Translation

1 # EU-Type Examination Certificate

2 **Equipment intended for use in potentially explosive atmospheres**
Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 118 X**

4 Product: **Ex Equipment cable gland**
type PERFECT plus Ex-cable gland K100-1xxx-zz-EX and
type PERFECT plus EMC-Ex-cable gland K102-1xxx-zz-EX

5 Manufacturer: **Jacob GmbH Elektrotechnische Fabrik**

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

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of 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 Report No. BVS PP 17.2124 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

IEC 60079-0:2017	**General requirements**
EN 60079-7:2015	**Increased Safety "e"**
EN 60079-31:2014	**Protection by Enclosure "t"**

Except in respect of those requirements listed under item 18 of the appendix.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. 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 2G Ex eb IIC Gb
II 2D Ex tb IIIC Db

DEKRA EXAM GmbH
Bochum, 2018-08-02

Signed: Dr Franz Eickhoff
Certifier

Signed: Dr Michael Wittler
Approver

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 11 ATEX E 118 X

15 **Product description**

15.1 **Subject and type**

Ex Equipment cable gland
type PERFECT plus Ex-cable gland K100-1xxx-zz-EX and
type PERFECT plus EMC-Ex-cable gland K102-1xxx-zz-EX

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

Number Description

1: General type designation
The names of series in different languages
PERFECT plus Ex-cable gland
PERFECT plus EMC-Ex-cable gland

2: Component
K = Cable gland

3: Material
1 = brass, nickel-plated

4: Series designation
00 = PERFECT plus Ex-cable gland
02 = PERFECT plus EMC-Ex-cable gland

5: Hyphen

6: Connecting Thread
1 = metric thread according IEC EN 60423

7: Connecting thread size xxx, for example
020 = metric thread M20x1.5

8: Hyphen

9: Variants zz, for example
00 = Connecting thread standard length (6.5 mm to 10 mm)
50 = Connecting thread long (> 10 mm)

10: Hyphen

11: Application area
EX = Explosive atmospheres

DAkkS Deutsche Akkreditierungsstelle D-ZE-12069-03-00

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15.2 Description

The Ex Equipment cable gland type PERFECT plus Ex-cable gland and type PERFECT plus EMC-Ex-cable gland are made of brass.

The type PERFECT plus Ex-cable gland consists of dome nut, lamellar insert, sealing ring, gland body with connecting thread and O-ring sealing. The type PERFECT plus EMC-Ex-cable gland consists of the parts of the PERFECT plus Ex-cable gland and is additionally equipped with a contact spring.

The Ex Equipment cable gland type PERFECT plus Ex-cable gland and type PERFECT plus EMC-Ex-cable gland are used for fixed cable entry in electrical equipment with type of protection Increased Safety "eb" and Protection by enclosure "tb". They are installed in equipment with threaded holes and clearance holes.

The type PERFECT plus EMC-Ex-cable gland is also applicable for the installation of cables with EMC shielding.

Common accessory: Hexagonal locknut made of brass.

15.3 Parameters

Connecting thread size according EN / IEC 60423	Metric: M12x1.5 to M63x1.5
Connecting thread length	Standard length: 6.5 mm to 10 mm, long: > 10 mm Connecting threads which are longer than the standard length or the variant long are also approved, see instruction.
Minimum wall thickness	Threaded holes 4 mm
Suited for cable diameters	Subject to nominal size, 3 mm to 48 mm
Suited for equipment with risk of mechanical danger	Subject to nominal size, 4 J: M12x1.5 7 J: M16x1.5 to M63x1.5
Service temperature range	-40 °C to +85 °C
Degree of protection according EN / IEC 60529	IP66 / IP68 (10 bar, 30 min)

Type / Series	Size	Sealing and anchorage range	Installation torque		Clearance hole
			Gland body	Dome nut	
		[mm]	[Nm]	[Nm]	[mm]
K100-1012-00-EX	M12x1.5	3 - 7	3	3	$12^{+0,2}$
K100-1016-00-EX	M16x1.5	6 - 10	3	3	$16^{+0,2}$
K100-1020-00-EX	M20x1.5	8 - 13	3	3	$20^{+0,2}$
K100-1025-00-EX	M25x1.5	10 - 17	6	6	$25^{+0,2}$
K100-1032-00-EX	M32x1.5	11 - 21	12	12	$32^{+0,2}$
K100-1040-00-EX	M40x1.5	16 - 28	14	14	$40^{+0,2}$
K100-1050-00-EX	M50x1.5	21 - 35	20	20	$50^{+0,2}$
K100-1063-00-EX	M63x1.5	34 - 48	25	25	$63^{+0,2}$

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Type / Series	Size	Sealing and anchorage range	Installation torque		Clearance hole
			Gland body	Dome nut	
		[mm]	[Nm]	[Nm]	[mm]
K102-1012-00-EX	M12x1.5	3 - 7	3	3	$12^{+0,2}$
K102-1016-00-EX	M16x1.5	6 - 10	3	3	$16^{+0,2}$
K102-1020-00-EX	M20x1.5	8 - 13	3	3	$20^{+0,2}$
K102-1025-00-EX	M25x1.5	10 - 17	6	6	$25^{+0,2}$
K102-1032-00-EX	M32x1.5	11 - 21	12	12	$32^{+0,2}$
K102-1040-00-EX	M40x1.5	16 - 28	14	14	$40^{+0,2}$
K102-1050-00-EX	M50x1.5	21 - 35	20	20	$50^{+0,2}$
K102-1063-00-EX	M63x1.5	34 - 48	25	25	$63^{+0,2}$

16 **Report Number**

BVS PP 18.2124 EU, as of 2018-08-02

17 **Special Conditions for Use**

The cable gland type PERFECT plus EMC-Ex-cable gland is only usable for EMC shielding connection and not for any equipotential bonding conductor connection.

The cable glands are tested with a reduced tensile force (25 %) in accordance with clause A.3.1 of IEC 60079-0 and may only be used for fixed installation of Group II and Group III apparatus. The user shall ensure adequate clamping of the cable.

The cable gland size M12 is only usable for low risk of mechanical danger (drop height 0.4 m with 1 kg mass) and shall be mechanically protected against higher impact energy levels.

18 **Essential Health and Safety Requirements**

The standard IEC 60079-0:2017 is equivalent to the harmonized standard EN 60079-0:2012 + A11:2013 in terms of safety for this product.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-08-02
BVS-Ld/Mu A 20170535

Certifier

Approver

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