Brief Instructions

ENG

Adapters, Metal
AD.*

Pepperl+Fuchs GmbH
Lilienthalstrasse 200
68307 Mannheim, Germany
Tel. +49 621 776-0
Fax +49 621 776-1000

Document No.: DOCT-5516b
Edition: 01/2017

www.pepperl-fuchs.com

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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 dismounting lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting 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 (see datasheet) are an integral part of 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 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 appropriate torque.

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 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

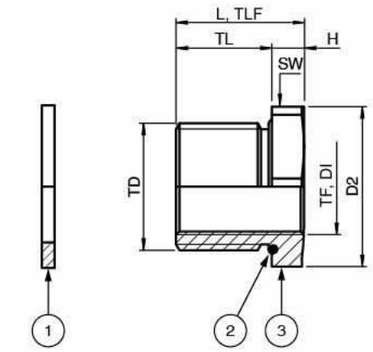
Disposing of device, packaging, and possibly contained batteries must be in compliance with the applicable laws and guidelines of the respective country.

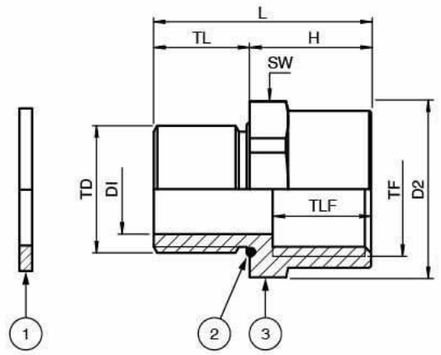
Type Code

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*	female metric ISO pitch 1.5; sizes see dimensions data table			
		NPT*	female NPT ANSI ASME B1.20.1; sizes see dimensions data table			
			Material			
			BN	brass nickel-plated		
			SS	stainless steel		
				Material Seal / O-Ring		
				C	chloroprene / neoprene	
				S	silicone	
				X	no seal	
					Thread length for installation in enclosure	
					**	length in mm
AD	.M32	.NPT1	.BN	.C	.15	

Example: Adapter, male thread size M32, female thread size NPT 1",
body brass nickel-plated, O-Ring chloroprene, installation thread length 15 mm

Dimensions





Legend	
1	Washer gasket (accessory, metric versions only)
2	O-Ring (metric versions only)
3	Adapter
DI	Diameter thru-hole
D2	Width across corners
H	Length outside enclosure
L	Total length
SW*	Width across flats
TD	Thread size
TF	Thread size female
TL	Thread length
TLF	Thread length female

Measures see dimensions data tables and individual datasheets

Technical Specifications

General	
Types and variants	AD.* - see type code table
CE Number	0102
Data for application in hazardous areas	
EC-Type Examination Certificate	CESI 15ATEX029X
Group, category, type of protection	Ex II 2 GD Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db
Zones of Installation	1, 21 (Gas), 2, 22 (Dust)
International approvals	
IECEx approval	IECEx CES 15.0006X
EAC approval	TC RU C-TR.GB05.B.00918
Ambient conditions	
Ambient temperature	Ex e and Ex td versions: chloroprene seal: -40 ... 80 °C (-40 ... 176 °F) silicone seal: -60 ... 140 °C (-76 ... 284 °F) washer gasket: -50 ... 140 °C (-58 ... 284 °F) without seal and washer: -60 ... 140 °C (-76 ... 284 °F) Ex d versions: chloroprene seal: -40 ... 80 °C (-40 ... 176 °F) silicone seal: -60 ... 80 °C (-76 ... 176 °F) washer gasket: -50 ... 80 °C (-58 ... 176 °F) without seal and washer: -60 ... 80 °C (-76 ... 176 °F)
Degree of Protection according to IEC/EN 60529	IP66 / IP68
Mechanical specifications	
General	
Dimensions	see individual datasheets
Mass	see individual datasheets
Tightening torque	see data tables
Material	
Adapter	brass nickel-plated or AISI 316 (1.4401) stainless steel
O-Ring	chloroprene / neoprene or silicone
Washer gasket	aramid fibers bonded with NBR
Standards	
Conformity	IEC/EN 60079-0: 2012 IEC/EN 60079-1: 2007 IEC/EN 60079-7: 2007 IEC/EN 60079-31: 2009

Dimensions and Torques

(I)	(II)		(III)		(IV)			(V)
	TD	TL	TF	TLF	L	DI	SW	SW
AD.M20.M16.*.*.15.*	M20	15	M16	19	19	(*)	25	6
AD.M25.M20.*.*.15.*	M25	15	M20	19	19	(*)	30	8.5
AD.M32.M20.*.*.15.*	M32	15	M20	19	19	(*)	36	9
AD.M32.M25.*.*.15.*	M32	15	M25	19	19	(*)	36	9
AD.M40.M32.*.*.18.*	M40	18	M32	22	22	(*)	45	9.5
AD.M50.M40.*.*.18.*	M50	18	M40	23	23	(*)	55	10
AD.M63.M50.*.*.18.*	M63	18	M50	23	23	(*)	70	10.5

(I)	(II)		(III)		(IV)			(V)
	TD	TL	TF	TLF	L	DI	SW	SW
AD.NPT1/2.M20.*.*.15.*	NPT 1/2"	15	M20	15	34	14.5	25	8
AD.NPT3/4.M20.*.*.15.*	NPT 3/4"	15	M20	19	19	(*)	30	9
AD.NPT3/4.M25.*.*.15.*	NPT 3/4"	15	M25	15	34	19	30	9
AD.NPT3/4.M32.*.*.15.*	NPT 3/4"	15	M32	15	34	19	36	9
AD.NPT1.M32.*.*.15.*	NPT 1"	15	M32	15	34	26	36	11
AD.NPT1.M40.*.*.15.*	NPT 1"	15	M40	15	37	26	45	11
AD.NPT1-1/4.M40.*.*.18.*	NPT 1-1/4"	18	M40	18	40	35	45	13
AD.NPT1-1/2.M50.*.*.18.*	NPT 1-1/2"	18	M50	18	40	40	55	15
AD.NPT2.M75.*.*.18.*	NPT 2"	18	M75	18	40.5	51	80	18

(I)	(II)		(III)		(IV)			(V)
	TD	TL	TF	TLF	L	DI	SW	SW
AD.M20.NPT1/2.*.*.15.*	M20	15	NPT 1/2"	15	34	14	25	6
AD.M20.NPT3/4.*.*.15.*	M20	15	NPT 3/4"	15	34	14	30	6
AD.M25.NPT1.*.*.15.*	M25	15	NPT 1"	15	34	19	36	8.5
AD.M25.NPT1/2.*.*.15.*	M25	15	NPT 1/2"	21	21	(*)	30	8.5
AD.M25.NPT3/4.*.*.15.*	M25	15	NPT 3/4"	15	34	19	30	8.5
AD.M32.NPT3/4.*.*.15.*	M32	15	NPT 3/4"	21	21	(*)	36	9
AD.M32.NPT1.*.*.15.*	M32	15	NPT 1"	15	34	26	36	9
AD.M40.NPT1-1/4.*.*.18.*	M40	18	NPT 1-1/4"	18	40	34	45	9.5
AD.M40.NPT1-1/2.*.*.18.*	M40	18	NPT 1-1/2"	18	40	34	55	9.5
AD.M50.NPT1-1/2.*.*.18.*	M50	18	NPT 1-1/2"	18	40	40	55	10
AD.M50.NPT2.*.*.18.*	M50	18	NPT 2"	18	40.5	44	65	10
AD.M63.NPT2.*.*.18.*	M63	18	NPT 2"	18	40.5	51	68	10.5

(I) = Type, details see type code table

(II) = Thread, male

M* metric ISO pitch 1.5 mm, NPT* ANSI ASME B1.20.1

(III) = Thread, female

M* metric ISO pitch 1.5 mm, NPT* ANSI ASME B1.20.1

(IV) = Dimensions [mm], see drawings and legend

(V) = Torques [Nm]

For further information please see individual datasheets

or contact Pepperl+Fuchs