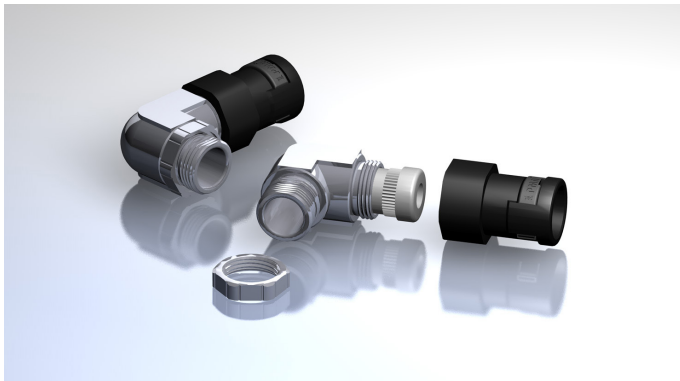


TECHNICAL DATA SHEET

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 (R22 & 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
(Technical Information / Chemical Resistance)

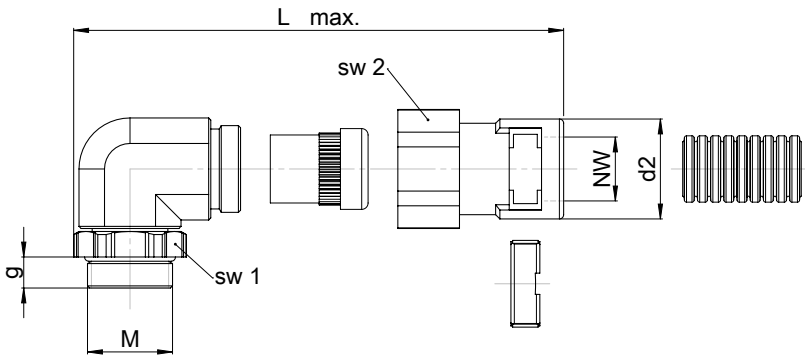
Environmental properties:

- 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 insert | 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 |

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

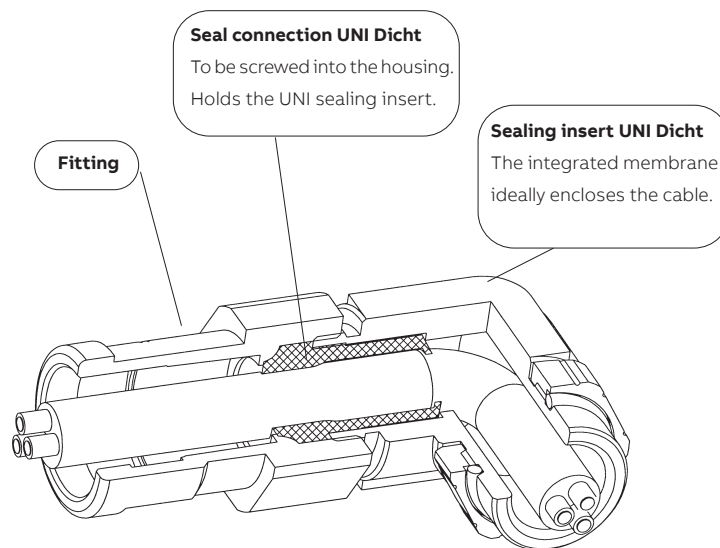


Sealing system

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 ² | | ISO 527 |
| Tensile strength | 45 ... 65 N/mm ² | | ISO 527 |
| Notched bar impact test | 4 ... 20 kJ/m ² | | 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 ²) |
| Toxicity | < 0.75 CIT _{NLP} | | 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 ²) |
| Toxicity | < 1.5 CIT _{NLP} | | 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
-
- 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

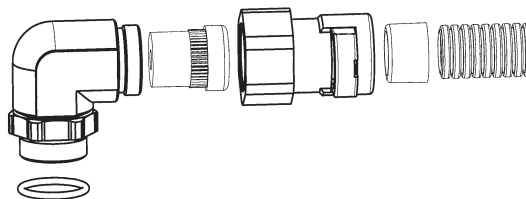


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