

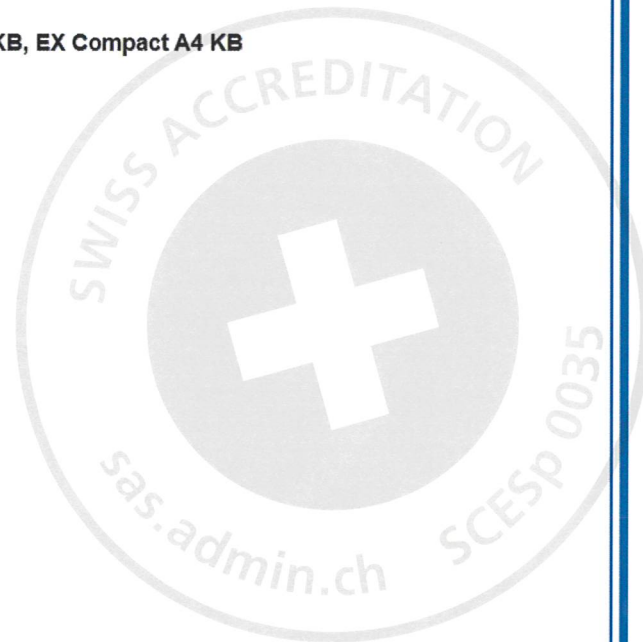


IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.:	IECEX SEV 17.0017	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2021-09-23) Issue 0 (2018-03-01)
Date of Issue:	2022-01-13		
Applicant:	Agro AG Korbackerweg 7 5502 Hunzenschwil Switzerland		
Equipment:	Cable gland, Type EX Compact MS KB, EX Compact A2 KB, EX Compact A4 KB		
Optional accessory:			
Type of Protection:	d, e, t		
Marking:	Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db		



Approved for issue on behalf of the IECEx
Certification Body:

Martin Plüss

Position:

Manager Product Certification

Signature:
(for printed version)

Date:

2022-01-13

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins Electric & Electronic Product Testing AG
Luppenstrasse 3
8320 FEHRALTORF .
Switzerland



E&E



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Date of issue: 2022-01-13

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Manufacturer: **Agro AG**
Korbackerweg 7
5502 Hunzenschwil
Switzerland

Additional
manufacturing
locations:

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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
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:

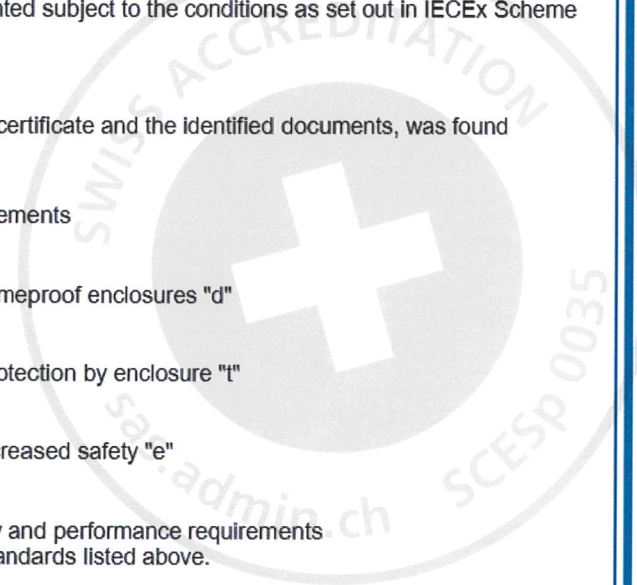
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[CH/SEV/ExTR17.0017/02](#)

Quality Assessment Report:

[CH/SEV/QAR12.0001/07](#)





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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Cable gland type EX Compact MS KB, EX Compact A2 KB and EX Compact A4 KB are made from brass or stainless steel. They consist of a compression cup nut, lower part, press-fit element, sealing ring, 'O' ring and a strain relief device.

They are used for entering cables into electrical equipment that is designed to Increased Safety "eb", Flameproof Enclosure "db" and Protection by Enclosure "tb" type of protection.

They are installed in enclosures with threaded holes or through-holes.

Additional information see Annexe

SPECIFIC CONDITIONS OF USE: NO





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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

There is an update for the new IEC 60079-0:2017 ed 7.0. It was done a full assessment with this new standard.

Annex:

[IECEX 17.0017 app i2.pdf](#)



Annexe to: IECEx SEV 17.0017
Issue No.: 2
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Applicant Name: AGRO AG
Equipment: Cable gland

The Cable gland type EX Compact MS KB, EX Compact A2 KB and EX Compact A4 KB are made from brass or stainless steel. They consist of a compression cup nut, lower part, press-fit element, sealing ring, 'O' ring and a strain relief device.

They are used for entering cables into electrical equipment that is designed to Increased Safety "eb", Flameproof Enclosure "db" and Protection by Enclosure "tb" type of protection.

They are installed in enclosures with threaded holes or through-holes.

Comment:

Since the cable glands only provide little space for the marking, the detailed notation of the Ex marking is dispensed with. However, since this cable gland is suitable for 3 types of protection, the following notations are also used:

2nd variant: [Ex] II 2GD Ex db eb IIC Gb tb IIIC Db

3rd variant: [Ex] II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db

Note on variant 2:

It is intended that the designation Ex db eb IIC will be used on cable glands, although there are no two areas with different types of protection, but rather separate different types of protection. See also IEC 60079-0: 2017 ed 7.0 section 29.7.

This means that Ex db eb IIC can be used as Ex db IIC (flameproof enclosure) or as Ex eb IIC (increased safety). In addition, a second "Ex" from "tb" is dispensed with for reasons of space.

Classification of installation and use:

stationary

Ingress protection:

IP68

Rated ambient temperature range (°C):

-60 °C to +105 °C

Rated ambient temperature range (°C) for Ex Components:

Technical Data

Type name	Thread, Size of thread	Material	Sealing / O-ring	Temperature
EX Compact MS KB	M16x1.5 to M63x1.5 NPT 3/8" to NPT 2"	Brass nickel plated	NBR / FKM NBR / n.a	-60 °C to +105 °C
Ex Compact A2 KB	M16x1.5 to M63x1.5 NPT 3/8" to NPT 2"	Steel A2 (1.4305)	NBR / FKM NBR / n.a	-60 °C to +105 °C
Ex Compact A4 KB	M16x1.5 to M63x1.5 NPT 3/8" to NPT 2"	Steel A4 (1.4435)	NBR / FKM NBR / n.a	-60 °C to +105 °C

Minimum wall thickness	Size
for equipment with threaded holes	3.0 mm (metal) 5.0 mm (plastic)
For equipment with through-holes	1.0 mm (metal) 2.0 mm (plastic)

Torques for Ex-Component

Thread type	Thread type	Cable diameter [mm]	DM [Nm]	KB [Nm]
M16	NPT3/8	3 to 7	12	0.3
M16	NPT3/8	5 to 10	16	0.3
M20	NPT1/2	5 to 11	20	0.5
M20	NPT1/2	9 to 14	25	0.5
M25	NPT3/4	7.5 to 15	30	0.6
M25	NPT3/4	12.5 to 18	25	0.6
M32	NPT1	17 to 23	40	0.8
M32	NPT1	21 to 26	40	1.0
M40		21 to 26	50	1.0
M40	NPT1 1/4	24 to 32	40	1.0
M50	NPT1 1/2	28 to 36	30	1.5
M50		35 to 42	38	2.0
M63	NPT2	36 to 44	80	2.0
M63	NPT2	43 to 50	84	2.0

Legend:

DM = Compression cap nut (Applicable for compression cap nuts and lower parts)

KB = Clamping screws

The torques of the clamping screws are to be adjusted according to the diameter and quality of the cable used.

Type key description

Ex 1826.	**.	**,	***
1	2	3	4

Legend

1	Codes serie Ex Compact with strain relief
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2	Code size of connection thread with		
	12	=	M12 x 1.5
	17	=	M16 x 1.5
	20	=	M20 x 1.5
	25	=	M25 x 1.5
	32	=	M32 x 1.5
	40	=	M40 x 1.5
	50	=	M50 x 1.5
	63	=	M63 x 1.5
	3/8NPT	=	NPT 3/8
	1/2NPT	=	NPT 1/2"
	3/4NPT	=	NPT 3/4"
	1NPT	=	NPT 1"
	1 1/4NPT	=	NPT 1 1/4"
	1 1/2NPT	=	NPT 1 1/2"
2NPT	=	NPT 2"	

3	Code combination of material of the cable gland and the gasket, O-ring always FKM		
	without number	=	Brass, nickel plated / NBR
	91	=	Brass, nickel plated / FKM
	94	=	Steel A2 (1.4305) / NBR
	96	=	Steel A2 (1.4305) / FKM
	97	=	Steel A4 (1.4435) / NBR
	98	=	Steel A4 (1.4435) / FKM

4	Code maximum cable diameter		
	e.g. 140	=	14 mm diameter



Notes:

The cable gland is used for entering cables into electrical equipment that is designed to Increased Safety "eb", Flameproof Enclosure "db", and Protection by Enclosure "tb" type of protection.

For the use in electrical equipment in the type of protection Flameproof Enclosure "db" the threaded holes have to meet the minimum requirements as set forth in EN 60079-1, section 5.3.

If the reference pressure exceeds 20 bar, the cable gland must be included in the type test of EN 60079-1, section 15.1.3 (overpressure test) as required for IIA, IIB or IIC classification of the corresponding operator/apparatus.

The forcing nut must be tightened with the torque specified in the manual.

The cable gland must be fixed in the electrical apparatus so that accidental loosening and rotation will be prevented.

The assignment of the temperatures to the temperature class of the cable gland must be determined when type testing the corresponding electrical apparatus.

