



EU Type Examination Certificate CML 18ATEX1307 Issue 1

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **A2F100, RA2F100, A2F100HC, RA2F100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands**
- 3 Manufacturer **CMP Products Ltd**
- 4 Address **Unit 36 Nelson Way,
Nelson Park East,
Cramlington, NE23 1WH,
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-1:2014

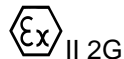
EN IEC 60079-7:2015+A1:2018

EN 60079-31:2014

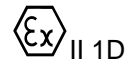
- 10 The equipment shall be marked with the following:



Ex db I Mb
Ex eb I Mb



Ex db IIC Gb*
Ex eb IIC Gb*



Ex ta IIIC Da*

IP66 IP67 IP68 (30m for 12 hours)

Ts = -60°C to +130°C

* Not A2F100/M, RA2F100/M, A2F100HC/M & RA2F100HC/M Series



11 Description

The A2F100, RAF100, A2F100HC, RA2F100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges 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.
- Metallic 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.
- 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.
- 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. 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 cable gland and sealing ring sizes are determined by the entry thread and cable range take sizes:

Gland Size	Entry Thread			Cable Outer Sheath	
	Standard (Metric)	Standard (NPT)	Optional (NPT)	Min. (mm)	Max. (mm)
16	M16x1.5	3/8"	-	3.2	8.0
20S16	M20x1.5	1/2"	3/4"	3.2	8.0
20S	M20x1.5	1/2"	3/4"	6.5	11.2
20	M20x1.5	1/2"	3/4"	7.0	13.5
20L	M20x1.5	1/2"	3/4"	8.7	14
25	M25x1.5	3/4"	1"	11.5	19.5
25L	M25 x 1.5	3/4"	1"	14.0	20.0
32	M32 x 1.5	1"	1 1/4"	19.0	25.5
32L	M32 x 1.5	1"	1 1/4"	20.2	26.3
40	M40 x 1.5	1 1/4"	1 1/2"	25.0	32.2



Gland Size	Entry Thread			Cable Outer Sheath	
	Standard (Metric)	Standard (NPT)	Optional (NPT)	Min. (mm)	Max. (mm)
50S	M50 x 1.5	1 ½"	2"	31.0	38.2
50	M50 x 1.5	2"	2 ½"	35.6	44.0
63S	M63 x 1.5	2"	2 ½"	41.5	49.9
63	M63 x 1.5	2 ½"	3"	48.2	54.9
75S	M75 x 1.5	2 ½"	3"	54.0	61.9
75	M75 x 1.5	3"	3 ½"	61.1	67.9
90	M90 x 2.0	3 ½"	4"	66.6	79.9
100	M100 x 2.0	3 ½"	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 of the associated enclosure. This option having the cable gland type designation prefixed with the letter R, e.g. RA2F100 Series.

The front threaded entry item may be manufactured with any larger metric or NPT thread form size from the sizes certified.

The optional use of an internally fitted brass or brass plated ingress disc between the seal and the stepped washer component parts within 'A2F100' Series & 'RA2F100' Series cable glands, gland sizes 16 through to and inclusive of 75S.

The option to manufacture with a low profile 'across corners' envelope cable gland sizes, with the cable gland size suffix code designation 'P':

Gland Size	16P	20S16P	20SP	20P	20LP	25P*	25LP*
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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.

D3CDS Range

The D3CDS Range of Cable Glands are identical to the A2F100 Range, except the outer seal nut is replaced with an item which houses a cone and clamping ring to terminate the braid of the associated cable. The D3CDS Range is only available in sizes 40 to 75.



CML 18ATEX1307
Issue 1

Materials of manufacture:

The A2F100, RAF100, A2F100HC, RA2F100HC, A2F100/M, RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS Ranges of Cable Glands are manufactured in brass, stainless steel, mild steel and aluminium. All brass manufactured component parts can be optionally nickel plated. All mild steel manufactured component parts can be optionally zinc plated.

Examples of alternative entry component threadforms:

ET (Conduit)
PG
BSPP
BSPT
ISO
NPSM
NPT

Metric threads of all model ranges to be manufactured with a pitch between 0.7 mm and 2.0 mm, with 1.5 mm as standard.

Notes:

- Sira 16ATEX1018 and IECEx SIR 16.0006 are superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by Sira 16ATEX1018 and IECEx SIR 16.0006.
- Where Sira 16ATEX1018 and IECEx SIR 16.0006 is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

Variation 1

This variation introduces the following modifications:

- i. The introduction of a certificate schedule drawing detailing critical parts.
- ii. The introduction of a new size hose connection variant (20/20L A2F100HC (16)).
- iii. The introduction of a new D3CDS model series.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	27 Mar 2019	R12060C/00	Issue of Prime Certificate
1	23 Jan 2020	R12735A/00 R12922A	Introduction of Variation 1

Note: Drawings that describe the equipment or component are listed in the Annex.



CML 18ATEX1307
Issue 1

13 Conditions of Manufacture

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

- i. 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.
- ii. The front threaded entry item of any model series, when manufactured with a larger thread size 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:
 - The front bore diameter and profile and sealing ring taper angle.
 - 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.
- iii. Cable gland model code series suffixed 'HC' manufacturer with a 3/8" NPT threaded spigot shall not be marked suitable for Group I applications.
- iv. Cable gland sizes 25P and 25LP shall not be manufactured in aluminium.
- v. Aluminium cable glands shall not be marked suitable for Group I applications.
- vi. Cable Glands supplied with ingress discs shall not be marked suitable for Group I applications.
- vii. Cable Glands supplied with ingress discs shall not be marked suitable for IPX7 or IPX8 applications.

14 Specific Conditions of Use (Special Conditions)

None.

Certificate Annex

Certificate Number CML 18ATEX1307
Equipment A2F100, RAF100, A2F100HC, RA2F100HC, A2F100/M,
RA2F100/M, A2F100HC/M, RA2F100HC/M & D3CDS
Ranges of Cable Glands
Manufacturer CMP Products Ltd



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
GA926	1 of 2	02	27 Mar 2019	General Arrangement A2F – 100% & 25% HT
SCH0405	1 of 4	01	27 Mar 2019	100% & 25% HT A2 Outer Seal Nut
SCH0405	3 of 4	01	27 Mar 2019	100% & 25% HT HC Nut
SCH0406	1 of 4	01	27 Mar 2019	100% & 25% HT A2F Entry Item
SCH0407	2 of 2	01	27 Mar 2019	Metallic Step Washer
SCH0408	1 of 2	01	27 Mar 2019	100% & 25% HT A2 Seals
SCH0408	2 of 2	01	27 Mar 2019	A2 Seals (standard/100)
SCH0411	1 of 4	00	27 Mar 2019	100% & 25% HT A2 'P' Gland Size Outer Seal Nut
SCH0411	3 of 4	00	27 Mar 2019	100% & 25% HT A2 'P' Gland Size HC Nut
SCH0412	1 of 4	00	27 Mar 2019	100% & 25% HT A2F 'P' Gland Size Entry Item
SCH0418	1 of 1	00	27 Mar 2019	'A' – Series Ingress Disc
MP888	1 to 4	13	27 Mar 2019	Manufacturing Tolerance Parameters

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
GA926	1 to 2	03	23 Jan 2020	General Arrangement A2F – 100% & 25% HT
SCH0405	1 to 4	02	23 Jan 2020	100% & 25% HT A2 Outer Seal Nut
SCH0525	1 of 1	00	23 Jan 2020	D3CDS Item 1
SCH0526	1 of 1	00	23 Jan 2020	D3CDS Nut
SCH0527	1 of 1	00	23 Jan 2020	Locking Ring
SCH0528	1 of 1	00	23 Jan 2020	Cone & Sleeve