



1 **TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 13ATEX4079X** Issue: **4**

4 Equipment: **Cable Gland Types Triton T3** and TE****

5 Applicant: **CMP Products Ltd**

6 Address: Glasshouse Street
St Peters
Newcastle upon Tyne
NE6 1BS
UK

7 This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 2 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0:2012

EN 60079-15:2010

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:



II 3G

Ex nR IIC Gc

Ta = -60°C to +130°C ①

-20°C to +200°C ②

① When fitted with the standard seal

② When fitted with the high temperature seal

Project Number 70057790

C Ellaby
Deputy Certification Manager

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13 DESCRIPTION OF EQUIPMENT

T3CDS – a range of displacement type cable glands, each comprises of a hollow threaded entry component containing an elastomeric compensating displacement seal (CDS) system with associated ferrule, a skid washer, flameproof sealing ring with compensator, a reversible clamping sleeve and armour cone are provided for termination of various armour types. The flameproof sealing assembly is actuated by an inner seal nut. The entry component is fitted with an “O” ring seal to provide increased ingress and deluge protection. Clamping of the armoured or braided cable is effected by a combination of the entry component, main body and the different optional armour cone and armour sleeve combinations being fastened together. An outer seal nut, containing an elastomeric sealing ring and a Nylon 6 ferrule, threads onto the main body and effects environmental sealing onto the cable outer sheath. The glands are intended for use with appropriately sized SWA, P.W.A., strip armoured, tape armoured or braided cables. The design is such that a constant pressure is maintained on the displacement seal by the use of the compensation ferrule.

T3CDS series suffixed ‘R’ or alternatively named TE1FU series – Identical to the above but incorporating an external shorter gland body to provide a reduced overall length.

T3CDS/PB - Identical to the T3CDS Type but incorporating a continuity washer and are suitable for use with lead sheathed cables.

Design Options

- The front entry component 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. 25RT3CDS.
- Materials of manufacture:
Brass to EN12168:1998 Grade CuZn39Pb (CW614N)
Mild steel to BS EN 10088-3:2005 Grade 220M07Pb
Stainless steel to BS EN 10088-3:2005 Grade 316S11, 316S13, 316S31 or 316S33
Aluminium alloy not inferior to grade 6082 to EN755,1-3:1996 or LM25 to BS EN 1676:2010 (Not Group I)
- Alternative entry component thread forms:
Metric ISO 965-1, ISO965-3 medium fit (6g) for external threads
ET(Conduit) BS 31:1940 (1979), Table A
PG DIN 40430:1971
BSPP BS 2779:1973 class A full form for external threads
BSPTBS 21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A
ISOISO 7/1:1982, gauging to ISO 7/2 clause 6.3 for external threads
NPTANSI/ASME B1.20.1-1983 gauging to clause 8.1 for external threads
NPSMANSI/ASME B1.20.1-1983 gauging to clause 9 for external threads
- The option to manufacture glands with entry threads that are one size up from the nominal quoted gland size.
- The option to have an alternative entry component profile that incorporates an earth lug.
- Single or double sided cone with an identically dimensioned plain taper each side for SWA type cables.

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- Single or double sided cone with an identically dimensioned grooved taper each side for SWA, P.W.A., strip armoured, tape armoured or braided type cables.
- Cable glands may be fitted with armour cones with alternative diameters to allow the clamping of smaller or larger armour wires and braided cables.
- The use of seals suitable for flat form cables
- Alternative outer seal arrangement to allow the glands to be fitted to flexible conduit.
- The option to fit a blanking disc between the outer seal and the main body to maintain a minimum IP66 rating. The disc is to be marked 'Ex e only' to indicate that the gland is not suitable for Ex d applications when the disc is fitted.

T3CDS	→	PB =	Alternative cone assembly incorporating an additional metallic continuity diaphragm for the use with inner lead sheathed SWA and braided cables.
		VAR =	Optional metallic continuity device for use with variable speed drive (VSD) / variable frequency drive (VFD) cables.
		FF =	Fitted with seals suitable for use with flat form cables.
→	"Blank"	=	Standard gland arrangement with reversible armour cone.
	W	=	Fitted with single plain armour cone to suit SWA cables.
	X	=	Fitted with single grooved armour cone to suit SWA, STA, strip armoured, pliable wire armoured and braided cables.
	R	=	Alternative type number to the TE1FU types.

TE 1 F	PB	→	VAR =	Optional metallic continuity device for use with variable speed drive (VSD) / variable frequency drive (VFD) cables.
			FF =	Fitted with seals suitable for use with flat form cables.
→	"Blank"	=	Standard circular armoured and braided cables.	
	PB	=	Fitted with additional metallic continuity diaphragm for the use with inner lead sheathed SWA, strip armoured and braided cables.	
	W	=	Fitted with single plain armour cone to suit SWA cables.	
	X	=	Fitted with single grooved armour cone to suit SWA, STA, strip armoured, pliable wire armoured and braided cables.	
	U	=	Fitted with a universal cone to suit SWA, STA, strip armoured, pliable wire armoured and braided cables.	

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The gland and seal sizes are determined by the entry thread and cable range-take sizes:

Gland size	Entry thread	Entry thread 'B' version	Inner seal sheath range ø (mm)		SWA, STA, strip armour, pliable wire armour & wire braid (mm)		SWA (mm)		Outer seal sheath range ø (mm)	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
16	M16x1.5	---	3.1	8.7	0	0.8	0.8	1.25	6.1	13.2
20S16	M20x1.5	M25x1.5	3.1	8.7	0	0.8	0.8	1.25	6.1	13.2
20S16/20S	M20x1.5	M25x1.5	3.1	8.7	0	0.8	0.8	1.25	9.5	15.9
20S	M20x1.5	M25x1.5	6.1	11.7	0	0.8	0.8	1.25	9.5	15.9
20	M20x1.5	M25x1.5	6.5	14.0	0	0.8	0.8	1.25	12.5	20.9
25S	M25x1.5	M32x1.5	11.1	20.0	0	1.1	1.25	1.6	14.0	22.0
25	M25x1.5	M32x1.5	11.1	20.0	0	1.1	1.25	1.6	18.2	26.2
32	M32x1.5	M40x1.5	17.0	26.3	0	1.2	1.6	2.0	23.7	33.9
40	M40x1.5	M50x1.5	22.0	32.2	0	1.2	1.6	2.0	27.9	40.4
50S	M50x1.5	M63x1.5	29.5	38.2	0	1.5	2.0	2.5	35.2	46.7
50	M50x1.5	M63x1.5	35.6	44.1	0	1.5	2.0	2.5	40.4	53.1
63S	M63x1.5	M75x1.5	40.1	50.0	0	1.5	2.0	2.5	45.6	59.4
63	M63x1.5	M75x1.5	47.2	56.0	0	1.5	2.0	2.5	54.6	65.9
75S	M75x1.5	M90x2.0	52.8	62.0	0	1.5	2.5	3.0	59.0	72.1
75	M75x1.5	M90x2.0	59.1	68.0	0	1.6	2.5	3.0	66.7	78.5
90	M90x2.0	M100x2.0	66.6	80.0	0	1.6	3.15	4.0	76.2	90.4
100	M100x2.0	M115x2.0	76.0	91.0	0	1.6	3.15	4.0	86.1	101.5
115	M115x2.0	M130x2.0	86.0	98.0	0	1.6	3.15	4.0	101.5	110.3
130	M130x2.0	---	97.0	115.0	0	1.6	3.15	4.0	110.2	123.3

T3 series suffixed 'FF' or TE series suffixed 'FF' in these sizes only.

Gland size	Entry thread	Entry thread 'B' version	Cable inner seal sheath range- (mm)		Cable outer seal sheath range (mm)	
			Min.	Max.	Min.	Max.
20s	M20 x 1.5	M25 x 1.5	4.0 x 6.2	6.8 x 11.7	4.4 x 7.8	6.8 x 11.7
20	M20 x 1.5	M25 x 1.5	5.7 x 8.0	8.7 x 13.5	4.4 x 10.9	8.7 x 16.0

Variation 1 - This variation introduced the following changes:

- i. The introduction of alternate model numbers for the following cable glands:

Current model number	Alternate model number
TE1FU	T3CDS/R
TE1FUVAR	T3CDSVAR/R
TE1FUHT	T3CDSFF/R

The introduction of replacement model numbers for the following cable glands:

Current model number	Replacement model number(s)
TE1FWHT	TE1FWFF
TE1FXHT	TE1FXFF
TE1FUHT	TE1FUFF or T3CDSFF/R

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Current model number	Replacement model number(s)
TE2FW	TE1FWPB
TE2FWVAR	TE1FWPBVAR
TE2FWHT	TE1FWPBFF
TE2FX	TE1FXPB
TE2FXVAR	TE1FXPBVAR
TE2FXHT	TE1FXPBFF
TE2FU	TE1FUPB or T3CDSPB/R
TE2FUVAR	TE1FUPBVAR
TE2FUHT	TE1FUPBFF

E.g. TE1F __ becoming the standard model, and TE1F_ PB becoming the design variant replacing the TE2F__ model

The product description was revised due to the introduction of new/alternate model numbers.

- ii. The recognition of minor drawing modifications; omissions and clarifications; these amendments are administrative and do not affect the aspects of the product that are relevant to explosion safety.
- iii. The marking requirements with regards to the seal temperature and CE marking were revised.

Variation 2 - This variation introduced the following changes:

- i. The introduction of a version of the brass, size 63 gland that has a longer intermediate body; this version is recognised as the T3CDSL_-. The gland and seal sizes are determined by the entry thread and cable range-take sizes, as detailed below:

Gland size	Entry thread	Entry thread 'B' version	Inner seal sheath range ø (mm)		SWA, STA, strip armour, pliable wire armour & wire braid (mm)		SWA (mm)		Outer seal sheath range ø (mm)	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
63	M63x1.5	M75x1.5	47.2	56.0	0	1.5	2.0	2.5	54.6	65.9

- ii. Extra information was added to the General Arrangement drawing; this does not affect the product design and has been included to clarify the construction/range taking capability of the glands and to correct oversights.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	03 May 2013	R27765A/00	The release of prime certificate.
1	06 June 2013	N/A	Issued to correct a typographical error
2	29 September 2014	R70004743A	The introduction of Variation 1.
3	17 June 2015	N/A	The list of drawings was corrected in line with that specified in report R70004743A.
4	04 February 2016	R70057790A	The introduction of Variation 2.

15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The glands when used for terminating braided cables are only suitable for fixed installations. Cables must be effectively clamped to prevent pulling or twisting.
- 15.2 When the cable glands are supplied with an entry thread that is one size up from the nominal gland size, designated with the letter 'B' after the gland size, e.g. 32**B******, they shall not be used with any adaptor device.
- 15.3 When assembled for fitting to flexible conduit, the conduit shall be effectively clamped to prevent twisting and pulling.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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Certificate Annexe



Certificate Number: Sira 13ATEX4079X
Equipment: Cable Gland Types Triton T3** and TE**
Applicant: CMP Products Ltd

Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
GA356	1 of 1	00	29 Apr 13	TE1FU General arrangement & marking
GA357	1 of 1	00	29 Apr 13	Triton T3CDS General arrangement & marking
SCH0322	1 of 1	00	13 Mar 13	Outer seal details
SCH0323	1 of 1	00	13 Mar 13	Armour clamp details
SCH0328	1 of 1	00	13 Mar 13	CDS Assembly details

Issue 1 (No new drawings were introduced.)

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GA356	1 of 1	01	21 Jul 14	TE1FU General arrangement & marking
GA357	1 of 1	01	21 Jul 14	Triton T3CDS General arrangement & marking
SCH0322	1 of 1	01	23 Jun 14	Outer seal details
SCH0323	1 of 1	01	23 Jun 14	Armour clamp details
SCH0328	1 of 1	01	23 Jun 14	CDS Assembly details

Issue 3 (No new drawings were introduced.)

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GA357	1 of 1	03	14 Jan 16	Triton T3CDS General arrangement & marking
CMP36725	1 of 1	00	14 Jan 16	63 T3CDSL Intermediate body

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