



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 CML 18.0131X** Page 1 of 4 [Certificate history:](#)
Issue 1 (2020-02-11)
Issue 0 (2019-05-10)

Status: **Current** Issue No: 2

Date of Issue: 2020-04-20

Applicant: **Hawke International (A Division of Hubbell Limited) (A Member of the Hubbell group of companies)**
Oxford Street West
Ashton under Lyne
OL7 0NA
United Kingdom

Equipment: **Ranges of Barrier and Diaphragm Seal Hybrid Cable Glands – Type ICG 653/UNIV, 710/711/753 & 501/453/UNIV**

Optional accessory:

Type of Protection: **Flameproof "db", Increased Safety "eb", Restricted Breathing "nR", Dust Ignition "tb"**

Marking: Ex db IIC Gb
Ex eb IIC Gb
Ex tb IIIC Db

Ex nR IIC Gc

Tamb = -60°C to +80°C

Approved for issue on behalf of the IECEx
Certification Body:

S. Roumbedakis

Position:

Technical Manager

Signature:
(for printed version)

Date:

2020-04-20

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 E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Manufacturer: **Hawke International (A Division of Hubbell Limited) (A Member of the Hubbell group of companies)**
Oxford Street West
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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 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

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

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

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 Reports:

[GB/CML/ExTR18.0186/00](#)

[GB/CML/ExTR19.0255/00](#)

[GB/CML/ExTR20.0050/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0061/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The ranges of cable glands are designed in two versions: barrier and diaphragm seal. A further version which is a hybrid of the barrier and diaphragm seal glands is included.

All cable glands within the ranges are manufactured in brass, stainless steel or aluminium.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for specific conditions of use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduced the following changes:

1. To update the certification drawing with minor dimensional corrections.
2. To include the type of protection "Ex nR" Restricted Breathing.
3. To include an additional specific condition of use for braided cables.

Issue 2

This issue introduced the following changes:

1. Introduction of undersize compound pot for gland size Os, O, D, E and F.
2. Introduction of thread size M16 for size Os and O, except from gland type 711.
3. Adding NPT thread size: 1½", 2", 2½" for gland size D, E and F respectively.

Annex:

[IECEx CML 18.0131X Iss. 2 Certificate Annex.pdf](#)



Annexe to: IECEx CML 18.0131X Issue 2

Applicant: Hawke International (A Division of Hubbell Limited) (A member of the Hubbell group of companies)

Apparatus: Ranges of Barrier and Diaphragm Seal Hybrid Cable Glands – Types ICG 653/UNIV, 710/711/753 & 501/453/UNIV Cable Glands

Description

The ranges of cable glands are designed in two versions: barrier and diaphragm seal. A further version which is a hybrid of the barrier and diaphragm seal glands is included.

All cable glands within the ranges are manufactured in brass, stainless steel or aluminium.

The glands comprising the following components:

ICG 653/UNIV Barrier Cable Glands	501/453/UNIV Diaphragm Seal Cable Glands	711 Barrier Cable Glands	753 Barrier Cable Glands	710 Barrier Cable Glands
<ul style="list-style-type: none"> • IP washer • Entry nut • *Deluge seal • *Silicone pot • *Silicone resin barrier • *Spigot • *Wire VBL clip • Clamping ring • Middle nut • Back nut • Back nut clamp • Back nut seal 	<ul style="list-style-type: none"> • IP washer • Entry nut • *Deluge seal • *Diaphragm seal • *Spigot • Clamping ring • Middle nut • Back nut • Back nut clamp • Back nut seal 	<ul style="list-style-type: none"> • IP washer • Entry nut • Compound pot • Deluge seal • Compound barrier • Front diablo support • Diablo • Rear diablo support • Middle nut • Back nut • Back nut clamp • Back nut seal 	<ul style="list-style-type: none"> • IP washer • Entry nut • Compound pot • Deluge seal • Compound barrier • Spigot • Clamping ring • Middle nut • Back nut • Back nut clamp • Back nut seal 	<ul style="list-style-type: none"> • IP washer • Entry nut • Compound pot • Deluge seal • Compound barrier • Spigot • Middle nut • Back nut • Back nut clamp • Back nut seal

Barrier Seal Type Cable Glands

The barrier seal type cable glands are of the types: ICG/653/UNIV, 710, 711 and 753.

They are designed for sealing around individual cores and are for use with circular cables of armoured, un-armoured or corrugated cables.

The gland's internal parts marked with an asterisk in the table above are interchangeable with respect to the type of application. When parts are interchanged, these assemblies may be dual marked with both product types on the stamping band. The 'deluge boot' colour indicates the internal component that is used, the ICG/653/UNIV being indicated by a red deluge boot. The gland assemblies as described above are rated for ingress protection IP66, 67, 69 and IPX8 at 30m for 7 days (special instructions required).

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Diaphragm Seal Type Cable Glands

The diaphragm seal type cable glands are of type 501/453/UNIV.

The glands are fitted with a diaphragm silicone rubber seal and are designed for effectively filled type cable when used for flameproof applications. They are for use with cables that are circular and armoured or un-armoured.

The gland's internal parts marked with an asterisk in the table above are interchangeable with respect to the type of application. When parts are interchanged, these assemblies may be dual marked with both product types on the stamping band. The 'deluge boot' colour indicates the internal component that is used, the 501/453/UNIV being indicated by a black deluge boot. The gland assemblies as described above are rated for ingress protection IP66, 67, 69 and IPX8 at 30m for 7 days (special instructions required).

Hybrid Glands

Hybrid cable glands are available for the cable gland types ICG 653/UNIV and 501/453/UNIV. These are fitted with the middle nut and back nut components of one gland size smaller in order to accommodate smaller size cables.

ICG 653/UNIV and 501/453 UNIV specifications

SIZE REF.	THREAD SIZES		ICG/653/UNIV					501/453/UNIV			
	Metric	NPT	MAX INNER SHEATH DIA		MAX OVER CORES DIA	MAX QTY OF CORES	MAX QTY OF FIBRE	INNER SHEATH		OUTER SHEATH	
			STD	LEAD				MIN	MAX	MIN	MAX
Os	M16	1/2"	8.1	8.0	8.0	12	48	3.5	8.1	5.5	12.0
	M20										
O	M16	1/2"	11.7	10.2	8.8	12	48	6.5	11.4	9.5	16.0
	M20										
A	M20	1/2"	14.0	12.5	10.8	15	72	8.4	14.3	12.5	20.5
		3/4"									
B	M25	3/4"	19.9	18.0	15.9	30	144	11.1	19.7	16.9	26.0
		1"									
C	M32	1"	26.2	24.3	21.9	42	/	17.6	26.5	22.0	33.0
		1 1/4"									
C2	M40	1 1/4"	32.3	30.3	26.7	60	/	23.1	32.5	28.0	41.0
		1 1/2"									
D	M50	1 1/2"	44.2	41.9	37.7	80	/	28.9	44.4	36.0	52.6
		2"									



SIZE REF.	THREAD SIZES		ICG/653/UNIV				501/453/UNIV				
	Metric	NPT	MAX INNER SHEATH DIA		MAX OVER CORES DIA	MAX QTY OF CORES	MAX QTY OF FIBRE	INNER SHEATH		OUTER SHEATH	
			STD	LEAD				MIN	MAX	MIN	MAX
E	M63	2"	56.0	52.9	49.0	100		39.9	56.3	46.0	65.3
		2 1/2"									
F	M75	2 1/2"	68.0	64.9	59.8	120		50.5	68.2	57.0	78.0
		3"									

ICG 653/UNIV and 501/453 Hybrid specifications

SIZE REF.	THREAD SIZES 'M'		ICG/653/UNIV HYBRID						501/453/UNIV HYBRID				
	Metric	NPT	MAX INNER SHEATH DIA		MAX OVER CORES DIA	MAX QTY OF CORES	MAX QTY OF FIBRE	OUTER SHEATH		INNER SHEATH		OUTER SHEATH	
			STD	LEAD				MIN	MAX	MIN	MAX	MIN	MAX
A / Os	M16	1/2"	14.0	12.5	10.8	15	72	MIN	MAX	8.4	14.3	5.5	12.0
	M20	3/4"						5.5	12.0				
A / O	M16	1/2"	14.0	12.5	10.8	15	72			8.4	14.3	9.5	16.0
	M20	3/4"						9.5	16.0				
B / A	M25	3/4"	19.9	18.0	15.9	30	144			11.1	19.7	12.0	20.5
		1"						12.0	20.5				
C / B	M32	1"	26.2	24.3	21.9	42				17.6	26.5	16.9	26.0
		1 1/4"						16.9	26.0				
C2 / C	M40	1 1/4"	32.3	30.3	26.7	60				23.1	32.5	22.0	33.0
		1 1/2"						22.0	33.0				
D / C2	M50	1 1/2"	44.2	41.9	37.7	80				28.9	42.3	28.0	41.0
		2"						28.0	41.0		44.4		
E / D	M63	2"	56.0	52.9	49.0	100				39.9	54.3	36.0	56.6
		2 1/2"						36.0	56.6		56.3		
F / E	M75	2 1/2"	68.0	64.9	59.8	120				50.5	65.3	46.0	65.3
		3"						46.0	65.3		68.2		



Gland Type 710 specifications

SIZE REF.	THREAD SIZES		CABLE ACCEPTANCE DETAILS						CABLE ACCEPTANCE DETAILS			
			INNER SHEATH		CORES		OUTER SHEATH		INNER SHEATH	MAX. NO. OF CORES	OUTER SHEATH	
	MIN	MAX			MAX OVER CORES	MAX. NO. OF CORES					MAX	MIN
			Metric	NPT								
Os	M16	1/2"	0.14"	0.32"	0.31"	12	0.22"	0.47"	0.39"	6	0.22"	0.47"
	M20											
O	M16	1/2"	0.26"	0.46"	0.35"	12	0.37"	0.63"	0.39"	6	0.37"	0.63"
	M20											
A	M20	1/2"	0.33"	0.55"	0.43"	15	0.49"	0.81"	0.49"	10	0.49"	0.81"
		3/4"										
B	M25	3/4"	0.44"	0.78"	0.63"	30	0.67"	1.02"	0.72"	21	0.67"	1.02"
		1"										
C	M32	1"	0.69"	1.03"	0.86"	42	0.87"	1.3"	0.97"	42	0.87"	1.3"
		1 1/4"										
C2	M40	1 1/4"	0.91"	1.27"	1.05"	60	1.1"	1.61"	1.17"	60	1.1"	1.61"
		1 1/2"										
D	M50	1 1/2"	1.14"	1.74"	1.48"	80	1.42"	2.07"	1.64"	80	1.42"	2.07"
		2"										
E	M63	2"	1.57"	2.2"	1.93"	100	1.81"	2.57"	2.11"	100	1.81"	2.57"
		2 1/2"										
F	M75	2 1/2"	1.99"	2.68"	2.35"	120	2.24"	3.07"	2.57"	120	2.24"	3.07"
		3"							2.61"			

Gland Type 711 specifications

SIZE REF.	THREAD SIZES Parallel Threads are medium fit or better		CABLE ACCEPTANCE DETAILS						CABLE ACCEPTANCE DETAILS			
			INNER SHEATH		CORES		OUTER SHEATH		INNER SHEATH	MAX. NO. OF CORES	OUTER SHEATH	
	MIN	MAX			MAX OVER CORES	MAX. NO. OF CORES					MAX	MIN
			Metric	NPT								
A	M20	1/2"	0.41"	0.55"	0.43"	15	0.49"	0.81"	0.64"	10	0.49"	0.81"
		3/4"										
B	M25	3/4"	0.49"	0.78"	0.63"	30	0.67"	1.02"	0.94"	21	0.67"	1.02"
		1"										



SIZE REF.	THREAD SIZES Parallel Threads are medium fit or better		CABLE ACCEPTANCE DETAILS						CABLE ACCEPTANCE DETAILS			
			INNER SHEATH		CORES		OUTER SHEATH		INNER SHEATH	MAX. NO. OF CORES	OUTER SHEATH	
	MAX OVER CORES	MAX. NO. OF CORES			MIN	MAX						
			Metric	NPT			MIN	MAX	MIN	MAX	MAX	MIN
C	M32	1"	0.85"	1.02"	0.86"	42	0.87"	1.3"	1.24"	42	0.87"	1.3"
		1 1/4"										
C2	M40	1 1/4"	1.17"	1.27"	1.05"	60	1.1"	1.61"	1.59"	60	1.1"	1.61"
		1 1/2"										
D	M50	1 1/2"	1.37"	1.74"	1.48"	80	1.42"	2.07"	1.97"	80	1.42"	2.07"
		2"										
E	M63	2"	1.76"	2.2"	1.93"	100	1.81"	2.57"	2.55"	100	1.81"	2.57"
		2 1/2"										
F	M75	2 1/2"	2.29"	2.68"	2.35"	120	2.24"	3.07"	2.99"	120	2.24"	3.07"
		3"										

Gland Type 753 specifications

SIZE REF.	THREAD SIZES Parallel Threads are medium fit or better		CABLE ACCEPTANCE DETAILS						CABLE ACCEPTANCE DETAILS			
			INNER SHEATH		CORES		OUTER SHEATH		INNER SHEATH	MAX. NO. OF CORES	OUTER SHEATH	
	MAX OVER CORES	MAX. NO. OF CORES			MIN	MAX						
			Metric	NPT			MIN	MAX	MIN	MAX	MAX	MIN
Os	M16	1/2"	0.14"	0.32"	0.31"	12	0.22"	0.47"	0.39"	6	0.22"	0.47"
	M20											
O	M16	1/2"	0.26"	0.46"	0.35"	12	0.37"	0.63"	0.39"	6	0.37"	0.63"
	M20											
A	M20	1/2"	0.33"	0.55"	0.43"	15	0.49"	0.81"	0.49"	10	0.49"	0.81"
		3/4"										
B	M25	3/4"	0.44"	0.78"	0.63"	30	0.67"	1.02"	0.72"	21	0.67"	1.02"
		1"										
C	M32	1"	0.69"	1.03"	0.86"	42	0.87"	1.3"	0.97"	42	0.87"	1.3"
		1 1/4"										
C2	M40	1 1/4"	0.91"	1.27"	1.05"	60	1.1"	1.61"	1.17"	60	1.1"	1.61"
		1 1/2"										



SIZE REF.	THREAD SIZES Parallel Threads are medium fit or better		CABLE ACCEPTANCE DETAILS						CABLE ACCEPTANCE DETAILS			
			INNER SHEATH		CORES		OUTER SHEATH		INNER SHEATH	MAX. NO. OF CORES	OUTER SHEATH	
	MAX OVER CORES	MAX. NO. OF CORES			MAX	MAX					MIN	MAX
			MIN	MAX			MIN	MAX				
D	M50	1 1/2"	1.14"	1.74"	1.48"	80	1.42"	2.07"	1.64"	80	1.42"	2.07"
		2"										
E	M63	2"	1.57"	2.2"	1.93"	100	1.81"	2.57"	2.11"	100	1.81"	2.57"
		2 1/2"										
F	M75	2 1/2"	1.99"	2.68"	2.35"	120	2.24"	3.07"	2.57"	120	2.24"	3.07"
		3"										

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Cable glands listed by this certificate have been subjected to overpressure test up to 62 bar/900 Psi.

Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. Cable glands of type 501/453/UNIV, when fitted with unarmoured cables, shall be provided with an additional clamping device to prevent pulling or twisting forces transmitting to the terminations.
- ii. Cable glands of sizes D, E and F and containing XO99-41/2 resin, when fitted with unarmoured cables, shall be provided with an additional clamping device to prevent pulling or twisting forces transmitting to the terminations.
- iii. The ICG 653 UNIV, 501/453 UNIV cable glands when fitted with cold shrink on the cable outer sheath of specific cable types, the assembly instruction shall be implemented with Hawke drawing No. 320000 for those particular cable types.
- iv. Glands for use with braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.