



(1) **EU-TYPE EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment or Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 16 ATEX 1006

Issue: 2

(4) Product: Ex-screw plug type V***-*xxx-zz-EX
Ex-reduction type E***-*xxx-zz-EX
Ex-enlarger type R***-*xxx-zz-EX

(5) Manufacturer: Jacob GmbH Elektrotechnische Fabrik

(6) Address: Gottlieb-Daimler-Straße 11, 71394 Kernen, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 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 products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 22-11146.


(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018, EN 60079-7:2015+A1:2018, EN 60079-31:2014

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction 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:

 **II 2 G Ex eb IIC Gb**

 **II 2 D Ex tb IIIC Db**

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, April 13, 2022

On behalf of PTB:


Dr.-Ing. D. Markus
Direktor und Professor



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EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(13)

SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 16 ATEX 1006, Issue: 2**

(15) Description of Product

The Ex-screw plug type V^{***}-*xxx-zz-EX is used for sealing unused threaded holes or clearance holes in enclosures in the types of protection Increased Safety "eb" and Protection by enclosure "tb".

The Ex-reduction type R^{***}-*xxx-zz-EX and the Ex-enlarger type E^{***}-*xxx-zz-EX are used for changing thread sizes of threaded holes or clearance holes in enclosures in the types of protection Increased Safety "eb" and Protection by enclosure "tb".

The Ex-screw plug, the Ex-reduction and the Ex-enlarger are made from brass or alternatively of brass lead-free. O-ring sealings are mounted captively on the connecting threads. Accessories are hexagonal locknuts.

Technical data

Connecting thread size	Metric: M12x1,5 to M63x1,5 as per EN IEC 60423
Connecting thread length	Standard length: 5 mm to 10 mm Long: > 10 mm Versions with connecting thread lengths greater than standard length or version long are also approved.
Wall thickness of enclosure	≥ 4 mm - Threaded hole < 4 mm - Threaded hole with Hexagonal locknut - Clearance hole with Hexagonal locknut
Suited for equipment with the mechanical risk level	7 J for sizes M12x1,5 to M63x1,5
Service temperature range	-40 °C to +85 °C
Degree of protection	IP66 / IP68 (10 bar, 30 min) as per EN 60529

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Type and size of thread

Ex- screw plug V***-*xxx-zz-EX		
Type/series	Size of connecting thread	Installation torque [Nm]
V102-1012-03-EX	M12x1,5	1,5
V102-1016-03-EX	M16x1,5	2,0
V102-1020-03-EX	M20x1,5	2,0
V102-1025-03-EX	M25x1,5	2,5
V102-1032-03-EX	M32x1,5	2,5
V102-1040-03-EX	M40x1,5	3,0
V102-1050-03-EX	M50x1,5	3,0
V102-1063-03-EX	M63x1,5	3,0
V402-1012-03-EX	M12x1,5	1,5
V402-1016-03-EX	M16x1,5	2,0
V402-1020-03-EX	M20x1,5	2,0
V402-1025-03-EX	M25x1,5	2,5
V402-1032-03-EX	M32x1,5	2,5
V402-1040-03-EX	M40x1,5	3,0
V402-1050-03-EX	M50x1,5	3,0
V402-1063-03-EX	M63x1,5	3,0

Ex-reduction R***-*xxxx-zz-EX		
Type/series	Size of connecting thread	Installation torque [Nm]
R102-11612-03-EX	M16x1,5	3,5
R102-12012-03-EX	M20x1,5	3,5
R102-12016-03-EX	M20x1,5	3,5
R102-12516-03-EX	M25x1,5	5,0
R102-12520-03-EX	M25x1,5	5,0
R102-13220-03-EX	M32x1,5	12,0
R102-13225-03-EX	M32x1,5	12,0
R102-14025-03-EX	M40x1,5	13,5
R102-14032-03-EX	M40x1,5	13,5
R102-15032-03-EX	M50x1,5	20,0
R102-15040-03-EX	M50x1,5	20,0
R102-16350-03-EX	M63x1,5	20,0
R402-11612-03-EX	M16x1,5	3,5
R402-12012-03-EX	M20x1,5	3,5
R402-12016-03-EX	M20x1,5	3,5
R402-12516-03-EX	M25x1,5	5,0
R402-12520-03-EX	M25x1,5	5,0
R402-13220-03-EX	M32x1,5	12,0
R402-13225-03-EX	M32x1,5	12,0
R402-14025-03-EX	M40x1,5	13,5
R402-14032-03-EX	M40x1,5	13,5
R402-15032-03-EX	M50x1,5	20,0

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R402-15040-03-EX	M50x1,5	20,0
R402-16350-03-EX	M63x1,5	20,0

Ex-enlarger E***-*xxxx-zz-EX		
Type/series	Size of connecting thread	Installation torque [Nm]
E102-11216-03-EX	M12x1,5	3,5
E102-11620-03-EX	M16x1,5	3,5
E102-12025-03-EX	M20x1,5	6,7
E102-12532-03-EX	M25x1,5	5,0
E102-13240-03-EX	M32x1,5	13,5
E102-14050-03-EX	M40x1,5	16,0
E102-15063-03-EX	M50x1,5	20,0
E402-11216-03-EX	M12x1,5	3,5
E402-11620-03-EX	M16x1,5	3,5
E402-12025-03-EX	M20x1,5	6,7
E402-12532-03-EX	M25x1,5	5,0
E402-13240-03-EX	M32x1,5	13,5
E402-14050-03-EX	M40x1,5	16,0
E402-15063-03-EX	M50x1,5	20,0

Nomenclature

A) Ex-screw plug

Name	V	*	**	-	*	xxx	-	zz	-	EX
1	2	3	4	5	6	7	8	9	10	11

- 1: Part of general type designation,
the name of series in different languages:
Ex-screw plug or Ex-Verschlusschraube (or designation refer to standard: Ex Equipment blanking element)
- 2: Code of type
V = Screw plug
- 3: Code of serial number, material
1 = Brass, nickel-plated
4 = Brass lead-free, nickel-plated
- 4: Code of serial number, for example
02
- 5: Hyphen
- 6: Code of the connecting thread
1 = metric thread
- 7: Nominal size of the connecting thread xxx, for example
020 = metric thread M20x1,5
- 8: Hyphen
- 9: Code of the o-ring material, for example
01 = VMQ (Silicone rubber)
02 = EPDM (Ethylene Propylene Terpolymere rubber)

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- 03 = NBR (Nitrile Butadien rubber)
- 04 = FKM (Fluorinated rubber)
- 10: Hyphen
- 11: Code for the application area
 EX = explosionproof area

B) Ex-reduction

Name	R	*	**	-	*	xxxx	-	zz	-	EX
1	2	3	4	5	6	7	8	9	10	11

- 1: Part of general type designation, the name of series in different languages:
 Ex-reduction or Ex-Reduktion (or designation refer to standard: Ex Equipment thread adapter)
- 2: Code of type
 R = reduction
- 3: Code of serial number, material
 1 = Brass, nickel-plated
 4 = Brass lead-free, nickel-plated
- 4: Code of serial number, for example
 02
- 5: Hyphen
- 6: Code of the connecting thread
 1 = metric thread
- 7: Nominal size of the connecting thread xxxx, for example
 2516 = reduction from outer metric thread M25x1.5 to inner metric thread M16x1.5
- 8: Hyphen
- 9: Code of the o-ring material, for example
 01 = VMQ (Silicone rubber)
 02 = EPDM (Ethylene Propylene Terpolymere rubber)
 03 = NBR (Nitrile Butadien rubber)
 04 = FKM (Fluorinated rubber)
- 10: Hyphen
- 11: Code for the application area
 EX = explosionproof area

C) Ex-enlarger

Name	E	*	**	-	*	xxxx	-	zz	-	EX
1	2	3	4	5	6	7	8	9	10	11

- 1: Part of general type designation, the name of series in different languages:
 Ex-enlarger or Ex-Erweiterung (or designation refer to standard: Ex Equipment thread adapter)
- 2: Code of type
 E = enlarger

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- 3: Code of serial number, material
 - 1 = Brass, nickel-plated
 - 4 = Brass lead-free, nickel-plated
- 4: Code of serial number, for example
02
- 5: Hyphen
- 6: Code of the connecting thread
 - 1 = metric thread
- 7: Nominal size of the connecting thread xxxx, for example
2025 = enlarger from outer metric thread M20x1.5 to inner metric thread M25x1.5
- 8: Hyphen
- 9: Code of the O-ring material, for example
 - 01 = VMQ (Silicone rubber)
 - 02 = EPDM (Ethylene Propylene Terpolymere rubber)
 - 03 = NBR (Nitrile Butadien rubber)
 - 04 = FKM (Fluorinated rubber)
- 10: Hyphen
- 11: Code for the application area
EX = explosionproof area

Notes for operation

Degree of protection IP66 / IP68 will be safeguarded only when O-rings and Ex-screw plug, Ex-reduction and Ex-enlarger are properly fitted. The manufacturer's instructions must be followed.

Changes in issue 1 with respect to issue 0

- 1) The Specific Conditions of Use have been cancelled. All listed products are now suitable for the high mechanical risk level 7 J.
- 2) Change of the service temperature range to -40 °C to +85 °C
- 3) Change of IPX8 to 10 bar, 30 min
- 4) New test according to EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018 and EN 60079-31:2014.

Changes in the current issue with respect to previous editions

The material Brass lead-free and the associated product data (for nomenclature, type/series, etc.) have been added.

(16) Test Report PTB Ex 22-11146

(17) Specific conditions of use

None

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(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, April 13, 2022

D. Markus

Dr.-Ing. D. Markus
Direktor und Professor

