

Brief Instructions

Adapters, Metal AD.*

Pepperl-Fuchs GmbH
Lilienthalstrasse 200
69307 Mannheim, Germany
Tel. +49 621 776-0
Fax +49 621 776-1000

Document No.: DOCT-5516c
Edition: 02/2020

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Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.

Reference to Further Documentation

Observe laws, standards, and directives applicable to the intended use and the operating location. Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, manuals, declarations of conformity, EC-type-examination certificates, certificates, and control drawings if applicable support this document. You can find this information under www.pepperl-fuchs.com.

Intended Use

The metal adapters type AD.* are suitable to adjust different thread types and sizes for connections to enclosures certified according to type of protection Ex d, Ex e or Ex tb.

Remarks on Assembly

For non-threaded enclosures it is recommended to use flat washer gaskets (e.g. fiber washer of Klingersil type C-4400 or similar, or chloroprene or silicone washer gaskets) between screw-in component and the enclosure.

For threaded enclosures both fiber washers or O-rings can be used.

Metric metal screw-in components when supplied as individual packaging units are equipped with washer gasket and O-ring. Variants for ambient temperatures below -50 °C are available. Please refer to the individual datasheets for details.

Mounting and Installation

Observe the installation instructions according to IEC/EN 60079-14.

If you intend to install the device or enclosure in areas that may be exposed to aggressive substances, ensure that the stated surface materials are compatible with these substances. If required, contact Pepperl+Fuchs for further information.

Install the adapter (3) in the entry of the enclosure.

Use washer gasket (1) and O-Ring (2) when appropriate.

Screw the second installation component into the adapter (3).

Tighten all screw threads with the specified torque.

ENG

IP Protection Method Mode for Ex d / Ex e

Ex d enclosures and tapered NPT threads:

Assemble through a threaded hole. The enclosure wall has to be thick enough to engage at least 5 full threads.

Ex d enclosures and metric threads:

Assemble through a threaded hole with O-ring on the thread outside of the enclosure. The enclosure wall has to be thick enough to engage at least 5 full threads.

Ex e enclosures and metric threads:

Tighten with locknut inside and fiber washer gasket on the thread outside of the enclosure. In case of O-ring it has to be positioned between fiber washer and screw head. An enclosure wall thickness of minimum 1.5 mm has to be respected.

Operation, Maintenance, Repair

Observe IEC/EN 60079-17 for maintenance and inspection.

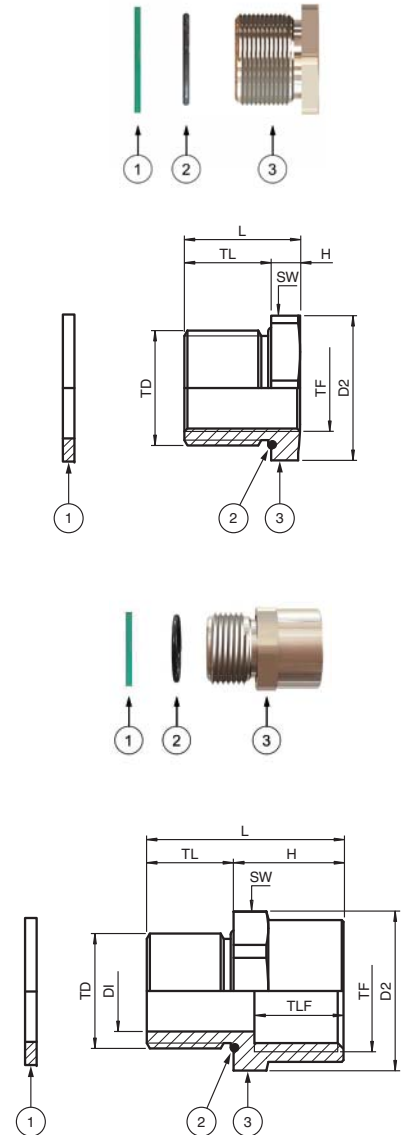
If there is a defect, always replace the device with an original device.

Do not modify or manipulate the device.

Delivery, Transport, Disposal

Disposing of device and packaging must be in compliance with the applicable laws and guidelines of the respective country.

Dimensions and Assembly



Legend - details and values see data table	
1	Washer gasket (accessory)
2	O-Ring
3	Adapter
DI	Diameter thru-hole
D2	Width across corners
H	Length outside enclosure
SW	Width across flats
TD	Thread size
TF	Thread size female
TL	Thread length
TLF	Thread length female
L	Total length

Technical Specifications

General	
Types and variants	AD* - see type code table
Mechanical specifications	
Dimensions	see data tables
Thread type	metric ISO pitch 1.5 mm or NPT ANSI ASME B1.20.1
Thread type female	metric ISO pitch 1.5 mm or NPT ANSI ASME B1.20.1
Degree of protection	IP66 / IP68
Mass	see individual datasheets
Material	
Adapter	brass nickel-plated or AISI 316 (1.4401) stainless steel
Finish	inherent color silver
O-Ring	chloroprene / neoprene or silicone
Washer gasket	aramid fibers bonded with NBR
Ambient conditions	
Ambient temperature	chloroprene O-ring: -40 ... 100 °C (-40 ... 212 °F) silicone O-ring: -60 ... 130 °C (-76 ... 266 °F) washer gasket: -40 ... 80 °C (-40 ... 176 °F) Service temperature might be limited by the use of O-rings or washer gaskets.
Data for application in connection with hazardous areas	
EU-Type Examination Certificate	CESI 15ATEX029X
Marking	⚠ II 2 GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
International approvals	
IECEX approval	IECEX CES 15.0006X
EAC approval	TC RU C-TR.GB05.B.00918
CCOE approval	PESO A/P/HQ/KA/104/5579 (P420366)
Conformity	
Degree of protection	EN 60529
CE marking	0102
Standards	IEC/EN 60079-0: 2012 IEC/EN 60079-1: 2007 IEC/EN 60079-7: 2007 IEC/EN 60079-31: 2009

Type Code / Model Number

Series

AD adapters

Thread, male	
M*	male thread metric ISO pitch 1.5; sizes see dimensions data table
NPT*	male thread NPT ANSI ASME B1.20.1; sizes see dimensions data table
Thread, female	
M*	male thread metric ISO pitch 1.5; sizes see dimensions data table
NPT*	NPT ANSI ASME B1.20.1; sizes see dimensions data table
Material	
BN	brass nickel-plated
SS	stainless steel
Material Seals / O-Ring	
C	chloroprene / neoprene
S	silicone
X	no seal
Thread length for installation in enclosure	
**	length in mm
Packaging unit	
K**	units not packaged, for use in Pepperl+Fuchs Solution Engineering Centers units quantity per package

AD	.xx	.xx	.xx	.x	.nn	.Knn	
AD	.M50	.NPT2	.BN	.C	.18	.K01	Example

Example: Adapter, male thread size M50, female thread size NPT 2", body brass nickel-plated, O-Ring chloroprene, installation thread length 18 mm, one piece

Variant-Specific Data Metric-Metric

Type	Thread Male		Thread Female		Dimensions [mm]				Nut torques [Nm]
	TD	TL [mm]	TF	TLF [mm]	H	L	D2	SW	SW
AD.M20.M16.*.15.*	M20	15	M16	19	4	19	27.5	25	6
AD.M25.M20.*.15.*	M25	15	M20	19	4	19	33	30	8.5
AD.M32.M20.*.15.*	M32	15	M20	19	4	19	39.5	36	9
AD.M32.M25.*.15.*	M32	15	M25	19	4	19	39.5	36	9
AD.M40.M32.*.18.*	M40	18	M32	22	4	22	50	45	9.5
AD.M50.M40.*.18.*	M50	18	M40	23	5	23	61	55	10
AD.M63.M50.*.18.*	M63	18	M50	23	5	23	77	70	10.5

Variant-Specific Data NPT-Metric

Type	Thread Male		Thread Female		Dimensions [mm]					Nut torques [Nm]
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	SW
AD.NPT1/2.M20.*.15.*	NPT 1/2"	15	M20	15	19	34	14.5	27.5	25	8
AD.NPT3/4.M20.*.15.*	NPT 3/4"	15	M20	19	4	19	-	33	30	9
AD.NPT3/4.M25.*.15.*	NPT 3/4"	15	M25	15	19	34	19	33	30	9
AD.NPT3/4.M32.*.15.*	NPT 3/4"	15	M32	15	19	34	19	39.5	36	9
AD.NPT1.M32.*.15.*	NPT 1"	15	M32	15	19	34	26	39.5	36	11
AD.NPT1.M40.*.15.*	NPT 1"	15	M40	18	22	37	26	50	45	11
AD.NPT1-1/4.M40.*.18.*	NPT 1-1/4"	18	M40	18	22	40	35	50	45	13
AD.NPT1-1/2.M50.*.18.*	NPT 1-1/2"	18	M50	18	22	40	40	61	55	15
AD.NPT2.M75.*.18.*	NPT 2"	18	M75	18	22.5	40.5	51	88.5	80	18

Variant-Specific Data Metric-NPT

Type	Thread Male		Thread Female		Dimensions [mm]					Nut torques [Nm]
	TD	TL [mm]	TF	TLF [mm]	H	L	DI	D2	SW	SW
AD.M20.NPT1/2.*.15.*	M20	15	NPT 1/2"	15	19	34	14	27.5	25	6
AD.M20.NPT3/4.*.15.*	M20	15	NPT 3/4"	15	19	34	14	33	30	6
AD.M25.NPT1/2.*.15.*	M25	15	NPT 1/2"	19	4	19	-	33	30	8.5
AD.M25.NPT3/4.*.15.*	M25	15	NPT 3/4"	15	19	34	19	33	30	8.5
AD.M25.NPT1.*.15.*	M25	15	NPT 1"	15	19	34	19	39.5	36	8.5
AD.M32.NPT3/4.*.15.*	M32	15	NPT 3/4"	19	4	19	-	39.5	36	9
AD.M32.NPT1.*.15.*	M32	15	NPT 1"	15	19	34	26	39.5	36	9
AD.M40.NPT1-1/4.*.18.*	M40	18	NPT 1-1/4"	18	22	40	34	50	45	9.5
AD.M40.NPT1-1/2.*.18.*	M40	18	NPT 1-1/2"	18	22	40	34	61	55	9.5
AD.M50.NPT1-1/2.*.18.*	M50	18	NPT 1-1/2"	18	22	40	40	61	55	10
AD.M50.NPT2.*.18.*	M50	18	NPT 2"	18	22.5	40.5	44	72	65	10
AD.M63.NPT2.*.18.*	M63	18	NPT 2"	18	22.5	40.5	51	75	68	10.5