



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 SIR 16.0007X** issue No.:1

Certificate history:
Issue No. 1 (2017-8-4)
Issue No. 0 (2016-5-18)

Status: **Current**

Date of Issue: **2017-08-04** Page 1 of 4

Applicant: **CMP Products Ltd**
36 Nelson Way, Nelson Park East
Cramlington, Northumberland NE23 1WH
United Kingdom

Equipment: **A2FHT, RA2FHT, A2FHTHC, RA2FHTHC, A2F, RA2F, A2FHC, RA2FHC Series of Cable Glands**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety Restricted Breathing and Dust Protection by Enclosure**

Marking: Refer to the Annexe

Approved for issue on behalf of the IECEX Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature: (for printed version)

Date:

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:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom





IECEX Certificate of Conformity

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Manufacturer: **CMP Products Ltd**
Glasshouse Street
St Peters
Newcastle upon Tyne NE6 1BS
United Kingdom

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 : 2014-06 Edition: 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition: 5.0	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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:
GB/SIR/ExTR16.0118/00

GB/SIR/ExTR17.0146/00

Quality Assessment Report:

GB/SIR/QAR07.0009/06



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

A2FHT, RA2FHT, A2FHTHC, RA2FHTHC, A2F, RA2F, A2FHC, RA2FHC Series of Cable Glands. A full description can be found in the certificate Annexe.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. All cable gland types and sizes are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
2. The front threaded 'entry item' may be provided with, but not limited to, an alternative nearest equivalent recognised thread type and size to the metric thread, whilst maintaining a tolerance of fit, equal or better than, a medium fit to ISO 965-1 & ISO 965-3. Intended for use within existing installations only, that incorporate thread types that are no longer permitted by the current edition of IEC 60079-1, but comply with the requirements of IEC 60079-1:2001.
For example:
 - ET - BS 31:1940 (1979) Table 'A'.
 - PG - DIN 40430:1971.
 - BSPP - BS2279:1986 class A full form for external threads.
 - BSPT - BS21:1985 standard threads only as clause 5.4, gauging to clause 5.2, system A.
 - ISO - ISO 7/1:1994 gauging to ISO 7/2 clause 6.3 for external threads.
 - NPSM - ANSI/ASME B1.20.1:1983 B1.20.1-1983 gauging to clause 9 for external threads.
3. Ingress discs shall be removed (not remain fitted within cable glands) intended for installation within flameproof (Ex d) enclosures.



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

Refer to Annexe

Annex to: IECEx SIR 16.0007X Issue 1

Applicant: CMP Products Ltd

Apparatus: A2FHT, RA2FHT, A2FHHC, RA2FHHC,
A2F, RA2F, A2FHC, RA2FHC Series of
Cable Glands



The **A2FHT Series and A2F Series of cable glands** allow circular unarmoured or braided/screened cables to enter associated enclosures to which they are fitted (as defined by their coding) without compromising the explosion protection that it provides. They are manufactured from the following component parts:

- Metallic **entry item** hexagonal in form which is partially threaded at one end with a male metric or NPT thread used to secure the entry item to the associated enclosure. At the other end there is a partially turned external surface which is provided for placement of the product markings. At this end the internal profiled bore of the component is partially threaded with a female thread to accept engagement of the outer seal nut.
- Elastomeric **sealing ring** which is inserted into the female threaded end of the entry item which, when displaced by tightening of the outer seal nut, secures the incoming cable in place, along with providing 'sealing' and ingress protection.
- **Stepped skid washer** hollow 'top hat' in form, is fitted into the recessed bore of the outer seal nut. Which upon tightening of the outer seal nut, aids axial displacement of the sealing ring and limits any twisting of the cable within the cable gland during installation.

Note:

Metallic stepped skid washer in *A2FHT Series*

Metallic or Polymeric stepped skid washer in *A2F Series* (dependent upon gland size)

- Metallic **outer seal nut**, hexagonal in form, is partially threaded at one end with a male thread which engages with the entry items and upon tightening displaces the sealing ring onto the cable. Internally the bore is recessed at one end to accommodate the stepped skid washer, and the other end is machined with an internal radius to reduce the risk of damage to cable sheath/jacket.

The cable gland and sealing ring sizes are determined by the entry thread and cable range take sizes:

A2FHT Series					
Gland Size	Entry Thread			Cable Outer Sheath Ø	
	Standard (metric)	Standard (NPT)	Optional (NPT)	Min. (mm)	Max. (mm)
16	M16 x 1.5	3/8"	-	3.2	8.0
20S16	M20 x 1.5	1/2"	3/4"	3.2	8.0
20s	M20 x 1.5	1/2"	3/4"	6.5	11.2
20	M20 x 1.5	1/2"	3/4"	7.0	13.5
25	M25 x 1.5	3/4"	1"	11.5	19.5
32	M32 x 1.5	1"	1 1/4"	19.0	25.5
40	M40 x 1.5	1 1/4"	1 1/2"	25.0	32.2
50S	M50 x 1.5	1 1/2"	2"	31.0	38.2
50	M50 x 1.5	2"	2 1/2"	35.6	44.0
63S	M63 x 1.5	2"	2 1/2"	41.5	49.9
63	M63 x 1.5	2 1/2"	3"	48.2	54.9
75S	M75 x 1.5	2 1/2"	3"	54.0	61.9

Date: 04 August 2017

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Sira Certification Service

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Annex to: IECEx SIR 16.0007X Issue 1

Applicant: CMP Products Ltd

Apparatus: A2FHT, RA2FHT, A2FHTHC, RA2FHTHC,
A2F, RA2F, A2FHC, RA2FHC Series of
Cable Glands



A2F Series					
Gland Size	Entry Thread			Cable Outer Sheath Ø	
	Standard (metric)	Standard (NPT)	Optional (NPT)	Min. (mm)	Max. (mm)
16	M16 x 1.5	3/8"	-	3.2	8.7
20S16	M20 x 1.5	1/2"	3/4"	3.2	8.7
20S	M20 x 1.5	1/2"	3/4"	6.5	11.7
20	M20 x 1.5	1/2"	3/4"	7.0	14.0
25	M25 x 1.5	3/4"	1"	11.1	20.0
32	M32 x 1.5	1"	1 1/4"	18.2	26.3
40	M40 x 1.5	1 1/4"	1 1/2"	23.5	32.2
50S	M50 x 1.5	1 1/2"	2"	31.0	38.2
50	M50 x 1.5	2"	2 1/2"	35.6	44.0
63S	M63 x 1.5	2"	2 1/2"	41.5	49.9
63	M63 x 1.5	2 1/2"	3"	47.2	55.9
75S	M75 x 1.5	2 1/2"	3"	54.0	61.9
75	M75 x 1.5	3"	3 1/2"	61.1	67.9
90	M90 x 2.0	3 1/2"	4"	66.6	79.9
100	M100 x 2.0	3 1/2"	4"	76.0	89.0
115	M115 x 2.0	4"	5"	86.0	97.9
130	M130 x 2.0	5"	-	97.0	114.9

Design options

- The front threaded **entry item** may be manufactured with a profiled groove to captivate an 'O' ring seal which locates on the mating face with the associated enclosure. This option having the gland type designation prefixed with the letter R, e.g. **RA2FHT Series**.
- Alternative materials of manufacture for metallic components:
 - Brass to BS EN 12164:2011 / BS EN 12168:2011 Grade CuZn39Pb (CW614N)
 - Stainless steel to BS EN 10088-3:2014 Grades 316S11, 316S13, 316S31 or 316S33, 316L
 - Mild steel to BS EN 10277-2:2008 Grades 220M07, 230M07 (EN1A) / 220M07Pb, 230M07Pb (EN1APb)
- The front threaded **entry item** may be manufactured with any larger metric or NPT thread form size from the sizes certified.
- The front threaded **entry item** may be manufactured with an alternative nearest equivalent recognised thread type and size to the metric thread sizes certified.

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Annex to: IECEx SIR 16.0007X Issue 1

Applicant: CMP Products Ltd

Apparatus: A2FHT, RA2FHT, A2FHHC, RA2FHHC,
A2F, RA2F, A2FHC, RA2FHC Series of
Cable Glands



Conditions Of Manufacture

- i. Cable gland sizes with polymeric stepped skid washers may alternatively be supplied with metallic stepped skid washers
- ii. Cable gland metallic parts are to be supplied in alike materials, alternatively a brass or nickel plated brass stepped skid washer may be used within steel and stainless steel glands.
- iii. The front threaded **entry item** of any model series, when manufactured with a larger thread form, or larger technical equivalent thread form, to the standard metric or NPT sizes approved and detailed on the certification documentation will only differ as follows:
 - These entry item dimensions must remain the same:
 - o The front bore diameter and profile and sealing ring taper angle.
 - o Outer seal engagement thread diameter and length.
 - All other dimensions may be altered to match those of the larger approved cable gland size, provided that the overall cable gland protrusion length (whichever is greater between the original cable gland size or the larger approved cable gland size) is not exceeded.
- iv. Cable gland size 25P shall not be manufactured in aluminium.
- v. Cable glands marked solely for flameproof (Ex 'd') applications i.e 'Ex db IIC Gb' shall not be fitted with the ingress disc.
- vi. Cable Glands supplied with ingress discs shall not be marked suitable for IPX7 or IPX8 applications.

Marking

A2FHT Series & RA2FHT Series, A2FHHC Series & RA2FHHC Series, A2F Series & RA2F Series, A2FHC Series & RA2FHC Series

Ex db IIC Gb

Ex eb IIC Gb

Ex ta IIIC Da

Ex nRc IIC Gc

IP66, IP67, IP68 (30m for 12hrs)

Service Temperature Range, see Notes below

Notes

The cable gland may alternatively be marked with a single concept of protection or any combination thereof as detailed above

The 'EPL' codes may be omitted from the marking string.

Service Temperature Ranges:

A2F-Series & RA2F-Series, A2FHC Series & RA2FHC Series

-60°C to +130°C

A2FHT-Series & RA2FHT-Series, A2FHHC Series & RA2FHHC Series

-60°C to +180°C

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Cable Glands



Details Of Certificate Changes (for issues 1 and above):

Issue 1 – this Issue introduced the following change:

- To permit the alternative material of manufacture for metallic component parts of all cable gland model series, namely;
 - Aluminium to :-
BS EN 573-3:2013 / BS EN 755-1, -2, & -3:2008 Grades 6082 T6 or 6262 T6
BS EN 1676:2010 grade LM25 TF
- To permit all cable gland model series to be additionally marked suitable for an ingress protection rating IPX7, and IPX8 to 30m for 12hrs.
- To permit all manufactured brass component parts of all cable gland model series to be nickel plated..
- To permit metric threaded cable entry spigots of all cable gland model series to be manufactured with a thread pitch between 0.7mm and 2.0mm, with 1.5mm as standard.
- The introduction of the following low profile 'across corners' envelope cable gland sizes, with the cable gland size suffix code designation 'P':

Gland Size	16P	20S16P	20SP	20P	25P*
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(* not available in aluminium)

The differences to the standard cable gland sizes, are-

- the entry item component is machined from round bar, equal to the standard gland size across corners dimensions, with a central portion machined to a hexagonal profile, having reduced across flats from the standard gland size. Along with a minor increase in length resulting from an increase to the conical wall thickness.
 - the gland nut component (dependent upon model series and gland size), having reduced across flats and across corners dimensions from the standard gland size. Along with their maximum inner most bore dimension being reduced.
- Introduction of a model code series suffixed 'HC' for all cable gland model series, up to either gland size 75S or gland size 75 (dependent upon model series), which includes an alternative nut that is extended to provide a plain circular portion, to facilitate the connection of a hose that provides additional mechanical and environmental protection of the cable terminated within the cable gland.
Note:
The compression nut may alternatively be machined with a dimensionally equivalent 'smaller' certified gland size hose connection feature. In this instance the upper cable sealing diameter range being reduced accordingly.
 - The recognition of minor drawing modifications; these amendments are administrative or involve changes to components and design that do not affect the aspects of the product that are relevant to explosion safety, some of the generic changes are listed below:
 - Typographical clarification of gland size references that do not form part of the approval on some model series.
 - Typographical correction to gland size bar tolerances to some component parts on some model series.
 - Typographical addition for clarification between drawings images and related drawing notes.
 - Clarification of previous source test data within assessment report numbers R70055973A, Section 2.3.1.3, and T70055973A. Along with a typographical correction to the marking section within assessment report number R70055973A.
 - To permit the optional use of an internally fitted brass or brass plated ingress disc between the seal and the stepped washer component parts within 'A2F' Series & 'RA2F' Series, 'A2FHT' Series & 'RA2FHT' Series cable glands. Changing their function to a cable entry blanking device prior to cable installation, as a result a Condition of Manufacture was introduced.

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