

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 TSA 23.0024X** Page 1 of 4 Certificate history:

Issue No: 0 Status: Current

Date of Issue: 2024-02-15

Applicant: **CCG Cable Terminations Pty Ltd**

33-37 Forge Road Spartan Industrial Area Kempton Park 1619 **South Africa**

Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors, Adjustable Elbow / 'T' / Equipment:

'Y' Adaptors, Swivel Adaptors, Swivel Couplers and Swivel Elbow / 45° Adaptors

Optional accessory:

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

** Ex db IIC Gb Marking:

** Ex db I Mb Ex eb IIC Gb ** Ex eb I Mb *Ex nR IIC Gc Ex ta IIIC Da

IP65/66/67/68 (2m continuous)

(Refer to Annex for service temperature range)

Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors

Ujen Singh

** Not the non-metallic blanking plugs

Approved for issue on behalf of the IECEx

Certification Body:

Position: **Quality & Certification Manager**

Signature:

(for printed version)

15 February 2024 (for printed version)

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Certificate issued by:





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Date of issue: 2024-02-15 Issue No: 0

Manufacturer: CCG Cable Terminations Pty Ltd

33-37 Forge Road Spartan Industrial Area Kempton Park 1619 South Africa

Manufacturing CCG Cable Terminations Pty Ltd

locations: 33-37 Forge Road

Spartan Industrial Area Kempton Park 1619 South Africa

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 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 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

Edition:5.1

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/ExTR16.0080/00 GB/CML/ExTR16.0130/00 GB/CML/ExTR19.0166/00 GB/CML/ExTR20.0053/00 GB/CML/ExTR22.0136/00 GB/CML/ExTR23.0055/00

Quality Assessment Report:

ZA/ICS/QAR14.0001/09



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptor, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors abd Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection.

Refer to Annexe for full description and conditions for specific products.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- i. To maintain the IP rating, the installer shall ensure that the surface of the enclosure against which the sealing gasket seals is in good condition
- ii. The sealing arrangement of the gland into the adaptor / reducer shall conform to the gland certification and IP rating requirements (as applicable)
- iii. When supplied with a washer/gasket, the following service temperatures apply:
- HDPE gasket Tservice = -60 °C to +95 °C
- Nylon gasket Tservice = -60 °C to +100 °C
- PTFE gasket Tservice = -60 °C to +160 °C



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Additional information:

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

- 1. Insulated and Posi adaptors shall not be marked for Group I applications.
- 2. Products made from aluminium shall not be marked for Group I.
- 3. The products listed in this certificate with intermediate metric entry thread sizes shall be constructed by enlarging the entry thread size of the standard size product immediately below the intermediate thread size. The minimum entry wall thickness and constructional parts utilised (other than the entry thread component) shall not differ from that of the standard size used.

| л | n | n | ^ | v | |
|---|---|---|---|---|--|
| Α | | | c | л | |

IECEx TSA 23.0024X-0_Annexe.pdf



Annexe for Certificate No.: IECEx TSA 23.0024X Issue No.: 0

Equipment description:

The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection.

Standard adaptors, reducers, unions and coupler could be alternatively manufactured from aluminium for Group II & III only.

The following details the Model Nomenclature:

| Product Name | Model Nomenclature | Product Name | Model Momenclature |
|---------------------------------|--------------------|-------------------------|--------------------|
| Threaded Adaptor | AGZZZGYYYE | Threaded Blanking Plugs | PFGZZZER |
| Integral Earth Adaptors | AGZZZGYYYE - IE | Plastic blanking plugs | 3527ZZZ |
| Threaded Reducers | RGZZZGYYYE | | |
| Threaded Unions | UGZZZGYYYE | | |
| Threaded Couplers | CGZZZGYYYE | | |
| Insulated Adaptors | AGZZZGYYYE -INSA | | |
| Posi Adaptors | PAGZZZGYYYE | | |
| Adjustable Elbow | AELBGZZZGYYYE | | |
| Adjustable 'T' Adaptor | ATGZZZGYYYE | | |
| Adjustable 'Y' Adaptor | AYGZZZGYYYE | | |
| Swivel Adaptor | SAGZZZGYYYE | | |
| Swivel Coupler | SCGZZZGYYYE | | |
| Swivel Elbow Adaptor | SELBGZZZGYYYE | | |
| Swivel 45° Adaptor | S45GZZZGYYYE | | |
| Swivel Barrier Adaptor | SBAGZZZGYYYE | | |
| Swivel Barrier Coupler | SBCGZZZGYYYE | | |
| Swivel Barrier Elbow Adaptor | SBELBGZZZGYYYE | | |
| Swivel Barrier 45° Adaptor | SB45GZZZGYYYE | | |

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| Where: | | | | |
|---------|------------------------------|--------|-------------|---------------------|
| A = | ADAPTOR | | | |
| R = | REDUCER | | | |
| U = | UNION | | | |
| C = | COUPLER | | | |
| PA = | POSI ADAPTOR | | | |
| AELB = | ADJUSTABLE ELBOW | PLUG C | ODING | |
| AT = | ADJUSTABLE 'T' ADAPTOR | 3527 = | NON-METALL | IC PLUG |
| AY = | ADJUSTABLE 'Y' ADAPTOR | P = | PLUG | |
| SA = | SWIVEL ADAPTOR | F= | TYPE | |
| SC = | SWIVEL COUPLER | | S = | STOPPER |
| SELB = | SWIVEL ELBOW ADAPTOR | | D = | DOME HEAD |
| S45 = | SWIVEL 45° ADAPTOR | | H = | HEX HEAD |
| SBA = | SWIVEL BARRIER ADAPTOR | G = | THREADFORI | М |
| SBC = | SWIVEL BARRIER COUPLER | | M = | METRIC |
| SBELB = | SWIVEL BARRIER ELBOW ADAPTOR | | N = | NPT |
| G = | THREADFORM | | B = | BSPP |
| | M = METRIC | | BSPT = | BSPT |
| | N = NPT | | NPSM = | NPSM |
| | NPSM = NPSM | | P = | PG |
| | B = BSPP | | G = | EUROPE G (PARALLEL) |
| | BSPT = BSPT | | GK = | GK (TAPER) |
| | P = PG | | R = | R (PARALLEL) |
| | G = EUROPE G (PARALLEL) | | RK = | RK (TAPER) |
| | GK = GK (TAPER) | | PF = | JAPAN PF (PARALLEL) |
| | R = R (PARALLEL) | | K = | K mpy (TAPER) |
| | RK = RK (TAPER) | | ET = | ET |
| | PF = JAPAN PF (PARALLEL) | | | |
| | K = K mpy (TAPER) | ZZZ = | THREAD SIZE | |
| | ET = ET | E = | Ex COMPONE | |
| ZZZ = | MALE THREAD SIZE | R = | HEX ON REV | ERSE FACE |
| YYY = | FEMALE THREAD SIZE | | | |
| E = | Ex COMPONENT | | | |
| IE = | INTEGRAL EARTH | | | |
| INSA = | INSULATED ADAPTOR | | | |

Where the thread size coding is as follows:

| Metric sizes | | | BSP/NPT/NPSM sizes | | | | |
|--------------|-----------|------------|--------------------|------------|--|--|--|
| 016 = M16 | 020 = M20 | 100 = M100 | 012 = ½" | 034 = 3/4" | | | |
| 025 = M25 | 032 = M32 | 110 = M110 | 001 = 1" | 114 = 1¼" | | | |
| 040 =M40 | 050 = M50 | 120 = M120 | 112 = 1½" | 002 = 2" | | | |
| 063 = M63 | 075 = M75 | 130 = M130 | 212 = 21/2" | 003 = 3" | | | |
| 080 = M80 | 090 = M90 | | 312 = 3½" | 004 = 4" | | | |

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For metric threads the pitch is:

- M75 and smaller has 1.5mm pitch (minimum thread length 12mm) as standard with an optional pitch of 2mm (minimum thread length 16mm)
- M80 and larger has 2 mm pitch (minimum thread length 16mm) as standard with an optional pitch of 1,5mm (minimum thread length 12mm).
- Note: Intermediate metric thread sizes are allowed and use the same format of product and size coding, e.g., 033 = M33

Threaded Adaptors and Reducers

The Range of Threaded Adaptors and Reducers are used to convert a threaded entry from one thread size or type to another. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all nontapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 1 to 4:

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Table 1: Metric to Metric

| Male | Female (Metric) Size | | ize | | | | | | | | | | | |
|------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| (Metric) Size | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | Α | Α | Α | | | | | | | | | | | |
| M20 | R | Α | Α | Α | | | | | | | | | | |
| M25 | R | R | Α | Α | Α | | | | | | | | | |
| M32 | R | R | R | Α | Α | Α | | | | | | | | |
| M40 | R | R | R | R | Α | Α | Α | | | | | | | |
| M50 | R | R | R | R | R | Α | Α | Α | | | | | | |
| M63 | R | R | R | R | R | R | Α | Α | Α | | | | | |
| M75 | R | R | R | R | R | R | R | Α | Α | Α | | | | |
| M80 | R | R | R | R | R | R | R | R | Α | Α | А | | | |
| M90 | R | R | R | R | R | R | R | R | R | Α | А | А | | |
| M100 | R | R | R | R | R | R | R | R | R | R | А | А | А | |
| M110 | R | R | R | R | R | R | R | R | R | R | R | А | Α | А |
| M120 | R | R | R | R | R | R | R | R | R | R | R | R | Α | А |
| M130 | R | R | R | R | R | R | R | R | R | R | R | R | R | А |

A = Adaptor, R = Reducer

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Table 2: Metric to BSP/NPT

| Male | Fema | le (BSF | P/NPT/N | IPSM) | Size | | | | | |
|------------------|------|---------|---------|-------|-------|------|-------|------|------|----|
| (Metric) Size | 1/2" | 3/4" | 1" | 11/4" | 11/2" | 2" | 21/2" | 3" | 3½" | 4" |
| M16 | Α | Α | | | | | | | | |
| M20 | A/R* | Α | Α | | | | | | | |
| M25 | R | A/R* | Α | Α | | | | | | |
| M32 | R | R | A/R* | Α | Α | | | | | |
| M40 | R | R | R | A/R* | Α | Α | | | | |
| M50 | R | R | R | R | A/R* | Α | Α | | | |
| M63 | R | R | R | R | R | A/R* | Α | А | | |
| M75 | R | R | R | R | R | R | A/R* | А | А | |
| M80 | R | R | R | R | R | R | R | A/R* | А | Α |
| M90 | R | R | R | R | R | R | R | R | A/R* | Α |
| M100 | R | R | R | R | R | R | R | R | R | Α |
| M110 | R | R | R | R | R | R | R | R | R | R |
| M120 | R | R | R | R | R | R | R | R | R | R |
| M130 | R | R | R | R | R | R | R | R | R | R |

A = Adaptor, R = Reducer; $R^* = Metric to NPT reducers only$

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Table 3: BSP/NPT/NPSM to Metric

| Male | Female (Metric) Size | | | | | | | | | | | | |
|------------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--|--|
| (BSP/NPT/NPSM) Size | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | | |
| 1/2" | R | Α | Α | Α | | | | | | | | | |
| 3/4" | R | R | Α | Α | Α | | | | | | | | |
| 1" | R | R | R | Α | Α | Α | | | | | | | |
| 11/4" | R | R | R | R | Α | Α | Α | | | | | | |
| 1½" | R | R | R | R | R | Α | Α | Α | | | | | |
| 2" | R | R | R | R | R | R | Α | А | А | | | | |
| 2½" | R | R | R | R | R | R | R | Α | А | А | | | |
| 3" | R | R | R | R | R | R | R | R | Α | Α | Α | | |
| 3½" | R | R | R | R | R | R | R | R | R | Α | А | | |
| 4" | R | R | R | R | R | R | R | R | R | R | А | | |

A = Adaptor, R = Reducer

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Table 4: BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

| Male | Female (BSP/NPT/NPSM) Size | | | | | | | | | | | | |
|------------------------|----------------------------|------|----|-------|-------|----|-----|----|-----|----|--|--|--|
| (BSP/NPT/NPSM) Size | 1/2" | 3/4" | 1" | 11/4" | 11/2" | 2" | 2½" | 3" | 3½" | 4" | | | |
| 1/2" | А | Α | Α | | | | | | | | | | |
| 3/4" | R | Α | Α | А | | | | | | | | | |
| 1" | R | R | Α | А | Α | | | | | | | | |
| 11⁄4" | R | R | R | А | Α | Α | | | | | | | |
| 1½" | R | R | R | R | Α | Α | А | | | | | | |
| 2" | R | R | R | R | R | Α | А | А | | | | | |
| 21/2" | R | R | R | R | R | R | А | Α | А | | | | |
| 3" | R | R | R | R | R | R | R | Α | А | А | | | |
| 3½" | R | R | R | R | R | R | R | R | А | А | | | |
| 4" | R | R | R | R | R | R | R | R | R | А | | | |

A = Adaptor, R = Reducer

Integral Earth Adaptors

Integral Earth Adaptors have identical male and female threads and are fitted with an earth stud to provide and earth connection for the cable gland fitted to them. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are M20 to M100 (metric) and $\frac{1}{2}$ " to 4" NPT.

Threaded Couplings/Unions

The Range of Threaded Couplings and Unions is designed to provide an intermediate part for fitting between certified cable glands and threaded entries of the same or different form and/or sizes of threads (Male to male – Couplings and female to female – Unions). The devices are manufactured from brass (nickel plated), stainless steel, aluminium, mild steel or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 5 to 10:

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Table 5: Couplings - Metric to Metric

| Male | Male | (Metric | c) Size | | | | | | | | | | | |
|------------------|------|---------|---------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| (Metric) Size | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | Х | | | | | | | | | | | | | |
| M20 | Х | Х | | | | | | | | | | | | |
| M25 | Х | Х | Х | | | | | | | | | | | |
| M32 | | Х | Х | Х | | | | | | | | | | |
| M40 | | Х | Х | Х | Х | | | | | | | | | |
| M50 | | | Х | Х | Х | X | | | | | | | | |
| M63 | | | | Х | Х | Χ | Х | | | | | | | |
| M75 | | | | | Х | Χ | Х | Х | | | | | | |
| M80 | | | | | | Χ | Х | Х | Х | | | | | |
| M90 | | | | | | | Х | Χ | X | Χ | | | | |
| M100 | | | | | | | | Х | Х | Х | Х | | | |
| M110 | | | | | | | | | Х | Х | Х | Х | | |
| M120 | | | | | | | | | | Х | Х | Х | Х | |
| M130 | | | | | | | | | | | Х | Х | Χ | Χ |

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Table 6: Couplings - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP and NPT to NPSM and NPSM to NPSM

| Male (RSP/NPT/NPSM) | Male | Male (BSP/NPT/NPSM) Size | | | | | | | | | | | | |
|------------------------|------|--------------------------|----|-------|-------|----|-----|----|-----|----|--|--|--|--|
| (BSP/NPT/NPSM) Size | 1/2" | 3/4" | 1" | 11/4" | 11/2" | 2" | 2½" | 3" | 3½" | 4" | | | | |
| 1/2" | Х | | | | | | | | | | | | | |
| 3/4" | Х | Х | | | | | | | | | | | | |
| 1" | Х | Х | Х | | | | | | | | | | | |
| 11/4" | | Х | Х | Х | | | | | | | | | | |
| 11/2" | | Х | Х | Х | Х | | | | | | | | | |
| 2" | | | Х | Х | Х | Х | | | | | | | | |
| 2½" | | | | Х | Х | Х | Х | | | | | | | |
| 3" | | | | | Х | Х | Х | Х | | | | | | |
| 3½" | | | | | | Х | Х | Х | Х | | | | | |
| 4" | | | | | | | Х | Х | Х | Х | | | | |

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Table 7, Coupling - BSP to Metric, NPSM to Metric and NPT to Metric

| Male | Male (Metric) Size | | | | | | | | | | | | | |
|----------------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| (BSP/NPT/ NPSM) Size | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| 1/2" | Х | Х | X | | | | | | | | | | | |
| 3/4" | Х | Х | Х | Х | Х | | | | | | | | | |
| 1" | Х | Х | Х | Х | Х | Х | | | | | | | | |
| 11⁄4" | | X | Х | Х | Х | Х | Х | | | | | | | |
| 11/2" | | Х | Х | Х | Х | Х | Х | Х | | | | | | |
| 2" | | | Х | Х | Х | Х | Х | Х | Х | | | | | |
| 21/2" | | | | Х | Х | Х | Х | Х | Х | Х | | | | |
| 3" | | | | | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| 3½" | | | | | | Х | Х | Х | Х | Х | Х | Х | Х | Х |
| 4" | | | | | | | Х | Х | Х | Х | Х | Х | Х | Х |

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Table 8: Unions - Metric to Metric

| Female | Female (Metric) Size | | | | | | | | | | | | | |
|------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| (Metric) Size | M16 | M20 | M25 | M32 | M40 | M50 | M63 | M75 | M80 | M90 | M100 | M110 | M120 | M130 |
| M16 | Х | | | | | | | | | | | | | |
| M20 | Х | Х | | | | | | | | | | | | |
| M25 | Х | Х | X | | | | | | | | | | | |
| M32 | Х | X | X | Х | | | | | | | | | | |
| M40 | Х | Х | X | Х | Х | | | | | | | | | |
| M50 | | Х | X | Х | Х | Χ | | | | | | | | |
| M63 | | | X | Х | Х | Χ | Χ | | | | | | | |
| M75 | | | | Х | X | Χ | Χ | Х | | | | | | |
| M80 | | | | | Х | Χ | Χ | Х | Х | | | | | |
| M90 | | | | | | Χ | Χ | Х | Х | Х | | | | |
| M100 | | | | | | | Χ | Х | Х | Х | Х | | | |
| M110 | | | | | | | | Х | Х | Х | Х | Χ | | |
| M120 | | | | | | | | | Х | Х | Х | Χ | Χ | |
| M130 | | | | | | | | | | Х | Х | Χ | Χ | Χ |

Certificate issued by:





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Table 9: Unions - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

| Female | Female (BSP/NPT) Size | | | | | | | | | |
|----------------|-----------------------|------|----|-------|-------|----|-------|----|-----|----|
| (BSP/NPT/NPSM) | 1/2" | 3/4" | 1" | 11/4" | 11/2" | 2" | 21/2" | 3" | 3½" | 4" |
| 1/2" | Х | | | | | | | | | |
| 3/4" | Х | Х | | | | | | | | |
| 1" | Х | Х | Х | | | | | | | |
| 11/4" | Х | Х | Х | Х | | | | | | |
| 11/2" | Х | X | X | Х | Х | | | | | |
| 2" | | X | X | Х | X | Х | | | | |
| 21/2" | | | X | X | X | X | Х | | | |
| 3" | | | | X | X | X | X | Х | | |
| 3½" | | | | | X | X | X | X | Х | |
| 4" | | | | | | X | X | X | X | Х |

Table 10: Union - Metric to BSP/NPT/NPSM

| Female | Female (BSP/NPT/NPSM) Size | | | | | | | | | |
|----------|----------------------------|------|----|-------|------|----|-------|----|-----|----|
| (Metric) | 1/2" | 3/4" | 1" | 11/4" | 11/2 | 2" | 21/2" | 3" | 3½" | 4" |
| M16 | Х | Х | Х | Х | | | | | | |
| M20 | Х | Х | Х | Х | Х | | | | | |
| M25 | Х | Х | Х | Х | Х | Х | | | | |
| M32 | Х | Х | Х | Х | Х | Х | Х | | | |
| M40 | Х | Х | Х | Х | Х | Х | Х | Χ | | |
| M50 | | Х | Х | Х | Х | Х | Χ | Χ | Х | |
| M63 | | | Х | Х | Х | Х | Х | Χ | Х | X |
| M75 | | | | Х | Х | Х | Х | Χ | Х | X |
| M80 | | | | | Х | Х | Х | Χ | Х | X |
| M90 | | | | | | Х | Х | Χ | Х | X |
| M100 | | | | | | | Х | Χ | Х | X |
| M110 | | | | | | | | Χ | Х | X |
| M120 | | | | | | | | | Х | Χ |
| M130 | | | | | | | | | | Χ |

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Threaded Metallic Blanking Plugs

The Range of Threaded Metallic Blanking Plugs are designed for blanking off threaded entries in enclosures. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Table below:

| Hex. head | | Dome head | | Stopper (External Hex. Keyway) | | Stopper (Internal. Hex. Keyway) | |
|-----------|------------------|-----------|------------------|--------------------------------------|------------------|---------------------------------------|------------------|
| Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM | Metric | BSP/NPT/ NPSM |
| M16 | 1/2" | M16 | 1/2" | M16 | 1/2" | M16 | 1/2" |
| M20 | 3/4" | M20 | 3/4" | M20 | 3/4" | M20 | 3/4" |
| M25 | 1" | M25 | 1" | M25 | 1" | M25 | 1" |
| M32 | 11/4" | M32 | 11/4" | M32 | 11/4" | M32 | 11/4" |
| M40 | 11/2" | M40 | 11/2" | M40 | 1½" | M40 | 11/2" |
| M50 | 2" | M50 | 2" | M50 | 2" | M50 | 2" |
| M63 | 21/2" | M63 | 21/2" | M63 | 21/2" | M63 | 21/2" |
| M75 | 3" | M75 | 3" | M75 | 3" | M75 | 3" |
| M80 | 31/2" | M80 | 3½" | M80 | 3½" | M80 | 3½" |
| M90 | 4" | M90 | 4" | M90 | 4" | M90 | 4" |
| M100 | - | M100 | - | M100 | - | M100 | - |
| M110 | - | M110 | - | M110 | - | M110 | - |
| M120 | - | M120 | - | M120 | - | M120 | - |
| M130 | - | M130 | - | M130 | - | M130 | - |

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| | | | |

Threaded Non-metallic Blanking Plugs

The Range of Threaded Non-metallic Blanking Plugs are designed for inserting into enclosures having metric threaded entries, as appropriate for the type of protection. A sealing gasket is used to maintain the IP rating.

The following sizes are covered by this approval:

M₂₀ x 1.5

M25 x 1.5

M32 x 1.5

M40 x 1.5

Insulated Adaptors

The range of insulated adaptors are manufactured from a hollow cylindrical non-metallic insulated body with two metallic parts on opposite ends for male and female metric engagement with typically an enclosure and gland.

The insulated adaptor provides electrical insulation from one end to the other. The adaptor thread sizes are the same on both ends, e.g., M16 x 1.5 to M16 x 1.5. The following sizes are included in the range:

M16, M20, M25, M32, M40, M50, M63, M75, M80, M90, M100, M110, M120 & M130 (All 1.5 or 2.0 pitch, 6H/6g tolerance).

A sealing gasket is utilised on the male threaded part to maintain the IP rating.

Posi Adaptors

The Posi adaptor has a brass core with a corrosion-protecting outer skin compression moulded around it. The Posi adaptor also has an earthing stud connected through the corrosion protection (and insulating) skin.

The Posi Adaptor is an adaptor available only in the sizes:

| MALE THREAD | FEMALE THREAD |
|----------------|----------------|
| M20 x 1.5 – 6g | M20 x 1.5 – 6H |
| M20 x 1.5 – 6g | M25 x 1.5 – 6H |
| M25 x 1.5 – 6g | M20 x 1.5 – 6H |
| M25 x 1.5 – 6g | M25 x 1.5 – 6H |

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Adjustable Elbow, 'T' and 'Y' Adaptors

The Adjustable Elbow (90°), 'T' and 'Y' Adaptors are manufactured from brass or stainless steel with a male threaded portion at one end. The 90° adaptors have a single female thread, and the 'T' and 'Y' adaptors have two female threads. The 'T' adaptor has its male thread at 90° to each of the female threads and the female threads are at 180° to each other. The 'Y' adaptors have their threads spaced at 120° to each other.

90° adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner. 'T' and 'Y' adaptors are used where two cable glands or a cable gland and another device (e.g. a breather drain plug) need to be fitted to a single entry hole.

The Adjustable 90°, 'T' and 'Y' adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Adjustable Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Adjustable 90°, 'T' and 'Y' Adaptors are available with Metric or BSPP male threads and either metric, NPT, ET, BSPP or BSPT female threads the same size or any size smaller than the male thread. Alternatively, for a given body size, the male thread can be made larger, but never smaller, than the standard size.

On the Adjustable 'T' and 'Y' adaptors the female threads do not need to be the same size as each other.

The Adjustable Adaptors are available with thread sizes M20, M25 & M32 or equivalent size in the other thread types.

A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are manufactured from brass, bronze, aluminium or stainless steel with a male threaded portion at one end. They are made in two parts connected together with a nut, and the junction between the two parts forms a serrated flamepath. The Swivel Adaptor, Swivel Elbow and Swivel 45° Adaptors have a single male and a single female thread, and the Swivel Coupler has two male threads.

The Swivel Adaptor or Coupler can be used to connect two pieces of Ex Equipment. The Swivel Elbow and 45° Adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Swivel Elbow / 45° Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are available with Metric, NPT, ET, BSPP or BSPT threads the same size or with the female thread any size smaller than the male thread. The Swivel Coupler can also have one male thread smaller than the other.

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The Swivel Adaptor or Swivel Coupler are available with thread sizes from M20 to M100, or equivalent size in the other thread types. The Swivel Elbow / 45° Adaptors are available with thread sizes from M20 to M63, or equivalent size in the other thread types. The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors can also be supplied with the male thread size one size larger. For example, a Swivel Elbow Adaptor body size that would normally have M50 male and female threads can also be supplied with an M63 male and an M50 female thread.

A non-metallic washer/gasket may be utilised on all parallel threads to ensure an IP66 rating. The devices maintain an IP65 rating with no washer fitted.

Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors

The Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors are the same basic construction as their equivalent non-barrier versions but additionally have a resin sleeve inside the male thread. The resin sleeve forms a flamepath with its mating part and is filled with 'Quickstop Ex' or 'Vortex' resin to form a barrier around the cable conductors.

Notes

- 1. All units are rated IP65 for any sealing arrangement. Units with parallel threads shall be used with the supplied washer if an IP rating of IP66/67/68 is required (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) . NPT threads are at least IP65 as standard, but IP68 (2m) (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) can be achieved if one of the following grease types is applied to the NPT thread before fitting:- Renolit Lubrene CA 700, Renolit LC-WP2, Renolit Lubrene LX 220 EP2, Renolit Moly LX 2 or Dow Corning 4 Electrical Compound.
- 2. RE-FLEx sealing cord can be used as an alternative to a standard sealing gasket to achieve IP66/68 (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.). It is intended as a retro-fit solution and must be installed according to the fitting instructions supplied with it.

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Conditions for specific products

- i. A service temperature range of -20°C to +95°C shall not be exceeded for the insulated adaptor.
- ii. The tightening torque for the glands installed in the insulated adaptors may not exceed:

| Thread Size and Form | Tightening torque (Nm) | Thread Size and Form | Tightening torque (Nm) |
|----------------------|------------------------|----------------------|------------------------|
| M16 | 40 | M63 and 2"NPT | 115 |
| M20 and ½"NPT | 40 | M75 and 2 ½"NPT | 140 |
| M25 and ¾"NPT | 55 | M80 | 160 |
| M32 and 1"NPT | 65 | M90 and 3"NPT | 180 |
| M40 and 1 1/4"NPT | 80 | >M90 and >3"NPT | 200 |
| M50 and 1 ½"NPT | 100 | | |

Note: Non-metric NPT size torque values also apply to the equivalent BSP, BSPT and NPSM sizes.

- iii. A service temperature range of -20°C and +95°C (HDPE sealing gasket) or -20°C and +106°C (Nylon sealing gasket) shall not be exceeded for the plastic blanking plug.
- iv. The Swivel Adaptors, Swivel Couplers and Swivel Elbow / 45° Adaptors are only to be used in Group I applications where the risk of mechanical impact is low.
- v. The Swivel Barrier products shall only be used where the temperature is between:
 - Quickstop or Vortex resin type S50 / EPA: (-50°C and +95°C)
 - Quickstop or Vortex resin type FR/846: (-60°C and +100°C)

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Drawing list pertaining to Issue 0 of this Certificate:

| Document / Drawing Number: | Page/s: | Title: | Revision Level: | Date: (yyyy-mm-dd) |
|--|---------|---|--------------------|-----------------------|
| 3527- PLUG-AUS | 1 of 1 | *No. "X" NON-METALLIC ENCLOSURE PLUGS | - | 2023-11-30 |
| AB012B012E - AB004B004E and RB034B012E - RB004B312E | 1 of 1 | *BSP TO BSP ADAPTORS & REDUCERS Ex | 3 | 2019-08-08 |
| AB012M020E - AB004M100E and RB012M016E - RB004M100E | 1 of 1 | *BSP TO METRIC ADAPTORS & REDUCERS Ex | 3 | 2019-08-08 |
| AB012N012E - AB004N004E and RB034N012E - RB004N312E | 1 of 1 | *BSP TO NPT ADAPTORS & REDUCERS Ex | 3 | 2019-08-08 |
| AELB ASSY-AUS | 1 of 1 | *ADJUSTABLE ELBOW GENERAL ASSEMBLY | 1 | 2023-11-30 |
| AELB BODY | 1 of 1 | *ADJUSTABLE ELBOW BODY | 1 | 2023-11-30 |
| AELB_NUT | 1 of 1 | *ELBOW NUT | - | 2016-05-27 |
| AM016B012E - AM110B004E and RM025B012E - RM130B004E | 1 of 1 | *METRIC TO BSP ADAPTORS & REDUCERS Ex | 1 | 2022-07-08 |
| AM016M016E - AM130M130E & RM020M016E - RM130M120E | 1 of 1 | *METRIC TO METRIC ADAPTORS & REDUCERS Ex | 1 | 2020-02-04 |
| AM016M016E TO AM130M130E AND RM020M016E TO RM130M120E | 1 of 1 | *METRIC TO METRIC ADAPTORS & REDUCERS Ex | 1 | 2022-07-07 |
| AM016M016E- INSA TO AM130M130E- INSA - AUS | 1 of 1 | *METRIC TO METRIC INSULATED ADAPTOR ASSEMBLY | - | 2023-11-30 |
| AM016M100E MARKING - AUS | 1 of 1 | *ADAPTORS-REDUCERS- PLUGS, COUPLERS & UNIONS MARKING DETAIL | - | 2023-11-30 |
| AM016N012E - AM100N004E and RM025N012E - RM130N004E | 1 of 1 | *METRIC TO NPT ADAPTORS & REDUCERS Ex | 1 | 2022-07-08 |

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|--|---------|--|-----------------|-----------------------|
| AM020M020E-IE TO AM100M100E- IE | 1 of 1 | *METRIC TO METRIC ADAPTORS - IE Ex | - | 2022-06-30 |
| AN012B012E to AN004B004E and RN034B012E to RN004B312E | 1 of 1 | *NPT TO BSP ADAPTORS & REDUCERS Ex | 3 | 2019-08-08 |
| AN012M020E to AN004M100E and RN012M016E to RN004M090E | 1 of 1 | *NPT TO METRIC ADAPTORS & REDUCERS Ex | 3 | 2019-08-08 |
| AN012N012E TO AN004N004E AND RN034N012E TO RN004N312E | 1 of 1 | *NPT TO NPT ADAPTORS & REDUCERS Ex | 4 | 2022-07-08 |
| AN012N012E-INSA TO AN004N004E- INSA-AUS | 1 of 1 | *NPT TO NPT INSULATED ADAPTOR Ex | - | 2023-11-30 |
| AT ADAPTOR ASSY - AUS | 1 of 1 | *ADJUSTABLE T ADAPTOR ASSEMBLY | - | 2023-11-30 |
| AT BODY_00 | 1 of 1 | *ADJUSTABLE T ADAPTOR BODY | - | 2018-08-17 |
| AY ADAPTOR ASSY - AUS | 1 of 1 | *ADJUSTABLE Y ADAPTOR ASSEMBLY | - | 2023-11-30 |
| AY BODY | 1 of 1 | *ADJUSTABLE Y ADAPTOR BODY | - | 2018-08-17 |
| CB012B012E - CB004B004E | 1 of 1 | *COUPLING BSP MALE TO BSP MALE Ex | 4 | 2019-08-08 |
| CB012M016E - CB004M130E | 1 of 1 | *COUPLING BSP MALE TO METRIC MALE Ex | 1 | 2020-02-05 |
| CB012N012E- CB004N004E | 1 of 1 | *COUPLING BSP MALE TO NPT MALE Ex | 3 | 2019-08-08 |
| CM016M016E - CM130M130E | 1 of 1 | *COUPLING METRIC MALE TO METRIC MALE Ex | 1 | 2022-07-08 |
| CM016N012E - CM130N004E | 1 of 1 | *COUPLING METRIC MALE TO NPT MALE Ex | 1 | 2022-07-08 |
| CN012B012E - CN004B004E | 1 of 1 | *COUPLING NPT MALE TO BSP MALE Ex | 4 | 2019-08-08 |
| CN012M016E- CN004M100E | 1 of 1 | *COUPLING NPT MALE TO METRIC MALE Ex | 4 | 2019-08-08 |

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|--|---------|---|--------------------|-----------------------|
| CN012N012E - CN004N004E | 1 of 1 | *COUPLING NPT MALE TO NPT MALE Ex | 4 | 2019-08-08 |
| PAM020M020E - PAM025M025E- AUS | 1 of 1 | *POSI ADAPTOR | - | 2023-11-30 |
| PDB012E TO PDB004E | 1 of 1 | *PLUGS DOME HEAD BSP - Ex | 2 | 2019-08-08 |
| PDM016E TO PDM130E | 1 of 1 | *DOME HEAD PLUGS - METRIC | 1 | 2022-07-11 |
| PDN012E TO PDN004E | 1 of 1 | *PLUGS DOME HEAD NPT - Ex | 2 | 2019-08-08 |
| PHB012E - PHB004E | 1 of 1 | *PLUGS HEX HEAD BSP - Ex | 2 | 2019-08-08 |
| PHM016E - PHM130E | 1 of 1 | *PLUGS HEX HEAD METRIC - Ex | 1 | 2022-07-08 |
| PHN012E to PHN004E | 1 of 1 | *PLUGS HEX HEAD NPT - Ex | 2 | 2019-08-08 |
| PSB012E - PSB004E & PSB012ER - PSB004ER | 1 of 1 | *STOPPER PLUG BSP - Ex | 2 | 2019-08-08 |
| PSM016E - PSM130E and PSM016ER - PSM130ER | 1 of 1 | *STOPPER PLUG METRIC - Ex | 1 | 2022-08-07 |
| PSN012E to PSN004E & PSN012ER to PSN004ER | 1 of 1 | *STOPPER PLUG 1/2" NPT TO 4" NPT PLUG Ex | 2 | 2019-08-08 |
| S45 ASSY | 1 of 1 | *SWIVEL 45° ASSY | 1 | 2023-07-06 |
| S45 FEMALE | 1 of 1 | *SWIVEL 45° FEMALE | - | 2023-03-17 |
| SA ASSY | 1 of 1 | *SWIVEL ADAPTOR ASSEMBLY | 1 | 2023-07-06 |
| SA FEMALE | 1 of 1 | *SWIVEL ADAPTOR FEMALE | - | 2023-03-17 |
| SA-I | 1 of 1 | *SWIVEL ADAPTOR MALE | - | 2023-03-17 |
| SB45 ASSY | 1 of 1 | *SWIVEL BARRIER 45° ASSY | 1 | 2023-07-06 |
| SBA ASSY | 1 of 1 | *SWIVEL BARRIER ADAPTOR ASSY | 1 | 2023-07-06 |
| SBA-S | 1 of 1 | *SBA RESIN SLEEVE | - | 2023-06-01 |
| SBC ASSY | 1 of 1 | *SWIVEL BARRIER COUPLER ASSY | 1 | 2023-07-06 |

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|---------------------------------|---------|--|-----------------|-----------------------|
| SBELB ASSY | 1 of 1 | *SWIVEL BARRIER ELBOW ASSY | 1 | 2023-07-06 |
| SC ASSY | 1 of 1 | *SWIVEL COUPLER ASSY | 1 | 2023-07-06 |
| SC MALE | 1 of 1 | *SWIVEL COUPLER MALE | - | 2023-03-17 |
| SELB ASSY | 1 of 1 | *SWIVEL ELBOW ASSY | 1 | 2023-07-06 |
| SELB FEMALE | 1 of 1 | *SWIVEL COUPLER FEMALE | - | 2023-03-17 |
| SWIVEL ADAPTOR MARKING - AUS | 1 of 1 | *SWIVEL ADAPTOR, COUPLING, 45°, ELBOW MARKING | - | 2023-03-20 |
| SWIVEL NUT | 1 of 1 | *NUT FOR SWIVEL ADAPTOR, COUPLER, 45° & ELBOW | - | 2023-03-20 |
| UB012B012E - UB004B004E | 1 of 1 | *UNION BSP FEMALE TO BSP FEMALE Ex | 3 | 2019-08-08 |
| UB012M016E- UB004M100E | 1 of 1 | *UNION BSP FEMALE TO METRIC FEMALE Ex | 3 | 2019-08-08 |
| UB012N012E - UB004N004E | 1 of 1 | *UNION BSP FEMALE TO NPT FEMALE Ex | 2 | 2019-08-08 |
| UM016B012E - UM130B004E | 1 of 1 | *UNIONS METRIC FEMALE TO BSP FEMALE Ex | 1 | 2022-07-08 |
| UM016M016E - UM130M130E | 1 of 1 | *UNION METRIC FEMALE TO METRIC FEMALE Ex | 1 | 2022-07-08 |
| UM016N012E - UM130N004E | 1 of 1 | *UNIONS METRIC FEMALE TO NPT FEMALE Ex | 1 | 2022-07-08 |
| UN012B012E - UN004B004E | 1 of 1 | *UNIONS NPT FEMALE TO BSP FEMALE Ex | 2 | 2019-08-08 |
| UN012M016E- UN004M100E | 1 of 1 | *UNIONS NPT FEMALE TO METRIC FEMALE Ex | 3 | 2019-08-08 |
| UN012N012E - UN004N004E | 1 of 1 | *UNIONS NPT FEMALE TO NPT FEMALE Ex | 2 | 2019-08-08 |

Note: An "*" is added before the title of documents that are new or revised.

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