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 15.0001X**

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Certificate history:
Issue 1 (2018-06-25)
Issue 0 (2015-03-26)

Status: **Current**

Issue No: 2

Date of Issue: 2023-09-15

Applicant: **Pflitsch GmbH & Co. KG**
Ernst-Pflitsch-Str. 1
42499 Hückeswagen
Germany

Equipment: **Cable gland type UNI Ex * Dicht Silicone ********** and UNI Ex Sleeve EMC Dicht Silicone **********

Optional accessory:

Type of Protection: **"eb", "ta"**

Marking: Ex eb IIC Gb

Ex ta IIIC Da

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) 06.12.23

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Certificate issued by:

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

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Manufacturing locations: **Pflitsch GmbH & Co. KG**
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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/ExTR15.0002/02

Quality Assessment Report:

DE/PTB/QAR10.0003/06

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The cable gland type UNI Ex * Dicht Silicone ********** made of brass, brass nickel-plated and stainless steel, serves to introduce cables into electrical apparatus of the type of protection Increased Safety "eb" or Protection by Enclosure "ta". The cable gland consists of:
- pressure screw
- pressure screw with clamping device
- double nipple with a metric, Pg, Inch or NPT connection thread and O-ring
- sealing component out of silicone for one hole, multiple holes or flat cable

The cable gland is installed in enclosures with through-holes or threaded holes. For through-holes, lock nuts are used.

The cable gland type UNI Ex Sleeve EMC Dicht Silicone ********** made of brass, brass nickel-plated or stainless steel, serves to introduce fixed cables into electrical apparatus of the type of protection Increased Safety "eb" or Protection by Enclosure "ta". The cable gland consists of:
- pressure screw, optionally with a spring bend protection
- sleeve, optionally with an EMC spring
- two inserts (standard and multiple)
- adapter coupling with connection thread and O-ring

The cable gland is installed in enclosures with through-holes or threaded holes. For through-holes, lock nuts are used.

Technical Data and Nomenclature see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Unless the pressure screw with clamping device is used, only permanently wired cables may be entered. The user shall provide additional clamping of the cable to ensure that pulling is not transmitted to the terminations.
2. Degree of protection is ensured only if the seals and cable entries are properly fitted. The manufacturer's instructions must be followed.
3. Types suitable for a "low" risk of mechanical danger shall be mounted 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)

1. Addition of types for circular cables from 4.5 mm to 36.0 mm diameter.
2. Addition of sealing rings for flat cables and extension of service temperature.
3. Updated to current version of IEC 60079-7 (Ed. 5.1).

Annex:

COCA15.0001X-02.pdf

Applicant: Pflitsch GmbH & Co. KG
Ernst-Pflitsch-Straße 1
42499 Hückeswagen
Germany

Electrical Apparatus: Type UNI Ex * Dicht Silicone ********** and
Type UNI Ex Sleeve EMC Dicht Silicone **********

Description

The cable gland type UNI Ex * Dicht Silicone ********** made of brass, brass nickel-plated and stainless steel, serves to introduce cables into electrical apparatus of the type of protection Increased Safety "eb" or Protection by Enclosure "ta". The cable gland consists of:
- pressure screw standard
- pressure screw with clamping device
- double nipple with a metric, Pg, Inch or NPT connection thread and O-ring
- sealing component out of silicone for one hole, multiple holes or flat cable

The cable gland is installed in enclosures with through-holes or threaded holes. For through-holes, lock nuts are used.

The cable gland type UNI Ex Sleeve EMC Dicht Silicone ********** made of brass, brass nickel-plated or stainless steel, serves to introduce fixed cables into electrical apparatus of the type of protection Increased Safety "eb" or Protection by Enclosure "ta". The cable gland consists of:
- pressure screw, optionally with a spring bend protection
- sleeve, optionally with an EMC spring
- two inserts (standard and multiple)
- adapter coupling with connection thread and O-ring

The cable gland is installed in enclosures with through-holes or threaded holes. For through-holes, lock nuts are used.

Technical data UNI Ex * Dicht Silicone **********

Size, Connection thread and head thread				**Torque**			**Mechanical risk level**
metric	Pg	Inch	NPT	Connection thread	Head thread	Clamping screw	
M 12	Pg 7	G 1/4"	-	6 Nm	6 Nm	1 Nm	Low
M 16	Pg 9	G 3/8"	NPT 3/8"	6 Nm	6 Nm	1 Nm	Low
M 20	Pg 11 Pg 13,5	G 1/2"	NPT 3/8" NPT 1/2"	10 Nm	5 Nm standard 10 Nm flat cable 10 Nm multiple	1 Nm	High
M 25	Pg 16	G 3/4"	NPT 1/2"	10 Nm	10 Nm	1 Nm	High
M 32	Pg 21	G 1"	NPT 3/4"	15 Nm	15 Nm	1 Nm	High
M 40	Pg 29	G 1 1/4"	NPT 1"	20 Nm	20 Nm	1 Nm	High
M 50	Pg 36	G 1 1/2"	NPT 1 1/4"	30 Nm	30 Nm	1 Nm	High

Cable dimensions	Circular cable (single): 4.5 mm to 36.0 mm Details given in table below. Circular cable (multiple): min. diameter 1.0 mm max. diameter 30.0 mm Flat cable: 4 inserts for different sizes Details given in table below.
Strain relief	Depends on the pressure screw used, low or high
Suited for devices of equipment group II with mechanical risk level	Low (sizes smaller than M 20) High (sizes M 20 and above)
Mounted in enclosures with clearance holes Plastic, wall thickness Metal, wall thickness	 ≥ 2 mm ≥ 1 mm
Mounted in enclosures with threaded holes Plastic, wall thickness Metal, wall thickness	 ≥ 5 mm ≥ 3 mm
Service temperature	Circular cable (single): −55 °C to +160 °C Circular cable (multiple): −55 °C to +160 °C Insert for flat cable: depends on size, see table below
Ingress protection	IP66 and IP68 (10 bar, 30 min) in accordance with EN 60529

Sealing range and service temperature for flat cables

Connecting thread metric	Head thread Pg	ID sealing insert	Sealing range height / mm (min / max)	Sealing range width / mm (min / max)	Service temperature
M 20	52	4,9v11,5	4.6 / 5.0	10.4 / 11.5	−55 °C to +180 °C
"	"	5,9v12,4	5.3 / 5.9	10.7 / 12.4	−55 °C to +180 °C
"	"	7,4v13	5.6 / 7.4	11.7 / 12.9	−40 °C to +130 °C
M 25	53	7,1v15,3	6.9 / 7.1	15.1 / 15.5	−55 °C to +180 °C

Sealing range for circular cables (single)				
Connecting thread metric	**Head thread Pg**	**ID sealing insert**	**Sealing range max / mm**	**Sealing range min / mm**
M 12	49	5	5.0	4.5
"	"	7	6.5	5.5
M 16	50	7	6.5	5.5
"	"	8	8.0	6.5
"	"	9	9.5	8.5
M 20	51	7	6.5	5.5
"	"	9	9.5	9.0
"	"	11	10.5	9.5
M 20	52	7	6.5	5.5
"	"	8	8.0	6.5
"	"	9	9.5	8.0
"	"	11	10.5	7.0
"	"	13	13.0	10.0
M 25	53	7	6.5	5.5
"	"	8	8.0	7.5
"	"	9	9.5	8.5
"	"	11	10.5	9.5
"	"	13	13.0	12.5
"	"	16	15.5	13.5
M 32	54	11	10.5	8.5
"	"	13	13.0	10.5
"	"	16	15.5	13.5
"	"	18	18.0	15.5
"	"	20	20.5	18.5
M 40	55	16	15.5	13.5
"	"	18	18.0	15.5
"	"	20	20.5	18.5
"	"	25	25.0	22.0
"	"	28	28.0	25.5
M 50	56	32	32.0	28.0
"	"	34	34.0	31.0
"	"	36	36.0	33.0

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Technical data UNI Ex Sleeve EMC Dicht Silicone ***********

Size of connection thread	M20 and M32
Cable diameter Round cable insert Multiple cable insert	 12.4 mm and 17.4 mm Min. diameter 2.1 mm Max. diameter 3.9 mm
Suited for devices of equipment group II with mechanical risk level	High
Strain relief	Low
Torque	Size M20 Adapter coupling 10 Nm Pressure screw 5 Nm Pressure screw multiple 10 Nm
	Size M32 Adapter coupling 20 Nm Pressure screw 15 Nm
Mounted in enclosures with clearance holes Plastic, wall thickness Metal, wall thickness	 ≥ 2 mm ≥ 1 mm
Mounted in enclosures with threaded holes Plastic, wall thickness Metal, wall thickness	 ≥ 5 mm ≥ 3 mm
Service temperature	−60 °C to +130 °C
Ingress protection	IP66 and IP68 (10 bar, 30 min) in accordance with EN 60529

Nomenclature

UNI Ex	*	Dicht Silicone	*	*	*	*	*	*	*	*	*	*	*
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1	Type designation	UNI Ex
2	Part of type designation	e.g. HF, IRIS
3	Part of type designation	Dicht Silicone
4	Type edition	(multiple metric, multiple PG)
5	Type of thread	1 = Pg / Inch, 2 = metric, 3 = NPT, 8 = metric long
6	Connecting thread (code number)	**Pg- thread DIN 40430** 49 = PG 7 53 = PG 16 50 = PG 9 54 = PG 21 51 = PG 11 55 = PG 29 52 = PG 13,5 56 = PG 36 **Metric ISO- thread EN 60423** 12 = M 12 32 = M 32 16 = M 16 40 = M 40 20 = M 20 50 = M 50 25 = M 25 **Inch- thread DIN EN ISO 228-1** 014 = 1/4" 100 = 1" 038 = 3/8" 114 = 1 1/4" 012 = 1/2" 112 = 1 1/2" 034 = 3/4" **NPT- thread ANSI / ASME B1.20.1** 038 = NPT 3/8 012 = NPT 1/2 034 = NPT 3/4 100 = NPT 1 114 = NPT 1 1/4 200 = NPT 2
7	Head thread (code number)	**Pg-thread DIN 46320** 49 = PG 7 52 = PG 13,5 55 = PG 29 50 = PG 9 53 = PG 16 56 = PG 36 51 = PG 11 54 = PG 21
8	Material	st = stainless steel, d = brass, nickel-plated, LF = brass lead-free
9	Kind of insert	i = silicone, im = multiple if = flat
10	Cable diameter, cable dimension (code number):	**Circular cables (single)**

Connecting thread metric	Head thread Pg	ID sealing insert	Sealing range max / mm	Sealing range min / mm
M 12	49	5	5.0	4.5
"	"	7	6.5	5.5
M 16	50	7	6.5	5.5
"	"	8	8.0	6.5
"	"	9	9.5	8.5

M 20	51	7	6.5	5.5
"	"	9	9.5	9.0
"	"	11	10.5	9.5
M 20	52	7	6.5	5.5
"	"	8	8.0	6.5
"	"	9	9.5	8.0
"	"	11	10.5	9.5
"	"	13	13.0	12.0
M 25	53	7	6.5	5.5
"	"	8	8.0	7.5
"	"	9	9.5	8.5
"	"	11	10.5	9.5
"	"	13	13.0	12.5
"	"	16	15.5	13.5
M 32	54	11	10.5	8.5
"	"	13	13.0	10.5
"	"	16	15.5	13.5
"	"	18	18.0	15.5
"	"	20	20.5	18.5
M 40	55	16	15.5	13.5
"	"	18	18.0	15.5
"	"	20	20.5	18.5
"	"	25	25.0	22.0
"	"	28	28.0	25.5
M 50	56	32	32.0	28.0
"	"	34	34.0	31.0
"	"	36	36.0	33.0

Circular cables (multiple)
1x1.5 mm. 2x3 mm. 3x4 mm. 4x6 mm
5x6.5 mm. 6x2.5 mm. 6x10 mm.
3x12 mm. 4x13 mm
List of VDE-cores
Sample with 3 holes:
VDE E152im1x1,5/2x2/1x9

Minimum bore diameter 1.5mm

Maximum bore diameter 30.0mm

The list is only an excerpt of the possible multiple sealing inserts.

		Flat cables **ID sealing insert** / **Sealing range height / mm (min / max)** / **Sealing range width / mm (min / max)** 4,9v11,5 / 4.6 / 5.0 / 10.4 / 11.5 5,9v12,4 / 5.3 / 5.9 / 10.7 / 12.4 7,4v13 / 5.6 / 7.4 / 11.7 / 12.9 7,1v15,3 / 6.9 / 7.1 / 15.1 / 15.5
11	Not used	Not used
12	Not used	Not used
13	Explosion protected	Type of protection, Ex e „ex"
14	Additional letters for material	zu, V4A, bl, tri, /HT, SW24
Remark: Variant numbers can be unoccupied		

UNI Ex	Sleeve EMC	Dicht Silicone	*	*	*	*	*	*	*	*	*	*	*
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1: Part of general type
2: Type edition
3: Part of general type
4: Type edition (multiple, metric)
5: Size of connection thread
6: Size of head thread
7: Material (st = stainless steel)
8: Maximum cable diameter
9: Flexible spring = FBS
10: Kind of insert (i = silicone, m = multiple)
11: Maximum cable diameter (multiple)
12: EMC connection = tri
13: Material of sealing insert = HTS
14: Explosion protected, "ex"

Remark: variant numbers can be unoccupied

Specific conditions of use

1. Unless the pressure screw with clamping device is used, only permanently wired cables may be entered. The user shall provide additional clamping of the cable to ensure that pulling is not transmitted to the terminations.
2. Degree of protection is ensured only if the seals and cable entries are properly fitted. The manufacturer's instructions must be followed.
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