TECHNICAL DATA SHEET

PMAFIX Pro - NKWZ-M/P - Strain relief fitting

90° elbow, metric thread



IP68 & IP69, two piece 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 - even at very low temperatures
- 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 connection strength - to conduit and mating parts on thread side
- Easy push-in assembly - guarantees correct installation
- Screwdriver required for dismantling - impeding unauthorized or accidental opening
- Space-saving construction - no additional room required for dismantling
- Universal - fits both conduit profiles - fine (T) and coarse (G)

Ingress protection:
- IP66, IP68 & IP69 (EN/IEC 60529) / even when the conduit connection is continually in motion
- 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

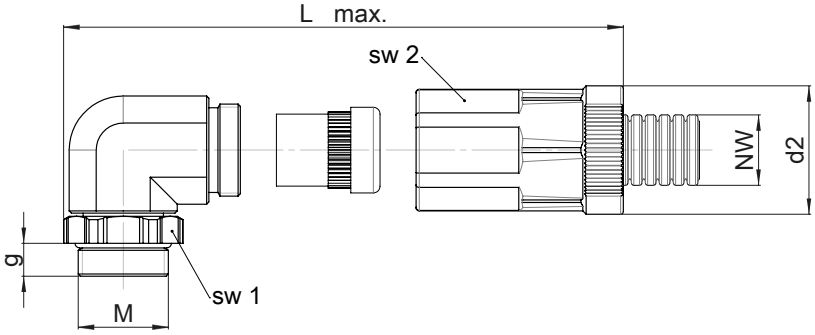
Chemical properties:
- Please refer to www.pma.ch (Technical Information / Chemical Resistance)

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
NKWZ-M160/P1	NKWZ-M160R/P	E 150 p7	M16x1.5	10	4.0 - 6.5	8.0	70.0	25.0	20	22	6.1	50
NKWZ-M160/P2		E 150 p8	M16x1.5	10	5.0 - 8.0	8.0	70.0	25.0	20	22	6.1	50
NKWZ-M160/P3		E 150 p9	M16x1.5	10	6.5 - 9.5	8.0	70.0	25.0	20	22	6.1	50
NKWZ-M202/P1	NKWZ-M202R/P	E 152 p7	M20x1.5	12	4.0 - 6.5	8.0	81.5	28.5	24	25	10.6	50
NKWZ-M202/P3		E 152 p9	M20x1.5	12	6.5 - 9.5	8.0	81.5	28.5	24	25	10.6	50
NKWZ-M202/P4		E 152 p11	M20x1.5	12	7.0 - 10.5	8.0	81.5	28.5	24	25	10.6	50
NKWZ-M207/P3	NKWZ-M207R/P	E 152 p9	M20x1.5	17	6.5 - 9.5	8.0	87.0	35.0	24	32	11.8	50
NKWZ-M207/P4		E 152 p11	M20x1.5	17	7.0 - 10.5	8.0	87.0	35.0	24	32	11.8	50
NKWZ-M207/P5		E 152 p13	M20x1.5	17	9.0 - 13.0	8.0	87.0	35.0	24	32	11.8	50
NKWZ-M257/P5	NKWZ-M257R/P	E 153 p13	M25x1.5	17	9.0 - 13.0	8.0	90.0	35.0	28	32	12.8	50
NKWZ-M257/P6		E 153 p16	M25x1.5	17	11.5 - 15.5	8.0	90.0	35.0	28	32	12.8	50

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



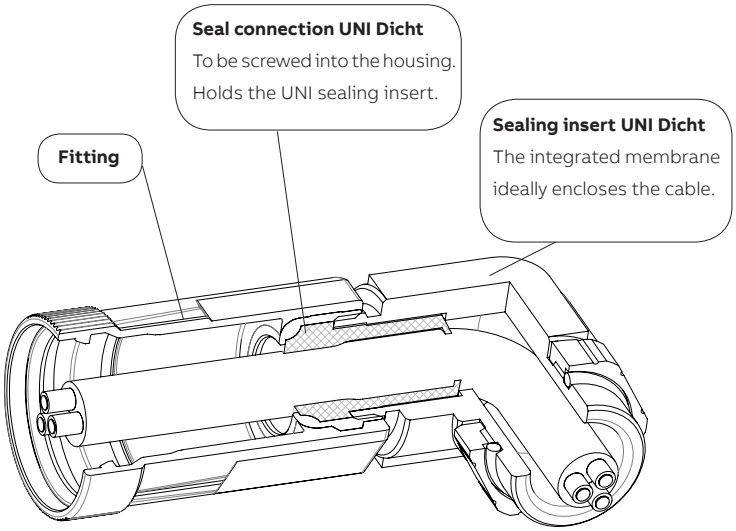
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Sealing system

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/mm²		ISO 527
Tensile strength	45 ... 65 N/mm²		ISO 527
Notched bar impact test	4 ... 20 kJ/m²		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/m2)
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/m2)
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 body
- Locking and sealing element (KNH2)
- Pflitsch 90° metal elbow with pre-installed O-ring (OR)
- Pflitsch sealing insert

- System R: Fitting body
- Locking and sealing element (KNH2)
- Pflitsch 90° metal elbow with pre-installed O-ring (OR)

Assembly instructions:

- Please consider the appropriate assembly instructions on www.pma.ch
- For information about the locking and sealing element please see data sheet No. 26990 for KNH2

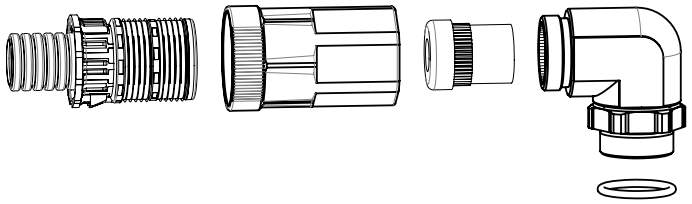


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