



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 01ATEX1284U** Issue: **5**

4 Component: **Type 737, 747, 757, 767, 797, 781, 787 and 780 Ranges of Adaptors, Reducers and Stopping Plugs**

5 Applicant: **CMP Products Ltd**

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

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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 to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2006      EN 60079-1:2004      EN 60079-7:2007      EN 50281-1-1:1998

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any special conditions for safe use are listed in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:



I M2  
Ex d  
Ex e  
Ex d/Ex e  
Ex d I  
Ex e I  
Ex d I/Ex e I



II 2 GD  
Ex d  
Ex e  
Ex d/Ex e  
Ex d IIC  
Ex e II  
Ex d IIC/Ex e II

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C Ellaby  
Certification Officer

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**13 DESCRIPTION OF COMPONENT**

The **737 Range of Adaptors and Reducers** are manufactured from brass and comprise a hollow hexagonal body of which a portion has an external male thread and an internal female thread. The body may also be fitted with an 'O' ring seal.

The **747 Range of Stopping Plugs** are manufactured from brass and comprise a cylindrical body with an external male thread along its length with the exception of a portion at one end. Each has a socket head recess to allow fitting and removal. The Stopping Plugs are available in two forms designated as either non-tamperproof or tamperproof by the manufacturer. When fitted into an enclosure, the socket head recess of the non-tamperproof version is accessible from the outside, whilst the socket head recess of the tamperproof version is only accessible from the inside.

The **757 Range of Stopping Plugs** are manufactured from brass and comprise a cylindrical body with an external male thread along its length with the exception of a hexagonal head at one end. The body may also be fitted with an 'O' ring seal.

The **767 Range of Stopping Plugs** are manufactured from brass and comprise a cylindrical body with an external male thread along its length with the exception of a lipped portion to one end. The face of the lipped portion contains a socket head recess to allow fitting and removal. The body may also be fitted with an 'O' ring seal.

**Available sizes:**

Adaptors	
Female Threadform	Male Threadform
M20 x 1.5	M16 x 1.5
M25 x 1.5	M20 x 1.5
M32 x 1.5	M25 x 1.5
M40 x 1.5	M32 x 1.5
M50 x 1.5	M40 x 1.5
M63 x 1.5	M50 x 1.5
M75 x 1.5	M63 x 1.5
M90 x 2.0	M75 x 1.5
M100 x 2.0	M90 x 2.0

Reducers	
Female Threadform	Male Threadform
M16 x 1.5	M20 x 1.5
M20 x 1.5	M25 x 1.5
M25 x 1.5	M32 x 1.5
M32 x 1.5	M40 x 1.5
M40 x 1.5	M50 x 1.5
M50 x 1.5	M63 x 1.5
M63 x 1.5	M75 x 1.5
M75 x 1.5	M90 x 2.0
M90 x 2.0	M100 x 2.0

Stopping Plugs Threadform
M16 x 1.5
M20 x 1.5
M25 x 1.5
M32 x 1.5
M40 x 1.5
M50 x 1.5
M63 x 1.5
M75 x 1.5
M90 x 2.0
M100 x 2.0

**Alternative threadforms:**

- ET Conduit BS 31:1940 (1979)
- PG DIN 40430:1971
- BSPP BS 2779:1973
- BSPT BS 21:1985
- ISO ISO 7/1:1982
- NPT ANSI/ASME B1.20.1-1983
- NPT USAS B2.1.20.1-1968
- NPSM ANSI/ASME B1.20.1-1983
- BSW BS 84:1956

**Alternative materials of manufacture:** Aluminium BS EN 755 Part 6:1996/BS EN 1706 (not group I)  
Mild Steel BS 970  
Stainless Steel BS EN 10088 Part 3:1995

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**Variation 1** - This Variation recognised the following changes:

- i. The introduction of the Type 797 Range of Adaptors with entry thread form sizes between M16 x 1.5 and M100 x 2.0, intended for mounting to a threaded entry point on either flameproof or increased safety enclosures. They are manufactured from brass and are used to convert an existing cable entry aperture to the opposite male or female thread form. They comprise a hollow body partly threaded from both sides with either male threads or female threads at each end. Additionally, they may be used to convert an existing cable entry aperture to a different thread form and/or size. Thread combinations are such that a maximum of one 'standard' size difference is maintained. The male to male threaded adaptors may also be fitted with optional O-ring seals.

The coding being:  $\text{Ex}$  II 2 G D and either: Ex d IIC, Ex e II or Ex d IIC/Ex e II  
and/or

$\text{Ex}$  I M2 and either: Ex d I, Ex e I or Ex d I/Ex e I

#### Design Options

Thread form, alternative nearest equivalent male and female thread forms to the metric sizes listed above may be utilised from the following types:

ET Conduit -	BS 31:1940 (1979)
PG -	DIN 40430:1971
BSPP -	BS 2779:1973
BSPT -	BS 21:1985
ISO -	ISO 7/1:1982
NPT -	ANSI/ASME B1.20.1-1983
NPT -	USAS B2.1.20.1-1968
NPSM -	ANSI/ASME B1.20.1-1983
BSW -	BS 84:1956

Alternative materials of manufacture:

Brass -	BS EN 12164:1998/BS1400
Aluminium -	BS EN 755 Part 6:1996/BS EN 1706 (Not Group I)
Mild Steel -	BS EN 10088 Part 3:1995
Stainless Steel -	BS EN 10088 Part 3:1995

- ii. The introduction of a Type 781 Range of Breather Drain Plugs in threadform sizes M20 x 1.5 and M25 x 1.5, intended for mounting to a threaded cable entry point on increased safety enclosures to permit the passage of the external atmosphere into and internal moisture out of the enclosure. Each device comprises a brass hexagon bar with a cylindrical portion at one end and a male entry thread, fitted with an O-ring, at the other. The Breather Drain Plugs contain two through holes, which interface at right angles, one located on the cylindrical portion and other penetrating, axially to the hollow section beneath the threaded portion. The hollow central section contains a 47  $\mu\text{m}$  porous disc manufactured from sintered bronze and pressed into place. Additionally the entry thread along its length has two axial slots 180° opposed to each other. The drainage channels through the body allow for the passage of moisture through the seal. The 781 range of Breather Drain Plug may be fitted with a castellated lock-nut to allow mounting to enclosures via a clearance hole rather than a threaded entry point.

The coding of the devices being:  $\text{Ex}$  II 2 G D Ex e II.

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- ii. The introduction of a Type 787 Range of Right-Angled Adaptors manufactured from brass block body to either BS EN 12164:1998 or BS1400 with a male thread at one end and a female thread machined into the body at 90° to the male thread. They are intended to provide cable entry options where space is limited or to avoid cable damage, additionally, they may be used to convert an existing cable entry aperture to a different thread form and/or size. Male thread forms are between M20 x 1.5 and M100 x 2.0 and combinations such that a maximum of one 'standard' size difference is maintained. Additionally the male thread may also be fitted with an optional O-ring seal.

The coding being: II 2 G D and either: Ex d IIC, Ex e II or Ex d IIC/ Ex e II.  
and/or

I M2 and either: Ex d I, Ex e I or Ex d I/ Ex e I

- iv. The introduction of a Type 780 Range of Union Adaptors manufactured from brass that are intended for in-line cable gland connection of male to female threads when conventional adaptor/reducers are impractical. Additionally, they may be used to convert an existing cable entry aperture to a different threadform and/or size. Each union comprises a stepped male and partly female threaded internal components and an external part-threaded coupling component. The components are assembled such that flamepaths are formed by all threads, the non-threaded internal mating surfaces and between the two internal components themselves. They are designed such that connection at both ends is achieved without twisting the cable. Entry thread combinations are such that a maximum of one 'standard' size difference is maintained.

The coding being: II 2 G D Ex d IIC

### Design Options

Thread form: Alternative nearest equivalent male and female thread forms to the metric sizes listed above may be utilised from the following types listed:

ET Conduit -	BS 31:1940 (1979)
PG -	DIN 40430:1971
BSPP -	BS 2779:1973
BSPT -	BS 21:1985
ISO -	ISO 7/1:1982
NPT -	ANSI/ASME B1.20.1-1983
NPT -	USAS B2.1.20.1-1968
NPSM -	ANSI/ASME B1.20.1-1983
BSW -	BS 84:1956

Alternative materials of manufacture:

Brass -	BS EN 12164:1998/BS1400
Aluminium -	BS EN 755 Part 6:1996/BS EN 1706 (Not Group I)
Mild Steel -	BS EN 10088 Part 3:1995
Stainless Steel -	BS EN 10088 Part 3:1995

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**Variation 2** - This Variation recognised the following changes:

- i. The range of products covered by this certificate comply with the requirements of the EN 60079 series standards, the original standards EN 50014:1997, EN 50018:2000 and EN 50019: were removed from page 1 and replaced with the equivalent EN 60079 series standards, the codings on Page 1 and Variation 1 were updated accordingly.
- ii. The modification of the Type 780 Range of Union Adaptors to include a Viton O ring. The modified design is compliant with EN 60079-7 and EN 60079-1 and therefore carries an Ex d IIC/Ex e II coding.
- iii. A nylon version of the Types 747, 757 and 767 Range of Stopping Plugs with entry thread form sizes from M20 to M75 x 1.5mm pitch inclusive and M90 x 2mm pitch, used for the closure of unused cable entry holes in an associated increased safety enclosure.

The coding being: II 2G Ex e II.

**Design Options for the nylon versions of the Types 747, 757 & 767 Stopping Plugs**

Alternative nearest equivalent male thread forms to the metric sizes listed above, which do not result in a weaker construction for the device, may be utilised from the following types listed;

- ET Conduit - BS 31:1940 (1979)
- PG - DIN 40430:1971
- BSPP - BS 2779:1973
- BSPT - BS 21:1985
- NPT - ANSI/ASME B1.20.1-1983
- NPSM - ANSI/ASME B1.20.1-1983

- iv. A nylon version of the of Type 737 Range of Adaptors and Reducers with Non ISO female thread options, used to convert an existing cable entry aperture to another thread size/threadform in an increased safety enclosure.

The coding being: II 2GD Ex e II.

**Design Options for the Type 737 Range of Adaptors and Reducers**

The table below shows the available threadform sizes for the Type 737 Range of Adaptors and Reducers:

**Available sizes:**

Adaptors	
Female Threadform	Male Threadform
M25 x 1.5	M20 x 1.5
M32 x 1.5	M25 x 1.5
M40 x 1.5	M32 x 1.5
M50 x 1.5	M40 x 1.5
M63 x 1.5	M50 x 1.5
M75 x 1.5	M63 x 1.5
M90 x 2.0	M75 x 1.5

Reducers	
Female Threadform	Male Threadform
M16 x 1.5	M20 x 1.5
M20 x 1.5	M25 x 1.5
M25 x 1.5	M32 x 1.5
M32 x 1.5	M40 x 1.5
M40 x 1.5	M50 x 1.5
M50 x 1.5	M63 x 1.5
M63 x 1.5	M75 x 1.5
M75 x 1.5	M90 x 2.0

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Thread form, Alternative nearest equivalent male or female thread forms to the metric sizes listed above may be utilised from the following types listed:

ET Conduit - BS 31:1940 (1979)  
PG - DIN 40430:1971  
BSPP - BS 2779:1973  
BSPT - BS 21:1985  
NPT - ANSI/ASME B1.20.1-1983  
NPSM - ANSI/ASME B1.20.1-1983

**Variation 3** - This Variation recognised the following change:

- i. The overall length of the 780 Union was increased, thus enabling a hexagon on the entry component to be included.

**Variation 4** - This variation introduced the following change:

- i. The Type 780 unions were allowed to be alternatively machined with female threads at both ends, this version becomes the Type 780 F-F.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	21 February 2002	R51A8453A	The release of prime certificate.
1	21 January 2005	R51A10546A	The introduction of Variation 1.
2	27 April 2007	R51A15056A R51A13867A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 and 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.</li><li>• The introduction of Variation 2.</li></ul>
3	10 October 2007	NA	Re-issued to correct the date of the standard
4	30 July 2008	R51A18360A	The introduction of Variation 3.
5	5 February 2009	R59M19184A	This Issue covers the following changes: <ul style="list-style-type: none"><li>• The changes listed in Variation 2 were re-numbered and clarified.</li><li>• The introduction of Variation 4.</li></ul>

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**15 SPECIAL CONDITIONS FOR SAFE USE**

**15.1 Type 780 range of metallic unions**

15.1.1 Unions shall not be subjected to installation torques above the following values:

Union size	Nm
20 x 16	7
25 x 20	10
32 x 25	15

Union size	Nm
40 x 32	25
50 x 40	30
63 x 50	45

Union size	Nm
75 x 63	45
90 x 75	45
100 x 90	45

15.1.2 The female threaded component insert shall be held stationary whilst attaching a further cable entry device ensuring the flamepath spigot joint is not enlarged.

**15.2 Type 781 range of metallic breather/drain plug**

15.2.1 The Breather/Drain Plug shall be fitted to the lowest point on the bottom face of its associated enclosure.

15.2.2 The Breather/Drain Plug Shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20°C to +60°C.

**15.3 Type 787 range of right angled adaptors**

The following right angled adaptors thread form and sizes shall not be subjected to installation torques above the following values:

Male threads	Nm
M25	53
M32	53
M40	53
M90	166
M100	115

Female threads	Nm
M32	40
M40	40
M90	166

15.4 The following conditions are applicable to non-metallic adapters, reducers and stopping plugs

15.4.1 Types 737, 747, 757 & 767 Non metallic Adaptors, Reducers & Stopping Plugs shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -20°C to +60°C.

15.4.2 The adaptors, reducers and stopping plugs shall be assembled in such a way that their protrusion from an associated enclosure is not increased.

15.4.3 Any cable gland used with the adaptors and reducers shall be non-metallic and of the A2 type.

15.4.4 Refer to the manufacturer's instructions for the action necessary regarding electrostatic risk.

15.4.5 The interfaces between the male thread of the adaptor/reducer and an associated enclosure and between the female thread of the adaptor/reducer and the cable entry device cannot be defined. Therefore it is the installer's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.



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**16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the 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 EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

# Certificate Annexe

Certificate Number: Sira 01ATEX1284U

Component: Type 737, 747, 757, 767, 797, 781, 787 and 780  
Ranges of Adaptors, Reducers and Stopping Plugs

Applicant: CMP Products Ltd



## Issue 0

Number	Sheet	Rev.	Date	Description
GA 077	1 of 1	01	11 Dec 01	ATEX Adaptors, Reducers and Stopping Plugs
SCH 0070	1 of 1	01	14 May 99	Adapter/Reducer Cross-Reference Chart

## Issue 1

Number	Sheet	Rev.	Date	Description
GA134	1 of 1	1	04 Jul 03	Type 797 metallic adaptors
GA135	1 of 1	1	07 Jul 03	Type 787 right angled metallic adaptors
GA136	1 of 1	1	08 Jul 03	Type 780 metallic unions
GA154	1 of 1	1	29 Mar 03	Type 781 metallic breather/drain plug

## Issue 2

Number	Sheet	Rev.	Date	Description
GA136	1 of 1	2	20 Sept 05	Type 780 Unions
GA133	1 of 1	02	09 Mar 07	Type 747, 757 & 767 Nylon Stopping Plugs and Type 737 Nylon Adaptors & Reducers
SCH0254	1 of 1	00	12 Mar 07	Thread Chamfer and Undercut Details
SCH0255	1 of 1	00	12 Mar 07	O-Ring Groove Details
SCH0070	1 of 1	02	25 Apr 07	Adaptors/Reducers Cross Reference Chart

Issue 3 - No new drawings were introduced.

## Issue 4

Number	Sheet	Rev.	Date	Description
GA136	1 of 1	03	06 May 08	Type 780 metallic unions
SCH0070	1 of 1	04	16 July 07	Adapter/Reducer Cross-Reference Chart

## Issue 5

Number	Sheets	Rev.	Date	Description
GA136	1 of 1	04	(Sira stamp) 03 Feb 09	Ex Type 780 Union

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