



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX PTB 16.0017** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 Issue 1 (2019-10-30)
Date of Issue: 2022-04-13 Issue 0 (2016-11-10)
Applicant: **Jacob GmbH Elektrotechnische Fabrik**
Gottlieb-Daimler-Straße 11
71394 Kernen
Germany
Equipment: **Ex-screw plug type V***-xxx-zz-EX, Ex-reduction type R***-xxxx-zz-EX and Ex-enlarger type E***-xxxx-zz-EX**
Optional accessory:
Type of Protection: **"eb", "tb"**
Marking: **Ex eb IIC Gb**
Ex tb III C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Detlev Markus

Position:

Head of Department "Explosion Protection in Energy Technology"

Signature:
(for printed version)

Date:
(for printed version)

13.04.22

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Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany





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Issue No: 2

Manufacturer: **Jacob GmbH Elektrotechnische Fabrik**
Gottlieb-Daimler-Straße 11
71394 Kernen
Germany

Manufacturing locations: **Jacob GmbH Elektrotechnische Fabrik**
Gottlieb-Daimler-Straße 11
71394 Kernen
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/PTB/ExTR16.0014/02](#)

Quality Assessment Report:

[DE/BVS/QAR08.0013/11](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description

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***-*xxxx-zz-EX and the Ex-enlarger type E***-*xxxx-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 and Nomenclature see Annex.

SPECIFIC CONDITIONS OF USE: NO

Types with the risk of mechanical hazard "low" shall be mounted into the enclosure in such a way that they are mechanically protected against impact force.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

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



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Additional information:

Since the used standards remain unchanged, individual Ex-Test Reports according to the used standards have not been issued. Only the ExTR Cover Sheet has been updated for the actual issue of the ExTR Summary DE/PTB/ExTR16.0014/02! The individual Ex-Test Reports from the previous issue remain valid.

Annex:

[COCA160017-02.pdf](#)



Applicant: Jacob GmbH Elektrotechnische Fabrik
Gottlieb-Daimler-Straße 11
71394 Kernen

Electrical Apparatus: Ex-screw plug type V***-*xxx-zz-EX
Ex-reduction type R***-*xxxx-zz-EX
Ex-enlarger type E***-*xxxx-zz-EX

Description

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***-*xxxx-zz-EX and the Ex-enlarger type E***-*xxxx-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 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 IEC 60529



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



R402-15040-03-EX	M50x1.5	20.0
R402-16350-03-EX	M63x1.5	20.0

Ex-enlarger E***-*xxx-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)



- 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



-
- 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.

Specific Conditions of Use

None