



[1] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 15 ATEX 029X /02

[4] Product: **Adaptors and Plugs AD., AD.FF., AD.MM., SP.MA., SP.MD..**

[5] Manufacturer: **Pepperl+Fuchs SE**

[6] Address: **Lilienthalstraße 200, 68307 Mannheim (Germany)**

[7] This supplementary certificate extends EU-Type Examination Certificate **CESI 15 ATEX 029X**, to apply to Product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this Product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. **EX-C2004386**.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014

EN IEC 60079-7:2015/A1:2018 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the Product is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified Product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the Product shall include the following:

I M2 Ex db I Mb and Ex eb I Mb

and / or

**II 2GD Ex db IIC Gb and Ex eb IIC Gb
Ex tb IIIC Db**

IP66/68

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Date 05/05/2022 - Translation issued the 05/05/2022

Prepared
Adrián Lucas Vagni

Verified
Alessandro Fedato

Approved
Roberto Piccin

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Description of the variation to the Product

Variation 2.1: The manufacturer's company name was changed from **Pepperl+Fuchs GmbH** to **Pepperl+Fuchs SE**.

Variation 2.2: The certified **Adaptors and Plugs AD., AD.FF., AD.MM., SP.MA., SP.MD.** previously assessed in compliance to EN 60079-0:2012+A11:2013 and EN 60079-7:2015, has been re-assessed on the basis of the Standard EN IEC 60079-0:2018 and EN IEC 60079-7:2015+A1:2018.

Variation 2.3: The certified **Adaptors and Plugs** has been assessed for Group I (mines) applications.

Variation 2.4: New Aluminium alloy, new Galvanized carbon steel and new Brass as constructional material have been added.

Variation 2.5: New sizes, thread pitch and other minor mechanical changes have been applied, as described in the attached technical documents.

Description of Product

The Adaptors series **AD., AD.FF., AD.MM.** are used to match equipment, pipes and hubs having different threaded entry sizes. Attachment of the Adaptors to an enclosure is by means of the male threaded portion on the male body. Ingress protection of IP66/68 (50 m for 30 min.) is maintained when the Adaptors are installed in accordance with the manufacturer's instructions.

The series of available Adaptors are:

AD – they are used to reduce a female hub or increase a male hub.

AD – they are used to increase a female hub or reduce a male hub.

AD.FF – they are used to vary the diameter of a male hub by transforming it into a female hub.

AD.MM – they are used to vary the diameter of a female hub by transforming it into a male hub.

The male Plugs series **SP.MA., SP.MD.** are suitable for closing female hubs or unused openings on Ex db pipes or Ex db, Ex eb and Ex tb enclosures. Attachment of the male plugs to an enclosure is by means of the male threaded portion on the male body. Ingress protection of IP66/68 (50 m for 30 min.) is maintained when the male plugs are installed in accordance with the manufacturer's instructions.

The series of available Plugs are:

SP.MA.M – they are used to close a female hub with ISO Metric threads only.

SP.MA.NPT – they are used to close a female hub with tapered threads.

SP.MD.M – they are used to close a female hub with cylindrical threads.

SP.MD.NPT – they are used to close a female hub with NPT tapered threads Ex eb or Ex tb execution only.

The Adaptors and male plugs are generally made in Brass. The following alternative material can be supplied on demand:

- Nickel-plated Brass.
- Stainless steel.
- Galvanized carbon steel.
- Aluminium alloy.

To guarantee the IP 66/68 degree of protection the Adaptors series **AD., AD.FF., AD.MM.** and male Plugs series **SP.MA.M.** and **SP.MD.M.** with cylindrical threads have a sealing edge machined for fitting a elastomeric gasket, alternatively it is available a flat washer, while for all other threads of Adaptors and Plugs the IP 66/68 degree of protection is achieved with sealant put at least on two complete threads engaged of the threaded coupling.

The Adaptors and male Plugs standard threads types are NPT ANSI/ASME B1.20.1 from 1/4" up to 4" and cylindrical ISO Metric 965/1 and ISO 965/3 from M12x1.5 up to M110x1.5. Alternative available threads are cylindrical ISO Metric 965/1 and ISO 965/3 from M60x2 up to M110x2, GAS ISO 228/1, NPSM ANSI/ASME B1.20.1 and type PG DIN 40430. Threads type PG DIN 40430 can be used for "Ex eb" execution only.

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The Adaptors are identified by a code as follows:

*	*	*	*	*	*	*	*

Code that identifies the series:

- **AD:** male-female or female-male hub reducer
- **AD.FF:** female-female hub coupling or reducer adaptor
- **AD.MM:** male-male nipple

Type of first Adaptor thread (*Male/Female*):

- **NPT:** NPT ANSI/ASME B1.20.1
- **M:** ISO 261 pitch 1,5
- **2M:** ISO 261 pitch 2
- **PG:** PG DIN 40430 (*assessed for Ex eb execution only*)
- **PF:** GAS ISO 228-1
- **S:** NPSM ANSI/ASME B1.20.1

Size of first Adaptor thread:
(see Table 1)

Type of second Adaptor thread (*Male/Female*):

- **NPT:** NPT ANSI/ASME B1.20.1
- **M:** ISO 261 pitch 1,5
- **2M:** ISO 261 pitch 2
- **PG:** PG DIN 40430 (*assessed for Ex eb execution only*)
- **PF:** GAS ISO 228-1
- **S:** NPSM ANSI/ASME B1.20.1

Size of second Adaptor thread:
(see Table 1)

Body material:

- **B:** brass
- **BF:** brass leadfree
- **BN:** nickel plated brass
- **SS:** stainless steel
- **Z:** galvanized carbon steel
- **A:** aluminium alloy

Seals material:

- **Blank:** Fiber flat washer
- **C:** Chloroprene
- **S:** Silicone

Thread length

The Adaptors **AD..**, **AD.FF..** and **AD.MM..** may be made with two different thread types and sizes combinations or with the same thread types and sizes combinations.

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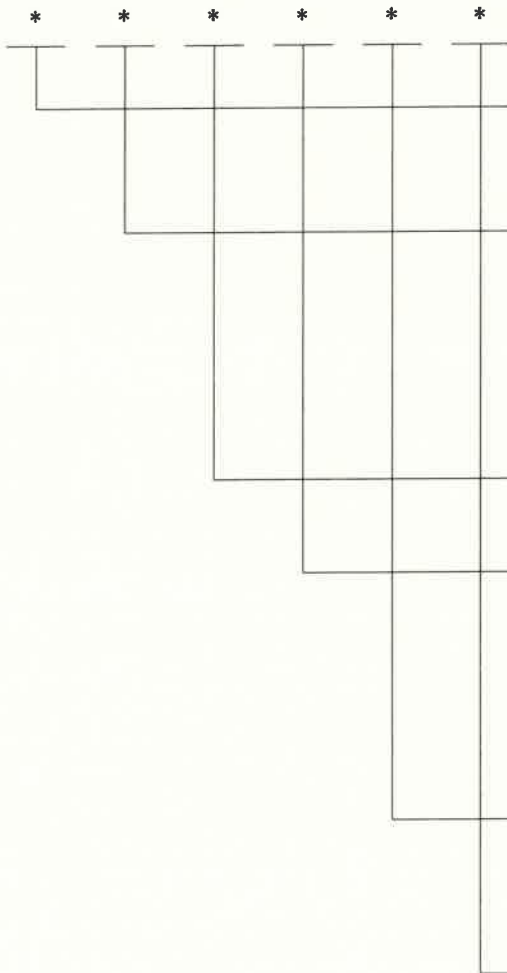
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The male Plugs are identified by a code as follows:



Code that identifies the series:

- **SP.MA**: male plug with Allen key
- **SP.MD**: male plug with hexagonal head

Type of Plug thread:

- **NPT**: NPT ANSI/ASME B1.20.1
- **M**: ISO 261 pitch 1,5
- **2M**: ISO 261 pitch 2
- **PG**: PG DIN 40430 (*assessed for Ex eb execution only*)
- **PF**: GAS ISO 228-1
- **S**: NPSM ANSI/ASME B1.20.1

Size of Plug thread:

(see Table 1)

Body material:

- **B**: brass
- **BF**: brass leadfree
- **BN**: nickel plated brass
- **SS**: stainless steel
- **Z**: galvanized carbon steel
- **A**: aluminium alloy

Seals material:

- **Blank**: Fiber flat washer
- **C**: Chloroprene
- **S**: Silicone

Thread length

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SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 15 ATEX 029X /02

Table 1: sizes and thread types of the Adaptors and Plugs

Thread		Thread		Thread		Thread		Thread	
Size	NPT, NPSM	Size	ISO 261 pitch 1.5	Size	ISO 261 pitch 2	Size	GAS ISO 228-1	Size	PG DIN 40430
1/4	1/4"	12	M 12	-	-	1/4	1/4"	-	-
3/8	3/8"	16	M 16	-	-	3/8	3/8"	-	-
1/2	1/2"	20	M 20	-	-	1/2	1/2"	7	7
3/4	3/4"	25	M 25	-	-	3/4	3/4"	9	9
1	1"	32	M 32	-	-	1	1"	11	11
1-1/4	1 1/4"	40	M 40	-	-	1-1/4	1 1/4"	13.5	13.5
1-1/2	1 1/2"	50	M 50	-	-	1-1/2	1 1/2"	16	16
-	-	60	M 60	60	M 60	-	-	-	-
2	2"	63	M 63	63	M 63	2	2"	21	21
-	-	70	M 70	70	M 70	-	-	-	-
2-1/2	2 1/2"	75	M 75	75	M 75	2-1/2	2 1/2"	29	29
-	-	80	M 80	80	M 80	-	-	-	-
-	-	85	M 85	85	M 85	-	-	-	-
3	3"	90	M 90	90	M 90	3	3"	36	36
3-1/2	3 1/2"	100	M 100	100	M 100	3-1/2	3 1/2"	42	42
4	4"	110	M 110	110	M 110	4	4"	48	48

Description of the marking

The Adaptors and Plugs AD.., AD.FF.., AD.MM.., SP.MA.., SP.MD.. shall be marked as follows:

-  **I M2** Ex db I Mb and Ex eb I Mb *only for Adaptors and Plugs:*
 - series AD.., AD.FF.., AD.MM.., SP.MA.. or SP.MD.M.. and
 - with sizes from M20 (1/2"NPT) to M110 (4"NPT) and
 - made of brass alloy (B, BF or BN) or stainless steel (SS)
- and / or*
-  **II 2GD** Ex db IIC Gb and Ex eb IIC Gb and Ex tb IIC Db IP66/68 *only for Adaptors and Plugs:*
 - series AD.., AD.FF.., AD.MM.., SP.MA.. or SP.MD.M.. and
 - with sizes from M20 (1/2"NPT) to M110 (4"NPT) and
 - made of all available manufacturing materials
-  **II 2GD** Ex eb IIC Gb and Ex tb IIC Db IP66/68 *for series SP.MD.NPT.. all sizes and materials and all other series with sizes smaller than M20 (1/2"NPT) and manufactured in aluminium alloy*

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Constructional characteristics

Degree of protection (EN 60529): IP 66 or IP 68 (50 m for 30 min.).

Service temperature range: -40°C and +100°C for models supplied with Chloroprene O-rings;
-60°C and +130°C for models supplied with Silicon O-rings or flat washers;
-40°C and +80°C for models supplied with Chloroprene or Fiber flat washers;
-40°C and +100°C for models made of Aluminium alloy;

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Report n. EX-C2004386

Routine tests

None.

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Special conditions for safe use (X)

- The coupling of the Adaptors and Plugs with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which the adaptors and plugs are mounted.
- The Adaptors and Plugs shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The Adaptors and Plugs shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:
 - o -40°C to +100°C for Adaptors and Plugs with Chloroprene O-rings;
 - o -60°C to +130°C for Adaptors and Plugs with Silicon O-rings and flat washers;
 - o -40°C to +80°C for Adaptors and Plugs with Chloroprene or Fiber flat washers;
 - o Restricted use up to -20°C for adaptors and plugs made of galvanized carbon steel;
 - o -40°C to +100°C for Adaptors and Plugs made of Aluminium alloy.
- The Adaptors and Plugs made of Aluminium alloy are not admitted for Group I (Mines) applications.
- The Adaptors and Plugs sizes M12x1.5 (1/4"NPT) and M16x1.5 (3/8"NPT) are not admitted for Group I (Mines) applications.
- The Adaptors and Plugs sizes M12x1.5 (1/4"NPT) and M16x1.5 (3/8"NPT) made of Aluminium alloy are for Ex eb and Ex tb applications only.
- The Plugs type SP.MD.NPT.. are not admitted for Group I (Mines) applications and are for Ex eb and Ex tb application only.
- The Adaptors and Plugs sizes M12x1.5 (1/4"NPT) and M16x1.5 (3/8"NPT) made of Aluminium alloy shall be protected from impacts because assessed for low risk only.
- The degree of protection IP 66/68 according to the EN 60529 standard will be guaranteed for the adaptors and plugs if the holes into which adaptors and plugs are mounted are suitably sealed. To this scope the correct positioning of the gaskets (for cylindrical threads) or the application of sealant on the threads (for tapered threads), shall be done as indicated in the manufacturer instruction.

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Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 15 ATEX 029X /02**

[19] **Descriptive documents (prot. EX-C2004388)**

*A3-IEC.78-1 AD type adaptors (M-M) (NPT-M) for 2,0 pitch Rev.0	dated	13/12/2021
*A3-IEC.85 Special adaptors type AD male-female (PG) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.34 Equivalence table for threads male and female hubs (chloroprene, silicone) Rev.2	dated	13/12/2021
*PA3-IEC.39-1 Special adaptors type AD male-female (PG) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.52-1 Male Plugs SP.MD type M, PG, PF threads Rev.0	dated	13/12/2021
*PA3-IEC.52-2 Male Plugs SP-MD type for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.52-3 Male Plugs SP.MA type NPT threads Rev.0	dated	13/12/2021
*PA3-IEC.53 Dimensional Chart For NPT Ex-eb Blind Stops (SP.MD) Rev.1	dated	13/12/2021
*PA3-IEC.54 Stopper Blind stop SP.MA Rev.1	dated	13/12/2021
*PA3-IEC.54-2 Stopper Blind stop SP.MA for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.74-1 AD type adaptors (M-M) Rev.2	dated	13/12/2021
*PA3-IEC.74-2 AD type adaptors (M-NPT) Rev.2	dated	13/12/2021
*PA3-IEC.74-3 AD type adaptors (M-PG)(M-PF) Rev.2	dated	13/12/2021
*PA3-IEC.74-4 AD type adaptors (PF-M) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.74-5 B-RB type adaptors (M-PG)(M-PF) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.74-6 AD type adaptors (NPT-M) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.74-7 AD type adaptors (M-NPT) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.74-8 AD type adaptors (M-M) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.75-1 AD (NPT/M and NPT/NPT) type adaptors dimension tables Rev.0	dated	13/12/2021
*PA3-IEC.75-2 AD (NPT/PG and NPT/PF) type adaptors dimension tables Rev.0	dated	13/12/2021
*PA3-IEC.76 AD (C) type adaptors dimension tables Rev.1	dated	13/12/2021
*PA3-IEC.77 AD (PG) type adaptors dimension tables Rev.1	dated	13/12/2021
*PA3-IEC.78 AD (M) type adaptors dimension tables Rev.2	dated	13/12/2021
*PA3-IEC.80-1 AD type adaptors (M-M)(M-NPT) Rev.2	dated	13/12/2021
*PA3-IEC.80-2 AD type adaptors (M-PG)(M-PF) Rev.2	dated	13/12/2021
*PA3-IEC.80-3 Special adaptors type AD male-female (PG) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.80-4 AD type adaptors (NPT-M) for 2,0 pitch Rev.0	dated	13/12/2021
*PA3-IEC.81-1 AD type adaptors (NPT-NPT)(NPT-M) Rev.2	dated	13/12/2021
*PA3-IEC.81-2 AD type adaptors (NPT-PG)(NPT-PF) Rev.2	dated	13/12/2021
*PA3-IEC.82 AD (PG) type adaptors dimension tables Rev.1	dated	13/12/2021
*PA3-IEC.83 AD (M) type adaptors dimension tables Rev.2	dated	13/12/2021
*PA4-IEC.32 Technical Note (10 pg.) Rev.2	dated	13/12/2021
*PA4-IEC.33 Marking Information (4 pg.) Rev.2	dated	13/12/2021
*PA4-IEC.34 Equivalence table for threads male and female hubs Rev.1	dated	13/12/2021
*PA4-IEC.T70-1 Dimensions for flat adaptors and plugs washer Rev.1	dated	13/12/2021
*PA4-IEC.T70-2 Dimensions for flat adaptors and plugs washer (PA6, Fiber) Rev.1	dated	13/12/2021
*PMI-IEC.34 Safety, Maintenance and Mounting Instructions (12 pg.) Rev.2	dated	13/12/2021
-PA3-IEC.79 AD.MM type adaptors Rev.1	dated	10/04/2016
-PA3-IEC.84 AD.FF type adaptors Rev.1	dated	10/04/2016

*Note: an * is placed before the title of documents which are new or revised, annexed to this supplement.*

One copy of all documents mentioned above is kept in CESI files.

Certificate history

Issue N.	Issue Date	Summary description of variation
00	27/05/2015	First Issue of the Certificate.
01	26/11/2016	Updating to standards EN60079-1:2014; EN60079-7:2015 and EN60079-31:2014. New sizes were added, use of Silicon O-rings and flat washers, Chloroprene flat washers and new male plug types SP.MA.NPT, SP.MD.NPT and SP.MA.M were added. AD.RE and AD.EN adaptor types were renamed with AD type.
02	05/05/2022	Change of company name from Pepperl+Fuchs GmbH to Pepperl+Fuchs SE. Standard update to EN IEC 60079-0:2018 and EN IEC 60079-7:2015/A1:2018. New Group I (mines) applications. New Aluminium alloy, new Galvanized carbon steel and new Brass as constructional material. Minor mechanical changes.