



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: **IECEx PTB 12.0056** issue No.:1

Certificate history:

Issue No. 1 (2013-12-9)

Issue No. 0 (2013-3-1)

Status: **Current**

Date of Issue: **2013-12-09**

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Applicant: **AGRO AG**
Korbackerweg 7
5502 Hunzenschwil
Switzerland

Electrical Apparatus: **Cable Gland type 18**.**.** and Sealing Plug type 8710.**.****
Optional accessory:

Type of Protection: **d, e, ta**

Marking: **Ex db eb IIC**
Ex ta IIIC

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Uwe Klausmeyer

Position:

Head of Section "Flameproof Enclosures"

Signature:
(for printed version)

Date:

19. FEB. 2014

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





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

Additional Manufacturing
location(s):

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 electrical apparatus 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical 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/ExTR12.0070/01](#)

Quality Assessment Report:
[CH/SEV/QAR12.0001/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The cable gland type 18**.**, made of brass, nickel-plated or steel, is used to introduce non-permanently laid cables into enclosures in the type of protection Flameproof Enclosures "d", Increased Safety "e" and Protection by enclosure "ta".

The sealing plug type 8710.**, made of brass or steel, is used to close cable entry openings in enclosures in the type of protection Flameproof Enclosures "d", Increased Safety "e" and Protection by enclosure "ta".

Technical data, Nomenclature and Notes for safe operation see Annex.

CONDITIONS OF CERTIFICATION: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

New material no. 2 for the gasket

Annex: [Annex-IECEx PTB 12.0056-Issue 1.pdf](#)



Applicant: AGRO AG
Korbackerweg 7
5502 Hunzenschwil
Switzerland

Electrical Apparatus: Cable Gland type 18**.}.
Sealing Plug type 8710**.**.}.}

Description

The cable gland type 18**.**.}.}, made of brass, nickel-plated or steel, is used to introduce non-permanently laid cables into enclosures in the type of protection Flameproof Enclosures "d", Increased Safety "e" and Protection by enclosure "ta".

The sealing plug type 8710**.}.}, made of brass or steel, is used to close cable entry openings in enclosures in the type of protection Flameproof Enclosures "d", Increased Safety "e" and Protection by enclosure "ta".

Technical Data

Cable gland type 18**.}.}.}.}.}	
Type and size of connection thread	M16 x 1.5 to M 63 x 1.5 Pg 9 to Pg 48 NPT 3/8" to 1 1/2" G 3/8" to G2"
Nominal cable diameter	7 mm to 44 mm
Torque	7 Nm to 65 Nm
Wall thickness	Threaded holes 5 mm (plastic enclosure) 3 mm (metal enclosure) Through holes 2 mm (plastic enclosure) 1 mm (metal enclosure)
Ingress protection	IP 68
Ambient temperature	-40 °C to +100 °C

Article end number	Nominal cable diameter \varnothing (mm)		Torque		
	min	max	Pressure nut (Nm)	Lower part (Nm)	Clamping screws (Ncm)
.09.26	7	9	10	10	95
.11.26	9	11	10	10	95
.13.26, .16.26, .16.27	11	13	16	16	100
.21.26	13	16,5	20	20	100
.21.27	16,5	20	24	24	100
.29.26	20	24	30	30	145
.29.27	24	28	35	35	155
.36.26	28	32	44	44	220
.36.27	32	36	60	60	270
.48.26	36	40	60	60	320
.48.27	40	44	65	65	320

Sealing plug type 8710.**	
Type and size of sealing plug thread	M12 x 1.5 to M 63 x 1.5 Pg 7 to Pg 36 NPT3/8" to NPT1 1/2"
Torque	6 Nm to 45 Nm
Wallthickness	Threaded holes 5 mm (plastic enclosure) 3 mm (metal enclosure) Through holes 2 mm (plastic enclosure) 1 mm (metal enclosure)
Ingress protection	IP 68
Ambient temperature O-ring FPM NPT thread (without O-ring)	-40 °C to +100 °C -40 °C to +200 °C



Metric thread		Pg thread		NPT thread	
Size	Torque (Nm)	Size	Torque (Nm)	Size	Torque (Nm)
8710.12	6	8710.07	6	8710.3/8NPT	9
8710.17	9	8710.09	9	8710.1/2NPT	16
8710.20	16	8710.11	12	8710.3/4NPT	20
8710.25	20	8710.13	16	8710.1/NPT	30
8710.32	30	8710.16	16	8710.11/4NPT	35
8710.40	35	8710.21	20	8710.11/2NPT	45
8710.50	45	8710.29	25		
8710.63	60	8710.36	35		

Nomenclature Cable gland

18	**	**	**	**
1	2	3	4	5

- 1: Type
- 2: Code type and size connection thread
- 3: Code basis size of the cable gland
- 4: Code material of housing and elastomeric sealing ring
- 5: Code size of the gasket

Code of type and size of the connection thread			
12 = M12x1.5	07 = Pg7	3/8G = G3/8"	3/8NPT = NPT 3/8"
17 = M16x1.5	09 = Pg9	1/2G = G1/2"	1/2NPT = NPT 1/2"
20 = M20x1.5	11 = Pg11	3/4G = G3/4"	3/4NPT = NPT 3/4"
25 = M25x1.5	13 = Pg13.5	1G = G1"	1NPT = NPT 1"
32 = M32x1.5	16 = Pg16	1 1/4G = G1 1/4"	1 1/2 NPT = NPT 1 1/2"
40 = M40x1.5	21 = Pg21	1 1/2G = G1 1/2"	"
50 = M50x1.5	29 = Pg29	2G = G2"	1 1/4NPT = NPT 1 1/4"
63 = M63x1.5	36 = Pg36		
	42 = Pg42		
	48 = Pg48		

Code basis size of the cable gland
without = basis size corresponds with the size of the connection thread
07 = basis size 7
09 = basis size 9
11 = basis size 11
13 = basis size 13
16 = basis size 16
21 = basis size 21
29 = basis size 29
36 = basis size 26
49 = basis size 48



Code of the material combination of body and gasket
without = brass, nickel plated / HNBR, NBR
94 = steel A2 (1.4305) / HNBR, NBR
97 = steel A4 (1.4435) / HNBR, NBR

Code of the size of the gasket
26 small gasket
27 big gasket

Nomenclature Sealing Plug

8710	**	**
1	2	3

- 1: Type
2: Code material of body
3: Code type and size connection thread (see cable gland)

Code material of body
without = brass, nickel-plated
96 = steel A2 (1.4305)
98 = steel A4 (1.4435)

Notes for safe operation

The cable gland and the plug are used for entering cables into electrical equipment that is designed to Increased Safety "e", Flameproof Enclosure "d", and Protection by Enclosure "ta" type of protection. For the use in electrical equipment in the type of protection Flameproof Enclosure "d" 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 and the plug 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 and the jaws must be tightened with the torque specified in the manual.

The cable gland and the plug 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 and the plug must be determined when type testing the corresponding electrical apparatus.