & GN

Type VH - System support

	Order no. support ①	Order no. clip ①	Order no. complete ①	Fits to conduit size		Width x Height x Depth (mm)	Fixing screws
				NW	Metric		
	BVH-17-010	BVH-17-020	BVH-17-000	17	20	35 x 36 x 36	6 x M5
	BVH-23-010	BVH-23-020	BVH-23-000	23	25	35 x 44 x 36	6 x M5
	BVH-29-010	BVH-29-020	BVH-29-000	29	32	46 x 52 x 40	6 x M5
	BVH-36-010	BVH-36-020	BVH-36-000	36	40	53 x 58 x 60	6 x M5
	BVH-48-010	BVH-48-020	BVH-48-000	48	50	66 x 72 x 60	6 x M5

For applications in machine building and installation
 Optimal axial strain relief due to integrated rib
 Variable fixation possible due to six holes, safe against turning
 With safety lid suitable for overhead installation
 High retention forces
 PA 6

Type GN - Half shell

	Order no. fine profile, black	Order no. coarse profile, black	Fits to conduit size		Outside Ø (mm)	Width (mm)
			NW	Metric		
	BGN-S12T	–	12	16	26.5	34.0
	BGN-S17T	BGN-S17G	17	20	32.0	34.0
	BGN-S23T	BGN-S23G	23	25	39.5	34.0
	BGN-S29T	BGN-S29G	29	32	47.0	34.0
	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

For conduit fixation in conjunction with beam systems, particularly in traction and machine applications
 Fixes conduit against axial movements
 Allows radial turning of conduit
 Especially suitable for dynamic applications due to rounded edges
 PA 6

① Please replace “B” for black with “S”
 for grey in front of the order no.

System supports, rails for system supports

Type FH-0 & FHS

Type FH-0 - System support, one-piece

	Order no. black	Order no. grey	Fits to conduit size		Width x Height x Depth (mm)	Fixing screws
			NW	Metric		
	BFH-07-0	SFH-07-0	07	10	17.0 x 21.5 x 20.0	1 x M4
	BFH-10-0	SFH-10-0	10	12	20.5 x 24.5 x 20.0	1 x M5
	BFH-12-0	SFH-12-0	12	16	24.0 x 27.0 x 20.0	1 x M5
	BFH-17-0	SFH-17-0	17	20	30.0 x 34.0 x 20.0	1 x M6
	BFH-23-0	SFH-23-0	23	25	38.5 x 42.0 x 20.0	1 x M6
	BFH-29-0	SFH-29-0	29	32	45.5 x 48.0 x 20.0	1 x M6
	BFH-36-0	SFH-36-0	36	40	55.5 x 56.0 x 20.0	1 x M6
	BFH-48-0	SFH-48-0	48	50	67.5 x 68.0 x 20.0	1 x M6

For applications in machine building and installation
 Optimal axial strain relief due to integrated rib
 Suitable for overhead installations due to safety lid
 High retention forces
 Quick mounting due to single hole fixing
 Fits to rail for system support FHS
 PA 6

Type FHS - Rail for system support

	Order no. black	Order no. grey	Fits to system supports	Length x Height x Depth (mm)
	BFHS-00	SFHS-00	FH-NW-0	275.0 x 15.5 x 25.0
	Additional position supports or distance spacers			
	BFHS-PH	SFHS-PH	Position support with screws	
	BFHS-PH1	SFHS-PH1	Distance spacers	

For flexible assembly of one-piece system supports and/or fixation of various conduit sizes
 Glass fibre reinforced polyamide 6
 Extremely robust construction
 High stiffness
 Positioning and distance spacers available
 Glass fibre reinforced PA6

Tube clamps

Type GL & GH

Type GL - Tube clamp, one-piece

	Order no. black	Order no. grey	Fits to conduit size		Width (mm)	Fixing screws
			NW	Metric		
	BGL-07	SGL-07	07	10	25.0	1 x M4
	BGL-10	SGL-10	10	12	27.0	1 x M4
	BGL-12	SGL-12	12	16	31.0	1 x M4
	BGL-17	SGL-17	17	20	39.5	1 x M5
	BGL-23	SGL-23	23	25	49.0	1 x M5
	BGL-29	SGL-29	29	32	57.0	1 x M6

Used in general machine and installation applications
 Integrated rib provides axial strain relief
 Allows turning of the conduit, thus avoiding torsion stresses
 Pre-fixation on the conduit possible
 PA 6

Type GH - Tube clamp, one-piece

	Order no. black	Order no. grey	Thread outside		Width (mm)	Fixing screws
			NW	Metric		
	BGH-23	SGH-23	23	25	16.0	2 x M5
	BGH-29	SGH-29	29	32	19.0	2 x M6
	BGH-36	SGH-36	36	40	24.0	2 x M6
	BGH-48	SGH-48	48	50	24.0	2 x M6
	BGH-56	SGH-56	56	68	26.0	2 x M8
	BGH-70	SGH-70	70	80	30.0	2 x M8
	BGH-95	SGH-95	95	106	30.0	2 x M8

Used in general machine and installation applications
 Integrated rib provides axial strain relief
 Allows turning of the conduit, thus avoiding torsion stresses
 Pre-fixation on the conduit possible
 Allows solid fixation with 2 screws
 PA 6

Tube clamps

Type SGB & SGS

Type SGB - Tube clamp

	Order no. black	Fits to conduit size		Width (mm)	Fixing screws
		NW	Metric		
	SGB-07	07	10	13.0	1 x M4
	SGB-09	10	12	13.0	1 x M4
	SGB-11	12	16	13.0	1 x M4
	SGB-16	17	20	16.0	1 x M5
	SGB-21	23	25	16.0	1 x M5
	SGB-29	29	32	19.0	1 x M6
	SGB-36	36	40	19.0	1 x M6
	SGB-48	48	50	19.0	1 x M6

For fixation of static conduits
Galvanized steel
Elastomer profile (EPDM) free from halogens
Smooth connection to PMA conduits
Good resistance to ozone and ageing
Temperature range: -40°C to +120°C

Type SGS - Tube clamp

	Order no. black	Fits to conduit size		Width x Height x Depth (mm)	Fixing screws
		NW	Metric		
	SGS-36	36	40	80.0 x 48.0 x 19.0	2 x M6
	SGS-48	48	50	94.0 x 58.0 x 19.0	2 x M6
	SGS-56	56	68	118.0 x 72.0 x 24.0	2 x M8
	SGS-70	70	80	130.0 x 85.0 x 24.0	2 x M8
	SGS-95	95	106	156.0 x 110.0 x 24.0	2 x M8
	SGS-125	125	146	200.0 x 152.0 x 24.0	2 x M8

For fixation of static conduits
Galvanized steel
Elastomer profile (EPDM) free from halogens
Smooth connection to PMA conduits
Good resistance to ozone and ageing
Temperature range: -40°C to +120°C
Galvanized steel/EPDM

System supports

Type GPS, GP & BGP-3x48

Type GPS - System support, one-piece, stackable

	Order no.	Fits to conduit size			Width (mm)	Height (mm)	Depth (mm)
		NW	Metric	DIN-NW			
	BGPS-12/01*	12	16	2	70.0	51.0	30.0
	BGPS-17	17	20	2	70.0	51.0	30.0
	BGPS-23	23	25	2	70.0	51.0	30.0
	BGPS-29	29	32	3	85.0	65.0	30.0
	BGPS-36	36	40	3	85.0	65.0	30.0
	BGPS-48	48	50	4	115.0	92.5	30.0
	BGPS-56	56	68	4	115.0	92.5	30.0

*This size will be delivered with a half-shell insert

In railway vehicle construction, heavy machine building industry and other applications with increased mechanical requirements

Heavy design, high retention forces. Applicable with standard metal C rails

Clasp for easy pre-mounting and final assembly. Especially suitable for dyn. applic. due to rounded edges

The following nominal widths can be combined for stacking: NW 12 with NW 17 + 23, NW 17 with NW 23,

NW 29 with NW 36, NW 48 with NW 56

Content of delivery: System support and 2 screws for securing of the lid (optional); without mounting accessories

PA 6

Type GP - System support, stackable

	Order no. ①	Thread outside		Width (mm)	Height (mm)	Depth (mm)
		NW	Metric			
	BGP-12/01*	12	16	48.0	66.0	36.0
	BGP-17	17	20	48.0	66.0	36.0
	BGP-23	23	25	48.0	66.0	36.0
	BGP-29	29	32	62.0	66.0	36.0
	BGP-36	36	40	62.0	66.0	36.0
	BGP-48	48	50	76.0	66.0	36.0
	BGP-56G	56	68	87.0	78.0	36.0

*This size will be delivered with a half-shell insert

In railway vehicle construction, heavy machine building industry and other applications with increased mechanical requirements

Variable stacking possibilities, due to the "Block"-system a high rigidity is guaranteed

Fixes conduit against axial movements. Allows radial turning of conduit

Especially suitable for dyn. applic. due to rounded edges. Variety of support possibilities

Content of delivery: System support with assembling screws; without mounting accessories

PA 6

Type BGP-3 x48- Multiple system support

	Order no.	Thread outside			Width (mm)	Height (mm)	Length (mm)
		NW	Metric	Profile			
BGP	BGP-3 x48	48	50	G and T	30.0	84.0	214.0



In railway vehicle construction, heavy machine building industry and other applications with increased mechanical requirements

Multiple system support for 3 x NW48 max. conduits

Axial fixation of conduit. Conduit rotation possible (avoids torsion)

Especially suitable for dynamic applications due to rounded edges

PA 6

① Please replace "B" for black with "S" for grey in front of the order no.

Conduit terminations

Type RKS & CT

Type RKS - Conduit terminal sleeve

	Order no. black	Fits to conduit size		Inside Ø (mm)	Outside Ø (mm)	Length (mm)
		NW	Metric			
	RKS-07	07	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	33.0	46.0	25.0
	RKS-48	48	50	45.0	58.0	25.0
	RKS-56	56	68	54.0	71.0	28.0

For clean conduit end termination where no fitting is required
PA 6

Type CT - Conduit termination

	Order no. black	Fits to conduit size		Clamping range (mm)	Length (mm)	Height (mm)
		NW	Metric			
	BCT-10	10	12	4–8	28.0	13.0
	BCT-12	12	16	5–9	35.0	16.0
	BCT-17	17	20	7–14	42.0	21.0
	BCT-23	23	25	14–22	51.0	28.0
	BCT-29	29	32	16–22	53.0	34.0
	BCT-36	36	40	16–29	55.0	42.0

For sealing of cables and wires at the exit from PMA corrugated conduits
Avoids ingress of dirt and liquids
Can be fixed additionally with cable ties
Neoprene rubber
Temperature range: –30°C to +120°C

Abrasion protection sleeves, tools

Type SS/SV & EWZ

Type SS/SV - Abrasion protection sleeve

	Order no.	Fits to conduit size		Outside Ø (mm)	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	68	90.0	33.0
	BSV-70G	70	80	108.0	60.0

Abrasion protection for corrugated conduits in positions exposed to chafing
Increases the life time of moving conduits
PA 6

Type EWZ - Draw-in tool

	Order no. black with hole	Order no. black with handle	Fits to conduit size NW	Width x Length x Depth (mm)
EWZ	EWZ-02	EWZ-03	7.5–34	117.7 x 45.2 x 71.9



Suitable for drawing in cables or wires into PMA Divisible System conduits 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
Polyamide 6.6
Colour: black

Tools

Type PMACUT

Type PMACUT - Cutting tool for conduits, NW 07–48

	Order no. Cutting tool	Order no. Spare blade	Cutting range	For conduit size NW
PMACUT	PMACUT-38	FP-38	0–38	07–29
	PMACUT-52	FP-52	0–52	23–48



Can be used to cut all PMA conduits
Enables a precise and straight cut around the corrugation
Metal
Colour: Red

Type PMACUT - Cutting tool for conduits, NW 56–125

	Order no. black	Fits to conduit size		Length x Width x Depth (mm)
		NW	Metric	
PMACUT	PMACUT-NW56	56	68	337 x 101 x 15
	PMACUT-NW70	70	80	350 x 110 x 15
	PMACUT-NW95	95	106	400 x 142 x 20
	PMACUT-NW125	125	146	443 x 182 x 20

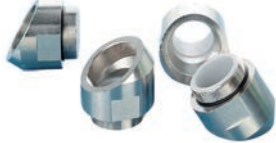


Can be used to cut all PMA conduits with large nominal widths
Enables a precise and straight cut at the top of the corrugation
High level of safety through retractable blade
Aluminium

Elbow adapters, metric

Type MAVI & MAVIK

Type MAVI - Special 45° elbow adapter, metric thread

	Order no.	Thread metric		Thread length outside (mm)	Outside Ø (mm)	Overall length (mm)
		Inside	Outside			
	MAVI-M20/01	M20 x 1.5	M20 x 1.5	10.0	35.0	45.0
	MAVI-M25/01	M25 x 1.5	M25 x 1.5	11.0	39.0	51.0
	MAVI-M32/01	M32 x 1.5	M32 x 1.5	13.0	46.0	54.0
	MAVI-M40/01	M40 x 1.5	M40 x 1.5	13.0	55.0	62.0
	MAVI-M50/01	M50 x 1.5	M50 x 1.5	14.0	65.0	75.0
	MAVI-M63/01	M63 x 1.5	M63 x 1.5	14.0	80.0	84.0

Where a certain cable outlet angle is required

In connection with PMA connectors, especially connectors with strain relief VNZ

Enables different mounting positions: With a lock nut behind a clearance hole / In threaded holes (lock nut on MAVI side for positioning) / With SCA spin-coupler

Nickel-plated aluminium (other materials e.g. stainless steel or nickel-plated brass available on request)

High thread and system connection strength

IP68 static/IP67 dynamic

Temperature range: -60°C to +105°C

Type MAVIK - Positioning 45° elbow adapter, metric thread

	Order no.	Thread metric		Thread length outside (mm)	Outside Ø (mm)	Overall length (mm)
		Inside	Outside			
	MAVIK-M20/01	M20 x 1.5	M20 x 1.5	10.0	35.0	52.0
	MAVIK-M25/01	M25 x 1.5	M25 x 1.5	11.0	39.0	58.0
	MAVIK-M32/01	M32 x 1.5	M32 x 1.5	13.0	46.0	61.0
	MAVIK-M40/01	M40 x 1.5	M40 x 1.5	13.0	55.0	69.5
	MAVIK-M50/01	M50 x 1.5	M50 x 1.5	14.0	65.0	83.0
	MAVIK-M63/01	M63 x 1.5	M63 x 1.5	14.0	80.0	92.0

Where a certain cable outlet angle is required

In connection with PMA connectors, especially connectors with strain relief VNZ

The counter nut allows accurate positioning of the outlet direction in threaded holes

Adapter made from nickel-plated aluminium (other materials e.g. stainless steel or nickel-plated brass available on request), counter nut made from nickel-plated brass

High thread and system connection strength

IP68 static/IP67 dynamic

Temperature range: -60°C to +105°C

Swivel and positioning adapters, metric, PG

Type SWA & SCA

Type SWA - Swivel adapter with special sealing, metric/PG metal thread

	Order no.	Thread metric	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	SWA-M16-10	M16 x 1.5	10.0	23.0	37.5
	SWA-M20-10	M20 x 1.5	10.0	27.0	38.5
	SWA-M25-11	M25 x 1.5	11.0	32.0	41.0
	SWA-M32-13	M32 x 1.5	13.0	45.0	46.5
	SWA-M40-13	M40 x 1.5	13.0	55.0	47.5
	SWA-M50-14	M50 x 1.5	14.0	59.0	49.5
	SWA-M63-14	M63 x 1.5	14.0	75.0	52.0
	Order no.	Thread PG	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	SWA-P09	09	15.0	23.0	44.5
	SWA-P11	11	15.0	27.0	45.5
	SWA-P16	16	15.0	32.0	48.0
	SWA-P21	21	15.0	40.0	51.0
	SWA-P29	29	15.0	50.0	52.0
	SWA-P36	36	15.0	59.0	55.0
	SWA-P48	48	15.0	70.0	55.0

Allow PMA connectors to swivel freely in applications where such movement is occasionally necessary

In connection with PMA connectors with metal thread

Nickel-plated brass with thread edge protection

IP68 and IP69

Temperature range: -40°C to +105°C

Type SCA - Positioning adapter, metric/PG metal thread

	Order no.	Thread metric	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	SCA-M16-10	M16 x 1.5	10.0	22.0	32.0
	SCA-M20-10	M20 x 1.5	10.0	26.0	33.0
	SCA-M25-11	M25 x 1.5	11.0	32.0	35.0
	SCA-M32-13	M32 x 1.5	13.0	39.0	39.5
	SCA-M40-13	M40 x 1.5	13.0	50.0	41.0
	SCA-M50-14	M50 x 1.5	14.0	59.0	43.5
	SCA-M63-14	M63 x 1.5	14.0	75.0	45.5
	Order no.	Thread PG	Thread length (mm)	Outside Ø (mm)	Overall length (mm)
	SCA-P09	09	12.0	22.0	35.0
	SCA-P11	11	12.0	26.0	36.0
	SCA-P16	16	13.0	29.0	38.0
	SCA-P21	21	14.0	39.0	41.0
	SCA-P29	29	14.0	44.0	42.5
	SCA-P36	36	17.0	59.0	49.0
	SCA-P48	48	17.0	69.0	50.5

Allows easy positioning of elbow connectors with metal thread

In connection with PMA connectors with metal thread (Metric: Metal long thread)

Nickel-plated brass

High fastening torque with thread edge protection

P68 and IP69

Temperature range: -40°C to +105°C

PMA JUMBO sizes

General technical details

Larger sizes for big solutions. When you need conduits with larger sizes for your cable protection, we provide you with a comprehensive selection of large size conduits including connectors and flanges.

* All conduits are REACH and RoHS compliant

The PMA JUMBO product line includes a range of large size cable protection products. Seven different conduit types using a variety of raw materials, to provide optimal performance in various applications and compatible fittings.

- PMA JUMBO conduits polyamide and polyurethane conduits in the large nominal width sizes NW56, 70, 95, 125 (PA6 conduits – PCL, CYL, VCS, VOH) (PA12 conduits – PIS) (PU conduits – PUE)
- PMAGRIP flange and threaded fittings plus accessories BGG (straight), BGO (90°) flange fittings achieve a sealing rating of IP50 and IP65 with a conduit sealing ring BGGV (straight), BGOV (90°) flange fittings achieve a sealing rating of IP68

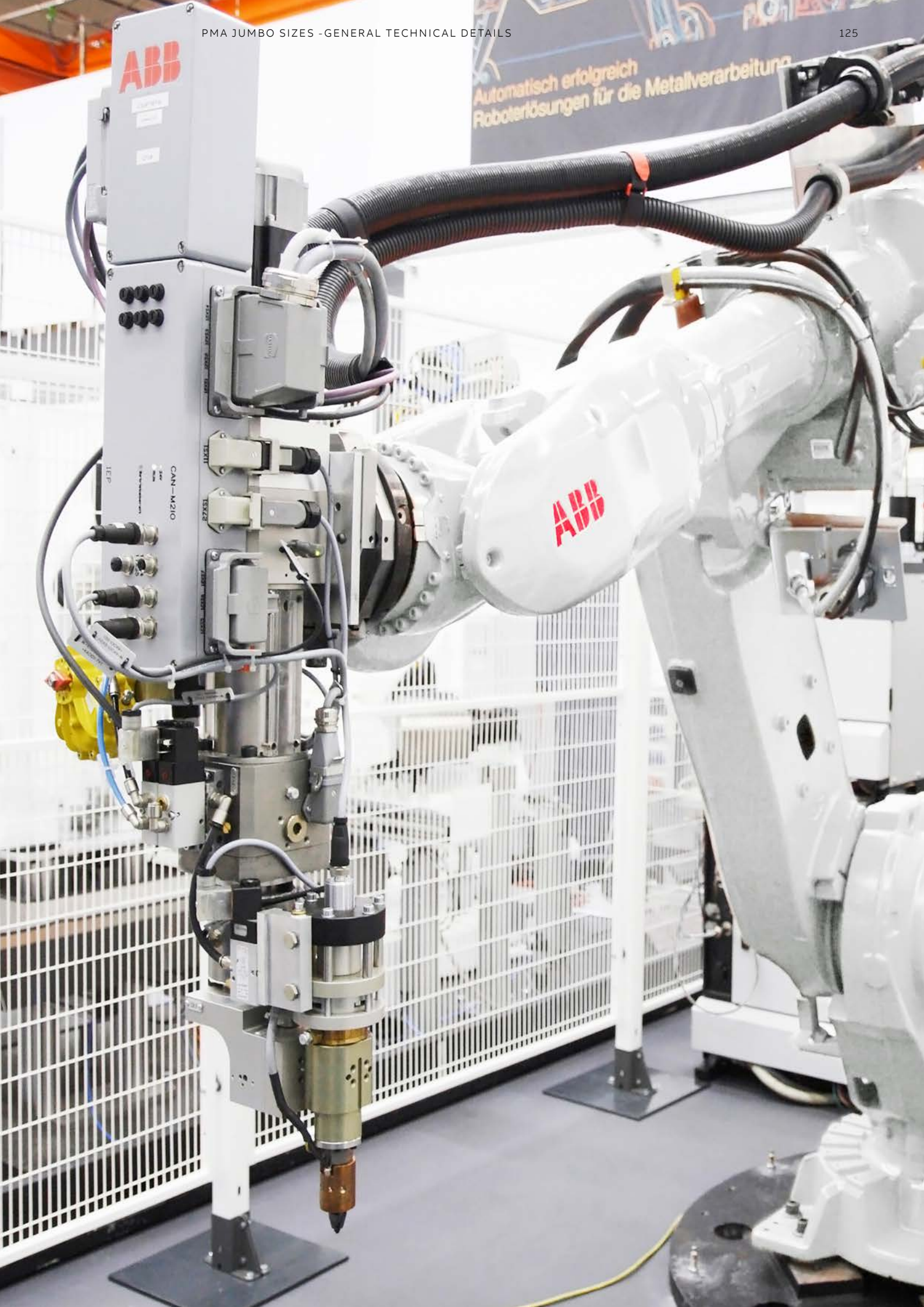
Material

- Conduits made from specially formulated PA6, PA12 and PU
- Fittings made from specially formulated polyamide 6
- Self-extinguishing
- Free from halogens, REACH + RoHS compliant*
- Very good chemical properties
- Temperature range:
PA6 –40°C to +105°C, short-term to +160°C
PA12 –40°C to +95°C, short-term to +150°C
PU –60°C to +50°C

Characteristics

- Excellent conduit pull-out strength
- High impact resistance
- All PMA Jumbo conduits have a coarse (G) profile
- The conduit types PIS and VCS are UL recognized in jumbo sizes for use with the flange type fittings.





Conduits, large sizes

Type PMAFLEX JUMBO conduits

Type PMAFLEX JUMBO conduits

	Order no. black	Order no. grey	Conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU meter
			NW	Metric				
PMAFLEX JUMBO conduits 	PCLG-56B	PCLG-56S	56	68	56.3	67.2	130/-	30
	PCLG-70B	PCLG-70S	70	80	67.5	80.0	160/-	10
	PCLG-95B	PCLG-95S	95	106	91.5	106.0	210/-	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
	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	20
	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
	LLPAG-56A	LLPAG-56S	56	68	56.3	67.2	120/-	30
	LLPAG-70A	LLPAG-70S	70	80	68.0	80.0	160/-	10
	LLPAG-95A	LLPAG-95S	95	106	91.9	106.0	210/-	10
	LLPAG-125A	LLPAG-125S	125	146	126.5	146.5	450/-	6
	VOHG-56B	VOHG-56S	56	68	55.5	67.2	135/-	10
	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
Approvals 	PUEG-56B	–	56	68	56.3	67.2	90/170	30
	PUEG-70B	–	70	80	68.2	80.5	100/220	30

For further conduits and other sizes see conduit guide

PMAGRIP flange connectors

Type GG & GO

Type GG - Flange straight

	Order no. black	Order no. grey	Fits to conduit size		Width (mm)	Height (mm)	Depth (mm)
			NW	Metric			
GG	BGG-56	SGG-56	56	68	82.0	97.0	42.0
	BGG-70	SGG-70	70	80	97.0	114.0	48.0
	BGG-95	SGG-95	95	106	126.0	146.0	53.0
	BGG-125	SGG-125	125	146	–	194.0	79.0



Approvals



Ingress protection: IP50 without conduit seal ring (IP65 with conduit seal ring)
 Flange seal FGO4 made from EPDM, standard for indoor and outdoor applications
 Flange seal FGO4/01 made from NBR, optional for indoor applications with special chemical requirements
 Temperature range with FGO4: –40°C to +105°C
 Temperature range with FGO4/01: –25°C to +70°C
 Content of delivery: Flange part, fixation clamps (incl. 2 screws), flange seal (FGO4 or FGO4/01), conduit seal ring (optional for IP65)

Type GO - Flange 90° elbow

	Order no. black	Order no. grey	Fits to conduit size		Width (mm)	Height (mm)	Depth (mm)
			NW	Metric			
GO	BGO-56	SGO-56	56	68	82.0	97.0	101.0
	BGO-70	SGO-70	70	80	97.0	114.0	115.0
	BGO-95	SGO-95	95	106	126.0	146.0	149.0



Approvals



Ingress protection: IP50 without conduit seal ring (IP65 with conduit seal ring)
 Flange seal FGO4 made from EPDM, standard for indoor and outdoor applications
 Flange seal FGO4/01 made from NBR, optional for indoor applications with special chemical requirements
 Temperature range with FGO4: –40°C to +105°C
 Temperature range with FGO4/01: –25°C to +70°C
 Content of delivery: Flange part, fixation clamps (incl. 2 screws), flange seal (FGO4 or FGO4/01), conduit seal ring (optional for IP65)

PMAGRIP flange connectors

Type GGV & GOV

Type GGV - Flange straight

	Order no. black, IP68	Fits to conduit size		Width (mm)	Height (mm)	Depth (mm)
		NW	Metric			
GGV	BGGV-56	56	68	82.0	97.0	42.0
	BGGV-70	70	80	97.0	114.0	48.0
	BGGV-95	95	106	126.0	146.0	53.0



Approvals



In railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
 Flange seal FGO4 made from EPDM, standard for indoor and outdoor applications
 Flange seal FGO4/01 made from NBR on request, optional for indoor applications with special chemical requirements
 Ingress protection: IP68, IP69 with conduit sealing NVN3
 Temperature range with FGO4: -40°C to +105°C
 Temperature range with FGO4/01: -25°C to +70°C
 If the application temperature is above 70°C we recommend to use an additional internal conduit support sleeve (BES)
 Content of delivery: Flange part, fixation clamps (incl. 2 screws), conduit seal (NVN3), flange seal (FGO4 or FGO4/01)

Type GOV - Flange 90° elbow

	Order no. black, IP68	Fits to conduit size		Width (mm)	Height (mm)	Depth (mm)
		NW	Metric			
GOV	BGOV-56	56	68	82.0	97.0	101.0
	BGOV-70	70	80	97.0	114.0	115.0
	BGOV-95	95	106	126.0	146.0	149.0



Approvals



In railway vehicle construction as well as in a wide range of industrial applications with high sealing and safety requirements
 Flange seal FGO4 made from EPDM, standard for indoor and outdoor applications
 Flange seal FGO4/01 made from NBR on request, optional for indoor applications with special chemical requirements
 Ingress protection: IP68, IP69 with conduit sealing NVN3
 Temperature range with FGO4: -40°C to +105°C
 Temperature range with FGO4/01: -25°C to +70°C
 If the application temperature is above 70°C we rec. to use an additional internal conduit support sleeve (BES)
 Content of delivery: Flange part, fixation clamps (incl. 2 screws), conduit seal (NVN3), flange seal (FGO4 or FGO4/01)

PMAGRIP threaded connectors

Type GG & GI

Type GG - Connector straight with locking clamps, metric/PG thread

	Order no. black	Order no. grey	Thread	Fits to conduit size		Thread length (mm)	Outside Ø (mm)	Overall length (mm)
				NW	Metric			
GG	BGG-M6356	SGG-M6356	M63 x 1.5	56	68	18.0	98.0	57.5
	BGG-P3656	SGG-P3656	PG 36	56	68	18.0	98.0	57.3



Ingress protection: IP50 without conduit seal ring (IP65 with conduit seal ring)

Content of delivery: Threaded part, fixation clamps (incl. 2 screws), conduit seal ring (optional for IP65)

Type GI - Connector straight with locking clamps, metric female thread

	Order no. black	Order no. grey	Thread	Fits to conduit size		Thread length (mm)	Outside Ø (mm)	Overall length (mm)
				NW	Metric			
GI	BGI-M7556	SGI-M7556	M75 x 1.5	56	68	15.0	98.0	53.3



Ingress protection: IP50 without conduit seal ring (IP65 with conduit seal ring)

Content of delivery: Threaded part, fixation clamps (incl. 2 screws), conduit seal ring (optional for IP65)

Tube clamps, conduit seal rings, large size accessories

Type GH & SGS

Type GH - Tube clamp, one-piece

	Order no. black	Order no. grey	Fits to conduit size		Width (mm)	Fixing screw
			NW	Metric		
GH	BGH-56	SGH-56	56	68	26.0	2 x M8
	BGH-70	SGH-70	70	80	30.0	2 x M8
	BGH-95	SGH-95	95	106	30.0	2 x M8



For general machine and installation applications
 Integrated rib provides axial strain relief
 Allows turning of the conduit thus avoiding torsion stresses
 Pre-fixation on the conduit possible
 Allows solid fixation with 2 screws
 For other sizes of BGH tube clamps please see page 112
 PA 6

Type SGS - Tube clamp

	Order no.	Fits to conduit size		Width x Height x Depth (mm)	Fixing screw
		NW	Metric		
SGS	SGS-36	36	40	80.0 x 48.0 x 19.0	2 x M6
	SGS-48	48	50	94.0 x 58.0 x 19.0	2 x M6
	SGS-56	56	68	118.0 x 72.0 x 24.0	2 x M8
	SGS-70	70	80	130.0 x 85.0 x 24.0	2 x M8
	SGS-95	95	106	156.0 x 110.0 x 24.0	2 x M8
	SGS-125	125	146	200.0 x 152.0 x 24.0	2 x M8



For fixation of static conduits
 Galvanized steel
 Elastomer profile (EPDM) free from halogens
 Smooth connection to PMA conduits
 Good resistance to ozone and ageing
 Temperature range: -40°C to +120°C

Tube clamps, conduit seal rings, large size accessories

Type SGO3

Type SGO3 - Conduit seal ring

	Order no.	Fits to conduit size		Inside Ø (mm)	Outside Ø (mm)	Thickness (mm)
		NW	Metric			
SGO3 	SGO3-56	56	68	49.5	61.0	1.5
	SGO3-70	70	80	61.5	74.0	1.5
	SGO3-95	95	106	86.0	102.0	1.5
	SGO3-125	125	146	122.0	142.0	2.0

Used at the conduit end for sealing between the PMAGRIP flanges GG/GO/GI and PMA JUMBO conduits

Nitrile rubber NBR

Temperature range: -40°C to +105°C

PMA Divisible System

General technical details

One-piece Divisible System. The ideal solution for repairs, retrofit and pre-loomed applications. Equally all PMA conduits are compatible.

PMA offers a divisible system based upon PMA standard nominal widths.

This allows free combination of the PACOF and PPCOF divisible conduits with PMAFIX Pro, PMAFIX and PMA Smart Line fittings. Using the PMA Divisible System Fittings repairs can be easily made to existing installations without disconnecting cables. Equally all PMA conduits – also slit – are compatible with the fittings of the divisible system.

Material

- Conduits made from spec. formulated PA 6 and Polypropylene
- Fittings made from specially formulated polyamide 6
- Colour: Black
- Free from halogens, REACH + RoHS compliant
- Temperature range:
Conduits: –40°C to +160°C
Connectors: –40°C to min. +105°C

Characteristics

- Fast installation
- Conduit can be installed in fitting prior to closing the fitting
- High impact resistance
- High conduit pull-out strength
- Fits conduit profiles – fine (T) and coarse (G)





Conduits

Type PACOF & PPCOF

Type PACOF - Flexible, divisible

	Order no. black	Fits to conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU meter
		NW	Metric				
	PACOF-07B	07	10	5.6	10.0	30	50
	PACOF-10B	10	12	8.5	12.8	33	50
	PACOF-12B	12	16	11.0	15.6	35	50
	PACOF-17B	17	20	15.5	21.1	45	50
	PACOF-23B	23	25	22.1	28.4	70	50
	PACOF-29B	29	32	27.2	34.5	120	50
	PACOF-36B	36	40	32.0	42.4	145	30
	PACOF-48B	48	50	43.9	54.1	150	30
	PACOF-70B	70	80	62.0	79.0	190	10

PACOF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For machine building and plant construction
 For trouble-free retrofitting and applicable for repairs
 Specially modified polyamide 6
 Can be opened and closed again in longitudinal direction any time
 Good ductility
 Good compression resistance
 Free from halogens, REACH + RoHS compliant
 Temperature range: -40°C to +105°C, short-term to +160°C
 IP50

Type PPCOF - Flexible, divisible

	Order no. black	Fits to conduit size		Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU meter
		NW	Metric				
	PPCOF-07B	07	10	5.6	10.0	25	50
	PPCOF-10B	10	12	8.5	12.8	28	50
	PPCOF-12B	12	16	11.0	15.6	35	50
	PPCOF-17B	17	20	15.1	21.1	45	50
	PPCOF-23B	23	25	22.1	28.4	60	50
	PPCOF-29B	29	32	26.6	34.5	100	50
	PPCOF-36B	36	40	31.8	42.4	120	30
	PPCOF-48B	48	50	43.9	54.1	140	30
	PPCOF-70B	70	80	60.5	78.0	200	10

PPCOF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For machine building and plant construction
 For trouble-free retrofitting and applicable for repairs
 Specially modified polypropylene PP
 Can be opened and closed again in longitudinal direction any time
 Good reversed bending resistance
 Temperature range: -20°C to +105°C, short-term to +150°C
 IP50

Connectors, lock nuts

Type LNO & LN

Type LNO - Divisible connector straight, one-piece, metric thread

	Order no. black	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
			NW	Metric		
	BLNO-M160	M16 x 1.5	10	12	13.0	37.5
	BLNO-M162	M16 x 1.5	12	16	13.0	39.5
	BLNO-M202	M20 x 1.5	12	16	13.0	39.5
	BLNO-M207	M20 x 1.5	17	20	13.0	43.5
	BLNO-M257	M25 x 1.5	17	20	14.0	44.5
	BLNO-M253	M25 x 1.5	23	25	14.0	52.5
	BLNO-M323	M32 x 1.5	23	25	17.0	56.0
	BLNO-M329	M32 x 1.5	29	32	17.0	61.0
	BLNO-M409	M40 x 1.5	29	32	21.0	65.0
	BLNO-M406	M40 x 1.5	36	40	22.0	74.5
	BLNO-M508	M50 x 1.5	48	50	22.0	80.5

Divisible connector straight, one-piece, metric thread

Compatible with PMA standard, slit and divisible conduits with standard nominal widths

In industries, plant construction, machine building as well as in house and electrical installations

For retrofit installation or repair

IP54

Special: Push-in installation of conduit into pre-installed fitting also possible

Type LN - Divisible lock nut, metric thread

	Order no. black	Thread metric	Fits with divisible connector		Wrench size (mm)	Width (mm)
	BLN-M16	M16 x 1.5	BLNO-M160	BLNO-M162	22.0	8.0
	BLN-M20	M20 x 1.5	BLNO-M202	BLNO-M207	26.0	8.0
	BLN-M25	M25 x 1.5	BLNO-M257	BLNO-M253	32.0	9.0
	BLN-M32	M32 x 1.5	BLNO-M323	BLNO-M329	41.0	12.0
	BLN-M40	M40 x 1.5	BLNO-M409	BLNO-M406	50.0	15.0
	BLN-M50	M50 x 1.5	BLNO-M508		60.0	15.0

Compatible with divisible PMA connectors, type BLNO

For retrofit installation or repair

Temperature range: -40°C to +100°C, short-term: +130°C

T, Y pieces, connection splice

Type LTO & LYO

Type LTO - Divisible T piece, one-piece

	Order no. black, IP40	3x conduit sizes	
		NW	Metric
	BLTO-070707	07	10
	BLTO-101010	10	12
	BLTO-121212	12	16
	BLTO-171717	17	20
	BLTO-232323	23	25
	BLTO-292929	29	32

Compatible with PMA standard, slit and divisible conduits with standard nominal widths
 In industries, plant construction, machine building as well as in house and electrical installations
 For retrofit installation or repair
 IP40
 Conduit can be installed in fitting prior to closing the fitting

Type LYO - Divisible Y piece, one-piece

	Order no. black, IP40	1x conduit size		2x conduit sizes	
		NW	Metric	NW	Metric
	BLYO-100707	10	12	07	10
	BLYO-121010	12	16	10	12
	BLYO-171212	17	20	12	16
	BLYO-231717	23	25	17	20
	BLYO-292917	17	20	29	32

Compatible with PMA standard, slit and divisible conduits with standard nominal widths
 In industries, plant construction, machine building as well as in house and electrical installations
 For retrofit installation or repair
 IP40
 Conduit can be installed in fitting prior to closing the fitting

T, Y pieces, connection splice

Type LSGO

Type LSGO - One-piece, divisible

	Order no. black, IP40	Fits to conduit size NW	Overall length (mm)	Outer Ø (mm)
LSGO	BLSGO-101010	10	36	16
	BLSGO-121212	12	36	21
	BLSGO-171717	17	38	26
	BLSGO-232323	23	39	33



Compatible with PMA standard, slit and divisible conduits with standard nominal widths
In industries, plant construction, machine building as well as in house and electrical installations
For retrofit installation or repair
Polyamide (Nylon) 66
IP40 rated

PMA Smart Line IP66

General technical details

Modern, versatile and attractive. Functional and modern design, providing excellent value for money. Suitable for machine building, installation and construction industries.

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.

Material

- Fittings made from specially formulated polyamide 6
- Self-extinguishing
- Free from halogens, REACH + RoHS compliant
- Temperature range:
–45°C to +105°C, short-term to +150°C

Characteristics

- High impact resistance
- Good conduit pull-out strength
- Vibration-proof connection to PMA conduits
- Fits conduit profiles – fine (T) and coarse (G)
- To avoid accidental opening, disassembling only possible with a screwdriver





PMA Smart Line

General technical details



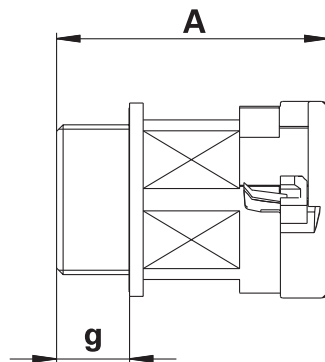
Patent

IP66

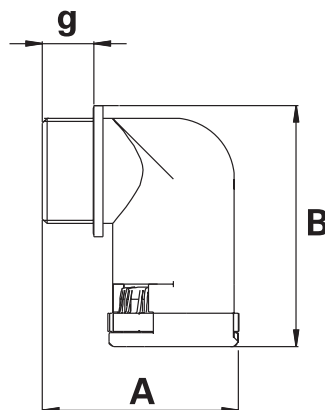
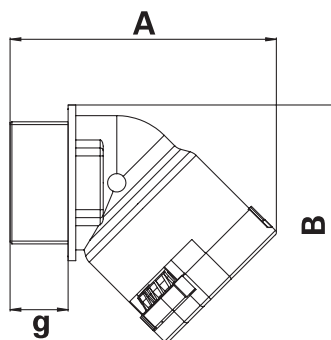
IP66 static

IP54 dynamic

- One piece fitting
- Conical sealing method
- Integrated sealing lip in thread flange
- Easy “push-in” installation
- Ready for installation (fitting gets delivered with engaged locking elements)



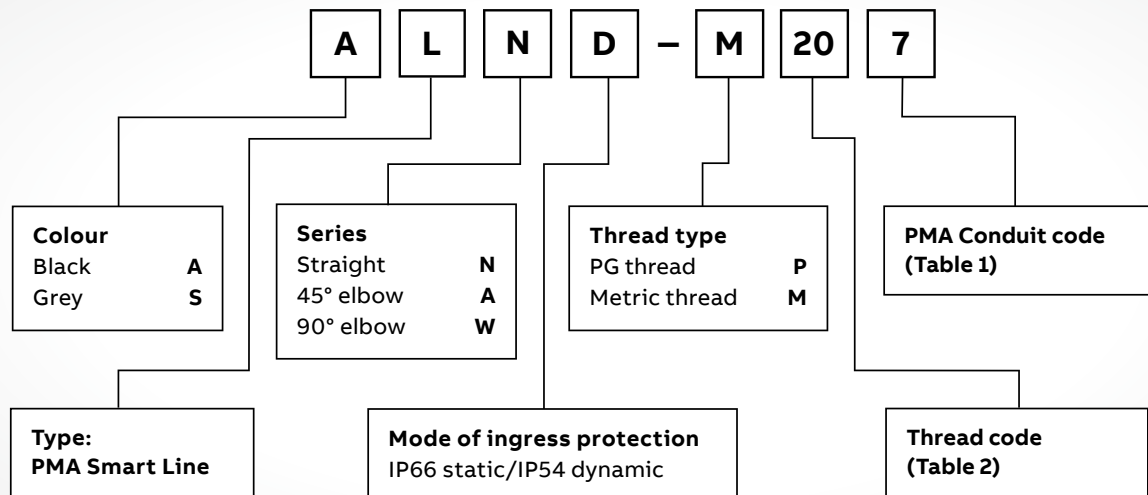
g = Thread length A = Overall length



g = Thread length A x B = External dimensions

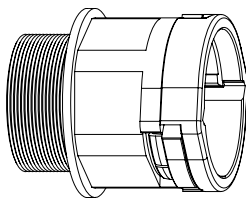
PMA Smart Line

Part number codes

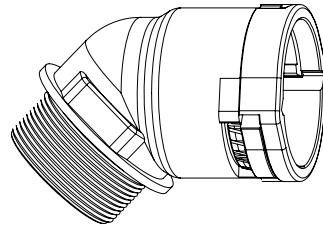


Connector series

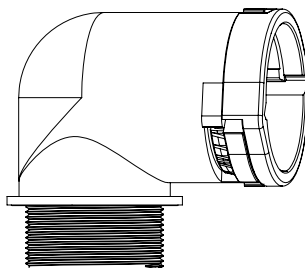
- 01 Straight (N)
- 02 45° elbow (A)
- 03 90° elbow (W)



01



02



03

PMA Smart Line

Size codes, installation

Table 1: Conduit codes

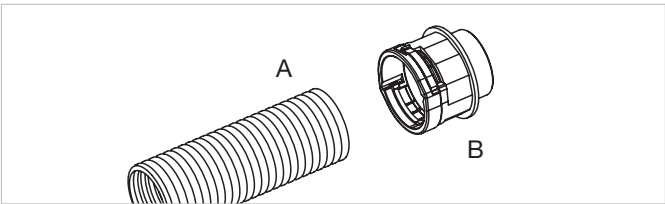
Nominal width	Metric size	PMA code
07	10	M
10	12	0
12	16	2
17	20	7
23	25	3
29	32	9
36	40	6
48	50	8

Table 2: Thread codes

Thread Metric	PMA code
M12 x 1.5	M12
M16 x 1.5	M16
M20 x 1.5	M20
M25 x 1.5	M25
M32 x 1.5	M32
M40 x 1.5	M40
M50 x 1.5	M50
M63 x 1.5	M63

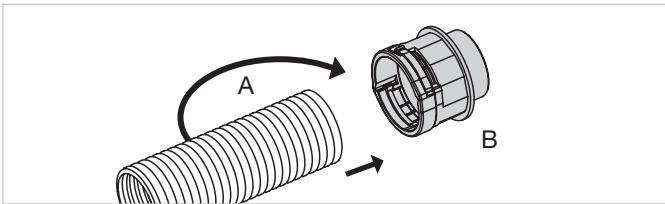
Thread PG	PMA code
PG07	P07
PG09	P09
PG11	P11
PG13.5	P13
PG16	P16
PG21	P21
PG29	P29
PG36	P36
PG48	P48

Installation IP66



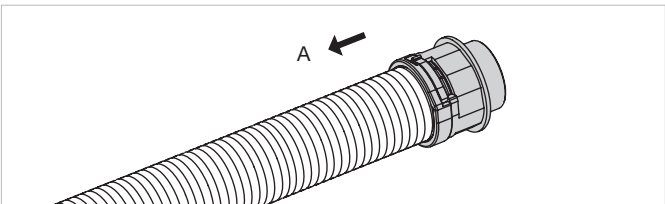
01

A = Conduit
B = Fitting



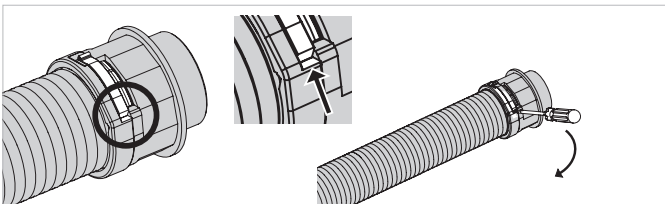
02

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



03

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



04

To disengage the locking mechanism use a size 1 screwdriver.

Connectors, metric, polyamide thread

Type LND & LAD

Type LND - Connector straight, metric thread

	Order no. black, IP66	Order no. grey, IP66	Thread metric	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
LND, patent 	ALND-M120	SLND-M120	M12 x 1.5	10	12	11.0	34.0
	ALND-M160	SLND-M160	M16 x 1.5	10	12	11.0	34.0
	ALND-M162	SLND-M162	M16 x 1.5	12	16	11.0	38.0
	ALND-M200	SLND-M200	M20 x 1.5	10	12	11.0	34.0
	ALND-M202	SLND-M202	M20 x 1.5	12	16	11.0	38.0
	ALND-M207	SLND-M207	M20 x 1.5	17	20	11.0	41.0
	ALND-M257	SLND-M257	M25 x 1.5	17	20	12.0	42.0
	ALND-M253	SLND-M253	M25 x 1.5	23	25	12.0	45.5
	ALND-M323	SLND-M323	M32 x 1.5	23	25	15.0	48.5
	ALND-M329	SLND-M329	M32 x 1.5	29	32	15.0	50.5
	ALND-M409	SLND-M409	M40 x 1.5	29	32	19.0	54.5
	ALND-M406	SLND-M406	M40 x 1.5	36	40	19.0	60.5
	ALND-M506	SLND-M506	M50 x 1.5	36	40	19.0	61.0
	ALND-M508	SLND-M508	M50 x 1.5	48	50	19.0	61.0
	ALND-M638	SLND-M638	M63 x 1.5	48	50	19.0	61.0

Type LAD - Connector 45° elbow, metric thread

	Order no. black, IP66	Order no. grey, IP66	Thread metric	Fits to conduit size		Thread length (mm)	External Dimensions (mm)
				NW	Metric		
LAD, patent 	ALAD-M120	SLAD-M120	M12 x 1.5	10	12	11.0	42.5 x 33.0
	ALAD-M160	SLAD-M160	M16 x 1.5	10	12	11.0	42.5 x 35.0
	ALAD-M162	SLAD-M162	M16 x 1.5	12	16	11.0	47.5 x 39.5
	ALAD-M202	SLAD-M202	M20 x 1.5	12	16	11.0	47.5 x 41.5
	ALAD-M207	SLAD-M207	M20 x 1.5	17	20	11.0	54.0 x 46.0
	ALAD-M257	SLAD-M257	M25 x 1.5	17	20	12.0	55.0 x 48.5
	ALAD-M253	SLAD-M253	M25 x 1.5	23	25	12.0	63.5 x 55.5
	ALAD-M323	SLAD-M323	M32 x 1.5	23	25	15.0	67.0 x 60.0
	ALAD-M329	SLAD-M329	M32 x 1.5	29	32	15.0	72.5 x 63.5
	ALAD-M409	SLAD-M409	M40 x 1.5	29	32	19.0	76.5 x 66.5
	ALAD-M406	SLAD-M406	M40 x 1.5	36	40	19.0	87.5 x 78.0
	ALAD-M506	SLAD-M506	M50 x 1.5	36	40	19.0	88.0 x 82.0
	ALAD-M508	SLAD-M508	M50 x 1.5	48	50	19.0	97.5 x 88.0
	ALAD-M638	SLAD-M638	M63 x 1.5	48	50	19.0	97.5 x 94.5

Connectors, metric and PG, polyamide thread

Type LWD & LND

Type LWD - Connector 90° elbow, metric thread

	Order no. black, IP66	Order no. grey, IP66	Thread metric	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
 LWD, patent	ALWD-M120	SLWD-M120	M12 x 1.5	10	12	11.0	33.0 x 36.5
	ALWD-M160	SLWD-M160	M16 x 1.5	10	12	11.0	33.0 x 38.5
	ALWD-M162	SLWD-M162	M16 x 1.5	12	16	11.0	37.5 x 43.0
	ALWD-M202	SLWD-M202	M20 x 1.5	12	16	11.0	37.5 x 45.0
	ALWD-M207	SLWD-M207	M20 x 1.5	17	20	11.0	42.0 x 50.5
	ALWD-M257	SLWD-M257	M25 x 1.5	17	20	12.0	43.0 x 53.0
	ALWD-M253	SLWD-M253	M25 x 1.5	23	25	12.0	52.5 x 59.0
	ALWD-M323	SLWD-M323	M32 x 1.5	23	25	15.0	56.0 x 62.5
	ALWD-M329	SLWD-M329	M32 x 1.5	29	32	15.0	62.5 x 69.0
	ALWD-M409	SLWD-M409	M40 x 1.5	29	32	19.0	66.5 x 72.0
	ALWD-M406	SLWD-M406	M40 x 1.5	36	40	19.0	76.0 x 83.0
	ALWD-M506	SLWD-M506	M50 x 1.5	36	40	19.0	76.0 x 87.0
	ALWD-M508	SLWD-M508	M50 x 1.5	48	50	19.0	89.0 x 92.5
	ALWD-M638	SLWD-M638	M63 x 1.5	48	50	19.0	89.0 x 99.0

Type LND - Connector straight, PG thread

	Order no. black, IP66	Order no. grey, IP66	Thread PG	Fits to conduit size		Thread length (mm)	Overall length (mm)
				NW	Metric		
 LND, patent	ALND-P070 *	SLND-P070 *	07	10	12	7.0	44.0
	ALND-P090	SLND-P090	09	10	12	11.0	34.0
	ALND-P092 *	SLND-P092 *	09	12	16	8.0	50.0
	ALND-P110	SLND-P110	11	10	12	8.0	45.5
	ALND-P112	SLND-P112	11	12	16	11.0	38.0
	ALND-P132	SLND-P132	13.5	12	16	11.0	38.0
	ALND-P137	SLND-P137	13.5	17	20	11.0	41.0
	ALND-P167	SLND-P167	16	17	20	11.0	41.0
	ALND-P213	SLND-P213	21	23	25	12.0	45.5
	ALND-P299	SLND-P299	29	29	32	12.0	47.5
	ALND-P366	SLND-P366	36	36	40	13.0	54.5
	ALND-P488	SLND-P488	48	48	50	13.0	55.0

* These products will be delivered with a thread adapter

Connectors, PG, polyamide thread

Type LAD & LWD conduits

Type LAD - Connector 45° elbow, PG thread

	Order no. black, IP66	Order no. grey, IP66	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
LAD, patent 	ALAD-P090	SLAD-P090	09	10	12	11.0	42.5 x 34.0
	ALAD-P112	SLAD-P112	11	12	16	11.0	47.5 x 40.0
	ALAD-P132	SLAD-P132	13.5	12	16	11.0	47.5 x 41.5
	ALAD-P137	SLAD-P137	13.5	17	20	11.0	54.0 x 46.0
	ALAD-P167	SLAD-P167	16	17	20	11.0	54.0 x 47.0
	ALAD-P213	SLAD-P213	21	23	25	12.0	63.5 x 57.5
	ALAD-P299	SLAD-P299	29	29	32	12.0	69.5 x 65.0
	ALAD-P366	SLAD-P366	36	36	40	13.0	81.5 x 80.0
	ALAD-P488	SLAD-P488	48	48	50	13.0	91.5 x 93.0

Type LWD - Connector 90° elbow, PG thread

	Order no. black, IP66	Order no. grey, IP66	Thread PG	Fits to conduit size		Thread length (mm)	External dimensions (mm)
				NW	Metric		
LWD, patent 	ALWD-P070*	SLWD-P070*	07	10	12	7.0	42.0 x 37.5
	ALWD-P090	SLWD-P090	09	10	12	11.0	32.5 x 37.5
	ALWD-P092*	SLWD-P092*	09	12	16	8.0	48.0 x 43.5
	ALWD-P110*	SLWD-P110*	11	10	12	8.0	44.0 x 40.0
	ALWD-P112	SLWD-P112	11	12	16	11.0	36.5 x 43.5
	ALWD-P130*	SLWD-P130*	13.5	10	12	9.0	37.5 x 40.0
	ALWD-P132	SLWD-P132	13.5	12	16	11.0	36.5 x 45.0
	ALWD-P137	SLWD-P137	13.5	17	20	11.0	41.0 x 50.5
	ALWD-P167	SLWD-P167	16	17	20	11.0	41.0 x 51.5
	ALWD-P213	SLWD-P213	21	23	25	12.0	52.0 x 61.0
	ALWD-P299	SLWD-P299	29	29	32	12.0	58.5 x 70.5
	ALWD-P366	SLWD-P366	36	36	40	13.0	70.0 x 85.0
	ALWD-P488	SLWD-P488	48	48	50	13.0	83.0 x 97.5

*These products will be delivered with a thread adapter

PMAJACK Plastic and metal braids

General technical details

Bundling and abrasion protection. Polyamide, polyester and steel braids – an alternative way to bundle and protect electrical cables.

Plastic braids manufactured from polyester and polyamide filaments – the other alternative solution for protecting and bundling cables.

This PMA cable protection system provides simple bundling and abrasion protection for cables and wires.

Various braid types to fulfill different requirements complimented by a range of braid terminations for simple and clean assembly.

Material

- Braids made from polyamide 6.6 or polyester
- Terminations made from PA 6, aluminium or brass
- Free from halogens, REACH + RoHS compliant

Characteristics

- Flammability of braids:
 - polyamide 6.6 UL 94 V2,
 - polyester UL 94 V0
- Braid design: Following DIN 65 164 part 1+2
- EN 45545-2 HL3





Plastic braided hoses

Type F.66 & C.66

Type F.66 - Braided hose

		Order no. black	Order no. grey	NW	Fits to termination	Weight nom. per 100 m (kg)	Operative range min. Ø (mm)	Operative range max. Ø (mm)
F.66	 	F.66.04SW	F.66.04GR	4	–	0.4	3.0	7.0
		F.66.06SW	F.66.06GR	6	SRER-06	0.6	5.0	8.0
		F.66.08SW	F.66.08GR	8	SRER-06	0.8	7.0	10.0
		F.66.10SW	F.66.10GR	10	SRER-06	1.0	9.0	13.0
		F.66.12SW	F.66.12GR	12	SRER-06	1.4	11.0	16.0
		F.66.16SW	F.66.16GR	16	SRER-16	1.7	15.0	21.0
		F.66.20SW	F.66.20GR	20	SRER-16	2.0	20.0	26.0
		F.66.25SW	F.66.25GR	25	SRER-21/SRER-29	2.4	24.0	31.0
		F.66.30SW	F.66.30GR	30	SRER-21/SRER-29	3.5	28.0	38.0
Approvals		F.66.40SW	F.66.40GR	40	SRER-29	4.2	38.0	49.0
		F.66.50SW	F.66.50GR	50	SREV-40/SRER-50	5.1	48.0	65.0
		F.66.70SW	F.66.70GR	70	SREV-40/SRER-50	4.9	48.0	85.0

Monofil Ø: 0.28mm for increased abrasion properties
Coverage: > 90%
Polyamide 6.6
Specifications: DIN 5510 (S4/SR2/ST2), UL-File E 125 619, EN45545-2 HL3
Temperature range: -55°C to +135°C, short-term to +160°C

Type C.66 - Braided hose

	Order no. black	Order no. grey	NW	Fits to termination	Weight nom. per 100 m (kg)	Operative range min. Ø (mm)	Operative range max. Ø (mm)
C.66	C.66.10SW	C.66.10GR	10	SRER-06	0.7	8.0	14.0
	C.66.12SW	C.66.12GR	12	SRER-06/SRER-16	0.9	9.0	18.0
	C.66.16SW	C.66.16GR	16	SRER-06/SRER-16	1.2	11.0	22.0
	C.66.20SW	C.66.20GR	20	SRER-16/SRER-21	1.4	14.0	26.0
	C.66.25SW	C.66.25GR	25	SRER-16/SRER-21	1.4	18.0	28.0
	C.66.30SW	C.66.30GR	30	SRER-21/SRER-29	2.5	25.0	43.0
	C.66.40SW	C.66.40GR	40	SRER-29	2.5	30.0	52.0
	C.66.45SW	—	45	SREV-40/SRER-50	4.0	40.0	73.0

Monofil Ø: 0.28mm for increased abrasion properties
Coverage: > 75%
Polyamide 6.6
Specifications: DIN 5510 (S4/SR2/ST2), EN45545-2 HL3
Temperature range: -55°C to +135°C, short-term to +160°C

Plastic braided hoses

Type L.66

Type L.66 - Braided hose

	Order no. black	Order no. grey	NW	Fits to termination	Weight nom. per 100 m (kg)	Operative range min. Ø (mm)	Operative range max. Ø (mm)
L.66	L.66.04SW	L.66.04GR	04	–	0.4	4.0	5.0
	L.66.08SW	L.66.08GR	08	SRER-06	0.5	5.0	10.0
	L.66.10SW	L.66.10GR	10	SRER-06	0.8	7.0	13.0
	L.66.16SW	L.66.16GR	16	SRER-16	0.9	11.0	20.0
	L.66.20SW	L.66.20GR	20	SRER-16	1.4	17.0	33.0
	L.66.25SW	L.66.25GR	25	SRER-21/SRER-29	1.5	21.0	34.0
	L.66.30SW	L.66.30GR	30	SRER-21/SRER-29	1.8	25.0	45.0
	L.66.40SW	L.66.40GR	40	SRER-29	1.9	31.0	55.0
	L.66.50SW	L.66.50GR	50	SREV-40/SRER-50	3.2	58.0	70.0

Monofile Ø: 0.25mm

Coverage: > 65%

Polyamide 6.6

Specifications: DIN 5510 (S4/SR2/ST2), NF F 16-101/102 (I3/F2), EN45545-2 HL3

Temperature range: -55°C to +135°C, short-term to +160°C

Plastic braided hoses

Type G.PX & B.PX

Type G.PX - Braided hose

	Order no. black	NW	Packing unit PU/m	Weight nom. per 100m (kg)	Recommended range	
					min. Ø (mm)	max. Ø (mm)
	G.PX.05SW	05	25	1.6	4.5	5.5
	G.PX.08SW	08	25	2.0	7.0	9.0
	G.PX.10SW	10	25	2.3	9.0	11.0
	G.PX.13SW	13	25	2.5	11.5	13.0
	G.PX.16SW	16	25	3.4	14.5	17.5
	G.PX.19SW	19	25	3.8	17.0	21.0
	G.PX.25SW	25	25	4.8	22.5	27.5
	G.PX.29SW	29	25	5.3	26.0	32.0
	G.PX.32SW	32	25	6.1	29.0	35.0
	G.PX.38SW	38	25	8.3	34.0	42.0
	G.PX.50SW	50	25	8.7	45.0	55.0

Open, self winding construction. For retrofit installation. Overlapping: 90° (+40°/-25°). Polyester
 Specifications: DIN 5510 (S4/SR2/ST2), NF F 16-101/102 (I3/F2), EN45545-2 HL3. Temperature range: -55°C to +150°C

Type B.PX - Braided hose

	Order no. black	NW	Construction numb. x Ø mm	Packing unit PU/m	Weight nom. per 100m (kg)	Recommended range	
						min. Ø (mm)	max. Ø (mm)
	B.PX.12SW	12	96 x 0.20	100	0.5	6.0	18.0
	B.PX.15SW	15	144 x 0.20	100	0.7	10.0	28.0
	B.PX.30SW	30	192 x 0.20	100	0.9	20.0	42.0



Coverage: > 50%. Excellent abrasion properties. Lightweight structure. High flexibility. Excellent flame-retardant properties. Polyester
 Specifications: EN 45545-2 HL3 (R22 & R23). UL94 V0. Temperature range: -50°C to +120°C continuous, +150°C short-term

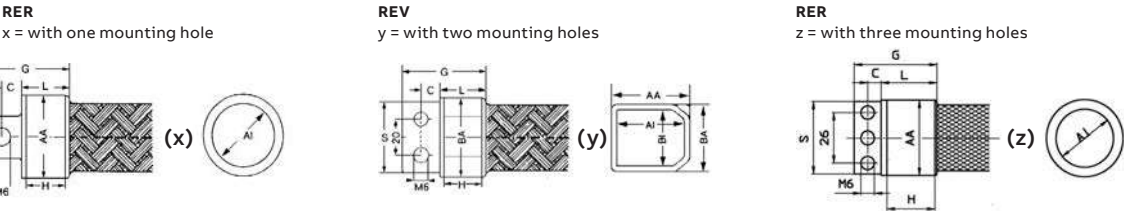
Braid terminations, connectors

Type RER/REV

Type RER/REV - Braid termination

	Order no. grey	NW	AI (mm)	AA (mm)	BI (mm)	BA (mm)	H (mm)	L (mm)	G (mm)	S (mm)	C (mm)	
	RER/REV	SRER-06 (x)	06	6.5	13	–	–	13	21	33	13	6
		SRER-16 (x)	16	16	24	–	–	15	25	39	15	7
		SRER-21 (x)	21	22	32	–	–	20	29	43	15	7
		SRER-29 (z)	29	30	40	–	–	18	29	43	39	7
		SRER-50 (z)	50	50	61	–	–	18	29	43	50	7
		SREV-40 (y)	40	47	58	34	44	20	24	44	38	10

For termination and fixation of plastic braided hoses
Suitable for: F.66, C.66, L.66 braids
Polyamide 6
For exact braid and termination fitting configuration please refer to PMAJACK data sheets



Braid terminations, connectors

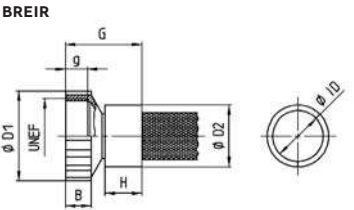
Type BREIR & MREIR

Type BREIR - Connector for plastic braids, female thread

	Order no. black	NW	Thread size	Fits to PMAJACK	Ø ID	Ø D1	B	G	g	H	Ø D2
			UNE		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
			F.66								
	BREIR-U2916	16	1 3⁄16–18	12–20	36.2	20.5	10.5	36.5	9	15	25
	BREIR-U3516	16	1 7⁄16–18		42.5	20.5	11.5	37.5	9	15	25



For round connectors
Suitable for: F.66, C.66, L.66 braids
Polyamide 6

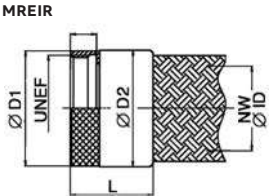


Type MREIR - Connector for plastic braids, female thread

	Order no. grey	NW	Thread size UNEF	Fits to PMAJACK		g (mm)	Ø D1 (mm)	Ø D2 (mm)	L (mm)	Ø ID (mm)
				F.PX	C.66					
MREIR	MREIR-U3529	29	1 7/16-18	25-40	30+40	29	40.0	40.5	37.5	30.0



For round connectors
Suitable for: F.66, C.66, L.66 braids
Black anodized aluminium



Stainless steel braids, tools

Type F.304 & HSG

Type F.304 - Stainless steel braided hose

	Order no.	Braid specification	Fits to conduit size NW	Operative range min. Ø (mm)	Operative range max. Ø (mm)
F.304	F.304.10	24 x 7 x 0.3	10	10.0	18.0
	F.304.12	24 x 8 x 0.3	12	10.0	24.0
	F.304.17	24 x 12 x 0.3	17	15.0	28.0
	F.304.23	36 x 9 x 0.3	23	21.0	34.0
	F.304.29	36 x 11 x 0.3	29	25.0	40.0
	F.304.36	36 x 9 x 0.4	36	32.0	47.0
	F.304.48	48 x 10 x 0.4	48	55.0	80.0



Surface coverage: >90%
Temperature range: -70°C to +1000°C

Type HSG - Hot cutting tool

	Order no.	Order no. Spare cutting tape
HSG	HSG-00	HSG-00-SB



For quick and easy cutting of plastic braidings
Smallest hot cutting tool for permanent use
With fixed edge (working area 30mm)
Voltage: 230 V-50 Hz (115 V-60 Hz)
Performance: 40W
Length of the connecting lead: 2m

Connectors, adapters

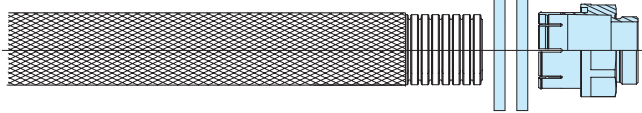
Type VEMD

Type VEMD - Connector for overbraided conduits, metric/PG metal thread

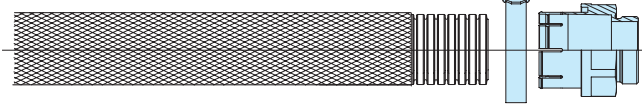
	Order no. with jubilee clip	Thread metric	Fits to conduit size		Outside Ø x Length (mm)
			NW	Metric	
	MVEMD-M406/01	40 x 1.5	36	40	55.0 x 59.0
	MVEMD-M508/01	40 x 1.5	48	50	65.0 x 62.0
	MVEMD-M6356/01	63 x 1.5	56	68	80.0 x 72.0
	Order no. with jubilee clip	Thread PG	Fits to conduit size		Outside Ø x Length (mm)
			NW	Metric	
	MVEMD-P4856/01	48	56	68	80.0 x 72.0

Nickel-plated aluminium
IP66 up to IP68 on request

VEMD with metal cable tie “Band-It”



VEMD with jubilee clip



Content of delivery includes
blue marked products.

Connectors, adapters

Type VEMD-RER

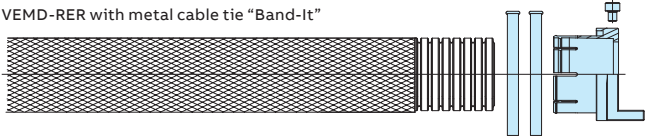
Type VEMD-RER - Adapter for overbraided conduits

	Order no. with Band-It *	Order no. with jubilee clip	Fits to conduit size		Width x Height x Length (mm)
			NW	Metric	
VEMD-RER	MVEMD-RER6	MVEMD-RER6/01	36	40	54.0 x 54.0 x 53.0
	MVEMD-RER8	–	48	50	66.0 x 66.0 x 53.0

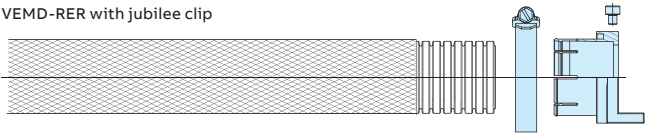


*Metal cable tie
Nickel-plated aluminium
IP66 on conduit side

VEMD-RER with metal cable tie “Band-It”



VEMD-RER with jubilee clip



Content of delivery includes
blue marked products.

Technical annex

Introduction

Conforms with standards. Intensive research and testing is the reason PMA continues to set new standards and trends in cable protection.

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 PMA 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 product from A–Z

From basic items to high-tech products, all of our products meet the most stringent quality requirements.

Some of the outstanding are:

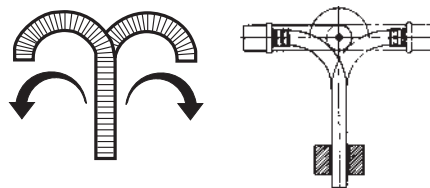
- Resistance to temperature, weathering, UV radiation and chemical agents
- High system pull-out resistance
- Excellent fire protection characteristics (flammability, smoke density and toxicity)
- Excellent system ingress protection up to IP68 and IP69
- Extremely long service life
- Conformance to all major international product standards



Resistance to fatigue when exposed to Continuous Bending Test

According to EC EN 61386 and PMA DO 9.21-4425

test procedures. Both procedures describe tests designed to evaluate conduit resistance to fatigue when exposed to continuous cycles of repetitive bending. The test procedure involves bending back and forth around a central pivotal point. Although the test procedure is the same for both standards there are differences in the test parameters and the classification of results.



Technical annex

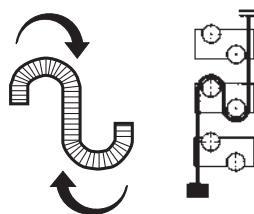
Testing methods according to IEC EN01386 and PMA internal procedures



Resistance to fatigue when exposed to Continuous Bending Test 2

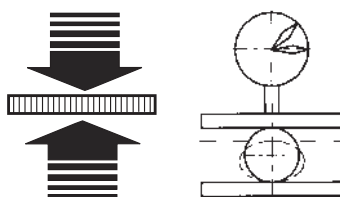
According to PMA DO 9.21-4420 test procedures.

The PMA DO 9.21-4420 test procedures describes a demanding test for conduit fatigue when exposed to continuous repetitive bending. The conduit is fixed at the top of the apparatus, it passes over and under two pulley wheels. A weight is suspended at the bottom end simulating the weight of cables within the conduit. The pulley wheels move up and down continuously bending the conduit twice through 180° over its entire length.



Compression Strength Test

According to IEC EN 61386 standard and PMA DO 9.21-4320 test procedures. Both, procedures describe a test designed to evaluate conduit resistance to compression forces. Excessive deformation of a conduit under compression could potentially cause damage to cables being protected within it. The force required to compress the conduit between two square plates to a specific % of its original diameter is measured. Relaxation over time and recovery after removal of the force are evaluated.



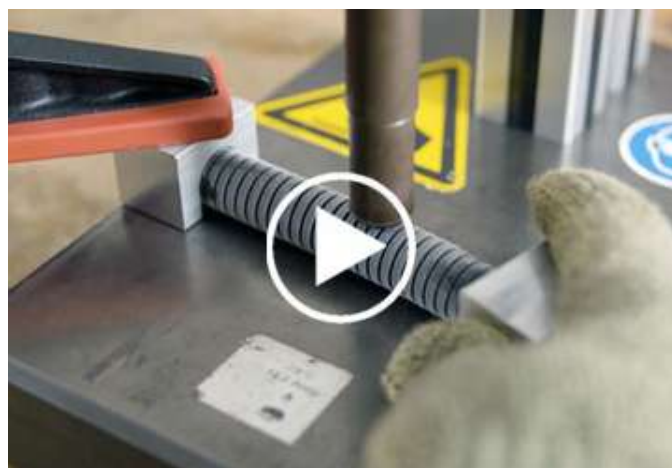
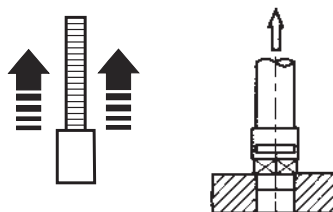
Technical annex

Testing methods according to IEC EN01386 and PMA internal procedures



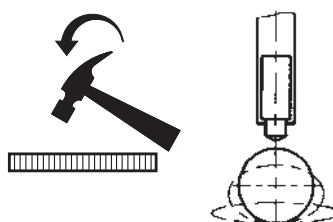
System Security - Pull-Out Strength Test

According to IEC EN 61386 and PMA DO 9.21-4610 test procedures. IEC EN 61386 and PMA DO 9.21-4610 are designed to test the security of the connection between conduit and fitting. Two fittings with a piece of conduit between them are pulled apart with steadily increasing force. Extension of the conduit is recorded graphically against the force applied. The force required to pull the conduit out of the fitting is determined. The tests are performed at 23°C and 50% r.h.



Resistance to Impact Test

According to IEC EN 61386 standard and PMA DO 9.21-4330 test procedures. IEC EN 61386 and PMA DO 9.21-4330 describe tests to evaluate the resistance of conduits to high energy impacts. They can be performed on conduits at various temperatures. Weights of different mass are dropped from an adjustable height directly onto a conduit sample which has been conditioned at the specified temperature.



Technical annex

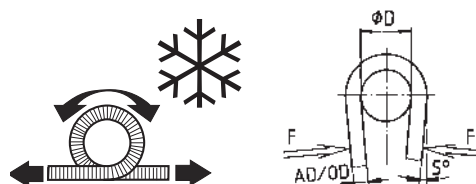
Testing methods according to IEC EN01386 and PMA internal procedures



Flexibility at Low Temperature Test

According to PMA DO 9.21-4380 test procedures.

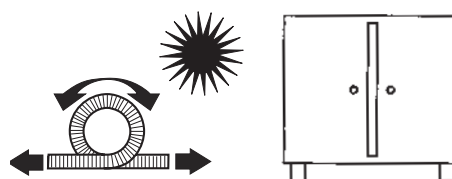
This standard describes a test procedure to evaluate the flexibility of conduits at low temperatures. The conduit under test is placed in a climatic chamber at the lowest specified operating temperature for four hours. It is then removed and immediately bent around a mandrel of diameter related to the outside diameter (OD) of the conduit.



Resistance to thermal ageing test

According to PMA DO 9.21-4360 test procedures.

This standard describes a procedure designed to evaluate the thermal stability of a conduit and its resistance to thermal ageing. The conduit is exposed to a temperature significantly above the maximum recommended continuous operating temperature for 168 hours, 160°C (PA6) or 150°C (PA12). The Flexibility at Low Temperature procedure DO 9.21-4380 is performed both before and after the thermal ageing procedure. The results are compared to detect any change in material characteristics.



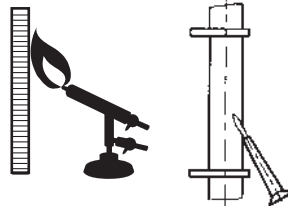
Technical annex

Testing methods according to IEC EN01386 and PMA internal procedures



Flammability tests

According to IEC EN 61386 and PMA DO 9.21-4430 test procedures. DO 9.21-4430 evaluates flammability characteristics using a defined flame from a standard burner. The time before ignition, fire propagation behaviour and extinguishing time after removal of the heat source are all factors in evaluating the flammability of conduits for a Self-Extinguishing Classification IEC 61386 uses the IEC 60695-2-11 glow wire test procedure for fittings and the IEC 60695-11-2 1 kW flame test for conduits to evaluate the flame Propagation behavior of the cable protection system allocating the classifications. Non-flame propagating or Flame Propagating.



Flammability test - Limited oxygen supply

According to EN ISO 4589-2 standard. The limited oxygen index test is a commonly used method for assessing the flammability of materials. Samples of material are exposed to a flame within a chamber. The oxygen content within the controlled environment within the chamber can be varied to within 0.1%. Through an iterative method the maximum percentage of oxygen in the air at which the sample of material extinguishes is determined. This percentage of oxygen can be used as an indication of how easily a material burns. The higher the Limited Oxygen Index % value the less flammable a material is.

Resistance to chemicals test

According to ISO 175:210 standard. In many real application cable protection systems are exposed to chemicals. Extensive data is available for the compatibility of various plastic materials with many different chemicals. This data can be used for assessment of compatibility for specific applications. PMA publishes a compatibility list for the most commonly occurring combinations of plastic and chemical. If chemicals are mixed or if no data is available for an assessment PMA recommends a compatibility test. Changes to appearance, dimensions and mechanical characteristics are assessed after long term exposure to the chemical to confirm compatibility.



PMA® (DO) test procedures

PMA® has more than 15 test procedures (PMA DO) that enables us to perform cable protection-related, application-specific material and product tests.

Customers' application-specific needs are a top priority at PMA. That's why the company, as a leading manufacturer of cable protection products, voluntarily defined various supplementary in-house test procedures, which are consistently used to test PMA products to uniform criteria. This helps us safeguard the high quality and safety of PMA cable protection solutions and supply our customers with the best, most reliable products. It gives our customer the confidence that our products perform without failure or problems and meet their expectations.

The PMA test procedures apply not only to the general product properties usual for overarching standards but also to specific applications,

such as impact resistance in low-temperature rail applications, ingress protection in dynamic outdoor applications or abrasion resistance in automation applications. PMA test procedures are primarily used in areas where the market has yet to define overarching binding standards for specific applications. Many of our bespoke test procedures are geared to existing overarching standards wherever possible, and often correspond to other international standards in terms of structure, procedure and results assessment.

Scope of a PMA test procedures:

- Detailed description of the content of testing
- Definition of samples in terms of material and quantity, distinction from other products
- Definition of the test environment, e.g. climate conditions and temperature
- Definition of devices and apparatus used in testing
- Precise definition of each relevant test parameter, such as mass, temperature, time or drop height
- Exact step-by-step definition of the test procedure
- Parameters for assessing the test result, such as the onset of mechanical losses, changes in the material, number of cycles, etc.
- List of contiguous overarching standards such as UL or IEC

For more information on the PMA test procedures (DO), please contact your PMA supplier

Technical annex

Ingress protections according to IEC 60529



Ingress Protection Test for Static Applications

According to IEC EN 60529 standard and PMA DO 7.3-1160-00 test procedures. IEC EN 60529 describes various levels of system ingress protection against both water and dust. IP*7 and IP*8 are sealing ratings for a system fully immersed under water. IP*7 is precisely defined as immersion to a depth of 1 meter for 30 minutes. An IP*8 rating indicates that the system remains dry after immersion to a depth > 1m and/or duration >30minutes. It is the intention of the standard that the time and depth of the test should be agree between customer and supplier according to the requirements of the application.

Ingress Protection Test for Dynamic Applications

According to PMA DO 9.21-4440 test procedures. This PMA internal procedure allows the sealing performance of a cable protection system which is in continuous motion to be tested. It is significantly more difficult to achieve an efficient and long-lasting seal against ingress of water for a dynamic system than for a static system. The test equipment simulates typical movement of a cable protection system while it is submerged under water.

PMA Products

			PMAFIX Pro	PMAFIX IP68 + WPS	PMAFIX IP68/ IP68GT	PMAFIX IP66	PMA Smart Line
	IPx4	Splash water from all directions	●	●	●	●	●
	IPx5	Jet water at any angle	●	●	●	●	●
	IPx6	Powerful jet water from any angle	●	●	●	●	●
	IPx7	Submersion (1m, 30 min.)	●	●	●	—	—
	IPx8	Submersion at time and pressure >IPx7	●	●	●	—	—
	IPx9	High pressure (up to 100 bar, 80°C) water from any angle	●	●*	●*	●*	●*

* IEC 60529 can be fulfilled without WPS (Water impact protection ring). PMA recommends the use of the WPS ring for trouble free practical applications

Technical annex

Ingress protections according to IEC 60529

Dust

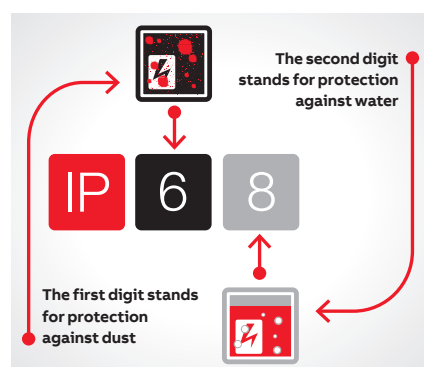
Protection against contact and penetration of foreign objects
Degree of protection
(contact/foreign bodies)

	0	No protection
	1	Objects greater than 50mm Ø, accidental touch by hands
	2	Objects greater than 12.5mm Ø, accidental touch by fingers
	3	Objects greater than 2.5mm Ø, e.g. tools/wires
	4	Objects greater than 1mm Ø, e.g. tools/wires
	5	Protected against dust - limited ingress (no harmful deposits)
	6	Totally protected against dust (dust-tight)

Water

Protection against fluids
Degree of protection (water)

	0	No protection
	1	Protected against vertically falling drops of water
	2	Protected against direct sprays of water 15° from vertical
	3	Protected against sprays of water to 60° from vertical
	4	Protected against water sprayed from all directions - limited ingress permitted
	5	Protected against low pressure jets of water from all directions - limited ingress permitted
	6	Protected against strong pressure jets of water, heavy seas - limited ingress permitted
	7	Protection against the effects of immersion between 15cm - 1m
	8	Protection against long periods of immersion under a quoted pressure, e.g. 2 bar at 24 hours
	9	IP69 Automotive standard DIN40050 and signifies resistance to high pressure jets of water (up to 80 bar) from any angle

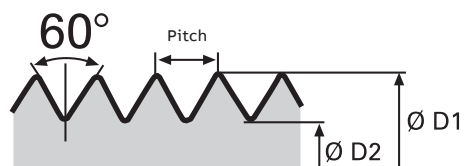


Technical annex

Table of thread dimensions

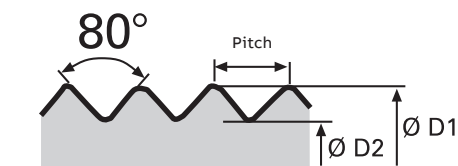
Metric fine thread - EN 60423

Metric	Pitch (mm)	Ø D1 (mm)	Ø D2 (mm)	Hole -0/+0.3 (mm)
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



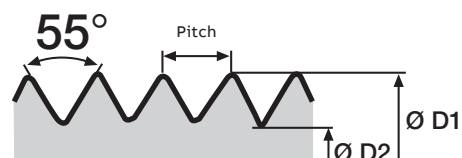
PG thread - DIN 40430

PG	Pitch (mm)	Ø D1 (mm)	Ø D2 (mm)	Hole (mm)
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



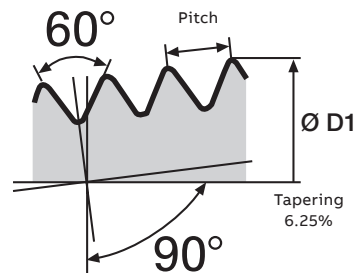
GAS pipe thread - DIN 259 Bl. 3, ISO 228/1

GAS	Pitch (mm)	Ø D1 (mm)	Ø D2 (mm)	Hole (mm)
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	48.3
2"	2.309	59.614	56.656	60.2



American standard taper pipe thread - ANSI/ASME B 1.20

NPT	Pitch (mm)	Ø D1 (mm)	Hole D2 (mm)
1/4"	1.411	13.716	13.9
3/8"	1.411	17.145	17.4
1/2"	1.814	21.336	21.6
3/4"	1.814	26.670	26.9
1"	2.209	33.401	33.7
1 1/4"	2.209	42.164	42.4
1 1/2"	2.209	48.260	48.5
2"	2.209	60.325	60.6



Technical annex

Comparison table

Conduit

Nominal width NW		
Standard	Metric	Inside Ø nom. (mm)
07	10	6.2
10	12	9.6
10	12	9.6
12	16	12.0
12	16	12.0
17	20	16.2
17	20	16.2
23	25	22.6
23	25	22.6
29	32	29.0
29	32	29.0
36	40	36.5
36	40	36.5
48	50	47.5
48	50	47.5

Connector metric

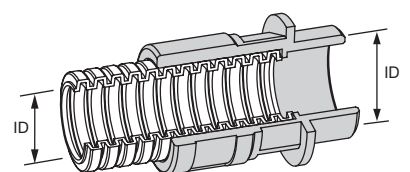
Inside diameter mm (nom.) ID		
Thread size	Metal thread	Polyamide thread
M12	–	8.0
M12	5.7	8.0
M16	9.6	11.0
M16	9.7	11.0
M20	13.5	13.0
M20	13.5	14.6
M25	18.3	19.0
M25	18.4	19.0
M32	24.2	24.0
M32	25.4	26.0
M40	31.4	32.0
M40	32.6	32.0
M50	39.5	39.0
M50	41.5	42.0
M63	51.4	53.0

Conduit

Nominal width NW		
Standard	Metric	Inside Ø nom. (mm)
07	10	6.2
10	12	9.6
12	16	12.0
–	–	–
17	20	16.2
23	25	22.6
29	32	29.0
36	40	36.5
–	–	–
48	50	47.5

Connector PG

Inside diameter mm (nom.) ID		
Thread size	Metal thread	Polyamide thread
PG07	–	8.0
PG09	9.5	10.0
PG11	12.5	13.0
PG13.5	14.5	14.5
PG16	16.5	17.5
PG21	22.0	22.5
PG29	30.0	30.5
PG36	40.0	37.5
PG42	–	46.0
PG48	49.5	50.0



Inside diameter threads to inside diameter conduits.

Technical annex

Tightening torques

Recommended tightening torques for PMA fittings - For threaded bore holes and with lock nuts

Thread	Metal* [Nm]	Polyamide** [Nm]
M12	4.0	1.5
M16	4.0	3.0
M20	6.0	4.0
M25	8.0	6.0
M32	10.0	8.0
M40	15.0	9.0
M50	15.0	10.0
M63	15.0	10.0

* Thread combination: Metal + metal

** Thread combination: Metal + polyamide or polyamide + polyamide

Thread	Metal* [Nm]	Polyamide [Nm]
PG07	3.5	1.5
PG09	4.0	1.5
PG11	6.0	2.0
PG13.5	6.0	2.5
PG16	7.0	4.0
PG21	8.0	5.0
PG29	10.0	9.0
PG36	15.0	15.0
PG48	15.0	15.0

Strain relief fittings - According to EN 50262

Thread	Metal NVNZ-Mxxxx NKNZ-Mxxxx [Nm] EN	Metal NVNZ-Mxxxx/P NKNZ-Mxxxx/P [Nm]	Polyamide S/BVNZ-Mxxxx [Nm] EN
M12	5.0	6.0	0.9
M16	5.0	8.0	3.0
M20	7.5	10.0	4.0
M25	10.0	10.0	7.5
M32	15.0	15.0	10.0
M40	20.0	20.0	10.0
M50	20.0	20.0	10.0
M63	20.0	20.0	10.0

Note: These values were gauged at standard climate (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	6.0	2.5
PG09	6.25	8.0	3.75
PG11	6.25	10.0	3.75
PG13.5	6.25	10.0	3.75
PG16	7.5	10.0	5.0
PG21	10.0	15.0	7.5
PG29	10.0	20.0	7.5
PG36	10.0	30.0	7.5
PG48	10.0	40.0	7.5

Technical annex

Applications engineering 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 also possible if necessary.

Wiring installation: fixation

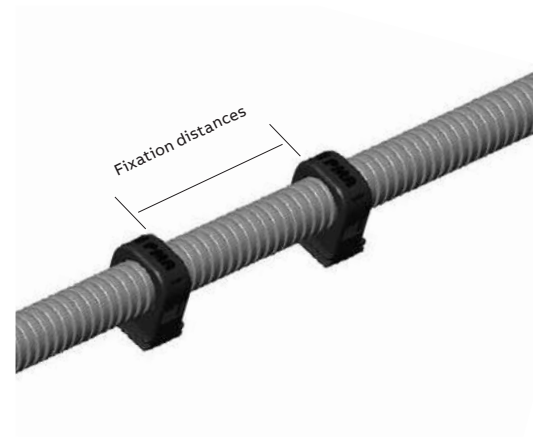
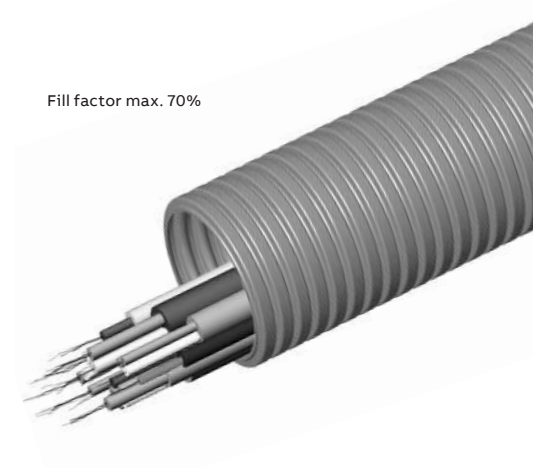
PMA AG recommends that cable protection systems be fastened with a spacing of **300mm to 500mm** between supports. This spacing can be varied depending on the application and location. This recommendation applies for all available dimensions. For larger diameters, the increased load due to the cables 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: 300mm

Vertical wiring: 500mm

(Application specific guidelines and standards should also be considered.)



Technical annex

Chemical resistance

Chemical resistance comparison table

Resistance against	Chemical formula	PA6, Polyamide 6 PA6.6, Polyamide 6.6	PA12, Polyamide 12 PA11, Polyamide 11	PP, Polypropylene PE, Polyethylene	TPU	PFA PVDF
Acetic acid (10%)	C2H4O2	1	2	3	0	3
Acetone	C3H6O	3	3	3	0	3
Ammonia (30%)	NH3	3	3	3	0	3
Benzine	–	3	3	2	1	3
Brake fluid	–	3	3	3	0	3
Caustic soda	NaOH	3	3	3	1	3
Ethyl alcohol (40%)	C2H6O	3	3	3	1	3
Glycol	C2H6O2	3	3	3	0	3
Hydrochloric acid (10%)	HCL	0	1	3	0	3
Methanol	CH4O	2	3	3	1	3
Methyl ethyl ketone	C4H8O	3	3	3	0	3
Nitric acid (10%)	HNO3	0	0	2	0	3
Ozone	O3	2	2	2	1	3
Paint thinner	–	3	3	1	0	3
Perchlorethylene	C2Cl4	2	2	2	0	3
Paraffin	–	3	3	1	0	3
Phosphoric acid (10%)	H3O4P	1	2	3	0	3
Sea water	–	3	3	3	2	3
Soap solution	–	3	3	3	2	3
Sodium chloride	NaCl	3	3	3	3	3
Sulphuric acid (10%)	H2SO4	1	2	3	0	3
Toluene	C7H8	3	3	1	0	3
Trichlorethylene	C2HCl3	1	2	0	0	3
Turpentine	–	3	3	0	0	3
Urine	–	3	3	3	3	3

Resistance against oils and greases	Chemical formula	PA6, Polyamide 6 PA6.6, Polyamide 6.6	PA12, Polyamide 12 PA11, Polyamide 11	PP, Polypropylene PE, Polyethylene	TPU	PFA PVDF
Cutting oils *	–	3	3	2	1	3
Diesel oil	–	3	3	2	2	3
ASTM Oil Nr. 3	–	3	3	2	1	3
Fuel oil	–	3	3	2	1	3
Hydraulic oils *	–	3	3	2	1	3
Mineral oils	–	3	3	2	3	3
Spark-erosion liquids	–	3	3	2	1	3
Skydrol	–	1	2	2	0	3
Transformer oils *	–	3	3	2	1	3

*Synthetic additives can affect the oil resistance of plastics. Please contact PMA for further information

Key:

3 = Excellent resistance/suitable for permanent contact

2 = Resistant/suitable for occasional contact

1 = Relatively resistant/suitable for short-term contact

0 = 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 serves 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.

Index

Products in alphabetical order

Part. no.	GID no.	Page
0709M	7TAA292550R0000	108
0907M	7TAA292550R0001	108
0911M	7TAA292550R0002	108
0913M	7TAA292550R0003	108
1107M	7TAA292550R0004	108
1109M	7TAA292550R0005	108
1109N	7TAA292550R0006	107
1113M	7TAA292550R0007	108
1116M	7TAA292550R0008	108
1121M	7TAA292550R0009	108
1307M	7TAA292550R0010	108
1309M	7TAA292550R0011	108
1309N	7TAA292550R0012	107
1311M	7TAA292550R0013	108
1311N	7TAA292550R0014	107
1316M	7TAA292550R0015	108
1321M	7TAA292550R0016	108
1607M	7TAA292550R0017	108
1609M	7TAA292550R0018	108
1609N	7TAA292550R0019	107
1611M	7TAA292550R0020	108
1611N	7TAA292550R0021	107
1613M	7TAA292550R0022	108
1613N	7TAA292550R0023	107
1621M	7TAA292550R0024	108
1629M	7TAA292550R0025	108
2111M	7TAA292550R0026	108
2113M	7TAA292550R0027	108
2113N	7TAA292550R0028	107
2116M	7TAA292550R0029	108
2116N	7TAA292550R0030	107
2129M	7TAA292550R0031	108
2916M	7TAA292550R0032	108
2921M	7TAA292550R0033	108
2921N	7TAA292550R0034	107
2936M	7TAA292550R0035	108
3621M	7TAA292550R0036	108
3629M	7TAA292550R0037	108
3629N	7TAA292550R0038	107
4229M	7TAA292550R0039	108
4236M	7TAA292550R0040	108
4248M	7TAA292550R0041	108
4836M	7TAA292550R0042	108
4842M	7TAA292550R0043	108
514-07	7TAA292690R0000	109
514-09	7TAA292690R0001	109
514-11	7TAA292690R0002	109
514-13	7TAA292690R0003	109
514-16	7TAA292690R0004	109
514-21	7TAA292690R0005	109
514-29	7TAA292690R0006	109
514-36	7TAA292690R0007	109
514-48	7TAA292690R0008	109

Part. no.	GID no.	Page
514-M12	7TAA292690R0009	109
514-M16	7TAA292690R0010	109
514-M20	7TAA292690R0011	109
514-M25	7TAA292690R0012	109
514-M32	7TAA292690R0013	109
514-M40	7TAA292690R0014	109
514-M50	7TAA292690R0015	109
514-M63	7TAA292690R0016	109
AFN2-07GT	7TAA292700R0000	105
AFN2-10GT	7TAA292700R0001	105
AFN2-12GT	7TAA292700R0002	105
AFN2-17GT	7TAA292700R0003	105
AFN2-23GT	7TAA292700R0004	105
AFN2-29GT	7TAA292700R0005	105
AFN2-36GT	7TAA292700R0006	105
AFN2-48GT	7TAA292700R0007	105
ALAD-M120	7TAA292000R0000	143
ALAD-M160	7TAA292000R0001	143
ALAD-M162	7TAA292000R0002	143
ALAD-M202	7TAA292000R0003	143
ALAD-M207	7TAA292000R0004	143
ALAD-M253	7TAA292000R0005	143
ALAD-M257	7TAA292000R0006	143
ALAD-M323	7TAA292000R0007	143
ALAD-M329	7TAA292000R0008	143
ALAD-M406	7TAA292000R0009	143
ALAD-M409	7TAA292000R0010	143
ALAD-M506	7TAA292000R0011	143
ALAD-M508	7TAA292000R0012	143
ALAD-M638	7TAA292000R0013	143
ALAD-P090	7TAA292000R0014	145
ALAD-P112	7TAA292000R0015	145
ALAD-P132	7TAA292000R0016	145
ALAD-P137	7TAA292000R0017	145
ALAD-P167	7TAA292000R0018	145
ALAD-P213	7TAA292000R0019	145
ALAD-P299	7TAA292000R0020	145
ALAD-P366	7TAA292000R0021	145
ALAD-P488	7TAA292000R0022	145
ALND-M120	7TAA292000R0023	144
ALND-M160	7TAA292000R0024	144
ALND-M162	7TAA292000R0025	144
ALND-M200	7TAA292000R0026	144
ALND-M202	7TAA292000R0027	144
ALND-M207	7TAA292000R0028	144
ALND-M253	7TAA292000R0029	144
ALND-M257	7TAA292000R0030	144
ALND-M323	7TAA292000R0031	144
ALND-M329	7TAA292000R0032	144
ALND-M406	7TAA292000R0033	144
ALND-M409	7TAA292000R0034	144
ALND-M506	7TAA292000R0035	144
ALND-M508	7TAA292000R0036	144

Part. no.	GID no.	Page
ALND-M638	7TAA292000R0037	144
ALND-P070	7TAA292000R0038	144
ALND-P090	7TAA292000R0039	144
ALND-P092	7TAA292000R0040	144
ALND-P110	7TAA292000R0041	144
ALND-P112	7TAA292000R0042	144
ALND-P132	7TAA292000R0043	144
ALND-P137	7TAA292000R0044	144
ALND-P167	7TAA292000R0045	144
ALND-P213	7TAA292000R0046	144
ALND-P299	7TAA292000R0047	144
ALND-P366	7TAA292000R0048	144
ALND-P488	7TAA292000R0049	144
ALWD-M120	7TAA292000R0050	144
ALWD-M160	7TAA292000R0051	144
ALWD-M162	7TAA292000R0052	144
ALWD-M202	7TAA292000R0053	144
ALWD-M207	7TAA292000R0054	144
ALWD-M253	7TAA292000R0055	144
ALWD-M257	7TAA292000R0056	144
ALWD-M323	7TAA292000R0057	144
ALWD-M329	7TAA292000R0058	144
ALWD-M406	7TAA292000R0059	144
ALWD-M409	7TAA292000R0060	144
ALWD-M506	7TAA292000R0061	144
ALWD-M508	7TAA292000R0062	144
ALWD-M638	7TAA292000R0063	144
ALWD-P070	7TAA292000R0064	145
ALWD-P090	7TAA292000R0065	145
ALWD-P092	7TAA292000R0066	145
ALWD-P110	7TAA292000R0067	145
ALWD-P112	7TAA292000R0068	145
ALWD-P130	7TAA292000R0069	145
ALWD-P132	7TAA292000R0070	145
ALWD-P137	7TAA292000R0071	145
ALWD-P167	7TAA292000R0072	145
ALWD-P213	7TAA292000R0073	145
ALWD-P299	7TAA292000R0074	145
ALWD-P366	7TAA292000R0075	145
ALWD-P488	7TAA292000R0078	145
B.PX.12SW	–	150
B.PX.15SW	–	150
B.PX.30SW	–	150
BAVD-12/10GT	7TAA292580R0000	91
BAVD-17/10GT	7TAA292580R0001	91
BAVD-17/12GT	7TAA292580R0002	91
BAVD-23/10GT	7TAA292580R0003	91
BAVD-23/12GT	7TAA292580R0004	91
BAVD-23/17GT	7TAA292580R0005	91
BAVD-29/10GT	7TAA292580R0006	91
BAVD-29/12GT	7TAA292580R0007	91
BAVD-29/17GT	7TAA292580R0008	91
BAVD-29/23GT	7TAA292580R0009	91

Index

Products in alphabetical order

Part. no.	GID no.	Page
BAVD-36/29GT	7TAA292580R0010	91
BAVD-48/36GT	7TAA292580R0011	91
BAVR-10/07	7TAA292580R0013	91
BAVR-12/10	7TAA292580R0014	91
BAVR-17/10	7TAA292580R0015	91
BAVR-17/12	7TAA292580R0016	91
BAVR-23/10	7TAA292580R0017	91
BAVR-23/12	7TAA292580R0018	91
BAVR-23/17	7TAA292580R0019	91
BAVR-29/10	7TAA292580R0020	91
BAVR-29/12	7TAA292580R0021	91
BAVR-29/17	7TAA292580R0022	91
BAVR-29/23	7TAA292580R0023	91
BAVR-36/29	7TAA292580R0024	91
BAVR-48/36	7TAA292580R0025	91
BCT-10	7TAA292860R0045	119
BCT-12	7TAA292860R0046	119
BCT-17	7TAA292860R0047	119
BCT-23	7TAA292860R0048	119
BCT-29	7TAA292860R0049	119
BCT-36	7TAA292860R0050	119
BFH-07-0	7TAA292700R0009	115
BFH-10-0	7TAA292700R0011	115
BFH-12-0	7TAA292700R0012	115
BFH-17-0	7TAA292700R0013	115
BFH-23-0	7TAA292700R0015	115
BFH-29-0	7TAA292700R0017	115
BFH-36-0	7TAA292700R0018	115
BFH-48-0	7TAA292700R0020	115
BFHS-00	7TAA292700R0022	115
BFHS-PH	7TAA292700R0024	115
BFHS-PH1	7TAA292700R0025	115
BFIL-P070	7TAA292610R0003	87
BFIL-P07M	7TAA292610R0004	87
BFIL-P090	7TAA292610R0005	87
BFIL-P112	7TAA292610R0006	87
BFIL-P117	7TAA292610R0007	87
BFIL-P132	7TAA292610R0008	87
BFIL-P137	7TAA292610R0009	87
BFIL-P160	7TCA292000R0600	87
BFIL-P167	7TAA292610R0010	87
BFIL-P213	7TAA292610R0011	87
BFIL-P217	7TAA292610R0012	87
BFIL-P293	7TCA292000R0601	87
BFIL-P299	7TAA292610R0013	87
BFIL-P366	7TAA292610R0014	87
BFIL-P369	7TCA292000R0602	87
BFIL-P488	7TAA292610R0015	87
BGG-125	7TAA292860R0000	127
BGG-56	7TAA292860R0001	127
BGG-70	7TAA292860R0002	127
BGG-95	7TAA292860R0003	127
BGG-M6356	7TAA292860R0004	129

Part. no.	GID no.	Page
BGG-P3656	7TAA292860R0005	129
BGGV-56	7TAA292860R0006	128
BGGV-70	7TAA292860R0007	128
BGGV-95	7TAA292860R0008	128
BGH-23	7TAA292720R0014	116
BGH-29	7TAA292720R0015	116
BGH-36	7TAA292720R0016	116
BGH-48	7TAA292720R0017	116
BGH-56	7TAA292720R0018	116
BGH-70	7TAA292720R0019	116
BGH-95	7TAA292720R0020	116
BGI-M7556	7TAA292860R0009	126
BGL-07	7TAA292720R0021	116
BGL-10	7TAA292720R0022	116
BGL-12	7TAA292720R0023	116
BGL-17	7TAA292720R0024	116
BGL-23	7TAA292720R0025	116
BGL-29	7TAA292720R0026	116
BGN-S12T	7TAA292680R0000	114
BGN-S17G	7TAA292680R0001	114
BGN-S17T	7TAA292680R0002	114
BGN-S23G	7TAA292680R0003	114
BGN-S23T	7TAA292680R0004	114
BGN-S29G	7TAA292680R0005	114
BGN-S29T	7TAA292680R0006	114
BGN-S36G	7TAA292680R0007	114
BGN-S36T	7TAA292680R0008	114
BGN-S48G	7TAA292680R0009	114
BGN-S48T	7TAA292680R0010	114
BGN-S70G	7TAA292680R0011	114
BGO-56	7TAA292860R0010	127
BGO-70	7TAA292860R0011	127
BGO-95	7TAA292860R0012	127
BGOV-56	7TAA292860R0013	128
BGOV-70	7TAA292860R0014	128
BGOV-95	7TAA292860R0015	128
BGP-12/01	7TCA292000R6631	118
BGP-17	7TCA292000R6632	118
BGP-23	7TCA292000R6633	118
BGP-29	7TCA292000R6634	118
BGP-3x48	7TCA292000R8706	118
BGP-36	7TCA292000R6635	118
BGP-48	7TCA292000R6636	118
BGP-56G	7TAA292860R0026	118
BGPM-1x12	7TCA292001R0082	113
BGPM-1x17	7TCA292000R9956	113
BGPM-1x23	7TCA292000R9957	113
BGPM-1x29	7TCA292001R0083	113
BGPM-1x36	7TCA292000R9958	113
BGPM-1x48	7TCA292000R9959	113
BGPM-2x23	7TCA292000R9960	113
BGPM-2x36	7TCA292001R0084	113
BGPM-3x17	7TCA292001R0085	113

Part. no.	GID no.	Page
BGPM-3x23	7TCA292001R0086	113
BGPM-3x29	7TCA292001R0087	113
BGPM-3x36	7TCA292000R9961	113
BGPM-3x48	7TCA292001R0088	113
BGPM-4x23	7TCA292001R0089	113
BGPM-4x36	7TCA292001R0090	113
BGPM-4x48	7TCA292001R0091	113
BGPMK-36/28-24	7TCA292001R0192	113
BGPMK-36/34-30	7TCA292001R0193	113
BGPMR-10T/17	7TCA292000R9962	113
BGPMR-12T/17	7TCA292000R9963	113
BGPMR-17GT/23	7TCA292001R0092	113
BGPMR-23GT/29	7TCA292001R0093	113
BGPMR-29GT/36	7TCA292000R9964	113
BGPMR-36GT/48	7TCA292001R0094	113
BGPS-12/01	7TCA292000R5539	118
BGPS-17	7TAA292860R0027	118
BGPS-23	7TAA292860R0028	118
BGPS-29	7TAA292860R0029	118
BGPS-36	7TAA292860R0030	118
BGPS-48	7TAA292860R0031	118
BGPS-56	7TAA292860R0032	118
BKIHG-U212	7TAA292400R0028	47
BKIHG-U217	7TAA292400R0029	47
BKIHG-U242	7TAA292400R0030	47
BKIHG-U243	7TAA292400R0031	47
BKIHG-U247	7TAA292400R0032	47
BKIHG-U292	7TAA292400R0033	47
BKIHG-U293	7TAA292400R0034	47
BKIHG-U297	7TAA292400R0035	47
BKIHG-U299	7TAA292400R0036	47
BKIHG-U353	7TAA292400R0037	47
BKIHG-U357	7TAA292400R0038	47
BKIHG-U359	7TAA292400R0039	47
BKIHG-U433	7TAA292400R0040	47
BKIHG-U439	7TAA292400R0041	47
BKIHG-U503	7TAA292400R0042	47
BKIHG-U506	7TAA292400R0043	47
BKIHG-U508	7TAA292400R0044	47
BKIHG-U509	7TAA292400R0045	47
BKIHG-U566	7TAA292400R0046	47
BKIHG-U568	7TAA292400R0047	47
BLN-M16	7TAA292740R0000	135
BLN-M20	7TAA292740R0001	135
BLN-M25	7TAA292740R0002	135
BLN-M32	7TAA292740R0003	135
BLN-M40	7TAA292740R0004	135
BLN-M50	7TAA292740R0005	135
BLNO-M160	7TAA292740R0006	135
BLNO-M162	7TAA292740R0007	135
BLNO-M202	7TAA292740R0008	135
BLNO-M207	7TAA292740R0009	135
BLNO-M253	7TAA292740R0010	135

Index

Products in alphabetical order

Part. no.	GID no.	Page
BLNO-M257	7TAA292740R0011	135
BLNO-M323	7TAA292740R0012	135
BLNO-M329	7TAA292740R0013	135
BLNO-M406	7TAA292740R0014	135
BLNO-M409	7TAA292740R0015	135
BLNO-M508	7TAA292740R0016	135
BLSGO-101010	7TCA292000R9460	137
BLSGO-121212	7TCA292000R9461	137
BLSGO-171717	7TCA292000R9462	137
BLSGO-232323	7TCA292000R9463	137
BLTO-070707	7TCA292000R4700	136
BLTO-101010	7TCA292000R4701	136
BLTO-121212	7TCA292000R4702	136
BLTO-171717	7TCA292000R4703	136
BLTO-232323	7TCA292000R4704	136
BLTO-292929	7TCA292000R4705	136
BLYO-100707	7TCA292000R4706	136
BLYO-121010	7TCA292000R4707	136
BLYO-171212	7TCA292000R4708	136
BLYO-231717	7TCA292000R4709	136
BLYO-292917	7TCA292000R4710	136
BMN-07	7TAA292670R0008	110
BMN-09	7TAA292670R0009	110
BMN-11	7TAA292670R0010	110
BMN-13	7TAA292670R0011	110
BMN-16	7TAA292670R0012	110
BMN-21	7TAA292670R0013	110
BMN-29	7TAA292670R0014	110
BMN-36	7TAA292670R0015	110
BMN-48	7TAA292670R0016	110
BMN-M12	7TAA292670R0020	110
BMN-M16	7TAA292670R0021	110
BMN-M20	7TAA292670R0022	110
BMN-M25	7TAA292670R0023	110
BMN-M32	7TAA292670R0024	110
BMN-M40	7TAA292670R0025	110
BMN-M50	7TAA292670R0026	110
BMN-M63	7TAA292670R0027	110
BREIR-U2916	7TAA292920R0007	152
BREIR-U3516	7TCA292000R0853	152
BSS-17	7TAA292850R0013	120
BSS-23	7TAA292850R0014	120
BSS-29	7TAA292850R0015	120
BSS-36	7TAA292850R0016	120
BSS-48	7TAA292850R0017	120
BSS-56G	7TAA292850R0018	120
BSV-70G	7TAA292850R0019	120
BVAD-M120GT	7TAA292150R0032	58
BVAD-M160GT	7TAA292150R0033	58
BVAD-M162GT	7TAA292150R0034	58
BVAD-M202GT	7TAA292150R0035	58
BVAD-M207GT	7TAA292150R0036	58
BVAD-M253GT	7TAA292150R0037	58

Part. no.	GID no.	Page
BVAD-M329GT	7TAA292150R0038	58
BVAD-M406GT	7TAA292150R0039	58
BVAD-M506GT	7TAA292150R0040	58
BVAD-M508GT	7TAA292150R0041	58
BVAD-M638GT	7TAA292150R0042	58
BVAD-N022GT	7TAA292150R0043	80
BVAD-N027GT	7TAA292150R0044	80
BVAD-N043GT	7TAA292150R0045	80
BVAD-N069GT	7TAA292150R0046	80
BVAD-N078GT	7TAA292150R0047	80
BVAD-N088GT	7TAA292150R0048	80
BVAD-P090GT	7TAA292150R0049	72
BVAD-P112GT	7TAA292150R0050	72
BVAD-P132GT	7TAA292150R0051	72
BVAD-P137GT	7TAA292150R0052	72
BVAD-P167GT	7TAA292150R0053	72
BVAD-P213GT	7TAA292150R0054	72
BVAD-P299GT	7TAA292150R0055	72
BVAD-P366GT	7TAA292150R0056	72
BVAD-P488GT	7TAA292150R0057	72
BVAV-M160	7TAA292150R0065	58
BVAV-M162	7TAA292150R0066	58
BVAV-M202	7TAA292150R0067	58
BVAV-M207	7TAA292150R0068	58
BVAV-M253	7TAA292150R0069	58
BVAV-M329	7TAA292150R0070	58
BVAV-M406	7TAA292150R0071	58
BVAV-M506	7TAA292150R0072	58
BVAV-M508	7TAA292150R0073	58
BVAV-M638	7TAA292150R0074	58
BVAV-N022	7TAA292150R0075	80
BVAV-N027	7TAA292150R0078	80
BVAV-N043	7TAA292150R0077	80
BVAV-N069	7TAA292150R0078	80
BVAV-N078	7TAA292150R0079	80
BVAV-N088	7TAA292150R0080	80
BVAV-N098	7TAA292150R0081	80
BVAV-P090	7TAA292150R0082	72
BVAV-P112	7TAA292150R0083	72
BVAV-P132	7TAA292150R0084	72
BVAV-P137	7TAA292150R0085	72
BVAV-P167	7TAA292150R0086	72
BVAV-P213	7TAA292150R0087	72
BVAV-P299	7TAA292150R0088	72
BVAV-P366	7TAA292150R0089	72
BVAV-P488	7TAA292150R0090	72
BVBD-M207GT	7TAA292150R0091	59
BVBD-M253GT	7TAA292150R0092	59
BVBD-M257GT	7TAA292150R0093	59
BVBD-M323GT	7TAA292150R0094	59
BVBD-M329GT	7TAA292150R0095	59
BVBD-M406GT	7TAA292150R0096	59
BVBD-M409GT	7TAA292150R0097	59

Part. no.	GID no.	Page
BVBD-M506GT	7TAA292150R0098	59
BVBD-M508GT	7TAA292150R0099	59
BVBD-M638GT	7TAA292150R0100	59
BVBD-P167GT	7TAA292150R0101	73
BVBD-P213GT	7TAA292150R0102	73
BVBD-P299GT	7TAA292150R0103	73
BVBD-P366GT	7TAA292150R0104	73
BVBD-P488GT	7TAA292150R0105	73
BVBV-M207	7TAA292150R0106	59
BVBV-M253	7TAA292150R0107	59
BVBV-M257	7TAA292150R0108	59
BVBV-M323	7TAA292150R0109	59
BVBV-M329	7TAA292150R0110	59
BVBV-M406	7TAA292150R0111	59
BVBV-M409	7TAA292150R0112	59
BVBV-M506	7TAA292150R0113	59
BVBV-M508	7TAA292150R0114	59
BVBV-M638	7TAA292150R0115	59
BVBV-P167	7TAA292150R0116	73
BVBV-P213	7TAA292150R0117	73
BVBV-P299	7TAA292150R0118	73
BVBV-P366	7TAA292150R0119	73
BVBV-P488	7TAA292150R0120	73
BVH-17-000	7TAA292700R0027	114
BVH-17-010	7TAA292700R0028	114
BVH-17-020	7TAA292700R0029	114
BVH-23-000	7TAA292700R0030	114
BVH-23-010	7TAA292700R0031	114
BVH-23-020	7TAA292700R0032	114
BVH-29-000	7TAA292700R0033	114
BVH-29-010	7TAA292700R0034	114
BVH-29-020	7TAA292700R0035	114
BVH-36-000	7TAA292700R0036	114
BVH-36-010	7TAA292700R0037	114
BVH-36-020	7TAA292700R0038	114
BVH-48-000	7TAA292700R0039	114
BVH-48-010	7TAA292700R0040	114
BVH-48-020	7TAA292700R0041	114
BVIDA-U150GT	7TAA292610R0025	88
BVIDA-U152GT	7TAA292610R0026	88
BVIDA-U15MG	7TAA292610R0027	88
BVIDA-U180GT	7TAA292610R0028	88
BVIDA-U182GT	7TAA292610R0029	88
BVIDA-U187GT	7TAA292610R0030	88
BVIDA-U232GT	7TAA292610R0031	88
BVIDA-U233GT	7TAA292610R0032	88
BVIDA-U237GT	7TAA292610R0033	88
BVIDA-U343GT	7TAA292610R0034	88
BVIDA-U347GT	7TAA292610R0035	88
BVIDA-U402GT	7TAA292610R0036	88
BVIDA-U403GT	7TAA292610R0037	88
BVIDA-U407GT	7TAA292610R0038	88
BVIDB-U162GT	7TAA292610R0039	88

Index

Products in alphabetical order

Part. no.	GID no.	Page
BVIDB-U202GT	7TAA292610R0040	88
BVIDB-U232GT	7TAA292610R0041	88
BVIDB-U237GT	7TAA292610R0042	88
BVIDB-U267GT	7TAA292610R0043	88
BVIDB-U293GT	7TAA292610R0044	88
BVIDB-U297GT	7TAA292610R0045	88
BVIDB-U323GT	7TAA292610R0046	88
BVIDB-U353GT	7TAA292610R0047	88
BVIDB-U357GT	7TAA292610R0048	88
BVIDB-U359GT	7TAA292610R0049	88
BVIDG-U212GT	7TAA292610R0050	89
BVIDG-U217GT	7TAA292610R0051	89
BVIDG-U242GT	7TAA292610R0052	89
BVIDG-U247GT	7TAA292610R0053	89
BVIDG-U293GT	7TAA292610R0054	89
BVIDG-U297GT	7TAA292610R0055	89
BVIDG-U353GT	7TAA292610R0056	89
BVIDG-U357GT	7TAA292610R0057	89
BVIDG-U359GT	7TAA292610R0058	89
BVIDG-U433GT	7TAA292610R0059	89
BVIDG-U436GT	7TAA292610R0060	89
BVIDG-U439GT	7TAA292610R0061	89
BVIDG-U506GT	7TAA292610R0062	89
BVIDG-U509GT	7TAA292610R0063	89
BVIDG-U566GT	7TAA292610R0064	89
BVIDG-U569GT	7TAA292610R0065	89
BVID-M12MGT	7TAA292610R0016	85
BVID-M160GT	7TAA292610R0017	85
BVID-M162GT	7TAA292610R0018	85
BVID-M207GT	7TAA292610R0019	85
BVID-M253GT	7TAA292610R0020	85
BVID-M329GT	7TAA292610R0021	85
BVID-M406GT	7TAA292610R0022	85
BVID-M508GT	7TAA292610R0023	85
BVID-M638GT	7TAA292610R0024	85
BVIRA-U150	7TAA292610R0080	88
BVIRA-U152	7TAA292610R0081	88
BVIRA-U15M	7TAA292610R0082	88
BVIRA-U180	7TAA292610R0083	88
BVIRA-U182	7TAA292610R0084	88
BVIRA-U187	7TAA292610R0085	88
BVIRA-U232	7TAA292610R0086	88
BVIRA-U233	7TAA292610R0087	88
BVIRA-U237	7TAA292610R0088	88
BVIRA-U343	7TAA292610R0089	88
BVIRA-U347	7TAA292610R0090	88
BVIRA-U402	7TAA292610R0091	88
BVIRA-U403	7TAA292610R0092	88
BVIRA-U407	7TAA292610R0093	88
BVIRB-U162	7TAA292610R0094	88
BVIRB-U202	7TAA292610R0095	88
BVIRB-U232	7TAA292610R0096	88
BVIRB-U237	7TAA292610R0097	88

Part. no.	GID no.	Page
BVIRB-U267	7TAA292610R0098	88
BVIRB-U293	7TAA292610R0099	88
BVIRB-U297	7TAA292610R0100	88
BVIRB-U323	7TAA292610R0101	88
BVIRB-U353	7TAA292610R0102	88
BVIRB-U357	7TAA292610R0103	88
BVIRB-U359	7TAA292610R0104	88
BVIR-M160	7TAA292610R0066	85
BVIR-M162	7TAA292610R0067	85
BVIR-M202	7TAA292610R0068	85
BVIR-M207	7TAA292610R0069	85
BVIR-M253	7TAA292610R0070	85
BVIR-M257	7TAA292610R0071	85
BVIR-M329	7TAA292610R0072	85
BVIR-M406	7TAA292610R0073	85
BVIR-M508	7TAA292610R0074	85
BVIR-M638	7TAA292610R0075	85
BVIR-P070	7TAA292610R0078	85
BVIR-P090	7TAA292610R0077	85
BVIR-P112	7TAA292610R0078	85
BVIR-P167	7TAA292610R0079	85
BVIRS-U162	7TCA292000R0041	88
BVIRS-U202	7TCA292000R0042	88
BVIRS-U237	7TCA292000R0043	88
BVIRS-U267	7TCA292000R0044	88
BVIRS-U293	7TCA292000R0045	88
BVIRS-U323	7TCA292000R0046	88
BVIRS-U359	7TCA292000R0047	88
BVIVG-U152	7TAA292610R0105	89
BVIVG-U187	7TAA292610R0106	89
BVIVG-U210	7TAA292610R0107	89
BVIVG-U212	7TAA292610R0108	89
BVIVG-U217	7TAA292610R0109	89
BVIVG-U242	7TAA292610R0110	89
BVIVG-U243	7TAA292610R0111	89
BVIVG-U247	7TAA292610R0112	89
BVIVG-U292	7TAA292610R0113	89
BVIVG-U293	7TAA292610R0114	89
BVIVG-U297	7TAA292610R0115	89
BVIVG-U299	7TAA292610R0116	89
BVIVG-U349	7TCA292000R1035	89
BVIVG-U352	7TAA292610R0169	89
BVIVG-U353	7TAA292610R0117	89
BVIVG-U356	7TAA292610R0118	89
BVIVG-U357	7TAA292610R0119	89
BVIVG-U359	7TAA292610R0120	89
BVIVG-U433	7TAA292610R0121	89
BVIVG-U436	7TAA292610R0122	89
BVIVG-U437	7TAA292610R0123	89
BVIVG-U439	7TAA292610R0124	89
BVIVG-U503	7TAA292610R0125	89
BVIVG-U506	7TAA292610R0126	89
BVIVG-U508	7TAA292610R0127	89

Part. no.	GID no.	Page
BVIVG-U509	7TAA292610R0128	89
BVIVG-U563	7TAA292610R0129	89
BVIVG-U566	7TAA292610R0130	89
BVIVG-U568	7TAA292610R0131	89
BVIVG-U569	7TAA292610R0132	89
BVIVG-U628	7TCA292000R1039	89
BVND-G000GT	7TAA292150R0127	79
BVND-G00MGT	7TAA292150R0128	79
BVND-G010GT	7TAA292150R0129	79
BVND-G012GT	7TAA292150R0130	79
BVND-G022GT	7TAA292150R0131	79
BVND-G027GT	7TAA292150R0132	79
BVND-G043GT	7TAA292150R0133	79
BVND-G069GT	7TAA292150R0134	79
BVND-G078GT	7TAA292150R0135	79
BVND-G088GT	7TAA292150R0136	79
BVND-G098GT	7TAA292150R0137	79
BVND-M120GT	7TAA292150R0138	57
BVND-M12MGT	7TAA292150R0139	57
BVND-M160GT	7TAA292150R0140	57
BVND-M162GT	7TAA292150R0141	57
BVND-M200GT	7TAA292150R0142	57
BVND-M202GT	7TAA292150R0144	57
BVND-M203GT	7TAA292150R0150	57
BVND-M207GT	7TAA292150R0147	57
BVND-M253GT	7TAA292150R0149	57
BVND-M257GT	7TAA292150R0150	57
BVND-M323GT	7TAA292150R0152	57
BVND-M329GT	7TAA292150R0154	57
BVND-M406GT	7TAA292150R0156	57
BVND-M409GT	7TAA292150R0157	57
BVND-M506GT	7TAA292150R0159	57
BVND-M508GT	7TAA292150R0160	57
BVND-M638GT	7TAA292150R0161	57
BVND-N022GT	7TAA292150R0162	80
BVND-N027GT	7TAA292150R0163	80
BVND-N043GT	7TAA292150R0164	80
BVND-N069GT	7TAA292150R0165	80
BVND-N078GT	7TAA292150R0166	80
BVND-N088GT	7TAA292150R0167	80
BVND-N098GT	7TAA292150R0168	80
BVND-P070GT-11	7TAA292150R0169	71
BVND-P070GT-8	7TAA292150R0170	71
BVND-P072GT-11	7TAA292150R0171	71
BVND-P072GT-8	7TAA292150R0172	71
BVND-P07MGT-11	7TAA292150R0173	71
BVND-P07MGT-8	7TAA292150R0174	71
BVND-P090GT-11	7TAA292150R0178	71
BVND-P090GT-8	7TAA292150R0177	71
BVND-P092GT-11	7TAA292150R0178	71
BVND-P092GT-8	7TCA292000R1057	71
BVND-P097GT-11	7TAA292150R0179	71
BVND-P097GT-8	7TCA292000R5693	71

Index

Products in alphabetical order

Part. no.	GID no.	Page
BVND-P09MGT-11	7TAA292150R0180	71
BVND-P09MGT-8	7TCA292000R1058	71
BVND-P110GT-11	7TAA292150R0181	71
BVND-P110GT-8	7TAA292150R0182	71
BVND-P112GT-11	7TAA292150R0183	71
BVND-P112GT-8	7TAA292150R0184	71
BVND-P117GT-11	7TAA292150R0185	71
BVND-P117GT-8	7TCA292000R1060	71
BVND-P11MGT-11	7TAA292150R0186	71
BVND-P11MGT-8	7TCA292000R5694	71
BVND-P130GT-11	7TAA292150R0187	71
BVND-P130GT-8	7TCA292000R1061	71
BVND-P132GT-11	7TAA292150R0188	71
BVND-P132GT-8	7TCA292000R1062	71
BVND-P137GT-11	7TAA292150R0189	71
BVND-P137GT-8	7TCA292000R1064	71
BVND-P13MGT-11	7TAA292150R0190	71
BVND-P13MGT-8	7TCA292000R1065	71
BVND-P160GT-11	7TAA292150R0191	71
BVND-P160GT-8	7TCA292000R5695	71
BVND-P162GT-11	7TAA292150R0192	71
BVND-P163GT-11	7TAA292150R0193	71
BVND-P163GT-8	7TCA292000R1066	71
BVND-P167GT-11	7TAA292150R0194	71
BVND-P167GT-8	7TAA292150R0195	71
BVND-P213GT	7TAA292150R0196	71
BVND-P296GT	7TAA292150R0197	71
BVND-P299GT	7TAA292150R0198	71
BVND-P366GT	7TAA292150R0199	71
BVND-P368GT	7TAA292150R0200	71
BVND-P428GT	7TAA292150R0201	71
BVND-P488GT	7TAA292150R0202	71
BVNDZ-M160GT	7TAA292150R0204	58
BVNDZ-M162GT	7TAA292150R0205	58
BVNDZ-M207GT	7TAA292150R0206	58
BVNDZ-M253GT	7TAA292150R0207	58
BVNDZ-M329GT	7TAA292150R0208	58
BVNDZ-M406GT	7TAA292150R0209	58
BVNDZ-M508GT	7TAA292150R0210	58
BVNDZ-M638GT	7TAA292150R0211	58
BVNDZ-P090GT	7TAA292150R0212	72
BVNDZ-P112GT	7TAA292150R0213	72
BVNDZ-P132GT	7TAA292150R0214	72
BVNDZ-P137GT	7TAA292150R0215	72
BVNDZ-P163GT	7TAA292150R0216	72
BVNDZ-P167GT	7TAA292150R0217	72
BVNDZ-P213GT	7TAA292150R0218	72
BVNDZ-P299GT	7TAA292150R0219	72
BVNDZ-P366GT	7TAA292150R0220	72
BVNDZ-P488GT	7TAA292150R0221	72
BVNR-RE12	7TAA292150R0222	92
BVNR-RE12-24	7TAA292150R0223	92
BVNR-RE1317	7TAA292150R0224	92

Part. no.	GID no.	Page
BVNR-RE1317-28	7TAA292150R0225	92
BVNR-RE17	7TAA292150R0226	92
BVNR-RE17-28	7TAA292150R0227	92
BVNR-RE23	7TAA292150R0229	92
BVNR-RE23-32	7TAA292150R0230	92
BVNR-RE29	7TAA292150R0232	92
BVNR-RE29-44	7TAA292150R0233	92
BVNR-RE36	7TAA292150R0235	92
BVNR-RE36-50	7TAA292150R0236	92
BVNR-RE48	7TAA292150R0238	92
BVNR-RE48-65	7TAA292150R0239	92
BVNR-REM162	7TAA292150R0240	92
BVNR-REM162-24	7TAA292150R0241	92
BVNR-REM187	7TAA292150R0242	92
BVNR-REM187-28	7TAA292150R0243	92
BVNR-REM207	7TAA292150R0244	92
BVNR-REM207-28	7TAA292150R0245	92
BVNR-REM253	7TAA292150R0246	92
BVNR-REM253-32	7TAA292150R0247	92
BVNR-REM329	7TAA292150R0248	92
BVNR-REM329-44	7TAA292150R0249	92
BVNR-REM406	7TAA292150R0250	92
BVNR-REM406-50	7TAA292150R0251	92
BVNR-REM508	7TAA292150R0252	92
BVNR-REM508-65	7TAA292150R0253	92
BVNV-G000	7TAA292150R0256	79
BVNV-G00M	7TAA292150R0257	79
BVNV-G010	7TAA292150R0258	79
BVNV-G012	7TAA292150R0259	79
BVNV-G022	7TAA292150R0260	79
BVNV-G027	7TAA292150R0261	79
BVNV-G043	7TAA292150R0262	79
BVNV-G069	7TAA292150R0263	79
BVNV-G078	7TAA292150R0264	79
BVNV-G088	7TAA292150R0265	79
BVNV-G098	7TAA292150R0266	79
BVNV-M120	7TAA292150R0267	57
BVNV-M12M	7TAA292150R0268	57
BVNV-M160	7TAA292150R0269	57
BVNV-M162	7TAA292150R0270	57
BVNV-M200	7TAA292150R0272	57
BVNV-M202	7TAA292150R0273	57
BVNV-M203	7TAA292150R0274	57
BVNV-M207	7TAA292150R0275	57
BVNV-M253	7TAA292150R0277	57
BVNV-M257	7TAA292150R0279	57
BVNV-M323	7TAA292150R0281	57
BVNV-M329	7TAA292150R0282	57
BVNV-M406	7TAA292150R0283	57
BVNV-M409	7TAA292150R0284	57
BVNV-M506	7TAA292150R0285	57
BVNV-M508	7TAA292150R0286	57
BVNV-M638	7TAA292150R0287	57

Part. no.	GID no.	Page
BVNV-N022	7TAA292150R0289	80
BVNV-N027	7TAA292150R0290	80
BVNV-N043	7TAA292150R0291	80
BVNV-N069	7TAA292150R0292	80
BVNV-N078	7TAA292150R0293	80
BVNV-N088	7TAA292150R0294	80
BVNV-N098	7TAA292150R0295	80
BVNV-P070	7TAA292150R0296	71
BVNV-P072	7TCA292000R1118	71
BVNV-P07M	7TAA292150R0297	71
BVNV-P090	7TAA292150R0298	71
BVNV-P092	7TAA292150R0299	71
BVNV-P097	7TAA292150R1288	71
BVNV-P09M	7TAA292150R0300	71
BVNV-P110	7TAA292150R0301	71
BVNV-P112	7TAA292150R0302	71
BVNV-P117	7TAA292150R0303	71
BVNV-P11M	7TAA292150R0304	71
BVNV-P130	7TAA292150R0305	71
BVNV-P132	7TAA292150R0306	71
BVNV-P137	7TAA292150R0307	71
BVNV-P13M	7TAA292150R0308	71
BVNV-P162	7TAA292150R0309	71
BVNV-P163	7TCA292000R1137	71
BVNV-P167	7TAA292150R0310	71
BVNV-P213	7TAA292150R0311	71
BVNV-P296	7TAA292150R0312	71
BVNV-P299	7TAA292150R0313	71
BVNV-P366	7TAA292150R0314	71
BVNV-P368	7TCA292000R1147	71
BVNV-P428	7TAA292150R0315	71
BVNV-P488	7TAA292150R0316	71
BVNZ-M162S	7TAA292150R0317	58
BVNZ-M207S	7TAA292150R0318	58
BVNZ-M253S	7TAA292150R0319	58
BVNZ-M329S	7TAA292150R0320	58
BVNZ-M406S	7TAA292150R0321	58
BVNZ-M508S	7TAA292150R0322	58
BVNZ-M638S	7TAA292150R0323	58
BVNZ-P090S	7TAA292150R0327	72
BVNZ-P112S	7TAA292150R0328	72
BVNZ-P132S	7TAA292150R0329	72
BVNZ-P137S	7TAA292150R0330	72
BVNZ-P163S	7TAA292150R0331	72
BVNZ-P167S	7TAA292150R0332	72
BVNZ-P213S	7TAA292150R0333	72
BVNZ-P299S	7TAA292150R0334	72
BVNZ-P366S	7TAA292150R0335	72
BVNZ-P488S	7TAA292150R0336	72
BVOD-P167GT	7TAA292150R0337	85
BVOD-P213GT	7TAA292150R0338	85
BVOD-P299GT	7TAA292150R0339	85
BVOD-P366GT	7TAA292150R0340	85

Index

Products in alphabetical order

Part. no.	GID no.	Page
BVOD-P488GT	7TAA292150R0341	85
BVOV-P167	7TAA292150R0342	85
BVOV-P213	7TAA292150R0343	85
BVOV-P299	7TAA292150R0344	85
BVOV-P366	7TAA292150R0345	85
BVOV-P488	7TAA292150R0346	85
BVSGD-1212GT	7TAA292300R0000	92
BVSGD-1717GT	7TAA292300R0001	92
BVSGD-2323GT	7TAA292300R0002	92
BVSGD-2929GT	7TAA292300R0003	92
BVSGD-3636GT	7TAA292300R0004	92
BVSGD-4848GT	7TAA292300R0005	92
BVSGR-1212	7TAA292300R0006	92
BVSGR-1717	7TAA292300R0007	92
BVSGR-2323	7TAA292300R0008	92
BVSGR-2929	7TAA292300R0009	92
BVSGR-3636	7TAA292300R0010	92
BVSGR-4848	7TAA292300R0011	92
BVTD-101010GT	7TAA292150R1292	90
BVTD-121212GT	7TAA292150R1293	90
BVTD-171717GT	7TAA292150R1294	90
BVTD-232323GT	7TAA292150R0347	90
BVTD-292929GT	7TAA292150R0348	90
BVTD-363636GT	7TAA292150R0349	90
BVTD-484848GT	7TAA292150R0350	90
BVTR-101010	7TAA292150R0351	90
BVTR-121212	7TAA292150R0353	90
BVTR-171717	7TAA292150R0355	90
BVTR-232323	7TAA292150R0358	90
BVTR-292929	7TAA292150R0359	90
BVTR-363636	7TAA292150R0361	90
BVTR-484848	7TAA292150R0363	90
BVWD-G000GT	7TAA292150R0364	79
BVWD-G00MGT	7TAA292150R0365	79
BVWD-G010GT	7TAA292150R0366	79
BVWD-G012GT	7TAA292150R0367	79
BVWD-G022GT	7TAA292150R0368	79
BVWD-G027GT	7TAA292150R0369	79
BVWD-G043GT	7TAA292150R0370	79
BVWD-G069GT	7TAA292150R0371	79
BVWD-G078GT	7TAA292150R0372	79
BVWD-G088GT	7TAA292150R0373	79
BVWD-G098GT	7TAA292150R0374	79
BVWD-M120GT	7TAA292150R0375	59
BVWD-M12MGT	7TAA292150R0378	59
BVWD-M160GT	7TAA292150R0377	59
BVWD-M162GT	7TAA292150R0378	59
BVWD-M200GT	7TAA292150R0379	59
BVWD-M202GT	7TAA292150R0380	59
BVWD-M207GT	7TAA292150R0381	59
BVWD-M253GT	7TAA292150R0382	59
BVWD-M329GT	7TAA292150R0383	59
BVWD-M406GT	7TAA292150R0384	59

Part. no.	GID no.	Page
BVWD-M508GT	7TAA292150R0385	59
BVWD-N022GT	7TAA292150R0386	81
BVWD-N027GT	7TAA292150R0387	81
BVWD-N043GT	7TAA292150R0388	81
BVWD-N069GT	7TAA292150R0389	81
BVWD-N078GT	7TAA292150R0390	81
BVWD-N088GT	7TAA292150R0391	81
BVWD-N098GT	7TAA292150R0392	81
BVWD-P070GT-11	7TAA292150R0393	74
BVWD-P070GT-8	7TCA292000R1233	74
BVWD-P072GT-11	7TAA292150R0394	74
BVWD-P072GT-8	7TCA292000R5702	74
BVWD-P07MGT-11	7TAA292150R0395	74
BVWD-P07MGT-8	7TCA292000R5703	74
BVWD-P090GT-11	7TAA292150R0396	74
BVWD-P090GT-8	7TCA292000R1236	74
BVWD-P092GT-11	7TAA292150R0397	74
BVWD-P092GT-8	7TCA292000R5704	74
BVWD-P09MGT-11	7TAA292150R0398	74
BVWD-P09MGT-8	7TCA292000R5705	74
BVWD-P110GT-11	7TAA292150R0399	74
BVWD-P110GT-8	7TCA292000R1238	74
BVWD-P112GT-11	7TAA292150R0400	74
BVWD-P112GT-8	7TAA292150R0401	74
BVWD-P11MGT-11	7TAA292150R0402	74
BVWD-P11MGT-8	7TCA292000R5706	74
BVWD-P130GT-11	7TAA292150R0403	74
BVWD-P130GT-8	7TCA292000R1239	74
BVWD-P132GT-11	7TAA292150R0404	74
BVWD-P132GT-8	7TCA292000R1240	74
BVWD-P137GT-11	7TAA292150R0405	74
BVWD-P137GT-8	7TAA292150R0406	74
BVWD-P13MGT-11	7TAA292150R0407	74
BVWD-P13MGT-8	7TCA292000R5707	74
BVWD-P167GT-11	7TAA292150R0408	74
BVWD-P167GT-8	7TAA292150R0409	74
BVWD-P213GT	7TAA292150R0410	74
BVWD-P299GT	7TAA292150R0411	74
BVWD-P366GT	7TAA292150R0412	74
BVWD-P488GT	7TAA292150R0413	74
BVWV-G000	7TAA292150R0414	79
BVWV-G00M	7TAA292150R0415	79
BVWV-G010	7TAA292150R0416	79
BVWV-G012	7TAA292150R0417	79
BVWV-G022	7TAA292150R0418	79
BVWV-G027	7TAA292150R0419	79
BVWV-G043	7TAA292150R0420	79
BVWV-G069	7TAA292150R0421	79
BVWV-G078	7TAA292150R0422	79
BVWV-G088	7TAA292150R0423	79
BVWV-G098	7TAA292150R0424	79
BVWV-M120	7TAA292150R0425	59
BVWV-M12M	7TAA292150R0426	59

Part. no.	GID no.	Page
BVWV-M160	7TAA292150R0427	59
BVWV-M162	7TAA292150R0428	59
BVWV-M202	7TAA292150R0429	59
BVWV-M207	7TAA292150R0430	59
BVWV-M253	7TAA292150R0431	59
BVWV-M329	7TAA292150R0432	59
BVWV-M406	7TAA292150R0433	59
BVWV-M508	7TAA292150R0434	59
BVWV-N022	7TAA292150R0435	81
BVWV-N027	7TAA292150R0436	81
BVWV-N043	7TAA292150R0437	81
BVWV-N069	7TAA292150R0438	81
BVWV-N078	7TAA292150R0439	81
BVWV-N088	7TAA292150R0440	81
BVWV-N098	7TAA292150R0441	81
BVWV-P070	7TAA292150R0442	74
BVWV-P072	7TCA292000R5709	74
BVWV-P07M	7TAA292150R0443	74
BVWV-P090	7TAA292150R0444	74
BVWV-P092	7TAA292150R0445	74
BVWV-P09M	7TAA292150R0446	74
BVWV-P110	7TAA292150R0447	74
BVWV-P112	7TAA292150R0448	74
BVWV-P11M	7TCA292000R1259	74
BVWV-P130	7TAA292150R0449	74
BVWV-P132	7TAA292150R0450	74
BVWV-P137	7TAA292150R0451	74
BVWV-P13M	7TCA292000R1265	74
BVWV-P167	7TAA292150R0452	74
BVWV-P213	7TAA292150R0453	74
BVWV-P299	7TAA292150R0454	74
BVWV-P366	7TAA292150R0455	74
BVWV-P488	7TAA292150R0456	74
BVYD-100707GT	7TAA292150R0457	90
BVYD-121010GT	7TAA292150R0458	90
BVYD-171212GT	7TAA292150R0459	90
BVYD-231717GT	7TAA292150R0460	90
BVYD-292323GT	7TAA292150R0461	90
BVYD-362929GT	7TAA292150R0462	90
BVYD-483636GT	7TAA292150R0463	90
BVYR-100707	7TAA292150R0464	90
BVYR-121010	7TAA292150R0465	90
BVYR-171212	7TAA292150R0466	90
BVYR-231717	7TAA292150R0467	90
BVYR-292323	7TAA292150R0468	90
BVYR-362929	7TAA292150R0469	90
BVYR-483636	7TAA292150R0470	90
C.66.10GR	7TAA292910R0000	148
C.66.10SW	7TAA292910R0001	148
C.66.12GR	7TAA292910R0002	148
C.66.12SW	7TAA292910R0003	148
C.66.16GR	7TAA292910R0004	148
C.66.16SW	7TAA292910R0005	148

Index

Products in alphabetical order

Part. no.	GID no.	Page
C.66.20GR	7TAA292910R0006	148
C.66.20SW	7TAA292910R0007	148
C.66.25GR	7TAA292910R0008	148
C.66.25SW	7TAA292910R0009	148
C.66.30GR	7TAA292910R0010	148
C.66.30SW	7TAA292910R0011	148
C.66.40GR	7TAA292910R0012	148
C.66.40SW	7TAA292910R0013	148
C.66.45SW	7TAA292910R0014	148
CUSG-17B	7TAA292490R0000	31
CUSG-17S	7TCA292000R1523	31
CUSG-23B	7TAA292490R0001	31
CUSG-23S	7TAA292490R0002	31
CUSG-29B	7TAA292490R0003	31
CUSG-29S	-	31
CUSG-36B	7TAA292490R0004	31
CUSG-36S	-	31
CUSG-48B	7TAA292490R0005	31
CUSG-48S	-	31
CYLG-125B	7TAA292360R0000	17
CYLG-125S	7TAA292360R0001	17
CYLG-23B	7TAA292240R0008	17
CYLG-23S	7TAA292240R0009	17
CYLG-29B	7TAA292240R0010	17
CYLG-29S	7TAA292240R0011	17
CYLG-36B	7TAA292240R0012	17
CYLG-36S	7TAA292240R0013	17
CYLG-48B	7TAA292240R0014	17
CYLG-48S	7TAA292240R0015	17
CYLG-56B	7TAA292360R0002	17
CYLG-56S	7TAA292360R0003	17
CYLG-70B	7TAA292360R0004	17
CYLG-70S	7TAA292360R0006	17
CYLG-95B	7TAA292360R0008	17
CYLG-95S	7TAA292360R0010	17
CYLT-07B	7TAA292240R0018	17
CYLT-07S	7TAA292240R0019	17
CYLT-10B	7TAA292240R0020	17
CYLT-10S	7TAA292240R0021	17
CYLT-12B	7TAA292240R0022	17
CYLT-12S	7TAA292240R0023	17
CYLT-17B	7TAA292240R0024	17
CYLT-17S	7TAA292240R0025	17
CYLT-23B	7TAA292240R0026	17
CYLT-23S	7TAA292240R0027	17
CYLT-29B	7TAA292240R0028	17
CYLT-29S	7TAA292240R0029	17
CYLT-36B	7TAA292240R0030	17
CYLT-36S	7TAA292240R0031	17
CYLT-48B	7TAA292240R0032	17
CYLT-48S	7TAA292240R0033	17
E 150p7	7TCA292000R9071	44,45
E 150p8	7TCA292000R9074	44,45

Part. no.	GID no.	Page
E 150p9	7TCA292000R9075	44,45
E151P11	7TCA292000R9117	78
E151P7	7TCA292000R9115	78
E151P9	7TCA292000R9116	78
E 152p11	7TCA292000R9081	44,45
E 152p13	7TCA292000R9083	44,45
E 152p7	7TCA292000R9078	44,45
E 152p9	7TCA292000R9077	44,45
E 153p11	7TCA292000R9090	44,62,78
E 153p13	7TCA292000R9091	44,45
E 153p16	7TCA292000R9092	44,45
E 154p11	7TCA292000R9094	78
E 154p13	7TCA292000R9095	44,45
E 154p16	7TCA292000R9096	78
E 154p18	7TCA292000R9097	44,45
E 154p20	7TCA292000R9098	44,45
E 155p16	7TCA292000R9107	44,62
E 155p18	7TCA292000R9101	44,62,64
E 155p20	7TCA292000R9138	44,62,64
E 155p25	7TCA292000R9108	44,45
E 155p28	7TCA292000R9109	44,45
E 156p25HF	7TCA292000R9104	44,62
E 156p32	7TCA292000R9110	44,45
E 156p34	7TCA292000R9121	78
E 156p36	7TCA292000R9111	44,45
E 157p36HF	7TCA292000R9112	44,45
E 157p40HF	7TCA292000R9113	44,45
E 158p44	7TCA292000R9114	44,45
E 158pm1X35	7TCA292000R9127	44,45
EK 150p7	7TCA292000R9053	44,62,64
EK 150p8	7TCA292000R9068	44,62
EK 150p9	7TCA292000R9069	44,62
EK 154p13	7TCA292000R9088	44,62
EK 154p16	7TCA292000R9123	44,62
EK 155p18	7TCA292000R9100	44,45,62
EK 155p20	7TCA292000R9102	44,45,62
EK 155p25	7TCA292000R9103	44,62
EK 156p28	7TCA292000R9105	44,62
ESDG-56B	7TCA292000R7720	17
ESDG-70B	7TCA292000R7722	17
ESDG-95B	7TCA292000R1850	17
ESDT-07B	7TAA292240R0049	17
ESDT-10B	7TAA292240R0050	17
ESDT-12B	7TAA292240R0051	17
ESDT-17B	7TAA292240R0052	17
ESDT-23B	7TAA292240R0053	17
ESDT-29B	7TAA292240R0054	17
ESDT-36B	7TAA292240R0055	17
ESDT-48B	7TAA292240R0056	17
EWZ-02	7TAA292880R0000	120
EWZ-03	7TAA292880R0001	120
F.304.10	7TAA292910R0015	153
F.304.12	7TAA292910R0016	153

Part. no.	GID no.	Page
F.304.17	7TAA292910R0017	153
F.304.23	7TAA292910R0018	153
F.304.29	7TAA292910R0019	153
F.304.36	7TAA292910R0020	153
F.304.48	7TAA292910R0021	153
F.66.04GR	7TAA292910R0024	148
F.66.04SW	7TAA292910R0025	148
F.66.06GR	7TAA292910R0026	148
F.66.06SW	7TAA292910R0027	148
F.66.08GR	7TAA292910R0028	148
F.66.08SW	7TAA292910R0029	148
F.66.10GR	7TAA292910R0030	148
F.66.10SW	7TAA292910R0031	148
F.66.12GR	7TAA292910R0032	148
F.66.12SW	7TAA292910R0033	148
F.66.16GR	7TAA292910R0034	148
F.66.16SW	7TAA292910R0035	148
F.66.20GR	7TAA292910R0036	148
F.66.20SW	7TAA292910R0037	148
F.66.25GR	7TAA292910R0038	148
F.66.25SW	7TAA292910R0039	148
F.66.30GR	7TAA292910R0040	148
F.66.30SW	7TAA292910R0041	148
F.66.40GR	7TAA292910R0042	148
F.66.40SW	7TAA292910R0043	148
F.66.50GR	7TAA292910R0044	148
F.66.50SW	7TAA292910R0045	148
F.66.70GR	7TAA292910R0046	148
F.66.70SW	7TAA292910R0047	148
FP-38	7TAA292880R0002	121
FP-52	7TAA292880R0003	121
G.PX.05SW	7TAA292910R0075	150
G.PX.08SW	7TAA292910R0078	150
G.PX.10SW	7TAA292910R0077	150
G.PX.13SW	7TAA292910R0078	150
G.PX.16SW	7TAA292910R0079	150
G.PX.19SW	7TAA292910R0080	150
G.PX.25SW	7TAA292910R0081	150
G.PX.29SW	7TAA292910R0082	150
G.PX.32SW	7TAA292910R0083	150
G.PX.38SW	7TAA292910R0084	150
G.PX.50SW	7TAA292910R0085	150
GMM-07	7TAA292670R0028	111
GMM-09	7TAA292670R0029	111
GMM-11	7TAA292670R0030	111
GMM-13	7TAA292670R0032	111
GMM-16	7TAA292670R0034	111
GMM-21	7TAA292670R0035	111
GMM-29	7TAA292670R0037	111
GMM-36	7TAA292670R0038	111
GMM-42	7TAA292670R0039	111
GMM-48	7TAA292670R0040	111
GMM-M12	7TAA292670R0041	111

Index

Products in alphabetical order

Part. no.	GID no.	Page	Part. no.	GID no.	Page	Part. no.	GID no.	Page
GMM-M16	7TAA292670R0043	111	JLLPAG-29A	7TCA292000R9666	30	LLPAG-17S	7TAA292030R0020	34
GMM-M20	7TAA292670R0045	111	JLLPAG-36A	7TCA292000R9667	30	LLPAG-23A	7TAA292030R0021	34
GMM-M25	7TAA292670R0047	111	JLLPAG-48A	7TCA292000R9668	30	LLPAG-23S	7TAA292030R0022	34
GMM-M32	7TAA292670R0049	111	JXPCSF-17BO	7TCA292000R9616	29	LLPAG-29A	7TAA292030R0023	34
GMM-M40	7TAA292670R0051	111	JXPCSF-23BO	7TCA292000R9610	29	LLPAG-29S	7TAA292030R0024	34
GMM-M50	7TAA292670R0052	111	JXPCSF-29BO	7TCA292000R9617	29	LLPAG-36A	7TAA292030R0025	34
GMM-M63	7TAA292670R0053	111	JXPCSF-36BO	7TCA292000R9618	29	LLPAG-36S	7TAA292030R0026	34
GMN-07	7TAA292670R0054	110	JXPCSF-48BO	7TCA292000R9619	29	LLPAG-48A	7TAA292030R0027	34
GMN-09	7TAA292670R0055	110	JXPCSF-12BO	7TCA292000R9615	29	LLPAG-48S	7TAA292030R0028	34
GMN-11	7TAA292670R0056	110	KNH2-NW10	7TAA292560R0000	106	LLPAG-56A	7TAA292030R0029	34,126
GMN-13	7TAA292670R0057	110	KNH2-NW12	7TAA292560R0001	106	LLPAG-56S	7TAA292030R0030	34,126
GMN-16	7TAA292670R0058	110	KNH2-NW17	7TAA292560R0002	106	LLPAG-70A	7TAA292030R0031	34,126
GMN-21	7TAA292670R0059	110	KNH2-NW23	7TAA292560R0003	106	LLPAG-70S	7TAA292030R0032	34,126
GMN-29	7TAA292670R0060	110	KNH2-NW29	7TAA292560R0004	106	LLPAG-95A	7TAA292030R0033	34,126
GMN-36	7TAA292670R0061	110	KNH2-NW36	7TAA292560R0005	106	LLPAG-95S	7TAA292030R0034	34,126
GMN-48	7TAA292670R0062	110	KNH2-NW48	7TAA292560R0006	106	LLPF-07A	7TAA292030R0035	35
GMN-M12	7TAA292670R0063	110	L.66.04GR	7TAA292910R0175	149	LLPF-07S	7TAA292030R0036	35
GMN-M16	7TAA292670R0064	110	L.66.04SW	7TAA292910R0178	149	LLPF-10A	7TAA292030R0037	35
GMN-M20	7TAA292670R0065	110	L.66.08GR	7TAA292910R0177	149	LLPF-10S	7TAA292030R0038	35
GMN-M25	7TAA292670R0066	110	L.66.08SW	7TAA292910R0178	149	LLPF-12A	7TAA292030R0039	35
GMN-M32	7TAA292670R0067	110	L.66.10GR	7TAA292910R0179	149	LLPF-12S	7TAA292030R0040	35
GMN-M40	7TAA292670R0068	110	L.66.10SW	7TAA292910R0180	149	LLPF-17A	7TAA292030R0041	35
GMN-M50	7TAA292670R0069	110	L.66.16GR	7TAA292910R0181	149	LLPF-17S	7TAA292030R0042	35
GMN-M63	7TAA292670R0070	110	L.66.16SW	7TAA292910R0182	149	LLPF-23A	7TAA292030R0043	35
HSG-00	7TAA292880R0004	153	L.66.20GR	7TAA292910R0183	149	LLPF-23S	7TAA292030R0044	35
HSG-00-SB	7TAA292880R0005	1539	L.66.20SW	7TAA292910R0184	149	LLPF-29A	7TAA292030R0045	35
JENQ-M162-10	7TCA292000R0463	101	L.66.25GR	7TAA292910R0185	149	LLPF-29S	7TAA292030R0046	35
JENQ-M207-10	7TCA292000R0464	101	L.66.25SW	7TAA292910R0186	149	LLPFG-17A	7TAA292030R0048	35
JENQ-M253-11	7TCA292000R0465	101	L.66.30GR	7TAA292910R0187	149	LLPFG-17S	7TAA292030R0049	35
JENQ-M329-13	7TCA292000R0466	101	L.66.30SW	7TAA292910R0188	149	LLPFG-23A	7TAA292030R0050	35
JENQ-M406-13	7TCA292000R0467	101	L.66.40GR	7TAA292910R0189	149	LLPFG-23S	7TAA292030R0051	35
JENQ-M506-14	7TCA292000R0468	101	L.66.40SW	7TAA292910R0190	149	LLPFG-29A	7TAA292030R0052	35
JFBDG-17C01	7TCA292000R7548	29	L.66.50GR	7TAA292910R0191	149	LLPFG-29S	7TAA292030R0053	35
JFBDG-23C01	7TCA292000R7549	29	L.66.50SW	7TAA292910R0192	149	LLPFG-36A	7TAA292030R0054	35
JFBDG-29C01	7TCA292000R7933	29	LLPA-07A	7TAA292030R0000	34	LLPFG-36S	7TAA292030R0055	35
JFBDG-36C01	7TCA292000R7932	29	LLPA-07S	7TAA292030R0001	34	LLPFG-48A	7TAA292030R0056	35
JFBDG-48C01	7TCA292000R7934	29	LLPA-10A	7TAA292030R0002	34	LLPFG-48S	7TAA292030R0057	35
JFBDT-12C01	7TCA292000R7547	29	LLPA-10S	7TAA292030R0003	34	M12M16M	7TAA292550R0044	107
JKNH-M162	7TCA292000R9305	49	LLPA-12A	7TAA292030R0005	34	M16M12M	7TAA292550R0045	107
JKNH-M202	7TCA292000R9352	49	LLPA-12S	7TAA292030R0006	34	M16M12M/6	7TAA292550R0046	107
JKNH-M207	7TCA292000R9306	49	LLPA-17A	7TAA292030R0007	34	M16M20M	7TAA292550R0047	107
JKNH-M253	7TCA292000R9307	49	LLPA-17S	7TAA292030R0008	34	M20M12M	7TAA292550R0048	107
JKNH-M257	7TCA292000R9357	49	LLPA-23A	7TAA292030R0009	34	M20M12M/6	7TAA292550R0049	107
JKNH-M323	7TCA292000R9358	49	LLPA-23S	7TAA292030R0010	34	M20M16M	7TAA292550R0050	107
JKNH-M329	7TCA292000R9308	49	LLPA-29A	7TAA292030R0011	34	M20M16M/6	7TAA292550R0051	107
JKNH-M406	7TCA292000R9309	49	LLPA-29S	7TAA292030R0012	34	M20M25M	7TAA292550R0052	107
JKNH-M409	7TCA292000R9359	49	LLPA-36A	7TAA292030R0013	34	M25M16M	7TAA292550R0053	107
JKNH-M506	7TCA292000R9360	49	LLPA-36S	7TAA292030R0014	34	M25M16M/6	7TAA292550R0054	107
JKNH-M508	7TCA292000R9310	49	LLPA-48A	7TAA292030R0015	34	M25M20M	7TAA292550R0055	107
JKNH-M638	7TCA292000R9361	49	LLPA-48S	7TAA292030R0016	34	M25M20M/6	7TAA292550R0056	107
JLLPA-12A	7TCA292000R9663	30	LLPAG-125A	7TAA292030R0017	34,126	M25M32M	7TAA292550R0057	107
JLLPAG-17A	7TCA292000R9664	30	LLPAG-125S	7TAA292030R0018	34,126	M32M20M	7TAA292550R0058	107
JLLPAG-23A	7TCA292000R9665	30	LLPAG-17A	7TAA292030R0019	34	M32M20M/6	7TAA292550R0059	107

Index

Products in alphabetical order

Part. no.	GID no.	Page
M32M25M	7TAA292550R0060	107
M32M25M/6	7TAA292550R0061	107
M32M40M	7TAA292550R0062	107
M40M25M	7TAA292550R0063	107
M40M25M/6	7TAA292550R0064	107
M40M32M	7TAA292550R0065	107
M40M32M/6	7TAA292550R0066	107
M40M50M	7TAA292550R0067	107
M50M32M	7TAA292550R0069	107
M50M32M/6	7TAA292550R0070	107
M50M40M	7TAA292550R0071	107
M50M40M/6	7TAA292550R0072	107
M50M63M	7TAA292550R0073	107
M63M40M	7TCA292000R2520	107
M63M40M/6	7TCA292000R0162	107
M63M50M	7TAA292550R0074	107
M63M50M/6	7TAA292550R0075	107
MAVIK-M20/01	7TAA292660R0006	122
MAVIK-M25/01	7TAA292660R0007	122
MAVIK-M32/01	7TAA292660R0008	122
MAVIK-M40/01	7TAA292660R0009	122
MAVIK-M50/01	7TAA292660R0010	122
MAVIK-M63/01	7TAA292660R0011	122
MAVI-M20/01	7TAA292660R0000	122
MAVI-M25/01	7TAA292660R0001	122
MAVI-M32/01	7TAA292660R0002	122
MAVI-M40/01	7TAA292660R0003	122
MAVI-M50/01	7TAA292660R0004	122
MAVI-M63/01	7TAA292660R0005	122
MKAH-M120-10	7TAA292400R0062	46
MKAH-M160-10	7TAA292400R0063	46
MKAH-M162-10	7TAA292400R0064	46
MKAH-M202-10	7TAA292400R0065	46
MKAH-M207-10	7TAA292400R0066	46
MKAH-M253-11	7TAA292400R0067	46
MKAH-M257-11	7TAA292400R0068	46
MKAH-M323-13	7TAA292400R0069	46
MKAH-M329-13	7TAA292400R0070	46
MKAH-M406-13	7TAA292400R0071	46
MKAH-M409-13	7TAA292400R0072	46
MKAH-M506-14	7TAA292400R0073	46
MKAH-M508-14	7TAA292400R0074	46
MKAH-M638-14	7TAA292400R0075	46
MKBH-M120-10	7TAA292400R0078	46
MKBH-M160-10	7TAA292400R0077	46
MKBH-M162-10	7TAA292400R0078	46
MKBH-M202-10	7TAA292400R0079	46
MKBH-M207-10	7TAA292400R0080	46
MKBH-M253-11	7TAA292400R0081	46
MKBH-M257-11	7TAA292400R0082	46
MKBH-M323-13	7TAA292400R0083	46
MKBH-M329-13	7TAA292400R0084	46
MKBH-M406-13	7TAA292400R0085	46

Part. no.	GID no.	Page
MKBH-M409-13	7TAA292400R0086	46
MKBH-M506-14	7TAA292400R0087	46
MKBH-M508-14	7TAA292400R0088	46
MKBH-M638-14	7TAA292400R0089	46
MKNH-M120-10	7TAA292400R0090	43
MKNH-M160-10	7TAA292400R0091	43
MKNH-M162-10	7TAA292400R0092	43
MKNH-M202-10	7TAA292400R0093	43
MKNH-M207-10	7TAA292400R0094	43
MKNH-M253-11	7TAA292400R0095	43
MKNH-M257-11	7TAA292400R0096	43
MKNH-M323-13	7TAA292400R0097	43
MKNH-M329-13	7TAA292400R0098	43
MKNH-M406-13	7TAA292400R0099	43
MKNH-M409-13	7TAA292400R0100	43
MKNH-M506-14	7TAA292400R0101	43
MKNH-M508-14	7TAA292400R0102	43
MKNH-M638-14	7TAA292400R0103	43
MONK-M162	7TCA292000R4711	100
MONK-M207	7TCA292000R4712	100
MONK-M253	7TCA292000R4713	100
MONK-M329	7TCA292000R4714	100
MONK-M406	7TCA292000R4715	100
MONK-M508	7TCA292000R4716	100
MPNK-M160	7TCA292000R4717	100
MPNK-M162	7TCA292000R4718	100
MPNK-M207	7TCA292000R4719	100
MPNK-M253	7TCA292000R4720	100
MPNK-M329	7TCA292000R4721	100
MREIR-U3529	7TCA292000R2699	152
MVAV-M120-10	7TAA292150R0471	65
MVAV-M120-5	7TAA292150R0472	65
MVAV-M162-10	7TAA292150R0473	65
MVAV-M162-5	7TAA292150R0474	65
MVAV-M207-10	7TAA292150R0475	65
MVAV-M207-6	7TAA292150R0478	65
MVAV-M253-11	7TAA292150R0477	65
MVAV-M253-7	7TAA292150R0478	65
MVAV-M329-13	7TAA292150R0479	65
MVAV-M329-8	7TAA292150R0480	65
MVAV-M406-13	7TAA292150R0481	65
MVAV-M406-8	7TAA292150R0482	65
MVAV-M508-14	7TAA292150R0483	65
MVAV-M508-9	7TAA292150R0484	65
MVAV-M638-10	7TAA292150R0485	65
MVAV-M638-14	7TAA292150R0486	65
MVAV-P090	7TAA292150R0487	77
MVAV-P112	7TAA292150R0488	77
MVAV-P137	7TAA292150R0489	77
MVAV-P167	7TAA292150R0490	77
MVAV-P213	7TAA292150R0491	77
MVAV-P299	7TAA292150R0492	77
MVAV-P366	7TAA292150R0493	77

Part. no.	GID no.	Page
MVAV-P488	7TAA292150R0494	77
MVBV-M207-10	7TAA292150R0495	66
MVBV-M207-6	7TAA292150R0496	66
MVBV-M253-11	7TAA292150R0497	66
MVBV-M253-7	7TAA292150R0498	66
MVBV-M257-11	7TAA292150R0499	66
MVBV-M257-7	7TAA292150R0500	66
MVBV-M323-13	7TAA292150R0501	66
MVBV-M323-8	7TAA292150R0502	66
MVBV-M329-13	7TAA292150R0503	66
MVBV-M329-8	7TAA292150R0504	66
MVBV-M406-13	7TAA292150R0505	66
MVBV-M406-8	7TAA292150R0506	66
MVBV-M409-13	7TAA292150R0507	66
MVBV-M409-8	7TAA292150R0508	66
MVBV-M506-14	7TAA292150R0509	66
MVBV-M506-9	7TAA292150R0510	66
MVBV-M508-14	7TAA292150R0511	66
MVBV-M508-9	7TAA292150R0512	66
MVBV-M638-10	7TAA292150R0513	66
MVBV-M638-14	7TAA292150R0514	66
MVBV-P167	7TAA292150R0515	77
MVBV-P213	7TAA292150R0516	77
MVBV-P299	7TAA292150R0517	77
MVBV-P366	7TAA292150R0518	77
MVBV-P488	7TAA292150R0519	77
MVEMD-M406/01	7TCA292000R2747	154
MVEMD-M508/01	7TCA292000R2748	154
MVEMD-M6356/01	7TCA292000R2749	154
MVEMD-P4856/01	7TCA292000R2750	154
MVEMD-RER6	7TCA292000R2751	155
MVEMD-RER6/01	7TCA292000R2752	155
MVEMD-RER8	7TCA292000R2753	155
MVNV-M120-10	7TAA292150R0520	60
MVNV-M120-5	7TAA292150R0521	60
MVNV-M160-10	7TAA292150R0522	60
MVNV-M160-5	7TAA292150R0523	60
MVNV-M162-10	7TAA292150R0524	60
MVNV-M162-5	7TAA292150R0525	60
MVNV-M202-10	7TAA292150R0526	60
MVNV-M202-6	7TAA292150R0527	60
MVNV-M207-10	7TAA292150R0528	60
MVNV-M207-6	7TAA292150R0529	60
MVNV-M253-11	7TAA292150R0530	60
MVNV-M253-7	7TAA292150R0531	60
MVNV-M257-11	7TAA292150R0532	60
MVNV-M257-7	7TAA292150R0533	60
MVNV-M323-13	7TAA292150R0534	60
MVNV-M323-8	7TAA292150R0535	60
MVNV-M329-13	7TAA292150R0536	60
MVNV-M329-8	7TAA292150R0537	60
MVNV-M406-13	7TAA292150R0538	60
MVNV-M406-8	7TAA292150R0539	60

Index

Products in alphabetical order

Part. no.	GID no.	Page
MVNV-M409-13	7TAA292150R0540	60
MVNV-M409-8	7TAA292150R0541	60
MVNV-M506-14	7TAA292150R0542	60
MVNV-M506-9	7TAA292150R0543	60
MVNV-M508-14	7TAA292150R0544	60
MVNV-M508-9	7TAA292150R0545	60
MVNV-M638-10	7TAA292150R0546	60
MVNV-M638-14	7TAA292150R0547	60
MVNV-P090	7TAA292150R0548	75
MVNV-P112	7TAA292150R0549	75
MVNV-P137	7TAA292150R0550	75
MVNV-P167	7TAA292150R0551	75
MVNV-P213	7TAA292150R0552	75
MVNV-P293	7TAA292150R0553	75
MVNV-P299	7TAA292150R0554	75
MVNV-P366	7TAA292150R0555	75
MVNV-P488	7TAA292150R0556	75
MVWV-M120-10	7TAA292150R0557	69
MVWV-M120-5	7TAA292150R0558	69
MVWV-M160-10	7TAA292150R0559	69
MVWV-M160-5	7TAA292150R0560	69
MVWV-M162-10	7TAA292150R0561	69
MVWV-M162-5	7TAA292150R0562	69
MVWV-M202-10	7TAA292150R0563	69
MVWV-M202-6	7TAA292150R0564	69
MVWV-M207-10	7TAA292150R0565	69
MVWV-M207-6	7TAA292150R0566	69
MVWV-M253-11	7TAA292150R0567	69
MVWV-M253-7	7TAA292150R0568	69
MVWV-M329-13	7TAA292150R0569	69
MVWV-M329-8	7TAA292150R0570	69
MVWV-M406-13	7TAA292150R0571	69
MVWV-M406-8	7TAA292150R0572	69
MVWV-M508-14	7TAA292150R0573	69
MVWV-M508-9	7TAA292150R0574	69
MVWV-M638-10	7TAA292150R0575	69
MVWV-M638-14	7TAA292150R0578	69
MVWV-P090	7TAA292150R0577	78
MVWV-P112	7TAA292150R0578	78
MVWV-P137	7TAA292150R0579	78
MVWV-P167	7TAA292150R0580	78
MVWV-P213	7TAA292150R0581	78
MVWV-P299	7TAA292150R0582	78
MVWV-P366	7TAA292150R0583	78
MVWV-P488	7TAA292150R0584	78
NFN3-07	7TAA292800R0000	106
NFN3-09	7TAA292800R0001	106
NFN3-11	7TAA292800R0002	106
NFN3-16	7TAA292800R0003	106
NFN3-21	7TAA292800R0004	106
NFN3-29	7TAA292800R0005	106
NFN3-36	7TAA292800R0006	106
NFN3-48	7TAA292800R0007	106

Part. no.	GID no.	Page
NKAH-M120-10	7TAA292400R0104	46
NKAH-M160-10	7TAA292400R0105	46
NKAH-M162-10	7TAA292400R0106	46
NKAH-M202-10	7TAA292400R0107	46
NKAH-M207-10	7TAA292400R0108	46
NKAH-M253-11	7TAA292400R0109	46
NKAH-M257-11	7TAA292400R0110	46
NKAH-M323-13	7TAA292400R0111	46
NKAH-M329-13	7TAA292400R0112	46
NKAH-M406-13	7TAA292400R0113	46
NKAH-M409-13	7TAA292400R0114	46
NKAH-M506-14	7TAA292400R0115	46
NKAH-M508-14	7TAA292400R0116	46
NKAH-M638-14	7TAA292400R0117	46
NKBH-M120-10	7TAA292400R0118	46
NKBH-M160-10	7TAA292400R0119	46
NKBH-M162-10	7TAA292400R0120	46
NKBH-M202-10	7TAA292400R0121	46
NKBH-M207-10	7TAA292400R0122	46
NKBH-M253-11	7TAA292400R0123	46
NKBH-M257-11	7TAA292400R0124	46
NKBH-M323-13	7TAA292400R0125	46
NKBH-M329-13	7TAA292400R0126	46
NKBH-M406-13	7TAA292400R0127	46
NKBH-M409-13	7TAA292400R0128	46
NKBH-M506-14	7TAA292400R0129	46
NKBH-M508-14	7TAA292400R0130	46
NKBH-M638-14	7TAA292400R0131	46
NKIS-M162	7TAA292400R0132	48
NKIS-M207	7TAA292400R0133	48
NKIS-M253	7TAA292400R0134	48
NKIS-M329	7TAA292400R0135	48
NKIS-M406	7TAA292400R0136	48
NKIS-M508	7TAA292400R0137	48
NKIS-M638	7TAA292400R0138	48
NKNH-M120-10	7TAA292400R0139	43
NKNH-M160-10	7TAA292400R0140	43
NKNH-M162-10	7TAA292400R0141	43
NKNH-M202-10	7TAA292400R0142	43
NKNH-M207-10	7TAA292400R0143	43
NKNH-M253-11	7TAA292400R0144	43
NKNH-M257-11	7TAA292400R0145	43
NKNH-M323-13	7TAA292400R0150	43
NKNH-M329-13	7TAA292400R0147	43
NKNH-M406-13	7TAA292400R0148	43
NKNH-M409-13	7TAA292400R0149	43
NKNH-M506-14	7TAA292400R0150	43
NKNH-M508-14	7TAA292400R0151	43
NKNH-M638-14	7TAA292400R0152	43
NKNZ-M120/P1	7TAA292400R0153	44
NKNZ-M120/P2	7TAA292400R0154	44
NKNZ-M120/P3	7TAA292400R0155	44
NKNZ-M120R/P	–	44

Part. no.	GID no.	Page
NKNZ-M160/P1	7TAA292400R0156	44
NKNZ-M160/P1-L	7TCA292000R7735	45
NKNZ-M160/P2	7TAA292400R0157	44
NKNZ-M160/P2-L	–	45
NKNZ-M160/P3	7TAA292400R0158	44
NKNZ-M160/P3-L	7TCA292000R5581	45
NKNZ-M160R/P	7TCA292000R0183	44
NKNZ-M160R/P-L	–	45
NKNZ-M202/P1	7TAA292400R0161	44
NKNZ-M202/P1-L	7TCA292000R0184	45
NKNZ-M202/P3	7TAA292400R0162	44
NKNZ-M202/P3-L	7TCA292000R7948	45
NKNZ-M202/P4	7TAA292400R0163	44
NKNZ-M202/P4-L	7TCA292000R8006	45
NKNZ-M202R/P	7TCA292000R0185	44
NKNZ-M202R/P-L	7TCA292000R7752	45
NKNZ-M207/P3	7TAA292400R0165	44
NKNZ-M207/P3-L	7TCA292000R0186	45
NKNZ-M207/P4	7TAA292400R0166	44
NKNZ-M207/P4-L	–	45
NKNZ-M207/P5	7TAA292400R0167	44
NKNZ-M207/P5-L	7TCA292000R8008	45
NKNZ-M207R/P	7TCA292000R6163	44
NKNZ-M207R/P-L	7TCA292000R0187	45
NKNZ-M253/P5	7TCA292000R0188	44
NKNZ-M253/P6	7TCA292000R0189	44
NKNZ-M253R/P	7TCA292000R6152	44
NKNZ-M253R1/P	7TCA292000R6288	44
NKNZ-M257/P4	7TCA292000R8813	44
NKNZ-M257/P5	7TAA292400R0172	44
NKNZ-M257/P5-L	7TAA292400R0173	45
NKNZ-M257/P6	7TAA292400R0174	44
NKNZ-M257/P6-L	7TCA292000R0190	45
NKNZ-M257R/P	7TCA292000R0191	44
NKNZ-M257R/P-L	7TCA292000R6630	45
NKNZ-M323/P2	7TCA292000R0192	44
NKNZ-M323/P2-L	7TCA292000R0193	45
NKNZ-M323/P4	7TAA292400R0177	44
NKNZ-M323/P4-L	7TCA292000R0194	45
NKNZ-M323/P5	7TAA292400R0178	44
NKNZ-M323/P5-L	7TCA292000R9595	45
NKNZ-M323R/P	7TAA292400R0179	44
NKNZ-M323R/P-L	7TCA292000R8774	45
NKNZ-M323R1/P	7TAA292400R0180	44
NKNZ-M323R1/P-L	7TCA292000R6197	45
NKNZ-M329/P2	7TCA292000R0195	44
NKNZ-M329/P2-L	7TCA292000R9446	45
NKNZ-M329/P3	7TCA292000R6029	44
NKNZ-M329/P3-L	7TCA292000R9017	45
NKNZ-M329/P4	7TCA292000R0196	44
NKNZ-M329R/P	7TCA292000R6284	44
NKNZ-M329R/P-L	–	45
NKNZ-M406/P1	7TCA292000R5867	44

Index

Products in alphabetical order

Part. no.	GID no.	Page
NKNZ-M406/P2	7TCA292000R0197	44
NKNZ-M406R/P	7TCA292000R6071	44
NKNZ-M409/P1	7TCA292000R9509	44
NKNZ-M409/P2	7TCA292000R9235	44
NKNZ-M409/P3	7TCA292000R6028	44
NKNZ-M409/P3-L	–	45
NKNZ-M409/P4	7TAA292400R0187	44
NKNZ-M409/P4-L	7TCA292000R0198	45
NKNZ-M409/P5	7TAA292400R0188	44
NKNZ-M409/P5-L	7TCA292000R8009	45
NKNZ-M409R/P	7TAA292400R0189	44
NKNZ-M409R/P-L	7TCA292000R0199	45
NKNZ-M506/P1	7TAA292400R0192	44
NKNZ-M506/P1-L	–	45
NKNZ-M506/P3	7TAA292400R0193	44
NKNZ-M506/P3-L	7TCA292000R8548	45
NKNZ-M506R/P	7TCA292000R0200	44
NKNZ-M506R/P-L	7TCA292000R0201	45
NKNZ-M508/P2	7TAA292400R0196	44
NKNZ-M508/P2-L	7TCA292000R8788	45
NKNZ-M508/P3	7TAA292400R0197	44
NKNZ-M508/P3-L	7TCA292000R9600	45
NKNZ-M508R/P	7TCA292000R0202	44
NKNZ-M508R/P-L	–	45
NKNZ-M638/P1	7TAA292400R0200	44
NKNZ-M638/P1-L	–	45
NKNZ-M638/P2	7TAA292400R0201	44
NKNZ-M638/P2-L	7TCA292000R8547	45
NKNZ-M638R/P	7TCA292000R9837	44
NKNZ-M638R/P-L	7TCA292000R9838	45
NSBIV-N027/01	7TCA292000R8950	84
NSBIV-N043/01	7TCA292000R0471	84
NSBIV-N069/01	7TCA292000R8951	84
NSBIV-N078/01	7TCA292000R0472	84
NSBIV-N088/01	7TCA292000R0474	84
NSBIV-N098/01	7TCA292000R0475	84
NSBV-M207-10	7TAA292150R0585	82
NSBV-M253-11	7TAA292150R0586	82
NSBV-M329-13	7TAA292150R0587	82
NSBV-M406-13	7TAA292150R0588	82
NSBV-M409-13	7TCA292000R2945	82
NSBV-M508-14	7TAA292150R0589	82
NSBV-M638-14	7TAA292150R0590	82
NSBV-N027/01	7TCA292000R8940	82
NSBV-N043/01	7TCA292000R8941	82
NSBV-N069/01	7TCA292000R8942	82
NSBV-N078/01	7TCA292000R8943	82
NSBV-N088/01	7TCA292000R8944	82
NSBV-N098/01	7TCA292000R8945	82
NSBV-P167-6.5	7TAA292150R0591	82
NSBV-P213-7	7TAA292150R0592	82
NSBV-P299-8	7TAA292150R0593	82
NSBV-P366-9	7TAA292150R0594	82

Part. no.	GID no.	Page
NSBV-P488-10	7TAA292150R0595	82
NSNIV-N022/01	7TCA292000R9059	84
NSNIV-N027/01	7TCA292000R8946	84
NSNIV-N043/01	7TCA292000R9060	84
NSNIV-N069/01	7TCA292000R8936	84
NSNIV-N078/01	7TCA292000R9061	84
NSNIV-N088/01	7TCA292000R9062	84
NSNIV-N098/01	7TCA292000R9063	84
NSNV-M120-10	7TCA292000R5954	83
NSNV-M162-10	7TCA292000R5955	83
NSNV-M207-10	7TCA292000R5956	83
NSNV-M253-11	7TCA292000R5957	83
NSNV-M329-13	7TCA292000R5958	83
NSNV-M329-7	7TCA292000R5959	83
NSNV-M406-13	7TCA292000R5960	83
NSNV-M406-7	7TCA292000R5961	83
NSNV-M409-13	7TCA292000R5962	83
NSNV-M508-14	7TCA292000R5963	83
NSNV-M638-14	7TCA292000R5964	83
NSNV-N022/01	7TCA292000R8904	83
NSNV-N027/01	7TCA292000R8905	83
NSNV-N043/01	7TCA292000R8906	83
NSNV-N069/01	7TCA292000R8907	83
NSNV-N078/01	7TCA292000R8908	83
NSNV-N088/01	7TCA292000R8909	83
NSNV-N098/01	7TCA292000R8910	83
NSWIV-N022/01	7TCA292000R0470	84
NSWV-N022/01	7TCA292000R8939	82
NVAV-M120-10	7TAA292150R0596	65
NVAV-M120-5	7TAA292150R0597	65
NVAV-M162-10	7TAA292150R0598	65
NVAV-M162-5	7TAA292150R0599	65
NVAV-M207-10	7TAA292150R0600	65
NVAV-M207-6	7TAA292150R0601	65
NVAV-M253-11	7TAA292150R0602	65
NVAV-M253-7	7TAA292150R0603	65
NVAV-M329-13	7TAA292150R0606	65
NVAV-M329-8	7TAA292150R0607	65
NVAV-M406-13	7TAA292150R0608	65
NVAV-M406-8	7TAA292150R0609	65
NVAV-M508-14	7TAA292150R0612	65
NVAV-M508-9	7TAA292150R0613	65
NVAV-M638-10	7TAA292150R0614	65
NVAV-M638-14	7TAA292150R0615	65
NVAV-P090	7TAA292150R0616	77
NVAV-P112	7TAA292150R0617	77
NVAV-P137	7TAA292150R0618	77
NVAV-P167	7TAA292150R0619	77
NVAV-P213	7TAA292150R0620	77
NVAV-P299	7TAA292150R0621	77
NVAV-P366	7TAA292150R0622	77
NVAV-P488	7TAA292150R0623	77
NVBV-M207-10	7TAA292150R0624	66

Part. no.	GID no.	Page
NVBV-M207-6	7TAA292150R0625	66
NVBV-M253-11	7TAA292150R0626	66
NVBV-M253-7	7TAA292150R0627	66
NVBV-M257-11	7TAA292150R0628	66
NVBV-M257-7	7TAA292150R0629	66
NVBV-M323-13	7TAA292150R0630	66
NVBV-M323-8	7TAA292150R0631	66
NVBV-M329-13	7TAA292150R0632	66
NVBV-M329-8	7TAA292150R0633	66
NVBV-M406-13	7TAA292150R0634	66
NVBV-M406-8	7TAA292150R0635	66
NVBV-M409-13	7TAA292150R0636	66
NVBV-M409-8	7TAA292150R0637	66
NVBV-M506-14	7TAA292150R0638	66
NVBV-M506-9	7TAA292150R0639	66
NVBV-M508-14	7TAA292150R0640	66
NVBV-M508-9	7TAA292150R0641	66
NVBV-M638-10	7TAA292150R0642	66
NVBV-M638-14	7TAA292150R0643	66
NVBV-P167	7TAA292150R0644	77
NVBV-P213	7TAA292150R0645	77
NVBV-P299	7TAA292150R0646	77
NVBV-P366	7TAA292150R0647	77
NVBV-P488	7TAA292150R0648	77
NVIR-M120	7TAA292610R0133	86
NVIR-M160	7TCA292000R0215	86
NVIR-M162	7TAA292610R0134	86
NVIR-M207	7TAA292610R0135	86
NVIR-M253	7TAA292610R0136	86
NVIR-M329	7TAA292610R0137	86
NVIR-M406	7TAA292610R0138	86
NVIR-M508	7TAA292610R0139	86
NVIR-M638	7TAA292610R0140	86
NVIZR-P07M	7TAA292610R0141	87
NVIZR-P090	7TAA292610R0142	87
NVIZR-P110	7TAA292610R0143	87
NVIZR-P112	7TAA292610R0144	87
NVIZR-P137	7TCA292000R0216	87
NVIZR-P167	7TAA292610R0145	87
NVIZR-P213	7TAA292610R0150	87
NVIZR-P299	7TAA292610R0147	87
NVIZR-P366	7TAA292610R0148	87
NVIZR-P488	7TAA292610R0149	87
NVN3-07	7TAA292800R0008	106
NVN3-09	7TAA292800R0009	106
NVN3-11	7TAA292800R0010	106
NVN3-16	7TAA292800R0011	106
NVN3-21	7TAA292800R0012	106
NVN3-29	7TAA292800R0013	106
NVN3-36	7TAA292800R0014	106
NVN3-48	7TAA292800R0015	106
NVNV-M120-10	7TAA292150R0649	60
NVNV-M120-5	7TAA292150R0650	60

Index

Products in alphabetical order

Part. no.	GID no.	Page
NVNV-M160-10	7TAA292150R0651	60
NVNV-M160-5	7TAA292150R0652	60
NVNV-M162-10	7TAA292150R0653	60
NVNV-M162-5	7TAA292150R0654	60
NVNV-M202-10	7TAA292150R0655	60
NVNV-M202-6	7TAA292150R0656	60
NVNV-M207-10	7TAA292150R0657	60
NVNV-M207-6	7TAA292150R0658	60
NVNV-M253-11	7TAA292150R0659	60
NVNV-M253-7	7TAA292150R0660	60
NVNV-M257-11	7TAA292150R0661	60
NVNV-M257-7	7TAA292150R0662	60
NVNV-M323-13	7TAA292150R0663	60
NVNV-M323-8	7TAA292150R0664	60
NVNV-M329-13	7TAA292150R0665	60
NVNV-M329-8	7TAA292150R0666	60
NVNV-M406-13	7TAA292150R0667	60
NVNV-M406-8	7TAA292150R0668	60
NVNV-M409-13	7TAA292150R0669	60
NVNV-M409-8	7TAA292150R0670	60
NVNV-M506-14	7TAA292150R0671	60
NVNV-M506-9	7TAA292150R0672	60
NVNV-M508-14	7TAA292150R0673	60
NVNV-M508-9	7TAA292150R0674	60
NVNV-M638-10	7TAA292150R0675	60
NVNV-M638-14	7TAA292150R0678	60
NVNV-N022	7TCA292000R980	61
NVNV-N027	7TCA292000R981	61
NVNV-N043	7TCA292000R985	61
NVNV-N069	7TCA292000R986	61
NVNV-N078	7TCA292000R982	61
NVNV-N088	7TCA292000R983	61
NVNV-N098	7TCA292000R984	61
NVNV-P090	7TAA292150R0677	75
NVNV-P112	7TAA292150R0678	75
NVNV-P137	7TAA292150R0679	75
NVNV-P167	7TAA292150R0680	75
NVNV-P213	7TAA292150R0681	75
NVNV-P293	7TAA292150R0682	75
NVNV-P299	7TAA292150R0683	75
NVNV-P366	7TAA292150R0684	75
NVNV-P488	7TAA292150R0685	75
NVNZ-M120R/P	7TAA292150R0686	62
NVNZ-M120R/P-L	–	64
NVNZ-M120S/B1	–	63
NVNZ-M120S/B2	–	63
NVNZ-M120S/B3	–	63
NVNZ-M120S/P1	7TAA292150R0689	62
NVNZ-M120S/P1-L	7TCA292000R0254	64
NVNZ-M120S/P2	7TAA292150R0690	62
NVNZ-M120S/P3	7TAA292150R0691	62
NVNZ-M120S/P3-L	7TCA292000R0255	64
NVNZ-M160R/P	7TAA292150R0692	62

Part. no.	GID no.	Page
NVNZ-M160R/P-L	7TAA292150R0693	64
NVNZ-M160S/B1	–	63
NVNZ-M160S/B2	–	63
NVNZ-M160S/B3	–	63
NVNZ-M160S/P1	7TAA292150R0696	62
NVNZ-M160S/P1-L	7TAA292150R0697	64
NVNZ-M160S/P2	7TAA292150R0698	62
NVNZ-M160S/P2-L	7TAA292150R0699	64
NVNZ-M160S/P3	7TAA292150R0700	62
NVNZ-M160S/P3-L	7TAA292150R0701	64
NVNZ-M202R/P	7TAA292150R0704	62
NVNZ-M202R/P-L	7TAA292150R0705	64
NVNZ-M202S/B1	7TCA292000R9839	63
NVNZ-M202S/B3	7TCA292000R9503	63
NVNZ-M202S/B4	–	63
NVNZ-M202S/P1	7TAA292150R0708	62
NVNZ-M202S/P1-L	7TAA292150R0709	64
NVNZ-M202S/P3	7TAA292150R0710	62
NVNZ-M202S/P3-L	7TAA292150R0711	64
NVNZ-M202S/P4	7TAA292150R0712	62
NVNZ-M202S/P4-L	7TAA292150R0713	64
NVNZ-M207R/P	7TAA292150R0714	62
NVNZ-M207R/P-L	7TAA292150R0715	64
NVNZ-M207S/B1	7TCA292000R9315	63
NVNZ-M207S/B2	7TCA292000R9316	63
NVNZ-M207S/B3	7TCA292000R9317	63
NVNZ-M207S/B4	7TCA292000R9318	63
NVNZ-M207S/B5	7TCA292000R9319	63
NVNZ-M207S/P3	7TAA292150R0718	62
NVNZ-M207S/P3-L	7TAA292150R0719	64
NVNZ-M207S/P4	7TAA292150R0720	62
NVNZ-M207S/P4-L	7TAA292150R0721	64
NVNZ-M207S/P5	7TAA292150R0722	62
NVNZ-M207S/P5-L	7TAA292150R0723	64
NVNZ-M253R/P	7TAA292150R0724	62
NVNZ-M253S/B5	–	63
NVNZ-M253S/B6	–	63
NVNZ-M253S/P5	7TAA292150R0728	62
NVNZ-M253S/P6	7TAA292150R0729	62
NVNZ-M257R/P	7TAA292150R0730	62
NVNZ-M257R/P-L	7TAA292150R0731	64
NVNZ-M257S/B4	–	63
NVNZ-M257S/B5	7TCA292000R9794	63
NVNZ-M257S/B6	–	63
NVNZ-M257S/P4	7TAA292150R0734	62
NVNZ-M257S/P5	7TAA292150R0735	62
NVNZ-M257S/P5-L	7TAA292150R0736	64
NVNZ-M257S/P6	7TAA292150R0737	62
NVNZ-M257S/P6-L	7TAA292150R0738	64
NVNZ-M323R/P	7TAA292150R0739	62
NVNZ-M323R/P-L	7TAA292150R0740	64
NVNZ-M323R1/P	7TAA292150R0741	62
NVNZ-M323R1/P-L	7TAA292150R0742	64

Part. no.	GID no.	Page
NVNZ-M323S/B4	7TCA292000R9137	63
NVNZ-M323S/B5	7TCA292000R9795	63
NVNZ-M323S/P4	7TAA292150R0745	62
NVNZ-M323S/P4-L	7TAA292150R0746	64
NVNZ-M323S/P5	7TAA292150R0747	62
NVNZ-M323S/P5-L	7TAA292150R0748	64
NVNZ-M329R/P	7TCA292000R0278	62
NVNZ-M329R/P-L	7TAA292150R0749	64
NVNZ-M329S/B2	–	63
NVNZ-M329S/B3	–	63
NVNZ-M329S/B4	7TCA292000R9796	63
NVNZ-M329S/P2	7TAA292150R0752	62
NVNZ-M329S/P2-L	7TAA292150R0753	64
NVNZ-M329S/P3	7TAA292150R0754	62
NVNZ-M329S/P3-L	7TAA292150R0755	64
NVNZ-M329S/P4	7TAA292150R0756	62
NVNZ-M406R/P	7TAA292150R0757	62
NVNZ-M406S/B1	–	63
NVNZ-M406S/B2	–	63
NVNZ-M406S/P1	7TAA292150R0780	62
NVNZ-M406S/P2	7TAA292150R0781	62
NVNZ-M409R/P	7TAA292150R0782	62
NVNZ-M409R/P-L	7TAA292150R0783	64
NVNZ-M409S/B1	–	63
NVNZ-M409S/B2	–	63
NVNZ-M409S/B3	–	63
NVNZ-M409S/B4	–	63
NVNZ-M409S/B5	–	63
NVNZ-M409S/P1	7TAA292150R0786	62
NVNZ-M409S/P2	7TAA292150R0787	62
NVNZ-M409S/P3	7TCA292000R0288	62
NVNZ-M409S/P3-L	7TAA292150R0788	64
NVNZ-M409S/P4	7TAA292150R0789	62
NVNZ-M409S/P4-L	7TAA292150R0770	64
NVNZ-M409S/P5	7TAA292150R0771	62
NVNZ-M409S/P5-L	7TAA292150R0772	64
NVNZ-M506R/P	7TAA292150R0773	62
NVNZ-M506R/P-L	7TAA292150R0774	64
NVNZ-M506S/B1	–	63
NVNZ-M506S/B3	–	63
NVNZ-M506S/P1	7TAA292150R0777	62
NVNZ-M506S/P1-L	7TAA292150R0778	64
NVNZ-M506S/P3	7TAA292150R0779	62
NVNZ-M506S/P3-L	7TAA292150R0780	64
NVNZ-M508R/P	7TAA292150R0781	62
NVNZ-M508R/P-L	7TAA292150R0782	64
NVNZ-M508S/B2	–	63
NVNZ-M508S/B3	7TCA292000R9591	63
NVNZ-M508S/P2	7TAA292150R0785	62
NVNZ-M508S/P2-L	7TAA292150R0786	64
NVNZ-M508S/P3	7TAA292150R0787	62
NVNZ-M508S/P3-L	7TAA292150R0788	64
NVNZ-M638R/P	7TAA292150R0789	62

Index

Products in alphabetical order

Part. no.	GID no.	Page	Part. no.	GID no.	Page	Part. no.	GID no.	Page
NVNZ-M638R/P-L	7TAA292150R0790	64	NVWV-M329-8	7TAA292150R0877	69	PCLG-23B	7TAA292240R0062	18
NVNZ-M638S/B1	–	63	NVWV-M406-13	7TAA292150R0878	69	PCLG-23S	7TAA292240R0063	18
NVNZ-M638S/B2	–	63	NVWV-M406-8	7TAA292150R0879	69	PCLG-29B	7TAA292240R0065	18
NVNZ-M638S/P1	7TAA292150R0793	62	NVWV-M508-14	7TAA292150R0880	69	PCLG-29S	7TAA292240R0066	18
NVNZ-M638S/P1-L	7TAA292150R0794	64	NVWV-M508-9	7TAA292150R0881	69	PCLG-36B	7TAA292240R0069	18
NVNZ-M638S/P2	7TAA292150R0795	62	NVWV-M638-10	7TAA292150R0882	69	PCLG-36S	7TAA292240R0071	18
NVNZ-M638S/P2-L	7TAA292150R0796	64	NVWV-M638-14	7TAA292150R0883	69	PCLG-48B	7TAA292240R0073	18
NVNZ-P090R/P	7TAA292150R0803	78	NVWV-P090	7TAA292150R0884	78	PCLG-48S	7TAA292240R0075	18
NVNZ-P090S/P1	7TCA292000R0296	78	NVWV-P112	7TAA292150R0885	78	PCLG-56B	7TAA292360R0013	18,126
NVNZ-P090S/P3	7TAA292150R0806	78	NVWV-P137	7TAA292150R0886	78	PCLG-56S	7TAA292360R0015	18,126
NVNZ-P110R/P	7TAA292150R0809	78	NVWV-P167	7TAA292150R0887	78	PCLG-70B	7TAA292360R0017	18,126
NVNZ-P110S/P1	7TAA292150R0812	78	NVWV-P213	7TAA292150R0888	78	PCLG-70S	7TAA292360R0019	18,126
NVNZ-P110S/P3	7TAA292150R0813	78	NVWV-P299	7TAA292150R0889	78	PCLG-95B	7TAA292360R0021	18,126
NVNZ-P112R/P	7TAA292150R0816	78	NVWV-P366	7TAA292150R0890	78	PCLG-95S	7TAA292360R0023	18,126
NVNZ-P112S/P1	7TAA292150R0819	78	NVWV-P488	7TAA292150R0891	78	PCLT-07B	7TAA292240R0078	18
NVNZ-P112S/P3	7TAA292150R0820	78	NVWZ-M160R/P	7TAA292150R0892	70	PCLT-07S	7TAA292240R0077	18
NVNZ-P112S/P4	7TAA292150R0821	78	NVWZ-M160S/P1	7TAA292150R0893	70	PCLT-10B	7TAA292240R0078	18
NVNZ-P160R/P	–	78	NVWZ-M160S/P2	7TAA292150R0894	70	PCLT-10S	7TAA292240R0079	18
NVNZ-P160S/P1	7TAA292150R0822	78	NVWZ-M160S/P3	7TAA292150R0895	70	PCLT-12B	7TAA292240R0080	18
NVNZ-P167R/P	7TAA292150R0825	78	NVWZ-M202R/P	7TAA292150R0896	70	PCLT-12S	7TAA292240R0081	18
NVNZ-P167S/P3	7TAA292150R0828	78	NVWZ-M202S/P1	7TAA292150R0897	70	PCLT-17B	7TAA292240R0083	18
NVNZ-P167S/P4	7TAA292150R0829	78	NVWZ-M202S/P3	7TAA292150R0898	70	PCLT-17S	7TAA292240R0085	18
NVNZ-P167S/P5	7TAA292150R0830	78	NVWZ-M202S/P4	7TAA292150R0899	70	PCLT-23B	7TAA292240R0086	18
NVNZ-P167S/P6	7TAA292150R0831	78	NVWZ-M207R/P	7TAA292150R0900	70	PCLT-23S	7TAA292240R0088	18
NVNZ-P213R/P	7TAA292150R0834	78	NVWZ-M207S/P1	7TCA292000R3285	70	PCLT-29B	7TAA292240R0089	18
NVNZ-P213R1/P	7TAA292150R0836	78	NVWZ-M207S/P3	7TAA292150R0901	70	PCLT-29S	7TAA292240R0091	18
NVNZ-P213S/P1	7TCA292000R0301	78	NVWZ-M207S/P4	7TAA292150R0902	70	PCLT-36B	7TAA292240R0092	18
NVNZ-P213S/P4	7TAA292150R0839	78	NVWZ-M207S/P5	7TAA292150R0903	70	PCLT-36S	7TCA292000R3533	18
NVNZ-P213S/P5	7TAA292150R0840	78	NVWZ-M257R/P	7TAA292150R0904	70	PCLT-48B	7TCA292000R3535	18
NVNZ-P299R/P	7TAA292150R0843	78	NVWZ-M257S/P5	7TAA292150R0905	70	PCLT-48S	7TCA292000R3536	18
NVNZ-P299S/P3	7TAA292150R0846	78	NVWZ-M257S/P6	7TAA292150R0906	70	PELT-10S	7TAA292240R0123	19
NVNZ-P299S/P4	7TAA292150R0847	78	NVWZ-M323S/P4	7TCA292000R3286	70	PELT-10SL	7TAA292240R0124	19
NVNZ-P299S/P5	7TAA292150R0848	78	OVN2-07	7TAA292700R0042	105	PELT-12S	7TAA292240R0125	19
NVNZ-P366R/P	7TAA292150R0851	78	OVN2-10	7TAA292700R0043	105	PELT-12SL	7TAA292240R0126	19
NVNZ-P366S/P1	7TAA292150R0854	78	OVN2-12	7TAA292700R0044	105	PELT-17S	7TAA292240R0127	19
NVNZ-P366S/P2	7TAA292150R0855	78	OVN2-17	7TAA292700R0045	105	PELT-17SL	7TAA292240R0128	19
NVNZ-P366S/P3	7TAA292150R0856	78	OVN2-23	7TAA292700R0046	105	PELT-23S	7TAA292240R0131	19
NVNZ-P488R/P	7TAA292150R0859	78	OVN2-29	7TAA292700R0047	105	PELT-23SL	7TAA292240R0132	19
NVNZ-P488S/P1	7TAA292150R0862	78	OVN2-36	7TAA292700R0048	105	PELT-29S	7TAA292240R0133	19
NVNZ-P488S/P2	7TAA292150R0863	78	OVN2-48	7TAA292700R0049	105	PELT-29SL	7TAA292240R0134	19
NVWV-M120-10	7TAA292150R0864	69	PACOF-07B	7TAA292730R0000	32,134	PELT-36S	7TAA292240R0135	19
NVWV-M120-5	7TAA292150R0865	69	PACOF-10B	7TAA292730R0001	32,134	PELT-36SL	7TAA292240R0136	19
NVWV-M160-10	7TAA292150R0866	69	PACOF-12B	7TAA292730R0002	32,134	PELT-48S	7TAA292240R0137	19
NVWV-M160-5	7TAA292150R0867	69	PACOF-17B	7TAA292730R0004	32,134	PELT-48SL	7TAA292240R0138	19
NVWV-M162-10	7TAA292150R0868	69	PACOF-23B	7TAA292730R0006	32,134	PHTG-17B	7TAA292430R0000	15
NVWV-M162-5	7TAA292150R0869	69	PACOF-29B	7TAA292730R0008	32,134	PHTG-23B	7TAA292430R0001	15
NVWV-M202-10	7TAA292150R0870	69	PACOF-36B	7TAA292730R0009	32,134	PHTG-29B	7TAA292430R0002	15
NVWV-M202-6	7TAA292150R0871	69	PACOF-48B	7TAA292730R0010	32,134	PHTG-36B	7TAA292430R0003	15
NVWV-M207-10	7TAA292150R0872	69	PACOF-70B	7TAA292730R0011	32,134	PHTG-48B	7TAA292430R0004	15
NVWV-M207-6	7TAA292150R0873	69	PCLG-125B	7TAA292360R0011	18,126	PHTT-07B	7TAA292430R0005	15
NVWV-M253-11	7TAA292150R0874	69	PCLG-125S	7TAA292360R0012	18,126	PHTT-10B	7TAA292430R0006	15
NVWV-M253-7	7TAA292150R0875	69	PCLG-17B	7TAA292240R0059	18	PHTT-12B	7TAA292430R0007	15
NVWV-M329-13	7TAA292150R0878	69	PCLG-17S	7TAA292240R0060	18	PHTT-17B	7TAA292430R0008	15

Index

Products in alphabetical order

Part. no.	GID no.	Page	Part. no.	GID no.	Page	Part. no.	GID no.	Page
PHTT-23B	7TAA292430R0009	15	PMACUT-NW125	7TAA292880R0011	121	PUSG-17S	–	31
PIHG-125B	7TAA292360R0031	20,126	PMACUT-NW56	7TAA292880R0008	121	PUSG-23B	7TAA292490R0007	31
PIHG-125S	7TAA292360R0032	20,126	PMACUT-NW70	7TAA292880R0009	121	PUSG-23S	–	31
PIHG-56B	7TAA292360R0033	20,126	PMACUT-NW95	7TAA292880R0010	121	PUSG-29B	7TAA292490R0008	31
PIHG-56S	7TAA292360R0034	20,126	POHG-17B	7TAA292430R0017	15	PUSG-29S	–	31
PIHG-70B	7TAA292360R0036	20,126	POHG-17S	7TAA292430R0018	15	PUSG-36B	7TAA292490R0009	31
PIHG-70S	7TAA292360R0038	20,126	POHG-23B	7TAA292430R0019	15	PUSG-36S	–	31
PIHG-95B	7TAA292360R0040	20,126	POHG-23S	7TAA292430R0020	15	PUSG-48B	7TAA292490R0010	31
PIHG-95S	7TAA292360R0042	20,126	POHG-29B	7TAA292430R0021	15	PUSG-48S	–	31
PISG-17B	7TAA292240R0139	20	POHG-29S	7TAA292430R0022	15	PVDT-10P	7TAA292240R0178	22
PISG-17S	7TAA292240R0140	20	POHG-36B	7TAA292430R0023	15	PVDT-12P	7TAA292240R0179	22
PISG-23B	7TAA292240R0142	20	POHG-36S	7TAA292430R0024	15	PVDT-17P	7TAA292240R0180	22
PISG-23S	7TAA292240R0143	20	POHG-48B	7TAA292430R0025	15	PVDT-23P	7TAA292240R0181	22
PISG-29B	7TAA292240R0144	20	POHG-48S	7TAA292430R0026	15	PVDT-29P	7TCA292000R3817	22
PISG-29S	7TAA292240R0145	20	POHT-10B	7TAA292430R0027	15	RKS-07	7TAA292150R0907	119
PISG-36B	7TAA292240R0147	20	POHT-10S	7TAA292430R0028	15	RKS-10	7TAA292150R0908	119
PISG-36S	7TAA292240R0149	20	POHT-12B	7TAA292430R0029	15	RKS-12	7TAA292150R0909	119
PISG-48B	7TAA292240R0151	20	POHT-12S	7TAA292430R0030	15	RKS-17	7TAA292150R0910	119
PISG-48S	7TAA292240R0152	20	POSG-29B	7TCA292000R5823	21	RKS-23	7TAA292150R0911	119
PIST-07B	7TAA292240R0153	20	POSG-36B	7TCA292000R3749	21	RKS-29	7TAA292150R0912	119
PIST-07S	7TAA292240R0154	20	POSG-48B	7TCA292000R3750	21	RKS-36	7TAA292150R0913	119
PIST-10B	7TAA292240R0155	20	POSG-70B	7TAA292900R0008	21	RKS-48	7TAA292150R0914	119
PIST-10S	7TAA292240R0156	20	POSG-95B	7TCA292000R0304	21	RKS-56	7TAA292150R0915	119
PIST-12B	7TAA292240R0157	20	POST-10B	7TAA292240R0171	21	SCA-M16-10	7TAA292630R0000	123
PIST-12S	7TAA292240R0158	20	POST-12B	7TAA292240R0172	21	SCA-M20-10	7TAA292630R0001	123
PIST-17B	7TAA292240R0160	20	POST-17B	7TAA292240R0173	21	SCA-M25-11	7TAA292630R0002	123
PIST-17S	7TAA292240R0161	20	POST-23B	7TAA292240R0174	21	SCA-M32-13	7TAA292630R0003	123
PIST-23B	7TAA292240R0163	20	POST-29B	7TAA292240R0175	21	SCA-M40-13	7TAA292630R0004	123
PIST-23S	7TAA292240R0164	20	POST-36B	7TAA292240R0178	21	SCA-M50-14	7TAA292630R0005	123
PIST-29B	7TAA292240R0165	20	POST-48B	7TAA292240R0177	21	SCA-M63-14	7TAA292630R0006	123
PIST-29S	7TAA292240R0166	20	PPCOF-07B	7TAA292730R0012	33,134	SCA-P09	7TAA292630R0007	123
PIST-36B	7TAA292240R0167	20	PPCOF-10B	7TAA292730R0013	33,134	SCA-P11	7TAA292630R0008	123
PIST-36S	7TAA292240R0168	20	PPCOF-12B	7TAA292730R0014	33,134	SCA-P16	7TAA292630R0009	123
PIST-48B	7TAA292240R0169	20	PPCOF-17B	7TAA292730R0016	33,134	SCA-P21	7TAA292630R0010	123
PIST-48S	7TAA292240R0170	20	PPCOF-23B	7TAA292730R0018	33,134	SCA-P29	7TAA292630R0011	123
PLRG-17B	7TCA292000R6231	24	PPCOF-29B	7TAA292730R0020	33,134	SCA-P36	7TAA292630R0012	123
PLRG-17S	7TCA292000R6259	24	PPCOF-36B	7TAA292730R0021	33,134	SCA-P48	7TAA292630R0013	123
PLRG-23B	7TCA292000R6232	24	PPCOF-48B	7TAA292730R0022	33,134	SFH-07-0	7TAA292700R0050	115
PLRG-23S	7TCA292000R6260	24	PPCOF-70B	7TAA292730R0023	33,134	SFH-10-0	7TAA292700R0051	115
PLRG-29B	7TCA292000R6233	24	PSXG-23B	7TAA292430R0032	16	SFH-12-0	7TAA292700R0052	115
PLRG-29S	7TCA292000R6261	24	PSXG-29B	7TAA292430R0033	16	SFH-17-0	7TAA292700R0053	115
PLRG-36B	7TCA292000R6234	24	PSXG-36B	7TAA292430R0034	16	SFH-23-0	7TAA292700R0054	115
PLRG-36S	7TCA292000R6262	24	PSXG-48B	7TAA292430R0035	16	SFH-29-0	7TAA292700R0055	115
PLRG-48B	7TCA292000R6235	24	PSXT-10B	7TAA292430R0036	16	SFH-36-0	7TAA292700R0056	115
PLRG-48S	7TCA292000R6263	24	PSXT-12B	7TAA292430R0037	16	SFH-48-0	7TAA292700R0057	115
PLRT-07B	7TCA292000R6236	24	PSXT-17B	7TCA292000R0305	16	SFHS-00	7TAA292700R0058	115
PLRT-07S	7TCA292000R6264	24	PUEG-56B	7TAA292360R0043	21,126	SFHS-PH	7TAA292700R0060	115
PLRT-10B	7TCA292000R6237	24	PUEG-70B	7TAA292360R0044	21,126	SFHS-PH1	7TAA292700R0061	115
PLRT-10S	7TCA292000R6265	24	PUET-23B	7TAA292900R0004	21	SGB-07	7TAA292720R0027	117
PLRT-12B	7TCA292000R6238	24	PUET-29B	7TAA292900R0005	21	SGB-09	7TAA292720R0029	117
PLRT-12S	7TCA292000R6266	24	PUET-36B	7TAA292900R0006	21	SGB-11	7TAA292720R0031	117
PMACUT-38	7TAA292880R0006	121	PUET-48B	7TAA292900R0007	21	SGB-16	7TAA292720R0036	117
PMACUT-52	7TAA292880R0007	121	PUSG-17B	7TAA292490R0006	31	SGB-21	7TAA292720R0039	117

Index

Products in alphabetical order

Part. no.	GID no.	Page
SGB-29	7TAA292720R0043	117
SGB-36	7TAA292720R0044	117
SGB-48	7TAA292720R0046	117
SGG-125	7TAA292860R0033	127
SGG-56	7TAA292860R0034	127
SGG-70	7TAA292860R0035	127
SGG-95	7TAA292860R0036	127
SGG-M6356	7TCA292000R4106	129
SGG-P3656	7TCA292000R4107	129
SGH-23	7TAA292720R0047	116
SGH-29	7TAA292720R0048	116
SGH-36	7TAA292720R0049	116
SGH-48	7TAA292720R0050	116
SGH-56	7TAA292720R0051	116,130
SGH-70	7TAA292720R0052	116,130
SGH-95	7TAA292720R0053	116,130
SGI-M7556	7TCA292000R4118	116
SGL-07	7TAA292720R0054	116
SGL-10	7TAA292720R0055	116
SGL-12	7TAA292720R0056	116
SGL-17	7TAA292720R0057	116
SGL-23	7TAA292720R0058	116
SGL-29	7TAA292720R0059	116
SGO3-125	7TAA292980R0000	131
SGO3-56	7TAA292980R0001	131
SGO3-70	7TAA292980R0002	131
SGO3-95	7TAA292980R0003	131
SGO-56	7TAA292860R0037	127
SGO-70	7TAA292860R0038	127
SGO-95	7TAA292860R0039	127
SGS-125	7TAA292720R0060	117,130
SGS-36	7TAA292720R0061	117,130
SGS-48	7TAA292720R0062	117,130
SGS-56	7TAA292720R0063	117,130
SGS-70	7TAA292720R0064	117,130
SGS-95	7TAA292720R0065	117,130
SLAD-M120	7TAA292000R0098	143
SLAD-M160	7TAA292000R0099	143
SLAD-M162	7TAA292000R0100	143
SLAD-M202	7TAA292000R0101	143
SLAD-M207	7TAA292000R0102	143
SLAD-M253	7TAA292000R0103	143
SLAD-M257	7TAA292000R0104	143
SLAD-M323	7TAA292000R0105	143
SLAD-M329	7TAA292000R0106	143
SLAD-M406	7TAA292000R0107	143
SLAD-M409	7TAA292000R0108	143
SLAD-M506	7TAA292000R0109	143
SLAD-M508	7TAA292000R0110	143
SLAD-M638	7TAA292000R0111	143
SLAD-P090	7TAA292000R0112	145
SLAD-P112	7TAA292000R0113	145
SLAD-P132	7TAA292000R0114	145

Part. no.	GID no.	Page
SLAD-P137	7TAA292000R0115	145
SLAD-P167	7TAA292000R0116	145
SLAD-P213	7TAA292000R0117	145
SLAD-P299	7TAA292000R0118	145
SLAD-P366	7TAA292000R0119	145
SLAD-P488	7TAA292000R0120	145
SLND-M120	7TAA292000R0121	143
SLND-M160	7TAA292000R0122	143
SLND-M162	7TAA292000R0123	143
SLND-M200	7TAA292000R0124	143
SLND-M202	7TAA292000R0125	143
SLND-M207	7TAA292000R0126	143
SLND-M253	7TAA292000R0127	143
SLND-M257	7TAA292000R0128	143
SLND-M323	7TAA292000R0129	143
SLND-M329	7TAA292000R0130	143
SLND-M406	7TAA292000R0131	143
SLND-M409	7TAA292000R0132	143
SLND-M506	7TAA292000R0133	143
SLND-M508	7TAA292000R0134	143
SLND-M638	7TAA292000R0135	143
SLND-P070	7TAA292000R0136	144
SLND-P090	7TAA292000R0137	144
SLND-P092	7TAA292000R0138	144
SLND-P110	7TAA292000R0139	144
SLND-P112	7TAA292000R0140	144
SLND-P132	7TAA292000R0141	144
SLND-P137	7TAA292000R0142	144
SLND-P167	7TAA292000R0143	144
SLND-P213	7TAA292000R0144	144
SLND-P299	7TAA292000R0145	144
SLND-P366	7TAA292000R0150	144
SLND-P488	7TAA292000R0147	144
SLWD-M120	7TAA292000R0148	144
SLWD-M160	7TAA292000R0149	144
SLWD-M162	7TAA292000R0150	144
SLWD-M202	7TAA292000R0151	144
SLWD-M207	7TAA292000R0152	144
SLWD-M253	7TAA292000R0153	144
SLWD-M257	7TAA292000R0154	144
SLWD-M323	7TAA292000R0155	144
SLWD-M329	7TAA292000R0156	144
SLWD-M406	7TAA292000R0157	144
SLWD-M409	7TAA292000R0158	144
SLWD-M506	7TAA292000R0159	144
SLWD-M508	7TAA292000R0160	144
SLWD-M638	7TAA292000R0161	144
SLWD-P070	7TAA292000R0162	145
SLWD-P090	7TAA292000R0163	145
SLWD-P092	7TAA292000R0164	145
SLWD-P110	7TAA292000R0165	145
SLWD-P112	7TAA292000R0166	145
SLWD-P130	7TAA292000R0167	145

Part. no.	GID no.	Page
SLWD-P132	7TAA292000R0168	145
SLWD-P137	7TCA292000R4141	145
SLWD-P167	7TAA292000R0169	145
SLWD-P213	7TAA292000R0170	145
SLWD-P299	7TAA292000R0171	145
SLWD-P366	7TAA292000R0172	145
SLWD-P488	7TAA292000R0173	145
SRER-06	7TAA292920R0008	148
SRER-16	7TAA292920R0009	148
SRER-21	7TAA292920R0010	148
SRER-29	7TAA292920R0011	148
SRER-50	7TAA292920R0012	148
SREV-40	7TAA292920R0013	148
SVN4-07	7TAA292640R0000	104
SVN4-09	7TAA292640R0001	104
SVN4-11	7TAA292640R0002	104
SVN4-13	7TAA292640R0003	104
SVN4-16	7TAA292640R0004	104
SVN4-21	7TAA292640R0005	104
SVN4-29	7TAA292640R0006	104
SVN4-36	7TAA292640R0007	104
SVN4-42	7TAA292640R0008	104
SVN4-48	7TAA292640R0009	104
SVN4-G00	7TAA292640R0010	104
SVN4-G01	7TAA292640R0011	104
SVN4-G02	7TAA292640R0012	104
SVN4-G04	7TAA292640R0013	104
SVN4-G06	7TAA292640R0014	104
SVN4-G07	7TAA292640R0015	104
SVN4-G08	7TAA292640R0016	104
SVN4-G09	7TAA292640R0017	104
SVN4-M12	7TAA292640R0018	104
SVN4-M12/02	7TAA292640R0019	104
SVN4-M16	7TAA292640R0020	104
SVN4-M16/02	7TAA292640R0021	104
SVN4-M20	7TAA292640R0022	104
SVN4-M20/02	7TAA292640R0023	104
SVN4-M25	7TAA292640R0024	104
SVN4-M25/01	7TCA292000R4288	104
SVN4-M25/02	7TAA292640R0025	104
SVN4-M32	7TAA292640R0026	104
SVN4-M32/02	7TAA292640R0027	104
SVN4-M40	7TAA292640R0028	104
SVN4-M40/01	7TCA292000R4289	104
SVN4-M40/02	7TAA292640R0029	104
SVN4-M50	7TAA292640R0030	104
SVN4-M50/01	7TCA292000R4290	104
SVN4-M50/02	7TAA292640R0031	104
SVN4-M63	7TAA292640R0032	104
SWA-M16-10	7TAA292590R0000	123
SWA-M20-10	7TAA292590R0001	123
SWA-M25-11	7TAA292590R0002	123
SWA-M32-13	7TAA292590R0003	123

Index

Products in alphabetical order

Part. no.	GID no.	Page
SWA-M40-13	7TAA292590R0004	123
SWA-M50-14	7TAA292590R0005	123
SWA-M63-14	7TAA292590R0006	123
SWA-P09	7TAA292590R0007	123
SWA-P11	7TAA292590R0008	123
SWA-P16	7TAA292590R0009	123
SWA-P21	7TAA292590R0010	123
SWA-P29	7TAA292590R0011	123
SWA-P36	7TAA292590R0012	123
SWA-P48	7TAA292590R0013	123
VAMG-17B	7TAA292240R0195	22
VAMG-17S	7TAA292240R0196	22
VAMG-23B	7TAA292240R0197	22
VAMG-23S	7TAA292240R0198	22
VAMG-29B	7TAA292240R0199	22
VAMG-29S	7TAA292240R0200	22
VAMG-36B	7TAA292240R0201	22
VAMG-36S	7TAA292240R0202	22
VAMG-48B	7TAA292240R0203	22
VAMG-48S	7TAA292240R0204	22
VAMLG-125B	7TAA292360R0046	23
VAMLG-125S	7TAA292360R0047	23
VAMLG-17B	7TAA292240R0205	23
VAMLG-17S	7TAA292240R0206	23
VAMLG-23B	7TAA292240R0207	23
VAMLG-23S	7TAA292240R0208	23
VAMLG-29B	7TAA292240R0209	23
VAMLG-29S	7TAA292240R0210	23
VAMLG-36B	7TAA292240R0211	23
VAMLG-36S	7TAA292240R0212	23
VAMLG-48B	7TAA292240R0213	23
VAMLG-48S	7TAA292240R0214	23
VAMLG-56B	7TAA292360R0048	23
VAMLG-56S	7TAA292360R0049	23
VAMLG-70B	7TAA292360R0050	23
VAMLG-70S	7TAA292360R0051	23
VAMLG-95B	7TAA292360R0052	23
VAMLG-95S	7TAA292360R0053	23
VAMLT-10B	7TAA292240R0217	23
VAMLT-10S	7TAA292240R0218	23
VAMLT-12B	7TAA292240R0219	23
VAMLT-12S	7TAA292240R0220	23
VAMT-10B	7TAA292240R0223	22
VAMT-10S	7TAA292240R0224	22
VAMT-12B	7TAA292240R0225	22
VAMT-12S	7TAA292240R0226	22
VCSG-17B	7TAA292240R0230	23
VCSG-17S	7TAA292240R0231	23
VCSG-23B	7TAA292240R0232	23
VCSG-23S	7TAA292240R0233	23
VCSG-29B	7TAA292240R0234	23
VCSG-29S	7TAA292240R0235	23
VCSG-36B	7TAA292240R0236	23

Part. no.	GID no.	Page
VCSG-36S	7TAA292240R0237	23
VCSG-48B	7TAA292240R0238	23
VCSG-48S	7TAA292240R0239	23
VCSG-56B	7TAA292360R0054	23,126
VCSG-56S	7TAA292360R0055	23,126
VCSG-70B	7TAA292360R0056	23,126
VCSG-70S	7TAA292360R0057	23,126
VCSG-95B	7TAA292360R0058	23,126
VCSG-95S	7TAA292360R0059	23,126
VCST-07B	7TAA292240R0240	23
VCST-07S	7TAA292240R0241	23
VCST-10B	7TAA292240R0242	23
VCST-10S	7TAA292240R0243	23
VCST-12B	7TAA292240R0244	23
VCST-12S	7TAA292240R0245	23
VCST-17B	7TAA292240R0246	23
VCST-17S	7TAA292240R0247	23
VOHD-07B	7TAA292240R0248	24
VOHD-07S	7TAA292240R0249	24
VOHD-10B	7TAA292240R0250	24
VOHD-10S	7TAA292240R0251	24
VOHD-12B	7TAA292240R0252	24
VOHD-12S	7TAA292240R0253	24
VOHG-125B	7TAA292360R0060	24,126
VOHG-125S	7TAA292360R0061	24,126
VOHG-17B	7TAA292240R0255	24
VOHG-17S	7TAA292240R0257	24
VOHG-23B	7TAA292240R0259	24
VOHG-23S	7TAA292240R0261	24
VOHG-29B	7TAA292240R0263	24
VOHG-29S	7TAA292240R0265	24
VOHG-36B	7TAA292240R0266	24
VOHG-36S	7TAA292240R0267	24
VOHG-48B	7TAA292240R0269	24
VOHG-48S	7TAA292240R0271	24
VOHG-56B	7TAA292360R0062	24,126
VOHG-56S	7TAA292360R0063	24,126
VOHG-70B	7TAA292360R0064	24,126
VOHG-70S	7TAA292360R0065	24,126
VOHG-95B	7TAA292360R0066	24,126
VOHG-95S	7TAA292360R0067	24,126
WPS-NW10	7TAA292650R0000	105
WPS-NW12	7TAA292650R0001	105
WPS-NW17	7TAA292650R0002	105
WPS-NW23	7TAA292650R0003	105
WPS-NW29	7TAA292650R0004	105
WPS-NW36	7TAA292650R0005	105
WPS-NW48	7TAA292650R0006	105
XPCLG-17BB	7TAA292240R0290	25
XPCLG-17SB	7TAA292240R0291	25
XPCLG-23BB	7TAA292240R0292	25
XPCLG-23SB	7TAA292240R0293	25
XPCLG-29BB	7TAA292240R0294	25

Part. no.	GID no.	Page
XPCLG-29SB	7TAA292240R0295	25
XPCLG-36BB	7TAA292240R0296	25
XPCLG-36SB	7TAA292240R0297	25
XPCLG-48BB	7TAA292240R0298	25
XPCLG-48SB	7TAA292240R0299	25
XPCLT-10BB	7TCA292000R0334	25
XPCLT-10SB	7TCA292000R9338	25
XPCLT-12BB	7TAA292240R0300	25
XPCLT-12SB	7TAA292240R0301	25
XPCLT-17BB	7TAA292240R0302	25
XPCLT-17SB	–	25
XPESFG-17BO	7TCA292000R8726	28
XPESFG-23BO	7TCA292000R8802	28
XPESFG-29BO	7TCA292000R8803	28
XPESFG-36BO	7TCA292000R8804	28
XPESFG-48BO	7TCA292000R8805	28
XPESFT-07BO	7TCA292000R9467	28
XPESFT-10BO	7TCA292000R8799	28
XPESFT-12BO	7TCA292000R8801	28
XPESG-17BG	7TCA292000R8829	27
XPESG-23BG	7TCA292000R8831	27
XPESG-29BG	7TCA292000R8832	27
XPESG-36BG	7TCA292000R8834	27
XPESG-48BG	7TCA292000R8835	27
XPESG-56BG	–	27
XPESG-70BG	–	27
XPES-07BG	–	27
XPES-10BG	7TCA292000R8827	27
XPES-12BG	7TCA292000R8828	27
XSOLG-17BG	7TAA292240R0303	25
XSOLG-23BG	7TAA292240R0304	25
XSOLG-29BG	7TAA292240R0305	25
XSOLG-36BG	7TAA292240R0306	25
XSOLG-48BG	7TAA292240R0307	25
XSOLT-10BG	7TCA292000R0335	25
XSOLT-12BG	7TAA292240R0314	25
XTPCG-17BB.50	7TCA292000R9985	28
XTPCG-23BB.50	7TCA292000R9987	28
XTPCG-29BB.50	7TCA292000R9988	28
XTPCG-36BB.50	7TCA292000R9989	28
XTPCG-48BB.50	7TCA292000R9990	28
XTPCG-56BB.50	7TCA292000R9991	28
XTPCG-70BB.50	7TCA292000R9992	28
XVCS1H-10BG	7TCA292000R5547	26
XVCS1H-12BG	7TAA292240R0315	26
XVCS1H-17BG	7TAA292240R0316	26
XVCS1H-23BG	7TAA292240R0317	26
XVCS1H-29BG	7TAA292240R0318	26
XVCS1H-36BG	7TAA292240R0319	26
XVCS1H-48BG	7TAA292240R0320	26
XVCS2H-10BG	–	26
XVCS2H-12BG	7TCA292000R4679	26
XVCS2H-17BG	7TCA292000R4681	26

Index

Products in alphabetical order

Part. no.	GID no.	Page	Part. no.	GID no.	Page
XVCS2H-23BG	7TCA292000R4682	26	xxxG-29x/S	–	36
XVCS2H-29BG	7TCA292000R4683	26	xxxG-36x/S	–	36
XVCS2H-36BG	7TCA292000R4684	26	xxxG-48x/S	–	36
XVCS2H-48BG	7TCA292000R4685	26	xxxT-12x/S	–	36
XVCSFG-17BB	7TCA292000R9748	27	xxxT-17x/S	–	36
XVCSFG-23BB	7TCA292000R9750	27			
XVCSFG-29BB	7TCA292000R9751	27			
XVCSFG-36BB	7TCA292000R9752	27			
XVCSFG-48BB	7TCA292000R9753	27			
XVCSFT-07BB	–	27			
XVCSFT-10BB	7TCA292000R9746	27			
XVCSFT-12BB	7TCA292000R9747	27			
xxxG-17x/S	–	36			
xxxG-23x/S	–	36			

Important information

The specifications and instructions for our customers in this document reflect the product engineering level at the time of manufacturing. PMA accepts no liability for damages resulting from unprofessional installation or application or misuse for a purpose. This disclaimer also includes damages to third parties. It is the customer's responsibility to check the delivered products and immediately notify PMA of detected faults. It is also the customer's responsibility to test the delivered product on its applicability for the intended purpose. PMA will accept no liability or responsibility for their products if a product or a PMA system is combined or used together with third-party products, i.e. products from other companies than PMA.

Jurisdiction in all legal disputes concerning product liability have the courts of the canton of Zurich/Switzerland. Swiss law applies.

To guarantee punctual deliveries please check availability of products before ordering.

The text, pictures, drawings and application photos which are published in this document may not, in part, or totally, be copied or used by any third party in any form or way. Especially the downloading of text, pictures, drawings, and application photos onto Online Services is strictly forbidden, irrespective of if they are edited for this purpose or not. At all times PMA reserves the right to take all legal steps necessary.

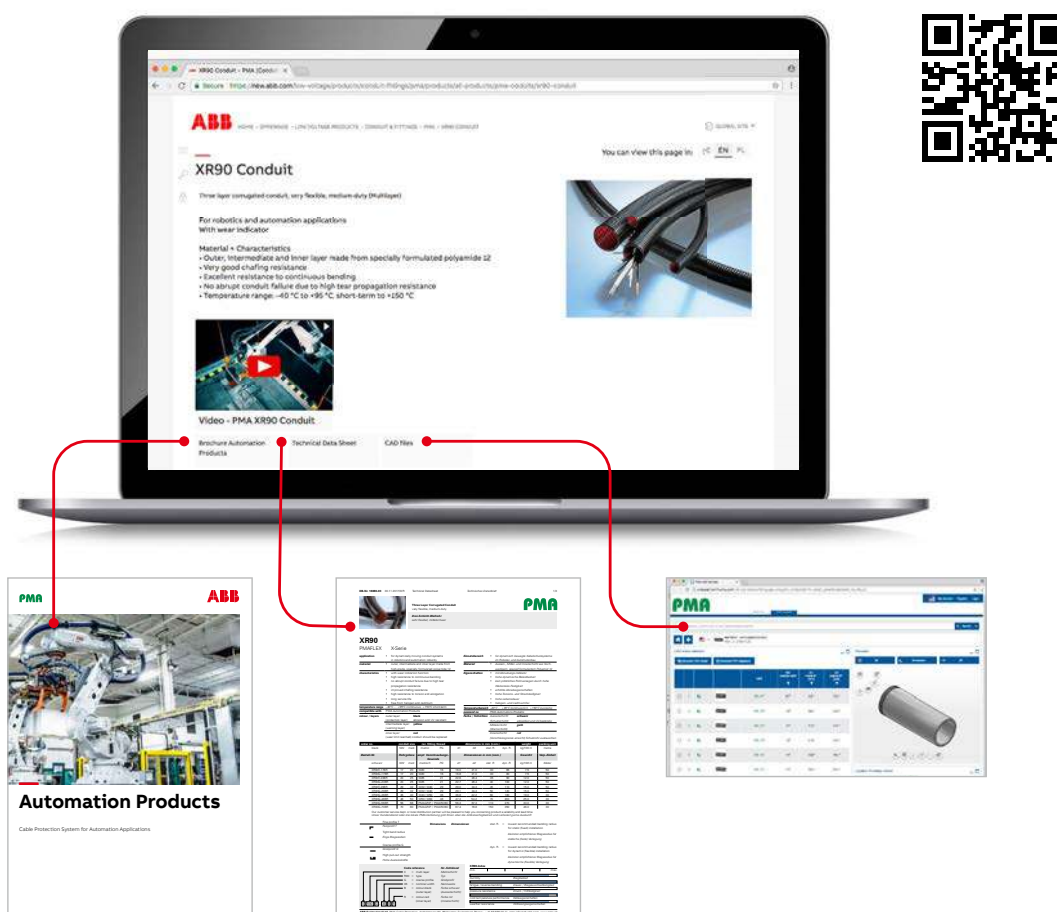
For more information go to:
www.pma.ch

Further information

Visit our website

Visit the PMA product web pages on pma.ch for our most up-to-date product lineup, and much more. This is the place to go to find all of the planning documents you need at your fingertips, including:

- Technical data sheets
- General technical details
- CAD files
- Brochures
- Videos



Additional information

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.



ABB Switzerland Ltd.

PMA Cable Protection
Aathalstrasse 90
CH-8610 Uster
Phone +41 58 585 00 11
pma-info@ch.abb.com

www.pma.ch

