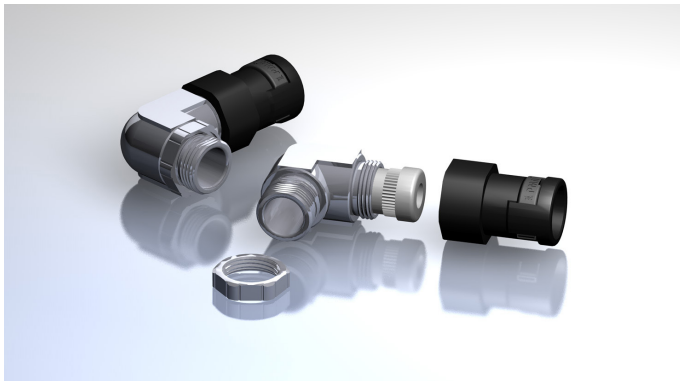


TECHNICAL DATA SHEET

# PMAFIX IP68 - NVWZ-M/P - Strain relief fitting

## 90° elbow , metric thread

**PMA**



IP68, metal thread strain relief fitting for flexible non-metallic conduit



### Applications:

- In railway vehicle and heavy machine construction
- For separation of damp and dry areas

### Features & Benefits:

- Very high impact resistance
- With integrated strain relief for optimal ingress protection at the cable (up to IP68 / 10 bar)
- Accurate positioning: the counter nut allows accurate positioning of the 90° elbows in threaded holes
- High thread and system connection strength
- Vibration-resistant connection to PMA conduits
- Easy assembly
- High conduit pull-out strength
- Very good chemical properties
- Fits both conduit profiles - fine (T) and coarse (G)

### Ingress protection:

- IP66, IP68 & IP69 (EN/IEC 60529)
- IP68 (up to 10 bar at the cable)
- IP69, 100 bar with Water impact protection (WPS-ring)

### Materials:

- Fitting body: high-grade, specially formulated polyamide 6
- 90° elbow: zinc diecast
- Female thread and locknut: nickel-plated brass
- Sealing insert: TPE-V

### Compatible with:

- PMAFLEX Pro Conduits
- PMAFLEX Multilayer Conduits
- PMAFLEX Conduits
- PMA Smart Line Conduits

### Conforms to:

- EN 45545-2 HL3 (R23 & R23)
- NFPA 130
- UL 94 (V0)

### Weathering resistance:

- Very good UV resistance and weathering characteristics

### Colour:

- Black

### Chemical properties:

- Please refer to [www.pma.ch](http://www.pma.ch) (Technical Information / Chemical Resistance)

### Environmental properties:

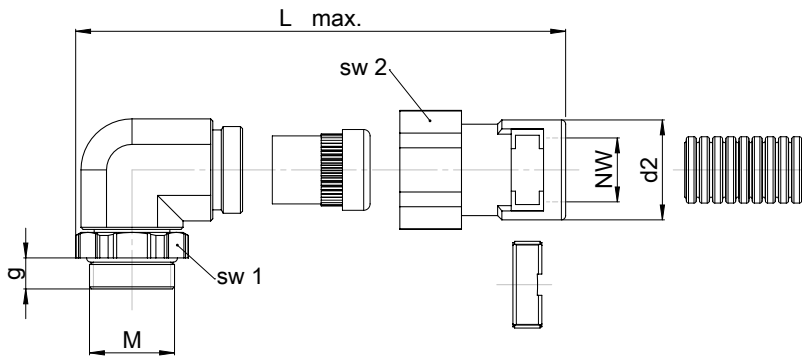
- Free from halogens and cadmium
- RoHS and REACH compliant

**Product selection:**

Part no.			Thread size	Conduit size	Cable clamping range in mm	Dimensions in mm (nom.)					Weight	Packing unit
System S (black)	System R (black)	Sealing instert	metric	NW	K	g	L	d2	SW1	SW2	kg/100pcs	pcs/PU
NVWZ-M160S/P1	NVWZ-M160R/P	E 150 p7	M16x1.5	10	4.0 - 6.5	8.0	65.0	23.0	20	21	5.7	50
NVWZ-M160S/P2		E 150 p8	M16x1.5	10	5.0 - 8.0	8.0	65.0	23.0	20	21	5.7	50
NVWZ-M160S/P3		E 150 p9	M16x1.5	10	6.5 - 9.5	8.0	65.0	23.0	20	21	5.7	50
NVWZ-M202S/P1	NVWZ-M202R/P	E 152 p7	M20x1.5	12	4.0 - 6.5	8.0	74.5	28.5	24	26	10.2	50
NVWZ-M202S/P3		E 152 p9	M20x1.5	12	6.5 - 9.5	8.0	74.5	28.5	24	26	10.2	50
NVWZ-M202S/P4		E 152 p11	M20x1.5	12	7.0 - 10.5	8.0	74.5	28.5	24	26	10.2	50
NVWZ-M207S/P1	NVWZ-M207R/P	E 152 p7	M20x1.5	17	4.0 - 6.5	8.0	81.0	31.0	24	28	10.7	50
NVWZ-M207S/P3		E 152 p9	M20x1.5	17	6.5 - 9.5	8.0	81.0	31.0	24	28	10.7	50
NVWZ-M207S/P4		E 152 p11	M20x1.5	17	7.0 - 10.5	8.0	81.0	31.0	24	28	10.7	50
NVWZ-M207S/P5		E 152 p13	M20x1.5	17	9.0 - 13.0	8.0	81.0	31.0	24	28	10.7	50
NVWZ-M257S/P5	NVWZ-M257R/P	E 153 p13	M25x1.5	17	9.0 - 13.0	8.0	84.0	31.0	28	28	11.8	50
NVWZ-M257S/P6		E 153 p16	M25x1.5	17	11.5 - 15.5	8.0	84.0	31.0	28	28	11.8	50
NVWZ-M323S/P4*		E 154 p18	M32x1.5	23	14.0 - 18.0	10.0	102.0	39.5	35	36	26.8	30

Our customer service dept. or local distribution partner will be pleased to help you concerning product availability and lead time

\* Not to be used for new designs. Article has reached end of life with no replacement.

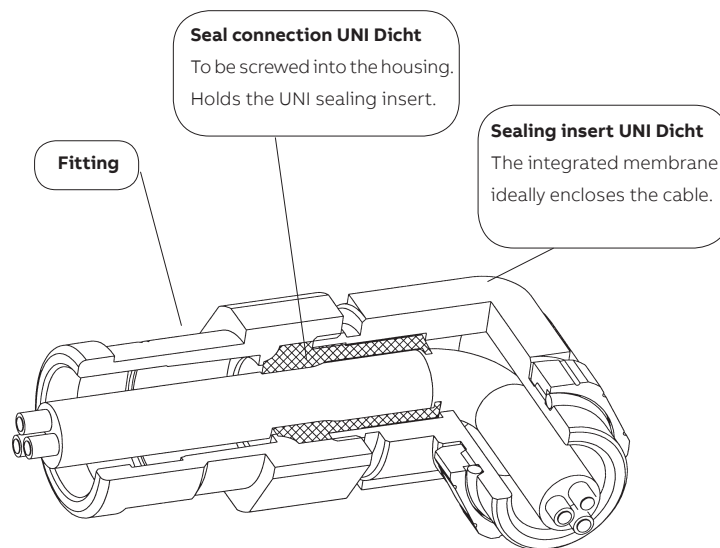


### Sealing system

Graduation of the clamping area in the UNI sealing system achieves optimal transfer of the clamping force to the cables. Distribution of the pressure through the sealing insert avoids damage to the cables. At the same time optimal sealing and strain relief are provided. Even when not completely tightened the sealing insert membrane offers sealing to IP54.

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

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



Mechanical Properties:	Value:	Test parameters:	Test method:
Tensile modulus	1'200 ... 3'700 N/mm <sup>2</sup>		ISO 527
Tensile strength	45 ... 65 N/mm <sup>2</sup>		ISO 527
Notched bar impact test	4 ... 20 kJ/m <sup>2</sup>		ISO 180/1C
Vibration and shock standard	Cat. 2		IEC 61373, IEC 60068-2-27 / -64

Thermal properties:	Value:	Test parameters:	Test method:
Continuous application temperature	- 50 ... + 105 °C		PMA DO 9.21-4510
Upper application temperature	+ 120°C	(20'000 h)	PMA DO 9.21-4360
Short-term	+ 160 °C	(168 h)	PMA DO 9.21-4360

Fire safety properties:	Value:	Test parameters:	Test method:
Fire performance	non flame-propagating		IEC EN 61386-1
Flame class	V0		UL 94
Fire hazard level	HL3		EN 45545-2 (R22)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 150 Ds max.		EN ISO 5659-2 (25 kW/m <sup>2</sup> )
Toxicity	< 0.75 CIT <sub>NLP</sub>		NF X 70-100-1/-2: (600°C)
Fire hazard level	HL3		EN 45545-2 (R23)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 300 Ds max.		EN ISO 5659-2 (25 kW/m <sup>2</sup> )
Toxicity	< 1.5 CIT <sub>NLP</sub>		NF X 70-100-1/-2: (600°C)
Fire performance NFPA 130:			NFPA 130
- Flammability	compliant		ASTM E 162
- Smoke density	compliant		ASTM E 662
Heat and visible smoke	26.00 MJ/kg		ASTM E 1354
Smoke emission toxicity	compliant		Bombardier SMP 800-C
Smoke emission toxicity	compliant		Boeing BSS 7239

Note: Fire safety properties only applicable for PMA raw material

### Content of delivery:

- System S: Fitting with conduit locking clip (OVN2)
  - Conduit gasket (NVN3)
  - Pflitsch 90° metal elbow with pre-installed O-ring (OR)
  - Pflitsch sealing insert
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- System R: Fitting with conduit locking clip (OVN2)
  - Conduit gasket (NVN3)
  - Pflitsch 90° metal elbow with pre-installed O-ring (OR)

### Assembly instructions:

- Please consider the appropriate assembly instructions on [www.pma.ch](http://www.pma.ch)

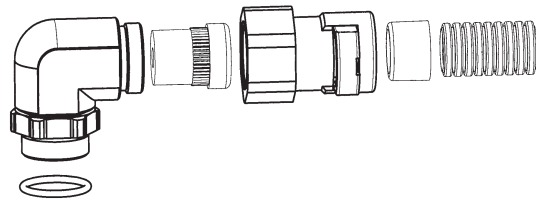


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