CCG®
CABLE TERMINATIONS

PRODUCT CATALOGUE 2026

TOLL FREE 1300 CABLE GLANDS

CABLE GLANDS / JUNCTION BOXES
THREAD CONVERTERS / CABLE ACCESSORIES
CLEATS

Ultraweld® Provides Superior Moulds
UltraShot® Drone Ignition Process
Ultraweld® Innovative Mould Designs
Patented Mould Handle Clamps with Modular Attachments

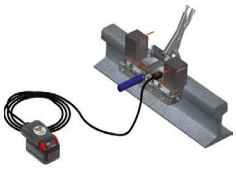
Features and Benefits

- All Connection Types cable to cable, cable to ground & cable to Reo
- Ultrashot Drop in Process
- NUWTube Pour & shoot process
- Low Smoke- Zero Halogen System
- Audible Ignition, Utilising a M18 Red Lithium Milwaukee Battery
- 70mm & 120mm Earth Bonds
- Tooling & full range of accessories
- Fully Certified to IEEE

Exothermic Welding

HARGER

As the industry leader in exothermic products for grounding, bonding and lightning protection, we offer patented (UltraShot®) technology that utilizes a copper container which becomes part of the connection. Exothermic moulds used in the UltraShot process have been proven to last several times longer than ones being used in the conventional process. Exothermic connections are the preferred connection method especially for below grade applications.



Rail Connections

Ultrashot Controllers and Accessories

Exothermic Weld Metal

Exothermic Tools

Uni-shot System

Low Smoke System

Mould Care

Exothermic Moulds

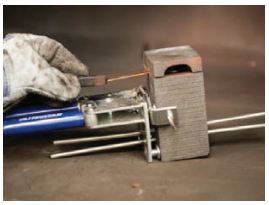
Mould Handles and Accessories

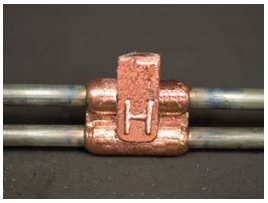
NUWTube and UltraShot

ULTRAWELD

The Ultraweld processes (NUWTube and UltraShot) use the same, time proven way to connect conductors at the molecular level. This process involves the reduction of copper oxide by aluminium which creates Aluminium Oxide and enough heat to provide molten copper for the connection. The reaction is encapsulated by a graphite mould that is designed for specific conductors. These moulds provide a portable and economical way to make the best electrical connection.

ULTRAWELD ULTRASHOT

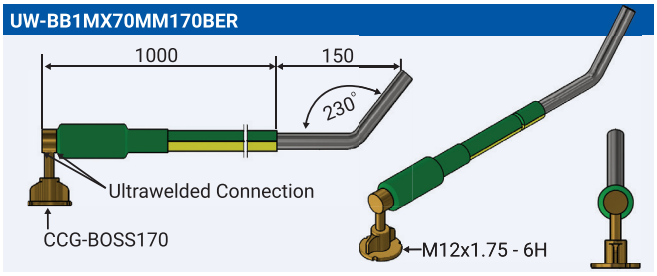




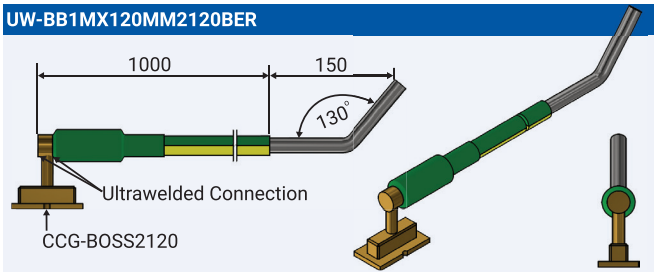
Building Bonds

Earth Bonds are used to reduce the risk of electric shock if someone were to touch two separate metal objects that are alive.

UW-BB1MX70MM170BER



UW-BB1MX120MM2120BER



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INTRODUCTION
Range Overview
Quick Find Table

CCG CABLE TERMINATIONS

A2

COMPRESSION GLAND

for Unarmoured Cable

Features and Benefits

- For indoor and outdoor use.
- Seals the cable sheath to IP66/68.
- Specially formulated elastomeric seals.
- Precision manufactured from high-quality brass (Nickel Plated) available in aluminium or stainless steel 316/316L on request.
- Complete with heavy-duty locknut.
- Supplied with a thread sealing gasket (parallel threads only).

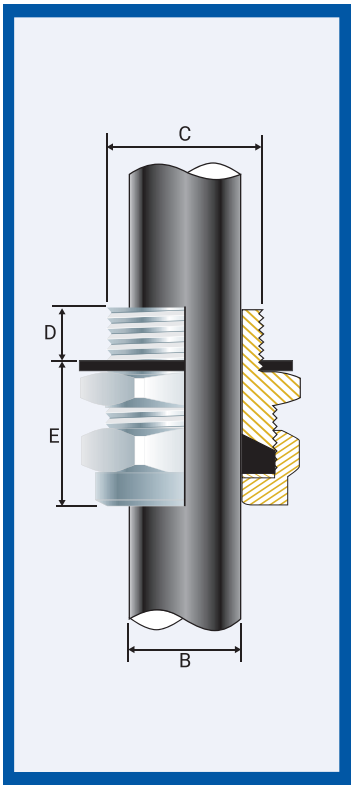
100m IP68

Technical Data

Type:	A2
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221, Stainless Steel 316/316L
Seal Material:	Thermoset Elastomer or Silicon on request.
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type B	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 60529, IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
London Underground Approval	BS EN 62444	LU 3043



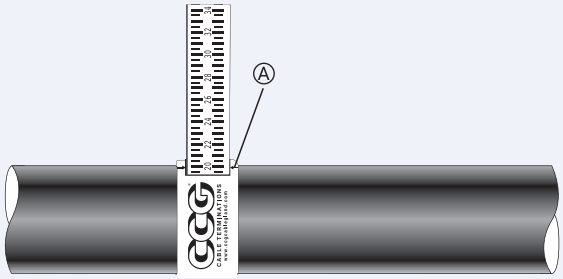
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

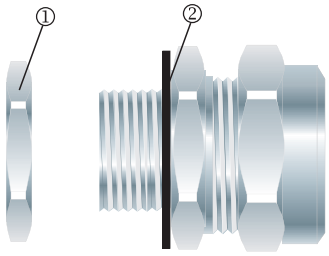
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
053500-16S	00-16S	M16x1.5	10	-	-	1.0	6.0	20.0	▲◆ 18.0	◆ 20.0	20.0
053500-16	00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0	▲◆ 24.0	◆ 27.0	32.5
053500	00-20ss	M20x1.5	10	½/¾	15	3.0	8.5	20.0	▲◆ 24.0	◆ 27.0	32.5
0535-0	0-20s	M20x1.5	10	½/¾	15	7.0	11.5	20.0	▲◆ 24.0	◆ 27.0	32.5
053501	1-20	M20x1.5	10	½/¾	15	11.0	15.0	24.0	▲ 27.0	30.0	32.5
053522	2s-25s	M25x1.5	10	¾/1	15/19	11.5	17.5	25.0	▲ 35.0	39.0	47.5
053502	2-25	M25x1.5	10	¾/1	15/19	15.0	20.0	25.0	▲ 35.0	39.0	47.5
053533	3s-32s	M32x1.5	10	1/1¼	19	16.0	22.0	30.0	▲ 42.0	47.0	55.0
053503	3-32	M32x1.5	10	1/1¼	19	20.0	26.5	30.0	▲ 42.0	47.0	55.0
053544	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	▲ 52.0	59.0	65.0
053504	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	30.0	▲ 52.0	59.0	65.0
053555	5s-50s	M50x1.5	15	1½	21	29.0	38.0	42.0	▲ 65.0	73.0	82.5
053505	5-50	M50x1.5	15	2	21	34.0	44.5	42.0	▲ 65.0	73.0	82.5
053566	6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0	✦ 80.0	90.0	97.5
053506	6-63	M63x1 5	15	2½	30	44.5	56.5	48.0	✦ 80.0	90.0	97.5
053577	7s-75s	M75x1 5	15	2½	30	50.0	62.0	50.0	✦ 96.0	108.0	115.0
053507	7-75	M75x1.5	15	3	32	56.0	67.5	50.0	✦ 96.0	108.0	115.0
053588	8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0	✦ 96.0	108.0	120.0
053508	8-80	M80x2.0	20	3	32	65.0	74.0	55.0	✦ 96.0	108.0	120.0
053599	9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0	✦ 111.0	125.0	120.0
053509	9-90	M90x2.0	20	3½	33	73.0	81.5	60.0	✦ 111.0	125.0	120.0
053510	10-100	M100x2 0	20	3½/4	33/34	81.0	91.0	74.0	-	-	120.0
053511	11-110	M110x2.0	20	4	34	91.0	101.0	92.5	-	-	175.0
053512	12-120	M120x2.0	20	-	-	101.0	109.0	92.5	-	-	175.0
053513	13-130	M130x2.0	20	-	-	109.0	119.0	92.5	-	-	175.0

All dimensions except NPT are in mm. ▲ For use with a CCG Hex Spanner ✦ For use with a CCG C Spanner.
◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

A2 Compression Gland

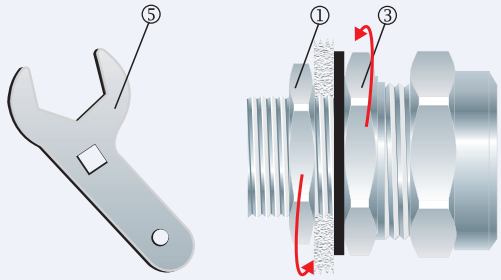


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



2. To maintain IP66/68, ensure the gasket ② is in place. Remove the locknut ①.

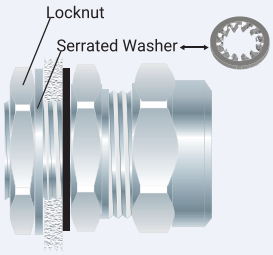
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

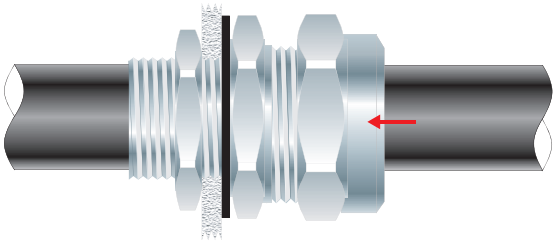


3. Screw the inner ③ into the apparatus and tighten to the installation torque using a CCG Spanner ⑤. Tighten the locknut ①.

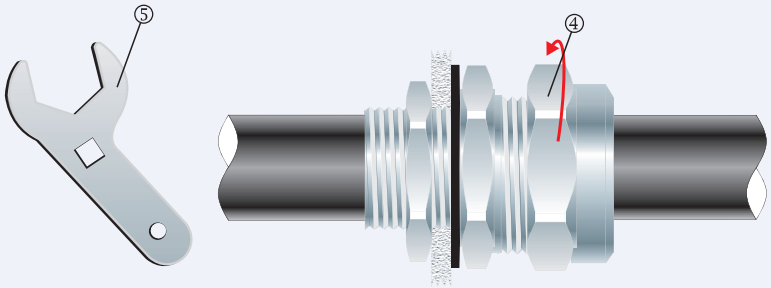
Alternative installation through an unthreaded entry.

If the apparatus is untapped use a locknut.





4. Pass the cable end through the gland assembly.



5. Tighten the outer ④ to the installation torque using a CCG Spanner ⑤.

CCG CABLE TERMINATIONS

A2X

COMPRESSION GLAND

for Unarmoured Cable

Features and Benefits

- For indoor and outdoor use.
- Seals the cable sheath to IP65/66/68.
- Specially formulated elastomeric seals.
- Double seal arrangement for added grip on the cable.
- Precision manufactured from high-quality brass (Nickel Plated) available in aluminium or stainless steel 316/316L on request.
- Complete with thread sealing gasket and heavy-duty locknut.

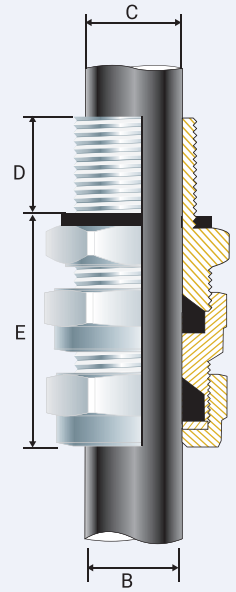
100m IP68

Technical Data

Type:	A2X
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221, Stainless Steel 316/316L
Seal Material:	Thermoset Elastomer or Silicone on request
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type B	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certification
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	



Installation Standards

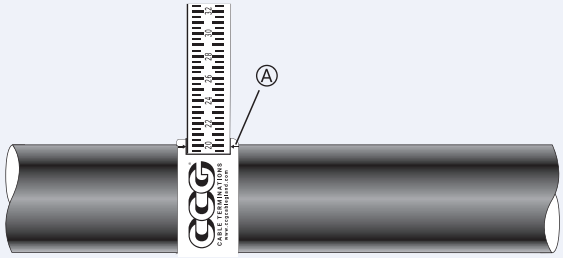
- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
054000-16S	00-16S	M16x1.5	10	-	-	1.0	6.0	20.0	24.0	27.0	32.5
054000-16	00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0	◆ 24.0	27.0	32.5
054000	00-20ss	M20x1.5	10	½/¾	15	3.0	8.5	20.0	◆ 24.0	27.0	32.5
0540-0	0-20s	M20x1.5	10	½/¾	15	7.0	11.5	20.0	◆ 24.0	27.0	32.5
054001	1-20	M20x1.5	10	½/¾	15	11.0	15.0	24.0	27.0	30.0	32.5
054022	2s-25s	M25x1.5	10	¾/1	15/19	11.5	17.5	25.0	35.0	39.0	47.5
054002	2-25	M25x1.5	10	¾/1	15/19	15.0	20.0	25.0	35.0	39.0	47.5
054033	3s-32s	M32x1.5	10	1/1¼	19	16.0	22.0	30.0	42.0	47.0	55.0
054003	3-32	M32x1.5	10	1/1¼	19	20.0	26.5	30.0	42.0	47.0	55.0
054044	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	52.0	59.0	65.0
054004	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	30.0	52.0	59.0	65.0
054055	5s-50s	M50x1.5	15	1½	21	29.0	38.0	42.0	65.0	73.0	82.5
054005	5-50	M50x1.5	15	2	21	34.0	44.5	42.0	65.0	73.0	82.5
054066	6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0	80.0	90.0	97.5
054006	6-63	M63x1.5	15	2½	30	44.5	56.5	48.0	80.0	90.0	97.5
054077	7s-75s	M75x1.5	15	2½	30	50.0	62.0	50.0	96.0	108.00	115.0
054007	7-75	M75x1.5	15	3	32	56.0	67.5	50.0	96.0	108.00	115.0
054088	8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0	96.0	108.0	120.0
054008	8-80	M80x2.0	20	3	32	65.0	74.0	55.0	96.0	108.0	120.0
054099	9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0	111.0	125.0	120.0
054009	9-90	M90x2.0	20	3½	33	73.0	81.5	60.0	111.0	125.0	120.0
054010	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	74.0	-	-	120.0
054011	11-110	M110x2.0	20	4	34	91.0	101.0	92.5	-	-	175.0
054012	12-120	M120x2.0	20	-	-	101.0	109.0	92.5	-	-	175.0
054013	13-130	M130x2.0	20	-	-	109.0	119.0	92.5	-	-	175.0

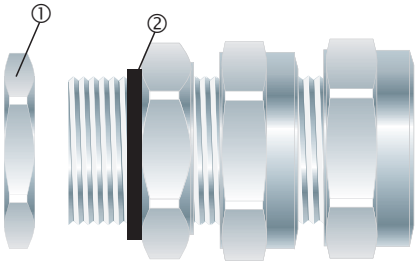
All dimensions except NPT are in mm.

◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

A2X Compression Gland

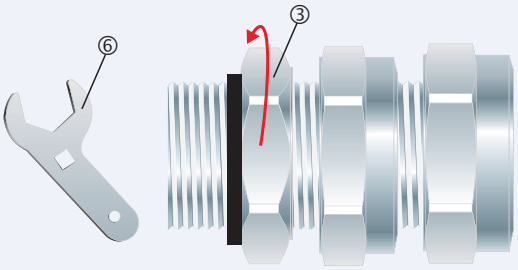


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



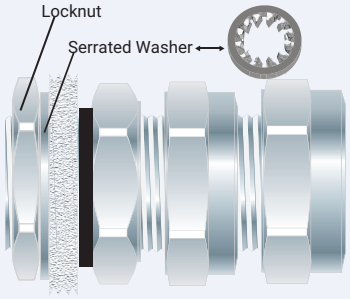
2. Remove the locknut ①. To maintain IP66/68, ensure the gasket ② is in place.

If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

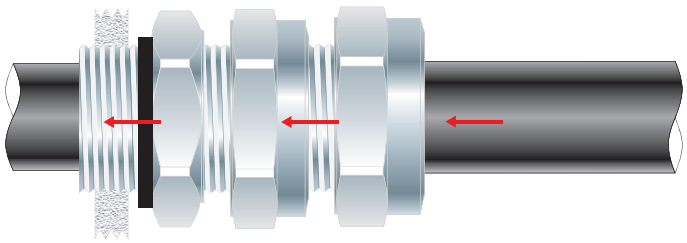


3. Screw the inner ③ into the apparatus and tighten to the installation torque using a CCG Spanner ⑥.

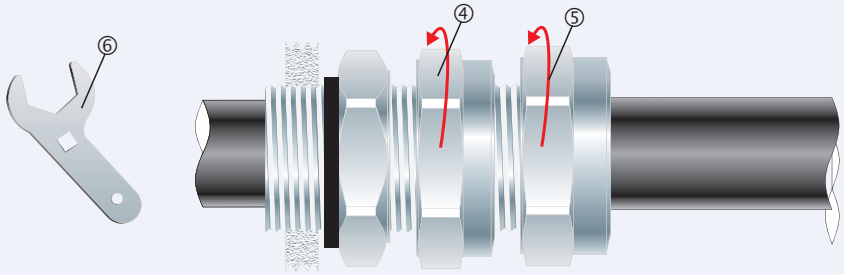
Alternative installation through an unthreaded



If the apparatus is untapped use a locknut.



4. Pass the cable end through the gland assembly.



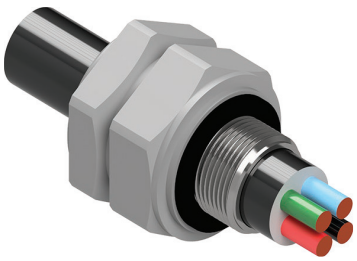
5. Tighten the body ④ to the installation torque using a CCG Spanner ⑥ to produce a seal and grip on the cable. Tighten the outer nut ⑤ to produce an additional seal and grip on the cable.

CCG CABLE TERMINATIONS

POSI FLEX™

COMPRESSION GLAND

for Unarmoured Cable



Features and Benefits

- For use in highly corrosive areas.
- Seals the cable sheath to IP66/68.
- Specially formulated elastomeric seals.
- Brass parts are encapsulated in a corrosion resistant body.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread sealing gasket.

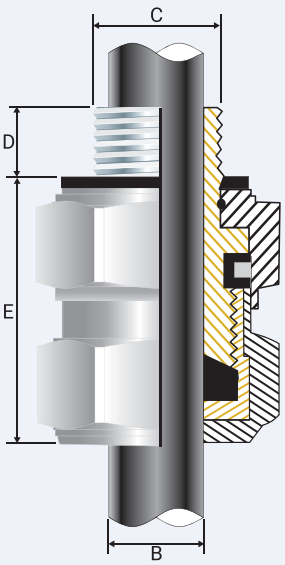
100m IP68 · CORROSION PROOF · UV RESISTANT

Technical Data

Type:	Posi Flex™
Gland Material:	Brass (Nickel Plated) encapsulated in Nylon or DMC
Sealing Material:	Thermoset Elastomer (Standard)
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Accessories:	Posi Spanner, Adaptor, Reducer and Serrated Washer

Standards and Certifications

Mechanical Properties:	Impact Category 7 Anchorage Type B	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certification:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
London Underground Approval	BS EN 62444	LU 3043



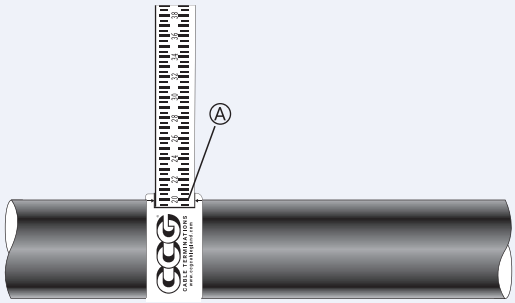
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

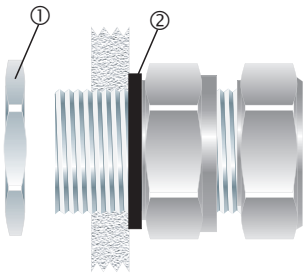
Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		*Installation Torque Value Nm
		'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
053800	00-20ss	M20x1.5	10	3.0	8.0	33.0	30.0	34.0	13.5
0538-0	0-20s	M20x1.5	10	7.0	11.5	33.0	30.0	34.0	13.5
053801	1-20	M20x1.5	10	11.0	15.0	37.0	34.0	38.0	13.5
053802	2-25	M25x1.5	10	15.0	20.0	40.0	42.0	47.0	20.0
053803	3-32	M32x1.5	10	20.0	26.5	50.0	52.0	59.0	27.0
053804	4-40	M40x1.5	15	26.0	34.0	57.0	62.0	70.0	33.5

All dimensions are in mm. For sizes larger than 4-40 use CCG Posi Grip Cable Glands.
* Only CCG Posi Spanner to be used for installation torque.

POSI FLEX™ COMPRESSION GLAND

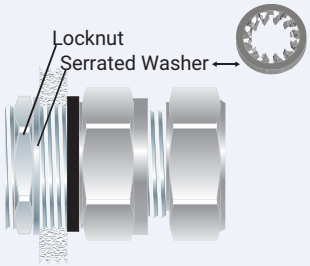


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.

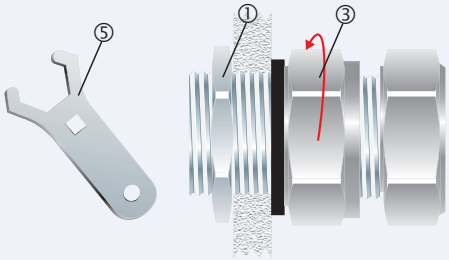


2. Remove locknut ①. To maintain IP66/68 ensure the gasket ② is in place.

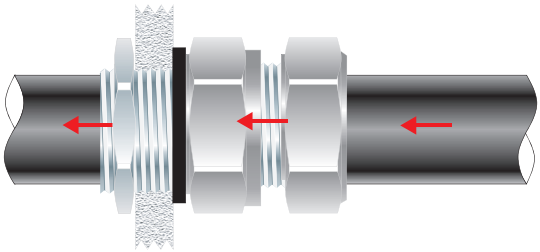
Alternative installation through an unthreaded entry.



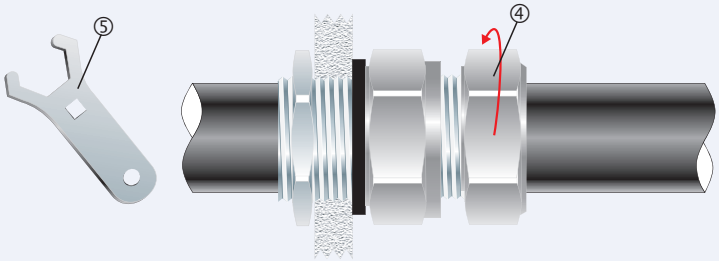
If the apparatus is untapped use a locknut.



3. Screw the gland unit into apparatus. Tighten the nipple nut ③ to the installation torque value using a CCG Spanner ⑤. If the apparatus is untapped use a locknut ①



4. Pass the cable end through gland assembly.



5. Tighten the outer ④ to installation torque value using a CCG Spanner ⑤ to produce a seal and grip on the cable.
   * Only CCG Posi Spanner to be used for installation torque.

CCG CABLE TERMINATIONS

BW

CAPTIVE CONE GLAND®

for Steel Wire Armoured and Aluminium Armoured Cable

Features and Benefits

- For indoor use.
- Two-part handling, no loose parts.
- Freely rotating captive cone, providing an armour clamp and earth bond without twisting the armouring.
- Precision manufactured from high-quality brass (nickel plated) available in aluminium on request.
- Complete with heavy duty locknut.

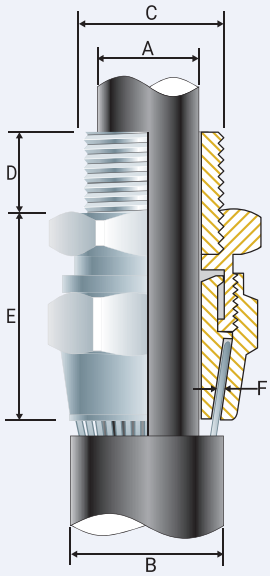
EMC

Technical Data

Type:	BW
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164 or Aluminium ASTM B221
Cable Type:	Steel Wire Armour, Aluminium Armour Wire
Armour Clamping:	Rotating Captive Cone
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type D	
Electrical Properties:	Category A (no earth tag) Category B (with earth tag)	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
Ingress Protection	IP2X (without a shroud)	
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1
London Underground Approval	BS EN 62444	LU 3043



PATENTED

Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

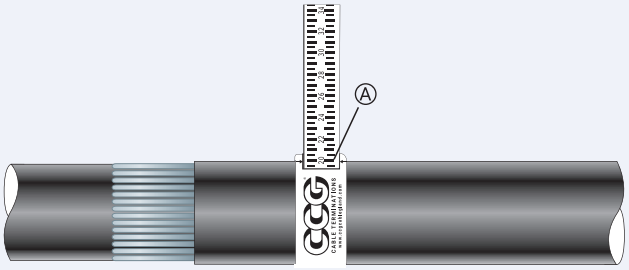
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail			Maximum Length 'E'	Armour Dia		Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
0503-0	0-20s	M20x1.5	10	½/¾	15	12.0	11.5	16.0	23.0	0.90	1.25	▲◆ 22	◆ 25	35.0
050301	1-20	M20x1.5	10	½/¾	15	15.0	14.5	20.5	26.0	0.90	1.25	▲ 25/27	28/30	35.0
050302	2-25	M25x1.5	10	¾/1	15/19	20.0	20.5	26.5	29.0	1.25	1.60	▲ 35	39	50.0
050303	3-32	M32x1.5	10	1/1¼	19	26.5	26.5	33.5	32.0	1.60	2.00	▲ 42	47	70.0
050304	4-40	M40x1.5	15	1¼/1½	19/21	34.0	33.0	42.5	36.0	1.60	2.00	▲ 52	59	90.0
050305	5-50	M50x1.5	15	1½/2	21	44.5	42.5	52.5	45.0	2.00	2.50	▲ 65	73	100.0
050306	6-63	M63x1.5	15	2/2½	21/30	56.5	52.5	65.5	50.0	2.00	2.50	▲ 80	90	120.0
050307	7-75	M75x1.5	15	2½/3	30/32	67.5	65.5	78.0	60.0	2.50	3.15	▲ 96	108	120.0
050308	8-80	M80x2.0	20	3	32	74.0	78.0	82.0	65.0	2.50	3.15	▲ 96	108	120.0
050309	9-90	M90x2.0	20	3/3½	32/33	81.5	82.0	91.0	69.0	3.00	3.50	▲ 111	125	120.0
050310	10-100	M100x2.0	20	3½/4	33/34	91.0	90.0	100.0	88.0	3.00	3.50	✦ -	-	120.0
050311	11-110	M110x2.0	20	4	34	98.0	100.0	114.0	88.0	3.00	4.00	✦ -	-	120.0
050312	12-120	M120x2.0	20	-	-	103.0	103.0	118.0	100.0	3.00	4.00	✦ -	-	120.0
050313	13-130	M130x2.0	20	-	-	115.0	113.0	124.0	100.0	3.00	4.00	✦ -	-	120.0

All dimensions are in mm.

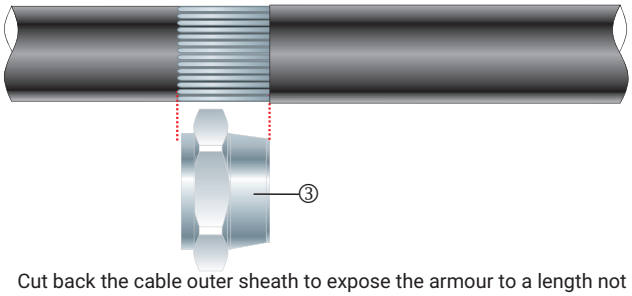
▲ For use with a CCG Hex Spanner. ✦ For use with a CCG C Spanner.

◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

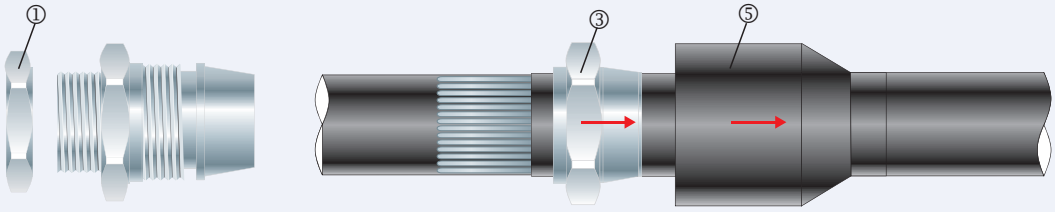
BW CAPTIVE CONE GLAND®



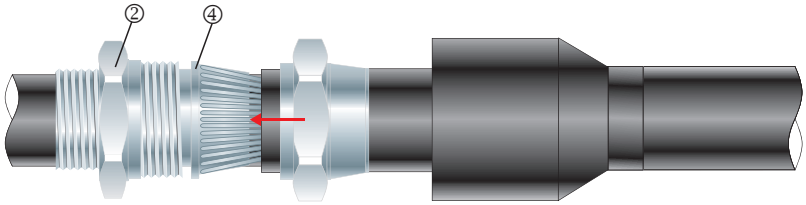
1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



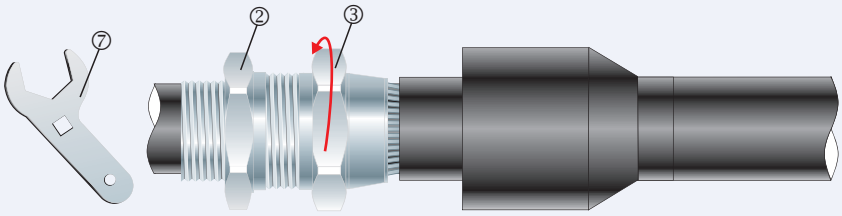
2. Cut back the cable outer sheath to expose the armour to a length not more than the outer ③.



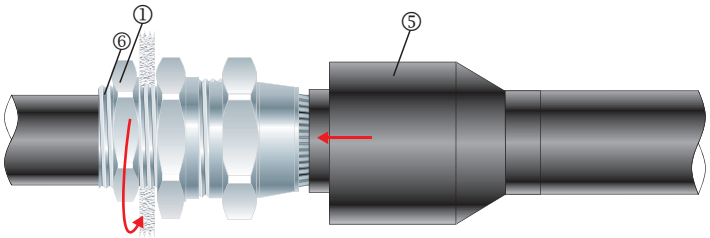
3. Remove the locknut ①. Slide the shroud ⑤ and the outer ③ over the cable.



4. Pass the cable end through the inner ② and splay the armour wires over the cone ④.



5. Tighten the outer ③ onto the inner ② to the installation torque using a CCG Spanner ⑦.



6. Insert the gland bush ⑥ into the cable entry of the apparatus and tighten the locknut ①. Slide the shroud ⑤ over the gland.

CCG CABLE TERMINATIONS

CW

CAPTIVE COMPONENT GLAND®

for Steel Wire and Aluminium Armoured Cable

Features and Benefits

- For indoor and outdoor use.
- Two-piece handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring, providing an inspectible armour clamp and earth bond without twisting the armouring.
- Patented disconnect armoured clamp system for ease of inspection.
- Provides a seal on the outer sheath of the cable sealing to IP65/66.
- Precision manufactured from high-quality brass (nickel plated) available in aluminium or stainless steel 316/316L on request.
- Complete with thread sealing gasket and heavy-duty locknut.

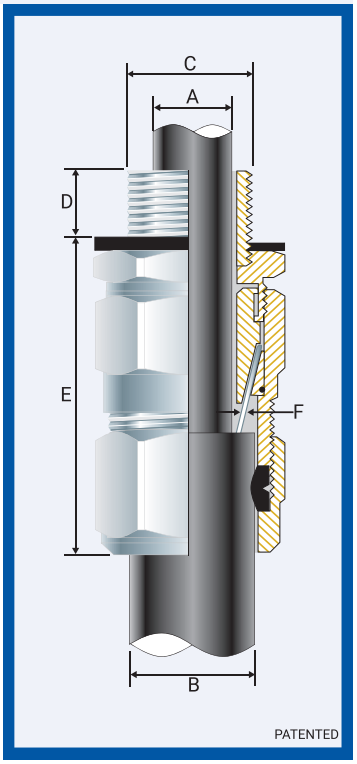
IP66 EMC

Technical Data

Type:	CW
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM B221, Stainless Steel 316/316L
Seal Material:	Thermoset Elastomer or Silicon on request
Cable Type:	Steel Wire Armour and Aluminium Armour Wire
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Outer Sheath
Optionl Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8, Anchorage Type D	
Electrical Properties:	Category A (no earth tag) Category B (with earth tag)	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66 - Parallel	IEC 60529	MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 60529, IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1
London Underground Approval	BS EN 62444	LU 3043



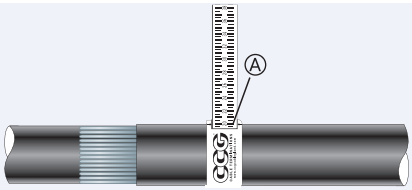
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

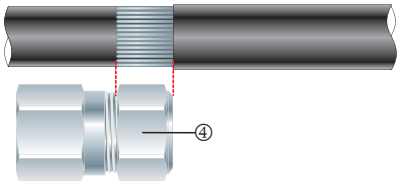
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail			Max Length 'E'	Armour Dia		Hexagonal Detail		Install Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
051200-16	◈⁎ 00-16ss	M16x1.5	10	-	-	8.5	8.0	13.5	41.0	0.90	0.90	◆▲ 24.0	◆ 27.0	35.0
051200	◈⁎ 00-20ss	M20x1.5	10	½/¾	15	8.5	8.0	13.5	41.0	0.90	0.90	◆▲ 24.0	◆ 27.0	35.0
0512-0	◈⁎ 0-20s	M20x1.5	10	½/¾	15	12.0	11.5	16.0	43.0	0.90	1.25	◆▲ 24.0	◆ 27.0	35.0
051201	⁎ 1-20	M20x1.5	10	½/¾	15	15.0	14.5	20.5	47.0	0.90	1.25	▲ 27.0	30.0	35.0
051222	⁎ 2s-25s	M25x1.5	10	¾/1	15/19	17.5	16.0	24.5	56.0	1.25	1.60	▲ 35.0	39.0	50.0
051202	⁎ 2-25	M25x1.5	10	¾/1	15/19	20.0	20.5	26.5	56.0	1.25	1.60	▲ 35.0	39.0	50.0
051233	⁎ 3s-32s	M32x1.5	10	1/1¼	19	22.0	23.0	30.5	57.0	1.60	2.00	▲ 42.0	47.0	70.0
051203	⁎ 3-32	M32x1.5	10	1/1¼	19	26.5	26.5	33.5	57.0	1.60	2.00	▲ 42.0	47.0	70.0
051244	4s-40s	M40x1.5	15	1¼/1½	19/21	31.5	30.0	39.5	68.0	1.60	2.00	▲ 52.0	59.0	90.0
051204	4-40	M40x1.5	15	1¼/1½	19/21	34.0	33.0	42.5	68.0	1.60	2.00	▲ 52.0	59.0	90.0
051255	5s-50s	M50x1.5	15	1½/2	21	38.0	34.0	47.5	72.0	2.00	2.50	▲ 65.0	73.0	100.0
051205	5-50	M50x1.5	15	1½/2	21	38.0/44.5	42.5	52.5	72.0	2.00	2.50	▲ 65.0	73.0	100.0
051266	6s-63s	M63x1.5	15	2/2½	21/30	50.0	45.5	60.5	89.0	2.00	2.50	▲ 80.0	90.0	120.0
051206	6-63	M63x1.5	15	2/2½	21/30	50.0/56.5	52.5	65.5	89.0	2.00	2.50	▲ 80.0	90.0	120.0
051277	7s-75s	M75x1.5	15	2½/3	30/ 32	62.0	57.0	72.5	97.0	2.50	3.15	▲ 96.0	108.0	120.0
051207	7-75	M75x1.5	15	2½/3	30/32	62.0/67.5	65.5	78.0	97.0	2.50	3.15	▲ 96.0	108.0	120.0
051288	8s-80s	M80x2.0	20	3	32	69.0	65.0	77.5	98.0	2.50	3.15	▲ 96.0	108.0	120.0
051208	8-80	M80x2.0	20	3	32	74.0	78.0	82.0	98.0	2.50	3.15	▲ 96.0	108.0	120.0
051299	9s-90s	M90x2.0	20	3/3½	32/33	75.0	73.0	86.5	123.0	3.00	3.50	▲ 96.0	108.0	120.0
051209	9-90	M90x2.0	20	3/3½	32/33	75.0/81.5	82.0	91.0	123.0	3.00	3.50	▲ -	-	120.0
051210	10-100	M100x2.0	20	3½/4	33/34	91.0	90.0	100.0	124.0	3.00	3.50	✦ -	-	120.0
051211	11-110	M110x2.0	20	4	34	98.0	100.0	114.0	134.0	3.00	4.00	✦ -	-	120.0
051212	12-120	M120x2.0	20	-	-	103.0	103.0	118.0	136.0	3.00	4.00	✦ -	-	120.0
051213	13-130	M130x2.0	20	-	-	115.0	113.0	124.0	140.0	3.00	4.00	✦ -	-	120.0

All dimensions except NPT are in mm. ⁎ Supplied with fixed cone and bush.
⁎ For use with CCG Handi Fit Boxes. ▲ For use with CCG Hex Spanner. ◈ For use with CCG C-Spanner.
◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

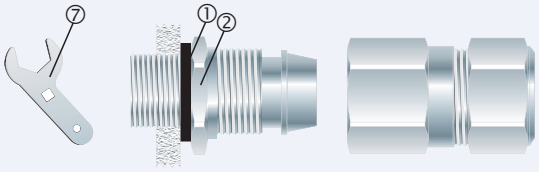
CW CAPTIVE COMPONENT GLAND®



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.

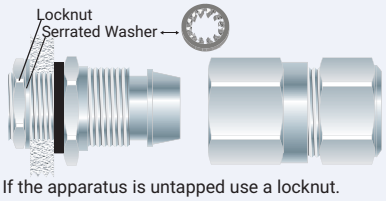


2. Cut back the cable outer sheath to expose the armour to a length not more than the outer nut ④.

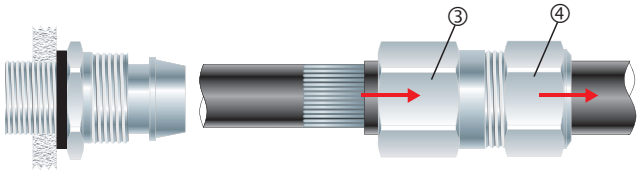


3. To maintain IP66, ensure the gasket ① is in place. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ⑦.

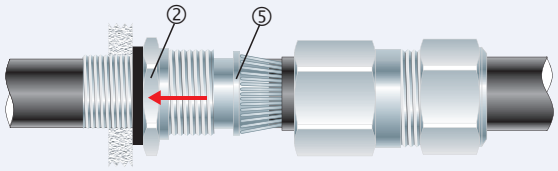
Alternative installation through an unthreaded entry.



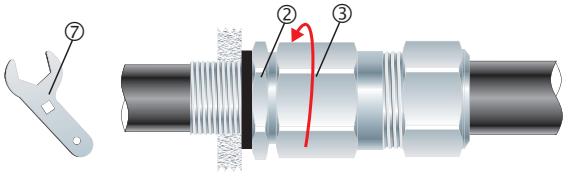
If the apparatus is untapped use a locknut.



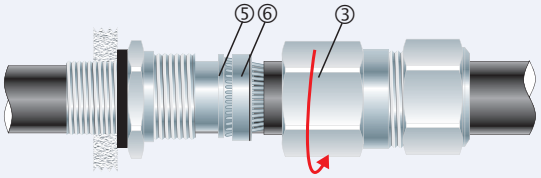
4. Pass the outer nut ④ and body ③ over the cable.



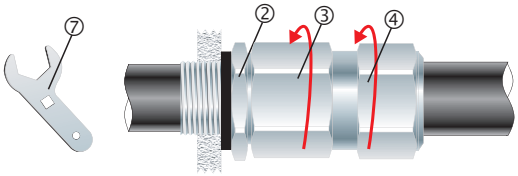
5. Pass cable end through the inner ② and splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the amour has locked between the cone ⑤ and the cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial).



8. Screw the body ③ onto the inner ② and tighten the body ③ to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then turn one full turn.

CCG CABLE TERMINATIONS

E1W

CAPTIVE COMPONENT GLAND®

for Steel and Aluminium Armoured Cable

Features and Benefits

- For indoor and outdoor use.
- Two-piece handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring, providing an armour clamp and earth bond without twisting the armour wire.
- Patented disconnect system for armour clamp inspection. Factory fitted captive elastomeric inner seal for Built-in Safety™. Seals on both the inner and outer sheath of the cable to IP65/66/68.
- Precision manufactured from high-quality brass (Nickel Plated) available in aluminium or stainless steel 316/316L on request.
- Complete with thread sealing gasket and with a heavy-duty locknut.

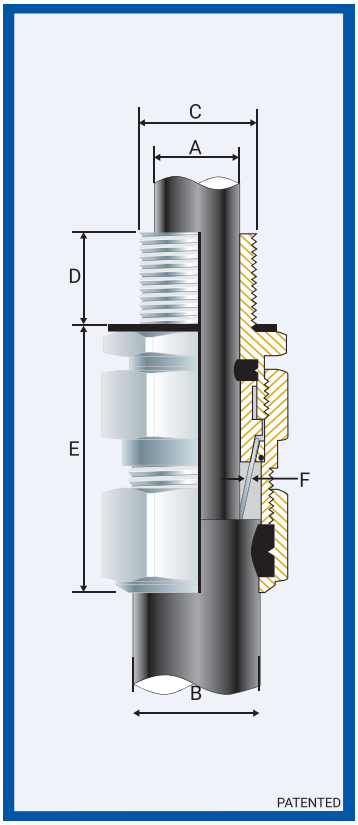
100m IP68 EMC

Technical Data

Type:	E1W
Gland Material:	Brass (Nickel Plated), BS 2874, EN 12164, Aluminium ASTM BS221, Stainless Steel 316/316L
Seal Material:	Thermoset Elastomer or Silicone on request
Cable Type:	Steel Wire Armour and Aluminium Armour Wire
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath and Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type D	
Electrical Properties:	Category A (no earth tag) Category B (with earth tag)	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certification:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 60529, IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
EMC Compatible	EN 55011, A1, EN 55022	SGS EMC305079/1
London Underground Approval	BS EN 62444	LU 3043



Installation Standards

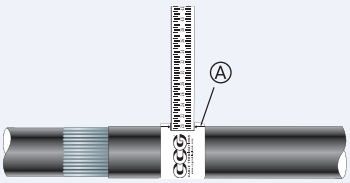
- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
051800-16	00-16ss	M16x1.5	10	-	-	3.0	8.5	8.0	13.5	52.0	0.90	◆ 0.90	◆ 24.0	27.0	35.0
051800	00-20ss	M20x1.5	10	½	15	3.0	8.5	8.0	13.5	52.0	0.90	◆ 0.90	◆ 24.0	27.0	35.0
0518-0	0-20s	M20x1.5	10	½	15	7.0	12.0	11.5	16.0	52.0	0.90	◆ 1.25	◆ 24.0	27.0	35.0
051801	1-20	M20x1.5	10	½/¾	15	11.0	15.0	14.5	20.5	56.0	0.90	1.25	27.0	30.0	35.0
051822	2s-25s	M25x1.5	10	¾/1	15/19	11.0	17.5	16.0	24.5	65.0	1.25	1.60	35.0	39.0	50.0
051802	2-25	M25x1.5	10	¾/1	15/19	14.0	20.0	20.5	26.5	65.0	1.25	1.60	35.0	39.0	50.0
051833	3s-32s	M32x1.5	10	1/1¼	19	15.0	22.0	23.0	30.5	65.0	1.60	2.00	42.0	47.0	70.0
051803	3-32	M32x1.5	10	1/1¼	19	19.0	26.5	26.5	33.5	65.0	1.60	2.00	42.0	47.0	70.0
051844	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	39.5	80.0	1.60	2.00	52.0	59.0	90.0
051804	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	33.0	42.5	80.0	1.60	2.00	52.0	59.0	90.0
051855	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	34.0	47.5	95.0	2.00	2.50	65.0	73.0	100.0
051805	5-50	M50x1.5	15	1½/2	21	34.0	44.5	42.5	52.5	95.0	2.00	2.50	65.0	73.0	100.0
051866	6s-63s	M63x1.5	15	2/2½	30	38.0	50.0	45.5	60.5	116.0	2.00	2.50	80.0	90.0	120.0
051806	6-63	M63x1.5	15	2/2½	30	44.0	56.5	52.5	65.5	116.0	2.00	2.50	80.0	90.0	120.0
051877	7s-75s	M75x1.5	15	2½/3	32	50.0	62.0	57.0	72.5	127.0	2.50	3.15	96.0	108.0	120.0
051807	7-75	M75x1.5	15	2½/3	32	56.0	67.5	65.5	78.0	127.0	2.50	3.15	96.0	108.0	120.0
051808	8-80	M80x2.0	20	3	32	68.0	74.0	78.0	82.0	120.0	2.50	3.15	96.0	108.0	120.0
051899	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	142.0	3.00	3.50	111.0	125.0	120.0
051809	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	142.0	3.00	3.50	111.0	125.0	120.0
051810	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	142.0	3.00	3.50	125.0	141.0	120.0
051811	11-110	M110x2.0	20	4	34	86.0	98.0	100.0	114.0	142.0	3.00	4.00	135.0	152.0	120.0
051812	12-120	M120x2.0	20	-	-	96.0	103.0	103.0	118.0	142.0	3.00	4.00	140.0	158.0	120.0
051813	13-130	M130x2.0	20	-	-	100.0	115.0	113.0	124.0	165.0	3.00	4.00	146.0	164.0	120.0

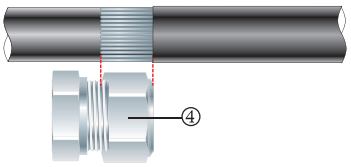
All dimensions except NPT are in mm.

◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

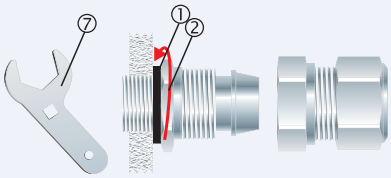
E1W CAPTIVE COMPONENT GLAND®



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



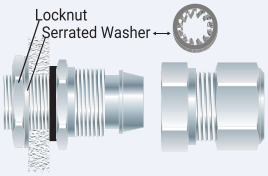
2. Cut back the cable outer sheath to expose the armour to a length not more than the outer nut ④.



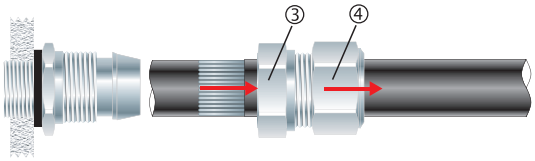
3. To maintain IP66/68, ensure the gasket ① is in place. Screw the inner ② into the apparatus. Tighten the inner ②, to installation torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

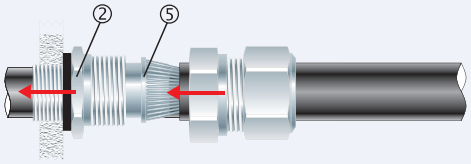
If the apparatus is untapped use a locknut.



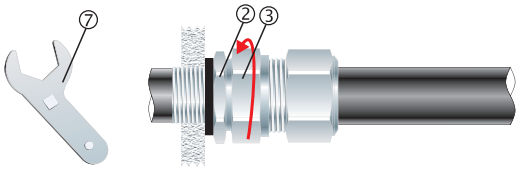
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



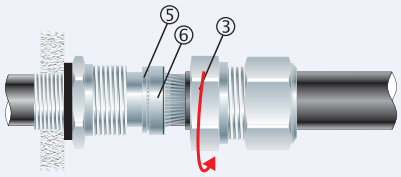
4. Pass the outer nut ④ and the body ③ over the cable.



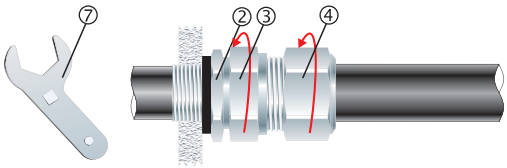
5. Pass cable end through the inner ② and splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and the cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial)



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then turn one full turn.

CCG CABLE TERMINATIONS

IPLUS™ CORROSION GUARD™

CAPTIVE COMPONENT GLAND®

for Steel Wire Armoured Cable

Features and Benefits

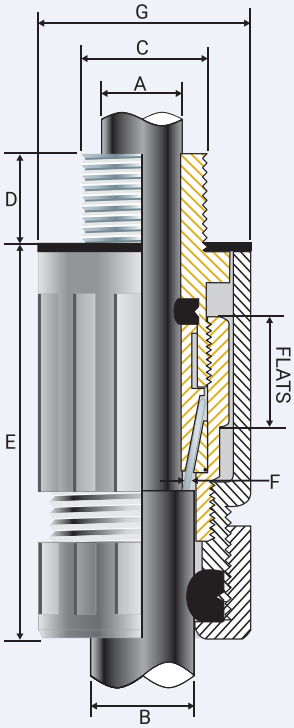
- For highly corrosive and wet locations.
- Factory fitted captive elastomeric seals for Built-in Safety™.
- The screw-on Corrosion Guard™ is manufactured from non-corrosive material to protect the armour and metal parts of the gland.
- Corrosion Guard™ screws onto the gland body and seals over the outer sheath of the cable giving an IP66/68 and deluge proof seal.
- Cable Gland is precision manufactured from high-quality brass (Nickel Plated).
- Complete with sealing gasket and with a heavy-duty locknut.

Technical Data

Type:	IPlus™ Corrosion Guard™
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164
Corrosion Guard Material:	Glass Reinforced Polyester Compound / PBT
Sealing Material:	Thermoset Elastomer (Standard)
Cable Type:	Steel Wire Armour
Armour Clamping:	Captive Rotating Cone and Inspectible Cone Ring
Sealing Area:	Inner and Outer sheath and total enclosure of the metal gland body
Optional Accessories:	Adaptor, Reducer, Locknut and Serrated Washer

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type D	
Electrical Properties:	Category A (no earth tag) Category B (with earth tag)	
Continuous Operating Temp:	-65°C to +120°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m	IEC 60529	CML 15Y728 / MASC 22-9015
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	N968667
Marine ABS	IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1
London Underground Approval	BS EN 62444	LU 3043



PATENTED

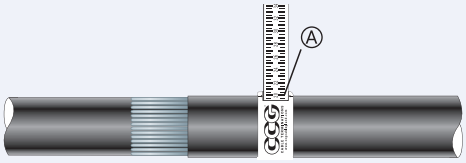
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

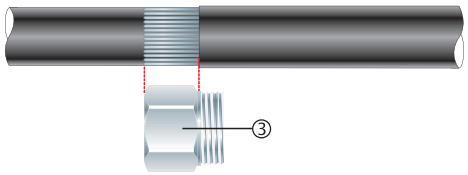
Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Max Dia 'G'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'		Max 'Flats'	Max 'Crns'	
054600-16-IP	00-16ss	M16x1.5	10	3.0	8.5	8.0	13.5	50.0	-	0.90	35.0	24.0	27	35.0
054600-IP	00-20ss	M20x1.5	10	3.0	8.5	8.0	13.5	50.0	-	0.90	35.0	24.0	27	35.0
0546-0-IP	0-20s	M20x1.5	10	7.0	12.0	11.5	16.0	50.0	0.90	1.25	35.0	24.0	27	35.0
054601-IP	1-20	M20x1.5	10	11.0	15.0	14.5	20.5	61.0	0.90	1.25	36.5	27.0	30	35.0
054602-IP	2-25	M25x1.5	10	14.0	20.0	20.5	26.5	68.0	1.25	1.60	46.0	35.0	39	50.0
054603-IP	3-32	M32x1.5	10	19.0	26.5	26.5	33.5	75.0	1.60	2.00	53.0	42.0	47	70.0
054604-IP	4-40	M40x1.5	15	26.0	34.0	33.0	42.5	86.0	1.60	2.00	68.0	52.0	59	90.0
054605-IP	5-50	M50x1.5	15	34.0	44.5	42.5	52.5	102.0	2.00	2.50	84.0	65.0	73	100.0
054606-IP	6-63	M63x1.5	15	44.0	56.5	52.5	65.5	122.0	2.00	2.50	110.0	80.0	90	120.0
054607-IP	7-75	M75x1.5	15	56.0	67.5	65.5	78.0	135.0	2.00	3.15	124.0	96.0	108	120.0
054608-IP	8-80	M80x2.0	20	68.0	74.0	78.0	82.0	160.0	2.50	3.15	124.0	96.0	108	120.0
054609-IP	9-90	M90x2.0	20	74.0	81.5	82.0	91.0	170.0	3.00	3.50	140.0	111.0	125	120.0
054610-IP	10-100	M100x2.0	20	81.0	91.0	90.0	100.0	180.0	3.00	3.50	140.0	125.0	141	120.0

All dimensions are in mm.

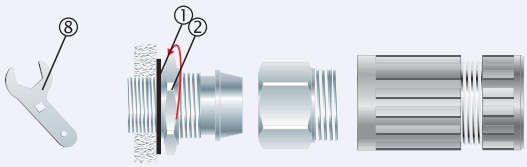
IPLUS™ CORROSION GUARD™ GLAND



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.

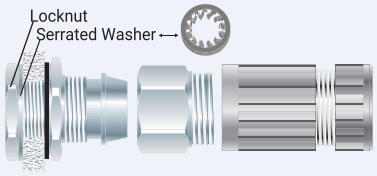


2. Cut back the cable outer sheath to expose the armour to a length not more than the body ③.

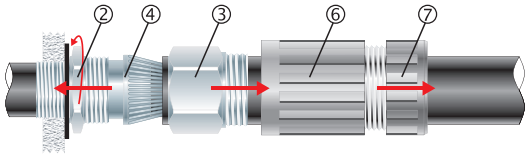


3. To maintain IP66/68, ensure gasket ① is in place. Screw the inner ② into apparatus. Tighten the inner ② to installation torque using a CCG Spanner ⑧ . For untapped entries use a locknut.

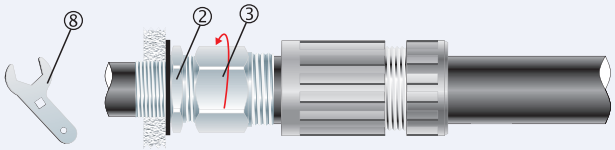
Alternative installation through an unthreaded entry.



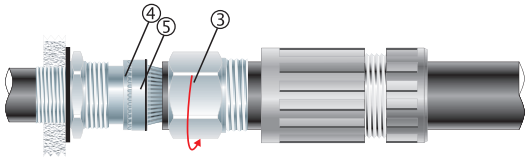
If the apparatus is untapped use a locknut.



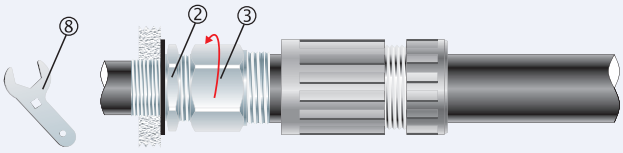
4. Pass the corrosion guard outer nut ⑦, corrosion guard body ⑥ and body ③ over the cable. Pass the cable end through the inner ② and splay the armour wires over the cone ④.



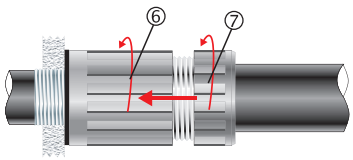
5. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



6. Unscrew the body ③. Check that the armour has locked between the cone ④ and cone ring ⑤. (O-Ring on the cone ring ⑤ is sacrificial).



7. Tighten the body ③ onto the inner ②. Tighten the body ③ to installation torque using a CCG Spanner ⑧.



8. Slide corrosion guard body ⑥ and corrosion guard outer nut ⑦ over assembled gland, screw corrosion guard body ⑥ onto the gland. **Hand tighten** corrosion guard body ⑥ and corrosion guard outer nut ⑦ to produce the required dust and waterproof seal IP66/68.

CCG CABLE TERMINATIONS

A2 EMC

COMPRESSION GLAND

for Braided and Copper Tape Cable

Features and Benefits

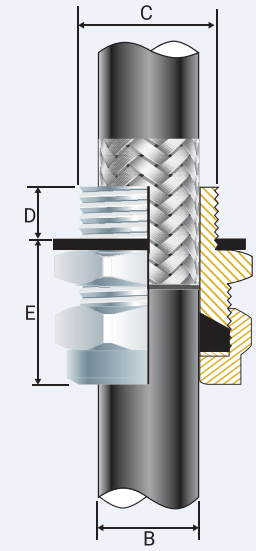
- For indoor and outdoor use.
- Seals the cable sheath to IP66/68. Specially formulated elastomeric seals.
- Provides 360° earthing.
- Precision manufactured from high quality brass (nickel plated) available in aluminium or stainless steel 316/316L on request.
- Complete with heavy-duty locknut.
- Complete with thread sealing gasket.

Technical Data

Type:	A2 EMC
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221 or Stainless Steel 316/316L
Seal Material:	Thermoset Elastomer or Silicon on request.
Cable Type:	Braided, Copper Tape
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type B	
Continuous Operating Temp:	-65°C to +125°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	2109/4596, S787/D586
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 60529, IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1
London Underground Approval	BS EN 62444	LU 3043



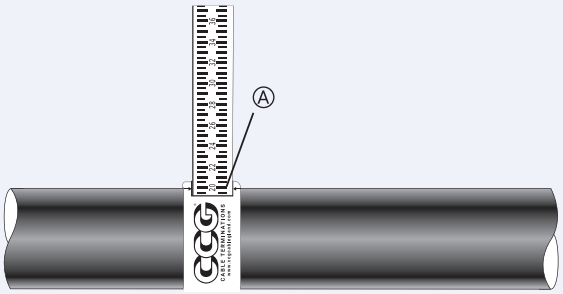
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

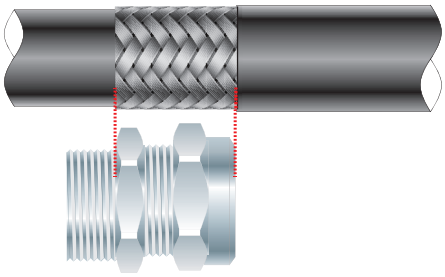
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
053500-16S-EMC	00-16S	M16x1.5	10	-	-	1.0	6.0	20.0	18.0	20.0	20.0
053500-16-EMC	00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0	24.0	27.0	32.5
053500-EMC	00-20ss	M20x1.5	10	½/¾	15	3.0	8.5	20.0	24.0	27.0	32.5
0535-0-EMC	0-20s	M20x1.5	10	½/¾	15	7.0	11.5	20.0	24.0	27.0	32.5
053501-EMC	1-20	M20x1.5	10	½/¾	15	11.0	15.0	24.0	27.0	30.0	32.5
053522-EMC	2s-25s	M25x1.5	10	¾/1	15/19	11.5	17.5	25.0	35.0	39.0	47.5
053502-EMC	2-25	M25x1.5	10	¾/1	15/19	15.0	20.0	25.0	35.0	39.0	47.5
053533-EMC	3s-32s	M32x1.5	10	1/1¼	19	16.0	22.0	30.0	42.0	47.0	55.0
053503-EMC	3-32	M32x1.5	10	1/1¼	19	20.0	26.5	30.0	42.0	47.0	55.0
053544-EMC	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	52.0	59.0	65.0
053504-EMC	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	30.0	52.0	59.0	65.0
053555-EMC	5s-50s	M50x1.5	15	1½	21	29.0	38.0	42.0	65.0	73.0	82.5
053505-EMC	5-50	M50x1.5	15	2	21	34.0	44.5	42.0	65.0	73.0	82.5
053566-EMC	6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0	80.0	90.0	97.5
053506-EMC	6-63	M63x1.5	15	2½	30	44.5	56.5	48.0	80.0	90.0	97.5
053577-EMC	7s-75s	M75x1.5	15	2½	30	50.0	62.0	50.0	96.0	108.0	115.0
053507-EMC	7-75	M75x1.5	15	3	32	56.0	67.5	50.0	96.0	108.0	115.0
053588-EMC	8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0	96.0	108.0	120.0
053508-EMC	8-80	M80x2.0	20	3	32	65.0	74.0	55.0	96.0	108.0	120.0
053599-EMC	9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0	111.0	125.0	120.0
053509-EMC	9-90	M90x2.0	20	3½	33	73.0	81.5	60.0	111.0	125.0	120.0
053510-EMC	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	74.0	-	-	120.0
053511-EMC	11-110	M110x2.0	20	4	34	91.0	101.0	92.5	-	-	175.0
053512-EMC	12-120	M120x2.0	20	-	-	101.0	109.0	92.5	-	-	175.0
053513-EMC	13-130	M130x2.0	20	-	-	109.0	119.0	92.5	-	-	175.0

All dimensions except NPT are in mm.

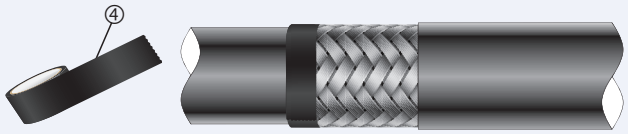
A2 EMC Compression Gland



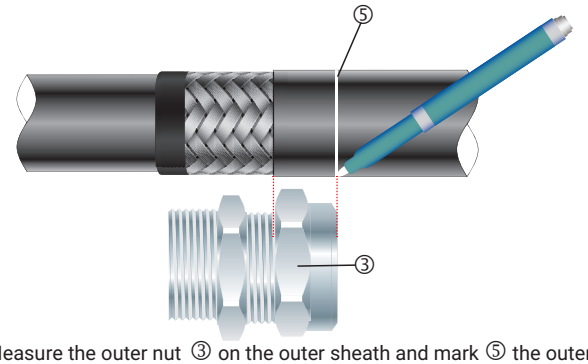
1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



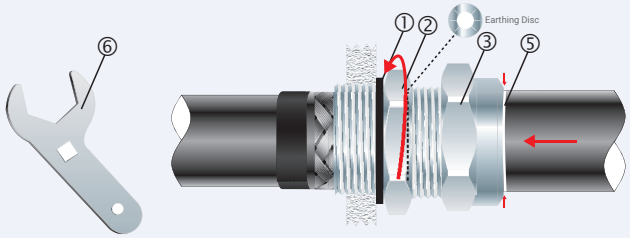
2. Cut back the cable outer sheath to expose the braid to a length not less than the gland assembly.



3. Using insulation tape ④, tape the braid on the inner sheath of the cable.



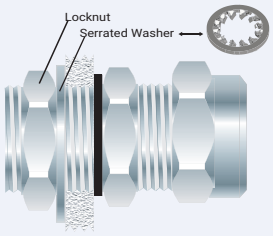
4. Measure the outer nut ③ on the outer sheath and mark ⑤ the outer sheath.



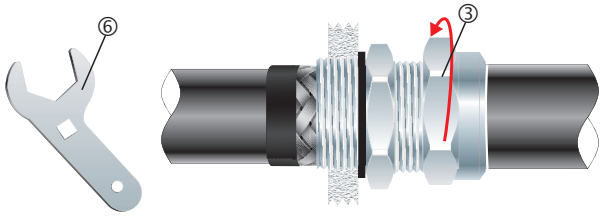
5. To maintain IP66/68 ensure the gasket ① is in place. Screw the gland assembly into the apparatus. Pass the cable through the gland until the mark ⑤ on the outer sheath aligns with the outer nut ③ and braid passes through the earth disk. Tighten the inner ② to the installation torque using a CCG Spanner ⑥.

Alternative installation through an unthreaded entry.

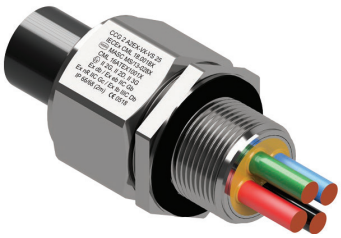
If the apparatus is untapped use a locknut.



If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



6. Tighten the outer ③ to the installation torque using a CCG Spanner ⑥.



A2EX-VS VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

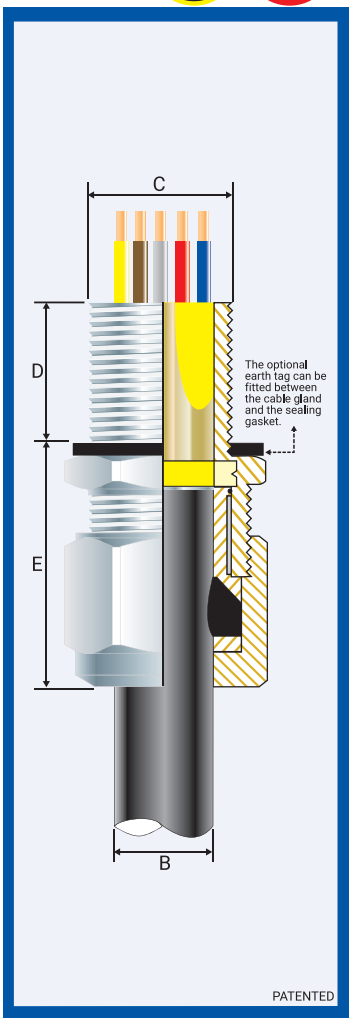
VORTEx BARRIER GLAND for Unfilled Unarmoured Copper Tape, Braided or Lead Sheathed Cable

Features and Benefits

- For indoors, outdoors Group II and III, Zones 1, 2, 20, 21, and 22 are hazardous areas
- For unfilled hygroscopic multicore cables, refer to IEC 60079-14, 9.3.2 and 10.6.2a, and IEC 61892-7, 10.6 and 10.7.
- Instantly mixed and injected resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids from transmitting down the cable.
- The inner seal seals on the cable sheath. A harder outer seal grips the cable, giving superior cable retention and an IP rating.
- Provides 360° earthing to copper tape or lead sheath.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with a thread-sealing gasket (parallel threads only).

Technical Data

Type:	A2EX-VS VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium, Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals, Quick Setting Injection Barrier Resin Seal
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured Copper Tape, Braided or Lead Sheathed
Sealing Area:	Taper Seal on the Outer Sheath. Compression seal on inner copper sheath. VORTEx® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.



Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex ta IIIC Da X CCC: Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da	
Continuous Operating Temp:	-60°C to +100°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 20.0011
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 24.0267
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CCC/CNEx (Chinese)	GB/T3836.1, 2, 3, 31-2021	CNEx 21.3386X CCC 2021312313000395
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC S/20-9022
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 20.0011
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

None.

Product Code	Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Max Dia. Over Cores	Max No. of Cores	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'				Max 'Flats'	Max 'Crns'	
056300-16-VX	00-16ss	M16x1.5	15	-	-	3.0	8.5	25.0	8.0	6	24.0	27.0	32.5
056300-VX	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	25.0	10.7	10	24.0	27.0	32.5
0563-0-VX	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	25.0	10.9	10	24.0	27.0	32.5
056301-VX	1-20	M20x1.5	15	½/¾	15	11.0	15.0	30.0	12.5	25	27.0	30.0	32.5
056322-VX	2s-25s	M25x1.5	15	¾/1	15/19	11.5	17.5	30.0	16.5	48	35.0	39.0	47.5
056302-VX	2-25	M25x1.5	15	¾/1	15/19	15.0	20.0	30.0	16.5	48	35.0	39.0	47.5
056333-VX	3s-32s	M32x1.5	15	1/1¼	19	16.0	22.0	30.0	24.0	76	42.0	47.0	55.0
056303-VX	3-32	M32x1.5	15	1/1¼	19	20.0	26.5	30.0	24.0	76	42.0	47.0	55.0
056344-VX	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	38.0	32.0	96	52.0	59.0	65.0
056304-VX	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	38.0	32.0	96	52.0	59.0	65.0
056355-VX	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	46.0	36.3	96	65.0	73.0	82.5
056305-VX	5-50	M50x1.5	15	1½/2	21	34.0	44.5	46.0	36.3	96	65.0	73.0	82.5
056366-VX	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	52.0	47.9	100	80.0	90.0	97.5
056306-VX	6-63	M63x1.5	15	2/2½	21/30	44.5	56.5	52.0	47.9	100	80.0	90.0	97.5
056377-VX	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	54.0	60.0	120	96.0	108.0	115.5
056307-VX	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	54.0	60.0	120	96.0	108.0	115.5
056308-VX	8-80	M80x2.0	20	3	32	59.0	69.0	68.0	61.5	140	96.0	108.0	120.0
056399-VX	9s-90s	M90x2.0	20	3/3½	32/33	60.0	75.0	70.0	70.5	160	111.0	125.0	120.0
056309-VX	9-90	M90x2.0	20	3/3½	32/33	73.0	81.5	70.0	70.5	160	111.0	125.0	120.0
056310-VX	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	70.0	79.0	180	125.0	141.0	120.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2EX-VS VX (VORTEx®) BARRIER GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

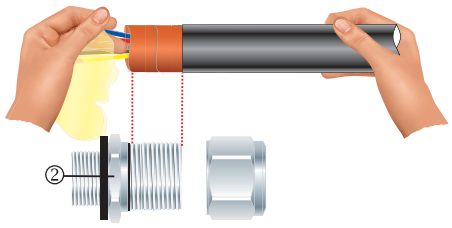
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

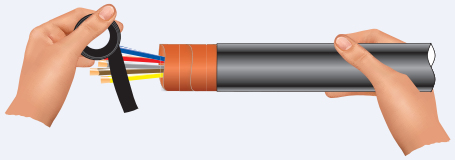
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

1. Cut the PVC sheath exposing the copper tape to the length of the inner ②.

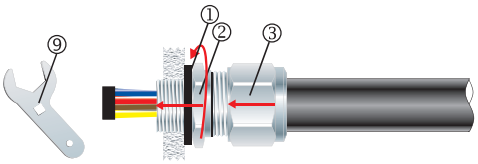
   If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.



2. Using a clean cloth, clean the cable cores insulation. Using insulation tape, bundle the cores together at the end.

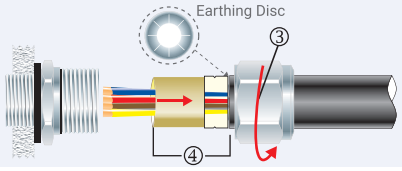


3. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the gland unit into the apparatus. Tighten the inner ② using a CCG Spanner ⑨. Pass the cable end through the outer nut ③ and push the bundled cable cores through the inner ② diaphragm, earth disc and seal.



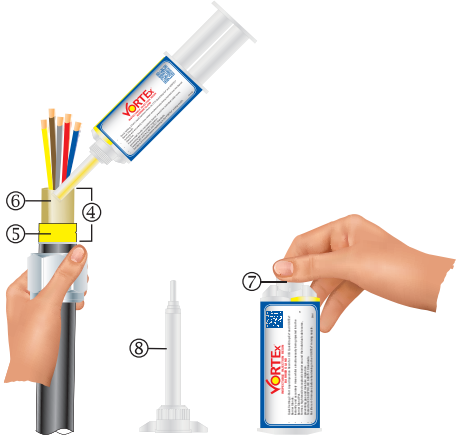
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

4. Unscrew the outer nut ③. Withdraw the cable and barrier pot sub-assembly ④. Remove the insulation tape. Check the copper tape has passed through and makes 360° contact with the earthing disc.



Only Resin supplied by CCG may be used in the glands.

5. Remove the cap ⑦ from resin applicator and attach the mixing nozzle ⑧ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ④ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Make sure the resin fills the inspectible resin seal pot ⑤ all the way to the top of the protective resin pot ⑥ and wipe any excess resin away.



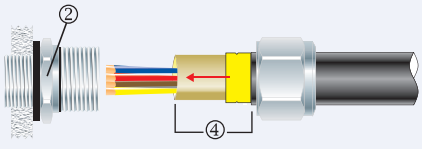
Wait for the resin to change from a liquid to a solid state, this should take:

- 15 minutes at 10°C
- 7 minutes at 20°C
- 6 minutes at 30°C
- 5 minutes at 40°C

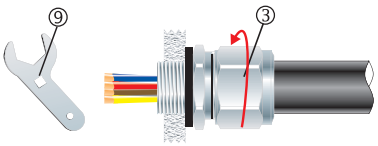
The cable gland can now be handled safely, and the resin will continue to cure until it reaches its full hardness. For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is Resin left in the tube, discard the mixing nozzle ⑧ and replace the cap ⑦ for use with the next gland.

* The installation is acceptable if the cable sheath is pushed 2mm or 3mm into the resin seal.

6. Re-insert the barrier pot sub-assembly ④ back into the inner ②.



7. Tighten the outer nut ③ to the installation torque using a CCG Spanner ⑨ to produce a seal and grip on the cable.



CCG CABLE TERMINATIONS

VARITEx™

Ex eb IIC, Ex ta IIIC Da

COMPRESSION GLAND for Copper Tape Cable

Features and Benefits

- For indoors, outdoors, Group II, III, Zone 1, 2, 21 and 22 hazardous areas.
- Two piece handling, no loose parts.
- Independent tightening of coil induces an inspectable positive contact on copper tape.
- Factory fitted captive elastomeric seal for Built-in Safety™.
- Seals on the outer sheath of the cable to IP66.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only) and heavy duty-locknut.

IP66 EMC

Technical Data

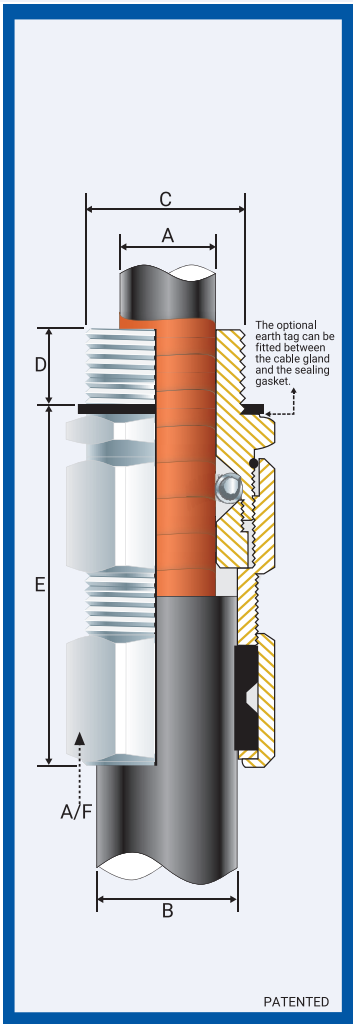
Type:	VARITEx™ (VRTX)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Copper Tape
Sealing Area:	Compression Seal on the Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex e IIC Gb, Ex ta IIIC Da ATEX/UKEX: II 2G 1D, Ex eb IIC Gb, Ex ta IIIC Da TR CU: 1Ex e IIC Gb X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 7, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 7, 31	CML 16ATEX1001X
UKEX	BS EN 60079 Part 0, 7, 31	CML 21UKEX1011X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66 - Parallel	IEC 60529	IECEx CML 18.0018X
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 7, 31 IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 7, 31 IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seal & HDPE sealing gasket), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.
- The cable glands may only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented.



Product Code	Cable Conductor Size	Gland Size Reference	Metric Entry Thread		Cable Detail				Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
			'C'	Min 'D'	Inner Over Tape		Outer			Max 'Flats'	Max 'Crns'	
					Min 'A'	Max 'A'	Min 'B'	Max 'B'				
0531-0S	2.5	0-20s	M20x1.5	15	9.6	11.5	13.0	20.0	61.0	30.0	34.0	23.1
0531-0	4.0	0-20	M20x1.5	15	10.8	12.5	13.0	20.0	61.0	30.0	34.0	23.1
053101	6.0	1-20	M20x1.5	15	12.2	14.0	13.0	20.0	61.0	30.0	34.0	23.1
053122	10.0	2s-25s	M25x1.5	15	13.8	16.0	18.0	26.0	64.0	38.0	43.0	33.0
053102	16.0	2-25	M25x1.5	15	16.0	20.0	18.0	26.0	65.0	38.0	43.0	33.0
053133	25.0	3s-32s	M32x1.5	15	20.0	23.0	23.0	28.0	68.0	45.0	51.0	46.2
053103	35.0	3-32	M32x1.5	15	22.0	23.5	23.0	28.0	68.0	45.0	51.0	46.2
053144	50.0	4s-40s	M40x1.5	17	23.5	28.0	28.0	39.5	75.0	55.0	62.0	57.2
053104	70.0	4-40	M40x1.5	17	28.0	32.0	28.0	39.5	74.0	55.0	62.0	57.2
053155	95.0	5s-50s	M50x1.5	17	32.0	36.0	35.2	42.0	81.0	65.0	73.0	62.7
053105	120.0	5-50	M50x1.5	17	35.5	39.0	40.0	46.0	85.0	65.0	73.0	62.7
053166	150.0	6s-63s	M63x1.5	17	39.0	45.0	45.5	54.0	85.0	80.0	90.0	72.6
053106	185.0	6-63	M63x1.5	17	44.0	49.5	45.5	54.0	85.0	80.0	90.0	72.6
053106L	240.0	6L-63L	M63x1.5	17	49.0	54.0	54.6	62.0	83.0	80.0	90.0	72.6
053107	300.0	7-75	M75x1.5	17	54.0	59.0	59.0	72.1	93.0	96.0	108.0	72.0
053108	300.0	8-80	M80x2.0	17	59.0	64.0	65.0	77.5	93.0	96.0	108.0	72.0

All dimensions are in mm. Intermediate thread sizes are available on request.

VARITEx™ COMPRESSION GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

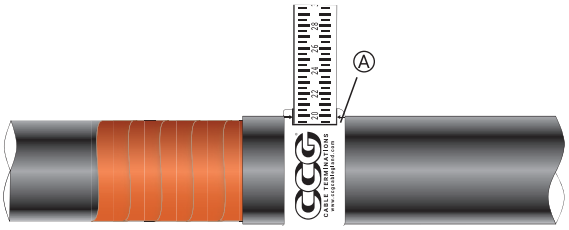
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

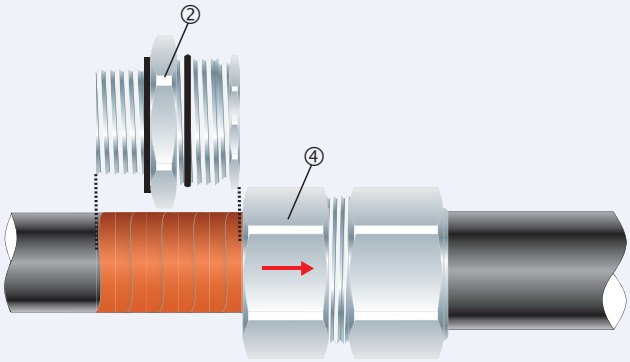
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

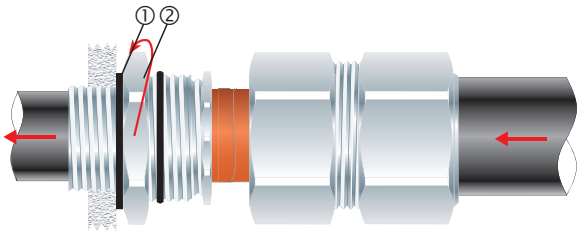
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



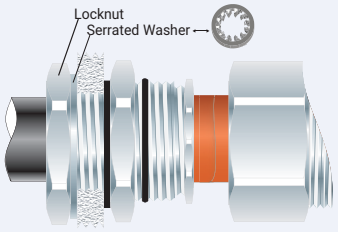
2. Screw the body ④ off and pass the cable end through the body ④. Cut the PVC sheath exposing the copper tape to the length of the inner ②.



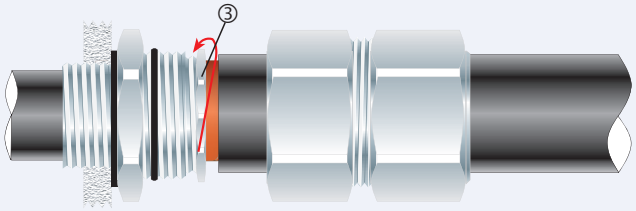
3. To maintain IP66/68 ensure gasket ① is in place. Screw the inner ② into the apparatus.
   Pass the cable through the inner ②.

Alternative installation through an unthreaded entry.

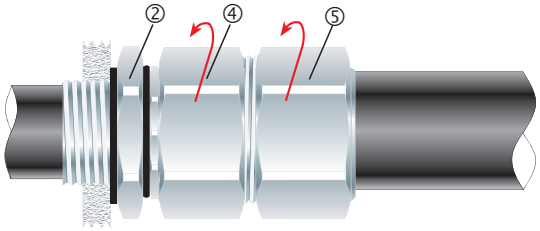
If the apparatus is untapped use a locknut.



If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Insulating Compound.



4. Tighten the compression nut ③ until the coil is in contact with the tape, then turn a half turn.



5. Tighten the body ④ onto the inner ②. Tighten the outer nut ⑤ to produce a moisture proof seal by turning till the seal makes contact with the outer sheath of the cable and then make one full turn.

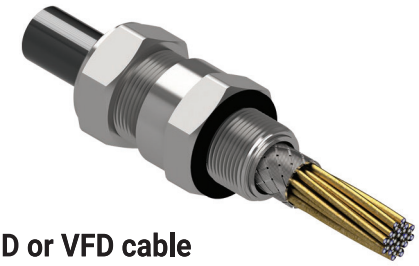
YouTube Instruction Video: http://youtu.be/f50RAE60jTQ

CCG CABLE TERMINATIONS

VARITEx™-D

Ex db IIC,Ex eb IIC,Ex ta IIIC,Ex nR IIC

COMPRESSION GLAND for cables using Braid or Copper Tape screening: VSD or VFD cable



Features and Benefits

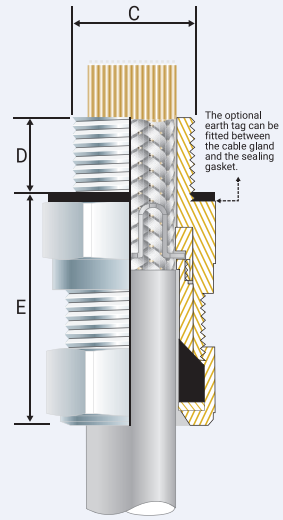
- For indoors, outdoors, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Passes the IECEx / UKEX / ATEX 100% pull test, so no additional cable clamping is required.
- EMC compliance enhanced by an integral and automatic 360°earth connection to the cable braid or copper tape screening
- Braid can be cut to length and earthed in the gland only or left uncut and earthed in the gland and the enclosure.
- Fitted with a specially formulated elastomeric displacement seal, giving superior cable retention, explosion protection and IP rating.
- Certified for use with all Ex Protection concepts.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with a captive thread sealing gasket (parallel threads only).

Technical Data

Type:	VARITEx™-D (VRTX-D)
Gland Material:	Brass (Marine grade Electroless Nickel Plated™), Aluminium or Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Cables using braid or copper tape screening such as VSD or VFD
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc ATEX/UKEX: ⟨Ex⟩ II 2/3 G, 1D, Ex db IIC Gb, Ex eb IIC Gb,Ex ta IIIC Da, Ex nR IIC Gc	
Continuous Operating Temp:	Standard Seals:-60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 20.0011
ATEX	BS EN 60079 Part 0, 1, 7, 31	CML 20ATEX1026
	BS EN 60079 Part 0, 15	CML 22ATEX4116
UKEX	EN 60079 Part 0, 1, 7, 31	CML 21UKEX1013
	EN 60079 Part 0, 15	CML 22UKEX4117
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 24.0267
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC S/20-9022
IP66/68 850m – Parallel	IEC 60529	IECEx CML 20.0011
IP65/66 – Tapered	IEC 60529	
IP68 – Tapered and approved grease	IEC 60529	IECEx CML 20.0011
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529	25-0164964-PDA
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



PATENTED

Conditions for Safe Use - X

- None

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Length 'E'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
047000-16	00-16ss	M16x1.5	12	-	-	3.0	8.5	38.0	24.0	27.0	32.5
047000	00-20ss	M20x1.5	12	½/¾	15	3.0	8.5	38.0	24.0	27.0	32.5
0470-0	0-20s	M20x1.5	12	½/¾	15	7.0	12.0	39.0	24.0	27.0	32.5
047001	1-20	M20x1.5	12	½/¾	15	11.0	15.0	45.0	27.0	30.0	32.5
047022	2s-25s	M25x1.5	12	¾/1	15/19	11.5	17.5	44.0	35.0	39.0	47.5
047002	2-25	M25x1.5	12	¾/1	15/19	15.0	20.0	44.0	35.0	39.0	47.5
047033	3s-32s	M32x1.5	12	1/1¼	19	16.0	22.0	48.0	42.0	47.0	55.0
047003	3-32	M32x1.5	12	1/1¼	19	20.0	26.5	48.0	42.0	47.0	55.0
047044	4s-40s	M40x1.5	12	1¼/1½	19/21	22.0	31.5	55.0	52.0	59.0	65.0
047004	4-40	M40x1.5	12	1¼/1½	19/21	26.0	34.0	55.0	52.0	59.0	65.0
047055	5s-50s	M50x1.5	12	1½/2	21	29.0	38.0	57.0	65.0	73.0	82.5
047005	5-50	M50x1.5	12	1½/2	21	34.0	44.5	57.0	65.0	73.0	82.5
047066	6s-63s	M63x1.5	12	2/2½	21/30	38.0	50.0	63.0	80.0	90.0	97.5
047006	6-63	M63x1.5	12	2/2½	21/30	44.5	46.0	63.0	80.0	90.0	97.5
047077	7s-75s	M75x1.5	12	2½/3	30/32	50.0	62.0	64.0	96.0	102.0	115.5
047007	7-75	M75x1.5	12	2½/3	30/32	56.0	67.5	64.0	96.0	102.0	115.5
047008	8-80	M80x2.0	16	3	32	54.0	69.0	71.0	96.0	102.0	120.0

All dimensions are in mm. Intermediate thread sizes are available on request.

VARITEx™-D COMPRESSION GLAND

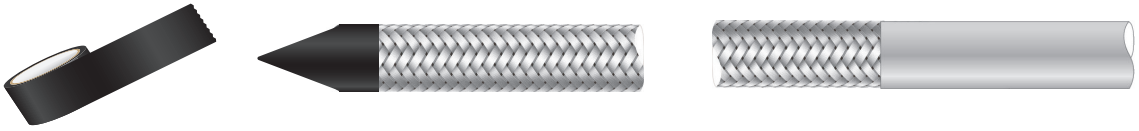
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

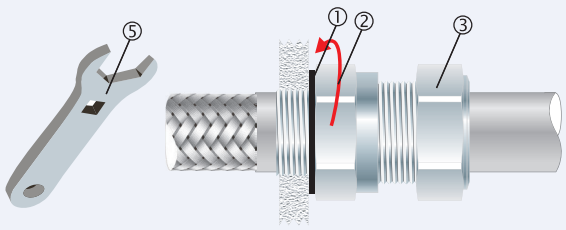
OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

The following illustration is for cables using a braid screen. Unless stated otherwise, the instructions also apply to cables with a copper tape screen.

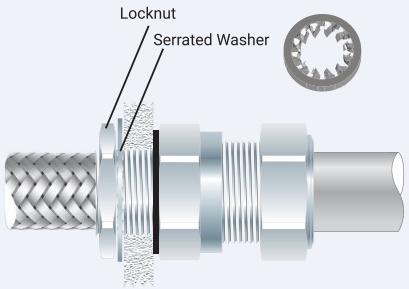
1. Select the recommended cable gland to match the VARITEx™ -D cable as shown in the table overleaf.
2. Strip the cables using braid or copper tape screening such as VSD or VFD cable to the length required to suit the installation. The screen is left full length at this stage.



3. Wrap insulation tape over and around the end of the screen to prevent the screen from being displaced as the cable is fitted to the gland. The insulating tape should form a gradual taper to assist with passing the cable through the internal earthing device.

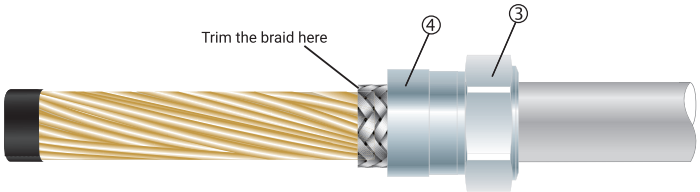


4. To maintain IP66/68, ensure the gasket ① is in place. Screw the gland assembly into the apparatus. Tighten the entry component ② to the specified installation torque using a CCG spanner ⑤. If necessary slacken, but do not remove, the outer nut ③. Pass the cable through the gland until the taped end protrudes and then use this to pull the cable through the gland. Continue until light resistance is felt. (This is the point when the cable sheath has made contact with the earthing device.) Withdraw the cable by 2 or 3mm to ensure that the earthing device is in contact with the braid only.
5. If the braid is to be earthed inside the enclosure as well as in the gland, then miss out step 6 and continue to step 7 does not apply to copper tape screened cables.

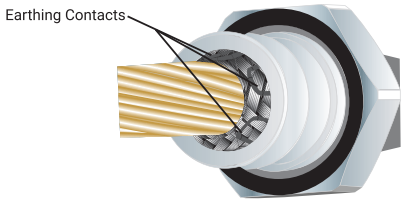


Alternative installation through an unthreaded entry.
If the apparatus is untapped use a locknut.

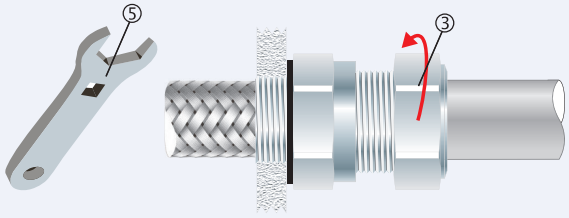
If the gland has NPT threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



6. If the braid or copper tape is to be earthed in the cable gland only, then fully slacken the outer nut assembly ③ and remove the cable and earthing insert ④ .Trim the screen close to the insert. Re-tape the end of the conductors and replace the cable, earthing insert ④ and outer seal nut assembly ③ into the gland entry component ②.

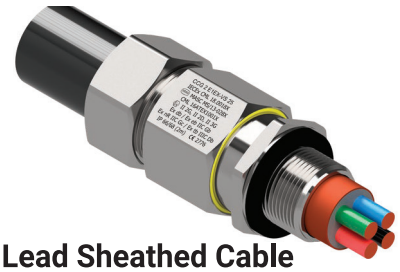


(With the gland dismantled, the earth connection to the braid can be inspected if required.)



7. Tighten the outer nut ③ to the installation torque using a CCG Spanner ⑤ to produce a seal and grip on the cable. This completes the gland installation.

CABLE TERMINATIONS



E1EX-VS

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

CABLE GLAND ® WITH VARIABLE DELUGE SEAL™ SWA, Copper Tape or Lead Sheathed Cable

Features and Benefits

- For indoors, outdoors, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Two-part handling, no loose parts. Freely rotating captive cone and inspectible cone ring providing an armour clamp and earth bond without twisting the armour wires.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Provides 360° earthing to copper tape or lead sheath.
- With a patented Variable Deluge Seal™ as standard. Factory fitted with a specially formulated elastomeric seal for Built-in Safety™, seals on the inner and outer sheath of the cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

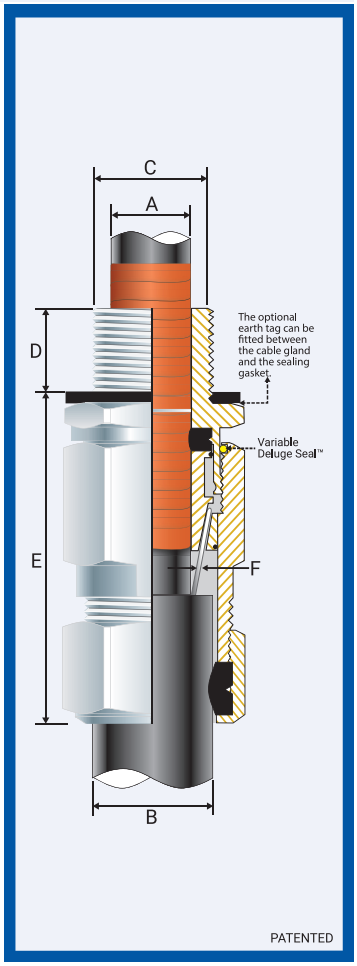
100m IP68 | 30 BAR SEAL | EMC

Technical Data

Type:	E1EX-VS
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire Armour, Copper Tape or Lead Sheathed
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath, Outer Sheath and Variable Deluge Seal™
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da , Ex nR IIC Gc ATEX/UKEX: Ⓔ II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: Ex 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C/100°C (HDPE/Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭC RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X CNEx CCC 2021312313000396
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC/EN 60079 Part 0, 1, 7, 15, 31	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seal & HDPE sealing gasket), -60°C to +100°C (standard seal and Nylon sealing gasket) -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
057400-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	8.0	13.5	60.0	0.90	1.25	24.0	27.0	21.0
057400	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	0.90	1.25	24.0	27.0	21.0
0574-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	0.90	1.25	24.0	27.0	21.0
057401	1-20	M20x1.5	15	½/¾	15	9.0	15.0	14.5	20.5	63.0	0.90	1.25	27.0	30.0	21.0
057422	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	70.0	1.25	1.60	35.0	39.0	30.0
057402	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	20.5	26.5	70.0	1.25	1.60	35.0	39.0	30.0
057433	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	23.0	30.5	76.0	1.60	2.00	42.0	47.0	42.0
057403	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	26.5	33.5	76.0	1.60	2.00	42.0	47.0	42.0
057444	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	39.5	93.0	1.60	2.00	52.0	59.0	52.0
057404	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	33.0	42.5	93.0	1.60	2.00	52.0	59.0	52.0
057455	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	34.0	47.5	102.0	2.00	2.50	65.0	73.0	57.0
057405	5-50	M50x1.5	15	1½/2	21	34.0	44.5	42.5	52.5	102.0	2.00	2.50	65.0	73.0	57.0
057466	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	60.5	130.0	2.00	2.50	80.0	90.0	66.0
057406	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	52.5	65.5	130.0	2.00	2.50	80.0	90.0	66.0
057477	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	57.0	72.5	138.0	2.50	3.15	96.0	108.0	72.0
057407	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.5	78.0	138.0	2.50	3.15	96.0	108.0	72.0
057408	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	2.50	3.15	96.0	108.0	80.0
057499	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	3.00	3.50	111.0	125.0	89.0
057409	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	3.00	3.50	111.0	125.0	89.0
057410	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	3.00	3.50	125.0	141.0	98.0
057411	11-115	M115x2.0	20	4	34	86.0	98.0	100.0	114.0	209.0	3.00	4.00	135.0	152.0	175.0
057412	12-120	M120x2.0	20	-	-	96.0	103.0	103.0	118.0	209.0	3.00	4.00	140.0	158.0	175.0
057413	13-130	M130x2.0	20	-	-	100.0	115.0	113.0	124.0	209.0	3.00	4.00	146.0	164.0	175.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX-VS GLAND WITH VARIABLE DELUGE SEAL™

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

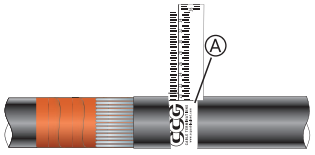
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

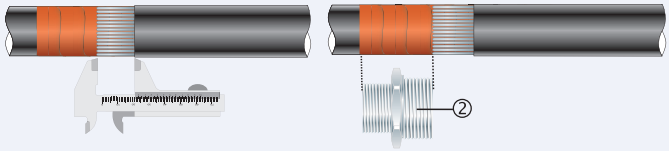
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

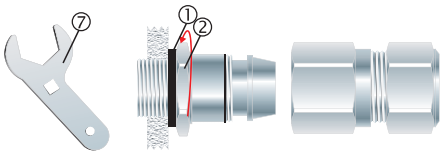


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	3s-32s	30.0	6s-63s	45.0	9-90	50.0
00-20ss	20.0	3-32	30.0	6-63	45.0	10-100	60.0
0-20s	20.0	4s-40s	30.0	7s-75s	50.0	11-115	60.0
1-20	25.0	4-40	30.0	7-75	50.0	12-120	60.0
2s-25s	25.0	5s-50s	35.0	8-80	50.0	13-130	60.0
2-25	25.0	5-50	35.0	9s-90s	50.0		

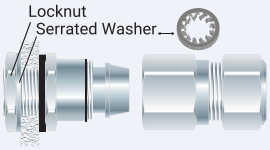
2. Cut back the cable outer sheath to expose the armour to a length as per the table above. Cut the PVC sheath exposing the copper tape or lead sheath to the length of the inner ②.



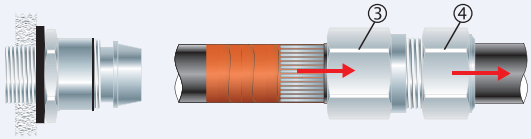
3. To maintain IP66/68 ensure the gasket ① is in place. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

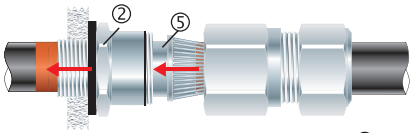
If the apparatus is untapped use a locknut.



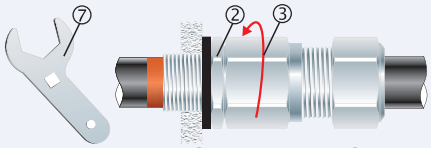
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



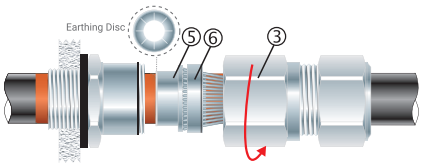
4. Pass the outer nut ④ and the body ③ over the cable.



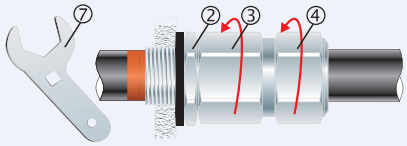
5. Pass the cable end through the inner ② ensure the copper tape does not unravel. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial). Check the copper tape or lead sheath has passed through and makes 360° contact with the earthing disc.



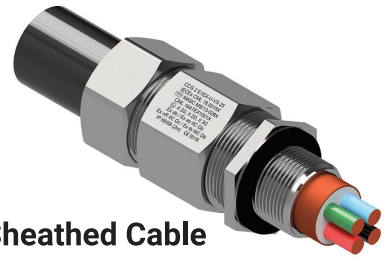
8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. The Variable Deluge Seal™ will engage automatically as the body is tightened onto the inner ②. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.

CCG CABLE TERMINATIONS

E1EX-U-VS

Ex db I/ IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

CAPTIVE COMPONENT GLAND® Multi Armoured Copper Tape or Lead Sheathed Cable



Features and Benefits

- For indoors, outdoors, Group I, II , III, Zone 1, 2, 21 and 22 hazardous areas.
- Two-part handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring an armour clamp and a earth bond for steel wire, aluminium, braid and tape armour.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Provides 360° earthing to copper tape or lead sheath.
- Factory fitted captive elastomeric seals for Built-in Safety™. Seals on both inner and outer sheaths to IP65/66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

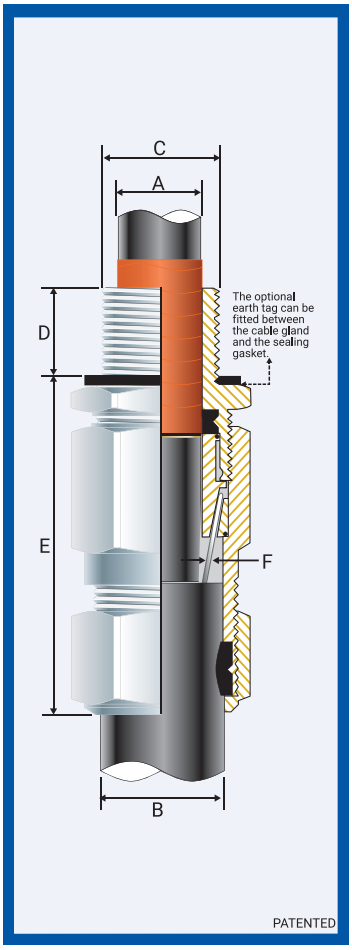
100m IP68 | Ex 30 BAR SEAL | EMC

Technical Data

Type:	E1EX-U-VS
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire, Aluminium, Braided, Tape Armour and Copper Tape used for VSD (Variable Speed Drives) or Lead Sheathed
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath and Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex tb IIIC Db ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb/IIC Gb, Ex eb I Mb / IIC Gb, Ex ta IIIC Da TR CU: Ex 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C/100°C (HDPE/Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx TSA 22.0011X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X, CNEx CCC 2021312313000396
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC/EN 60079 Part 0, 1, 7, 15, 31	ABS 20-SG1952706-PDA
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seal & HDPE sealing gasket), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.
- Braided cables are only suitable for Group II or III applications with this gland and the user shall ensure adequate clamping of the cable.
- According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG QuickStop-Ex® barrier gland should be used.

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
058500-16	00s-16ss	M16x1.5	15	-	15	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
058500S	00s-20ss	M20x1.5	15	½/¾	15	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
058500	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	0.20	0.90	25/27	28/30	21.0
0585-0S	0s-20s	M20x1.5	15	½/¾	15	7.0	12.0	8.0	13.5	60.0	0.20	1.25	25/27	28/30	21.0
0585-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	0.20	1.25	25/27	28/30	21.0
058501	1-20	M20x1.5	15	½/¾	15	9.0	15.0	12.5	20.5	73.0	0.20	1.25	30	34	21.0
058522	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	82.4	0.20	1.60	38	43	30.0
058502	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	18.0	27.0	82.0	0.20	1.60	38	43	30.0
058533	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	20.0	30.5	91.0	0.20	2.00	45	51	42.0
058503	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	23.0	33.5	91.0	0.20	2.00	45	51	42.0
058544	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	26.5	39.5	105.0	0.30	2.00	55	62	52.0
058504	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	28.0	40.0	105.0	0.30	2.00	55	62	52.0
058555	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	35.2	46.7	123.0	0.40	2.50	65	73	57.0
058505	5-50	M50x1.5	15	1½/2	21	34.0	44.5	44.4	53.0	123.0	0.40	2.50	65	73	57.0
058566	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	59.4	147.0	0.40	2.50	85	96	66.0
058506	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	54.6	65.9	147.0	0.40	2.50	85	96	66.0
058577	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	59.0	72.5	149.0	0.40	3.15	96	108	72.0
058507	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.0	78.0	149.0	0.40	3.15	96	108	72.0
058508	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	0.40	3.15	96	108	80.0
058599	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	0.40	3.50	111	125	89.0
058509	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	0.40	3.50	111	125	89.0
058510	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	0.40	3.50	125	141	98.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX-U-VS GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

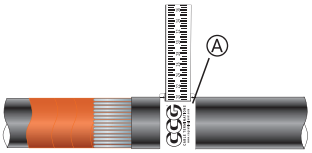
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

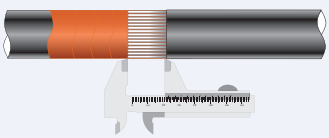
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

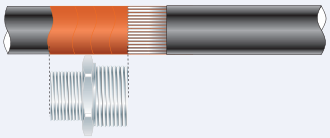
OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)



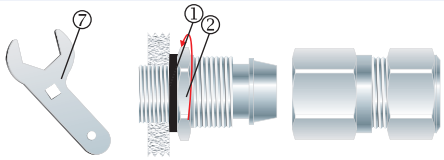
1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.





Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	3s-32s	30.0	6s-63s	45.0	9-90	50.0
00-20ss	20.0	3-32	30.0	6-63	45.0	10-100	60.0
0-20s	20.0	4s-40s	30.0	7s-75s	50.0	11-115	60.0
1-20	25.0	4-40	30.0	7-75	50.0	12-120	60.0
2s-25s	25.0	5s-50s	35.0	8-80	50.0	13-130	60.0
2-25	25.0	5-50	35.0	9s-90s	50.0		

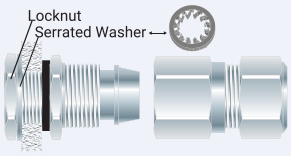
2. Cut back the cable outer sheath to expose the armour to a length as per the table above. Cut the PVC sheath exposing the copper tape to the length of the inner ②.



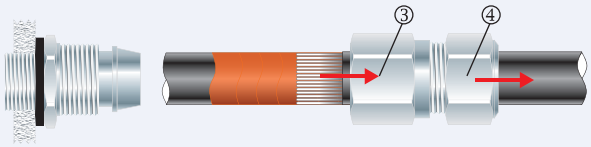
3. To maintain IP66/68 ensure the gasket ① is in place. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

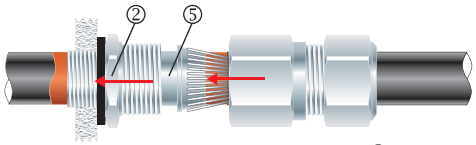
If the apparatus is untapped use a locknut.



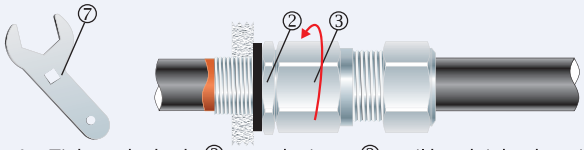
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



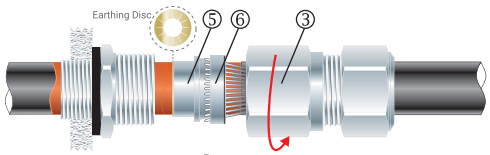
4. Pass the outer nut ③ and the body ④ over the cable.



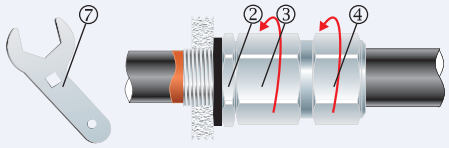
5. Pass the cable end through the inner ②, ensure the copper tape does not unravel. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial). Check the copper tape has passed through and makes 360° contact with the earthing disc.



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal turning until the seal makes contact with the outer sheath of cable and then make one full turn.

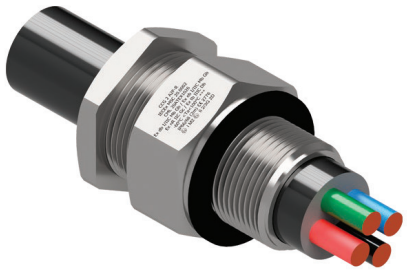
YouTube Instruction Video: http://youtu.be/Lw-LxOyyoV0

CCG CABLE TERMINATIONS

A2F-R

Ex db I/IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

COMPRESSION GLAND for Unarmoured Cable



Features and Benefits

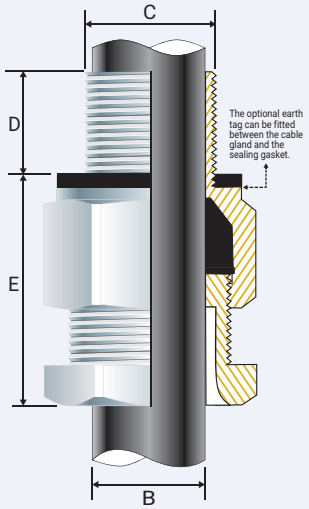
- Passes the IECEx / UKEX / ATEX 100% pull test, so no additional cable clamping is required
- For indoor, outdoor, Group I,II,III, Zone 1, 2, 20, 21 and 22 hazardous areas
- Fitted with a specially formulated elastomeric displacement seal, giving superior cable retention, explosion protection and IP rating.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request. (Note: Aluminium not suitable for Group I applications.)
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

Type:	A2F-R
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium or Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: [Ex]1Ex d I Mb X, 2Ex e I Mc X, 1Ex d IIC Gb X, 1Ex e IIC Gb X, 2Ex nR IIC Gc X, Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: 60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEX	IEC 60079 Part 0, 1, 7, 15, 31	IECEx MSC 20.0002
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RUC-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3389X, CNEx CCC 2021312313000392
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC S/20-9022
IP66/68 850m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



Conditions for Safe Use - X

- None

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
059000-16S	00s-16S	M16x1.5	15.0	-	-	1.0	4.0	25.0	24.0	27.0	32.5
059000-16	00s-16ss	M16x1.5	15.0	-	-	3.0	8.5	25.0	24.0	27.0	32.5
059000	00s-20ss	M20x1.5	15.0	½/¾	15.0	3.0	8.5	25.0	24.0	27.0	32.5
0590-16	0s-16s	M20x1.5	15.0	-	-	7.0	12.0	25.0	24.0	27.0	32.5
0590-0	0s-20s	M20x1.5	15.0	½/¾	15.0	7.0	12.0	25.0	24.0	27.0	32.5
059001	1-20	M20x1.5	15.0	½/¾	15.0	11.0	15.0	30.0	27.0	30.0	32.5
059022	2s-25s	M25x1.5	15.0	¾/1	15 / 19	11.5	17.5	30.0	35.0	39.0	47.5
059002	2-25	M25x1.5	15.0	¾/1	15 / 19	15.0	20.0	30.0	35.0	39.0	47.5
059033	3s-32s	M32x1.5	15.0	1/1¼	19.0	16.0	22.0	30.0	42.0	47.0	55.0
059003	3-32	M32x1.5	15.0	1/1¼	19.0	20.0	26.5	30.0	42.0	47.0	55.0
059044	4s-40s	M40x1.5	15.0	1¼/1½	19 / 21	22.0	31.5	38.0	52.0	59.0	65.0
059004	4-40	M40x1.5	15.0	1¼/1½	19 / 21	26.0	34.0	38.0	52.0	59.0	65.0
059055	5s-50s	M50x1.5	15.0	1½/2	21.0	29.0	38.0	46.0	65.0	73.0	82.5
059005	5-50	M50x1.5	15.0	1½/2	21.0	34.0	44.5	46.0	65.0	73.0	82.5
059066	6s-63s	M63x1.5	15.0	2/2½	21 / 30	38.0	50.0	52.0	80.0	90.0	97.5
059006	6-63	M63x1.5	15.0	2/2½	21 / 30	44.5	56.5	52.0	80.0	90.0	97.5
059077	7s-75s	M75x1.5	15.0	2½/3	30 / 32	50.0	62.0	54.0	96.0	108.0	115.5
059007	7-75	M75x1.5	15.0	2½/3	30 / 32	56.0	67.5	54.0	96.0	108.0	115.5
059008	8-80	M80x2.0	20.0	3"	32.0	54.0	69.0	68.0	96.0	108.0	120.0
059099	9s-90s	M90x2.0	20.0	3/3½	32 / 33	60.0	75.0	70.0	111.0	125.0	120.0
059009	9-90	M90x2.0	20.0	3/3½	32 / 33	73.0	81.5	70.0	111.0	125.0	120.0
059010	10-100	M100x2.0	20.0	3½/4	33 / 34	81.0	92.0	70.0	125.0	141.0	120.0
059011	11-110	M110x2.0	20.0	4	34.0	91.0	101.0	70.0	135.0	152.0	175.0
059012	12-120	M120x2.0	20.0	-	-	101.0	109.0	70.0	140.0	158.0	175.0
059013	13-130	M130x2.0	20.0	-	-	109.0	116.0	70.0	146.0	164.0	175.0

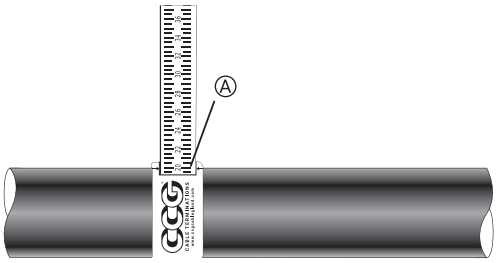
All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2F-R Compression Gland

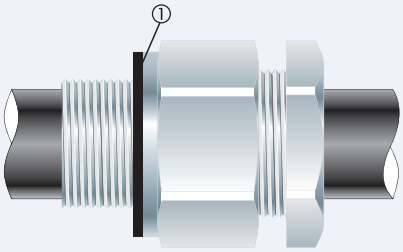
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES
- The same thread as the cable gland. (Thread adaptors should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications.

OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

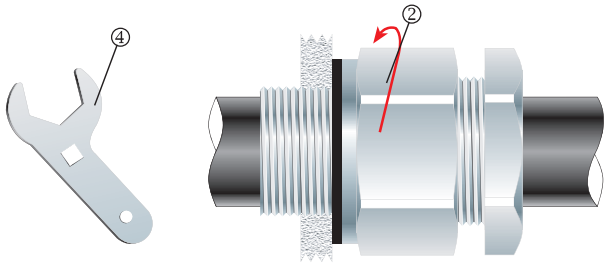


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



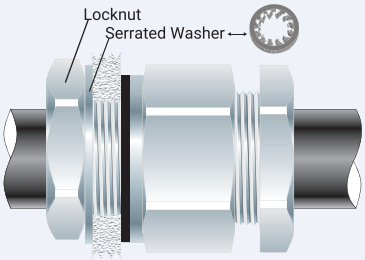
2. To maintain IP66/68, ensure the gasket ① is in place.

If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

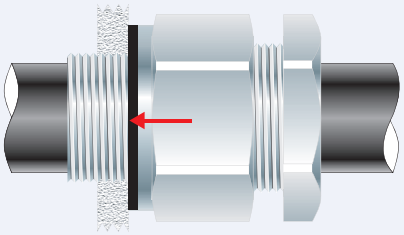


3. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ④.

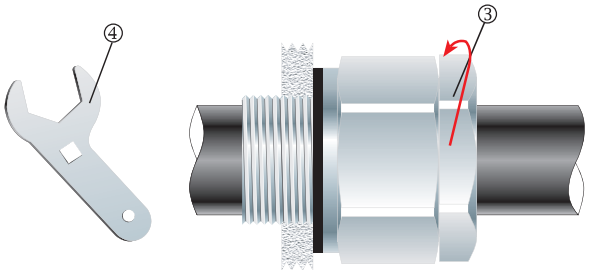
Alternative installation through an unthreaded entry.



If the apparatus is untapped use a locknut.



4. Pass the cable end through the gland assembly.



5. Tighten the outer nut ③ to the installation torque using a CCG Spanner ④ to produce a seal and grip on the cable. 100% Cable retention load. No additional clamping required.

YouTube Instruction Video: http://youtu.be/3Mo-Utop3AY

CABLE TERMINATIONS

POSI GRIP®

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

COMPRESSION GLAND for Unarmoured Cable

Features and Benefits

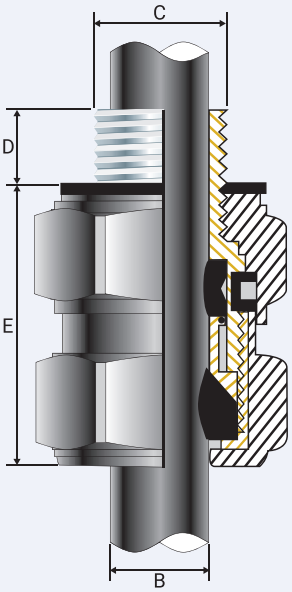
- For highly corrosive Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Complete with a gripper seal, deluge proof seal and elastomeric inner seal for complete explosion and ingress protection IP65/66/68.
- Brass parts are encapsulated in and protected by a corrosion-resistant material.
- Marine-grade electroless nickel plated entry threads.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread sealing gasket.

Technical Data

Type:	Posi Grip®
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™) encapsulated in Nylon or Glass Reinforced Polyester
Seal Material:	Standard Thermoset Elastomer
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Locknut and Serrated Washer
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-20°C to +95°C (Glass reinforced polyester) -60°C to 100°C (Nylon)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	DNV-GL TAE0000010



PATENTED

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry is between -20°C to +95°C (glass reinforced polyester) or -60°C to 100°C (Nylon).
- The cable gland may only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented.
- The gland may only be installed / dismantled using CCG Posi™ Spanner.
- According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.

Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail		Maximum Length	Hexagonal Detail		*Installation Torque Value Nm
		'C'	Min 'D'	Min 'B'	Max 'B'	'E'	Max 'Flats'	Max 'Crns'	
054500	00-20ss	M20x1.5	15	3.0	8.5	42.0	30.0	33.8	14.0
0545-0	0-20s	M20x1.5	15	7.0	12.0	42.0	30.0	33.8	14.0
054501	1-20	M20x1.5	15	9.0	15.0	46.0	34.0	38.3	14.0
054502	2-25	M25x1.5	15	14.0	20.0	51.0	42.0	47.3	20.0
054503	3-32	M32x1.5	15	19.0	26.5	60.0	52.0	58.5	27.0
054504	4-40	M40x1.5	15	26.0	34.0	65.0	62.0	69.8	34.0
054505	5-50	M50x1.5	15	34.0	44.5	75.0	74.0	83.3	40.0
054506	6-63	M63x1.5	15	44.0	56.5	107.0	95.0	106.9	40.0
054507	7-75	M75x1.5	15	56.0	67.5	107.0	111.0	124.9	40.0
054508	8-80	M80x2.0	20	65.0	74.0	128.0	117.0	131.6	40.0
054509	9-90	M90x2.0	20	74.0	81.5	133.0	130.0	146.3	40.0
054510	10-100	M100x2.0	20	81.0	91.0	170.0	140.0	157.5	50.0
054511	11-110	M110x2.0	20	86.0	98.0	170.0	150.0	168.8	50.0

All dimensions are in mm.

* Only CCG Posi™ Spanner to be used for installation torque.

POSI GRIP® GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

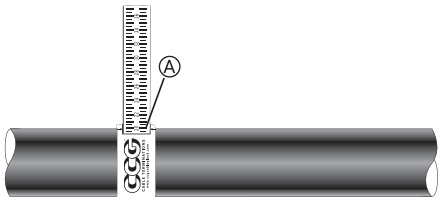
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket.

MUST HAVE THREADED ENTRIES

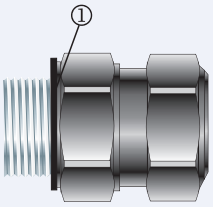
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

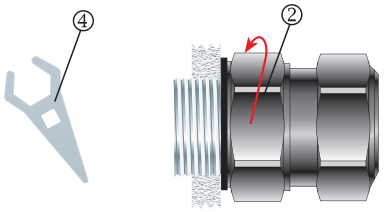
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads).



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.

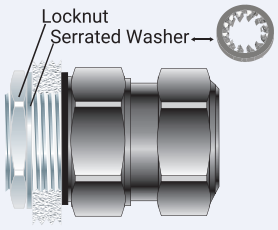


2. To maintain IP66/68, ensure the thread gasket ① is in place.

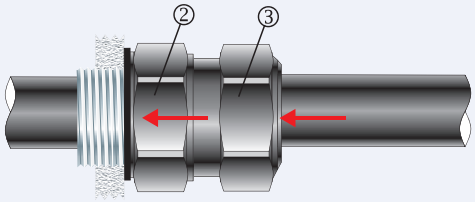


3. Screw the gland unit into the apparatus. Tighten the nipple nut ② as per torque value using a CCG Posi Spanner ④.
   * Only CCG Posi™ Spanner to be used for installation torque.

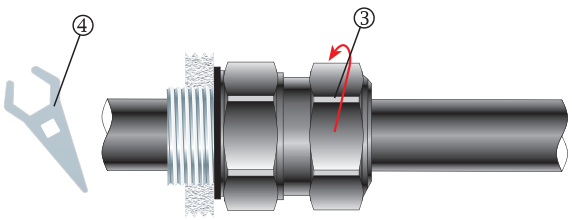
Alternative installation through an unthreaded entry.



If the apparatus is untapped use a locknut.



4. Pass the cable end through the outer nut ③ nipple nut ②.



5. Tighten the outer nut ③ using a CCG Posi Spanner ④ as per torque value using a CCG Posi Spanner ④ to produce a seal and grip on the cable.
   * Only CCG Posi™ Spanner to be used for installation torque.

CCG CABLE TERMINATIONS

E1EX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

CAPTIVE COMPONENT GLAND® WITH VARIABLE DELUGE SEAL™ for Steel and Aluminium Armoured Cable

Features and Benefits

- For indoors, outdoors, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Two part handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire and aluminium armour.
- Patented disconnect system allows for inspection of armour clamp and inner seal after assembly.
- With a patented Variable Deluge Seal™ as standard.
- Factory fitted with a specially formulated elastomeric seal for Built-in Safety™, seals on the inner and outer sheath of the cable to IP65/66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

100m IP68 | Ex 30 BAR SEAL

Technical Data

Type:	E1EX
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium, Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire Armour and Aluminium Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath, Outer Sheath and Variable Deluge Seal™
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

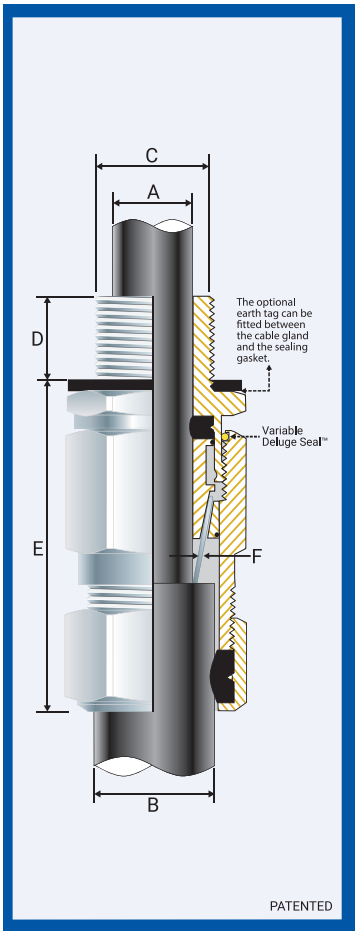
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: Ⓔx 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C/100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭC RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X CNEx CCC 2021312313000396
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7 and IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seals & HDPE sealing gaskets), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
052300-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	8.0	13.5	60.0	0.90	0.90	24.0	27.0	21.0
052300	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	0.90	0.90	24.0	27.0	21.0
0523-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	0.90	1.25	24.0	27.0	21.0
052301	1-20	M20x1.5	15	½/¾	15	9.0	15.0	14.5	20.5	63.0	0.90	1.25	27.0	30.0	21.0
052322	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	70.0	1.25	1.60	35.0	39.0	30.0
052302	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	20.5	26.5	70.0	1.25	1.60	35.0	39.0	30.0
052333	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	23.0	30.5	76.0	1.60	2.00	42.0	47.0	42.0
052303	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	26.5	33.5	76.0	1.60	2.00	42.0	47.0	42.0
052344	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	39.5	93.0	1.60	2.00	52.0	59.0	52.0
052304	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	33.0	42.5	93.0	1.60	2.00	52.0	59.0	52.0
052355	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	34.0	47.5	102.0	2.00	2.50	65.0	73.0	57.0
052305	5-50	M50x1.5	15	1½/2	21	34.0	44.5	42.5	52.5	102.0	2.00	2.50	65.0	73.0	57.0
052366	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	60.5	130.0	2.00	2.50	80.0	90.0	66.0
052306	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	52.5	65.5	130.0	2.00	2.50	80.0	90.0	66.0
052377	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	57.0	72.5	138.0	2.50	3.15	96.0	108.0	72.0
052307	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.5	78.0	138.0	2.50	3.15	96.0	108.0	72.0
052308	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	2.50	3.15	96.0	108.0	80.0
052399	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	3.00	3.50	111.0	125.0	89.0
052309	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	3.00	3.50	111.0	125.0	89.0
052310	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	3.00	3.50	125.0	141.0	98.0
052311	11-115	M115x2.0	20	4	34	86.0	98.0	100.0	114.0	209.0	3.00	4.00	135.0	152.0	175.0
052312	12-120	M120x2.0	20	-	-	96.0	103.0	103.0	118.0	209.0	3.00	4.00	140.0	158.0	175.0
052313	13-130	M130x2.0	20	-	-	100.0	115.0	113.0	124.0	209.0	3.00	4.00	146.0	164.0	175.0

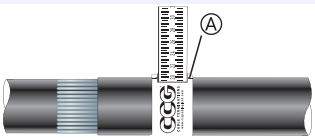
All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX GLAND

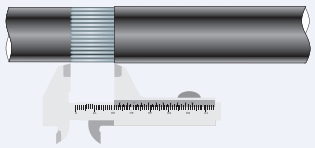
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

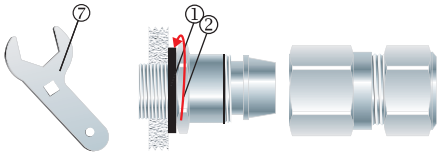


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	3s-32s	30.0	6s-63s	45.0	9-90	50.0
00-20ss	20.0	3-32	30.0	6-63	45.0	10-100	60.0
0-20s	20.0	4s-40s	30.0	7s-75s	50.0	11-115	60.0
1-20	25.0	4-40	30.0	7-75	50.0	12-120	60.0
2s-25s	25.0	5s-50s	35.0	8-80	50.0	13-130	60.0
2-25	25.0	5-50	35.0	9s-90s	50.0		

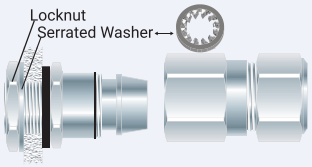
2. Cut back the cable outer sheath to expose the armour to a length as per the table above.



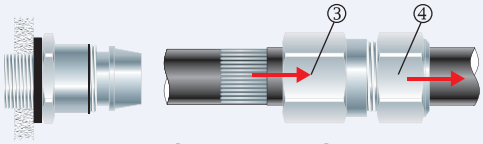
3. To maintain IP66/68, ensure the gasket ① is in place. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

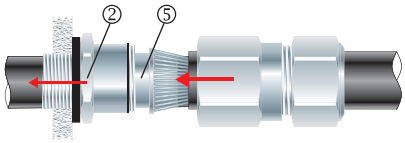
If the apparatus is untapped use a locknut.



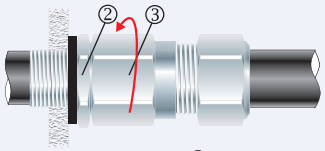
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



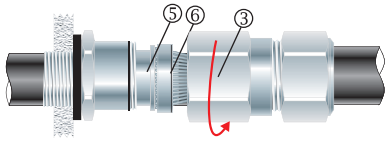
4. Pass the outer nut ④ and the body ③ over the cable.



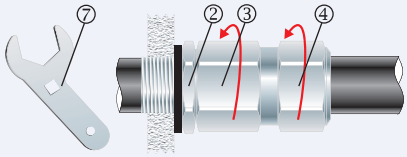
5. Pass the cable end through the inner ②. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial).



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. The Variable Deluge Seal™ will engage automatically as the body is tightened onto the inner ②. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.

YouTube Instruction Video: http://youtu.be/Lw-LxOyyoV0

CCG CABLE TERMINATIONS

E1EX-U

Ex db I/ IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

CAPTIVE COMPONENT GLAND® for Multi Armoured Cable

Features and Benefits

- For indoor, outdoors, Group I, II, III, Zone 1, 2, 21 and 22 hazardous areas.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond for steel wire, aluminium, braid and tape armour.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Factory fitted captive elastomeric seals for Built-in Safety™. Seals on both inner and outer sheaths to IP66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request. Supplied with a thread sealing gasket (parallel threads only).

100m IP68 | Ex 30 BAR SEAL | EMC

Technical Data

Type:	E1EX-U (Universal)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire, Aluminium, Braided and Tape Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath and Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment

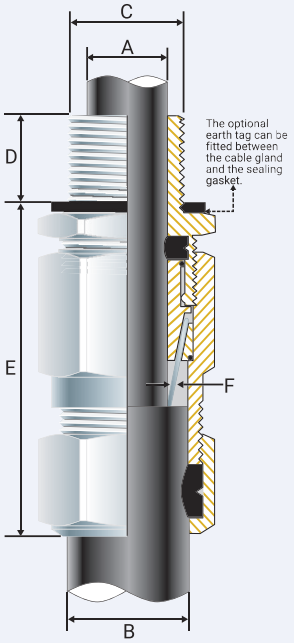
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb/ IIC Gb, Ex eb I Mb/IIC Gb, Ex nRIIC Gc, Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PП Ex e I Mc X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx TSA 22.0011X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X, CNEx CCC 2021312313000396
KCs (Korea)	Notification of Ministry of Labour No.2013-54	17-AV4BO-0087-90X
SANS/IEC	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
ClassNK	IEC 60079 Part 0, 1, 7, 15, 31	TA20271M
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seals & HDPE sealing gaskets), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.
- Braided cables are only suitable for Group II or III applications with this gland and the user shall ensure adequate clamping of the cable.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.



PATENTED

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
057100-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
057100S	00s-20ss	M20x1.5	15	½/¾	15	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
057100	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	0.20	0.90	25/27	28/30	21.0
0571-0S	0s-20s	M20x1.5	15	½/¾	15	7.0	12.0	8.0	13.5	60.0	0.20	1.25	25/27	28/30	21.0
0571-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	0.20	1.25	25/27	28/30	21.0
057101	1-20	M20x1.5	15	½/¾	15	9.0	15.0	12.5	20.5	73.0	0.20	1.25	30	34	21.0
057122	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	82.4	0.20	1.60	38	43	30.0
057102	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	18.0	27.0	82.0	0.20	1.60	38	43	30.0
057133	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	20.0	30.5	91.0	0.20	2.00	45	51	42.0
057103	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	23.0	33.5	91.0	0.20	2.00	45	51	42.0
057144	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	26.5	39.5	105.0	0.30	2.00	55	62	52.0
057104	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	28.0	40.0	105.0	0.30	2.00	55	62	52.0
057155	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	35.2	46.7	123.0	0.40	2.50	65	73	57.0
057105	5-50	M50x1.5	15	1½/2	21	34.0	44.5	44.4	53.0	123.0	0.40	2.50	65	73	57.0
057166	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	59.4	147.0	0.40	2.50	85	96	66.0
057106	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	54.6	65.9	147.0	0.40	2.50	85	96	66.0
057177	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	59.0	72.5	149.0	0.40	3.15	96	108	72.0
057107	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.0	78.0	149.0	0.40	3.15	96	108	72.0
057108	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	0.40	3.15	96	108	80.0
057199	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	0.40	3.50	111	125	89.0
057109	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	0.40	3.50	111	125	89.0
057110	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	0.40	3.50	125	141	98.0

All dimensions except NPT are in mm Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX-U GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

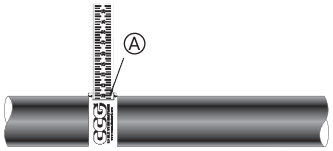
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

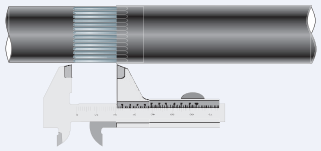
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

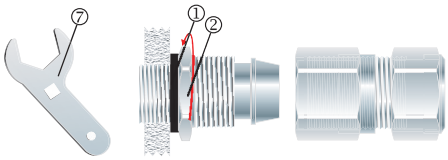


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	2-25	25.0	5s-50s	35.0	7-75	50.0
00-20ss	20.0	3s-32s	30.0	5-50	35.0	8-80	50.0
0-20s	20.0	3-32	30.0	6s-63s	45.0	9s-90s	50.0
1-20	25.0	4s-40s	30.0	6-63	45.0	9-90	50.0
2s-25s	25.0	4-40	30.0	7s-75s	50.0	10-100	60.0

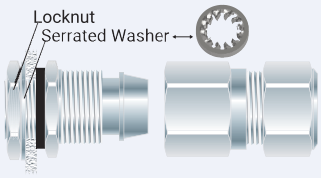
2. Cut back the cable outer sheath to expose the armour to a length as per the table above.



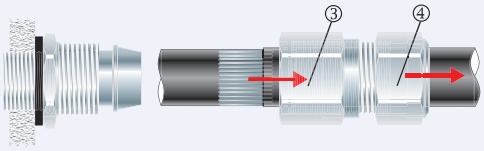
3. To maintain IP66/68 ensure the gasket ① is in place. Tighten the inner ② into the apparatus. Tighten the inner ② to the torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

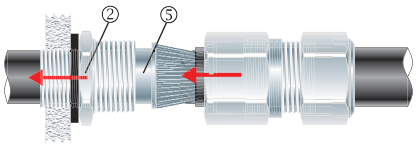
If the apparatus is untapped use a locknut.



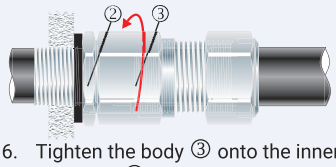
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



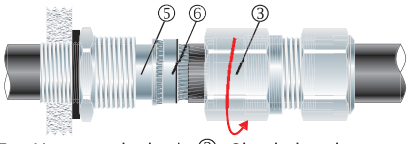
4. Pass the outer nut ④ and the body ③ over the cable.



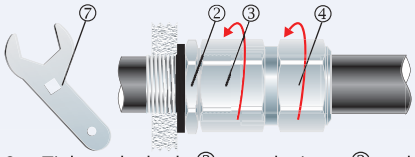
5. Pass the cable end through the inner ②. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and cone ring ⑥ (O-Ring on the cone ring ⑥ is sacrificial).



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.

YouTube Instruction Video: http://youtu.be/Lw-LxOyyoV0

CCG CABLE TERMINATIONS

Ex Corrosion Guard®

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

CABLE GLAND for Steel Wire and Aluminium Armoured Cable

Features and Benefits

- For highly corrosive, wet locations, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Factory fitted captive elastomeric seals for Built-in Safety™ .
- Two-part handling, freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire and aluminium armour.
- Corrosion Guard® screws onto the gland body and seals over the outer sheath of the cable giving an IP68 and deluge proof seal protecting the armour and metal parts of the gland.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread sealing gasket.

Technical Data

Type:	Ex Corrosion Guard®
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™)
Corrosion Guard Material:	Glass Reinforced Polyester Compound / PBT
Seal Material:	Standard Thermoset Elastomer
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire, Aluminium Armour
Armour Clamping:	Captive Rotating Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath, Outer Sheath and total enclosure of gland
Optional Accessories:	Adaptor, Reducer, Locknut and Serrated Washer
Note:	The installer should ensure that the materials are suitable for the installation environment.

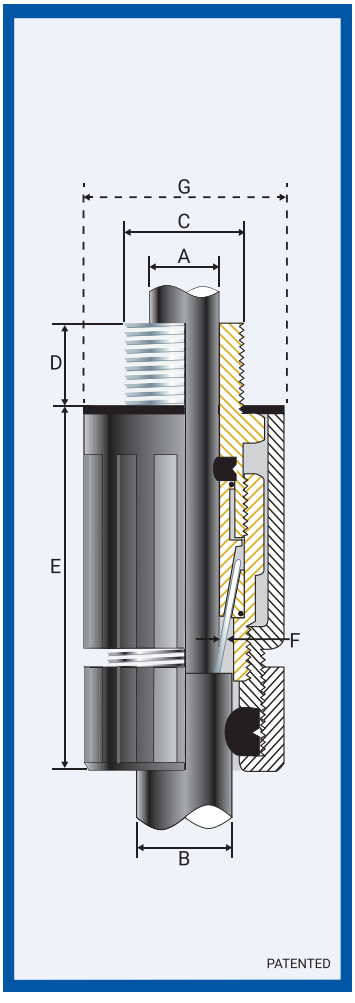
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: Ex 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +120°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seals & HDPE sealing gaskets), -60°C to +100°C (standard seal and nylon sealing gasket) or -60°C to +120°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.



PATENTED

Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Max Dia 'G'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'		Max 'Flats'	Max 'Crns'	
054700-16	00-16ss	M16x1.5	15	3.0	8.5	8.0	13.5	46.0	0.20	0.90	33.0	24.0	27.0	21.0
054700	00-20ss	M20x1.5	15	3.0	8.5	8.0	13.5	46.0	0.20	0.90	33.0	24.0	27.0	21.0
0547-0	0-20s	M20x1.5	15	7.0	12.0	11.5	16.0	46.0	0.20	1.25	33.0	24.0	27.0	21.0
054701	1-20	M20x1.5	15	9.0	15.0	14.5	20.5	51.0	0.20	1.25	36.0	27.0	30.0	21.0
054722	2s-25s	M25x1.5	15	11.0	17.5	16.0	24.5	58.0	0.20	1.60	46.0	35.0	39.0	30.0
054702	2-25	M25x1.5	15	14.0	20.0	20.5	26.5	58.0	0.20	1.60	46.0	35.0	39.0	30.0
054733	3s-32s	M32x1.5	15	15.0	22.0	23.0	30.5	67.0	0.20	2.00	53.0	42.0	47.0	42.0
054703	3-32	M32x1.5	15	19.0	26.5	26.5	33.5	67.0	0.20	2.00	53.0	42.0	47.0	42.0
054744	4s-40s	M40x1.5	15	22.0	31.5	30.0	39.5	74.0	0.30	2.00	68.0	52.0	59.0	52.0
054704	4-40	M40x1.5	15	26.0	34.0	33.0	42.5	74.0	0.30	2.00	68.0	52.0	59.0	52.0
054755	5s-50s	M50x1.5	15	29.0	38.0	34.0	47.5	89.0	0.40	2.50	84.0	65.0	73.0	57.0
054705	5-50	M50x1.5	15	34.0	44.5	42.5	52.5	89.0	0.40	2.50	84.0	65.0	73.0	57.0
054766	6s-63s	M63x1.5	15	38.0	50.0	45.5	60.5	102.0	0.40	2.50	110.0	80.0	90.0	66.0
054706	6-63	M63x1.5	15	44.0	56.5	52.5	65.5	102.0	0.40	2.50	110.0	80.0	90.0	66.0
054777	7s-75s	M75x1.5	15	50.0	62.0	57.0	72.5	106.0	0.40	3.15	124.0	96.0	108.0	72.0
054707	7-75	M75x1.5	15	56.0	67.5	65.5	78.0	106.0	0.40	3.15	124.0	96.0	108.0	72.0
054708	8-80	M80x2.0	20	59.0	69.0	65.0	77.5	117.0	2.50	3.15	124.0	96.0	108.0	80.0
054799	9s-90s	M90x2.0	20	66.0	75.0	73.0	86.5	117.0	3.00	3.50	124.0	111.0	125.0	89.0
054709	9-90	M90x2.0	20	74.0	81.5	82.0	91.0	117.0	3.00	3.50	140.0	111.0	125.0	89.0
054710	10-100	M100x2.0	20	81.0	91.0	90.0	100.0	117.0	3.00	3.50	140.0	125.0	141.0	98.0

All dimensions are in mm. Intermediate thread sizes are available on request.

EX CORROSION GUARD® GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

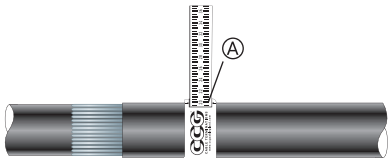
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket .

MUST HAVE THREADED ENTRIES

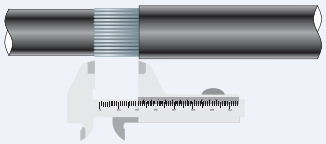
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads).

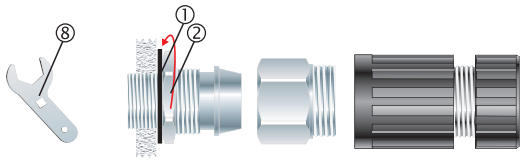


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



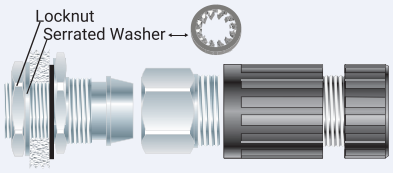
Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	2-25	25.0	5s-50s	35.0	7-75	50.0
00-20ss	20.0	3s-32s	30.0	5-50	35.0	8-80	50.0
0-20s	20.0	3-32	30.0	6s-63s	45.0	9s-90s	50.0
1-20	25.0	4s-40s	30.0	6-63	45.0	9-90	50.0
2s-25s	25.0	4-40	30.0	7s-75s	50.0	10-100	60.0

2. Cut back the cable outer sheath to expose the armour to a length as per the table above.

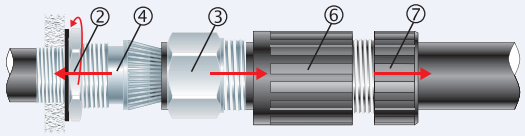


3. To maintain IP66/68, ensure gasket ① is in place. Screw the inner ② into apparatus. Tighten the inner ② to installation torque using a CCG Spanner ⑧.

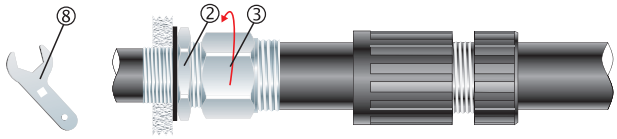
Alternative installation through an unthreaded entry.



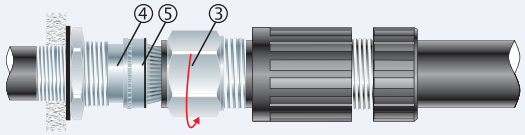
If the apparatus is untapped use a locknut.



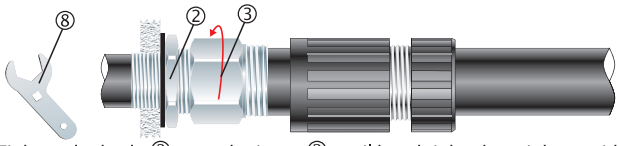
4. Pass the corrosion guard outer nut ⑦, corrosion guard body ⑥ and the gland body ③ over the cable. Pass the cable end through the inner ② and splay the armour wires over the cone ④.



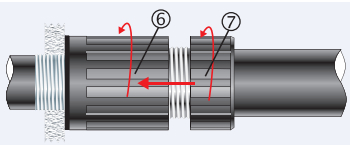
5. Screw the gland body ③ onto the inner ② and tighten the gland body ③ using a CCG Spanner ⑧ to lock the armour between the cone ④ and the cone ring ⑤.



6. Unscrew the body ③. Check that the armour has locked between the cone ④ and the cone ring ⑤. (O-Ring on the cone ring ⑤ is sacrificial).

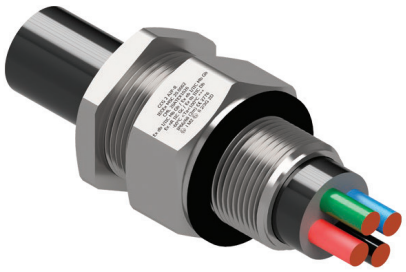


7. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑧ with ¾ turn to lock the armour between the cone ④ and the cone ring ⑤.



8. Slide the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ over the assembled gland then screw the corrosion guard body ⑥ onto the gland. **Hand tighten** the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ to produce the required dust and waterproof seal IP66/68.

YouTube Instruction Video: http://youtu.be/HWTJRdh_438



A2F-R

Ex db I/IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

COMPRESSION GLAND for Unarmoured Cable

Features and Benefits

- Passes the IECEx / UKEX / ATEX 100% pull test, so no additional cable clamping is required
- For indoor, outdoor, Group I,II,III, Zone 1, 2, 20, 21 and 22 hazardous areas
- Fitted with a specially formulated elastomeric displacement seal, giving superior cable retention, explosion protection and IP rating.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request. (Note: Aluminium not suitable for Group I applications.)
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

Type:	A2F-R
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium or Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

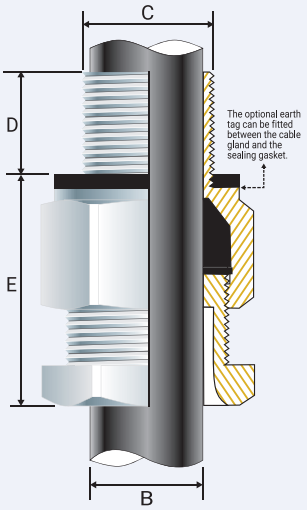
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: Ex 1Ex d I Mb X, 2Ex e I Mc X, 1Ex d IIC Gb X, 1Ex e IIC Gb X, 2Ex nR IIC Gc X, Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: 60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEX	IEC 60079 Part 0, 1, 7, 15, 31	IECEx MSC 20.0002
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RUC-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3389X, CNEx CCC 2021312313000392
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC S/20-9022
IP66/68 850m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- None

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
059000-16S	00s-16S	M16x1.5	15.0	-	-	1.0	4.0	25.0	24.0	27.0	32.5
059000-16	00s-16ss	M16x1.5	15.0	-	-	3.0	8.5	25.0	24.0	27.0	32.5
059000	00s-20ss	M20x1.5	15.0	½/¾	15.0	3.0	8.5	25.0	24.0	27.0	32.5
0590-16	0s-16s	M20x1.5	15.0	-	-	7.0	12.0	25.0	24.0	27.0	32.5
0590-0	0s-20s	M20x1.5	15.0	½/¾	15.0	7.0	12.0	25.0	24.0	27.0	32.5
059001	1-20	M20x1.5	15.0	½/¾	15.0	11.0	15.0	30.0	27.0	30.0	32.5
059022	2s-25s	M25x1.5	15.0	¾/1	15 / 19	11.5	17.5	30.0	35.0	39.0	47.5
059002	2-25	M25x1.5	15.0	¾/1	15 / 19	15.0	20.0	30.0	35.0	39.0	47.5
059033	3s-32s	M32x1.5	15.0	1/1¼	19.0	16.0	22.0	30.0	42.0	47.0	55.0
059003	3-32	M32x1.5	15.0	1/1¼	19.0	20.0	26.5	30.0	42.0	47.0	55.0
059044	4s-40s	M40x1.5	15.0	1¼/1½	19 / 21	22.0	31.5	38.0	52.0	59.0	65.0
059004	4-40	M40x1.5	15.0	1¼/1½	19 / 21	26.0	34.0	38.0	52.0	59.0	65.0
059055	5s-50s	M50x1.5	15.0	1½/2	21.0	29.0	38.0	46.0	65.0	73.0	82.5
059005	5-50	M50x1.5	15.0	1½/2	21.0	34.0	44.5	46.0	65.0	73.0	82.5
059066	6s-63s	M63x1.5	15.0	2/2½	21 / 30	38.0	50.0	52.0	80.0	90.0	97.5
059006	6-63	M63x1.5	15.0	2/2½	21 / 30	44.5	56.5	52.0	80.0	90.0	97.5
059077	7s-75s	M75x1.5	15.0	2½/3	30 / 32	50.0	62.0	54.0	96.0	108.0	115.5
059007	7-75	M75x1.5	15.0	2½/3	30 / 32	56.0	67.5	54.0	96.0	108.0	115.5
059008	8-80	M80x2.0	20.0	3"	32.0	54.0	69.0	68.0	96.0	108.0	120.0
059099	9s-90s	M90x2.0	20.0	3/3½	32 / 33	60.0	75.0	70.0	111.0	125.0	120.0
059009	9-90	M90x2.0	20.0	3/3½	32 / 33	73.0	81.5	70.0	111.0	125.0	120.0
059010	10-100	M100x2.0	20.0	3½/4	33 / 34	81.0	92.0	70.0	125.0	141.0	120.0
059011	11-110	M110x2.0	20.0	4	34.0	91.0	101.0	70.0	135.0	152.0	175.0
059012	12-120	M120x2.0	20.0	-	-	101.0	109.0	70.0	140.0	158.0	175.0
059013	13-130	M130x2.0	20.0	-	-	109.0	116.0	70.0	146.0	164.0	175.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2F-R COMPRESSION GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

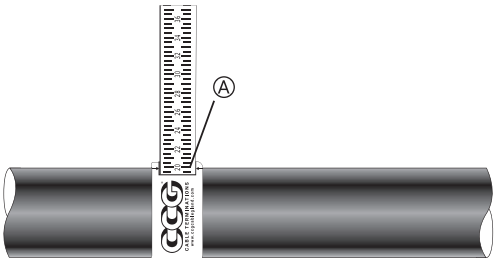
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

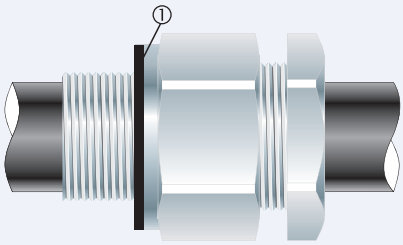
- The same thread as the cable gland. (Thread adaptors should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications.

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

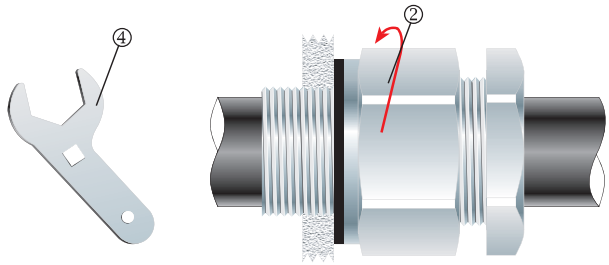


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



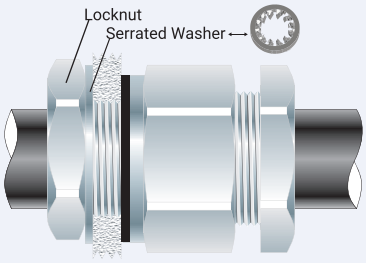
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

2. To maintain IP66/68, ensure the gasket ① is in place.

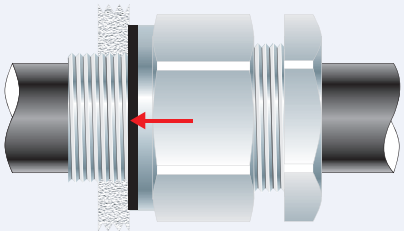


3. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ④.

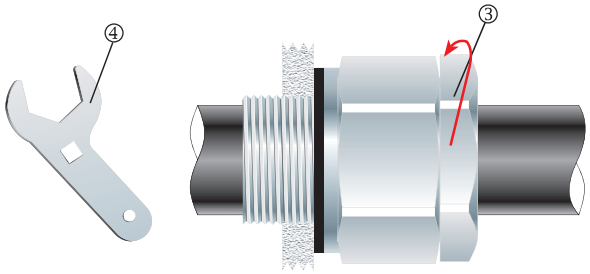
Alternative installation through an unthreaded entry.



If the apparatus is untapped use a locknut.



4. Pass the cable end through the gland assembly.



5. Tighten the outer nut ③ to the installation torque using a CCG Spanner ④ to produce a seal and grip on the cable. 100% Cable retention load. No additional clamping required.

YouTube Instruction Video: http://youtu.be/3Mo-Utop3AY

CCG CABLE TERMINATIONS

A2FX-R

Ex db I/IIC, Ex eb I/IIC, Ex ta IIIC , Ex nR IIC

DOUBLE COMPRESSION GLAND for Unarmoured Cable

Features and Benefits

- Passes the IECEx / ATEX / UKEX 100% pull test so no additional cable clamping is required.
- For indoor, outdoor, Group I, II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Fitted with two specially formulated elastomeric displacement seals, for dual redundancy and superior cable retention, explosion protection and IP rating.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request. (Note: Aluminium not suitable for Group I applications).
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

Type:	A2FX-R
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium or Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Sealing Area:	Outer Sheath (may be used on cables with inner and outer sheaths)
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment

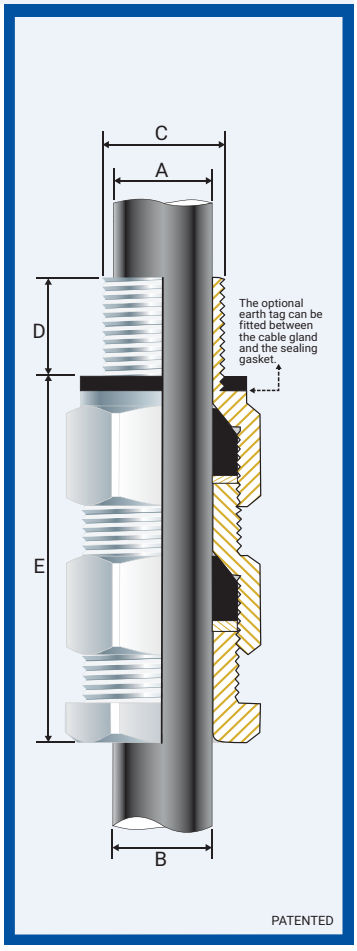
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx I M2 Ⓔx I 2/3G 1D, Ex db I Mb / IIC Gb, Ex eb I Mb / IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: 1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PΠ Ex e I Mc X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°/100°C (HDPE / Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx MSC 20.0002
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3389X, CNEx CCC 2021312313000392
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 850m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010

Conditions for Safe Use - X

None.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEX® or QuickStop-Ex® barrier gland should be used.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
057700-16S	00-16S	M16x1.5	15	-	-	1.0	4.0	46.0	24.0	27.0	32.5
057700-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	46.0	24.0	27.0	32.5
057700	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	46.0	24.0	27.0	32.5
0577-0-16	0-16s	M20x1.5	15	-	-	7.0	12.0	46.0	24.0	27.0	32.5
0577-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	46.0	24.0	27.0	32.5
057701	1-20	M20x1.5	15	¾/½	15	11.0	14.0	54.0	27.0	30.0	32.5
057722	2s-25s	M25x1.5	15	¾/1	15/19	11.5	17.5	54.0	35.0	39.0	47.5
057702	2-25	M25x1.5	15	¾/1	15/19	15.0	20.0	54.0	35.0	39.0	47.5
057733	3s-32s	M32x1.5	15	1/1¼	19	16.0	22.0	58.0	42.0	47.0	55.0
057703	3-32	M32x1.5	15	1/1¼	19	20.0	26.5	58.0	42.0	47.0	55.0
057744	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	66.0	52.0	59.0	65.0
057704	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	66.0	52.0	59.0	65.0
057755	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	82.0	65.0	73.0	82.5
057705	5-50	M50x1.5	15	1½/2	21	34.0	44.5	82.0	65.0	73.0	82.5
057766	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	92.0	80.0	90.0	97.5
057706	6-63	M63x1.5	15	2/2½	21/30	44.5	56.5	92.0	80.0	90.0	97.5
057777	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	94.0	96.0	108.0	115.5
057707	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	94.0	96.0	108.0	115.5
057708	8-80	M80x2.0	20	3	32	54.0	69.0	116.0	96.0	108.0	120.0
057799	9s-90s	M90x2.0	20	3/3½	32/33	60.0	75.0	119.0	111.0	125.0	120.0
057709	9-90	M90x2.0	20	3/3½	32/33	73.0	81.5	119.0	111.0	125.0	120.0
057710	10-100	M100x2.0	20	3½/4	33/34	81.0	92.0	119.0	125.0	141.0	120.0
057711	11-110	M110x2.0	20	4	34	91.0	101.0	128.0	135.0	152.0	175.0
057712	12-120	M120x2.0	20	-	-	101.0	109.0	135.0	140.0	158.0	175.0
057713	13-130	M130x2.0	20	-	-	109.0	116.0	135.0	146.0	164.0	175.0

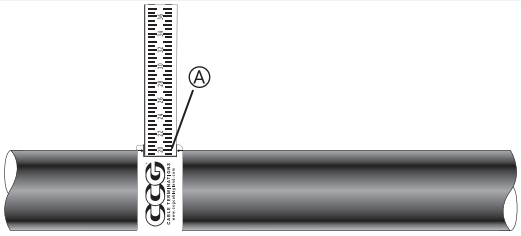
All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2FX-R COMPRESSION GLAND

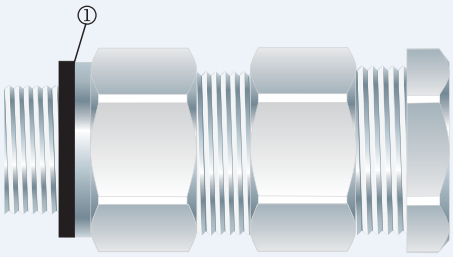
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

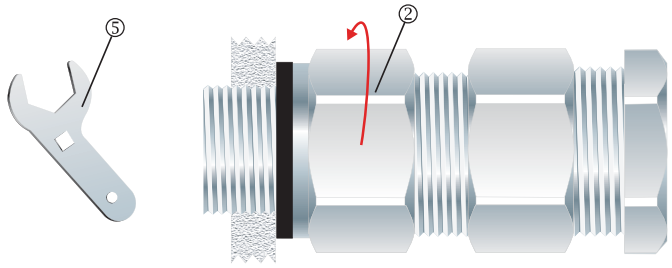


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



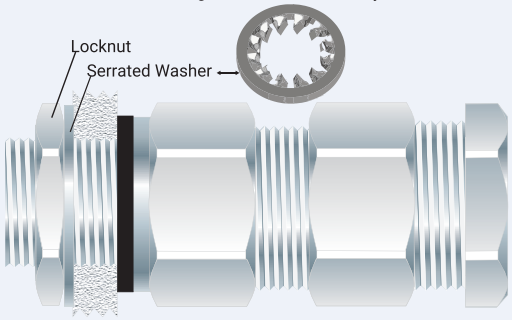
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

2. To maintain IP66/68, ensure the gasket ① is in place.

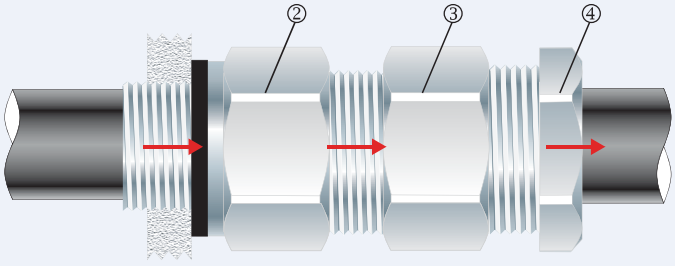


3. Screw the gland unit into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ⑤.

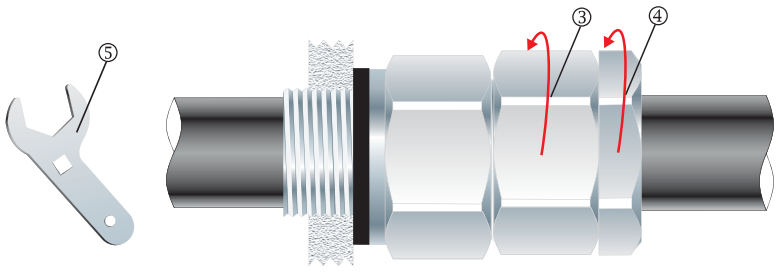
Alternative installation through an unthreaded entry.



If the apparatus is untapped use a locknut.



4. Pass the outer nut ④, body ③ and inner ② (gland assembly) over the cable.



5. Tighten the body ③ to the installation torque using a CCG Spanner ⑤ to produce a seal and grip on the cable. Tighten the outer nut ④ to produce an additional seal and grip on the cable.

CCG CABLE TERMINATIONS

A2F-H-R

Ex db I/IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

COMPRESSION GLAND for Unarmoured Cable

Features and Benefits

- For Group I, II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- Fitted with a specially formulated elastomeric displacement seal, for superior cable retention, explosion protection and IP rating..
- A hose tail provides for clamping a protective hose over the cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

850m IP68

Ex 30 BAR SEAL

Technical Data

Type:	A2F-H-R
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

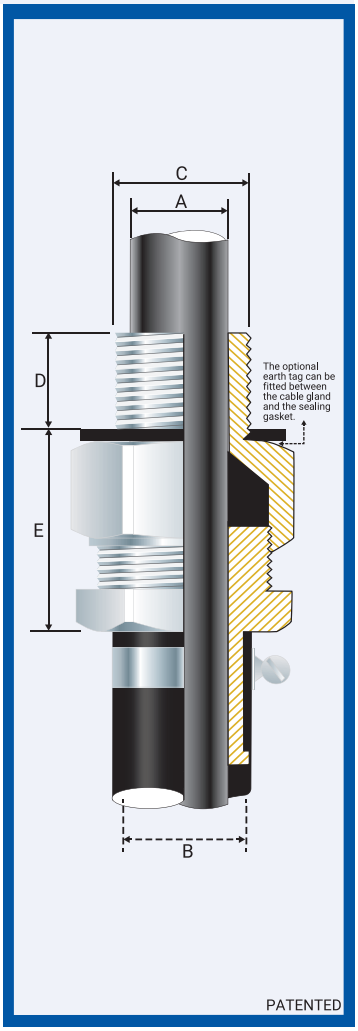
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2, ⟨Ex⟩ II 2/3G 1D, Ex db I Mb/ IIC Gb, Ex eb I Mb/IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx MSC 20.0002
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3389X, CNEx CCC 2021312313000392
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 850m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 – Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667

Conditions for Safe Use - X

- None.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a If not a CCG VORTEx® barrier gland should be used.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Spigot/ Hose Tail 'B'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'			Max 'Flats'	Max 'Crns'	
049700-16S	00s-16S	M16x1.5	15	-	-	1.0	4.0	43.0	16.0/19.0	24.0	27.0	32.5
049700-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	43.0	16.0/19.0	24.0	27.0	32.5
049700	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	43.0	16.0/19.0	24.0	27.0	32.5
0497-0-16	00-16s	M16x1.5	15	½/¾	15	7.0	10.5	43.0	16.0/19.0	24.0	27.0	32.5
0497-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	43.0	16.0/19.0	24.0	27.0	32.5
049701	1-20	M20x1.5	15	½/¾	15	11.0	15.0	50.0	17.5/19.0	27.0	30.0	32.5
049722	2s-25s	M25x1.5	15	¾/1	15/19	11.5	17.5	55.5	25.4	35.0	39.0	47.5
049702	2-25	M25x1.5	15	¾/1	15/19	15.0	20.0	55.5	25.4	35.0	39.0	47.5
049733	3s-32s	M32x1.5	15	1/1¼	19	16.0	22.0	66.0	31.8	42.0	47.0	55.0
049703	3-32	M32x1.5	15	1/1¼	19	20.0	26.5	66.0	31.8	42.0	47.0	55.0
049744	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	80.0	38.1	52.0	59.0	65.0
049704	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	80.0	38.1	52.0	59.0	65.0
049755	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	99.0	50.8	65.0	73.0	82.5
049705	5-50	M50x1.5	15	1½/2	21	34.0	44.5	99.0	50.8	65.0	73.0	82.5
049766	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	121.0	63.5	80.0	90.0	97.5
049706	6-63	M63x1.5	15	2/2½	21/30	44.5	56.5	121.0	63.5	80.0	90.0	97.5
049777	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	141.0	76.0	96.0	108.0	115.5
049707	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	141.0	76.0	96.0	108.0	115.5

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2F-H-R GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

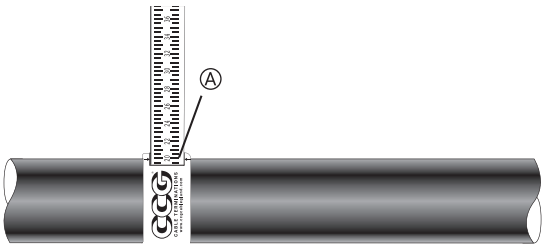
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

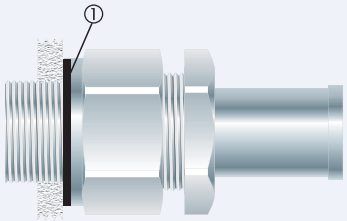
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

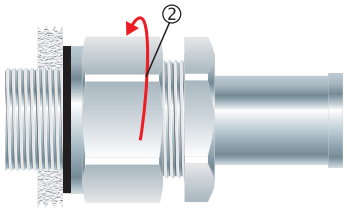


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



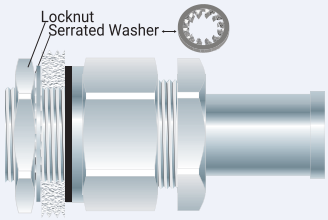
2. To maintain IP66/68 ensure the gasket ① is in place.

If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

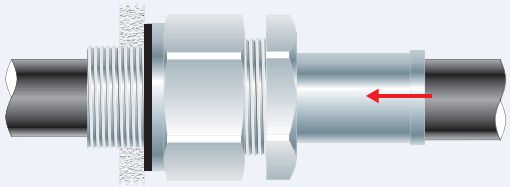


3. Screw the inner ② into the apparatus. Tighten the inner ② to the installation torque using a CCG Spanner ④.

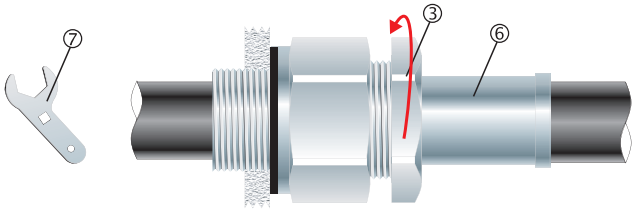
Alternative installation through an unthreaded entry.



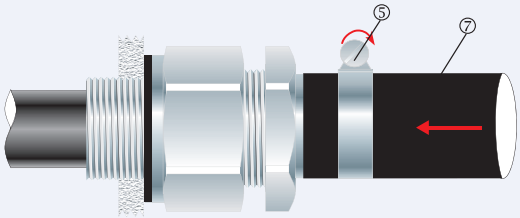
If the apparatus is untapped use a locknut.



4. Pass the cable end through the gland assembly.



5. Tighten the outer nut ③ to the installation torque using a CCG Spanner ⑦ to produce a seal and grip on the cable.



6. Slide the protective hose ⑦ over the hose tail ⑥ and tighten the hose clamp ⑤.

CCG CABLE TERMINATIONS

E1EX-U

Ex db I/ IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

CAPTIVE COMPONENT GLAND® for Multi Armoured Cable

Features and Benefits

- For indoor, outdoors, Group I, II, III, Zone 1, 2, 21 and 22 hazardous areas.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond for steel wire, aluminium, braid and tape armour.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Factory fitted captive elastomeric seals for Built-in Safety™. Seals on both inner and outer sheaths to IP66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request. Supplied with a thread sealing gasket (parallel threads only).

100m IP68 | Ex 30 BAR SEAL | EMC

Technical Data

Type:	E1EX-U (Universal)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire, Aluminium, Braided and Tape Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath and Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment

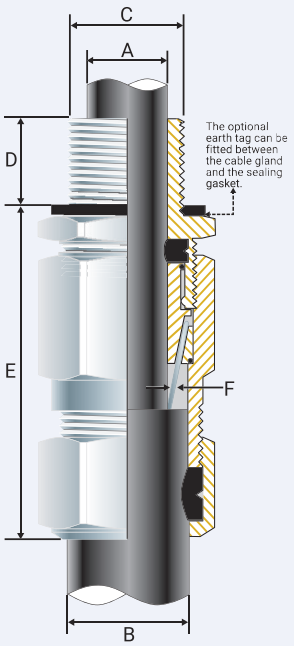
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb/ IIC Gb, Ex eb I Mb/IIC Gb, Ex nRIIC Gc, Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PП Ex e I Mc X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	Standard Seals: -60°C to +95°C /100°C (HDPE/ Nylon Sealing Gasket) Extreme Temp. Seals: -60°C to +160°C (PTFE Sealing Gasket)	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx TSA 22.0011X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X, CNEx CCC 2021312313000396
KCs (Korea)	Notification of Ministry of Labour No.2013-54	17-AV4BO-0087-90X
SANS/IEC	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
ClassNK	IEC 60079 Part 0, 1, 7, 15, 31	TA20271M
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -60°C to +95°C (standard seals & HDPE sealing gaskets), -60°C to +100°C (standard seal and Nylon sealing gasket) or -60°C to +160°C (extreme temp. seal & PTFE sealing gasket) depending on seal and gasket used.
- Braided cables are only suitable for Group II or III applications with this gland and the user shall ensure adequate clamping of the cable.

Note: According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEx® or QuickStop-Ex® barrier gland should be used.



PATENTED

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
057100-16	00-16ss	M16x1.5	15	-	-	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
057100S	00s-20ss	M20x1.5	15	½/¾	15	3.0	8.5	5.0	10.5	60.0	0.20	0.90	25/27	28/30	21.0
057100	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	0.20	0.90	25/27	28/30	21.0
0571-0S	0s-20s	M20x1.5	15	½/¾	15	7.0	12.0	8.0	13.5	60.0	0.20	1.25	25/27	28/30	21.0
0571-0	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	0.20	1.25	25/27	28/30	21.0
057101	1-20	M20x1.5	15	½/¾	15	9.0	15.0	12.5	20.5	73.0	0.20	1.25	30	34	21.0
057122	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	82.4	0.20	1.60	38	43	30.0
057102	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	18.0	27.0	82.0	0.20	1.60	38	43	30.0
057133	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	20.0	30.5	91.0	0.20	2.00	45	51	42.0
057103	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	23.0	33.5	91.0	0.20	2.00	45	51	42.0
057144	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	26.5	39.5	105.0	0.30	2.00	55	62	52.0
057104	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	28.0	40.0	105.0	0.30	2.00	55	62	52.0
057155	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	35.2	46.7	123.0	0.40	2.50	65	73	57.0
057105	5-50	M50x1.5	15	1½/2	21	34.0	44.5	44.4	53.0	123.0	0.40	2.50	65	73	57.0
057166	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	59.4	147.0	0.40	2.50	85	96	66.0
057106	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	54.6	65.9	147.0	0.40	2.50	85	96	66.0
057177	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	59.0	72.5	149.0	0.40	3.15	96	108	72.0
057107	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.0	78.0	149.0	0.40	3.15	96	108	72.0
057108	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	0.40	3.15	96	108	80.0
057199	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	0.40	3.50	111	125	89.0
057109	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	0.40	3.50	111	125	89.0
057110	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	0.40	3.50	125	141	98.0

All dimensions except NPT are in mm Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX-U GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

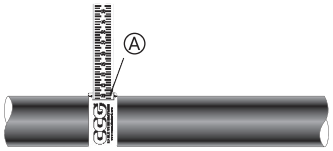
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

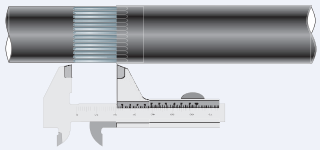
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

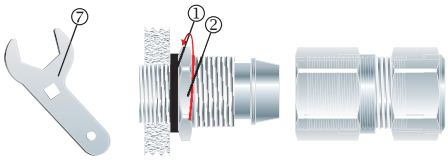


1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	2-25	25.0	5s-50s	35.0	7-75	50.0
00-20ss	20.0	3s-32s	30.0	5-50	35.0	8-80	50.0
0-20s	20.0	3-32	30.0	6s-63s	45.0	9s-90s	50.0
1-20	25.0	4s-40s	30.0	6-63	45.0	9-90	50.0
2s-25s	25.0	4-40	30.0	7s-75s	50.0	10-100	60.0

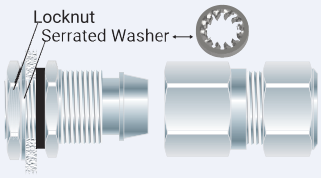
2. Cut back the cable outer sheath to expose the armour to a length as per the table above.



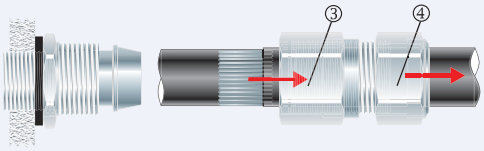
3. To maintain IP66/68 ensure the gasket ① is in place. Tighten the inner ② into the apparatus. Tighten the inner ② to the torque using a CCG Spanner ⑦.

Alternative installation through an unthreaded entry.

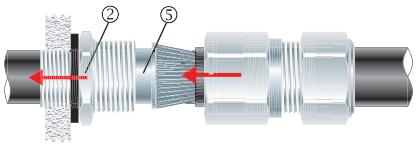
If the apparatus is untapped use a locknut.



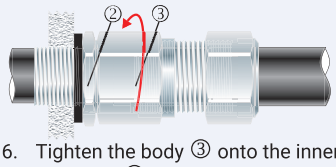
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



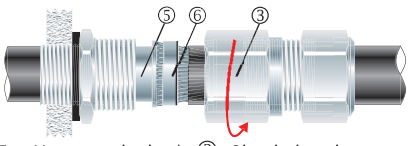
4. Pass the outer nut ④ and the body ③ over the cable.



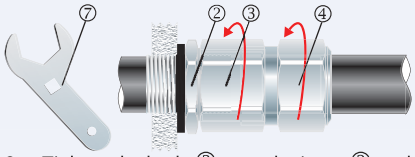
5. Pass the cable end through the inner ②. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.

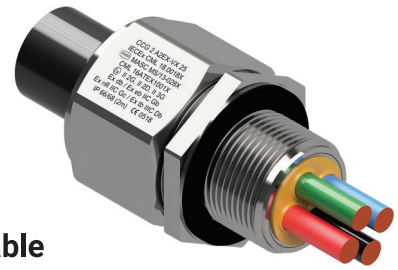


7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and cone ring ⑥ (O-Ring on the cone ring ⑥ is sacrificial).



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.

YouTube Instruction Video: http://youtu.be/Lw-LxOyyoV0



A2EX-VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEx BARRIER COMPRESSION GLAND for Unfilled Unarmoured Cable

Features and Benefits

- For indoor, outdoor, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7.
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

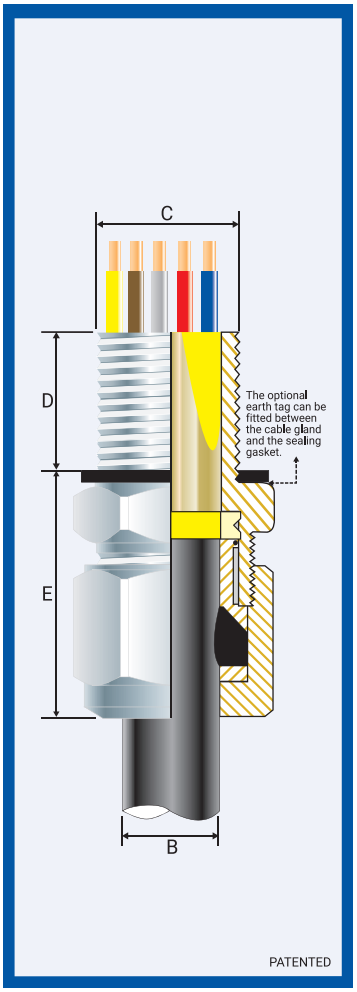
Type:	A2EX-VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel PlatedTM), Aluminium, Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals, Quick setting Barrier Resin
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath and VORTEx® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: [Ex] 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-50°C to +95°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭС RU C-ZA.HA91.B.00245/21
KCs (Korean)	Notification of Ministry of Labour No.2013-54	16-AV4BO-0238-41X
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3386X CNEX_CCC 2021312313000395
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC/EN 60079 Part 0, 1, 7, 15, 31	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -50°C and +95°C.
- The cable glands may only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented.
- Only Resin supplied by CCG may be used in the glands.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Length 'E'	Max Dia. Over Cores	Max No. of Cores	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'				Max 'Flats'	Max 'Crns'	
056400-16-VX	00-16ss	M16x1.5	15	-	-	3.0	8.5	25.0	8.0	6	24.0	27.0	32.5
056400-VX	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	25.0	10.9	10	24.0	27.0	32.5
0564-0-VX	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	25.0	10.9	10	24.0	27.0	32.5
056401-VX	1-20	M20x1.5	15	½/¾	15	11.0	15.0	30.0	12.5	13	27.0	30.0	32.5
056422-VX	2s-25s	M25x1.5	15	¾/1	15/19	11.5	17.5	30.0	15.5	20	35.0	39.0	47.5
056402-VX	2-25	M25x1.5	15	¾/1	15/19	15.0	20.0	30.0	15.5	20	35.0	39.0	47.5
056433-VX	3s-32s	M32x1.5	15	1/1¼	19	16.0	22.0	30.0	21.7	40	42.0	47.0	55.0
056403-VX	3-32	M32x1.5	15	1/1¼	19	20.0	26.5	30.0	21.7	40	42.0	47.0	55.0
056444-VX	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	38.0	30.0	60	52.0	59.0	65.0
056404-VX	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	38.0	30.0	60	52.0	59.0	65.0
056455-VX	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	46.0	36.3	80	65.0	73.0	82.5
056405-VX	5-50	M50x1.5	15	1½/2	21	34.0	44.5	46.0	36.3	80	65.0	73.0	82.5
056466-VX	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	52.0	47.9	100	80.0	90.0	97.5
056406-VX	6-63	M63x1.5	15	2/2½	21/30	44.5	56.5	52.0	47.9	100	80.0	90.0	97.5
056477-VX	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	54.0	58.2	120	96.0	108.0	115.5
056407-VX	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	54.0	58.2	120	96.0	108.0	115.5
056408-VX	8-80	M80x2.0	20	3	32	59.0	69.0	68.0	61.5	140	96.0	108.0	120.0
056499-VX	9s-90s	M90x2.0	20	3/3½	32/33	60.0	75.0	70.0	70.5	160	111.0	125.0	120.0
056409-VX	9-90	M90x2.0	20	3/3½	32/33	73.0	81.5	70.0	70.5	160	111.0	125.0	120.0
056410-VX	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	70.0	79.0	180	125.0	141.0	120.0
056411-VX	11-115	M115x2.0	20	4	34	91.0	101.0	70.0	-	-	135.0	152.0	175.0
056412-VX	12-120	M120x2.0	20	-	-	101.0	109.0	70.0	-	-	140.0	158.0	175.0
056413-VX	13-130	M130x2.0	20	-	-	109.0	116.0	70.0	-	-	146.0	164.0	175.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'

A2EX-VX (VORTEx®) Barrier Gland

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

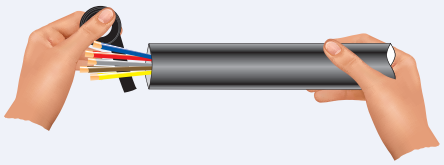
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

1. Strip back the outer sheath to expose the inner cable cores. Using a clean cloth, clean the cable cores insulation.

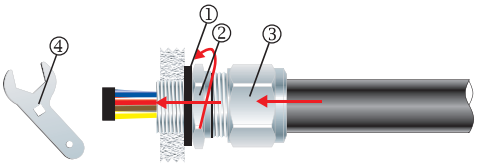
   If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.

2. Using insulation tape, bundle the cores together at the end.

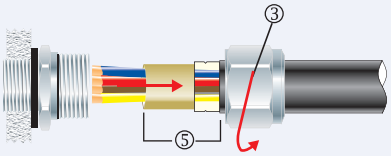
   If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



3. To maintain IP66/68, ensure the gasket ① is in place. Screw the gland unit into the apparatus. Tighten the inner ② using a CCG Spanner ④. Pass the cable end through the outer nut ③ and push the bundled cable cores through the inner ② diaphragm and seal.



4. Unscrew the outer nut ③. Withdraw the cable and barrier pot sub-assembly ⑤. Remove the insulation tape.

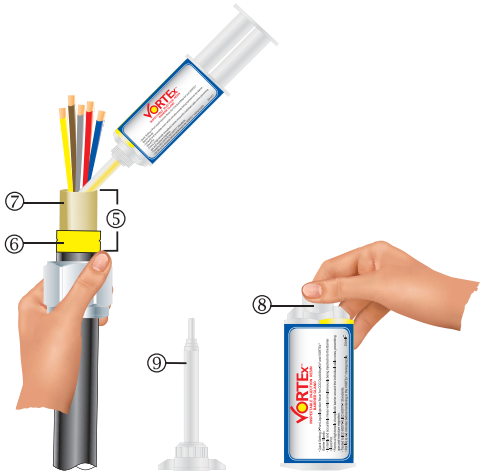


5. Remove the cap ⑧ from resin applicator and attach the mixing nozzle ⑨ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑤ upright and holding the diaphragm seal firmly against the cable sheath, inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑥ all the way to the top of the protective resin pot ⑦ and wipe any excess resin away.

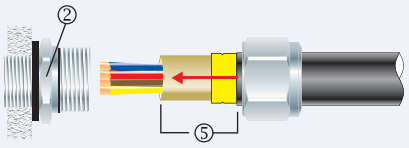
   Wait for the resin to set from a liquid to a gel, this should take:
   - 15 minutes at 10°C
   - 7 minutes at 20°C
   - 6 minutes at 30°C
   - 5 minutes at 40°C

   For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is still Resin left in the tube, discard the mixing nozzle ⑨ and replace the cap ⑧ for use with the next gland.

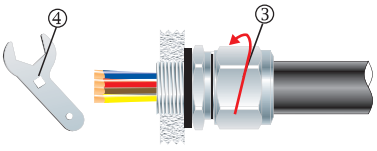
   * The installation is acceptable of the cable sheath is pushed 2mm or 3mm into the resin seal.



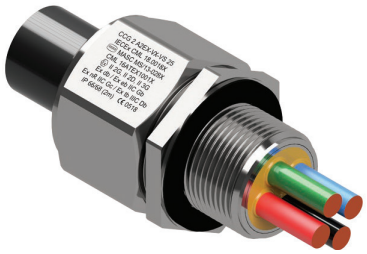
6. Re-insert the barrier pot sub-assembly ⑤ back into the inner ②.



7. Tighten the outer nut ③ to the installation torque using a CCG Spanner ④ to produce a seal and grip on the cable.



YouTube Instruction Video: http://www.youtube.com/watch?v=TeoCqRgCk3k



A2EX-VS VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEx BARRIER GLAND for Unfilled Unarmoured Copper Tape, Braided or Lead Sheathed Cable

Features and Benefits

- For indoors, outdoors Group II and III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC61892-7, 10.6 and 10.7
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down the cable.
- Inner seal seals on the cable sheath. Harder outer seal grips the cable giving superior cable retention and IP rating.
- Provides 360° earthing to copper tape or lead sheath.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

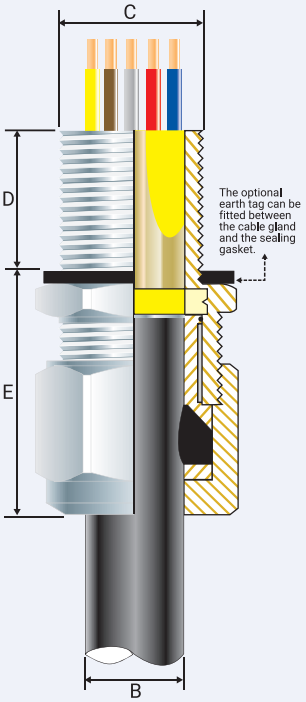
Type:	A2EX-VS VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals, Quick Setting Injection Barrier Resin Seal
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Unarmoured Copper Tape, Braided or Lead Sheathed
Sealing Area:	Taper Seal on the Outer Sheath. Compression seal on inner copper sheath. VORTEx® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-50°C to +95°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭC RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3386X, CNEx CCC 2021312313000395
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	IECEx CML 18.0018X
IP65 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC/EN 60079 Part 0, 1, 7, 15, 31 IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands may only be used on fixed installations where the cable is clamped or stress applied to the cable in the gland is prevented.
- The cable glands shall only be used where the temperature, at the point of entry, is between -50°C and +95°C.
- Only Resin supplied by CCG may be used in the glands.



Product Code	Gland Size Ref	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Max Dia. Over Cores	Max No. of Cores	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'				Max 'Flats'	Max 'Crns'	
056300-16-VX	00-16ss	M16x1.5	15	-	-	3.0	8.5	25.0	8.0	6	24.0	27.0	32.5
056300-VX	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	25.0	10.9	10	24.0	27.0	32.5
0563-0-VX	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	25.0	10.9	10	24.0	27.0	32.5
056301-VX	1-20	M20x1.5	15	½/¾	15	11.0	15.0	30.0	12.5	13	27.0	30.0	32.5
056322-VX	2s-25s	M25x1.5	15	¾/1	15/19	11.5	17.5	30.0	15.5	20	35.0	39.0	47.5
056302-VX	2-25	M25x1.5	15	¾/1	15/19	15.0	20.0	30.0	15.5	20	35.0	39.0	47.5
056333-VX	3s-32s	M32x1.5	15	1/1¼	19	16.0	22.0	30.0	21.7	40	42.0	47.0	55.0
056303-VX	3-32	M32x1.5	15	1/1¼	19	20.0	26.5	30.0	21.7	40	42.0	47.0	55.0
056344-VX	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	38.0	30.0	60	52.0	59.0	65.0
056304-VX	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	38.0	30.0	60	52.0	59.0	65.0
056355-VX	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	46.0	36.3	80	65.0	73.0	82.5
056305-VX	5-50	M50x1.5	15	1½/2	21	34.0	44.5	46.0	36.3	80	65.0	73.0	82.5
056366-VX	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	52.0	47.9	100	80.0	90.0	97.5
056306-VX	6-63	M63x1.5	15	2/2½	21/30	44.5	56.5	52.0	47.9	100	80.0	90.0	97.5
056377-VX	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	54.0	58.2	120	96.0	108.0	115.5
056307-VX	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	54.0	58.2	120	96.0	108.0	115.5
056308-VX	8-80	M80x2.0	20	3	32	59.0	69.0	68.0	61.5	140	96.0	108.0	120.0
056399-VX	9s-90s	M90x2.0	20	3/3½	32/33	60.0	75.0	70.0	70.5	160	111.0	125.0	120.0
056309-VX	9-90	M90x2.0	20	3/3½	32/33	73.0	81.5	70.0	70.5	160	111.0	125.0	120.0
056310-VX	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	70.0	79.0	180	125.0	141.0	120.0
056311-VX	11-115	M115x2.0	20	4	34	91.0	101.0	70.0	-	-	135.0	152.0	175.0
056312-VX	12-120	M120x2.0	20	-	-	101.0	109.0	70.0	-	-	140.0	158.0	175.0
056313-VX	13-130	M130x2.0	20	-	-	109.0	116.0	70.0	-	-	146.0	164.0	175.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

A2EX-VS VX (VORTEx®) BARRIER GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

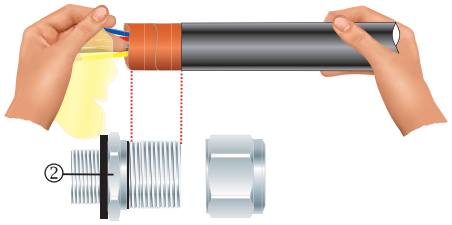
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

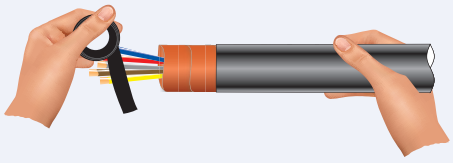
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

1. Cut the PVC sheath exposing the copper tape to the length of the inner ②.

   If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.

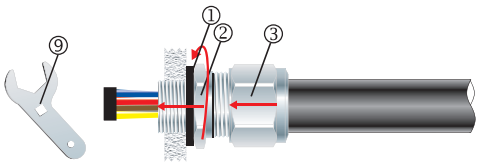


2. Using a clean cloth, clean the cable cores insulation. Using insulation tape, bundle the cores together at the end.

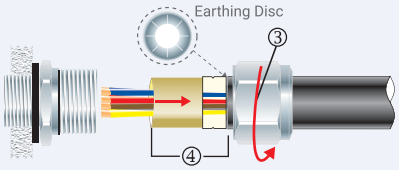


3. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the gland unit into the apparatus. Tighten the inner ② using a CCG Spanner ⑨. Pass the cable end through the outer nut ③ and push the bundled cable cores through the inner ② diaphragm, earth disc and seal.

   If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



4. Unscrew the outer nut ③. Withdraw the cable and barrier pot sub-assembly ④. Remove the insulation tape. Check the copper tape has passed through and makes 360° contact with the earthing disc.



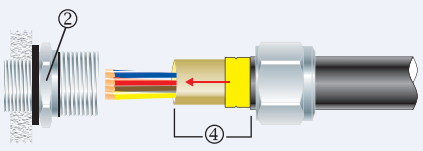
5. Remove the cap ⑦ from resin applicator and attach the mixing nozzle ⑧ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ④ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Make sure the resin fills the inspectible resin seal pot ⑤ all the way to the top of the protective resin pot ⑥ and wipe any excess resin away.

   Wait for the resin to set from a liquid to a gel, this should take:
   - 15 minutes at 10°C
   - 7 minutes at 20°C
   - 6 minutes at 30°C
   - 5 minutes at 40°C

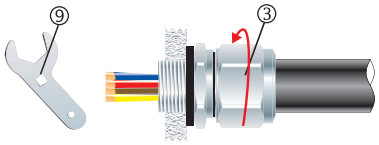
   For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is Resin left in the tube, discard the mixing nozzle ⑧ and replace the cap ⑦ for use with the next gland.

   * The installation is acceptable if the cable sheath is pushed 2mm or 3mm into the resin seal.

6. Re-insert the barrier pot sub-assembly ④ back into the inner ②.

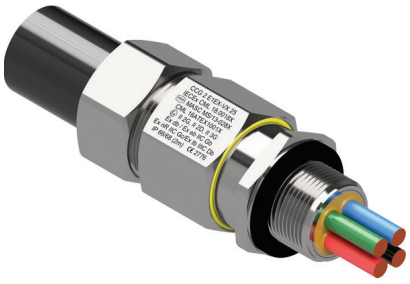


7. Tighten the outer nut ③ to the installation torque using a CCG Spanner ⑨ to produce a seal and grip on the cable.



CCG CABLE TERMINATIONS

VORTEx INSPECTABLE INJECTION RESIN BARRIER GLAND



E1EX VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEx BARRIER GLAND WITH VARIABLE DELUGE SEAL™ for Unfilled SWA and Aluminium Armoured Cable

Features and Benefits

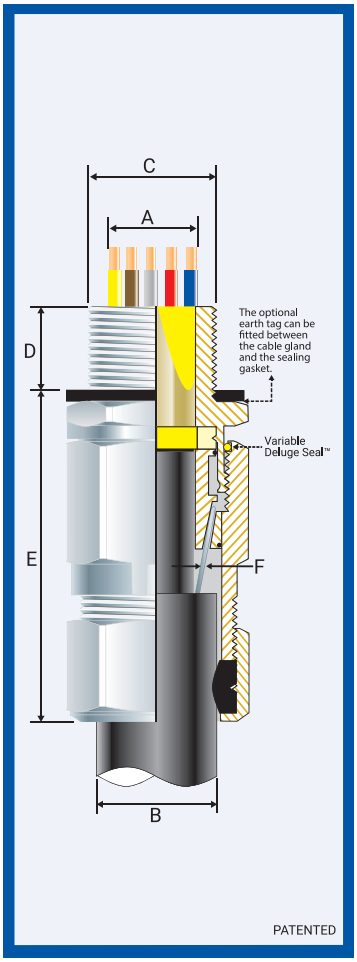
- For indoors, outdoors, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For Unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire armour and aluminium armour.
- With a patented Variable Deluge Seal™ as standard.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Instantly mixed and injected resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down the cable.
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

Type:	E1EX VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium, Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals, Stainless Steel 316/316L
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire Armour, Aluminium Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Outer Sheath, Variable Deluge Sea™ and VORTEx® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-50°C to +95°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444, 6121	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X, CNEx CCC 2021312313000396
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -50°C and +95°C.
- Only Resin supplied by CCG may be used in the glands.

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Max Dia. Over Cores	Max No. of Cores	Armour Dia		Hex Detail		Install. TRQ Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'				Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
056000-16-VX	00-16ss	M16x1.5	15	-	-	3.0	8.5	8.0	13.5	60.0	8.0	6	0.90	1.25	24.0	27.0	21.0
056000-VX	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	10.9	10	0.90	1.25	24.0	27.0	21.0
0560-0-VX	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	10.9	10	0.90	1.25	24.0	27.0	21.0
056001-VX	1-20	M20x1.5	15	½/¾	15	9.0	15.0	14.5	20.5	63.0	12.5	13	0.90	1.25	27.0	30.0	21.0
056022-VX	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	70.0	15.5	20	1.25	1.60	35.0	39.0	30.0
056002-VX	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	20.5	26.5	70.0	15.5	20	1.25	1.60	35.0	39.0	30.0
056033-VX	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	23.0	30.5	76.0	21.7	40	1.60	2.00	42.0	47.0	42.0
056003-VX	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	26.5	33.5	76.0	21.7	40	1.60	2.00	42.0	47.0	42.0
056044-VX	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	39.5	93.0	30.0	60	1.60	2.00	52.0	59.0	52.0
056004-VX	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	33.0	42.5	93.0	30.0	60	1.60	2.00	52.0	59.0	52.0
056055-VX	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	34.0	47.5	102.0	36.3	80	2.00	2.50	65.0	73.0	57.0
056005-VX	5-50	M50x1.5	15	1½/2	21	34.0	44.5	42.5	52.5	102.0	36.3	80	2.00	2.50	65.0	73.0	57.0
056066-VX	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	60.5	130.0	47.9	100	2.00	2.50	80.0	90.0	66.0
056006-VX	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	52.5	65.5	130.0	47.9	100	2.00	2.50	80.0	90.0	66.0
056077-VX	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	57.0	72.5	138.0	58.2	120	2.50	3.15	96.0	108.0	72.0
056007-VX	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.5	78.0	138.0	58.2	120	2.50	3.15	96.0	108.0	72.0
056008-VX	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	61.5	140	2.50	3.15	96.0	108.0	80.0
056099-VX	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	70.5	160	3.00	3.50	111.0	125.0	89.0
056009-VX	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	70.5	160	3.00	3.50	111.0	125.0	89.0
056010-VX	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	79.0	180	3.00	3.50	125.0	141.0	98.0
056011-VX	11-115	M115x2.0	20	4	34	86.0	98.0	100.0	114.0	209.0	-	-	3.00	4.00	135.0	152.0	175.0
056012-VX	12-120	M120x2.0	20	-	-	96.0	103.0	103.0	118.0	209.0	-	-	3.00	4.00	140.0	158.0	175.0
056013-VX	13-130	M130x2.0	20	-	-	100.0	115.0	113.0	124.0	209.0	-	-	3.00	4.00	146.0	164.0	175.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX VX (VORTEx®) BARRIER GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

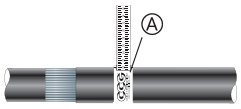
MUST HAVE THREADED ENTRIES

- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm forl all other applications

OR CLEARANCE HOLES (not Ex d)

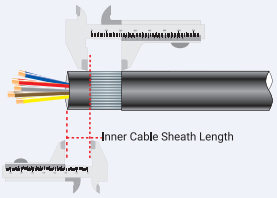
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.



2. Separate the inner ② from the body ③. Cut back the cable outer sheath to expose the armour to a length as per the table below. Strip back the inner bedding to expose the inner cable sheath length as per the table below.

Gland Size	Armour Length	Inner Cable Sheath Length	Gland Size	Armour Length	Inner Cable Sheath Length	Gland Size	Armour Length	Inner Cable Sheath Length	Gland Size	Armour Length	Inner Cable Sheath Length
00-16ss	20.0	11	3s-32s	30.0	15	6s-63s	45.0	15	9-90	50.0	21
00-20ss	20.0	11	3-30	30.0	15	6-63	45.0	15	10-100	60.0	45
0-20s	20.0	11	4s-40s	30.0	15	7s-75s	50.0	20	11-115	60.0	22
1-20	25.0	10	4-40	30.0	15	7-75	50.0	20	12-120	60.0	25
2s-25s	25.0	19	5s-50s	35.0	17	8-80	50.0	17	13-130	60.0	29
2-25	25.0	19	5-50	35.0	17	9s-90s	50.0	21			

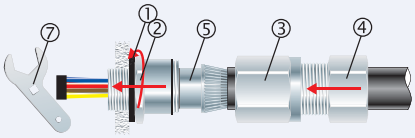


If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.

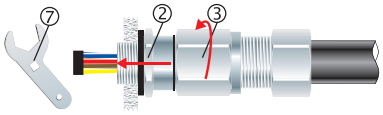
3. Using a clean cloth, clean the cable cores.
4. Using the insulation tape, bundle the cores together at the end.

5. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the inner ② into the apparatus and tighten to the installation torque using a CCG Spanner ⑦. If the apparatus is untapped use a locknut. Pass the bundled cable cores through the outer nut ④ and the body ③. Pass the bundled cables cores through the inner ② and inner diaphragm seal and splay the armour wires over the cone ⑤.

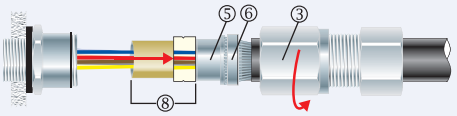
   If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and the cone ring ring ⑥ (O-Ring on the cone ring ⑥ is sacrificial). Withdraw the barrier pot sub-assembly ⑧ and bundled cables . Remove the insulation tape.

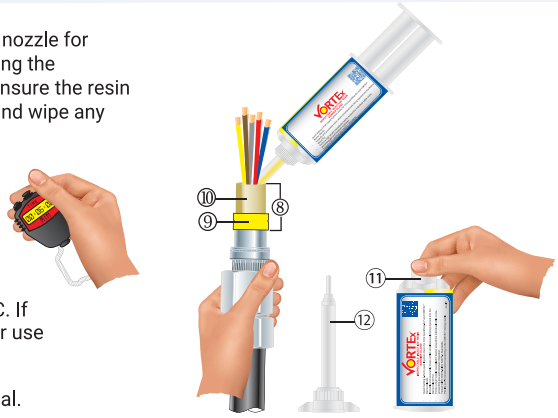


8. Remove the cap ⑪ from resin applicator and attach the mixing nozzle ⑫ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑧ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑨ all the way to the top of the protective resin pot ⑩ and wipe any excess resin away.

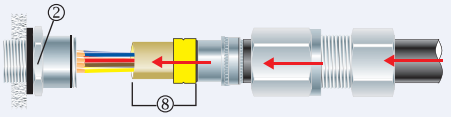
   Wait for the resin to set from a liquid to a gel, this should take:
   - 15 minutes at 10°C
   - 7 minutes at 20°C
   - 6 minutes at 30°C
   - 5 minutes at 40°C

   For installations in less than 5°C Ambient, warm the Resin Tube in warm water at ± 50°C. If there is still resin left in the tube, discard the mixing nozzle ⑫ and replace the cap ⑪ for use with the next gland.

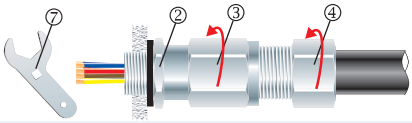
   * The installation is acceptable of the cable sheath is pushed 2 or 3mm into the resin seal.



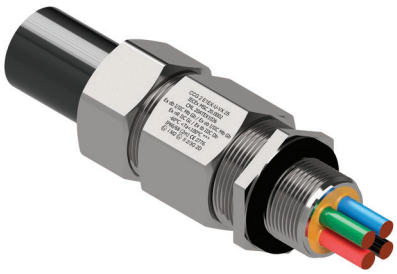
9. Re-insert the barrier pot sub-assembly ⑧ back into the inner ②.



10. Tighten the body ③ onto the inner ② to the required torque using a CCG Spanner ⑦. The Variable Deluge Seal™ will engage automatically as the body ③ is tightened onto the inner ②. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.



YouTube Instruction Video: www.youtube.com/watch?v=rsnBjoNQr3s



E1EX-U VX

Ex db I/ IIC, Ex eb I/IIC, Ex ta IIIC, Ex nR IIC

VORTEx BARRIER GLAND for Unfilled Multi Armoured Cable

Features and Benefits

- For indoors, outdoors, Group I underground mining, Group II and Group III hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7
- Freely rotating captive cone and inspectible cone ring an armour clamp and earth bond on steel wire, aluminium, braid and tape armour.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down the cable.
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

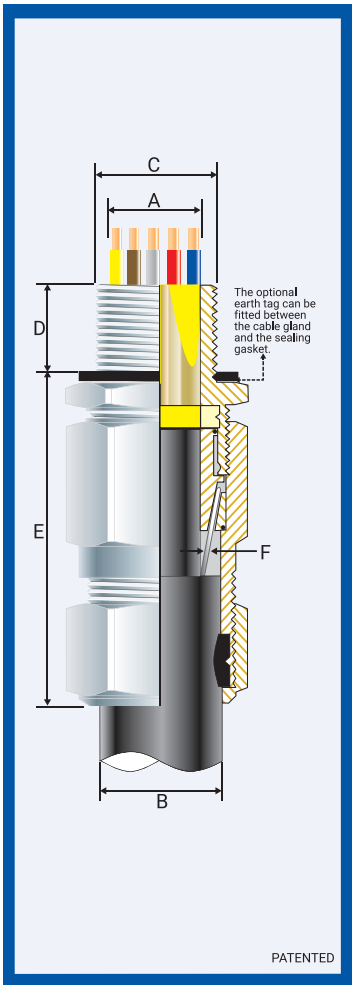
Type:	E1EX-U (Universal) VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals and Quick Setting Barrier Resin
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire, Aluminium, Braided and Tape Armour, Cable Exhibiting Cold Flow
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Outer Sheath and VORTEx® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex d I Mb/ IIC Gb, Ex e I Mb/IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx I M2, Ⓔx II 2/3G 1D, Ex db I Mb/ IIC Gb, Ex eb I Mb/IIC Gb, Ex nRIIC Gc, Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / P[Ex e I Mc X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-50°C and +95°C.	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx TSA 22.0011X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	EAЭС RU C-ZA.HA91.B.00245/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3387X, CNEx CCC 2021312313000396
KCs (Korea)	Notification of Ministry of Labour No.2013-54	17-AV4BO-0087-90X
SANS/IEC	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
IP65/66 - Tapered	IEC 60529	
IP68 - Tapered and approved grease	IEC 60529	IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry, is between -50°C and +95°C.
- Braided cables are only suitable for Group II or III applications with this gland and the user shall ensure adequate clamping of the cable.
- Only Resin supplied by CCG may be used in the glands.



Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail				Max Length 'E'	Max Dia. Over Cores	Max No. of Cores	Armour Dia		Hex Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'				Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
057200-16-VX	00-16ss	M16x1.5	15	-	-	3.0	8.5	5.0	10.5	60.0	8.0	6	0.20	0.90	25/27	28/30	21.0
057200S-VX	00s-20ss	M20x1.5	15	½/¾	15	3.0	8.5	5.0	10.5	60.0	10.9	10	0.20	0.90	25/27	28/30	21.0
057200-VX	00-20ss	M20x1.5	15	½/¾	15	3.0	8.5	8.0	13.5	60.0	10.9	10	0.20	0.90	25/27	28/30	21.0
0572-0S-VX	0s-20s	M20x1.5	15	½/¾	15	7.0	12.0	8.0	13.5	60.0	10.9	10	0.20	1.25	25/27	28/30	21.0
0572-0-VX	0-20s	M20x1.5	15	½/¾	15	7.0	12.0	11.5	16.0	60.0	10.9	10	0.20	1.25	25/27	28/30	21.0
057201-VX	1-20	M20x1.5	15	½/¾	15	9.0	15.0	12.5	20.5	73.0	12.5	13	0.20	1.25	30	34	21.0
057222-VX	2s-25s	M25x1.5	15	¾/1	15/19	11.0	17.5	16.0	24.5	82.4	15.5	20	0.20	1.60	38	43	30.0
057202-VX	2-25	M25x1.5	15	¾/1	15/19	14.0	20.0	18.0	27.0	82.0	15.5	20	0.20	1.60	38	43	30.0
057233-VX	3s-32s	M32x1.5	15	1/1¼	19	15.0	22.0	20.0	30.5	91.0	21.7	40	0.20	2.00	45	51	42.0
057203-VX	3-32	M32x1.5	15	1/1¼	19	19.0	26.5	23.0	33.5	91.0	21.7	40	0.20	2.00	45	51	42.0
057244-VX	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	26.5	39.5	105.0	30.0	60	0.30	2.00	55	62	52.0
057204-VX	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	28.0	40.0	105.0	30.0	60	0.30	2.00	55	62	52.0
057255-VX	5s-50s	M50x1.5	15	1½/2	21	29.0	38.0	35.2	46.7	123.0	36.3	80	0.40	2.50	65	73	57.0
057205-VX	5-50	M50x1.5	15	1½/2	21	34.0	44.5	44.4	53.0	123.0	36.3	80	0.40	2.50	65	73	57.0
057266-VX	6s-63s	M63x1.5	15	2/2½	21/30	38.0	50.0	45.5	59.4	147.0	47.9	100	0.40	2.50	85	96	66.0
057206-VX	6-63	M63x1.5	15	2/2½	21/30	44.0	56.5	54.6	65.9	147.0	47.9	100	0.40	2.50	85	96	66.0
057277-VX	7s-75s	M75x1.5	15	2½/3	30/32	50.0	62.0	59.0	72.5	149.0	58.2	120	0.40	3.15	96	108	72.0
057207-VX	7-75	M75x1.5	15	2½/3	30/32	56.0	67.5	65.0	78.0	149.0	58.2	120	0.40	3.15	96	108	72.0
057208-VX	8-80	M80x2.0	20	3	32	59.0	69.0	65.0	77.5	195.0	61.5	140	0.40	3.15	96	108	80.0
057299-VX	9s-90s	M90x2.0	20	3/3½	32/33	66.0	75.0	73.0	86.5	204.0	70.5	160	0.40	3.50	111	125	89.0
057209-VX	9-90	M90x2.0	20	3/3½	32/33	74.0	81.5	82.0	91.0	204.0	70.5	160	0.40	3.50	111	125	89.0
057210-VX	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	90.0	100.0	209.0	79.0	180	0.40	3.50	125	141	98.0

All dimensions except NPT are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

E1EX-U VX (VORTEx®) BARRIER GLAND

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket (parallel threads) or by fully tightening into a threaded entry (tapered threads). Note that for tapered threads the IP rating can be improved to IP68 with the use of a suitable thread sealant.

MUST HAVE THREADED ENTRIES

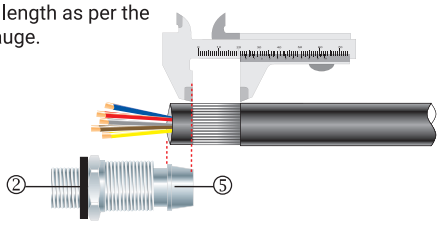
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)

- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads.)

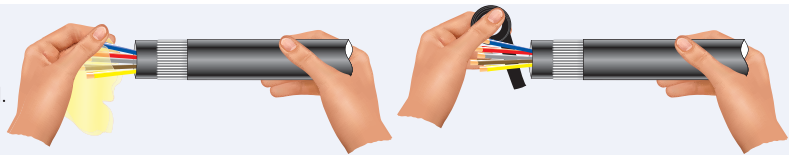
1. Separate the inner ② from the body ③. Cut back the cable outer sheath to expose the armour to a length as per the table below. Strip back the inner bedding to expose the inner cable cores using the cone ⑤ as a gauge.

Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	2-25	25.0	5s-50s	35.0	7-75	50.0
00-20ss	20.0	3s-32s	30.0	5-50	35.0	8-80	50.0
0-20s	20.0	3-32	30.0	6s-63s	45.0	9s-90s	50.0
1-20	25.0	4s-40s	30.0	6-63	45.0	9-90	50.0
2s-25s	25.0	4-40	30.0	7s-75s	50.0	10-100	60.0



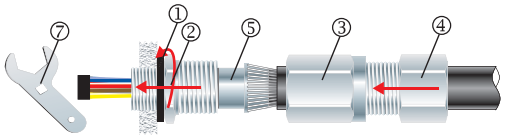
If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.

2. Using a clean cloth, clean the cable cores.
3. Using the insulation tape, bundle the cores together at the end.

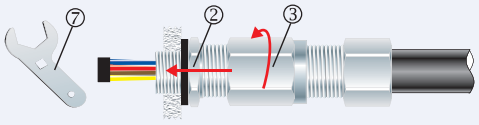


4. To maintain IP66/68, ensure the gasket ① is in place. Screw the inner ② into the apparatus and tighten to the installation torque using a CCG Spanner ⑦. If the apparatus is untapped use a locknut. Pass the bundled cable cores through the outer nut ④ and body ③. Pass the bundled cables cores through the inner ② and inner diaphragm seal and splay the armour wires over the cone ⑤.

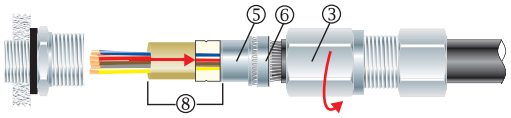
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



5. Screw the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



6. Unscrew the body ③. Check that the armour has locked between the cone ⑤ and the cone ring ⑥ (O-Ring on the cone ring ⑥ is sacrificial). Withdraw the barrier pot sub-assembly ⑧ and bundled cables. Remove the insulation tape.



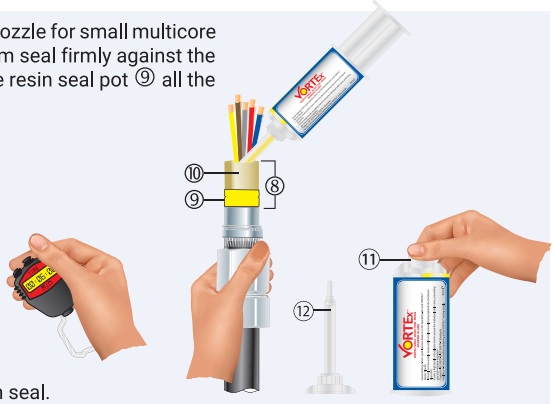
7. Remove the cap ⑪ from resin applicator and attach the mixing nozzle ⑫ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑧ upright and holding the diaphragm seal firmly against the cable sheath, inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑨ all the way to the top of the protective resin pot ⑩ and wipe any excess resin away.

Wait for the resin to set from a liquid to a gel, this should take:

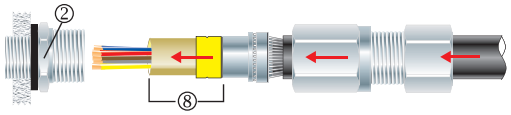
- 15 minutes at 10°C
- 7 minutes at 20°C
- 6 minutes at 30°C
- 5 minutes at 40°C

For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is still Resin left in the tube, discard the mixing nozzle ⑫ and replace the cap ⑪ for use with the next gland.

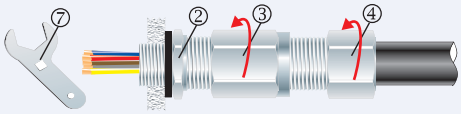
* The installation is acceptable if the cable sheath is pushed 2 mm or 3 mm into the resin seal.



8. Re-insert the barrier pot sub-assembly ⑧ back into the inner ②.



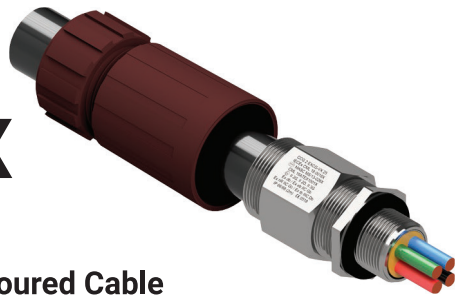
9. Tighten the body ③ onto the inner ② to the required torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.



YouTube Instruction Video: www.youtube.com/watch?v=rsnBjoNQr3s

CCG CABLE TERMINATIONS

VORTEx INSPECTABLE INJECTION RESIN BARRIER GLAND



Ex Corrosion Guard® VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEx® BARRIER GLAND for Unfilled Steel and Aluminium Armoured Cable

Features and Benefits

- For highly corrosive, wet locations, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire armour and aluminium armour. Two-part handling, freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire armour.
- Corrosion Guard® screws onto the gland body and seals over the outer sheath of the cable giving an IP68 and deluge proof seal protecting the armour and metal parts of the gland.
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down the cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread sealing gasket (parallel threads only).

Technical Data

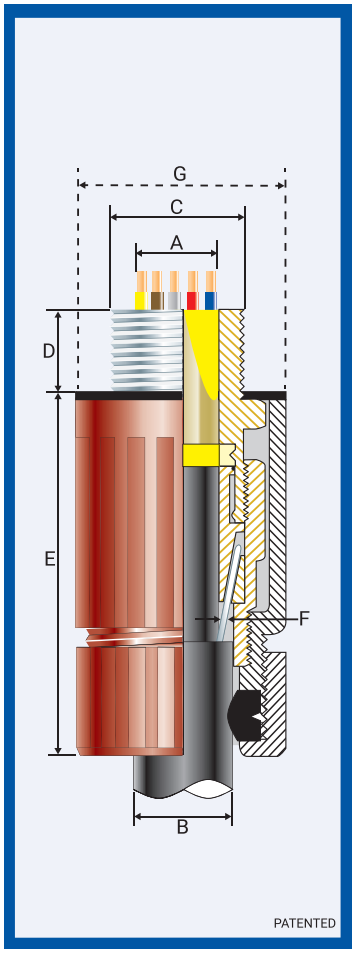
Type:	Ex Corrosion Guard® VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™)
Corrosion Guard Material:	Glass Reinforced Polyester Compound / PBT
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals, Quick Setting Barrier Injection Resin
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel Wire Armour, Aluminium Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath, Outer Sheath and Vortex® Resin around Cable Conductors
Optional Accessories:	Adaptor, Reducer, Locknut and Serrated Washer
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/Inmetro: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Continuous Operating Temp:	-50°C to +95°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 18.0018X
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 16ATEX1001X CML 16ATEX4002X
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1011X CML 21UKEX4006X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 15.0483X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC MS/22-9001X
IP66/68 100m - Parallel IP68 - Tapered and approved grease	IEC 60529 IEC 60529	CML 15Y728 IECEx CML 18.0018X
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1

Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry is between -50°C to +95°C.
- Only Resin supplied by CCG may be used in the glands.



Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail				Max Length 'E'	Max. Dia. Over Cores	Max. No. of Cores	Armour Dia		Max Dia 'G'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'				Min 'F'	Max 'F'		Max 'Flats'	Max 'Crns'	
056100-16-VX	00-16ss	M16x1.5	15	3.0	8.5	8.0	13.5	46.0	8.0	6	0.20	0.90	33.0	24.0	27.0	21.0
056100-VX	00-20ss	M20x1.5	15	3.0	8.5	8.0	13.5	46.0	10.9	10	0.20	0.90	33.0	24.0	27.0	21.0
0561-0-VX	0-20s	M20x1.5	15	7.0	12.0	11.5	16.0	46.0	10.9	10	0.20	1.25	33.0	24.0	27.0	21.0
056101-VX	1-20	M20x1.5	15	9.0	15.0	14.5	20.5	51.0	12.5	13	0.20	1.25	36.0	27.0	30.0	21.0
056122-VX	2s-25s	M25x1.5	15	11.0	17.5	16.0	24.5	58.0	15.5	20	0.20	1.60	46.0	35.0	39.0	30.0
056102-VX	2-25	M25x1.5	15	14.0	20.0	20.5	26.5	58.0	15.5	20	0.20	1.60	46.0	35.0	39.0	30.0
056133-VX	3s-32s	M32x1.5	15	15.0	22.0	23.0	30.5	67.0	21.7	40	0.20	2.00	53.0	42.0	47.0	42.0
056103-VX	3-32	M32x1.5	15	19.0	26.5	26.5	33.5	67.0	21.7	40	0.20	2.00	53.0	42.0	47.0	42.0
056144-VX	4s-40s	M40x1.5	15	22.0	31.5	30.0	39.5	74.0	30.0	60	0.30	2.00	68.0	52.0	59.0	52.0
056104-VX	4-40	M40x1.5	15	26.0	34.0	33.0	42.5	74.0	30.0	60	0.30	2.00	68.0	52.0	59.0	52.0
056155-VX	5s-50s	M50x1.5	15	29.0	38.0	34.0	47.5	89.0	36.3	80	0.40	2.50	84.0	65.0	73.0	57.0
056105-VX	5-50	M50x1.5	15	34.0	44.5	42.5	52.5	89.0	36.3	80	0.40	2.50	84.0	65.0	73.0	57.0
056166-VX	6s-63s	M63x1.5	15	38.0	50.0	45.5	60.5	102.0	47.9	100	0.40	2.50	110.0	80.0	90.0	66.0
056106-VX	6-63	M63x1.5	15	44.0	56.5	52.5	65.5	102.0	47.9	100	0.40	2.50	110.0	80.0	90.0	66.0
056177-VX	7s-75s	M75x1.5	15	50.0	62.0	57.0	72.5	106.0	58.2	120	0.40	3.15	124.0	96.0	108.0	72.0
056107-VX	7-75	M75x1.5	15	56.0	67.5	65.5	78.0	106.0	58.2	120	0.40	3.15	124.0	96.0	108.0	72.0
056108-VX	8-80	M80x2.0	20	59.0	69.0	65.0	77.5	117.0	61.5	140	2.50	3.15	124.0	96.0	108.0	80.0
056199-VX	9s-90s	M90x2.0	20	66.0	75.0	73.0	86.5	117.0	70.5	160	3.00	3.50	124.0	111.0	125.0	89.0
056109-VX	9-90	M90x2.0	20	74.0	81.5	82.0	91.0	117.0	70.5	160	3.00	3.50	140.0	111.0	125.0	89.0
056110-VX	10-100	M100x2.0	20	81.0	91.0	90.0	100.0	117.0	79.0	180	3.00	3.50	140.0	125.0	141.0	98.0

All dimensions are in mm. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'.

Ex Corrosion Guard® VX (Vortex®)

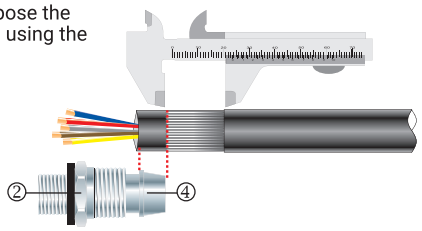
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket.

MUST HAVE THREADED ENTRIES
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads).

1. Separate the inner ② from the gland body ③. Prepare the cable cutting back the outer sheath to expose the armour to the length as per table below. Strip back the inner bedding to expose the inner cable cores using the cone ④ as a gauge.

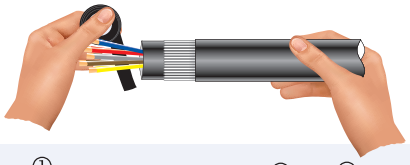
Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	2-25	25.0	5s-50s	35.0	7-75	50.0
00-20ss	20.0	3s-32s	30.0	5-50	35.0	8-80	50.0
0-20s	20.0	3-32	30.0	6s-63s	45.0	9s-90s	50.0
1-20	25.0	4s-40s	30.0	6-63	45.0	9-90	50.0
2s-25s	25.0	4-40	30.0	7s-75s	50.0	10-100	60.0



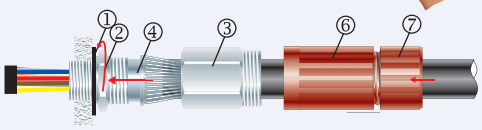
If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.

2. Using a clean cloth, clean the cable cores insulation.

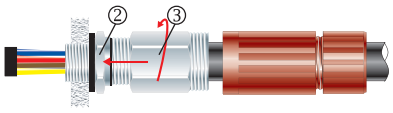
3. Using the insulation tape, bundle the cores together at the end.



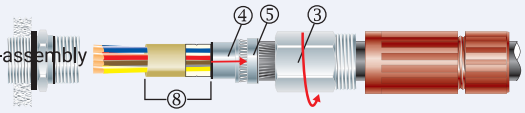
4. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the inner ② into the apparatus and tighten to installation torque using a CCG Spanner. If apparatus is untapped use a locknut. Pass the bundled cable cores through corrosion guard outer nut ⑦, corrosion guard body ⑥ and the gland body ③. Pass the bundled cables cores through the inner ② and the inner diaphragm seal and splay the armour wires over the cone ④.



5. Screw the gland body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner with ¾ turn to lock the armour between the cone ④ and the cone ring ⑤.



6. Unscrew the gland body ③. Check that the armour is locked between the cone ④ and the cone ring ⑤ (O-Ring on the cone ring ⑤ is sacrificial). Withdraw the barrier pot sub-assembly sub-assembly ⑧ and the bundled cables. Remove the insulation tape.



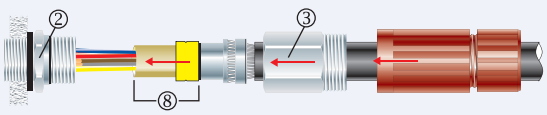
7. Remove the cap ⑪ from resin applicator and attach the mixing nozzle ⑫ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑧ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑨ all the way to the top of the protective resin pot ⑩ and wipe any excess resin away.

Wait for the resin to set from a liquid to a gel, this should take:
- 15 minutes at 10°C
- 7 minutes at 20°C
- 6 minutes at 30°C
- 5 minutes at 40°C

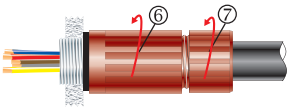
For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is still Resin left in the tube, discard the mixing nozzle ⑫ and replace the cap ⑪ for use with the next gland.

* The installation is acceptable if the cable sheath is pushed 2mm or 3mm into the resin seal.

8. Re-insert the barrier pot sub-assembly ⑧ back into the inner ②. Tighten the gland body ③ to the required torque using a CCG Spanner.



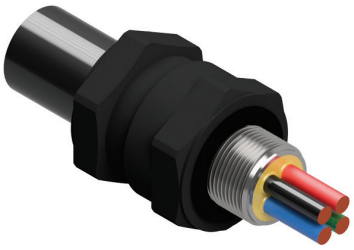
9. Slide the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ over assembled gland, screw the corrosion guard body ⑥ onto gland. **Hand tighten** the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ to produce the required dust and waterproof seal IP66/68.



POSI GRIP® VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEx BARRIER GLAND for Unfilled Unarmoured Cable



Features and Benefits

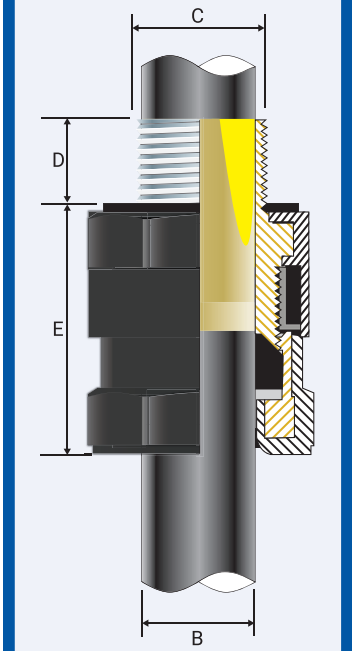
- Passes the IECEx / UKEX / ATEX 100% pull test, so no additional cable clamping is required.
- For highly corrosive Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7.
- Complete with a gripper seal, deluge-proof O-Ring, and elastomeric inner seal for complete explosion and ingress protection IP65/66/68.
- Brass parts are encapsulated in and protected by a corrosion-resistant material.
- Marine-grade electroless nickel-plated entry threads.
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids from transmitting down the cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread-sealing gasket.

Technical Data

Type:	Posi Grip® VX (VORTEx®)
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™) encapsulated in Glass Reinforced Polyester/PBT
Seal Material:	Standard Thermoset Elastomer, Quick setting Barrier Resin
Cable Type:	Unarmoured
Sealing Area:	Outer Sheath and VORTEx® Resin around Cable Conductors
Optional Accessories:	Locknut and *CCG Posi™ Spanner
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ⓔx II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da TR CU: Ⓔx 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db XX	
Continuous Operating Temp:	-60°C to +100°C	
Conformance:	Standard:	Certificate:
IEC/BS EN	IEC/BS EN 62444	CML 14CA364
IECEx	IEC 60079 Part 0, 1, 7, 15, 31	IECEx CML 20.0011
ATEX	EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15	CML 20ATEX1026 CML 22ATEX4116
UKEX	BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15	CML 21UKEX1013 CML 22UKEX4117
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31	TÜV 24.0267
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00245/21
SANS	SANS/IEC 60079 Part 0, 1, 7, 15, 31	MASC S/20-9022
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	TAE0000010



Conditions for Safe Use - X

- None.

Product Code	Gland Size Reference	Metric Entry Thread		Cable Detail		Maximum Length 'E'	Max. Dia. Over Cores	Max. No. of Cores	Hexagonal Detail		*Installation Torque Value Nm
		'C'	Min 'D'	Min 'B'	Max 'B'				Max 'Flats'	Max 'Crns'	
056900-VX	00-20ss	M20x1.5	15	3.0	8.5	42.0	10.7	10	30.0	34.0	13.5
0569-0-VX	0-20s	M20x1.5	15	7.0	12.0	42.0	10.9	10	30.0	34.0	13.5
056901-VX	1-20	M20x1.5	15	9.0	15.0	46.0	12.5	25	34.0	38.0	13.5
056902-VX	2-25	M25x1.5	15	14.0	20.0	51.0	16.5	48	42.0	47.0	20.0
056903-VX	3-32	M32x1.5	15	19.0	26.5	60.0	24.0	76	52.0	59.0	27.0
056904-VX	4-40	M40x1.5	15	26.0	34.0	65.0	32.0	96	62.0	70.0	33.5
056905-VX	5-50	M50x1.5	15	34.0	44.5	75.0	36.3	96	74.0	83.0	40.0
056906-VX	6-63	M63x1.5	15	44.0	56.5	107.0	47.9	100	95.0	107.0	40.0
056907-VX	7-75	M75x1.5	15	56.0	67.5	107.0	60.0	120	111.0	125.0	40.0
056908-VX	8-80	M80x2.0	20	65.0	74.0	128.0	61.5	140	117.0	132.0	40.0
056909-VX	9-90	M90x2.0	20	74.0	81.5	133.0	70.5	160	130.0	146.0	40.0
056910-VX	10-100	M100x2.0	20	81.0	91.0	170.0	79.0	180	140.0	158.0	50.0

All dimensions are in mm.
* Only CCG Posi™ Spanner to be used for installation torque.

POSI GRIP® VX (VORTEx®) Barrier Gland

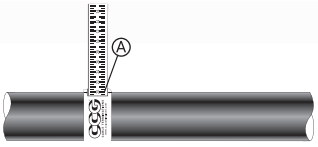
ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-
- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness < Ra 6.3 µm.
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket.

MUST HAVE THREADED ENTRIES
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

OR CLEARANCE HOLES (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry thread).

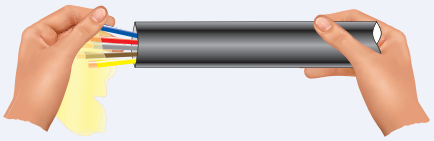
The gland may only be installed / dismantled using the tool available from CCG (CCG Posi™ Spanner)

1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.

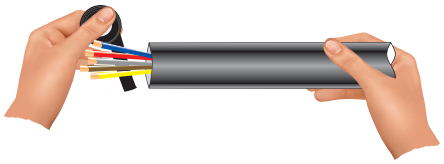


2. Strip back the outer sheath to expose the inner cable cores. Using a clean cloth, clean the cable core's insulation.

   If the cable cores have screens, these should be cut away or twisted together into a single core. This single core should be insulated with heat-shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat-shrink tubing or coated with insulating varnish.

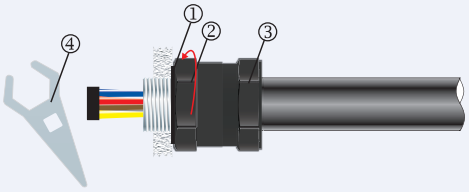


3. Using insulation tape, bundle the cores together at the end.

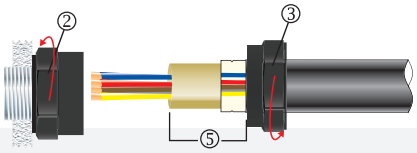


4. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the gland unit into the apparatus. Tighten the nipple nut ② as per torque value using a CCG Posi Spanner ④. If the apparatus is untapped, use a locknut. Pass the cable end through the outer nut ③ and push the bundled cable cores through the nipple nut ② diaphragm and seal.

   * Only CCG Posi™ Spanner to be used for installation torque.



5. Unscrew the outer nut ③. Withdraw the cable and barrier pot sub-assembly ⑤ . Remove the insulation tape.



Only Resin supplied by CCG may be used in the glands.

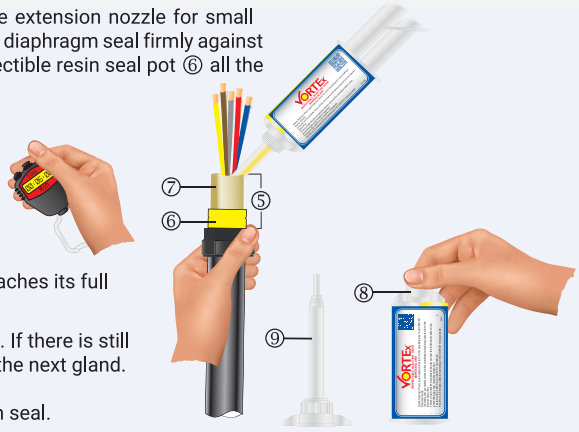
6. Remove the cap ⑧ from the resin applicator and attach the mixing nozzle ⑨ (use the extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑤ upright and holding the diaphragm seal firmly against the cable sheath, inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑥ all the way to the top of the protective resin pot ⑦ and wipe any excess resin away.

   Wait for the resin to change from a liquid to a solid state, this should take:
   - 15 minutes at 10°C
   - 7 minutes at 20°C
   - 6 minutes at 30°C
   - 5 minutes at 40°C

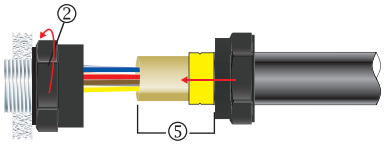
   The cable gland can now be handled safely, and the resin will continue to cure until it reaches its full hardness.

   For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is still Resin left in the tube, discard the mixing nozzle ⑨ and replace the cap ⑧ for use with the next gland.

   * The installation is acceptable if the cable sheath is pushed 2mm or 3mm into the resin seal.

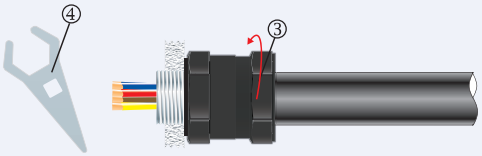


7. Re-insert the barrier pot sub-assembly ⑤ back into the nipple nut ②.



8. Tighten the outer nut ③ to the installation torque using a CCG Spanner ④ to produce a seal and grip on the cable.

   * Only CCG Posi Spanner to be used for installation torque.

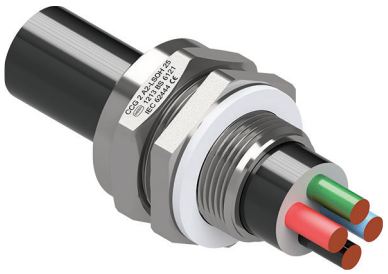


CABLE TERMINATIONS

A2 LSOH

COMPRESSION GLAND

for Unarmoured Fire Rated Cable



Features and Benefits

- For indoor and outdoor use.
- Seals the cable sheath to IP65/66/68.
- Silicon seals are fire retardant, low smoke zero halogen and are suitable for extreme temperatures.
- Precision manufactured from high quality brass (nickel plated) available in aluminium or stainless steel 316/316L on request.
- Complete with heavy duty locknut.
- Complete with fire retardant, low smoke zero halogen, extreme temperature thread sealing gasket.

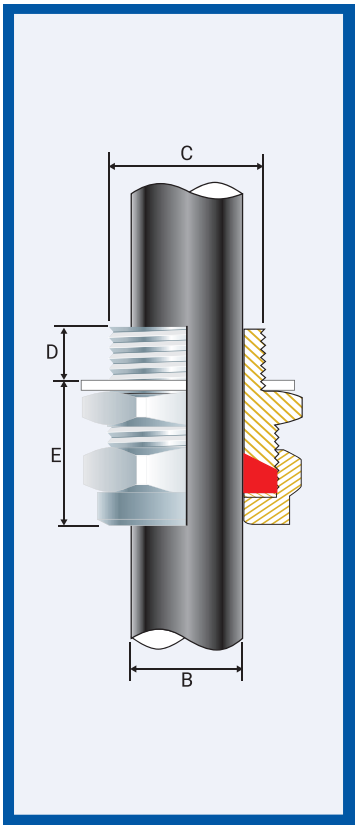
100m IP68 · LSOH · EMC

Technical Data

Type:	A2 LSOH
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221, Stainless Steel 316/316L
Seal Material:	LSOH Silicon
Cable Type:	Unarmoured Fire Rated
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type B	
Continuous Operating Temp:	-65°C to +175°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
Halogen Free	NAC259	TDWR 14-04-13
Flame Retardant	ASTM D 2863-09, ISO 4589-2	TDWR 14-04-13
Low Smoke	BS EN61034-2, BS6853	CSIR 24580f
London Underground Approval	BS EN 62444	LU 3043
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



Installation Standards

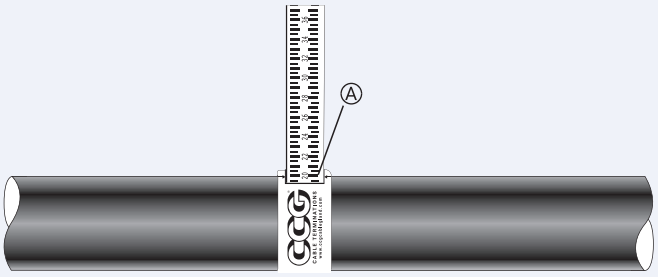
- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
055200-16S	00-16S	M16x1.5	10	-	-	1.0	6.0	20.0	◆ 18.0	◆ 20.0	20.0
055200-16	00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0	◆ 24.0	◆ 27.0	32.5
055200	00-20ss	M20x1.5	10	½/¾	15	3.0	8.5	20.0	◆ 24.0	◆ 27.0	32.5
0552-0	0-20s	M20x1.5	10	½/¾	15	7.0	11.5	20.0	24.0	27.0	32.5
055201	1-20	M20x1.5	10	½/¾	15	11.0	15.0	24.0	27.0	30.0	32.5
055222	2s-25s	M25x1.5	10	¾/1	15/19	11.5	17.5	25.0	35.0	39.0	47.5
055202	2-25	M25x1.5	10	¾/1	15/19	15.0	20.0	25.0	35.0	39.0	47.5
055233	3s-32s	M32x1.5	10	1/1¼	19	16.0	22.0	30.0	42.0	47.0	55.0
055203	3-32	M32x1.5	10	1/1¼	19	20.0	26.5	30.0	42.0	47.0	55.0
055244	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	52.0	59.0	65.0
055204	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	30.0	52.0	59.0	65.0
055255	5s-50s	M50x1.5	15	1½	21	29.0	38.0	42.0	65.0	73.0	82.5
055205	5-50	M50x1.5	15	2	21	34.0	44.5	42.0	65.0	73.0	82.5
055266	6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0	80.0	90.0	97.5
055206	6-63	M63x1.5	15	2½	30	44.5	56.5	48.0	80.0	90.0	97.5
055277	7s-75s	M75x1.5	15	2½	30	50.0	62.0	50.0	96.0	108.0	115.0
055207	7-75	M75x1.5	15	3	32	56.0	67.5	50.0	96.0	108.0	115.0
055288	8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0	96.0	108.0	120.0
055208	8-80	M80x2.0	20	3	32	65.0	74.0	55.0	96.0	108.0	120.0
055299	9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0	111.0	125.0	120.0
055209	9-90	M90x2.0	20	3½	33	73.0	81.5	60.0	111.0	125.0	120.0
055210	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	74.0	-	-	120.0
055211	11-110	M110x2.0	20	4	34	91.0	101.0	92.5	-	-	175.0
055212	12-120	M120x2.0	20	-	-	101.0	109.0	92.5	-	-	175.0
055213	13-130	M130x2.0	20	-	-	109.0	119.0	92.5	-	-	175.0

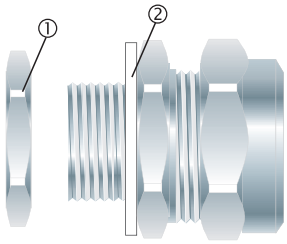
All dimensions except NPT are in mm.

◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

A2 LSOH Compression Gland



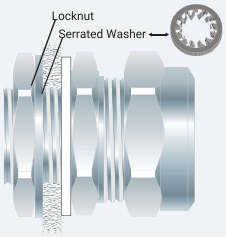
1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



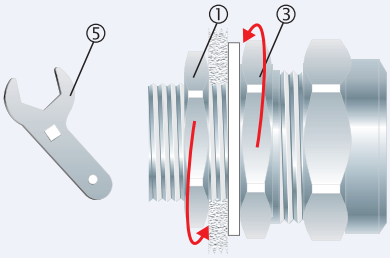
2. To maintain IP66/68, ensure the gasket ② is in place. Remove locknut ①.

Alternative installation through an unthreaded entry.

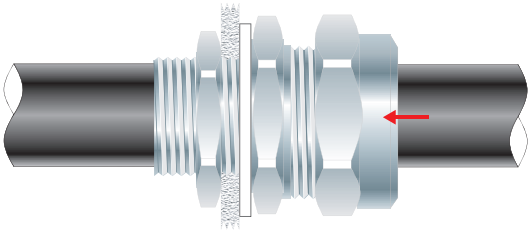
If the apparatus is untapped use a locknut.



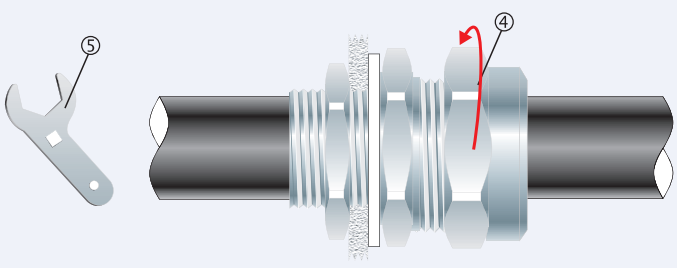
If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.



3. Screw the inner ③ into the apparatus and tighten the inner ③ to the installation torque using a CCG Spanner ⑤. Tighten the locknut ①.



4. Pass the cable end through the gland assembly.



5. Tighten the outer ④ to the installation torque using a CCG Spanner ⑤.

CCG CABLE TERMINATIONS

CW LSOH

CAPTIVE COMPONENT GLAND®

for Steel Wire Armoured and Aluminium Armoured Fire Rated Cable

Features and Benefits

- For indoor and outdoor use. Two-piece handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring, providing an armour clamp and earth bond without twisting the armouring.
- Patented disconnect armoured clamp system for ease of inspection.
- Provides a seal on the outer sheath of the cable sealing to IP65/66.
- Precision manufactured from high quality-brass (nickel plated) available in aluminium or stainless steel 316/316L on request.
- Silicon seals are fire retardant, low smoke zero halogen and suitable for extreme temperatures.
- Complete with fire retardant, low smoke zero halogen, extreme temperature thread sealing gasket.
- Complete with heavy-duty locknut.

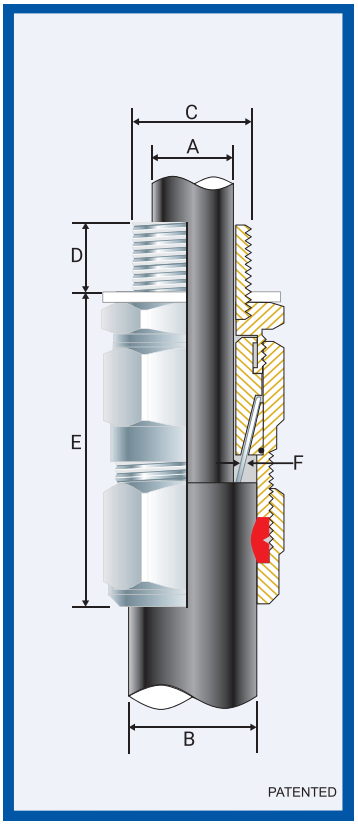
IP66 LSOH EMC

Technical Data

Type:	CW LSOH
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221 or Stainless Steel 316/316L
Seal Material:	LSOH Silicon
Cable Type:	Steel Wire Armour, Aluminium Armour Wire Fire Rated
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud

Standards and Certifications

	Standard:	Certificate:
Mechanical Properties:	Impact Category 8 Anchorage Type D	
Electrical Properties:	Category A (no earth tag) Category B (with earth tag)	
Continuous Operating Temp:	-65°C to +175°C	
Conformance:		
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66 - Parallel	IEC 60529	MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1
Halogen Free	NAC259	TDWR 14-04-13
Flame Retardant	ASTM D 2863-09, ISO 4589-2	TDWR 14-04-13
Low Smoke	BS EN61034-2, BS6853	CSIR 24580f
London Underground Approval	BS EN 62444	LU 3043



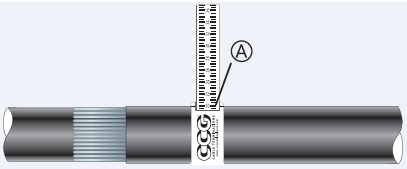
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

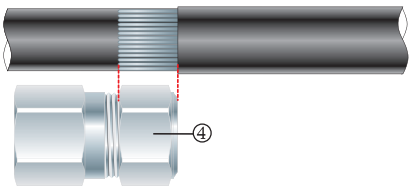
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail			Max Length 'E'	Armour Dia		Hexagonal Detail		Install Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
055300-16	◈00-16ss	M16x1.5	10	-	-	8.5	8.0	13.5	41.0	0.90	0.90	◆ 24.0	◆ 27.0	35.0
055300	◈00-20ss	M20x1.5	10	½/¾	15	8.5	8.0	13.5	41.0	0.90	0.90	◆ 24.0	◆ 27.0	35.0
0553-0	◈0-20s	M20x1.5	10	½/¾	15	12.0	11.5	16.0	43.0	0.90	1.25	◆ 24.0	◆ 27.0	35.0
055301	1-20	M20x1.5	10	½/¾	15	15.0	14.5	20.5	47.0	0.90	1.25	27.0	30.0	35.0
055322	2s-25s	M25x1.5	10	¾/1	15/19	17.5	16.0	24.5	56.0	1.25	1.60	35.0	39.0	50.0
055302	2-25	M25x1.5	10	¾/1	15/19	20.0	20.5	26.5	56.0	1.25	1.60	35.0	39.0	50.0
055333	3s-32s	M32x1.5	10	1/1¼	19	22.0	23.0	30.5	57.0	1.60	2.00	42.0	47.0	70.0
055303	3-32	M32x1.5	10	1/1¼	19	26.5	26.5	33.5	57.0	1.60	2.00	42.0	47.0	70.0
055344	4s-40s	M40x1.5	15	1¼/1½	19/21	31.5	30.0	39.5	68.0	1.60	2.00	52.0	59.0	90.0
055304	4-40	M40x1.5	15	1¼/1½	19/21	34.0	33.0	42.5	68.0	1.60	2.00	52.0	59.0	90.0
055355	5s-50s	M50x1.5	15	1½/2	21	38.0	34.0	47.5	72.0	2.00	2.50	65.0	73.0	100.0
055305	5-50	M50x1.5	15	1½/2	21	38.0/44.5	42.5	52.5	72.0	2.00	2.50	65.0	73.0	100.0
055366	6s-63s	M63x1.5	15	2/2½	21/30	50.0	45.5	60.5	89.0	2.00	2.50	80.0	90.0	120.0
055306	6-63	M63x1.5	15	2/2½	21/30	50.0/56.5	52.5	65.5	89.0	2.00	2.50	80.0	90.0	120.0
055377	7s-75s	M75x1.5	15	2½/3	30/32	62.0	57.0	72.5	97.0	2.50	3.15	96.0	108.0	120.0
055307	7-75	M75x1.5	15	2½/3	30/32	62.0/67.5	65.5	78.0	97.0	2.50	3.15	96.0	108.0	120.0
055388	8s-80s	M80x2.0	20	3	32	69.0	65.0	77.5	98.0	2.50	3.15	96.0	108.0	120.0
055308	8-80	M80x2.0	20	3	32	74.0	78.0	82.0	98.0	2.50	3.15	96.0	108.0	120.0
055399	9s-90s	M90x2.0	20	3/3½	32/33	75.0	73.0	86.5	123.0	3.00	3.50	96.0	108.0	120.0
055309	9-90	M90x2.0	20	3/3½	32/33	75.0/81.5	82.0	91.0	123.0	3.00	3.50	-	-	120.0
055310	10-100	M100x2.0	20	3½/4	33/34	91.0	90.0	100.0	124.0	3.00	3.50	-	-	120.0
055311	11-110	M115x2.0	20	4	34	98.0	100.0	114.0	134.0	3.00	4.00	-	-	120.0
055312	12-120	M120x2.0	20	-	-	103.0	103.0	118.0	136.0	3.00	4.00	-	-	120.0
055313	13-130	M130x2.0	20	-	-	115.0	113.0	124.0	140.0	3.00	4.00	-	-	120.0

All dimensions except NPT are in mm. ◈ Supplied with fixed cone and bush.
◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

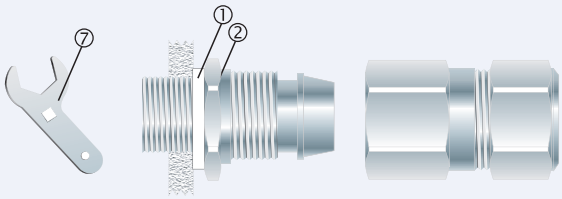
CW LSOH CAPTIVE COMPONENT GLAND®



1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the inner and outer cable sheath.

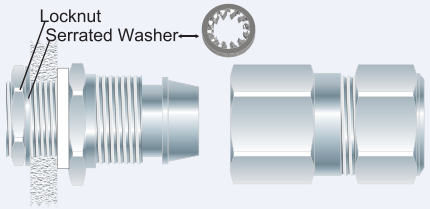


2. Cut back the cable outer sheath to expose the armour to a length not more than the outer nut ④.

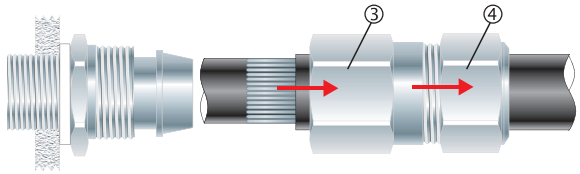


3. To maintain IP66, ensure the gasket ① is in place. Screw inner ② into apparatus. Tighten inner ② to the installation torque using a CCG Spanner ⑦. If apparatus is untapped use a locknut.

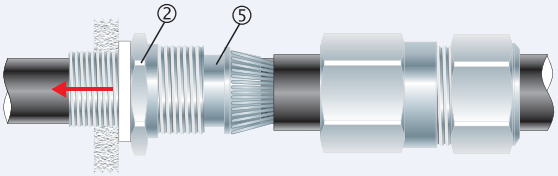
Alternative installation through an unthreaded entry.



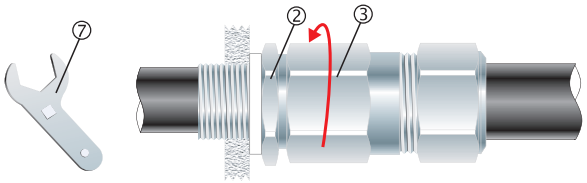
If the apparatus is untapped use a locknut.



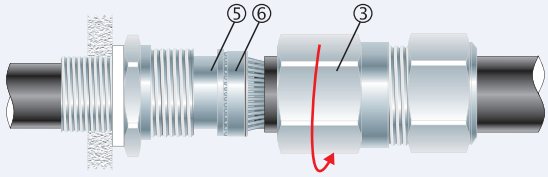
4. Pass the outer nut ④ and the body ③ over the cable.



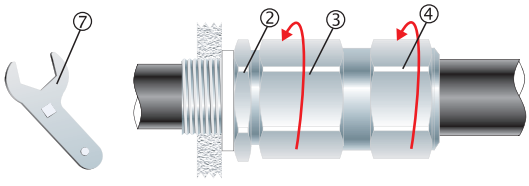
5. Pass cable end through the inner ②. Splay the armour wires over the cone ⑤.



6. Tighten the body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner ⑦ with ¾ turn to lock the armour between the cone ⑤ and the cone ring ⑥.



7. Unscrew the body ③. Check that the amour has locked between the cone ⑤ and the cone ring ⑥. (O-Ring on the cone ring ⑥ is sacrificial).



8. Tighten the body ③ onto the inner ② to the installation torque using a CCG Spanner ⑦. Tighten the outer nut ④ to produce a moisture proof seal by turning until the seal makes contact with outer sheath of cable and then make one full turn.

CCG CABLE TERMINATIONS

A2 LSOH EMC

COMPRESSION GLAND

for Unarmoured Fire Rated Braided Cable

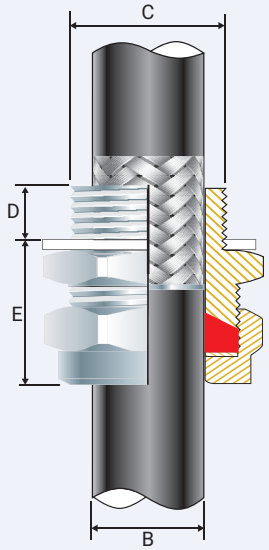
Features and Benefits

- For indoor and outdoor use.
- Seals the cable sheath to IP65/66/68. .
- Provides 360° earthing.
- Silicon seals are fire retardant, low smoke zero halogen and are suitable for extreme temperatures.
- Precision manufactured from high quality brass (nickel plated) available in aluminium or stainless steel 316/316L on request.
- Complete with heavy duty locknut.
- Complete with fire retardant, low smoke zero halogen, extreme temperature thread sealing gasket.

100m IP68 LSOH

Technical Data

Type:	A2 LSOH EMC
Gland Material:	Brass (Nickel Plated) BS 2874, EN 12164, Aluminium ASTM BS221, Stainless Steel 316/316L
Seal Material:	LSOH Silicon
Cable Type:	Unarmoured Fire Rated Braided
Sealing Area:	Outer Sheath
Optional Accessories:	Adaptor, Reducer, Earth Tag, Locknut, Serrated Washer and Shroud



Standards and Certifications

Mechanical Properties:	Impact Category 8 Anchorage Type B	
Continuous Operating Temp:	-65°C to +175°C	
Conformance:	Standard:	Certificate:
Design Standards	BS 6121:Part 1	CML 14CA364
	EN 50262	CML 14CA364
	IEC/BS EN 62444	CML 14CA364
	SANS 62444	MASC 22-9012
	SANS 1213	MASC 18-2047, SANS 2109/4596
IP66/68 100m - Parallel	IEC 60529	CML 15Y728, MASC 22-9015
IP65 - Tapered	IEC 60529	
Marine ABS	IEC 62444	ABS 20-SG1952694-PDA
DNV-GL	IEC 60529, BS 6121, IEC 62444	DNV-GL TAE000000Z
Halogen Free	NAC259	TDWR 14-04-13
Flame Retardant	ASTM D 2863-09, ISO 4589-2	TDWR 14-04-13
Low Smoke	BS EN61034-2, BS6853	CSIR 24580f
London Underground Approval	BS EN 62444	LU 3043

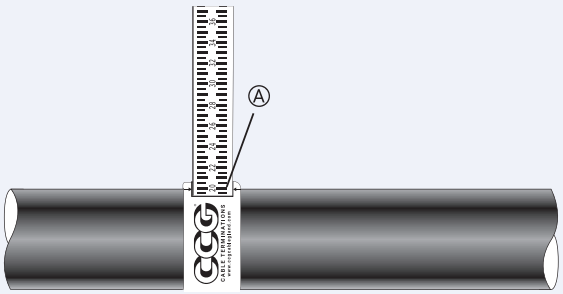
Installation Standards

- AS/NZS 3000
- BS 6121-5
- BS 7671
- BS 7430
- IEC 60364-5-54
- SANS 0142

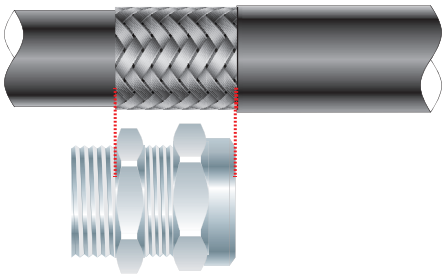
Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Maximum Length 'E'	Hexagonal Detail		Installation Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
055200-16S-EMC	00-16S	M16x1.5	10	-	-	1.0	6.0	20.0	◆ 18.0	◆ 20.0	20.0
055200-16-EMC	00-16ss	M16x1.5	10	-	-	3.0	8.5	20.0	◆ 24.0	◆ 27.0	32.5
055200-EMC	00-20ss	M20x1.5	10	½/¾	15	3.0	8.5	20.0	◆ 24.0	◆ 27.0	32.5
0552-0-EMC	0-20s	M20x1.5	10	½/¾	15	7.0	11.5	20.0	24.0	27.0	32.5
055201-EMC	1-20	M20x1.5	10	½/¾	15	11.0	15.0	24.0	27.0	30.0	32.5
055222-EMC	2s-25s	M25x1.5	10	¾/1	15/19	11.5	17.5	25.0	35.0	39.0	47.5
055202-EMC	2-25	M25x1.5	10	¾/1	15/19	15.0	20.0	25.0	35.0	39.0	47.5
055233-EMC	3s-32s	M32x1.5	10	1/1¼	19	16.0	22.0	30.0	42.0	47.0	55.0
055203-EMC	3-32	M32x1.5	10	1/1¼	19	20.0	26.5	30.0	42.0	47.0	55.0
055244-EMC	4s-40s	M40x1.5	15	1¼/1½	19/21	22.0	31.5	30.0	52.0	59.0	65.0
055204-EMC	4-40	M40x1.5	15	1¼/1½	19/21	26.0	34.0	30.0	52.0	59.0	65.0
055255-EMC	5s-50s	M50x1.5	15	1½	21	29.0	38.0	42.0	65.0	73.0	82.5
055205-EMC	5-50	M50x1.5	15	2	21	34.0	44.5	42.0	65.0	73.0	82.5
055266-EMC	6s-63s	M63x1.5	15	2	21	38.0	50.0	48.0	80.0	90.0	97.5
055206-EMC	6-63	M63x1.5	15	2½	30	44.5	56.5	48.0	80.0	90.0	97.5
055277-EMC	7s-75s	M75x1.5	15	2½	30	50.0	62.0	50.0	96.0	108.0	115.0
055207-EMC	7-75	M75x1.5	15	3	32	56.0	67.5	50.0	96.0	108.0	115.0
055288-EMC	8s-80s	M80x2.0	20	3	32	54.0	69.0	55.0	96.0	108.0	120.0
055208-EMC	8-80	M80x2.0	20	3	32	65.0	74.0	55.0	96.0	108.0	120.0
055299-EMC	9s-90s	M90x2.0	20	3	32	60.0	75.0	60.0	111.0	125.0	120.0
055209-EMC	9-90	M90x2.0	20	3½	33	73.0	81.5	60.0	111.0	125.0	120.0
055210-EMC	10-100	M100x2.0	20	3½/4	33/34	81.0	91.0	74.0	-	-	120.0
055211-EMC	11-110	M110x2.0	20	4	34	91.0	101.0	92.5	-	-	175.0
055212-EMC	12-120	M120x2.0	20	-	-	101.0	109.0	92.5	-	-	175.0
055213-EMC	13-130	M130x2.0	20	-	-	109.0	119.0	92.5	-	-	175.0

All dimensions except NPT are in mm.
◆ When manufactured in Aluminium, Hex will be 27 Across Flats and 30 Across Corners.

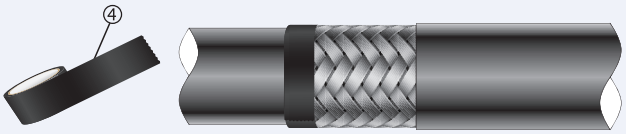
A2 LSOH EMC Compression Gland



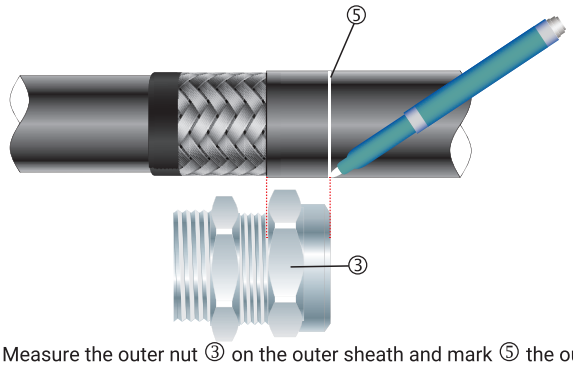
1. For accurate sizing, use a CCG Dimension Tape Ⓐ on the outer cable sheath.



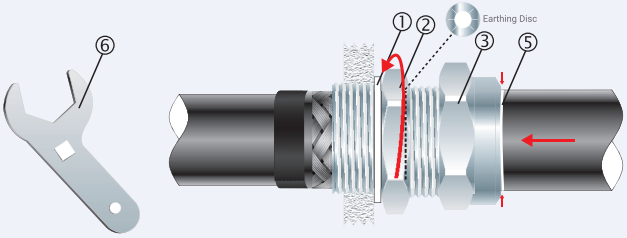
1. Cut back the cable outer sheath to expose the braid to a length not less than the gland assembly.



2. Using insulation tape ④, tape the braid on the inner sheath of the cable.



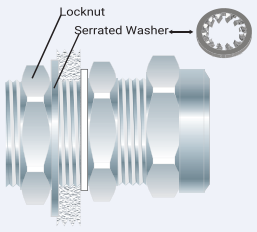
3. Measure the outer nut ③ on the outer sheath and mark ⑤ the outer sheath.



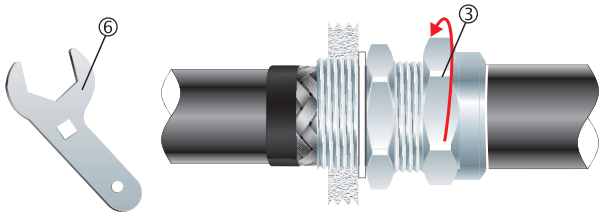
4. To maintain IP66/68, ensure the gasket ① is in place. Screw the gland assembly into the apparatus. Pass the cable through the gland until the mark ⑤ on the outer sheath aligns with the outer nut ③ and braid passes through the earth disk. Tighten the inner ② to the installation torque using a CCG Spanner ⑥.

Alternative installation through an unthreaded entry.

If the apparatus is untapped use a locknut.



If the gland has NPT entry threads fitted to a threaded entry then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolit Lubrene CA700 or LX220 EP2, Renolit LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Insulating Compound.



5. Tighten the outer ③ to the installation torque using a CCG Spanner ⑥.

CCG CABLE TERMINATIONS

UTILITY® BOX

IP66/68

for General Industrial Electrical Installations

Features and Benefits

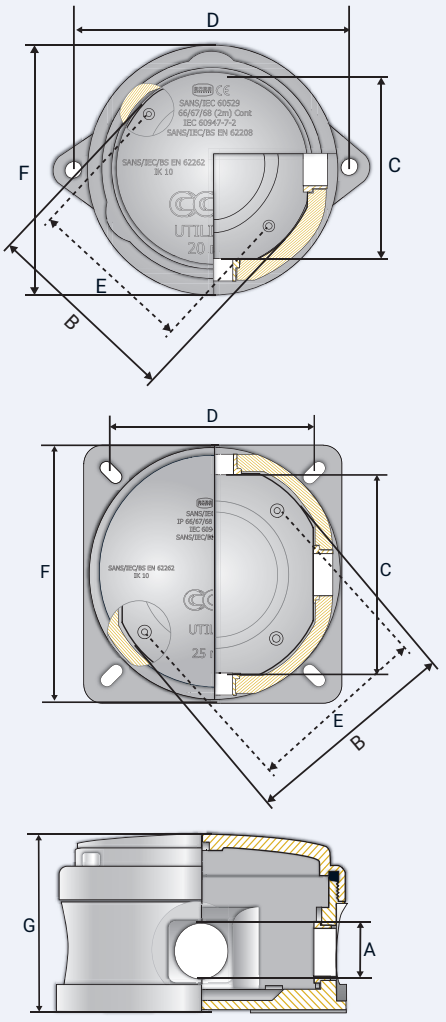
- Utility® Box for general industrial and mining electrical installations.
- A screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Supplied complete with a safety-securing lid lanyard.
- Only approved CCG cable glands and terminals must be used.
- No exposed metal parts.
- Dust and waterproof to IP66/68 when used with CCG sealed cable glands.
- No drilling or tapping of cable entries is required.
- Mounting studs are provided for DIN rails if using terminal blocks.
- Internal earthing to all entries and rails is provided.
- One box offers 1, 2, 3, or 4-way versatility (reduced stock holding).

Technical Data

Type:	Utility® Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound
Seal Material:	Nitrile Rubber
Inserts:	Brass, internal earth continuity ring and earth stud provided
Optional Accessories:	Certified Terminals and Box Spanner (Lid Locking Key) 4-Blanking plugs are provided

Standards and Certifications

Service Temperature:	-60ºC to +110ºC (Unfinished)	
Conformance:	Standard:	Certificate:
Australian/New Zealand/IEC	AS 2380.1, 6, 9, AS2336	ANZEx 08.2001
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68- 2m Protection	IEC/BS/EN 60529 SANS 60529	CML 17Y11251 MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine ABS	IEC 60529	25-0167226-PDA
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057



PATENTED

Conditions for safe use

- The CCG lid locking key must be used to open and close units that do not have locking screws, such as "clear cover units".
- When fitted with the clear lid, the unit must be installed to prevent UV exposure to the internal components fitted.
- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer or terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws, etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover or lid.
- IP66/68 glands or plugs must be used in the threaded entries.
- Information in relation to entries is indicated in the instructions.

Product Code	Box Size Reference	Entry Thread 'A'	Internal Dim 'B'	Distance between inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Max Overall Height 'G'
102101	1 - 20mm	M20	90.0	80.0	120.0	70.0	108.0	86.0
102102	2 - 25mm	M25	124.0	108.0	107.0	98.0	140.0	106.0

All dimensions are in mm.
* 2 Mounting Holes
** 4 Mounting Holes

Wiring and Installation instructions for Utility® Box with components

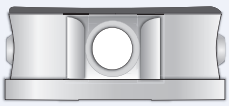
- Installation must be carried out by a competent person.
- Do not install under live current conditions
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal, as shown in Figure 2.
- The voltage and current value of the box must not be exceeded; refer to Table 2.
- See the relevant certificate for current limitations for conditions of use, and a schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box; refer to Table 1.
- The inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple-strand lead shall be connected to either side of the terminals.
- Only earth conductors of equal size shall be connected with rail-mounted terminals.
- All terminal screws, used and unused, shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail-mounted terminal screws.
- Where cables enter the box, they must be secured by CCG Cable Glands appropriate to the make-up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper-proof integrity of the box, refer to Figure 1.

FIGURE 1

To ensure the box apparatus is tamper-proof, screw on, tighten, and lock the lid in place by means of a CCG Box Spanner (Lid Locking Key).

CCG Box Spanner

CCG Box Lid

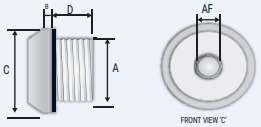


CCG Box Base

CCG Box Spanner

Product Code	Box Size Reference
401501	1 - 20mm
401502	2 - 25mm

Non Metallic Plugs IP66/68 complete with washer



Product Code	Box Size Ref.	Metric Dia 'A'	Dia Max 'B'	Dia Max 'C'	Dia Min 'D'	Hex Size Max A/F	Torque Value Nm
352820	1 - 20mm	M20x1.5	5.0	28.0	12.0	10.0	7.0
352825	2 - 25mm	M25x1.5	5.0	33.0	15.0	10.0	9.0

TABLE 1

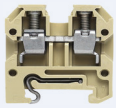
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
Utility® Box	1	4mm² mini terminal	6	15
Utility® Box	2	AKZ4	14	15
		WDU2.5	12	35
		WDU4	10	35
		WDU6	8	35
		WDU10	5	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

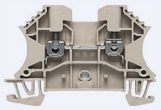
Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

TS 15 Mini Rail



Mini Terminals for conductor sizes 0.5 to 4mm²

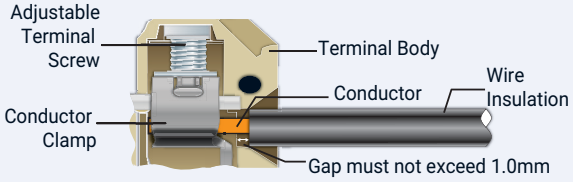
TS 35 Top Hat Rail



Terminals for conductor sizes 0.5 to 70mm²

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal, as shown below.



CCG CABLE TERMINATIONS

3-WAY BOTTOM ENTRY™

JUNCTION BOX - IP66/68

for General Industrial and Mining Electrical Installations

Features and Benefits

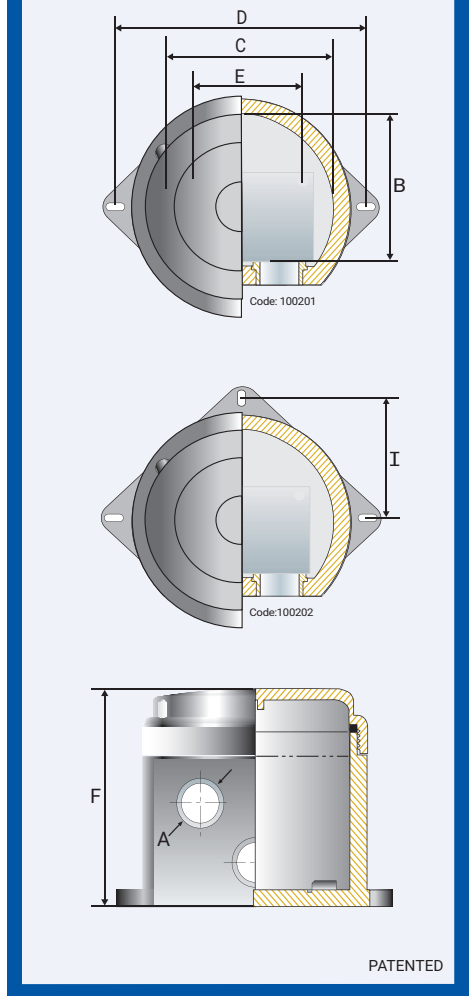
- 3-Way Bottom Entry™ Box for general industrial and mining electrical installations.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Supplied complete with safety securing lid lanyard.
- Only approved CCG cable glands and terminals must be used.
- No exposed metal parts.
- Dust and waterproof to IP66/68 when used with CCG sealed cable glands.
- No drilling or tapping of cable entries required.
- Mounting studs provided for DIN rail if using terminal blocks.
- Internal earthing to all entries and rail provided.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours).

Technical Data

Type:	3-Way Bottom Entry™ Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound
Seal Material:	Nitrile Rubber
Inserts:	Brass internal earthing and rail mountings
Optional Accessories:	Certified Terminals, 3-Blanking Plugs and Box Spanner (Lid Locking Key)

Standards and Certifications

Service Temperature:	-60°C to +110°C (Unfinished)	
Conformance:	Standard:	Certificate:
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 - 2m Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine Approvals ABS	IEC 60529	ABS 20-SG1952738-1-PDA
DNV-GL	IEC 60529	DNV-GL TAE0000011
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057



Conditions safe use

- The CCG supplied tool must be used to open and close units that do not utilize the locking screw on the cover / lid.
- When fitted with the polycarbonate (clear) cover the equipment must be installed to prevent the generation of electrostatic charge.
- When fitted with the clear lid, the unit must be installed to prevent UV exposure to the internal components fitted.
- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer / terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover / lid.
- Suitably certified glands / plugs must be used in the threaded entries.
- Information with regards to entries is indicated on the instructions.

Product Code	Box Size Reference	Entry Thread 'A'	Inside Dimension 'B'	Internal Diameter 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Height 'F'	Dim. 'I'
100201	1	M20 x 1.5	68.0	101.0	132.0	80.0	124.0	-
100202	2	M25 x 1.5	100.0	123.0	162.0	92.0	160.0	81.0

All dimensions are in mm.
Fixing Holes - use with M6 hold down bolt.

3-WAY BOTTOM ENTRY™ JUNCTION BOX

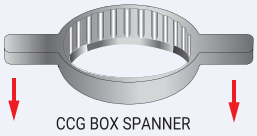
CCG CABLE TERMINATIONS

Wiring and Installation instructions for 3-Way Bottom Entry™ Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded, refer Table 2. See relevant certificate for current limitations for conditions of use / schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screw driver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

FIGURE 1

To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).


CCG BOX SPANNER


CCG BOX LID


CCG BOX BASE

CCG Box Spanner	
Product Code	Box Size
401501	20mm
401502	25mm

TABLE 1

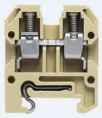
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
3-Way BE Box	1	4mm² mini terminal	8	15
3-Way BE Box	2	2.5mm²	12	35
3-Way BE Box	2	4mm²	10	35
3-Way BE Box	2	4mm² mini terminal	12	15
3-Way BE Box	2	6mm²	8	35
3-Way BE Box	2	10mm²	7	35
3-Way BE Box	2	16 mm²	6	35
3-Way BE Box	2	35mm²	3	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N


TS 15 Mini Rail


Mini Terminals for conductor sizes 0.5 to 4mm²


TS 35 Top Hat Rail

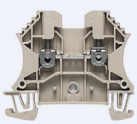
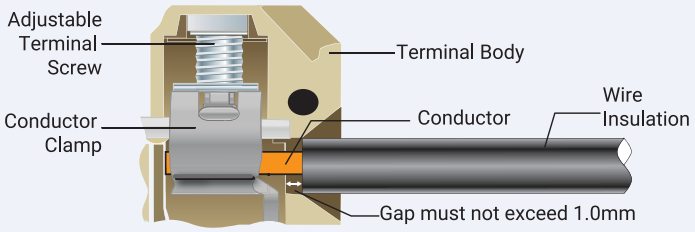

Terminals for conductor sizes 0.5 to 70mm²

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



SCREW FIT®

3-WAY BOTTOM ENTRY JUNCTION BOX - IP66/68

for General Industrial and Mining Electrical Installations

IP68 P.E. LSOH IK10 IMPACT UV RESISTANT

Features and Benefits

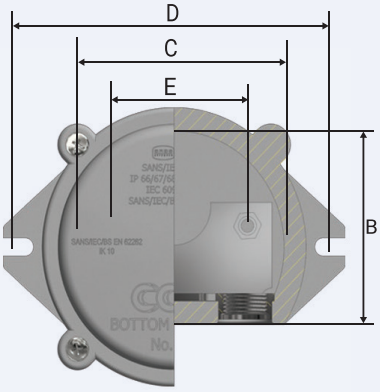
- Screw Fit® 3-Way Bottom Entry Box for general industrial and mining electrical installations.
- 20mm Box supplied complete with safety securing lid lanyard.
- Raised domed lid facilitates connections to be made outside of the box.
- Only approved CCG cable glands and terminals must be used.
- No exposed metal parts.
- Dust and waterproof to IP66/68, when used with CCG sealed cable glands.
- No drilling or tapping of cable entries required.
- Mounting studs provided for DIN rail if using Terminal Blocks.
- Internal earthing to all entries and rail provided.
- Screw Fit® 3-Way Bottom Entry Box can be buried for extended periods.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours).

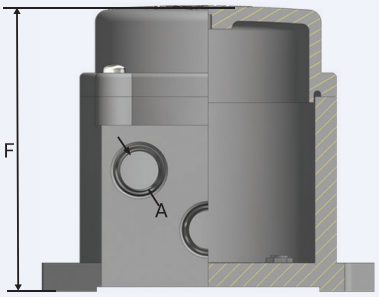
Technical Data

Type:	Screw Fit® 3-Way Bottom Entry Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound
Seal Material:	Nitrile Rubber
Inserts:	Brass internal earthing and rail mountings
Optional Accessories:	Certified Terminals, 3-Blanking Plugs and Box Spanner (Lid Locking Key)

Standards and Certifications

Service Temperature:	-60°C to +110°C (Unfinished)	
Conformance:	Standard:	Certificate:
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine Approvals ABS	IEC 60529	ABS 20-SG1952738-PDA
DNV-GL	IEC 60529	DNV-GL TAE0000011
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057





PATENTED

IEC cmlEx SABS APPROVED MASC ABS DNV·GL CATAPULT Offshore Renewable Energy

Conditions for safe use

- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer/terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover/lid.
- IP66/68 glands/plugs must be used in the threaded entries.
- Information in relation to entries is indicated in the instructions.

Product Code	Box Size Reference	Entry Thread 'A'	Internal Dimension 'B'	Internal Diameter 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Height 'F'
100201-SF	1	M20 x 1.5	68.0	101.0	132.0	80.0	124.0

All dimensions are in mm.

SCREW FIT® 3-WAY BOTTOM ENTRY JUNCTION BOX

CCG CABLE TERMINATIONS

Wiring and installation instructions for Screw Fit® 3-Way Bottom Entry Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as may compromise the integrity of the boxes.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 1.
- The voltage and current value of the terminals in Table 2 must not be exceeded.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected to either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with CCG Standard Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

TABLE 1

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
Screw Fit® 3-Way Bottom Entry Box	1	4mm² mini terminal	8	15
Screw Fit® 3-Way BE Box	2	2.5mm²	12	35
Screw Fit® 3-Way Bottom Entry Box	2	4mm²	10	35
Screw Fit® 3-Way Bottom Entry Box	2	4mm² mini terminal	12	15
Screw Fit® 3-Way Bottom Entry Box	2	6mm²	8	35
Screw Fit® 3-Way Bottom Entry Box	2	10mm²	7	35
Screw Fit® 3-Way Bottom Entry Box	2	16 mm²	6	35
Screw Fit® 3-Way Bottom Entry Box	2	35mm²	3	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

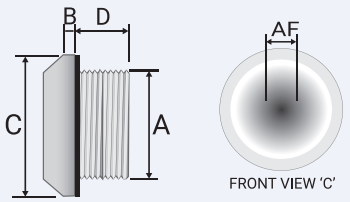
Tools /Accessories

for general, industrial and mining electrical installations

Pole Mounting Bracket

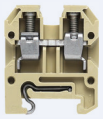
Product Code	Box Size Reference
401800	M20
401801	M20
401802	M25

Non Metallic Plugs IP66/68 complete with washer

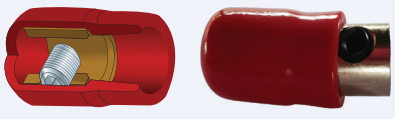


Product Code	Metric Dia 'A'	Dia Max 'B'	Dia Max 'C'	Dia Min 'D'	Hex Size Max A/F	Torque Value Nm
352820	M20x1.5	5.0	28.0	12.0	10.0	7.0
352825	M25x1.5	5.0	33.0	15.0	10.0	9.0

TS 15 Mini Rail



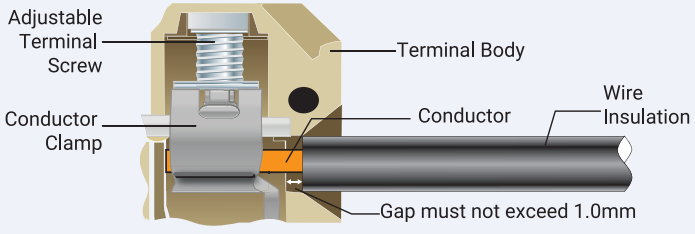
Mini Terminals for conductor sizes 0.5 to 4mm²



Insulated Terminal Connector 0.5mm to 16mm

FIGURE 1

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



BOTTOM ENTRY ANGLE BOX™

JUNCTION BOX - IP66/68

for General Industrial Electrical Installations

Features and Benefits

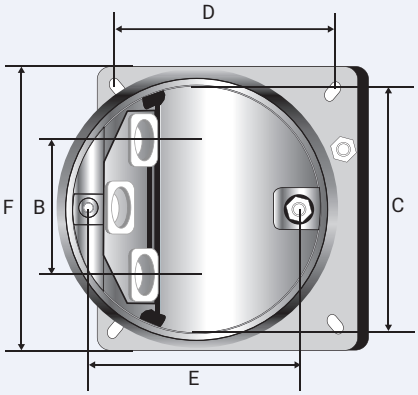
- Bottom Entry Angle Box™ for industrial lighting applications.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Supplied complete with safety securing lid lanyard.
- Bottom Entry Angle Box™ is angled to allow ease of termination and inspection.
- Only approved CCG cable glands and Ex e terminals must be used.
- DIN Rail mounting studs are provided for use with terminal blocks.
- Dust and watertight to IP66/68, when fitted with CCG sealed cable glands.
- No drilling of the cable entries required.
- Internal earthing to all entries and rail.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours)

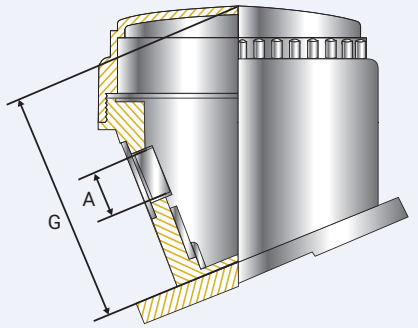
Technical Data

Type:	Bottom Entry Angle™ Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound
Seal Material:	Low Temp. Nitrile Rubber
Inserts:	Brass, internal earth continuity ring and earth stud provided
Optional Accessories:	Certified Terminals, Box Spanner (Lid Locking Key) 3-Blanking plugs are provided

Standards and Certifications

Service Temperature:	-60°C to +110°C (Unfinished)	
Conformance:	Standard:	Certificate:
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 - 2m Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine Approvals ABS	IEC 60529	ABS 20-SG1952738-PDA
DNV-GL	IEC 60529	DNV-GL TAE0000011
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057





PATENTED

Conditions for safe use

- The CCG lid locking key must be used to open and close units that do not have locking screws such as “clear cover units”.
- When fitted with the clear lid, the unit must be installed to prevent UV exposure to the internal components fitted.
- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer/terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover / lid.
- IP66/68 glands / plugs must be used in the threaded entries.
- Information with relation to entries is indicated in the instructions.

Product Code	Entry Thread ‘A’	Internal Diameter ‘B’	Distance Between Centres ‘C’	Mounting Centres ‘D’	Rail Mounting Centres ‘E’	Outer Diameter ‘F’	Overall Height ‘G’
065301-BE	M20	66.0	101.0	92.0	81.0	118.0	105.0
065302-BE	M25	52.0	123.0	104.0	78.0	120.0	105.0
065303-BE	M32	110.0	181.0	165.0	156.0	202.0	140.0

All dimensions are in mm.
Any combination of 20mm or 25mm entry threads available.

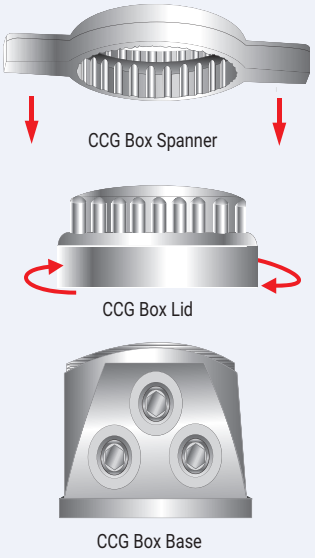
BOTTOM ENTRY ANGLE™ JUNCTION BOX

Wiring and Installation instructions for Bottom Entry Angle Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded, refer Table 2 See relevant certificate for current limitations for conditions of use / schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screw driver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

FIGURE 1

To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).



CCG Box Spanner

Product Code	Box Size
4012-0/1	0/1
401202	2

TABLE 1

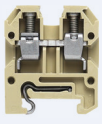
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
BE Angle Box	1	4mm² mini terminal	8	15
BE Angle Box	2	2.5mm²	12	35
BE Angle Box	2	4mm² mini terminal	8	15
BE Angle Box	2	4mm²	10	35
BE Angle Box	2	6mm²	8	35
BE Angle Box	2	10mm²	7	35
BE Angle Box	3	2.5mm²	20	35
BE Angle Box	3	4mm² mini terminal	14	15
BE Angle Box	3	4mm²	16	35
BE Angle Box	3	6mm²	12	35
BE Angle Box	3	10mm²	12	35
BE Angle Box	3	16 mm²	10	35
BE Angle Box	3	35mm²	6	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

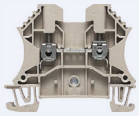
Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

TS 15 Mini Rail



Mini Terminals for conductor sizes 0.5 to 4mm²

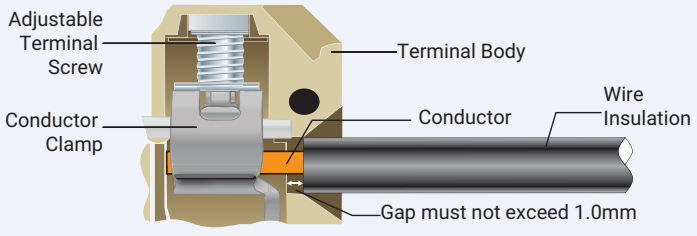
TS 35 Top Hat Rail



Terminals for conductor sizes 0.5 to 70mm²

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



CCG CABLE TERMINATIONS

HANDI FIT™

JUNCTION BOX - IP66/68

for General Industrial and Mining Electrical Installations

Features and Benefits

- Handi-Fit™ Box for general industrial and mining electrical installations.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Supplied complete with safety securing lid lanyard.
- Raised domed lid facilitates connections to be made outside of the box.
- Only approved CCG cable glands and terminals must be used.
- No exposed metal parts.
- Dust and water proof to IP66/68 when used with CCG sealed cable glands.
- Integral retail cable gland thread entries.
- Internal earthing to all entries and rail provided.
- Mounting studs provided for DIN rail if using terminal blocks.
- DIN Rail mounting studs are provided for use with terminal blocks.
- Handi-Fit™ Box can be buried for extended periods.
- 4-Way and H-Boxes with parallel entries available on request.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours).

Technical Data

Type:	Handi Fit™ 4 Way Junction Box Handi Fit™ Y Junction Box Handi Fit™ H Junction Box
Box Material:	Impact, corrosion and UV resistant glass reinforced polyester compound
Optional Accessories:	Certified Terminals, Box Spanner (Lid Locking Key). Blanking plugs are provided

Standards and Certifications

Service Temperature:	-60°C to +110°C	
Conformance:	Standard:	Certificate:
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 - 2m Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine Approvals ABS	IEC 60529	ABS 20-SG1952738-PDA
DNV-GL	IEC 60529	DNV-GL TAE0000011
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057

Conditions for safe use

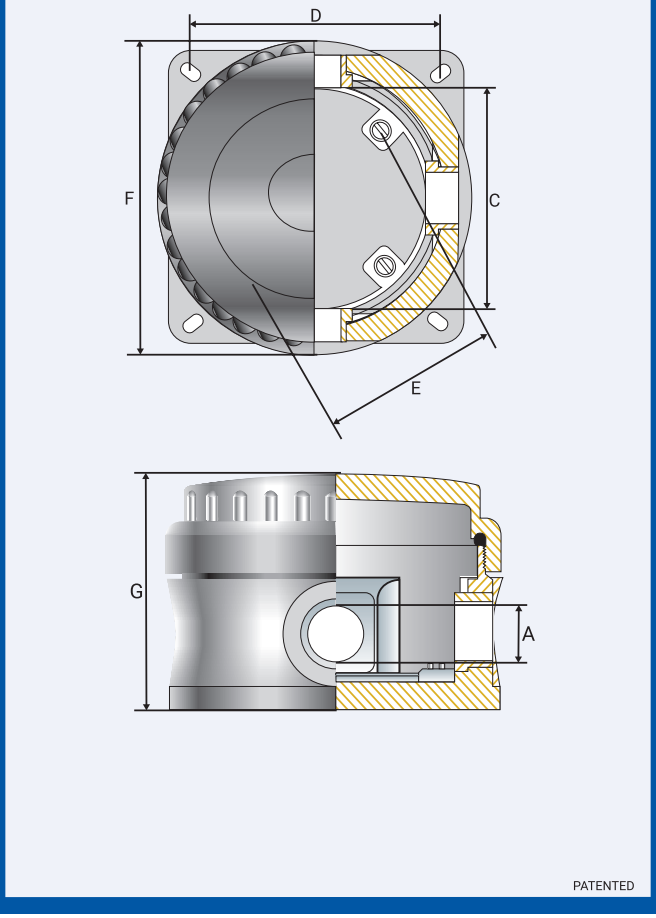
- The CCG lid locking key must be used to open and close units that do not have locking screws such as “clear cover units”.
- When fitted with the clear lid, the unit must be installed to prevent UV exposure to the internal components fitted.
- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer/terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover/lid.
- IP66/68 glands/plugs must be used in the threaded entries.
- Information with relation to entries is indicated in the instructions.

Installation instructions for Handi Fit™ Box without components

- Installation must be carried out by a competent person in accordance with the relevant Wiring Codes of Practice.
- The box must not be modified in any way, as this will invalidate the certification.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

4-Way

for general, industrial and mining electrical installations

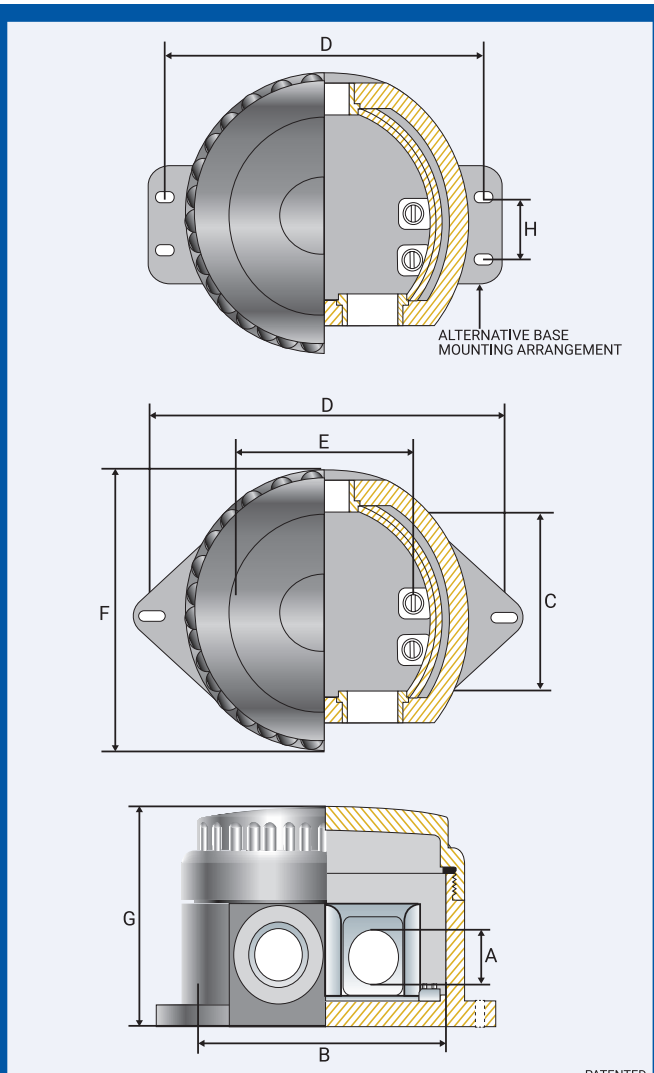


Product Code	Entry Thread 'A'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'
0650-0-M16	* M16	71.00	79.00	65.00	100.00	78.00
0650-0	M20	71.00	79.00	65.00	100.00	78.00
065001-M16	* M16	88.00	92.00	80.00	118.00	98.00
065001	M20	88.00	92.00	80.00	118.00	98.00
065002-M16	* M16	108.00	107.00	98.00	140.00	114.00
065002-M20	* M20	108.00	107.00	98.00	140.00	114.00
065002	M25	108.00	107.00	98.00	140.00	114.00
065003-M16	* M16	166.00	167.00	150.00	206.00	142.00
065003-M20	* M20	166.00	167.00	150.00	206.00	142.00
065003-M25	* M25	166.00	167.00	150.00	206.00	142.00
065003	M32	166.00	167.00	150.00	206.00	142.00
065003-XL	* M32	166.00	167.00	150.00	206.00	170.00
065003-XL-M40	* M40	166.00	167.00	150.00	206.00	170.00
065004-M16	* M16	263.00	240.00	246.00	298.00	186.00
065004-M20	* M20	263.00	240.00	246.00	298.00	186.00
065004-M25	* M25	263.00	240.00	246.00	298.00	186.00
065004-M32	* M32	263.00	240.00	246.00	298.00	186.00
065004	M40	263.00	240.00	246.00	298.00	186.00

All dimensions are in mm.
* Different arrangement of entry sizes are available on request as stated above.

Y-Box

for general, industrial and mining electrical installations



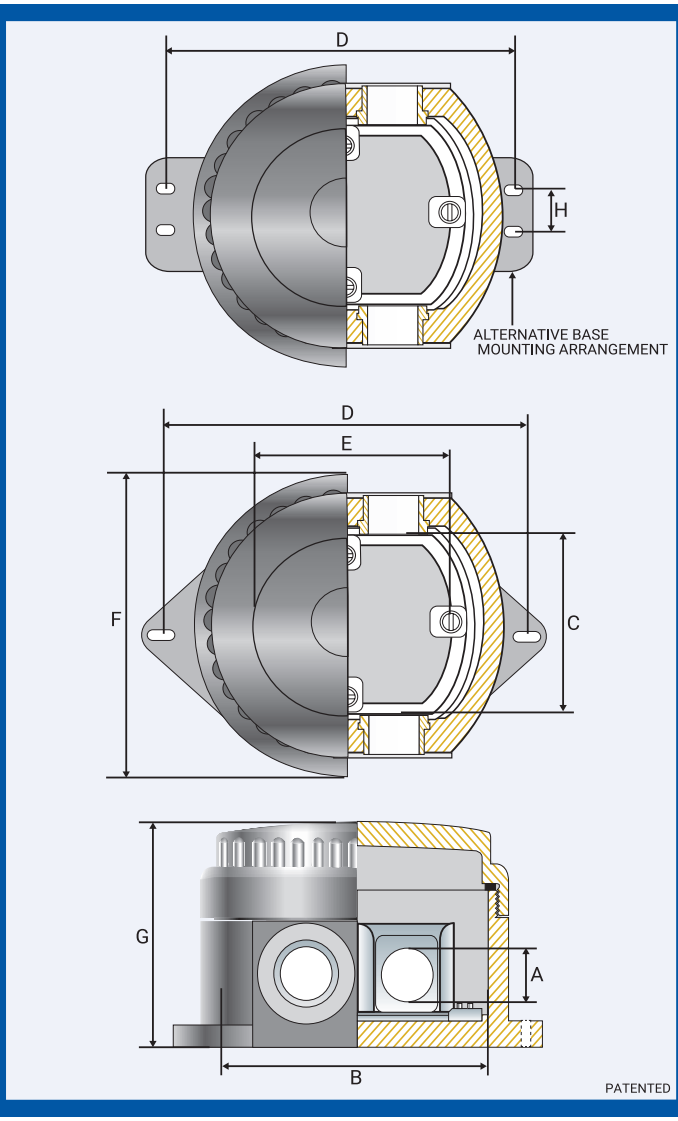
Product Code	Entry Thread 'A'	Internal Dia. 'B'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'	Distance Between Mounting Holes'H'
0651-0-M16	*M16	84.0	60.0	108.0	62.0	100.0	84.0	-
0651-0	M20	84.0	60.0	108.0	62.0	100.0	84.0	-
065101-M16	*M16	101.0	75.0	132.0	77.0	116.0	94.0	-
065101	M20	101.0	75.0	132.0	77.0	116.0	94.0	-
065102-M16	*M16	123.0	94.0	148.0	95.0	140.0	104.0	42.0
065102-M20	*M20	123.0	94.0	148.0	95.0	140.0	104.0	42.0
065102	M25	123.0	94.0	148.0	95.0	140.0	104.0	42.0
065103-M16	*M16	182.0	150.0	237.0	152.0	205.0	144.0	-
065103-M20	*M20	182.0	150.0	237.0	152.0	205.0	144.0	-
065103-M25	*M25	182.0	150.0	237.0	152.0	205.0	144.0	-
065103	M32	182.0	150.0	237.0	152.0	205.0	144.0	-

All dimensions are in mm.
* Different arrangement of entry sizes are available on request as stated above.

HANDI FIT™ JUNCTION BOX

H-Box

for general, industrial and mining electrical installations



Product Code	Entry Thread 'A'	Internal Dia. 'B'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'	Distance Between Mounting Holes'H'
065001-H-M16	*M16	103.0	69.0	130.0	85.0	116.0	93.0	-
065001-H	M20	103.0	69.0	130.0	85.0	116.0	93.0	-
065002-H-M16	*M16	124.0	78.0	148.0	104.0	138.0	110.0	42.0
065002-H-M20	*M20	124.0	78.0	148.0	104.0	138.0	110.0	42.0
065002-H	M25	124.0	78.0	148.0	104.0	138.0	110.0	42.0

All dimensions are in mm.
* Different arrangement of entry sizes are available on request as stated above.

Tools /Accessories

for general, industrial and mining electrical installations

Box Spanner (Lid Locking Key)

ADAPTOR LID LOCKING KEY

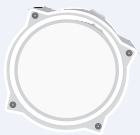
Product Code	Size Reference
4012-0/1	0/1
401202	2

Box Spanner (Lid Locking Key)

ADAPTOR LID LOCKING KEY

Product Code	Size Reference
401203	3

Clear Lid

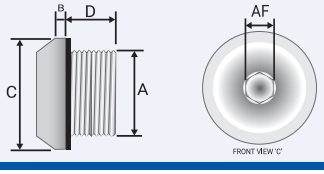


Product Code	Box Size
065001-4SW-CLR	1
065002-4SW-CLR	2
065003-4SW-CLR	3

Pole Mounting Bracket

Product Code	Size Reference
401800	0
401801	1
401802	2
401803	3

Non Metallic Plugs IP66/68 COMPLETE WITH WASHER



Product Code	Metric Dia 'A'	Metric Dia 'B'	Metric Dia 'C'	Metric Dia 'D'	Hex Size Max A/F	Torque Value Nm
352820	M20x1.5	28.0	22.0	12.0	10.0	7.0
352825	M25x1.5	33.0	25.0	15.0	10.0	9.0
352832	M32x1.5	40.0	35.0	15.0	10.0	12.0

HANDI FIT™ JUNCTION BOX

CCG CABLE TERMINATIONS

Wiring and installation instructions for Handi Fit™ Box with components

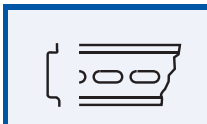
- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use / schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screw driver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

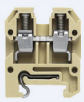
TABLE 1

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
HandiFit 4 Way	0	4mm² mini terminal	6	15
HandiFit 4 Way	0	2.5 mm²	4	35
HandiFit 4 Way	1	2.5mm²	10	35
HandiFit 4 Way	1	4mm² mini terminal	8	15
HandiFit 4 Way	1	4mm²	8	35
HandiFit 4 Way	1	6mm²	6	35
HandiFit 4 Way	1	10mm²	5	35
HandiFit 4 Way	1	16mm²	4	35
HandiFit 4 Way	2	2.5mm²	12	35
HandiFit 4 Way	2	4mm² mini terminal	10	15
HandiFit 4 Way	2	4mm²	10	35
HandiFit 4 Way	2	6mm²	8	35
HandiFit 4 Way	2	10mm²	7	35
HandiFit 4 Way	2	16mm²	6	35
HandiFit 4 Way	2	35mm²	3	35
HandiFit 4 Way	3	2.5mm²	20	35
HandiFit 4 Way	3	4mm² mini terminal	14	15
HandiFit 4 Way	3	4mm²	16	35
HandiFit 4 Way	3	6mm²	12	35
HandiFit 4 Way	3	10mm²	12	35
HandiFit 4 Way	3	16mm²	10	35
HandiFit 4 Way	3	35mm²	6	35
HandiFit 4 Way	3	4mm² mini terminal	14	15
HandiFit 4 Way	4	2.5mm²	46	35
HandiFit 4 Way	4	4mm² mini terminal	35	15
HandiFit 4 Way	4	4mm²	32	35
HandiFit 4 Way	4	6mm²	28	35
HandiFit 4 Way	4	10mm²	23	35
HandiFit 4 Way	4	16mm²	18	35
HandiFit 4 Way	4	35mm²	14	35
HandiFit 4 Way	4	70mm²	10	35

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
HandiFit Y Box	0	4mm² mini terminal	6	15
HandiFit Y Box	1	2.5mm²	10	35
HandiFit Y Box	1	4mm² mini terminal	8	15
HandiFit Y Box	1	4mm²	8	35
HandiFit Y Box	1	6mm²	6	35
HandiFit Y Box	1	10mm²	5	35
HandiFit Y Box	2	2.5mm²	12	35
HandiFit Y Box	2	4mm² mini terminal	10	15
HandiFit Y Box	2	4mm²	10	35
HandiFit Y Box	2	6mm²	8	35
HandiFit Y Box	2	10mm²	7	35
HandiFit Y Box	2	16mm²	6	35
HandiFit Y Box	2	35mm²	3	35
HandiFit Y Box	3	2.5mm²	20	35
HandiFit Y Box	3	4mm² mini terminal	14	15
HandiFit Y Box	3	4mm²	16	35
HandiFit Y Box	3	6mm²	12	35
HandiFit Y Box	3	10mm²	12	35
HandiFit Y Box	3	16mm²	10	35
HandiFit Y Box	3	35mm²	6	35
HandiFit Y Box	3	70mm²	5	35

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
HandiFit H Box	1	2.5mm²	10	35
HandiFit H Box	1	4mm² mini terminal	8	15
HandiFit H Box	1	4mm²	8	35
HandiFit H Box	1	6mm²	6	35
HandiFit H Box	1	10mm²	5	35
HandiFit H Box	1	16 mm²	4	35
HandiFit H Box	2	2.5mm²	12	35
HandiFit H Box	2	4mm² mini terminal	10	15
HandiFit H Box	2	4mm²	10	35
HandiFit H Box	2	6mm²	8	35
HandiFit H Box	2	10mm²	7	35
HandiFit H Box	2	16mm²	6	35
HandiFit H Box	2	35mm²	3	35


TS 15 Mini Rail

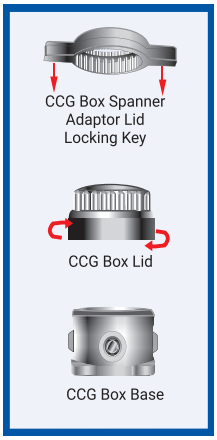

Mini Terminals for conductor s0izes 0.5 to 4mm²

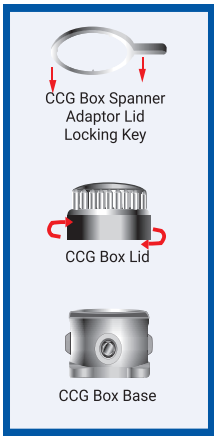

TS 35 Top Hat Rail


Terminals for conductor sizes 0.5 to 70mm²

To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).

FIGURE 1





CCG Box Spanner	
Product Code	Box Size
4012-0/1	0/1
401202	2

CCG Box Spanner	
Product Code	Box Size
401203	3

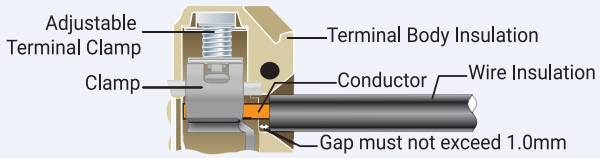
TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



Bottom Entry Switch Box

IP66 - 16 Amp

for General Industrial Installations

IP68 IK10 IMPACT UV RESISTANT

Features and Benefits

- Combined switch and junction box for lighting.
- For safer and quicker maintenance of light fittings.
- Twin pole switch to break live and neutral circuits.
- Isolates each individual light.
- Visible red rotary switch.
- Padlock lockout facility for safety.
- Transparent IP66 cover to protect the switch from grit and grime.
- 3-Metal threaded bottom gland entries.
- Rail-mounted terminals or snap connectors are available.

Technical Data

Type:	Bottom Entry Switch Box™
Rated Amps:	16A
Rated Voltage:	240V
Service Temperature:	-10°C to +70°C
Box Material:	UV Resistant Glass Reinforced Polyester
Switch Material:	Metal and Bakelite Housing, UV Resistant ABS Handle
Earthing Material:	Nickel Plated Brass Inserts and Earth Plate
Optional Accessories:	Certified Terminals, 3-Blanking Plugs

Standards and Certifications

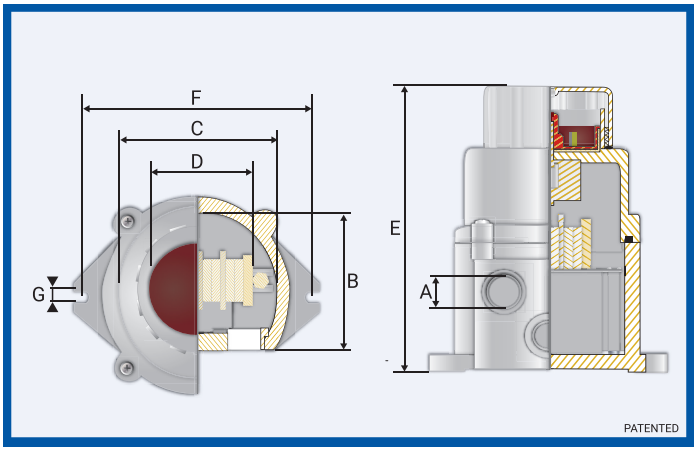
Low Voltage:	IEC 60947-3	
Air-Break Switch:	AS/NZS 3133	0619CCGA1202_3133
Conformance:	Standard:	Certificate:
IP66:	IEC 60529	MASC 17-1832
Marine ABS	IEC 60529	25-0167226-PDA

IEC AUSTEST Laboratories SABS APPROVED MASC ABS CATAPULT Offshore Renewable Energy

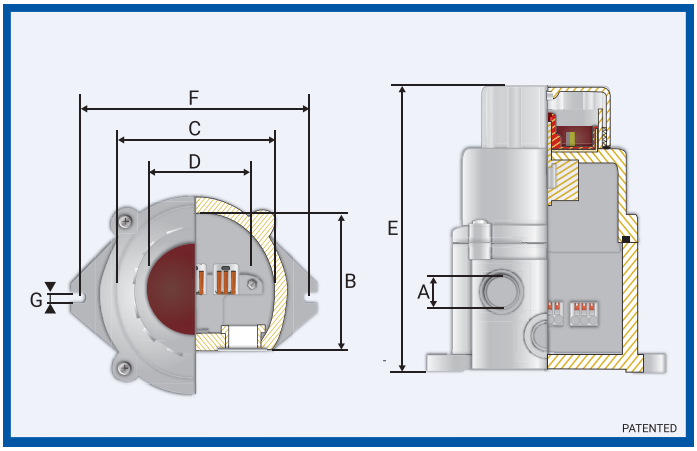
Installation instructions for Bottom Entry Switch Box

- Installation must be carried out by a competent person.
- The switch box must not be modified in any way.
- Where cables enter the box, they must be secured by IP-rated CCG Cable Glands appropriate to the make-up of the cable.
- To maintain IP66 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

Bottom Entry Switch Box with Rail Mounted Terminals



Bottom Entry Switch Box with Connectors



Bottom Entry Switch Box with Rail Mounted Terminals

Product Code	Box Size Reference	Entry Thread 'A'	Internal Dimension 'B'	Internal Dimension 'C'	Rail Mounting Centres 'D'	Overall Height 'E'	Mounting Centres 'F'	Mounting Hole Dimension 'G'
065701A04P46P04B	20mm	M20 x 1.5	68.0	101.0	80.0	187.0	132.0	7.0
065701A04P46P4SF	20mm	M20 x 1.5	68.0	101.0	80.0	187.0	132.0	7.0

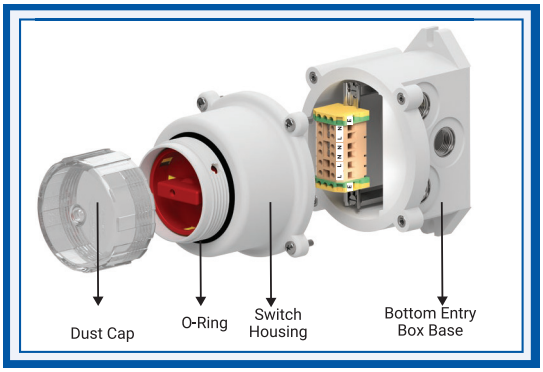
All dimensions are in mm.

Bottom Entry Switch Box with Connectors

Product Code	Box Size Reference	Entry Thread 'A'	Internal Dimension 'B'	Internal Dimension 'C'	Rail Mounting Centres 'D'	Overall Height 'E'	Mounting Centres 'F'	Mounting Hole Dimension 'G'
065701C02F23N00B	20mm	M20 x 1.5	68.0	101.0	80.0	187.0	132.0	7.0
065701C02F23N0SF	20mm	M20 x 1.5	68.0	101.0	80.0	187.0	132.0	7.0

All dimensions are in mm.

BOTTOM ENTRY SWITCH BOX



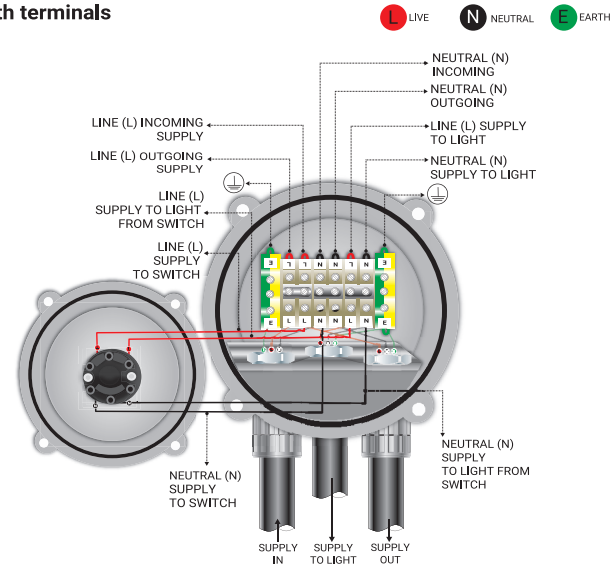
1A with terminals

1. Remove the switch assembly by loosening the screws on the switch housing.

1B with connectors

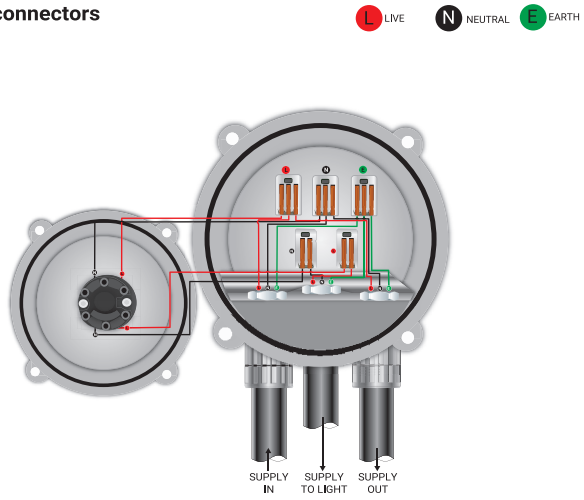
1. Remove the switch assembly by loosening the screws on the switch housing.

2A with terminals



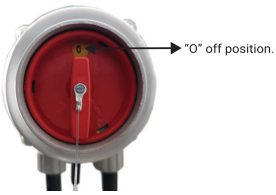
2. Use a terminal screw driver to connect the live and neutral fly leads to the base of the terminals as indicated above.

2B with connectors



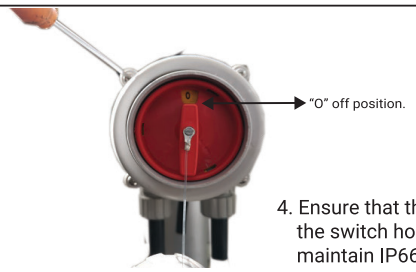
2. Connect the live and neutral fly leads to the base of the conductor connectors as indicated above.

③



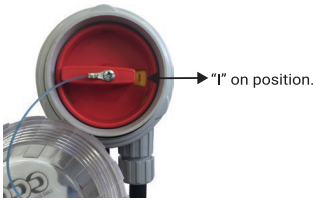
3. Replace the switch housing. Ensure that the off position "O" is on top.

④



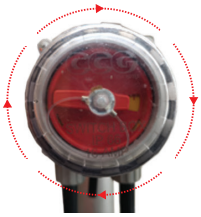
4. Ensure that the four screws on the switch housing are tightened to maintain IP66.

⑤



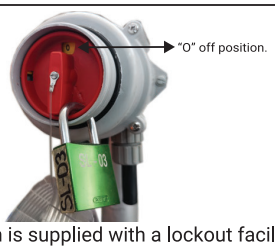
5. Unscrew the dust cap and turn the switch to the 'I' position.

⑥



6. Hand tighten the dust cap.

⑦



7. The switch is supplied with a lockout facility which can be utilized when switching to the off "O" position.

SCREWFIT®

4-WAY JUNCTION BOX - IP66/68

for General Industrial and Mining Electrical Installations

IP68 P.E. IK10 IMPACT LSOH UV RESISTANT

Features and Benefits

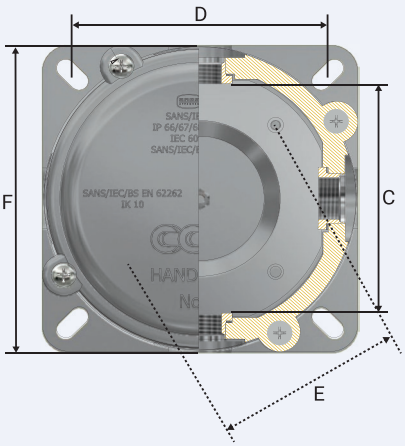
- ScrewFit® 4-Way Box for general industrial and mining electrical installations.
- 20mm Box supplied complete with safety securing lid lanyard.
- Raised domed lid facilitates connections to be made outside of the box.
- Only approved CCG cable glands and terminals must be used.
- No exposed metal parts.
- Dust and waterproof to IP66/68, when used with CCG sealed cable glands.
- No drilling or tapping of cable entries required.
- Mounting studs provided for DIN rail if using Terminal Blocks.
- Internal earthing to all entries and rail provided.
- ScrewFit® 4-Way Box can be buried for extended periods.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours).

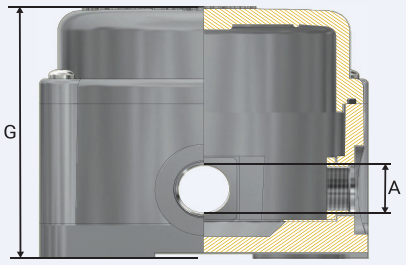
Technical Data

Type:	ScrewFit® 4-Way Box
Box Material:	Impact, corrosion and UV resistant glass reinforced polyester compound
Optional Accessories:	Certified Terminals, Box Spanner (Lid Locking Key). Blanking plugs are provided

Standards and Certifications

Service Temperature:	-60°C to +110°C (Unfinished)	
Conformance:	Standard:	Certificate:
IEC/BS/EN	62208:2011	CML 17Y11251
SANS	62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Deluge Protection	DTS 01	CML 14CA370-1
Marine Approvals ABS	IEC 60529	ABS 20-SG1952738-PDA
DNV-GL	IEC 60529	DNV-GL TAE0000011
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	
London Underground Approval	IEC 62208, IEC 62262	LU 3057





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Conditions for safe use

- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer/terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover/lid.
- IP66/68 glands/plugs must be used in the threaded entries.
- Information in relation to entries is indicated in the instructions.

Product Code	Entry Thread 'A'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'
065001-M16-SF	M16	88.0	92.0	80.0	118.0	98.0
065001-SF	M20	88.0	92.0	80.0	118.0	98.0
065002-M16-SF	M16	108.0	107.0	98.0	140.0	114.0
065002-M20-SF	M20	108.0	107.0	98.0	140.0	114.0
065002-SF	M25	108.0	107.0	98.0	140.0	114.0

All dimensions are in mm.

SCREWFIT®
4 WAY JUNCTION BOX

Wiring and installation instructions for SrewFit® 4-Way Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as may compromise the integrity of the boxes.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 1.
- The voltage and current value of the terminals in Table 2 must not be exceeded.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected to either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with CCG Standard Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

TABLE 1

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
ScrewFit® 4 Way	1	2.5mm²	12	35
ScrewFit® 4 Way	1	4mm² mini terminal	11	15
ScrewFit® 4 Way	1	4mm²	11	35
ScrewFit® 4 Way	1	6mm²	9	35
ScrewFit® 4 Way	1	10mm²	7	35
ScrewFit® 4 Way	1	16mm²	5	35
ScrewFit® 4 Way	2	2.5mm²	16	35
ScrewFit® 4 Way	2	4mm² mini terminal	14	15
ScrewFit® 4 Way	2	4mm²	13	35
ScrewFit® 4 Way	2	6mm²	11	35
ScrewFit® 4 Way	2	10mm²	8	35
ScrewFit® 4 Way	2	16mm²	7	35
ScrewFit® 4 Way	2	35mm²	5	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

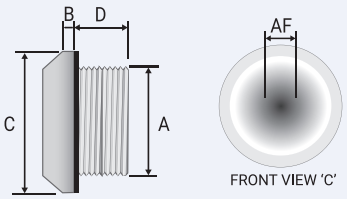
Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

Tools /Accessories
for general, industrial and mining electrical installations

Pole Mounting Bracket

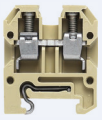
Product Code	Box Size Reference
401800	M20
401801	M20
401802	M25

Non Metallic Plugs IP66/68 complete with washer

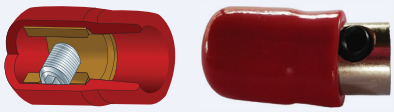


Product Code	Metric Dia 'A'	Dia Max 'B'	Dia Max 'C'	Dia Min 'D'	Hex Size Max A/F	Torque Value Nm
352820	M20x1.5	5.0	28.0	12.0	10.0	7.0
352825	M25x1.5	5.0	33.0	15.0	10.0	9.0

TS 15 Mini Rail



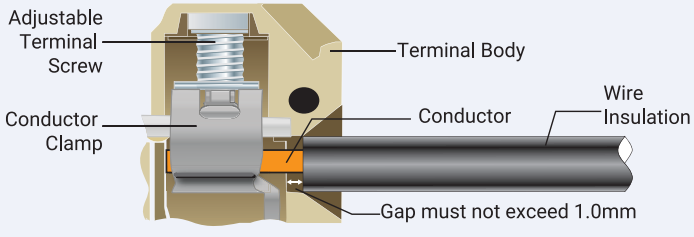
Mini Terminals for conductor sizes 0.5 to 4mm²



Insulated Terminal Connector 0.5mm to 16mm

FIGURE 1

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.

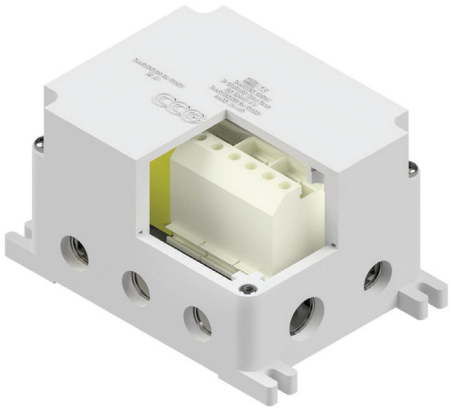


CABLE TERMINATIONS

MULTI BOX

JUNCTION BOX - IP66/68

for General Industrial and Mining Electrical Installations



Features and Benefits

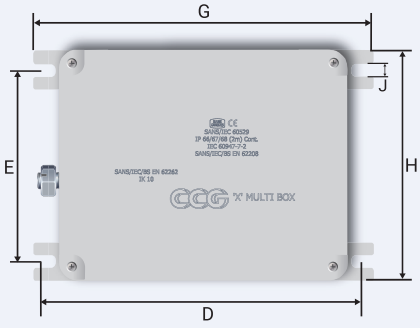
- Multi Box for use in industrial mining applications.
- High-temperature resistance, corrosion resistant and anti-static properties.
- Raised lid facilitates connections to be made clear of the box base.
- A lid with captive screws provides ease of installation.
- Supplied complete with safety securing lid lanyard.
- Only approved CCG cable glands and terminals must be used.
- DIN Rail mounting studs are provided for use with terminal blocks.
- Dust and watertight to IP66/68, when fitted with CCG sealed cable glands.
- Drilling of cable entries to customer requirements.
- Internal earthing to all entries and rail.

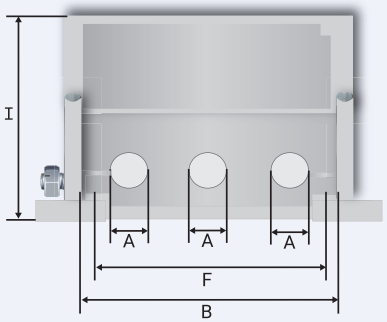
Technical Data

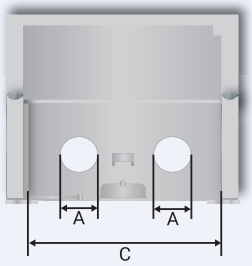
Type:	Multi Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound. O ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemidd
Optional Accessories:	Terminals. Blanking plugs are provided
Note:	The installer should check that the materials are suitable for the installation environment.

Standards and Certifications

Service Temperature:	-60°C to +110°C	
Conformance:	Standard:	Certificate:
IEC/BS/EN	IEC/BS EN 62208:2011	CML 17Y11251
SANS	SANS 62208:2012	MASC 16-1787
Impact Protection IK10	IEC/BS/EN 62262	CML 17Y11251
IP66/68 - 2m Protection	IEC/BS/EN 60529	CML 17Y11251
	SANS 60529	MASC 16-1787
Short Circuit Protection	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2
Continuous Current Protection	IEC 60947-7-2	CATAPULT OR/15/11677_2
UV Protection	ISO 4892-2	
Zero Halogen	BS7211, BS 50267-2-1	TDW69-09-14
Flammability	UL94V-0	







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Conditions for safe use

- Terminal blocks shall only be used on the applicable rail and shall allow sufficient space to make connections and to close the cover / lid.
- The current in the Multi box is limited by the size of the conductor and shall not exceed the voltage as per Table 2.

Product Code	Entry Thread 'A' (Multiple Configurations)	Inside Dim 'B'	Inside Dim 'C'	Mounting Centres 'D'	Mounting Centres 'E'	Rail Mounting Centres 'F'	Overall Length 'G'	Overall Width 'H'	Overall Height 'I'	Mounting Groove Width 'J'
06580B	M16 to M32	144.0	111.0	176.0	110.0	126.0	196.0	132.0	109.0	7.0
06580C	M16 to M40	210.0	179.0	254.0	171.0	188.0	278.0	200.0	117.0	8.5

All dimensions are in mm.

MULTI BOX

Wiring and Installation instructions for Multi Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 1.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use/schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail-mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

TABLE 1

Box Type	Terminal Type and Size	Max Quantity	Rail Size
Multi Box B	2.5mm²	20	35
Multi Box B	4mm² mini terminal	16	15
Multi Box B	4mm²	16	35
Multi Box B	6mm²	12	35
Multi Box B	10mm²	10	35
Multi Box B	16mm²	8	35
Multi Box C	2.5mm²	30	35
Multi Box C	4mm² mini terminal	26	15
Multi Box C	4mm²	28	35
Multi Box C	6mm²	20	35
Multi Box C	10mm²	16	35
Multi Box C	16mm²	14	35
Multi Box C	35mm²	10	35
Multi Box C	50mm²	8	35

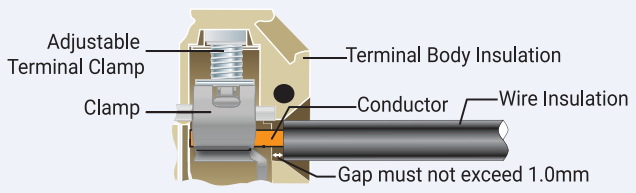
TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

	Volt	Earth Terminals
AKZ 4	400V	AKE 4
WDU 2.5	800V	WPE 2.5
WDU 4	800V	WPE 4
WDU 6	800V	WPE 6
WDU 10	1000V	WPE 10
WDU 16	1000V	WPE 16
WDU 35	1000V	WPE 35
WDU 70 N	1000V	WPE 70 N

FIGURE 1

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



CCG CABLE TERMINATIONS

3-WAY BOTTOM ENTRY™

JUNCTION BOX - Ex eb I, Ex eb IIC, Ex ec IIC, Ex tb IIIC

for Hazardous Area Installations

Features and Benefits

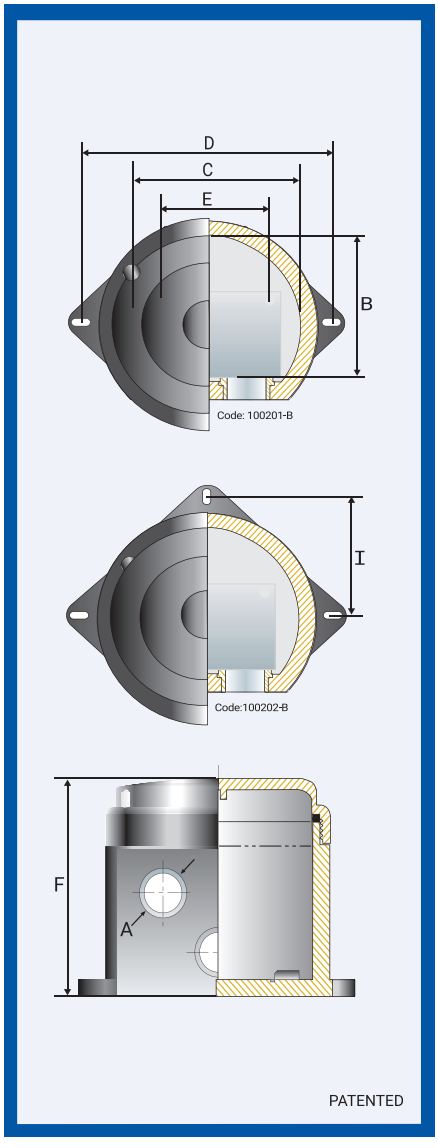
- 3-Way Bottom Entry™ Box for hazardous area lighting installations.
- For use in Group I mining (low impact areas), Group II and Group III applications.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Supplied complete with safety securing lid lanyard.
- Only approved CCG cable glands and terminals must be used. No exposed metal parts.
- Dust and waterproof to IP66/68, when used with CCG sealed cable glands.
- No drilling or tapping of cable entries required.
- Mounting studs provided for DIN rail if using terminal blocks.
- Internal earthing to all entries and rail provided.

Technical Data

Type:	3-Way Bottom Entry™ Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound Polycarbonate (see-through adapt-a-lids) O ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemidd
Inserts:	Brass internal earthing and rail mountings
Optional Accessories:	Certified Terminals, 3-Blanking Plugs and Box Spanner (Lid Locking Key)
Note:	The installer should check that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	SANS: (Finished)Ex e IIC T6 Gb / Ex nA IIC T6 Gc / Ex tb IIIC T70°C Db SANS: (Unfinished) Ex e IIC Gb / Ex nA IIC Gc / Ex tb IIIC Db IECEx/INMETRO: (Finished) Ex eb I Mb / Ex eb IIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc IECEx/INMETRO: (Unfinished) Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db / Ex tc IIIC Dc ATEX/UKEX: (Finished) Ⓔx I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex ebIIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc ATEX/UKEX: (Unfinished) Ⓔx I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db/ Ex tc IIIC Dc		
Ambient Temperature:	-60°C to +55°C (Finished)		
Service Temperature:	-60°C to +110°C (Unfinished)		
Conformance:	Standard:	Certificate:	
IECEx	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0003X	(Finished)
	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0004U	(Unfinished)
ATEX	EN 60079 Part 0, 7, 31	CML 14ATEX3036X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4038X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX3037U	(Unfinished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4039U	(Unfinished)
UKEX	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3008X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4010X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3007U	(Unfinished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4009U	(Unfinished)
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0481X	(Finished)
	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0482U	(Unfinished)
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ Р МЭК 60079-7, 31	EAЭС RU C-ZA.HA91.B.00243/21	
CNEx (Chinese)	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3507X	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312303000506	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3390X	(Unfinished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312313000393	(Unfinished)
SANS	SANS/IEC 60079 Part 0, 7, 31	MASC S/21-9001X	(Finished)
	SANS/IEC 60529	MASC S/21-9002U	(Unfinished)
IP66/68 2m Protection	IEC 60529	IECEx CML 15.0071U	
Marine ABS	IEC 60529	ABS 20-SG1952738-1-PDA	
DNV-GL	IEC 60529	DNV-GL TAE0000011	
ClassNK	IEC 60079 Part 0, 7, 31	TA20268M	
Deluge Protection	DTS-01	CML 14CA370-1	
Short Circuit/ Cont.Current	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2	



Conditions for Safe Use - X

- In Group I applications, the junction box must only be used in low impact areas and where it is not exposed to oils or greases.
- Only the CCG tool supplied shall be used for opening / closing the enclosure.
- Suitably certified cable glands and/or plugs shall be used in the enclosure threaded entries
- Terminal blocks shall only be used on the applicable rail and shall allow sufficient space to make connections and to close the cover / lid.
- Only the Weidmuller terminals shown in Table 2 may be used.
- The creepage and clearance between terminal blocks and from the terminal block to any earthed / bonded metallic part shall comply with the EN60079-7 requirements for the acceptable voltage of the terminal Blocks
- The current in the junction box is limited by the size of the conductor and shall not exceed the following:

Max. Current		Conductor / Terminal Block Size
≤ 55°C Ambient	≤ 40°C Ambient	
8,34 A	11,90 A	2,5 mm²
11,12 A	15,86 A	4 mm²
14,25 A	20,33 A	6 mm²
19,81 A	28,26 A	10 mm²
26,42 A	37,68 A	16 mm²
43,46 A	61,98 A	35 mm²
52,50 A	74,88 A	50 mm²
66,75 A	95,21 A	75 mm²

Product Code	Box Size Reference	Entry Thread 'A'	Inside Dimension 'B'	Internal Diameter 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Height 'F'	Dim. 'I'
100201-B	1	M20 x 1.5	68.0	101.0	132.0	80.0	124.0	-
100202-B	2	M25 x 1.5	100.0	123.0	162.0	92.0	160.0	81.0

All dimensions are in mm.

3-WAY BOTTOM ENTRY™ JUNCTION BOX

CCG CABLE TERMINATIONS

Wiring and Installation instructions for 3-Way Bottom Entry™ Box without components

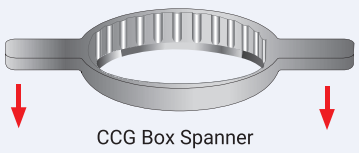
- Installation must be carried out by a competent person.
- The box must not be modified in any way, as this will invalidate the certification.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP 66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

Wiring and Installation instructions for 3-Way Bottom Entry™ Box with components

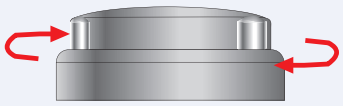
- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use / schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screw driver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

FIGURE 1

To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).



CCG Box Spanner



CCG Box Lid

CCG Box Base

CCG Box Spanner

Product Code	Box Size
401501	20mm
401502	25mm

TABLE 1

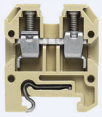
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
3-Way BE Box	1	4mm² mini terminal	8	15
3-Way BE Box	2	2.5mm²	12	35
3-Way BE Box	2	4mm²	10	35
3-Way BE Box	2	4mm² mini terminal	12	15
3-Way BE Box	2	6mm²	8	35
3-Way BE Box	2	10mm²	7	35
3-Way BE Box	2	16 mm²	6	35
3-Way BE Box	2	35mm²	3	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

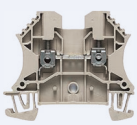
Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35

TS 15 Mini Rail



Mini Terminals for conductor sizes 0.5 to 4mm²

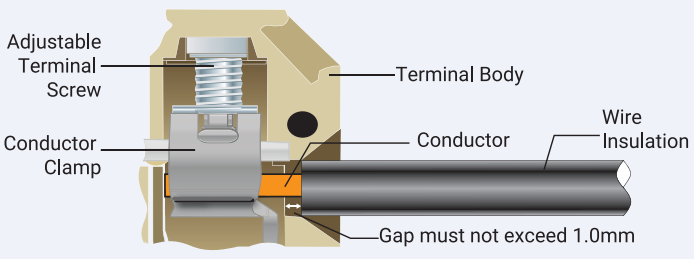
TS 35 Top Hat Rail



Terminals for conductor sizes 0.5 to 70mm²

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



BOTTOM ENTRY ANGLE

JUNCTION BOX - Ex eb I, Ex eb IIC, Ex ec IIC, Ex tb IIIC

for Hazardous Area Installations

Features and Benefits

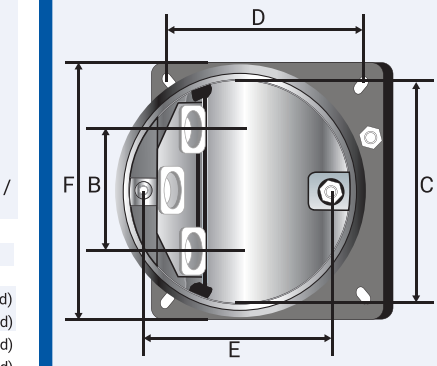
- Bottom Entry Angle™ Box for use in Group I mining (low impact areas), Group II and Group III applications.
- Bottom Entry Angle™ Box for hazardous area lighting applications.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering. Supplied complete with safety securing lid lanyard.
- Bottom Entry Angle Box™ is angled to allow ease of termination and inspection.
- Only approved CCG cable glands and Ex e terminals must be used.
- DIN Rail mounting studs are provided for use with terminal blocks.
- Dust and watertight to IP66/68, when fitted with CCG sealed cable glands.
- No drilling of the cable entries required.
- Internal earthing to all entries and rail.

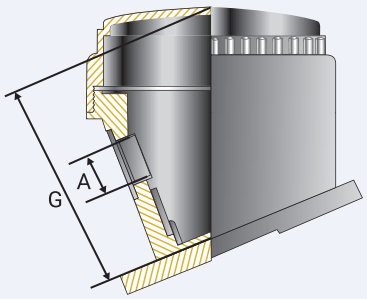
Technical Data

Type:	Bottom Entry Angle™ Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound Polycarbonate (see-through adapt-a-lids) O ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemidd
Inserts:	Brass, internal earth continuity ring and earth stud provided
Optional Accessories:	Ex Certified Terminals, Box Spanner (Lid Locking Key) 3-Blanking plugs are provided
Note:	The installer should check that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	SANS: (Finished)Ex e IIC T6 Gb / Ex nA IIC T6 Gc / Ex tb IIIC T70°C Db SANS: (Unfinished) Ex e IIC Gb / Ex nA IIC Gc / Ex tb IIIC Db IECEx/INMETRO: (Finished) Ex eb I Mb / Ex eb IIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIICT70°C Db / Ex tc IIIC T70°C Dc IECEx/INMETRO: (Unfinished) Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db / Ex tc IIIC Dc ATEX/UKEX: (Finished) ⟨Ex⟩ I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex ebIIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc ATEX/UKEX: (Unfinished) ⟨Ex⟩ I M2 / II 2 GD / II 3 GD Ex eb I Mb /Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db/ Ex tc IIIC Dc		
Ambient Temperature:	-60°C to +55°C (Finished)		
Service Temperature:	-60°C to +110°C (Unfinished)		
Conformance:	Standard:	Certificate:	
IECEx	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0003X	(Finished)
	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0004U	(Unfinished)
ATEX	EN 60079 Part 0, 7, 31	CML 14ATEX3036X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4038X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX3037U	(Unfinished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4039U	(Unfinished)
UKEX	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3008X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4010X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3007U	(Unfinished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4009U	(Unfinished)
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0481X	(Finished)
	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0482U	(Unfinished)
CNEx (Chinese)	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3507X	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312303000506	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3390X	(Unfinished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312313000393	(Unfinished)
SANS	SANS/IEC 60079 Part 0, 7, 31	MASC S/21-9001X	(Finished)
	SANS/IEC 60529	MASC S/21-9002U	(Unfinished)
IP66/68 2m Protection	IEC 60529	IECEx CML 15.0071U	
Marine ABS	IEC 60529	ABS 20-SG1952738-1-PDA	
DNV-GL	IEC 60529	DNV-GL TAE0000011	
ClassNK	IEC 60079 Part 0, 7, 31	TA20268M	
Deluge Protection	DTS-01	CML 14CA370-1	
Short Circuit/ Cont.Current	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2	





PATENTED

Conditions and limitations for safe use

- In Group I applications, the junction box must only be used in low impact areas and where it is not exposed to oils or greases.
- Only the CCG tool supplied shall be used for opening / closing the enclosure.
- Suitably certified cable glands and/or plugs shall be used in the enclosure threaded entries
- Terminal blocks shall only be used on the applicable rail and shall allow sufficient space to make connections and to close the cover / lid.
- Only the Weidmuller terminals shown in Table 2 may be used.
- The creepage and clearance between terminal blocks and from the terminal block to any earthed / bonded metallic part shall comply with the EN60079-7 requirements for the acceptable voltage of the terminal blocks.
- The current in the junction box is limited by the size of the conductor and shall not exceed the following:

Max. Current		Conductor / Terminal Block Size
≤ 55°C Ambient	≤ 40°C Ambient	
8,34 A	11,90 A	2,5 mm²
11,12 A	15,86 A	4 mm²
14,25 A	20,33 A	6 mm²
19,81 A	28,26 A	10 mm²
26,42 A	37,68 A	16 mm²
43,46 A	61,98 A	35 mm²
52,50 A	74,88 A	50 mm²
66,75 A	95,21 A	75 mm²

Product Code	Entry Thread 'A'	Inner Diameter 'B'	Distance Between Centres 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'
100921-BE	M20	66.0	101.0	92.0	81.0	118.0	105.0
100922-BE	M25	52.0	123.0	104.0	78.0	140.0	105.0
100923-BE	M32	110.0	181.0	165.0	156.0	202.0	140.0

All dimensions are in mm.

BOTTOM ENTRY ANGLE™ JUNCTION BOX

Wiring and Installation instructions for Bottom Entry Angle™ Box without components

- Installation must be carried out by a competent person.
- The box must not be modified in any way, as this will invalidate the certification.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP 66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

Wiring and Installation instructions for Bottom Entry Angle™ Box™ with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use / schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screw driver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the make up of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper proof integrity of the box, refer Figure 1.

FIGURE 1

To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).

CCG Box Spanner	
Product Code	Box Size
4012-0/1	20mm
401202	25mm

TABLE 1

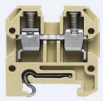
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
BE Angle Box	1	4mm² mini terminal	8	15
BE Angle Box	2	2.5mm²	12	35
BE Angle Box	2	4mm² mini terminal	8	15
BE Angle Box	2	4mm²	10	35
BE Angle Box	2	6mm²	8	35
BE Angle Box	2	10mm²	7	35
BE Angle Box	3	2.5mm²	20	35
BE Angle Box	3	4mm² mini terminal	14	15
BE Angle Box	3	4mm²	16	35
BE Angle Box	3	6mm²	12	35
BE Angle Box	3	10mm²	12	35
BE Angle Box	3	16 mm²	10	35
BE Angle Box	3	35mm²	6	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35


TS 15 Mini Rail


Mini Terminals for conductor sizes 0.5 to 4mm²


TS 35 Top Hat Rail

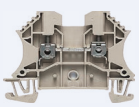
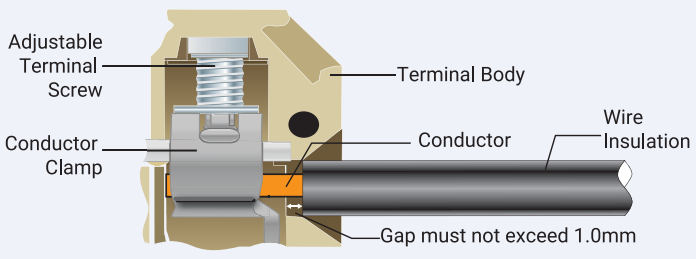

Terminals for conductor sizes 0.5 to 70mm²

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



CABLE TERMINATIONS

POSI FIT™

JUNCTION BOX - Ex eb I, Ex eb IIC, Ex ec IIC, Ex tb IIC

for Hazardous Area Installations

Features and Benefits

- Posi Fit™ box for use in Group I mining (low impact areas), Group II and Group III applications.
- High-temperature resistance, corrosion-resistant and anti-static properties.
- Raised domed lid facilitates connections to be made clear of the box base.
- Screw-on lid provides ease of installation. Lid locking with a special key prevents unauthorized tampering.
- Boxes with see-through polycarbonate “adapt-a-lids” available on request. Supplied complete with safety securing lid lanyard.
- Only approved CCG cable glands and Ex e terminals must be used. DIN Rail mounting studs are provided for use with terminal blocks.
- Dust and watertight to IP66/68, when fitted with CCG sealed cable glands.
- No drilling of the cable entries is required. Internal earthing to all entries and rail.

Technical Data

Type:	Posi Fit™ 4-Way Junction Box Posi Fit™ Y Junction Box Posi Fit™ H Junction Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound Polycarbonate (see-through adapt-a-lids), O ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemid
Optional Accessories:	Ex Certified Terminals, Box Spanner (Lid Locking Key). Blanking plugs are provided
Note:	The installer should check that the materials are suitable for the installation environment

Standards and Certifications

Equipment Protection Levels:	SANS: (Finished)Ex e IIC T6 Gb / Ex nA IIC T6 Gc / Ex tb IIIC T70°C Db SANS: (Unfinished) Ex e IIC Gb / Ex nA IIC Gc / Ex tb IIIC Db IECEx/INMETRO: (Finished) Ex eb I Mb / Ex eb IIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db IECEx/INMETRO: (Unfinished) Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db ATEX/UKEX: (Finished) Ⓔ I M2, Ⓔ II 2GD / 3G Ex eb I Mb / Ex eb IIC T6 Gb / Ex tb IIIC T70°C Db ATEX/UKEX: (Unfinished) Ⓔ I M2, Ⓔ II 2GD / 3G Ex eb I Mb /Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db		
Ambient Temperature:	-60°C to +55°C (Finished)		
Service Temperature:	-60°C to +110°C (Unfinished)		
Conformance:	Standard:	Certificate:	
IECEx	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0003X	(Finished)
	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0004U	(Unfinished)
ATEX	EN 60079 Part 0, 7, 31	CML 14ATEX3036X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4038X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX3037U	(Unfinished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4039U	(Unfinished)
UKEX	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3008X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4010X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3007U	(Unfinished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4009U	(Unfinished)
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0481X	(Finished)
	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0482U	(Unfinished)
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ Р МЭК 60079-7, 31	EAЭC RU C-ZA.HA91.B.00243/21	(Finished/Unfinished)
CNEx (Chinese)	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3507X	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312303000506	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3390X	(Unfinished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312313000393	(Unfinished)
SANS	SANS/IEC 60079 Part 0, 7, 31	MASC S/21-9001X	(Finished)
	SANS/IEC 60529	MASC S/21-9002U	(Unfinished)
IP66/68 2m Protection	IEC 60529	IECEx CML 15.0071U	
Marine ABS	IEC 60529	ABS 20-SG1952738-1-PDA	
DNV-GL	IEC 60529	DNV-GL TAE0000011	
ClassNK	IEC 60079 Part 0, 7, 31	TA20268M	
Deluge Protection	DTS-01	CML 14CA370-1	
Short Circuit/ Cont.Current	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2	

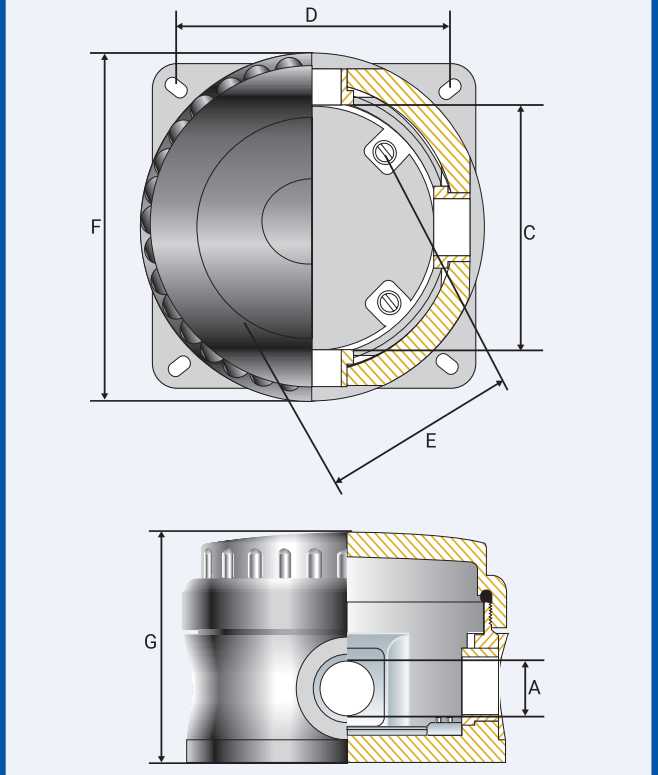
Conditions for Safe Use - X

- In Group I applications, the junction box must only be used in low impact areas and where it is not exposed to oils or greases.
- The CCG lid-locking key must be used to open and close units that do not have locking screws such as “clear cover units”.
- When fitted with the polycarbonate (clear) cover the equipment must be installed to prevent the generation of electrostatic charge.
- When fitted with the clear lid, the unit must be installed to prevent UV exposure to the internal components fitted.
- Only a damp cloth should be used to clean the junction box.
- Suitably certified cable glands and/or plugs shall be used in the enclosure threaded entries.
- Only the terminals listed below may be used, following the specific installation conditions set down by the terminal manufacturer/terminal certification.

Manufacturer	Certificate No.	Ex Coding	Type	Conductor / Terminal Block Size	Maximum Current	
					≤ 55°C Ambient	≤ 40°C Ambient
Weidmuller	IEC Ex ULD14.0005U	Ex eb IIC	WDU 2.5, 4, 6, 10, 16, 35 and 70N	2,5 mm²	8,34 A	11,90 A
	Demko 14ATEX1338U		WPE 2.5, 4, 6, 10, 16, 35 and 70N	4 mm²	11,12 A	15,86 A
				6 mm²	14,25 A	20,33 A
				10 mm²	19,81 A	28,26 A
				16 mm²	26,42 A	37,68 A
				35 mm²	43,46 A	61,98 A
				50 mm²	52,50 A	74,88 A
				75 mm²	66,75 A	95,21 A
Weidmuller	IECEx TUR18.0024U / TÜV 18 ATEX 8221U	Ex eb IIC	AKZ4 and AKE4	4mm²	-	-

4-Way / TX-Box

for hazardous installations

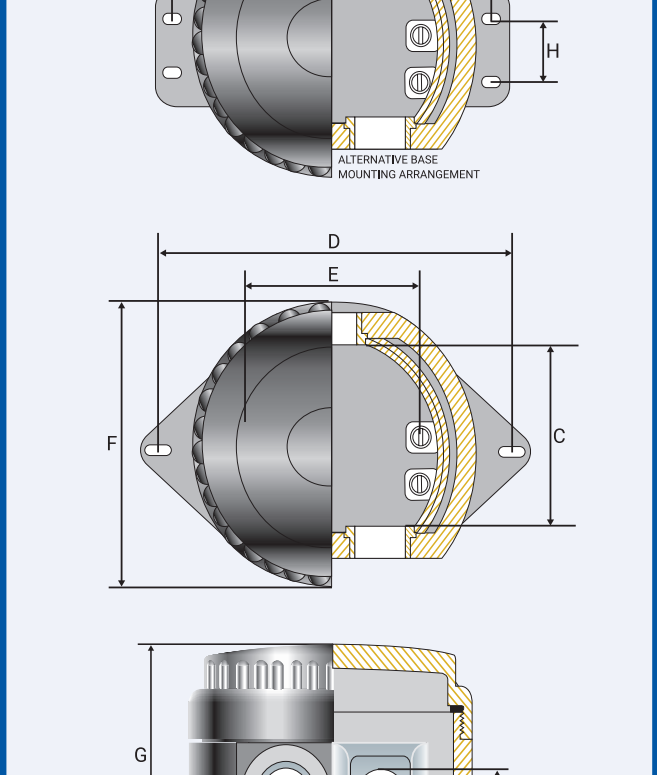


Product Code	Entry Thread 'A'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'
1003-0-M16	* M16	71.0	79.0	65.0	100.0	78.0
1003-0	M20	71.0	79.0	65.0	100.0	78.0
100301-M16	* M16	92.0	92.0	80.0	118.0	98.0
100301	M20	92.0	92.0	80.0	118.0	98.0
100302-M16	* M16	108.0	107.0	98.0	140.0	114.0
100302-M20	* M20	108.0	107.0	98.0	140.0	114.0
100302	M25	108.0	107.0	98.0	140.0	114.0
100303-M16	* M16	166.0	167.0	150.0	203.0	142.0
100303-M20	* M20	166.0	167.0	150.0	203.0	142.0
100303-M25	* M25	166.0	167.0	150.0	203.0	142.0
100303	M32	166.0	167.0	150.0	203.0	142.0
100304-M16	* M16	263.0	240.0	246.0	298.0	186.0
100304-M20	* M20	263.0	240.0	246.0	298.0	186.0
100304-M25	* M25	263.0	240.0	246.0	298.0	186.0
100304-M32	* M32	263.0	240.0	246.0	298.0	186.0
100304-M40	M40	263.0	240.0	246.0	298.0	186.0

All dimensions are in mm.
* Different arrangements of entry sizes are available on request as stated above.

Y-Box

for hazardous installations



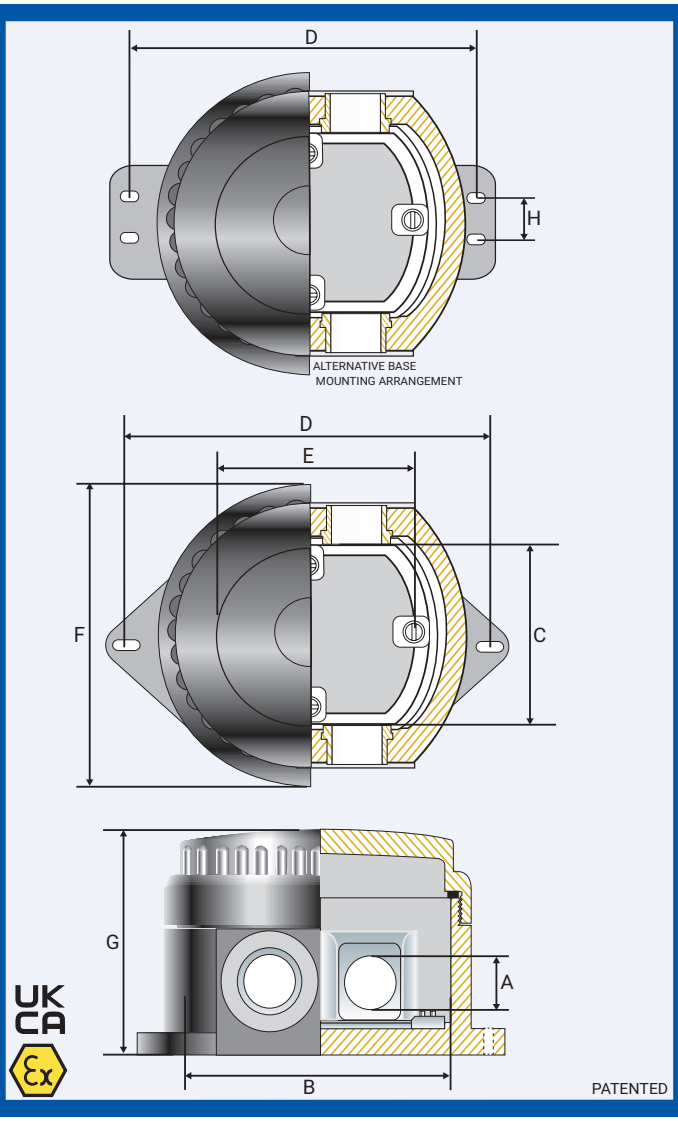
Product Code	Entry Thread 'A'	Internal Dia. 'B'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'	Distance Between Inserts Holes'H'
1009-0-M16	* M16	84.0	60.0	108.0	62.0	100.0	84.0	-
1009-0	M20	84.0	60.0	108.0	62.0	100.0	84.0	-
100901-M16	* M16	101.0	75.0	132.0	77.0	116.0	94.0	-
100901	M20	101.0	75.0	132.0	77.0	116.0	94.0	-
100902-M16	* M16	123.0	94.0	148.0	95.0	140.0	104.0	42.0
100902-M20	* M20	123.0	94.0	148.0	95.0	140.0	104.0	42.0
100902	M25	123.0	94.0	148.0	95.0	140.0	104.0	42.0
100903-M16	* M16	182.0	150.0	237.0	152.0	205.0	144.0	-
100903-M20	* M20	182.0	150.0	237.0	152.0	205.0	144.0	-
100903-M25	* M25	182.0	150.0	237.0	152.0	205.0	144.0	-
100903	M32	182.0	150.0	237.0	152.0	205.0	144.0	-

All dimensions are in mm.
* Different arrangements of entry sizes are available on request as stated above.

POSI FIT™ JUNCTION BOX

H-Box

for hazardous installations



Product Code	Entry Thread 'A'	Internal Dia. 'B'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres 'E'	Outer Diameter 'F'	Overall Height 'G'	Distance Between Mounting Holes'H'
100301-H-M16	*M16	103.0	69.0	130.0	85.0	116.0	93.0	-
100301-H	M20	103.0	69.0	130.0	85.0	116.0	93.0	-
100302-H-M16	*M16	124.0	78.0	148.0	104.0	138.0	110.0	42.0
100302-H-M20	*M20	124.0	78.0	148.0	104.0	138.0	110.0	42.0
100302-H	M25	124.0	78.0	148.0	104.0	138.0	110.0	42.0

All dimensions are in mm.
*Different arrangements of entry sizes are available on request as stated above.

Tools /Accessories

for hazardous installations

Box Spanner (Lid Locking Key)

ADAPTOR LID LOCKING KEY

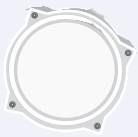
Product Code	Size Reference
4012-0/1	0/1
401202	2

Box Spanner (Lid Locking Key)

ADAPTOR LID LOCKING KEY

Product Code	Size Reference
401203	3

Clear Lid

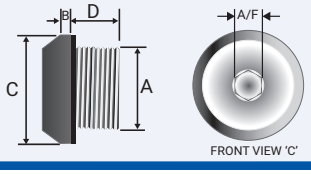


Product Code	Box Size
100301-CL	1
100302-CL	2
100303-CL	3

Pole Mounting Bracket

Product Code	Size Reference
401800	0
401801	1
401802	2
401803	3

Non Metallic Plugs IP66/68 COMPLETE WITH WASHER



Product Code	Metric Dia 'A'	Dia Max 'B'	Dia Max 'C'	Dia Min 'D'	Hex Size Max A/F	Torque Value Nm
352720	M20x1.5	28.0	22.0	12.0	10.0	7.0
352725	M25x1.5	33.0	25.0	15.0	10.0	9.0
352732	M32x1.5	40.0	35.0	15.0	10.0	12.0

POSI FIT™ JUNCTION BOX

Conditions for Safe Use - X

- Terminal blocks shall only be used on the applicable rail and shall allow sufficient space to make connections and to close the cover/lid.
- The creepage and clearance between terminal blocks and from the terminal block to any earthed / bonded metallic part shall comply with the EN60079-7 requirements for the acceptable voltage of the terminal blocks.
- The current in the junction box is limited by the size of the conductor and shall not exceed the voltage as per Table 2.

Installation instructions for Posi Fit™ Box without Ex components

- When fitted with any internal components the assembly must be re-certified and the cover re-marked accordingly.

Wiring and Installation instructions for Posi Fit™ Box with Ex components

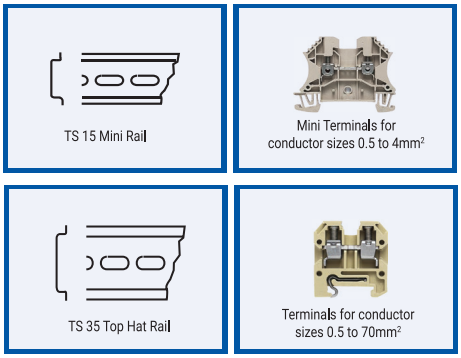
- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 2.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use/schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail-mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.
- The use of a CCG Box Spanner (Lid Locking Key) is required to maintain the tamper-proof integrity of the box, refer to Figure 1.

TABLE 1

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
PosiFit 4 Way	0	4mm² mini terminal	6	15
PosiFit 4 Way	0	2.5 mm²	4	35
PosiFit 4 Way	1	2.5mm²	10	35
PosiFit 4 Way	1	4mm² mini terminal	8	15
PosiFit 4 Way/TX	1	4mm²	8	35
PosiFit 4 Way	1	6mm²	6	35
PosiFit 4 Way	1	10mm²	5	35
PosiFit 4 Way	1	16mm²	4	35
PosiFit 4 Way	2	2.5mm²	12	35
PosiFit 4 Way	2	4mm² mini terminal	10	15
PosiFit 4 Way	2	4mm²	10	35
PosiFit 4 Way	2	6mm²	8	35
PosiFit 4 Way	2	10mm²	7	35
PosiFit 4 Way	2	16mm²	6	35
PosiFit 4 Way	2	35mm²	3	35
PosiFit 4 Way	3	2.5mm²	20	35
PosiFit 4 Way	3	4mm² mini terminal	14	15
PosiFit 4 Way	3	4mm²	16	35
PosiFit 4 Way	3	6mm²	12	35
PosiFit 4 Way	3	10mm²	12	35
PosiFit 4 Way	3	16mm²	10	35
PosiFit 4 Way	3	35mm²	6	35
PosiFit 4 Way	3	70mm²	5	35
PosiFit 4 Way	3	4mm² mini terminal	14	15
PosiFit 4 Way	4	2.5mm²	46	35
PosiFit 4 Way	4	4mm² mini terminal	35	15
PosiFit 4 Way	4	4mm²	32	35
PosiFit 4 Way	4	6mm²	28	35
PosiFit 4 Way	4	10mm²	23	35
PosiFit 4 Way	4	16mm²	18	35
PosiFit 4 Way	4	35mm²	14	35
PosiFit 4 Way	4	70mm²	10	35

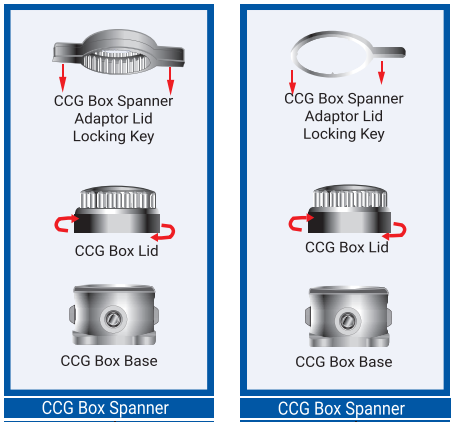
Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
PosiFit Y Box	0	4mm² mini terminal	6	15
PosiFit Y Box	1	2.5mm²	10	35
PosiFit Y Box	1	4mm² mini terminal	8	15
PosiFit Y Box	1	4mm²	8	35
PosiFit Y Box	1	6mm²	6	35
PosiFit Y Box	1	10mm²	5	35
PosiFit Y Box	2	2.5mm²	12	35
PosiFit Y Box	2	4mm² mini terminal	10	15
PosiFit Y Box	2	4mm²	10	35
PosiFit Y Box	2	6mm²	8	35
PosiFit Y Box	2	10mm²	7	35
PosiFit Y Box	2	16mm²	6	35
PosiFit Y Box	2	35mm²	3	35
PosiFit Y Box	3	2.5mm²	20	35
PosiFit Y Box	3	4mm² mini terminal	14	15
PosiFit Y Box	3	4mm²	16	35
PosiFit Y Box	3	6mm²	12	35
PosiFit Y Box	3	10mm²	12	35
PosiFit Y Box	3	16mm²	10	35
PosiFit Y Box	3	35mm²	6	35
PosiFit Y Box	3	70mm²	5	35

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
PosiFit H Box	1	2.5mm²	10	35
PosiFit H Box	1	4mm² mini terminal	8	15
PosiFit H Box	1	4mm²	8	35
PosiFit H Box	1	6mm²	6	35
PosiFit H Box	1	10mm²	5	35
PosiFit H Box	1	16 mm²	4	35
PosiFit H Box	2	2.5mm²	12	35
PosiFit H Box	2	4mm² mini terminal	10	15
PosiFit H Box	2	4mm²	10	35
PosiFit H Box	2	6mm²	8	35
PosiFit H Box	2	10mm²	7	35
PosiFit H Box	2	16mm²	6	35
PosiFit H Box	2	35mm²	3	35



To ensure the box apparatus is tamper proof:
Screw on, tighten and lock lid in place by means of a CCG Box Spanner (Lid Locking Key).

FIGURE 1



CCG Box Spanner	
Product Code	Box Size
4012-0/1	0/1
401202	2

CCG Box Spanner	
Product Code	Box Size
401203	3

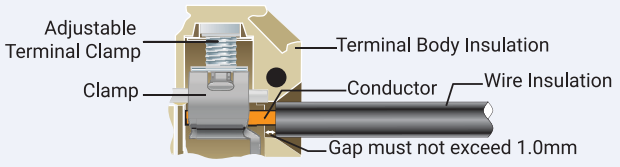
TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

FIGURE 2

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



SCREW FIT

4-WAY JUNCTION BOX - Ex eb I, Ex eb IIC, Ex ec IIC, Ex tb IIIC

for Hazardous Area Installations

Features and Benefits

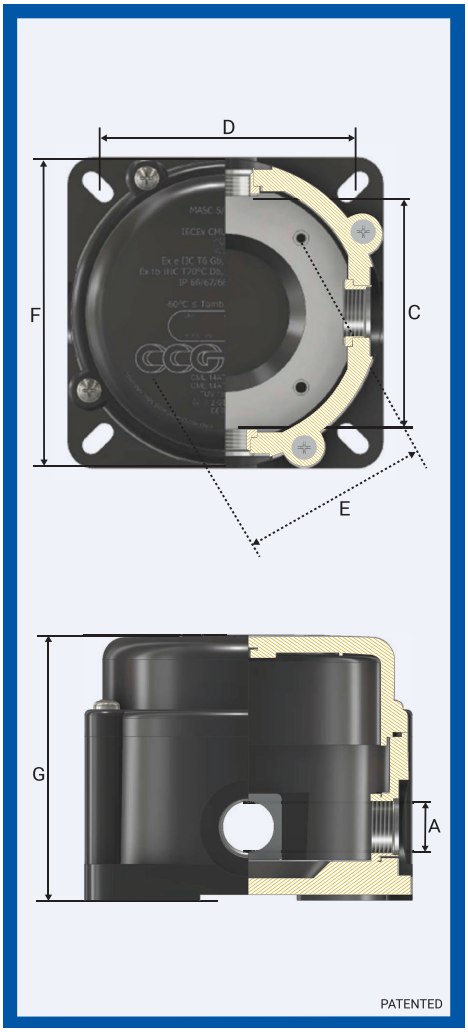
- Screw Fit 4-Way Box for use in Group I mining (low impact areas), Group II and Group III applications.
- High-temperature resistance, corrosion resistant and anti-static properties.
- 20mm Box supplied complete with safety securing lid lanyard.
- Raised domed lid facilitates connections to be made outside of the box.
- Only approved CCG cable glands and terminals must be used. No exposed metal parts.
- Dust and waterproof to IP66/68, when used with CCG sealed cable glands.
- No drilling or tapping of cable entries required.
- Mounting studs provided for DIN rail if using Terminal Blocks.
- Internal earthing to all entries and rail provided.
- Screw Fit 4-Way Box can be buried for extended periods.
- Red Fire Rated Box for emergency circuits available (925°C for 3-hours).

Technical Data

Type:	Screw Fit 4-Way - Ex
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound Polycarbonate (see-through adapt-a-lids) O ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemidd
Optional Accessories:	Ex Certified Terminals, Box Spanner (Lid Locking Key). Blanking plugs are provided.
Note:	The installer should check that the materials are suitable for the installation environment

Standards and Certifications

Equipment Protection Levels:	SANS: (Finished)Ex e IIC T6 Gb / Ex nA IIC T6 Gc / Ex tb IIIC T70°C Db SANS: (Unfinished) Ex e IIC Gb / Ex nA IIC Gc / Ex tb IIIC Db IECEx/INMETRO: (Finished) Ex eb I Mb / Ex eb IIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc IECEx/INMETRO: (Unfinished) Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db / Ex tc IIIC Dc ATEX/UKEX: (Finished) Ⓔx I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex ebIIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc ATEX/UKEX: (Unfinished) Ⓔx I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db/ Ex tc IIIC Dc		
Ambient Temperature:	-60°C to +55°C (Finished)		
Service Temperature:	-60°C to +110°C (Unfinished)		
Conformance:	Standard:	Certificate:	
IECEx	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0003X	(Finished)
	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0004U	(Unfinished)
ATEX	EN 60079 Part 0, 7, 31	CML 14ATEX3036X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4038X	(Finished)
	EN 60079 Part 0, 7, 31	CML 14ATEX3037U	(Unfinished)
	EN 60079 Part 0, 7, 31	CML 14ATEX4039U	(Unfinished)
UKEX	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3008X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4010X	(Finished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX3007U	(Unfinished)
	EN/BS 60079 Part 0, 7, 31	CML 21UKEX4009U	(Unfinished)
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0481X	(Finished)
	ABNT NBR IEC 60079 Part 0, 7, 31, IEC 60529	TÜV 15.0482U	(Unfinished)
CNEx (Chinese)	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3507X	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312303000506	(Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3390X	(Unfinished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312313000393	(Unfinished)
SANS	SANS/IEC 60079 Part 0, 7, 31	MASC S/21-9001X	(Finished)
	SANS/IEC 60529	MASC S/21-9002U	(Unfinished)
IP66/68 2m Protection	IEC 60529	IECEx CML 15.0071U	
Marine ABS	IEC 60529	ABS 20-SG1952738-1-PDA	
DNV-GL	IEC 60529	DNV-GL TAE0000011	
Deluge Protection	DTS-01	CML 14CA370-1	
Short Circuit/ Cont.Current	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2	



Conditions for safe use

- In Group I applications, the junction box must only be used in low impact areas and where it is not exposed to oils or greases.
- Only the terminal blocks as per the description may be utilised in the junction box. Specific installation conditions as set by the terminal manufacturer/terminal certification must be considered. This includes considering the use of the applicable partitions and end plates for terminal blocks, conductor installation, tightening down of terminal block screws etc.
- Terminal blocks may only be utilized on the applicable rail and must allow sufficient space to make connections and to close the cover/lid.
- IP66/68 glands/plugs must be used in the threaded entries.
- Information in relation to entries is indicated in the instructions.

Product Code	Entry Thread 'A'	Distance Between Inserts 'C'	Mounting Centres 'D'	Rail Mounting Centres Holes 'E'	Outer Diameter 'F'	Overall Height 'G'
1003-0-M16-SF	M16	71.0	79.0	65.0	100.0	78.0
1003-0-SF	M20	71.0	79.0	65.0	100.0	78.0
100301-M16-SF	M16	88.0	92.0	80.0	118.0	98.0
100301-SF	M20	88.0	92.0	80.0	118.0	98.0
100302-M16-SF	M16	108.0	107.0	98.0	140.0	114.0
100302-M20-SF	M20	108.0	107.0	98.0	140.0	114.0
100302-SF	M25	108.0	107.0	98.0	140.0	114.0
100303-M16-SF	M16	166.0	167.0	150.0	206.0	142.0
100303-M20-SF	M20	166.0	167.0	150.0	206.0	142.0
100303-M25-SF	M25	166.0	167.0	150.0	206.0	142.0
100303-SF	M32	166.0	167.0	150.0	206.0	142.0
100303-M40-SF	M40	166.0	167.0	150.0	206.0	170.0

All dimensions are in mm.

SCREW FIT
4 WAY JUNCTION BOX

CCG CABLE TERMINATIONS

Wiring and installation instructions for Screw Fit 4-Way Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as it may compromise the certification rating.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 1.
- The voltage and current value of the terminals in Table 2 must not be exceeded.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected to either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with CCG Non Metallic Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

TABLE 1

Box Type	Box Size	Terminal Type and Size	Max Quantity	Rail Size
Screw Fit 4 Way	1	2.5mm²	12	35
Screw Fit 4 Way	1	4mm² mini terminal	11	15
Screw Fit 4 Way	1	4mm²	11	35
Screw Fit 4 Way	1	6mm²	9	35
Screw Fit 4 Way	1	10mm²	7	35
Screw Fit 4 Way	1	16mm²	5	35
Screw Fit 4 Way	2	2.5mm²	16	35
Screw Fit 4 Way	2	4mm² mini terminal	14	15
Screw Fit 4 Way	2	4mm²	13	35
Screw Fit 4 Way	2	6mm²	11	35
Screw Fit 4 Way	2	10mm²	8	35
Screw Fit 4 Way	2	16mm²	7	35
Screw Fit 4 Way	2	35mm²	5	35

TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

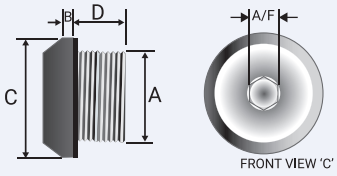
Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

Tools /Accessories
for general, industrial and mining electrical installations

Pole Mounting Bracket

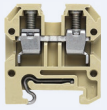
Product Code	Box Size Reference
401800	M20
401801	M20
401802	M25

Non Metallic Plugs IP66/68 complete with washer



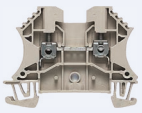
Product Code	Metric Dia 'A'	Dia Max 'B'	Dia Max 'C'	Dia Min 'D'	Hex Size Max A/F	Torque Value Nm
352720	M20x1.5	28.0	22.0	12.0	10.0	7.0
352725	M25x1.5	33.0	25.0	15.0	10.0	9.0
352732	M32x1.5	40.0	35.0	15.0	10.0	12.0

TS 15 Mini Rail



Mini Terminals for conductor sizes 0.5 to 4mm²

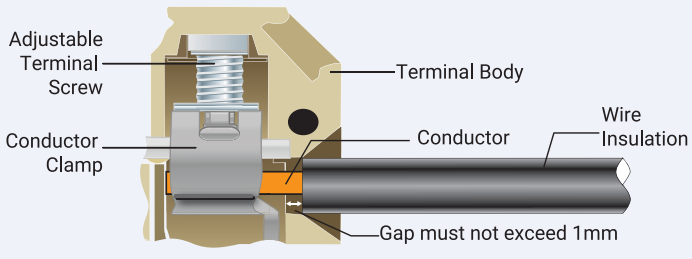
TS 35 Top Hat Rail



Terminals for conductor sizes 0.5 to 70mm²

FIGURE 1

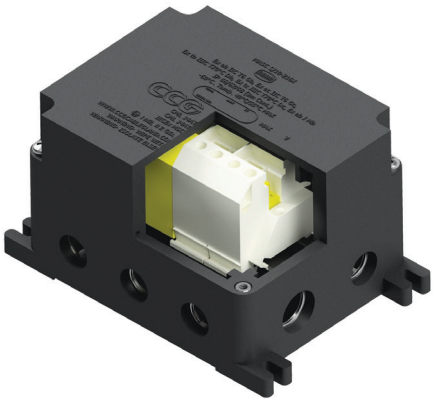
The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



MULTI BOX

Ex eb I, Ex eb IIC, Ex ec IIC, Ex tb IIIC

for Hazardous Area Installations



Features and Benefits

- Multi Box for use in Group I mining (low impact areas), Group II and Group III applications.
- High-temperature resistance, corrosion resistant and anti-static properties.
- Raised lid facilitates connections to be made clear of the box base.
- A lid with captive screws provides ease of installation.
- Supplied complete with safety securing lid lanyard. Only approved CCG cable glands and Ex e terminals must be used.
- DIN Rail mounting studs are provided for use with terminal blocks. Dust and watertight to IP66/68, when fitted with CCG sealed cable glands.
- Drilling of cable entries to customer requirements. Internal earthing to all entries and rail.

Technical Data

Type:	Multi Box
Box Material:	Impact corrosion and UV resistant glass reinforced polyester compound O-ring seals: Silicone or Sarlink seals. Terminals: Wellamid or Wemidd
Optional Accessories:	Ex Certified Terminals. Blanking plugs are provided
Note:	The installer must check that the materials are suitable for the installation environment.

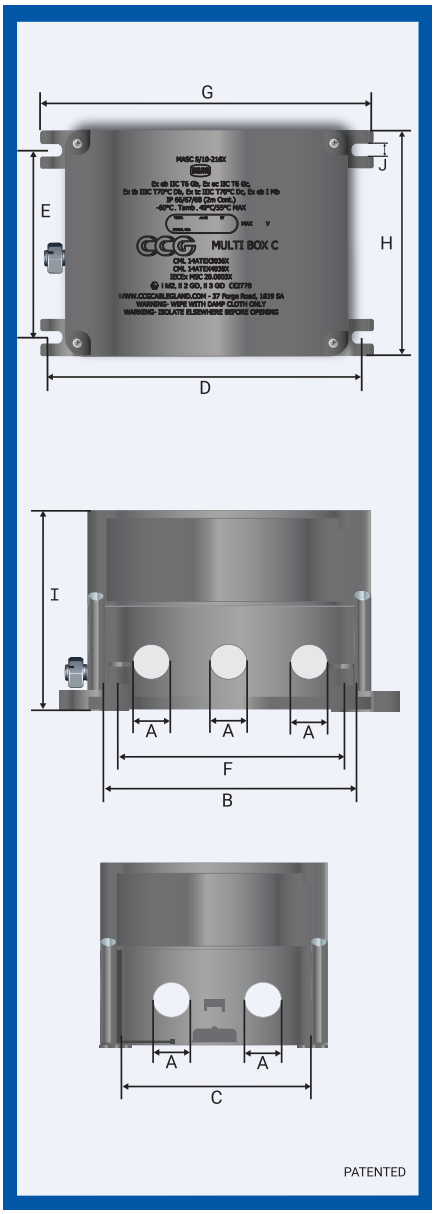
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: (Finished) Ex eb I Mb / Ex eb IIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc IECEx/INMETRO: (Unfinished) Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db / Ex tc IIIC Dc ATEX/UKEX: (Finished) ⟨Ex⟩ I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex ebIIC T6 Gb / Ex ec IIC T6 Gc / Ex tb IIIC T70°C Db / Ex tc IIIC T70°C Dc ATEX/UKEX: (Unfinished) ⟨Ex⟩ I M2 / II 2 GD / II 3 GD Ex eb I Mb / Ex eb IIC Gb / Ex ec IIC Gc / Ex tb IIIC Db/ Ex tc IIIC Dc	
Ambient Temperature:	-60°C to +55°C (Finished)	
Service Temperature:	-60°C to +110°C (Unfinished)	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0003X (Finished)
	IEC 60079 Part 0, 7, 31, IEC 60529	IECEx MSC 20.0004U (Unfinished)
ATEX	EN 60079 Part 0, 7, 15, 31	CML 14ATEX3036X (Finished)
	EN 60079 Part 0, 7, 15, 31	CML 14ATEX4038X (Finished)
	EN 60079 Part 0, 7, 15, 31	CML 14ATEX3037U (Unfinished)
	EN 60079 Part 0, 7, 15, 31	CML 14ATEX4039U (Unfinished)
UKEX	EN/BS 60079 Part 0, 7, 15, 31	CML 21UKEX3008X (Finished)
	EN/BS 60079 Part 0, 7, 15, 31	CML 21UKEX4010X (Finished)
	EN/BS 60079 Part 0, 7, 15, 31	CML 21UKEX3007U (Unfinished)
	EN/BS 60079 Part 0, 7, 15, 31	CML 21UKEX4009U (Unfinished)
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 7, 15, 31, IEC 60529	TÜV 15.0481X (Finished)
	ABNT NBR IEC 60079 Part 0, 7, 15, 31, IEC 60529	TÜV 15.0482U (Unfinished)
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00243/21
CNEx (Chinese)	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3507X (Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312303000506 (Finished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx 21.3390X (Unfinished)
	GB 3836.0, 3, GB 12476.1, 5	CNEx CCC 2021312313000393 (Unfinished)
SANS	SANS/IEC 60079 Part 0, 7, 15, 31, SANS/IEC 60529	MASC S/21-9001X (Finished)
		MASC S/21-9002U (Unfinished)
IP66/68 2m Protection	IEC 60529	IECEx CML 15.0071U
Short Circuit/ Cont.Current	IEC 60947-7-2, IEC 62444	CATAPULT OR/15/11677_2

Conditions for Safe Use - X

- In Group I applications, the junction box must only be used in low impact areas and where it is not exposed to oils or greases. Clean only with a damp cloth.
- Suitably certified cable glands and/or plugs shall be used in the enclosure threaded entries.
- Only the following terminals may be used, following the specific installation conditions set down by the terminal manufacturer / terminal certification.

MFR	Certificate No.	Ex Coding	Type	Conductor / Terminal Block Size	Maximum Current ≤ 55°C Ambient	Maximum Current ≤ 40°C Ambient
Weidmuller	IEC Ex ULD14.0005U Demko 14ATEX1338U	Ex eb IIC	WDU 2.5, 4, 6, 10, 16, 35 and 70N WPE 2.5, 4, 6, 10, 16, 35 and 70N	2,5 mm² 4 mm²	8,34 A 11,12 A	11,90 A 15,86 A
				6 mm²	14,25 A	20,33 A
				10 mm²	19,81 A	28,26 A
				16 mm²	26,42 A	37,68 A
				35 mm²	43,46 A	61,98 A
				50 mm²	52,50 A	74,88 A
				75 mm²	66,75 A	95,21 A
Weidmuller	IECEx TUR18.0024U, TÜV 18 ATEX 8221U	Ex eb IIC	AKZ4 and AKE4	4mm²	-	-



- Terminal blocks shall only be used on the applicable rail and shall allow sufficient space to make connections and to close the cover / lid.
- The creepage and clearance between terminal blocks and from the terminal block to any earthed / bonded metallic part shall comply with the EN60079-7 requirements for the acceptable voltage of the terminal blocks.
- The current in the Multi box is limited by the size of the conductor and shall not exceed the voltage as per Table 2.

All dimensions are in mm.

Product Code	Entry Thread 'A' (Multiple Configurations)	Inside Dim 'B'	Inside Dim 'C'	Mounting Centres 'D'	Mounting Centres 'E'	Rail Mounting Centres 'F'	Overall Length 'G'	Overall Width 'H'	Overall Height 'I'	Mounting Groove Width 'J'
10050B	M16 to M32	144.0	111.0	176.0	110.0	126.0	196.0	132.0	109.0	7.0
10050C	M16 to M40	210.0	179.0	254.0	171.0	188.0	278.0	200.0	117.0	8.5

Wiring and Installation instructions for Multi Box without components

- When fitted with any internal components the assembly must be re-certified and the cover re-marked accordingly.

Wiring and Installation instructions for Multi Box with components

- Installation must be carried out by a competent person.
- Do not install under live current conditions.
- The box must not be modified in any way, as this will invalidate the certification.
- All wiring must be carried out in accordance with the relevant Codes of Practice.
- The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown in Figure 1.
- The voltage and current value of the box must not be exceeded. See relevant certificate for current limitations for conditions of use/schedule of limitations.
- Only those terminals shown in the terminal schedule may be incorporated in the box, refer Table 1.
- Inner cable bedding must protrude into the box by a minimum of 20mm past the cable entry point.
- Not more than one single or multiple strand lead shall be connected into either side of the terminals.
- Only earth conductors of equal size shall be connected with rail mounted terminals.
- All terminal screws used and unused shall be tightened.
- A parallel shaft screwdriver of the correct size should be used for rail-mounted terminals screws.
- Where cables enter the box they must be secured by CCG Cable Glands appropriate to the makeup of the cable.
- Unused entry apertures must be blanked with certified CCG Blanking Plugs.
- To maintain IP66/68 a thread seal gasket between the box and cable gland must be installed.
- Before replacing the lid, ensure the lid gasket is in place.

TABLE 1

Box Type	Terminal Type and Size	Max Quantity	Rail Size
Multi Box B	2.5mm²	20	35
Multi Box B	4mm² mini terminal	16	15
Multi Box B	4mm²	16	35
Multi Box B	6mm²	12	35
Multi Box B	10mm²	10	35
Multi Box B	16mm²	8	35
Multi Box C	2.5mm²	30	35
Multi Box C	4mm² mini terminal	26	15
Multi Box C	4mm²	28	35
Multi Box C	6mm²	20	35
Multi Box C	10mm²	16	35
Multi Box C	16mm²	14	35
Multi Box C	35mm²	10	35
Multi Box C	50mm²	8	35

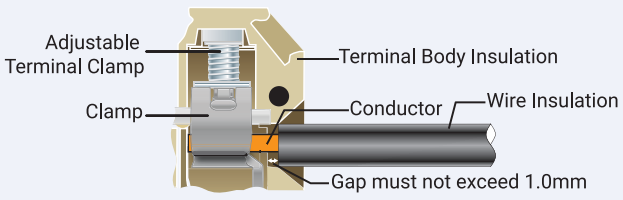
TABLE 2

VOLTAGE PER TERMINAL CONFIGURATION

Terminals	Volt	Earth Terminals
AKZ 4	275V	AKE 4
WDU 2.5	550V	WPE 2.5
WDU 4	550V	WPE 4
WDU 6	550V	WPE 6
WDU 10	550V	WPE 10
WDU 16	550V	WPE 16
WDU 35	550V	WPE 35
WDU 70 N	550V	WPE 70 N

FIGURE 1

The wiring insulation must not extend by more than 1.0mm from the metal face of the terminal as shown below.



STOPPER PLUGS

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Used to blank off threaded entry holes.
- Dome or Hex Head Plugs may be used to blank off an unthreaded entry hole if secured in place with a locknut.

Technical Data

Type:	Stopper Plug
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Gasket material:	Standard HDPE, Nylon, PTFE
Note:	The installer should check that the materials are suitable for the installation environment.

Standards and Certifications

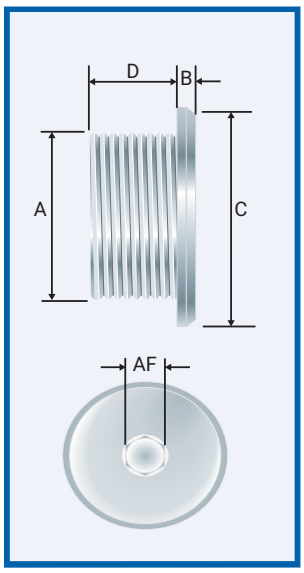
Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: I M2 Ex db I Mb / Ex eb I Mb, II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da TR CU: 1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PΠ Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0,1, 7, 31	TÜV 15.0485X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00244/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3391X, CNEx CCC 2021312313000391
KCS (Korea)	Notification of Ministry of Labour No. 2013-54	16-AV4BO-0447-50X
SANS/IEC	IEC 60079 Parts 0, 1, 7, 31 IEC 60529	MASC MS/13-594X
IP66/68 - Parallel	IEC 60529	CML15Y728
IP65/66 - Tapered	IEC 60529	
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Parts 0, 1, 7, 15, 31 and IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Parts 0, 1, 7 and IEC 60529	DNV-GL TAE0000010
ClassNK	IEC 60079 Part 0, 1, 7, 15, 31	TA20273M
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with the supplied washer and units with tapered thread when thread sealant is conducted as indicated in IEC60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) applicable if gaskets are used to maintain IP65/66/68

Thread Size	NPT / BSP Size	Torque Value (Nm)
M16	-	21.0
M20	½/¾	21.0
M25	¾/1	30.0
M32	1/1¼	42.0
M40	1¼/1½	52.0
M50	1½/2	57.0
M63	2/2½	66.0
M75	2½/3	72.0
M80	3	80.0
M90	3/3½	89.0
M100	3½/4	98.0
M115	4	175.0
M120	-	175.0
M130	-	175.0

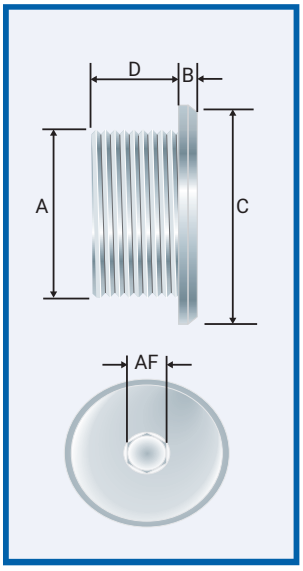
All dimensions except NPT / BSP are in mm.



NPT - Dome Plug

Product Code	NPT Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDN012E	½	3.0	25.0	15.0	10.0
PDN034E	¾	3.0	35.0	15.0	10.0
PDN001E	1	3.0	42.0	19.0	10.0
PDN114E	1¼	3.0	50.0	19.0	10.0
PDN112E	1½	3.0	60.0	21.0	10.0
PDN002E	2	3.0	75.0	21.0	10.0
PDN212E	2½	3.0	85.0	30.0	14.0
PDN003E	3	3.0	90.0	32.0	14.0
PDN312E	3½	3.0	102.0	33.0	14.0
PDN004E	4	3.0	115.0	34.0	14.0

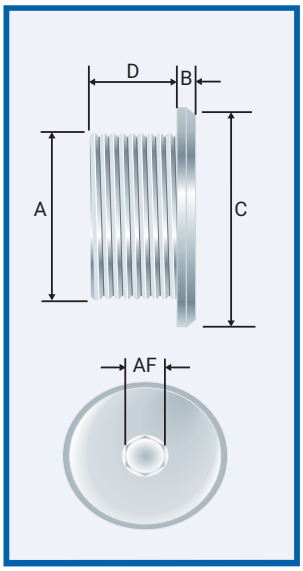
All dimensions except NPT are in mm.



Metric - Dome Plug

Product Code	Metric Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDM016E	M16	3.0	22.0	16.0	10.0
PDM020E	M20	3.0	25.0	16.0	10.0
PDM025E	M25	3.0	35.0	16.0	10.0
PDM032E	M32	3.0	42.0	16.0	10.0
PDM040E	M40	3.0	50.0	16.0	10.0
PDM050E	M50	3.0	60.0	16.0	10.0
PDM063E	M63	3.0	70.0	16.0	14.0
PDM075E	M75	3.0	85.0	16.0	14.0
PDM080E	M80x2P	3.0	90.0	20.0	14.0
PDM090E	M90x2P	3.0	100.0	20.0	14.0
PDM100E	M100x2P	3.0	110.0	20.0	14.0

All dimensions are in mm.



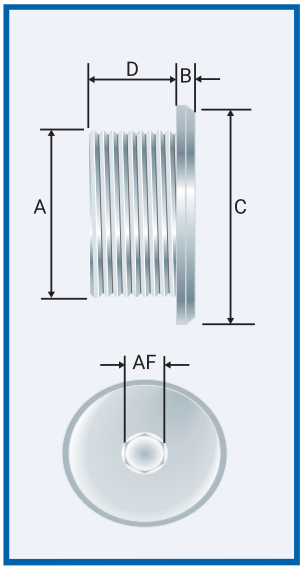
BSP - Dome Plug

Product Code	BSP Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDB012E	½	3.0	27.0	16.0	10.0
PDB034E	¾	3.0	32.0	16.0	10.0
PDB001E	1	3.0	38.0	20.0	10.0
PDB114E	1¼	3.0	50.0	20.0	10.0
PDB112E	1½	3.0	60.0	20.0	10.0
PDB002E	2	3.0	75.0	20.0	10.0
PDB212E	2½	3.0	85.0	20.0	14.0
PDB003E	3	3.0	90.0	20.0	14.0
PDB312E	3½	3.0	100.0	20.0	14.0
PDB004E	4	3.0	120.0	20.0	14.0

All dimensions except BSP are in mm.

See Handi Fit and/or Posi Fit Junction Box data sheet for Non Metallic Plug

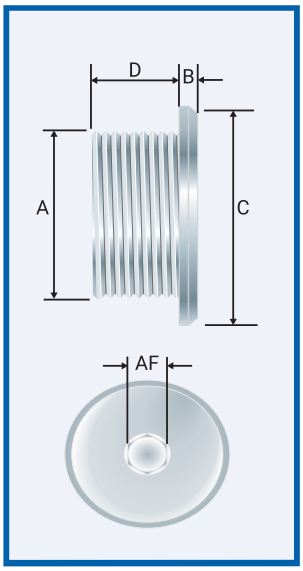
METRIC, NPT AND BSP DOME PLUG



NPT - Dome Plug

Product Code	NPT Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDN012E	½	3.0	25.0	15.0	10.0
PDN034E	¾	3.0	35.0	15.0	10.0
PDN001E	1	3.0	42.0	19.0	10.0
PDN114E	1¼	3.0	50.0	19.0	10.0
PDN112E	1½	3.0	60.0	21.0	10.0
PDN002E	2	3.0	75.0	21.0	10.0
PDN212E	2½	3.0	85.0	30.0	14.0
PDN003E	3	3.0	90.0	32.0	14.0
PDN312E	3½	3.0	102.0	33.0	14.0
PDN004E	4	3.0	115.0	34.0	14.0

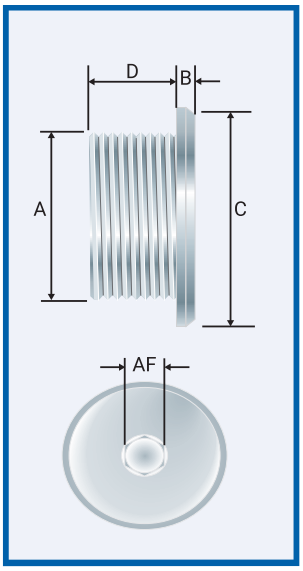
All dimensions except NPT are in mm.



Metric - Dome Plug

Product Code	Metric Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDM016E	M16	3.0	22.0	16.0	10.0
PDM020E	M20	3.0	25.0	16.0	10.0
PDM025E	M25	3.0	35.0	16.0	10.0
PDM032E	M32	3.0	42.0	16.0	10.0
PDM040E	M40	3.0	50.0	16.0	10.0
PDM050E	M50	3.0	60.0	16.0	10.0
PDM063E	M63	3.0	70.0	16.0	14.0
PDM075E	M75	3.0	85.0	16.0	14.0
PDM080E	M80x2P	3.0	90.0	20.0	14.0
PDM090E	M90x2P	3.0	100.0	20.0	14.0
PDM100E	M100x2P	3.0	110.0	20.0	14.0

All dimensions are in mm.

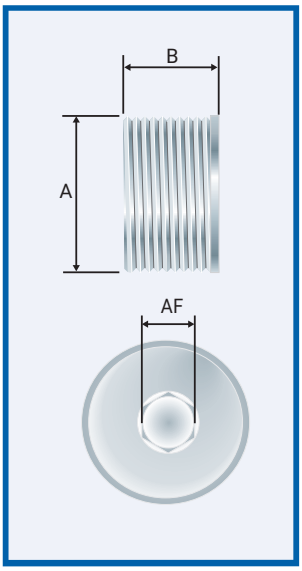


BSP - Dome Plug

Product Code	BSP Dimension "A"	Dimension Min "B"	Dimension Min "C"	Dimension "D"	Dimension A/F Min *
PDB012E	½	3.0	27.0	16.0	10.0
PDB034E	¾	3.0	32.0	16.0	10.0
PDB001E	1	3.0	38.0	20.0	10.0
PDB114E	1¼	3.0	50.0	20.0	10.0
PDB112E	1½	3.0	60.0	20.0	10.0
PDB002E	2	3.0	75.0	20.0	10.0
PDB212E	2½	3.0	85.0	20.0	14.0
PDB003E	3	3.0	90.0	20.0	14.0
PDB312E	3½	3.0	100.0	20.0	14.0
PDB004E	4	3.0	120.0	20.0	14.0

All dimensions except BSP are in mm.

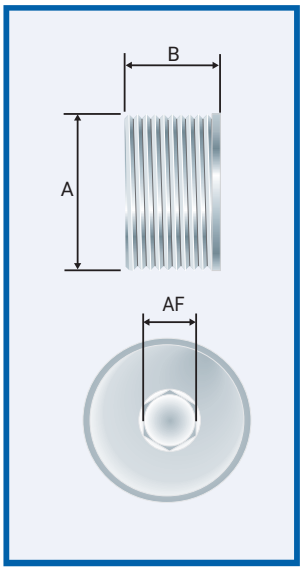
See Handi Fit and/or Posi Fit Junction Box data sheet for Non Metallic Plug



NPT - Stopper Plug

Product Code Outside Enclosure	Product Code Inside Enclosure	NPT Dimension "A"	Dimension +2.0 - 0.0 "B"	Dimension A/F Min *
PSN012E	PSN012ER	½	15.0	10.0
PSN034E	PSN034ER	¾	15.0	10.0
PSN001E	PSN001ER	1	19.0	10.0
PSN114E	PSN114ER	1¼	19.0	10.0
PSN112E	PSN112ER	1½	21.0	14.0
PSN002E	PSN002ER	2	21.0	14.0
PSN212E	PSN212ER	2½	30.0	14.0
PSN003E	PSN003ER	3	32.0	14.0
PSN312E	PSN312ER	3½	33.0	14.0
PSN004E	PSN004ER	4	34.0	14.0

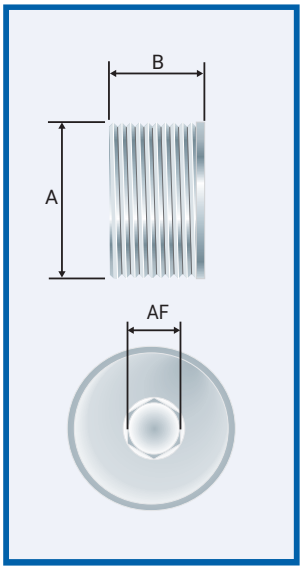
All dimensions except NPT are in mm.



Metric - Stopper Plug

Product Code Outside Enclosure	Product Code Inside Enclosure	Metric Dimension "A"	Dimension +2.0 - 0.0 "B"	Dimension A/F Min *
PSM016E	PSM016ER	M16	17.0	10.0
PSM020E	PSM020ER	M20	17.0	10.0
PSM025E	PSM025ER	M25	17.0	10.0
PSM032E	PSM032ER	M32	17.0	10.0
PSM040E	PSM040ER	M40	17.0	10.0
PSM050E	PSM050ER	M50	17.0	10.0
PSM063E	PSM063ER	M63	17.0	14.0
PSM075E	PSM075ER	M75	17.0	14.0
PSM080E	PSM080ER	M80x2 P	21.0	14.0
PSM090E	PSM090ER	M90x2 P	21.0	14.0
PSM100E	PSM100ER	M100x2 P	21.0	14.0

All dimensions are in mm.



BSP - Stopper Plug

Product Code Outside Enclosure	Product Code Inside Enclosure	BSP Dimension "A"	Dimension +2.0 - 0.0 "B"	Dimension A/F Min *
PSB012E	PSB012ER	½	17.0	10.0
PSB034E	PSB034ER	¾	17.0	10.0
PSB001E	PSB001ER	1	21.0	10.0
PSB114E	PSB114ER	1¼	21.0	10.0
PSB112E	PSB112ER	1½	21.0	10.0
PSB002E	PSB002ER	2	21.0	10.0
PSB212E	PSB212ER	2½	21.0	14.0
PSB003E	PSB003ER	3	21.0	14.0
PSB312E	PSB312ER	3½	21.0	14.0
PSB004E	PSB004ER	4	21.0	14.0

All dimensions except BSP are in mm.

See Handi Fit and/or Posi Fit Junction Box data sheet for Non Metallic Plug

CCG CABLE TERMINATIONS

BLANKING PLUG

NON-METALLIC Ex e

for General Industrial and Hazardous Area Installations

Features and Benefits

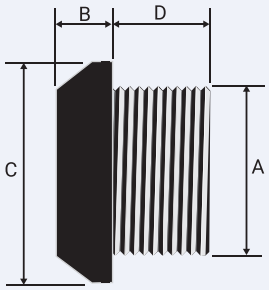
- Precision manufactured from Nylon 6.
- Used to blank off threaded entry holes.
- May be used to blank off an unthreaded entry hole if secured in place with a locknut.

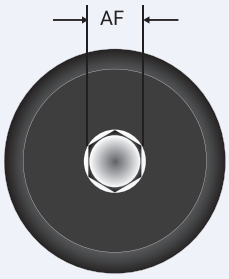
Technical Data

Type:	Non-Metallic Blanking Plug
Plug Material:	Nylon 6
Gasket Material:	HDPE, Nylon

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex eb IIC Gb, Ex tb IIIC Db, Ex nR IIC Gc ATEX/UKEX: II2GD, Ex eb IIC Gb, Ex tb IIIC Db, Ex nR IIC Gc TR CU: 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Parts 0, 7, 15, 31	IECEx ICS 15.0007X
ATEX	EN 60079 Parts 0, 7, 31 EN 60079 Parts 0, 15, 31	CML 15ATEX3094X CML 15ATEX4095X
UKEX	BS EN 60079 Parts 0, 15, 31 BS EN 60079 Parts 0, 7, 31	CML 21UKEX3015X CML 21UKEX4016X
INMETRO (Brazil)	ABNT NBR IEC 60079 Parts 0, 7, 31	TÜV 15.1818X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00244/21
SANS	SANS/IEC 60079 Parts 0,1, 7, 31 SANS/IEC 60529	MASC S/15-0205X
IP66/68 2m - Parallel	IEC 60529	CML15Y728
Marine ABS	IEC 60079 Parts 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Parts 0, 1, 7, IEC 60529	DNV-GL TAE0000010
London Underground	BS EN 62444	LU3043, LU3044





FRONT VIEW 'C'

Conditions of Safe Use - X

- The working temperature range is -20°C to +95°C (HDPE) or -20°C to 100°C (Nylon).
- To maintain the IP rating / restricted breathing, the end user shall ensure that the surface of the enclosure against which the sealing gasket seals, is in a good condition.

Installation instructions

- Installation should only be carried out by a competant person using the correct tools.
- Ensure that the thread type and size are compatible with the equipment being installed to.
- Fully tighten all threads.
- Non-metallic blanking plug is not repairable/reuseable.

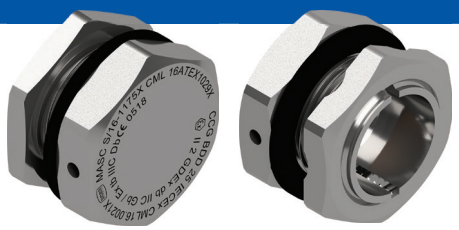
Product Code	Metric Dimension 'A'	Dimension Max 'B'	Dimension Max 'C'	Dimension Min 'D'	Dimension Max 'A/F'	Install. Torque Value Nm
352720	M20x1.5	7.0	28.0	12.0	10.0	7.0
352725	M25x1.5	7.0	33.0	15.0	10.0	9.0
352732	M32x1.5	7.0	40.0	15.0	10.0	12.0
352740	M40x1.5	7.0	48.0	15.0	14.0	20.0

All dimensions are in mm

Breather Drain Plug

Ex db, Ex eb, Ex tb

for General Industrial and Hazardous Area Installations



Features and Benefits

- Enables equipment to breathe whilst maintaining relevant protection levels.
- Drains water from equipment that is susceptible to moisture collection whilst maintaining relevant protection levels.
- No limitations on the volume of enclosures.
- The Exe version is supplied with a castellated nut or optional serrated gasket with standard locknut for high vibration applications.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Supplied with thread sealing gasket as standard.

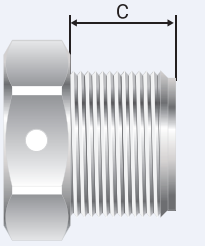
Technical Data

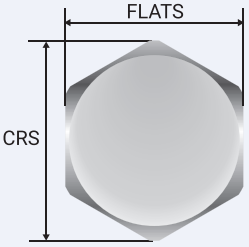
Type:	Breather Drain Plugs for Ex d and Ex e applications
Material:	
Body / Plug	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Sinter	Bronze or stainless steel
Gasket	Standard HDPE, Nylon 66 or Extreme Temp. PTFE

Standards and Certifications

Equipment Protection Levels:	IECEx:	(BD***E) Exe IIC Gb / Ex tb IIIC Db
		(BD***D) Ex d IIC Gb / Ex tb IIIC Db
	ATEX/UKEX:	(BD***E) II 2 G D Ex eb IIC Gb / Ex tb IIIC Db
		(BD***D) II 2 G D Ex db IIC Gb / Ex tb IIIC Db
	INMETRO:	(BD***E) Ex e IIC Gb / Ex tb IIIC Db
		(BD***D) Ex db IIC Gb / Ex tb IIIC Db
	TR CU:	(BD***E) 1Ex e IIC Gb X, Ex tb IIIC Db X
		(BD***D) 1Ex d IIC Gb X, Ex tb IIIC Db X

Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Parts 0, 1, 7, 31	IECEx CML 16.0021X
ATEX	EN 60079 Parts 0, 1, 7, 31	CML 16ATEX1029X
UKEX	BS EN 60079 Parts 0, 1, 7, 31	CML 21UKEX1018X
INMETRO (Brazil)	ABNT NBR IEC 60079 Parts 0, 1, 7, 31	TÜV 16.1857X
TR CU (Russia)	ГОСТ Р МЭК 60079-0, 7, 31, ГОСТ IEC 60079-1	TC RU C-ZA.ME92.B.00695
SANS/IEC	IEC 60079 Parts 0, 1, 7, 31, IEC 60529	MASC MS/16-1175X
IP66 - BD***E	IEC 60529	IECEx CML 16.0021X
IP6X - BD***D	IEC 60529	IECEx CML 16.0021X
Marine ABS	IEC 60079 Parts 0, 1, 7, 15, 31, IEC 60529	ABS 20-1952706-1-PDA
DNV-GL	IEC 60079 Parts 0, 1, 7, IEC 60529	DNV-GL TAE0000010





Conditions for Safe Use - X

- The breather drain plugs shall be used with the supplied thread sealing gaskets and the installer shall ensure that the surface of the enclosure against which the thread sealing gasket seals is in good condition.
- The breather drain plugs must be installed at the bottom of the equipment.
- The breather drain plugs must be installed directly to equipment and shall not be used with any form of entry device such as adaptors or reducers.
- The service temperature ranges shall not be exceeded as per Table 1.

Table 1

Breather / Drain	Service Temp.
BD***D (All arrangements)	-60°C to +95°C
BD***E (HDPE gasket)	-60°C to +95°C
BD***E (Nylon gasket)	-60°C to +100°C
BD***E (PTFE gasket)	-60°C to +160°C

Product Code	Protection Level	Entry Thread		Hexagonal Detail		Installation Torque Value Nm
		Type	Minimum Length 'C'	Maximum 'Flats'	Maximum 'Crns'	
BDM12E	Exe	M12x1.5	12.0	18.0	20.3	21.0
BDM16E	Exe	M16x1.5	12.0	22.0	24.8	21.0
BDM20E	Exe	M20x1.5	12.0	24.0	27.0	21.0
BDM25E	Exe	M25x1.5	12.0	32.0	36.0	30.0
BDN12E	Exe	½" NPT	15.0	24.0	27.0	21.0
BDN34E	Exe	¾" NPT	15.0	32.0	36.0	30.0
BDM20D	Exd	M20x1.5	15.0	24.0	27.0	21.0
BDM25D	Exd	M25x1.5	15.0	32.0	36.0	30.0
BDN12D	Exd	½" NPT	15.0	24.0	27.0	21.0
BDN34D	Exd	¾" NPT	15.0	32.0	36.0	30.0

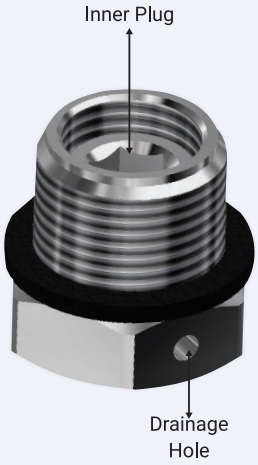
All dimensions except NPT are in mm. Larger thread sizes are available.

BREATHER-PL090621

FITTING INSTRUCTIONS
Metric Illustration

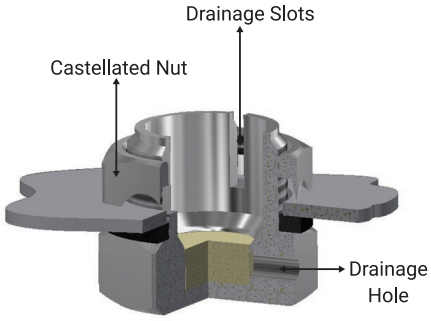
Ex d, Ex tb, Breather / Drain Plug

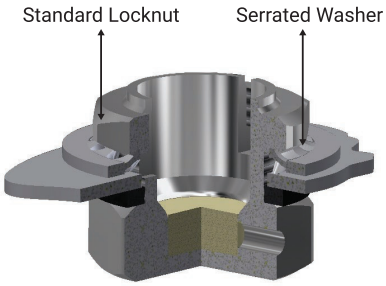
1. Ensure that the inner plug is fully tightened into the breather/ drain body.
2. The Ex d breather drain plug must be fitted to an appropriate threaded entry at the bottom of the equipment.
3. Tighten to torque as shown in the table below (metric threads). NPT versions should be tightened 'wrench tight'.
4. If the entry thread is NPT then appropriate thread sealing means may be used.



Ex e, Ex tb, Breather / Drain Plug

1. The Ex e breather drain plug must be fitted to the bottom of the equipment. It can be screwed into a threaded entry or secured in a clearance hole using the castellated nut supplied.
2. In high vibration applications the Ex e breather drain plug may optionally be secured using a serrated washer and standard locknut.
3. Tighten locknuts to secure the breather/drain. Note that the Ex e breather drain has slots cut in its threads to assist draining. Excessive tightening of the locknut may cause thread distortion.





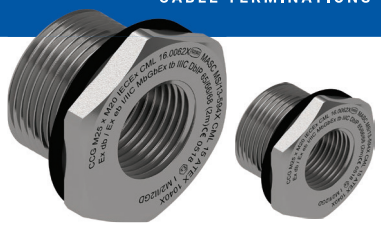
Product Code	Protection Level	Entry Thread		Hexagonal Detail		Installation Torque Value Nm
		Type	Minimum Length 'C'	Maximum 'Flats'	Maximum 'Crns'	
BDM12E	Ex e	M12 x 1.5	12.0	18.0	20.3	16.0
BDM16E	Ex e	M16 x 1.5	12.0	22.0	24.8	18.0
BDM20E	Ex e	M20 x 1.5	12.0	24.0	27.0	21.0
BDM25E	Ex e	M25 x 1.5	12.0	32.0	36.0	30.0
BDN12E	Ex e	½" NPT	15.0	24.0	27.0	21.0
BDN34E	Ex e	¾" NPT	15.0	32.0	36.0	30.0
BDM20D	Ex d	M20 x 1.5	15.0	24.0	27.0	21.0
BDM25D	Ex d	M25 x 1.5	15.0	32.0	36.0	30.0
BDN12D	Ex d	½" NPT	15.0	24.0	27.0	21.0
BDN34D	Ex d	¾" NPT	15.0	32.0	36.0	30.0

All dimensions except NPT are in mm. Larger thread sizes are available.

REDUCER

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations



Features and Benefits

- Precision manufactured from high quality Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L.
- Converts mismatching threads to the required thread.

Technical Data

Type:	Reducer
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Gasket material:	Standard HDPE or Extreme Temp. PTFE
Note:	The installer should check that the materials are suitable for the installation environment.

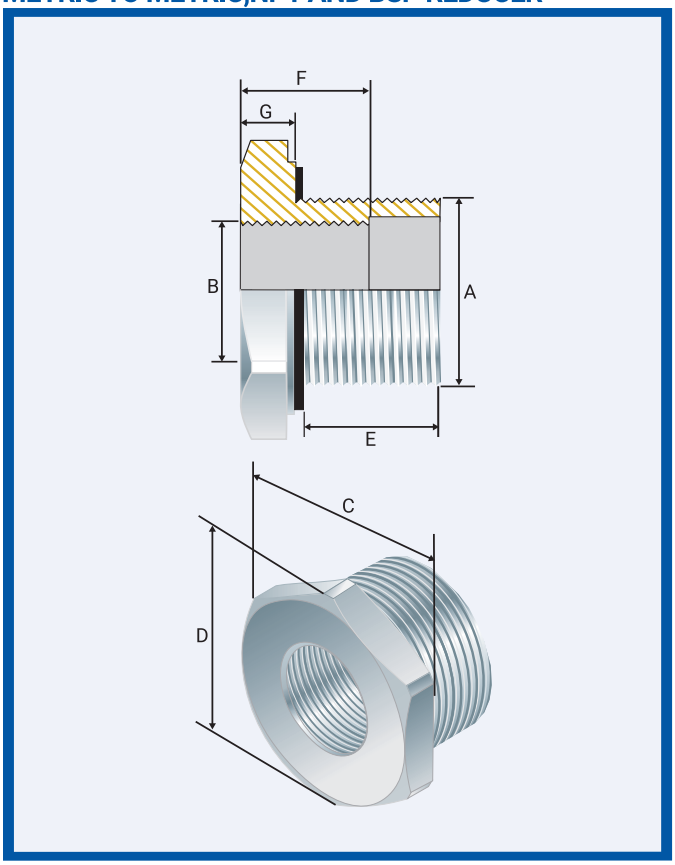
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PΠ Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00244/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3391X, CNEx CCC 2021312313000391
KCS (Korea)	Notification of Ministry of Labour No. 2013-54	16-AV4BO-0439-42X
SANS/IEC	IEC 60079 Part 0, 1, 7, 31 IEC 60529	MASC MS/13-594X
IP66/68 2m - Parallel	IEC 60529	CML15Y728
IP65/66 - Tapered	IEC 60529	
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-SG1952706-1-PDA
DNV-GL	IEC 60079 Part 0, 1, 7, IEC 60529	DNV-GL TAE0000010
ClassNK	IEC 60079 Part 0, 1, 7, 15, 31	TA20272M
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with the supplied washer and for units with tapered thread when thread sealant is conducted as indicated in IEC 60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) is applicable if the gaskets are utilized to maintain an IP rating IP65/66/68 2m continued.
- A blanking element may not be installed on an Reducer.
- When the equipment with metric male thread and with the sealing washer fitted is intended for use / interface in threaded holes in a flame-proof enclosure the applicable thread engagement must be achieved after the washer has been fitted. Thread engagement shall be at least five full threads.

METRIC TO METRIC,NPT AND BSP REDUCER



METRIC TO BSP

Product Code	Male Metric Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RM025B012	M25	½ BSP	32.0	36.0	15.0	16.0	6.0
RM032B012	M32	½ BSP	38.0	42.8	15.0	16.0	6.0
RM032B034	M32	¾ BSP	38.0	42.8	15.0	16.0	6.0
RM040B012	M40	½ BSP	38.0	42.8	15.0	16.0	6.0
RM040B034	M40	¾ BSP	47.0	52.9	15.0	16.0	6.0
RM040B001	M40	1 BSP	47.0	52.9	15.0	18.0	6.0
RM050B012	M50	½ BSP	47.0	52.9	15.0	16.0	6.0
RM050B034	M50	¾ BSP	55.0	61.9	15.0	16.0	6.0
RM050B001	M50	1 BSP	55.0	61.9	15.0	18.0	6.0
RM050B114	M50	1¼ BSP	55.0	61.9	15.0	18.0	6.0
RM063B012	M63	½ BSP	55.0	61.9	15.0	16.0	6.0
RM063B034	M63	¾ BSP	70.0	78.8	15.0	16.0	6.0
RM063B001	M63	1 BSP	70.0	78.8	15.0	18.0	6.0
RM063B114	M63	1¼ BSP	70.0	78.8	15.0	18.0	6.0
RM063B112	M63	1½ BSP	70.0	78.8	15.0	18.0	6.0
RM075B012	M75	½ BSP	70.0	78.8	15.0	16.0	6.0
RM075B034	M75	¾ BSP	70.0	78.8	15.0	16.0	6.0
RM075B001	M75	1 BSP	70.0	78.8	15.0	18.0	6.0
RM075B114	M75	1¼ BSP	70.0	78.8	15.0	18.0	6.0
RM075B112	M75	1½ BSP	80.0	90.0	15.0	18.0	6.0
RM075B002	M75	2 BSP	80.0	90.0	15.0	18.0	6.0
RM080B012	M80	½ BSP	85.0	95.6	20.0	16.0	6.0
RM080B034	M80	¾ BSP	85.0	95.6	20.0	16.0	6.0
RM080B001	M80	1 BSP	85.0	95.6	20.0	18.0	6.0
RM080B114	M80	1¼ BSP	85.0	95.6	20.0	18.0	6.0
RM080B112	M80	1½ BSP	85.0	95.6	20.0	18.0	6.0
RM080B002	M80	2 BSP	85.0	95.6	20.0	18.0	6.0
RM080B212	M80	2½ BSP	85.0	95.6	20.0	18.0	6.0
RM090B012	M90	½ BSP	96.0	108.0	20.0	16.0	6.0
RM090B034	M90	¾ BSP	96.0	108.0	20.0	16.0	6.0
RM090B001	M90	1 BSP	96.0	108.0	20.0	18.0	6.0
RM090B114	M90	1¼ BSP	96.0	108.0	20.0	18.0	6.0
RM090B112	M90	1½ BSP	96.0	108.0	20.0	18.0	6.0
RM090B002	M90	2 BSP	96.0	108.0	20.0	18.0	6.0
RM090B212	M90	2½ BSP	96.0	108.0	20.0	18.0	6.0
RM090B003	M90	3 BSP	96.0	108.0	20.0	18.0	6.0
RM100B012	M100	½ BSP	111.0	124.9	20.0	16.0	6.0
RM100B034	M100	¾ BSP	111.0	124.9	20.0	16.0	6.0
RM100B001	M100	1 BSP	111.0	124.9	20.0	18.0	6.0
RM100B114	M100	1¼ BSP	111.0	124.9	20.0	18.0	6.0
RM100B112	M100	1½ BSP	111.0	124.9	20.0	18.0	6.0
RM100B002	M100	2 BSP	111.0	124.9	20.0	18.0	6.0
RM100B212	M100	2½ BSP	111.0	124.9	20.0	18.0	6.0
RM100B003	M100	3 BSP	111.0	124.9	20.0	18.0	6.0
RM100B312	M100	3½ BSP	111.0	124.9	20.0	18.0	6.0

All dimensions except BSP are in mm.

METRIC TO NPT

Product Code	Male Metric Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RM025N012	M25	½ NPT	32.0	36.0	15.0	15.0	6.0
RM032N012	M32	½ NPT	38.0	42.8	15.0	15.0	6.0
RM032N034	M32	¾ NPT	38.0	42.8	15.0	15.0	6.0
RM040N012	M40	½ NPT	47.0	52.9	15.0	15.0	6.0
RM040N034	M40	¾ NPT	47.0	52.9	15.0	15.0	6.0
RM040N001	M40	1 NPT	47.0	52.9	15.0	18.0	6.0
RM050N012	M50	½ NPT	60.0	67.5	15.0	15.0	6.0
RM050N034	M50	¾ NPT	60.0	67.5	15.0	15.0	6.0
RM050N001	M50	1 NPT	60.0	67.5	15.0	18.0	6.0
RM050N114	M50	1¼ NPT	60.0	67.5	15.0	19.0	6.0
RM063N012	M63	½ NPT	70.0	78.8	15.0	15.0	6.0
RM063N034	M63	¾ NPT	70.0	78.8	15.0	15.0	6.0
RM063N001	M63	1 NPT	70.0	78.8	15.0	18.0	6.0
RM063N114	M63	1¼ NPT	70.0	78.8	15.0	19.0	6.0
RM063N112	M63	1½ NPT	70.0	78.8	15.0	19.0	6.0
RM075N012	M75	½ NPT	80.0	90.0	15.0	15.0	6.0
RM075N034	M75	¾ NPT	80.0	90.0	15.0	15.0	6.0
RM075N001	M75	1 NPT	80.0	90.0	15.0	18.0	6.0
RM075N114	M75	1¼ NPT	80.0	90.0	15.0	19.0	6.0
RM075N112	M75	1½ NPT	80.0	90.0	15.0	19.0	6.0
RM075N002	M75	2 NPT	80.0	90.0	15.0	19.0	6.0
RM080N012	M80	½ NPT	85.0	95.6	20.0	15.0	6.0
RM080N034	M80	¾ NPT	85.0	95.6	20.0	15.0	6.0
RM080N001	M80	1 NPT	85.0	95.6	20.0	18.0	6.0
RM080N114	M80	1¼ NPT	85.0	95.6	20.0	19.0	6.0
RM080N112	M80	1½ NPT	85.0	95.6	20.0	19.0	6.0
RM080N002	M80	2 NPT	85.0	95.6	20.0	19.0	6.0
RM080N212	M80	2½ NPT	85.0	95.6	20.0	25.0	6.0
RM090N012	M90	½ NPT	96.0	108.0	20.0	15.0	6.0
RM090N034	M90	¾ NPT	96.0	108.0	20.0	15.0	6.0
RM090N001	M90	1 NPT	96.0	108.0	20.0	18.0	6.0
RM090N114	M90	1¼ NPT	96.0	108.0	20.0	19.0	6.0
RM090N112	M90	1½ NPT	96.0	108.0	20.0	19.0	6.0
RM090N002	M90	2 NPT	96.0	108.0	20.0	19.0	6.0
RM090N212	M90	2½ NPT	96.0	108.0	20.0	25.0	6.0
RM090N003	M90	3 NPT	96.0	108.0	20.0	27.0	6.0
RM100N012	M100	½ NPT	111.0	124.9	20.0	15.0	6.0
RM100N034	M100	¾ NPT	111.0	124.9	20.0	15.0	6.0
RM100N001	M100	1 NPT	111.0	124.9	20.0	18.0	6.0
RM100N114	M100	1¼ NPT	111.0	124.9	20.0	19.0	6.0
RM100N112	M100	1½ NPT	111.0	124.9	20.0	19.0	6.0
RM100N002	M100	2 NPT	111.0	124.9	20.0	19.0	6.0
RM100N212	M100	2½ NPT	111.0	124.9	20.0	25.0	6.0
RM100N003	M100	3 NPT	111.0	124.9	20.0	27.0	6.0
RM100N312	M100	3½ NPT	111.0	124.9	20.0	29.0	6.0

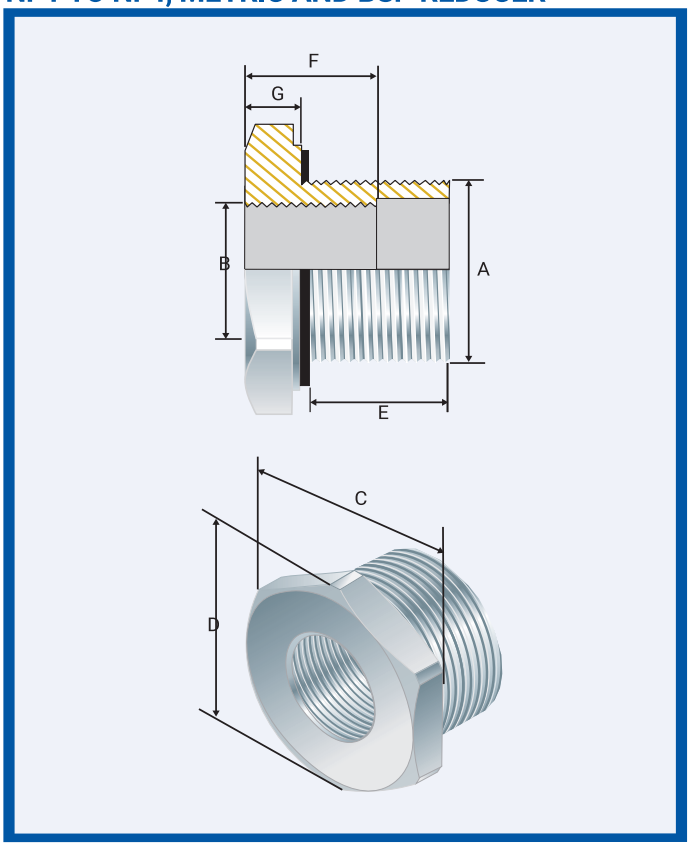
All dimensions except NPT are in mm.

METRIC TO METRIC

Product Code	Male Metric Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RM020M016	M20	M16	27.0	30.4	15.0	15.0	6.0
RM025M016	M25	M16	32.0	36.0	15.0	15.0	6.0
RM025M020	M25	M20	32.0	36.0	15.0	15.0	6.0
RM032M016	M32	M16	38.0	42.8	15.0	15.0	6.0
RM032M020	M32	M20	38.0	42.8	15.0	15.0	6.0
RM032M025	M32	M25	38.0	42.8	15.0	15.0	6.0
RM040M016	M40	M16	47.0	52.9	15.0	15.0	6.0
RM040M020	M40	M20	47.0	52.9	15.0	15.0	6.0
RM040M025	M40	M25	47.0	52.9	15.0	15.0	6.0
RM040M032	M40	M32	47.0	52.9	15.0	15.0	6.0
RM050M016	M50	M16	55.0	61.9	15.0	15.0	6.0
RM050M020	M50	M20	55.0	61.9	15.0	15.0	6.0
RM050M025	M50	M25	55.0	61.9	15.0	15.0	6.0
RM050M032	M50	M32	55.0	61.9	15.0	15.0	6.0
RM050M040	M50	M40	55.0	61.9	15.0	15.0	6.0
RM063M016	M63	M16	70.0	78.8	15.0	15.0	6.0
RM063M020	M63	M20	70.0	78.8	15.0	15.0	6.0
RM063M025	M63	M25	70.0	78.8	15.0	15.0	6.0
RM063M032	M63	M32	70.0	78.8	15.0	15.0	6.0
RM063M040	M63	M40	70.0	78.8	15.0	15.0	6.0
RM063M050	M63	M50	70.0	78.8	15.0	15.0	6.0
RM075M016	M75	M16	80.0	90.0	15.0	15.0	6.0
RM075M020	M75	M20	80.0	90.0	15.0	15.0	6.0
RM075M025	M75	M25	80.0	90.0	15.0	15.0	6.0
RM075M032	M75	M32	80.0	90.0	15.0	15.0	6.0
RM075M040	M75	M40	80.0	90.0	15.0	15.0	6.0
RM075M050	M75	M50	80.0	90.0	15.0	15.0	6.0
RM075M063	M75	M63	80.0	90.0	15.0	15.0	6.0
RM080M016	M80	M16	85.0	95.6	20.0	15.0	6.0
RM080M020	M80	M20	85.0	95.6	20.0	15.0	6.0
RM080M025	M80	M25	85.0	95.6	20.0	15.0	6.0
RM080M032	M80	M32	85.0	95.6	20.0	15.0	6.0
RM080M040	M80	M40	85.0	95.6	20.0	15.0	6.0
RM080M050	M80	M50	85.0	95.6	20.0	15.0	6.0
RM080M063	M80	M63	85.0	95.6	20.0	15.0	6.0
RM080M075	M80	M75	85.0	95.6	20.0	15.0	6.0
RM090M016	M90	M16	96.0	108.0	20.0	15.0	6.0
RM090M020	M90	M20	96.0	108.0	20.0	15.0	6.0
RM090M025	M90	M25	96.0	108.0	20.0	15.0	6.0
RM090M032	M90	M32	96.0	108.0	20.0	15.0	6.0
RM090M040	M90	M40	96.0	108.0	20.0	15.0	6.0
RM090M050	M90	M50	96.0	108.0	20.0	15.0	6.0
RM090M063	M90	M63	96.0	108.0	20.0	15.0	6.0
RM090M075	M90	M75	96.0	108.0	20.0	15.0	6.0
RM090M080	M90	M80	96.0	108.0	20.0	20.0	6.0
RM100M016	M100	M16	111.0	124.9	20.0	15.0	6.0
RM100M020	M100	M20	111.0	124.9	20.0	15.0	6.0
RM100M025	M100	M25	111.0	124.9	20.0	15.0	6.0
RM100M032	M100	M32	111.0	124.9	20.0	15.0	6.0
RM100M040	M100	M40	111.0	124.9	20.0	15.0	6.0
RM100M050	M100	M50	111.0	124.9	20.0	15.0	6.0
RM100M063	M100	M63	111.0	124.9	20.0	15.0	6.0
RM100M075	M100	M75	111.0	124.9	20.0	15.0	6.0
RM100M080	M100	M80	111.0	124.9	20.0	20.0	6.0
RM100M090	M100	M90	111.0	124.9	20.0	20.0	6.0

All dimensions are in mm.

NPT TO NPT, METRIC AND BSP REDUCER



NPT TO NPT

Product Code	Male NPT Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RN034N012	¾ NPT	½ NPT	27.0	30.4	15.0	15.0	6.0
RN001N012	1 NPT	½ NPT	35.0	39.4	19.0	15.0	6.0
RN001N034	1 NPT	¾ NPT	35.0	39.4	19.0	15.0	6.0
RN114N012	1¼ NPT	½ NPT	42.0	47.3	19.0	15.0	6.0
RN114N034	1¼ NPT	¾ NPT	42.0	47.3	19.0	15.0	6.0
RN114N001	1¼ NPT	1 NPT	42.0	47.3	19.0	18.0	6.0
RN112N012	1½ NPT	½ NPT	48.0	54.0	21.0	15.0	6.0
RN112N034	1½ NPT	¾ NPT	48.0	54.0	21.0	15.0	6.0
RN112N001	1½ NPT	1 NPT	48.0	54.0	21.0	18.0	6.0
RN112N114	1½ NPT	1¼ NPT	48.0	54.0	21.0	19.0	6.0
RN002N012	2 NPT	½ NPT	65.0	73.1	21.0	15.0	6.0
RN002N034	2 NPT	¾ NPT	65.0	73.1	21.0	15.0	6.0
RN002N001	2 NPT	1 NPT	65.0	73.1	21.0	18.0	6.0
RN002N114	2 NPT	1¼ NPT	65.0	73.1	21.0	19.0	6.0
RN002N112	2 NPT	1½ NPT	65.0	73.1	21.0	19.0	6.0
RN212N012	2½ NPT	½ NPT	75.0	84.4	30.0	15.0	6.0
RN212N034	2½ NPT	¾ NPT	75.0	84.4	30.0	15.0	6.0
RN212N001	2½ NPT	1 NPT	75.0	84.4	30.0	18.0	6.0
RN212N114	2½ NPT	1¼ NPT	75.0	84.4	30.0	19.0	6.0
RN212N112	2½ NPT	1½ NPT	75.0	84.4	30.0	19.0	6.0
RN212N002	2½ NPT	2 NPT	75.0	84.4	30.0	19.0	6.0
RN003N012	3 NPT	½ NPT	90.0	101.3	32.0	15.0	6.0
RN003N034	3 NPT	¾ NPT	90.0	101.3	32.0	15.0	6.0
RN003N001	3 NPT	1 NPT	90.0	101.3	32.0	18.0	6.0
RN003N114	3 NPT	1¼ NPT	90.0	101.3	32.0	19.0	6.0
RN003N112	3 NPT	1½ NPT	90.0	101.3	32.0	19.0	6.0
RN003N002	3 NPT	2 NPT	90.0	101.3	32.0	19.0	6.0
RN003N212	3 NPT	2½ NPT	90.0	101.3	32.0	25.0	6.0
RN312N012	3½ NPT	½ NPT	102.0	114.8	33.0	15.0	6.0
RN312N034	3½ NPT	¾ NPT	102.0	114.8	33.0	15.0	6.0
RN312N001	3½ NPT	1 NPT	102.0	114.8	33.0	18.0	6.0
RN312N114	3½ NPT	1¼ NPT	102.0	114.8	33.0	19.0	6.0
RN312N112	3½ NPT	1½ NPT	102.0	114.8	33.0	19.0	6.0
RN312N002	3½ NPT	2 NPT	102.0	114.8	33.0	19.0	6.0
RN312N212	3½ NPT	2½ NPT	102.0	114.8	33.0	25.0	6.0
RN312N003	3½ NPT	3 NPT	102.0	114.8	33.0	27.0	6.0
RN004N012	4 NPT	½ NPT	115.0	129.4	34.0	15.0	6.0
RN004N034	4 NPT	¾ NPT	115.0	129.4	34.0	15.0	6.0
RN004N001	4 NPT	1 NPT	115.0	129.4	34.0	18.0	6.0
RN004N114	4 NPT	1¼ NPT	115.0	129.4	34.0	19.0	6.0
RN004N112	4 NPT	1½ NPT	115.0	129.4	34.0	19.0	6.0
RN004N002	4 NPT	2 NPT	115.0	129.4	34.0	19.0	6.0
RN004N212	4 NPT	2½ NPT	115.0	129.4	34.0	25.0	6.0
RN004N003	4 NPT	3 NPT	115.0	129.4	34.0	27.0	6.0
RN004N312	4 NPT	3½ NPT	115.0	129.4	34.0	29.0	6.0

All dimensions except NPT are in mm.

NPT TO METRIC

Product Code	Male NPT Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RN012M016	½ NPT	M16	27.0	30.4	15.0	15.0	6.0
RN034M016	¾ NPT	M16	27.0	30.4	15.0	15.0	6.0
RN034M020	¾ NPT	M20	27.0	30.4	15.0	15.0	6.0
RN001M016	1 NPT	M16	35.0	39.4	19.0	15.0	6.0
RN001M020	1 NPT	M20	35.0	39.4	19.0	15.0	6.0
RN001M025	1 NPT	M25	42.0	47.3	19.0	15.0	6.0
RN114M016	1¼ NPT	M16	42.0	47.3	19.0	15.0	6.0
RN114M020	1¼ NPT	M20	42.0	47.3	19.0	15.0	6.0
RN114M025	1¼ NPT	M25	42.0	47.3	19.0	15.0	6.0
RN114M032	1¼ NPT	M32	42.0	47.3	19.0	15.0	6.0
RN112M016	1½ NPT	M16	48.0	54.0	21.0	15.0	6.0
RN112M020	1½ NPT	M20	48.0	54.0	21.0	15.0	6.0
RN112M025	1½ NPT	M25	48.0	54.0	21.0	15.0	6.0
RN112M032	1½ NPT	M32	48.0	54.0	21.0	15.0	6.0
RN112M040	1½ NPT	M40	48.0	54.0	21.0	15.0	6.0
RN002M016	2 NPT	M16	65.0	73.1	21.0	15.0	6.0
RN002M020	2 NPT	M20	65.0	73.1	21.0	15.0	6.0
RN002M025	2 NPT	M25	65.0	73.1	21.0	15.0	6.0
RN002M032	2 NPT	M32	65.0	73.1	21.0	15.0	6.0
RN002M040	2 NPT	M40	65.0	73.1	21.0	15.0	6.0
RN002M050	2 NPT	M50	65.0	73.1	21.0	15.0	6.0
RN212M016	2½ NPT	M16	75.0	84.4	30.0	15.0	6.0
RN212M020	2½ NPT	M20	75.0	84.4	30.0	15.0	6.0
RN212M025	2½ NPT	M25	75.0	84.4	30.0	15.0	6.0
RN212M032	2½ NPT	M32	75.0	84.4	30.0	15.0	6.0
RN212M040	2½ NPT	M40	75.0	84.4	30.0	15.0	6.0
RN212M050	2½ NPT	M50	75.0	84.4	30.0	15.0	6.0
RN212M063	2½ NPT	M63	75.0	84.4	30.0	15.0	6.0
RN003M016	3 NPT	M16	90.0	101.3	32.0	15.0	6.0
RN003M020	3 NPT	M20	90.0	101.3	32.0	15.0	6.0
RN003M025	3 NPT	M25	90.0	101.3	32.0	15.0	6.0
RN003M032	3 NPT	M32	90.0	101.3	32.0	15.0	6.0
RN003M040	3 NPT	M40	90.0	101.3	32.0	15.0	6.0
RN003M050	3 NPT	M50	90.0	101.3	32.0	15.0	6.0
RN003M063	3 NPT	M63	90.0	101.3	32.0	15.0	6.0
RN003M075	3 NPT	M75	90.0	101.3	32.0	15.0	6.0
RN312M016	3½ NPT	M16	102.0	114.8	33.0	15.0	6.0
RN312M020	3½ NPT	M20	102.0	114.8	33.0	15.0	6.0
RN312M025	3½ NPT	M25	102.0	114.8	33.0	15.0	6.0
RN312M032	3½ NPT	M32	102.0	114.8	33.0	15.0	6.0
RN312M040	3½ NPT	M40	102.0	114.8	33.0	15.0	6.0
RN312M050	3½ NPT	M50	102.0	114.8	33.0	15.0	6.0
RN312M063	3½ NPT	M63	102.0	114.8	33.0	15.0	6.0
RN312M075	3½ NPT	M75	102.0	114.8	33.0	15.0	6.0
RN312M080	3½ NPT	M80	102.0	114.8	33.0	20.0	6.0
RN004M016	4 NPT	M16	115.0	129.4	34.0	15.0	6.0
RN004M020	4 NPT	M20	115.0	129.4	34.0	15.0	6.0
RN004M025	4 NPT	M25	115.0	129.4	34.0	15.0	6.0
RN004M032	4 NPT	M32	115.0	129.4	34.0	15.0	6.0
RN004M040	4 NPT	M40	115.0	129.4	34.0	15.0	6.0
RN004M050	4 NPT	M50	115.0	129.4	34.0	15.0	6.0
RN004M063	4 NPT	M63	115.0	129.4	34.0	15.0	6.0
RN004M075	4 NPT	M75	115.0	129.4	34.0	15.0	6.0
RN004M080	4 NPT	M80	115.0	129.4	34.0	20.0	6.0
RN004M090	4 NPT	M90	115.0	129.4	34.0	20.0	6.0

All dimensios except NPT are in mm.

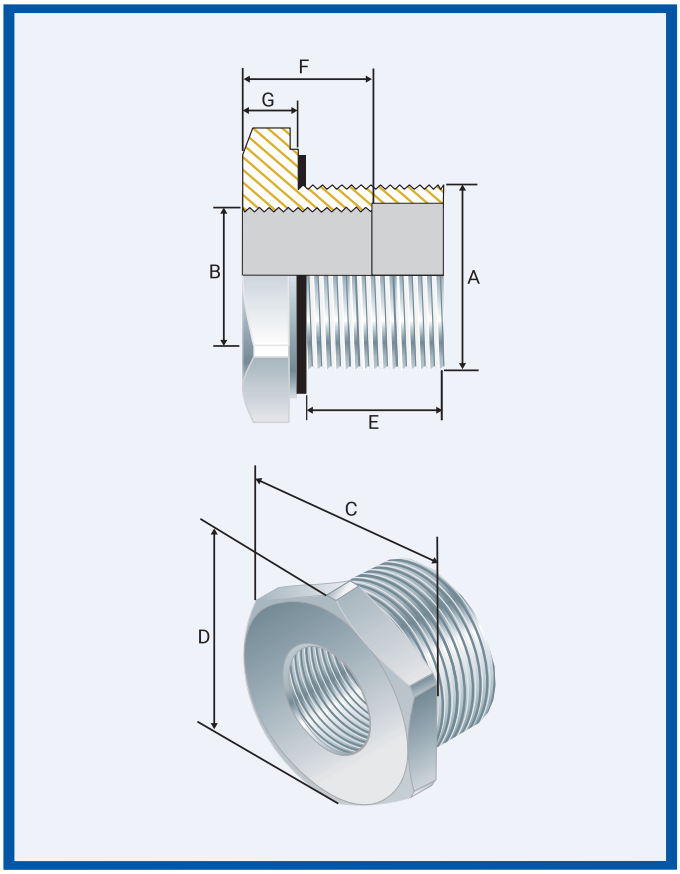
NPT TO BSP

Product Code	Male NPT Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RN034B012	¾ NPT	½ BSP	27.0	30.4	15.0	16.0	6.0
RN001B012	1 NPT	½ BSP	35.0	39.4	19.0	16.0	6.0
RN001B034	1 NPT	¾ BSP	35.0	39.4	19.0	16.0	6.0
RN114B012	1¼ NPT	½ BSP	42.0	47.3	19.0	16.0	6.0
RN114B034	1¼ NPT	¾ BSP	42.0	47.3	19.0	16.0	6.0
RN114B001	1¼ NPT	1 BSP	42.0	47.3	19.0	18.0	6.0
RN112B012	1½ NPT	½ BSP	48.0	54.0	21.0	16.0	6.0
RN112B034	1½ NPT	¾ BSP	48.0	54.0	21.0	16.0	6.0
RN112B001	1½ NPT	1 BSP	48.0	54.0	21.0	18.0	6.0
RN112B114	1½ NPT	1¼ BSP	48.0	54.0	21.0	18.0	6.0
RN002B012	2 NPT	½ BSP	65.0	73.1	21.0	16.0	6.0
RN002B034	2 NPT	¾ BSP	65.0	73.1	21.0	16.0	6.0
RN002B001	2 NPT	1 BSP	65.0	73.1	21.0	18.0	6.0
RN002B114	2 NPT	1¼ BSP	65.0	73.1	21.0	18.0	6.0
RN002B112	2 NPT	1½ BSP	65.0	73.1	21.0	18.0	6.0
RN212B012	2½ NPT	½ BSP	75.0	84.4	30.0	16.0	6.0
RN212B034	2½ NPT	¾ BSP	75.0	84.4	30.0	16.0	6.0
RN212B001	2½ NPT	1 BSP	75.0	84.4	30.0	18.0	6.0
RN212B114	2½ NPT	1¼ BSP	75.0	84.4	30.0	18.0	6.0
RN212B112	2½ NPT	1½ BSP	75.0	84.4	30.0	18.0	6.0
RN212B002	2½ NPT	2 BSP	75.0	84.4	30.0	18.0	6.0
RN003B012	3 NPT	½ BSP	90.0	101.3	32.0	16.0	6.0
RN003B034	3 NPT	¾ BSP	90.0	101.3	32.0	16.0	6.0
RN003B001	3 NPT	1 BSP	90.0	101.3	32.0	18.0	6.0
RN003B114	3 NPT	1¼ BSP	90.0	101.3	32.0	18.0	6.0
RN003B112	3 NPT	1½ BSP	90.0	101.3	32.0	18.0	6.0
RN003B002	3 NPT	2 BSP	90.0	101.3	32.0	18.0	6.0
RN003B212	3 NPT	2½ BSP	90.0	101.3	32.0	18.0	6.0
RN312B012	3½ NPT	½ BSP	102.0	114.8	33.0	16.0	6.0
RN312B034	3½ NPT	¾ BSP	102.0	114.8	33.0	16.0	6.0
RN312B001	3½ NPT	1 BSP	102.0	114.8	33.0	18.0	6.0
RN312B114	3½ NPT	1¼ BSP	102.0	114.8	33.0	18.0	6.0
RN312B112	3½ NPT	1½ BSP	102.0	114.8	33.0	18.0	6.0
RN312B002	3½ NPT	2 BSP	102.0	114.8	33.0	18.0	6.0
RN312B212	3½ NPT	2½ BSP	102.0	114.8	33.0	18.0	6.0
RN312B003	3½ NPT	3 BSP	102.0	114.8	33.0	18.0	6.0
RN004B012	4 NPT	½ BSP	115.0	129.4	34.0	16.0	6.0
RN004B034	4 NPT	¾ BSP	115.0	129.4	34.0	16.0	6.0
RN004B001	4 NPT	1 BSP	115.0	129.4	34.0	18.0	6.0
RN004B114	4 NPT	1¼ BSP	115.0	129.4	34.0	18.0	6.0
RN004B112	4 NPT	1½ BSP	115.0	129.4	34.0	18.0	6.0
RN004B002	4 NPT	2 BSP	115.0	129.4	34.0	18.0	6.0
RN004B212	4 NPT	2½ BSP	115.0	129.4	34.0	18.0	6.0
RN004B003	4 NPT	3 BSP	115.0	129.4	34.0	18.0	6.0
RN004B312	4 NPT	3½ BSP	115.0	129.4	34.0	18.0	6.0

All dimensions exept NPT and BSP are in mm.

BW-IN100619

BSP TO BSP, METRIC AND NPT REDUCER



BSP TO BSP

Product Code	Male BSP Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RB034B012	¾ BSP	½ BSP	32.0	36.0	16.0	16.0	6.0
RB001B012	1 BSP	½ BSP	42.0	47.3	18.0	16.0	6.0
RB001B034	1 BSP	¾ BSP	42.0	47.3	18.0	16.0	6.0
RB114B012	1¼ BSP	½ BSP	48.0	54.0	18.0	16.0	6.0
RB114B034	1¼ BSP	¾ BSP	48.0	54.0	18.0	16.0	6.0
RB114B001	1¼ BSP	1 BSP	48.0	54.0	18.0	18.0	6.0
RB112B012	1½ BSP	½ BSP	60.0	67.5	18.0	16.0	6.0
RB112B034	1½ BSP	¾ BSP	60.0	67.5	18.0	16.0	6.0
RB112B001	1½ BSP	1 BSP	60.0	67.5	18.0	18.0	6.0
RB112B114	1½ BSP	1¼ BSP	60.0	67.5	18.0	18.0	6.0
RB002B012	3 BSP	½ BSP	65.0	73.1	18.0	18.0	6.0
RB002B034	2 BSP	¾ BSP	65.0	73.1	18.0	18.0	6.0
RB002B001	2 BSP	1 BSP	65.0	73.1	18.0	18.0	6.0
RB002B114	2 BSP	1¼ BSP	65.0	73.1	18.0	18.0	6.0
RB002B112	2 BSP	1½ BSP	65.0	73.1	18.0	18.0	6.0
RB212B012	2½ BSP	½ BSP	80.0	90.0	18.0	18.0	6.0
RB212B034	2½ BSP	¾ BSP	80.0	90.0	18.0	18.0	6.0
RB212B001	2½ BSP	1 BSP	80.0	90.0	18.0	18.0	6.0
RB212B114	2½ BSP	1¼ BSP	80.0	90.0	18.0	18.0	6.0
RB212B112	2½ BSP	1½ BSP	80.0	90.0	18.0	18.0	6.0
RB212B002	2½ BSP	2 BSP	80.0	90.0	18.0	18.0	6.0
RB003B012	3 BSP	½ BSP	96.0	108.0	18.0	18.0	6.0
RB003B034	3 BSP	¾ BSP	96.0	108.0	18.0	18.0	6.0
RB003B001	3 BSP	1 BSP	96.0	108.0	18.0	18.0	6.0
RB003B114	3 BSP	1¼ BSP	96.0	108.0	18.0	18.0	6.0
RB003B112	3 BSP	1½ BSP	96.0	108.0	18.0	18.0	6.0
RB003B002	3 BSP	2 BSP	96.0	108.0	18.0	18.0	6.0
RB003B212	3 BSP	2½ BSP	96.0	108.0	18.0	18.0	6.0
RB312B012	3½ BSP	½ BSP	111.0	124.9	18.0	18.0	6.0
RB312B034	3½ BSP	¾ BSP	111.0	124.9	18.0	18.0	6.0
RB312B001	3½ BSP	1 BSP	111.0	124.9	18.0	18.0	6.0
RB312B114	3½ BSP	1¼ BSP	111.0	124.9	18.0	18.0	6.0
RB312B112	3½ BSP	1½ BSP	111.0	124.9	18.0	18.0	6.0
RB312B002	3½ BSP	2 BSP	111.0	124.9	18.0	18.0	6.0
RB312B212	3½ BSP	2½ BSP	111.0	124.9	18.0	18.0	6.0
RB312B003	3½ BSP	3 BSP	111.0	124.9	18.0	18.0	6.0
RB004B012	4 BSP	½ BSP	125.0	140.6	18.0	18.0	6.0
RB004B034	4 BSP	¾ BSP	125.0	140.6	18.0	18.0	6.0
RB004B001	4 BSP	1 BSP	125.0	140.6	18.0	18.0	6.0
RB004B114	4 BSP	1¼ BSP	125.0	140.6	18.0	18.0	6.0
RB004B112	4 BSP	1½ BSP	125.0	140.6	18.0	18.0	6.0
RB004B002	4 BSP	2 BSP	125.0	140.6	18.0	18.0	6.0
RB004B212	4 BSP	2½ BSP	125.0	140.6	18.0	18.0	6.0
RB004B003	4 BSP	3 BSP	125.0	140.6	18.0	18.0	6.0
RB004B312	4 BSP	3½ BSP	125.0	140.6	18.0	18.0	6.0

All dimensions except BSP are in mm.

BSP TO METRIC

Product Code	Male BSP Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RB012M016	½ BSP	M16	27.0	30.4	16.0	15.0	6.0
RB034M016	¾ BSP	M16	32.0	36.0	16.0	15.0	6.0
RB034M020	¾ BSP	M20	32.0	36.0	16.0	15.0	6.0
RB001M016	1 BSP	M16	42.0	47.3	18.0	15.0	6.0
RB001M020	1 BSP	M20	42.0	47.3	18.0	15.0	6.0
RB001M025	1 BSP	M25	42.0	47.3	18.0	15.0	6.0
RB114M016	1¼ BSP	M16	48.0	54.0	18.0	15.0	6.0
RB114M020	1¼ BSP	M20	48.0	54.0	18.0	15.0	6.0
RB114M025	1¼ BSP	M25	48.0	54.0	18.0	15.0	6.0
RB114M032	1¼ BSP	M32	48.0	54.0	18.0	15.0	6.0
RB112M016	1½ BSP	M16	60.0	67.5	18.0	15.0	6.0
RB112M020	1½ BSP	M20	60.0	67.5	18.0	15.0	6.0
RB112M025	1½ BSP	M25	60.0	67.5	18.0	15.0	6.0
RB112M032	1½ BSP	M32	60.0	67.5	18.0	15.0	6.0
RB112M040	1½ BSP	M40	60.0	67.5	18.0	15.0	6.0
RB002M016	2 BSP	M16	65.0	73.1	18.0	15.0	6.0
RB002M020	2 BSP	M20	65.0	73.1	18.0	15.0	6.0
RB002M025	2 BSP	M25	65.0	73.1	18.0	15.0	6.0
RB002M032	2 BSP	M32	65.0	73.1	18.0	15.0	6.0
RB002M040	2 BSP	M40	65.0	73.1	18.0	15.0	6.0
RB002M050	2 BSP	M50	65.0	73.1	18.0	15.0	6.0
RB212M016	2½ BSP	M16	80.0	90.0	18.0	15.0	6.0
RB212M020	2½ BSP	M20	80.0	90.0	18.0	15.0	6.0
RB212M025	2½ BSP	M25	80.0	90.0	18.0	15.0	6.0
RB212M032	2½ BSP	M32	80.0	90.0	18.0	15.0	6.0
RB212M040	2½ BSP	M40	80.0	90.0	18.0	15.0	6.0
RB212M050	2½ BSP	M50	80.0	90.0	18.0	15.0	6.0
RB212M063	2½ BSP	M63	80.0	90.0	18.0	15.0	6.0
RB003M016	3 BSP	M16	96.0	108.0	18.0	15.0	6.0
RB003M020	3 BSP	M20	96.0	108.0	18.0	15.0	6.0
RB003M025	3 BSP	M25	96.0	108.0	18.0	15.0	6.0
RB003M032	3 BSP	M32	96.0	108.0	18.0	15.0	6.0
RB003M040	3 BSP	M40	96.0	108.0	18.0	15.0	6.0
RB003M050	3 BSP	M50	96.0	108.0	18.0	15.0	6.0
RB003M063	3 BSP	M63	96.0	108.0	18.0	15.0	6.0
RB003M075	3 BSP	M75	96.0	108.0	18.0	15.0	6.0
RB312M016	3½ BSP	M16	111.0	124.9	18.0	15.0	6.0
RB312M020	3½ BSP	M20	111.0	124.9	18.0	15.0	6.0
RB312M025	3½ BSP	M25	111.0	124.9	18.0	15.0	6.0
RB312M032	3½ BSP	M32	111.0	124.9	18.0	15.0	6.0
RB312M040	3½ BSP	M40	111.0	124.9	18.0	15.0	6.0
RB312M050	3½ BSP	M50	111.0	124.9	18.0	15.0	6.0
RB312M063	3½ BSP	M63	111.0	124.9	18.0	15.0	6.0
RB312M075	3½ BSP	M75	111.0	124.9	18.0	15.0	6.0
RB312M080	3½ BSP	M80	111.0	124.9	18.0	20.0	6.0
RB004M016	4 BSP	M16	125.0	140.6	18.0	15.0	6.0
RB004M020	4 BSP	M20	125.0	140.6	18.0	15.0	6.0
RB004M025	4 BSP	M25	125.0	140.6	18.0	15.0	6.0
RB004M032	4 BSP	M32	125.0	140.6	18.0	15.0	6.0
RB004M040	4 BSP	M40	125.0	140.6	18.0	15.0	6.0
RB004M050	4 BSP	M50	125.0	140.6	18.0	15.0	6.0
RB004M063	4 BSP	M63	125.0	140.6	18.0	15.0	6.0
RB004M075	4 BSP	M75	125.0	140.6	18.0	15.0	6.0
RB004M080	4 BSP	M80	125.0	140.6	18.0	20.0	6.0
RB004M090	4 BSP	M90	125.0	140.6	18.0	20.0	6.0

All dimensions BSP are in mm.

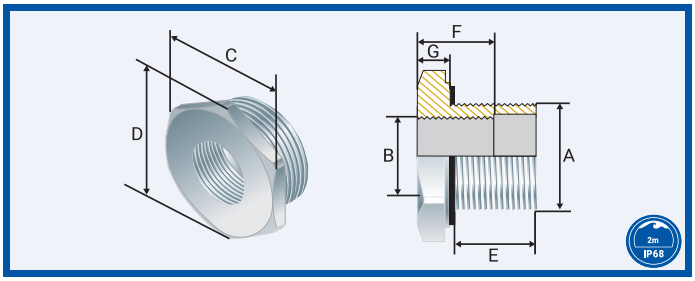
BSP TO NPT

Product Code	Male BSP Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RB034N012	¾ BSP	½ NPT	32.0	36.0	16.0	15.0	6.0
RB001N012	1 BSP	½ NPT	38.0	42.8	18.0	15.0	6.0
RB001N034	1 BSP	¾ NPT	38.0	42.8	18.0	15.0	6.0
RB114N012	1¼ BSP	½ NPT	50.0	56.3	18.0	15.0	6.0
RB114N034	1¼ BSP	¾ NPT	50.0	56.3	18.0	15.0	6.0
RB114N001	1¼ BSP	1 NPT	50.0	56.3	18.0	18.0	6.0
RB112N012	1½ BSP	½ NPT	55.0	61.9	18.0	15.0	6.0
RB112N034	1½ BSP	¾ NPT	55.0	61.9	18.0	15.0	6.0
RB112N001	1½ BSP	1 NPT	55.0	61.9	18.0	18.0	6.0
RB112N114	1½ BSP	1¼ NPT	55.0	61.9	18.0	19.0	6.0
RB002N012	2 BSP	½ NPT	70.0	78.8	18.0	15.0	6.0
RB002N034	2 BSP	¾ NPT	70.0	78.8	18.0	15.0	6.0
RB002N001	2 BSP	1 NPT	70.0	78.8	18.0	18.0	6.0
RB002N114	2 BSP	1¼ NPT	70.0	78.8	18.0	19.0	6.0
RB002N112	2 BSP	1½ NPT	70.0	78.8	18.0	19.0	6.0
RB212N012	2½ BSP	½ NPT	80.0	90.0	18.0	15.0	6.0
RB212N034	2½ BSP	¾ NPT	80.0	90.0	18.0	15.0	6.0
RB212N001	2½ BSP	1 NPT	80.0	90.0	18.0	18.0	6.0
RB212N114	2½ BSP	1¼ NPT	80.0	90.0	18.0	19.0	6.0
RB212N112	2½ BSP	1½ NPT	80.0	90.0	18.0	19.0	6.0
RB212N002	2½ BSP	2 NPT	80.0	90.0	18.0	19.0	6.0
RB003N012	3 BSP	½ NPT	96.0	108.0	18.0	15.0	6.0
RB003N034	3 BSP	¾ NPT	96.0	108.0	18.0	15.0	6.0
RB003N001	3 BSP	1 NPT	96.0	108.0	18.0	18.0	6.0
RB003N114	3 BSP	1¼ NPT	96.0	108.0	18.0	19.0	6.0
RB003N112	3 BSP	1½ NPT	96.0	108.0	18.0	19.0	6.0
RB003N002	3 BSP	2 NPT	96.0	108.0	18.0	19.0	6.0
RB003N212	3 BSP	2½ NPT	96.0	108.0	18.0	25.0	6.0
RB312N012	3½ BSP	½ NPT	111.0	124.9	18.0	15.0	6.0
RB312N034	3½ BSP	¾ NPT	111.0	124.9	18.0	15.0	6.0
RB312N001	3½ BSP	1 NPT	111.0	124.9	18.0	18.0	6.0
RB312N114	3½ BSP	1¼ NPT	111.0	124.9	18.0	19.0	6.0
RB312N112	3½ BSP	1½ NPT	111.0	124.9	18.0	19.0	6.0
RB312N002	3½ BSP	2 NPT	111.0	124.9	18.0	19.0	6.0
RB312N212	3½ BSP	2½ NPT	111.0	124.9	18.0	25.0	6.0
RB312N003	3½ BSP	3 NPT	111.0	124.9	18.0	27.0	6.0
RB004N012	4 BSP	½ NPT	125.0	140.6	18.0	15.0	6.0
RB004N034	4 BSP	¾ NPT	125.0	140.6	18.0	15.0	6.0
RB004N001	4 BSP	1 NPT	125.0	140.6	18.0	18.0	6.0
RB004N114	4 BSP	1¼ NPT	125.0	140.6	18.0	19.0	6.0
RB004N112	4 BSP	1½ NPT	125.0	140.6	18.0	19.0	6.0
RB004N002	4 BSP	2 NPT	125.0	140.6	18.0	19.0	6.0
RB004N212	4 BSP	2½ NPT	125.0	140.6	18.0	25.0	6.0
RB004N003	4 BSP	3 NPT	125.0	140.6	18.0	27.0	6.0
RB004N312	4 BSP	3½ NPT	125.0	140.6	18.0	29.0	6.0

All dimensions BSP to NPT are in mm.

IP AND CONDUIT REDUCER

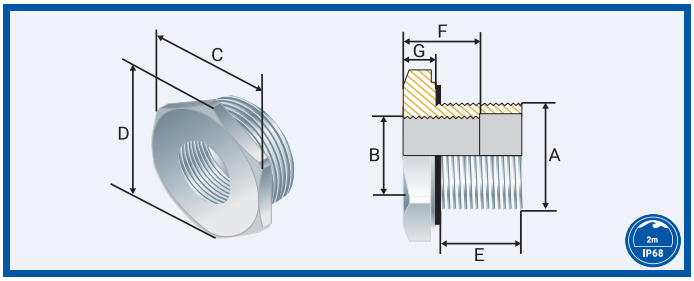
METRIC IP REDUCER



Product Code	Male Metric Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RM020M016IP	M20	M16	27.0	30.4	12.0	10.0	6.0
RM025M016IP	M25	M16	32.0	36.0	12.0	10.0	6.0
RM025M020IP	M25	M20	32.0	36.0	12.0	15.0	6.0
RM032M016IP	M32	M16	38.0	42.8	12.0	15.0	6.0
RM032M020IP	M32	M20	38.0	42.8	12.0	15.0	6.0
RM032M025IP	M32	M25	38.0	42.8	12.0	15.0	6.0
RM040M016IP	M40	M16	47.0	52.9	12.0	15.0	6.0
RM040M020IP	M40	M20	47.0	52.9	12.0	15.0	6.0
RM040M025IP	M40	M25	47.0	52.9	12.0	15.0	6.0
RM040M032IP	M40	M32	47.0	52.9	12.0	15.0	6.0
RM050M016IP	M50	M16	60.0	67.5	12.0	15.0	6.0
RM050M020IP	M50	M20	60.0	67.5	12.0	15.0	6.0
RM050M025IP	M50	M25	60.0	67.5	12.0	15.0	6.0
RM050M032IP	M50	M32	60.0	67.5	12.0	15.0	6.0
RM050M040IP	M50	M40	60.0	67.5	12.0	15.0	6.0
RM063M016IP	M63	M16	70.0	78.8	12.0	15.0	6.0
RM063M020IP	M63	M20	70.0	78.8	12.0	15.0	6.0
RM063M025IP	M63	M25	70.0	78.8	12.0	15.0	6.0
RM063M032IP	M63	M32	70.0	78.8	12.0	15.0	6.0
RM063M040IP	M63	M40	70.0	78.8	12.0	15.0	6.0
RM063M050IP	M63	M50	70.0	78.8	12.0	15.0	6.0
RM075M016IP	M75	M16	85.0	95.6	12.0	15.0	6.0
RM075M020IP	M75	M20	85.0	95.6	12.0	15.0	6.0
RM075M025IP	M75	M25	85.0	95.6	12.0	15.0	6.0
RM075M032IP	M75	M32	85.0	95.6	12.0	15.0	6.0
RM075M040IP	M75	M40	85.0	95.6	12.0	15.0	6.0
RM075M050IP	M75	M50	85.0	95.6	12.0	15.0	6.0
RM075M063IP	M75	M63	85.0	95.6	12.0	15.0	6.0
RM080M016IP	M80	M16	90.0	101.3	16.0	15.0	6.0
RM080M020IP	M80	M20	90.0	101.3	16.0	15.0	6.0
RM080M025IP	M80	M25	90.0	101.3	16.0	15.0	6.0
RM080M032IP	M80	M32	90.0	101.3	16.0	15.0	6.0
RM080M040IP	M80	M40	90.0	101.3	16.0	15.0	6.0
RM080M050IP	M80	M50	90.0	101.3	16.0	15.0	6.0
RM080M063IP	M80	M63	90.0	101.3	16.0	15.0	6.0
RM080M075IP	M80	M75	90.0	101.3	16.0	15.0	6.0
RM090M016IP	M90	M16	96.0	108.0	16.0	15.0	6.0
RM090M020IP	M90	M20	96.0	108.0	16.0	15.0	6.0
RM090M025IP	M90	M25	96.0	108.0	16.0	15.0	6.0
RM090M032IP	M90	M32	96.0	108.0	16.0	15.0	6.0
RM090M040IP	M90	M40	96.0	108.0	16.0	15.0	6.0
RM090M050IP	M90	M50	96.0	108.0	16.0	15.0	6.0
RM090M063IP	M90	M63	96.0	108.0	16.0	15.0	6.0
RM090M075IP	M90	M75	96.0	108.0	16.0	15.0	6.0
RM090M080IP	M90	M80	96.0	108.0	16.0	20.0	6.0
RM100M016IP	M100	M16	111.0	124.9	16.0	15.0	6.0
RM100M020IP	M100	M20	111.0	124.9	16.0	15.0	6.0
RM100M025IP	M100	M25	111.0	124.9	16.0	15.0	6.0
RM100M032IP	M100	M32	111.0	124.9	16.0	15.0	6.0
RM100M040IP	M100	M40	111.0	124.9	16.0	15.0	6.0
RM100M050IP	M100	M50	111.0	124.9	16.0	15.0	6.0
RM100M063IP	M100	M63	111.0	124.9	16.0	15.0	6.0
RM100M075IP	M100	M75	111.0	124.9	16.0	15.0	6.0
RM100M080IP	M100	M80	111.0	124.9	16.0	20.0	6.0
RM100M090IP	M100	M90	111.0	124.9	16.0	20.0	6.0

All dimensions are in mm.

CONDUIT REDUCER



Product Code	Male Metric Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Depth Min "E"	Female Thread Depth Min "F"	Hex Length Min "G"
RM020M016S	M20	M16	24.0	27.0	10.0	8.0	5.0
RM025M016S	M25	M16	27.0	30.4	10.0	8.0	5.0
RM025M020S	M25	M20	27.0	30.4	10.0	8.0	5.0
RM032M016S	M32	M16	32.0	36.0	10.0	8.0	5.0
RM032M020S	M32	M20	32.0	36.0	10.0	8.0	5.0
RM032M025S	M32	M25	32.0	36.0	10.0	8.0	5.0
RM040M016S	M40	M16	42.0	47.3	10.0	8.0	6.0
RM040M020S	M40	M20	42.0	47.3	10.0	8.0	6.0
RM040M025S	M40	M25	42.0	47.3	10.0	8.0	6.0
RM040M032S	M40	M32	42.0	47.3	10.0	8.0	6.0
RM050M016S	M50	M16	50.0	56.3	10.0	8.0	6.0
RM050M020S	M50	M20	50.0	56.3	10.0	8.0	6.0
RM050M025S	M50	M25	50.0	56.3	10.0	8.0	6.0
RM050M032S	M50	M32	50.0	56.3	10.0	8.0	6.0
RM050M040S	M50	M40	50.0	56.3	10.0	8.0	6.0
RM063M016S	M63	M16	65.0	73.1	10.0	8.0	6.0
RM063M020S	M63	M20	65.0	73.1	10.0	8.0	6.0
RM063M025S	M63	M25	65.0	73.1	10.0	8.0	6.0
RM063M032S	M63	M32	65.0	73.1	10.0	8.0	6.0
RM063M040S	M63	M40	65.0	73.1	10.0	8.0	6.0
RM063M050S	M63	M50	65.0	73.1	10.0	8.0	6.0
RM075M016S	M75	M16	80.0	90.0	10.0	8.0	8.0
RM075M020S	M75	M20	80.0	90.0	10.0	8.0	8.0
RM075M025S	M75	M25	80.0	90.0	10.0	8.0	8.0
RM075M032S	M75	M32	80.0	90.0	10.0	8.0	8.0
RM075M040S	M75	M40	80.0	90.0	10.0	8.0	8.0
RM075M050S	M75	M50	80.0	90.0	10.0	8.0	8.0
RM075M063S	M75	M63	80.0	90.0	10.0	8.0	8.0
RM080M016S	M80	M16	85.0	95.6	14.0	8.0	8.0
RM080M020S	M80	M20	85.0	95.6	14.0	8.0	8.0
RM080M025S	M80	M25	85.0	95.6	14.0	8.0	8.0
RM080M032S	M80	M32	85.0	95.6	14.0	8.0	8.0
RM080M040S	M80	M40	85.0	95.6	14.0	8.0	8.0
RM080M050S	M80	M50	85.0	95.6	14.0	8.0	8.0
RM080M063S	M80	M63	85.0	95.6	14.0	8.0	8.0
RM080M075S	M80	M75	85.0	95.6	14.0	8.0	8.0
RM090M016S	M90	M16	96.0	108.0	14.0	8.0	8.0
RM090M020S	M90	M20	96.0	108.0	14.0	8.0	8.0
RM090M025S	M90	M25	96.0	108.0	14.0	8.0	8.0
RM090M032S	M90	M32	96.0	108.0	14.0	8.0	8.0
RM090M040S	M90	M40	96.0	108.0	14.0	8.0	8.0
RM090M050S	M90	M50	96.0	108.0	14.0	8.0	8.0
RM090M063S	M90	M63	96.0	108.0	14.0	8.0	8.0
RM090M075S	M90	M75	96.0	108.0	14.0	8.0	8.0
RM090M080S	M90	M80	96.0	108.0	14.0	14.0	8.0
RM100M016S	M100	M16	111.0	124.9	14.0	8.0	8.0
RM100M020S	M100	M20	111.0	124.9	14.0	8.0	8.0
RM100M025S	M100	M25	111.0	124.9	14.0	8.0	8.0
RM100M032S	M100	M32	111.0	124.9	14.0	8.0	8.0
RM100M040S	M100	M40	111.0	124.9	14.0	8.0	8.0
RM100M050S	M100	M50	111.0	124.9	14.0	8.0	8.0
RM100M063S	M100	M63	111.0	124.9	14.0	8.0	8.0
RM100M075S	M100	M75	111.0	124.9	14.0	8.0	8.0
RM100M080S	M100	M80	111.0	124.9	14.0	14.0	8.0
RM100M090S	M100	M90	111.0	124.9	14.0	14.0	8.0

All dimensions are in mm.

PRODUCT CODE STRUCTURE

1st Character denotes the type, R = REDUCER	2nd Character denotes the male thread - **M**etric, **N**PT or **B**SP	3rd to 5th Character denotes the size of the male thread	6th Character denotes the female thread - **M**etric, **N**PT or **B**SP	7th to 9th Character denotes the size of female thread	10th Character denotes the classification - Conduit (**S**), Ingress Protection (**IP**) or Ex (**E**)	Example Product Code
R	**M**	090	**M**	020	**IP**	RM090M020**IP**

REDUCER SELECTION CHART

METRIC TO METRIC, BSP/NPT REDUCER SELECTION CHART

FEMALE / MALE	METRIC REDUCER											BSP / NPT REDUCER								
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"
M20	R											R								
M25	R	R										R	R							
M32	R	R	R									R	R	R						
M40	R	R	R	R								R	R	R	R					
M50	R	R	R	R	R							R	R	R	R	R				
M63	R	R	R	R	R	R						R	R	R	R	R	R			
M75	R	R	R	R	R	R	R					R	R	R	R	R	R	R		
M80	R	R	R	R	R	R	R	R				R	R	R	R	R	R	R	R	
M90	R	R	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R
M100	R	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R

BSP/NPT TO METRIC, BSP/NPT REDUCER SELECTION CHART

FEMALE / MALE	METRIC REDUCER										BSP / NPT REDUCER								
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"
½"BSP/½"NPT	R																		
¾"BSP/¾"NPT	R	R									R								
1"BSP/1"NPT	R	R	R								R	R							
1¼"BSP/1¼"NPT	R	R	R	R							R	R	R						
1½"BSP/1½"NPT	R	R	R	R	R						R	R	R	R					
2"BSP/2"NPT	R	R	R	R	R	R					R	R	R	R	R				
2½"BSP/2½"NPT	R	R	R	R	R	R	R				R	R	R	R	R	R			
3"BSP/3"NPT	R	R	R	R	R	R	R	R			R	R	R	R	R	R	R		
3½"BSP/3½"NPT	R	R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	
4"BSP/4"NPT	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

SIZE REFERENCE

Metric Size Reference	NPT Size Reference	BSP Size Reference
M16 x 1.5	-	-
M20 x 1.5	½ / ¾	½ / ¾
M25 x 1.5	¾ / 1	¾ / 1
M32 x 1.5	1 / 1¼	1 / 1¼
M40 x 1.5	1¼ / 1½	1¼ / 1½
M50 x 1.5	1½ / 2	1½ / 2
M63 x 1.5	2 / 2½	2 / 2½
M63 x 1.5	2 / 2½	2 / 2½
M75 x 1.5	2½ / 3	2½ / 3
M75 x 1.5	2½ / 3	2½ / 3
M80 x 2.0	3	3
M90 x 2.0	3 / 3½	3 / 3½
M100 x 2.0	3½ / 4	3½ / 4
M115 x 2.0	4	4
M120 x 2.0	-	-

PG Adaptor, PG Reducer

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

- Precision manufactured from high quality Brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Converts mismatching threads to the required thread.

Technical Data

Type:	PG Adaptor and PG Reducer
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Gasket material:	Standard HDPE or Extreme Temp. PTFE
Note:	The installer should check that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PΠ Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
SANS/IEC	IEC 60079 Part 0, 1, 7, 31 IEC 60529	MASC MS/13-594X
IP66/68 2m - Parallel IP65/66 - Tapered	IEC 60529 IEC 60529	CML15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS DNV-GL	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529 IEC 60079 Part 0, 1, 7, IEC 60529	ABS 20-SG1952706-1-PDA DNV-GL TAE0000010
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with the supplied washer and for units with tapered thread when thread sealant is conducted as indicated in IEC60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) is applicable if the gaskets are utilized to maintain an IP rating IP65/66/68 2m continued.
- A blanking element may not be installed on an Adaptor.
- When the equipment with metric male thread and with the sealing washer fitted is intended for use / interface in threaded holes in a flame-proof enclosure the applicable thread engagement must be achieved after the washer has been fitted. Thread engagement shall be at least five full threads.

PG_AR010622

PG ADAPTOR, PG REDUCER

PG TO METRIC REDUCER

Product Code	Min Hex Across Flats (Min)	Hex Across Corners (Min)	Male Thread Length	Female Thread Depth (Min)	Hex Length (Max)
RP135M016E	27.0	30.4	17.0	15.0	7.0
RP016M016E	27.0	30.4	17.0	15.0	7.0
RP021M016E	35.0	39.4	17.0	15.0	7.0
RP021M020E	35.0	39.4	17.0	15.0	7.0
RP029M016E	45.0	50.6	17.0	15.0	7.0
RP029M020E	50.0	56.3	17.0	15.0	7.0
RP029M025E	50.0	56.3	17.0	15.0	7.0
RP029M032E	50.0	56.3	17.0	15.0	7.0
RP036M016E	60.0	67.5	17.0	15.0	7.0
RP036M020E	60.0	67.5	17.0	15.0	7.0
RP036M025E	60.0	67.5	17.0	15.0	7.0
RP036M032E	60.0	67.5	17.0	15.0	7.0
RP036M040E	60.0	67.5	17.0	15.0	7.0
RP042M016E	60.0	67.5	17.0	15.0	7.0
RP042M020E	60.0	67.5	17.0	15.0	7.0
RP042M025E	60.0	67.5	17.0	15.0	7.0
RP042M032E	60.0	67.5	17.0	15.0	7.0
RP042M040E	60.0	67.5	17.0	15.0	7.0
RP048M016E	70.0	78.8	17.0	15.0	7.0
RP048M020E	70.0	78.8	17.0	15.0	7.0
RP048M025E	70.0	78.8	17.0	15.0	7.0
RP048M032E	70.0	78.8	17.0	15.0	7.0
RP048M040E	70.0	78.8	17.0	15.0	7.0
RP048M050E	70.0	78.8	17.0	15.0	7.0

All dimensions except NPT are in mm.

PG TO METRIC ADAPTOR

Product Code	Min Hex Across Flats (Min)	Hex Across Corners (Min)	Male Thread Length	Female Thread Depth (Min)	Bore Size (Min)	Hex Length (Max)
AP009M016E	27.0	30.4	17.0	18.0	9.0	21.0
AP009M020E	27.0	30.4	17.0	18.0	9.0	21.0
AP011M016E	27.0	30.4	17.0	18.0	14.5	21.0
AP011M020E	27.0	30.4	17.0	18.0	14.5	21.0
AP011M025E	30.0	33.8	17.0	18.0	14.5	21.0
AP135M020E	27.0	30.4	17.0	18.0	15.5	21.0
AP135M025E	30.0	33.8	17.0	18.0	15.5	21.0
AP016M020E	30.0	33.8	17.0	18.0	15.5	21.0
AP016M025E	32.0	36.0	17.0	18.0	15.5	21.0
AP021M025E	32.0	36.0	17.0	18.0	20.5	21.0
AP021M032E	38.0	42.8	17.0	18.0	20.5	21.0
AP021M040E	45.0	50.6	17.0	18.0	20.5	21.0
AP029M040E	50.0	56.3	17.0	21.0	30.0	24.0
AP029M050E	55.0	61.9	17.0	21.0	30.0	24.0
AP036M050E	60.0	67.5	17.0	21.0	34.5	24.0
AP036M063E	70.0	78.8	17.0	21.0	34.5	24.0
AP042M050E	65.0	73.1	17.0	21.0	44.5	24.0
AP042M063E	70.0	78.8	17.0	21.0	47.0	24.0
AP048M063E	70.0	78.8	17.0	21.0	52.0	22.0
AP048M075E	82.0	92.3	17.0	21.0	52.0	22.0

All dimensions except NPT are in mm.

METRIC TO PG REDUCER

Product Code	Min Hex Across Flats (Min)	Hex Across Corners (Min)	Male Thread Length	Female Thread Depth (Min)	Hex Length (Max)
RM025P011E	32.0	36.0	15.0	18.0	6.0
RM025P135E	32.0	36.0	15.0	18.0	6.0
RM032P011E	38.0	42.8	15.0	18.0	6.0
RM032P135E	38.0	42.8	15.0	18.0	6.0
RM032P016E	38.0	42.8	15.0	18.0	6.0
RM040P011E	48.0	54.0	15.0	18.0	6.0
RM040P135E	48.0	54.0	15.0	18.0	6.0
RM040P016E	48.0	54.0	15.0	18.0	6.0
RM040P021E	48.0	54.0	15.0	19.0	6.0
RM050P011E	60.0	67.5	15.0	18.0	6.0
RM050P135E	60.0	67.5	15.0	18.0	6.0
RM050P016E	60.0	67.5	15.0	18.0	6.0
RM050P021E	60.0	67.5	15.0	19.0	6.0
RM050P029E	60.0	67.5	15.0	19.0	6.0
RM063P011E	70.0	78.8	15.0	18.0	6.0
RM063P135E	70.0	78.8	15.0	18.0	6.0
RM063P016E	70.0	78.8	15.0	18.0	6.0
RM063P021E	70.0	78.8	15.0	19.0	6.0
RM063P029E	70.0	78.8	15.0	19.0	6.0
RM063P036E	70.0	78.8	15.0	19.0	6.0
RM063P042E	70.0	78.8	15.0	19.0	6.0
RM075P011E	82.0	92.3	15.0	18.0	6.0
RM075P135E	82.0	92.3	15.0	18.0	6.0
RM075P016E	82.0	92.3	15.0	18.0	6.0
RM075P021E	82.0	92.3	15.0	19.0	6.0
RM075P029E	82.0	92.3	15.0	19.0	6.0
RM075P036E	82.0	92.3	15.0	19.0	6.0
RM075P042E	82.0	92.3	15.0	19.0	6.0
RM075P048E	82.0	92.3	15.0	19.0	6.0

All dimensions except NPT are in mm.

METRIC TO PG ADAPTOR

Product Code	Min Hex Across Flats (Min)	Hex Across Corners (Min)	Male Thread Length	Female Thread Depth (Min)	Bore Size (Min)	Hex Length (Max)
AM016P009E	27.0	30.4	15.0	18.0	9.0	24.0
AM016P011E	27.0	30.4	15.0	18.0	9.0	24.0
AM016P135E	27.0	30.4	15.0	18.0	9.0	24.0
AM020P011E	27.0	30.4	15.0	18.0	14.5	24.0
AM020P135E	32.0	36.0	15.0	18.0	14.5	24.0
AM020P016E	32.0	36.0	15.0	18.0	14.5	24.0
AM020P021E	32.0	36.0	15.0	19.0	14.5	25.0
AM025P016E	32.0	36.0	15.0	18.0	20.0	24.0
AM025P021E	38.0	42.8	15.0	19.0	20.0	25.0
AM032P021E	38.0	42.8	15.0	19.0	26.5	25.0
AM032P029E	50.0	56.3	15.0	19.0	26.5	25.0
AM040P029E	50.0	56.3	15.0	19.0	26.5	25.0
AM040P036E	55.0	61.9	15.0	19.0	26.5	25.0
AM050P036E	55.0	61.9	15.0	19.0	42.0	25.0
AM050P042E	70.0	78.8	15.0	19.0	42.0	25.0
AM050P048E	70.0	78.8	15.0	19.0	42.0	25.0
AM063P048E	70.0	78.8	15.0	19.0	55.0	25.0

All dimensions except NPT are in mm.

PRODUCT CODE STRUCTURE

1st Character denotes the type, R = REDUCER A = ADAPTOR	2nd Character denotes the male thread - PG, or Metric	3rd to 5th Character denotes the size of the male thread	6th Character denotes the female thread - PG, or Metric	7th to 9th Character denotes the size of female thread	10th Character denotes the classification - Conduit (S) or Ex (E)	Example Product Code
R	**P**	048	**M**	050	**E**	RP048M050E

METRIC TO PG REDUCER / ADAPTOR

MALE METRIC ▼ / FEMALE ▶	PG11	PG13.5	PG16	PG21	PG29	PG36	PG42	PG48
M16	AM016P011	AM016P135	AM016P016					
M20	AM020P011	AM020P135	AM020P016	AM020P021				
M25	RM025P011	RM025P135	AM025P016	AM025P021				
M32	RM032P011	RM032P135	RM032P016	AM032P021	AM032P029			
M40	RM040P011	RM040P135	RM040P016	RM040P021	AM040P029	AM040P036		
M50	RM050P011	RM050P135	RM050P016	RM050P021	RM050P029	AM050P036	AM050P042	AM050P048
M63	RM063P011	RM063P135	RM063P016	RM063P021	RM063P029	RM063P036	RM063P042	AM063P048
M75	RM075P011	RM075P135	RM075P016	RM075P021	RM075P029	RM075P036	RM075P042	RM075P048

PG TO METRIC REDUCER / ADAPTOR

MALE METRIC ▼ / FEMALE ▶	M16	M20	M25	M32	M40	M50	M63	M75
PG11	AP011M016	AP011M020	AP011M025					
PG13.5	RP135M016	AP135M020	AP135M025					
PG16	RP016M016	AP016M020	AP016M025					
PG21	RP021M016	RP021M020	AP021M025	AP021M032	AP021M040			
PG29	RP029M016	RP029M020	RP029M025	RP029M032	AP029M040	AP029M050		
PG36	RP036M016	RP036M020	RP036M025	RP036M032	RP036M040	AP036M050	AP036M063	
PG42	RP042M016	RP042M020	RP042M025	RP042M032	RP042M040	AP042M050	AP042M063	
PG48	RP048M016	RP048M020	RP048M025	RP048M032	RP048M040	RP048M050	AP048M063	AP048M075

ADAPTOR

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

- Precision manufactured from high quality Brass (Marine Grade Electroless Nickel Plated™) available in stainless steel 316/316L on request.
- Converts mismatching threads to the required thread.

Technical Data

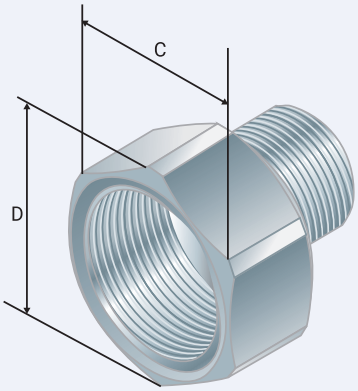
Type:	Adaptor
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Gasket material:	Standard HDPE or Extreme Temp. PTFE
Note:	The installer should check that the materials are suitable for the installation environment.

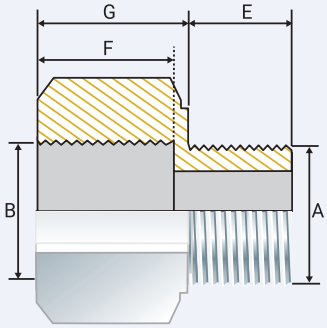
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / PП Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
TR CU (Russia)	ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ Р МЭК 60079-7, 31	ЕАЭС RU C-ZA.HA91.B.00244/21
CNEx (Chinese)	GB 3836.1, GB3936.2, GB3836.3 GB12476.1, GB12476.5	CNEx 21.3391X, CNEx CCC 2021312313000391
KCS (Korea)	Notification of Ministry of Labour No. 2013-54	16-AV4BO-0439-42X
SANS	SANS/IEC 60079 Part 0, 1, 7, 31 SANS/IEC 60529	MASC MS/13-594X
IP66/68 2m - Parallel IP65/66 - Tapered	IEC 60529 IEC 60529	CML15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS DNV-GL ClassNK	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529 IEC 60079 Part 0, 1, 7, IEC 60529 IEC 60079 Part 0, 1, 7, 15, 31	ABS 20-SG1952706-1-PDA DNV-GL TAE0000010 TA20272M
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with the supplied washer and for units with tapered thread when thread sealant is conducted as indicated in IEC60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) is applicable if the gaskets are utilized to maintain an IP rating IP65/66/68 2m continued.
- A blanking element may not be installed on an Adaptor.
- When the equipment with metric male thread and with the sealing washer fitted is intended for use / interface in threaded holes in a flame-proof enclosure the applicable thread engagement must be achieved after the washer has been fitted. Thread engagement shall be at least five full threads.





Hex Across Flats and Hex Across Corners can be bigger but never smaller.

METRIC TO NPT

Product Code	Male Metric Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AM016N012	M16	½"	27.0	30.4	15.0	15.0	21.0
AM016N034	M16	¾"	32.0	36.0	15.0	15.0	21.0
AM020N012	M20	½"	27.0	30.4	15.0	15.0	21.0
AM020N034	M20	¾"	32.0	36.0	15.0	15.0	21.0
AM020N001	M20	1"	38.0	42.8	15.0	18.0	24.0
AM025N034	M25	¾"	32.0	36.0	15.0	15.0	21.0
AM025N001	M25	1"	38.0	42.8	15.0	18.0	24.0
AM025N114	M25	1¼"	50.0	56.3	15.0	19.0	25.0
AM032N001	M32	1"	38.0	42.8	15.0	18.0	24.0
AM032N114	M32	1¼"	50.0	56.3	15.0	19.0	25.0
AM032N112	M32	1½"	50.0	56.3	15.0	19.0	25.0
AM040N114	M40	1¼"	50.0	56.3	15.0	19.0	25.0
AM040N112	M40	1½"	55.0	61.9	15.0	19.0	25.0
AM040N002	M40	2"	70.0	78.8	15.0	19.0	25.0
AM050N112	M50	1½"	60.0	67.5	15.0	19.0	25.0
AM050N002	M50	2"	70.0	78.8	15.0	19.0	25.0
AM050N212	M50	2½"	80.0	90.0	15.0	25.0	31.0
AM063N002	M63	2"	70.0	78.8	15.0	19.0	25.0
AM063N212	M63	2½"	80.0	90.0	15.0	25.0	31.0
AM063N003	M63	3"	100.0	112.5	15.0	27.0	33.0
AM075N212	M75	2½"	80.0	90.0	15.0	25.0	31.0
AM075N003	M75	3"	100.0	112.5	15.0	27.0	33.0
AM075N312	M75	3½"	111.0	124.9	15.0	29.0	35.0
AM080N003	M80	3"	100.0	112.5	20.0	27.0	33.0
AM080N312	M80	3½"	111.0	124.9	20.0	29.0	35.0
AM080N004	M80	4"	115.0	129.4	20.0	29.0	35.0
AM090N312	M90	3½"	111.0	124.9	20.0	29.0	35.0
AM090N004	M90	4"	125.0	140.6	20.0	29.0	35.0
AM100N004	M100	4"	125.0	140.6	20.0	29.0	35.0

All dimensions except NPT are in mm.

METRIC TO METRIC

Product Code	Male Metric Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AM016M016	M16	M16	27.0	30.4	15.0	15.0	21.0
AM016M020	M16	M20	27.0	30.4	15.0	15.0	21.0
AM016M025	M16	M25	32.0	36.0	15.0	15.0	21.0
AM020M020	M20	M20	27.0	30.4	15.0	15.0	21.0
AM020M025	M20	M25	32.0	36.0	15.0	15.0	21.0
AM020M032	M20	M32	38.0	42.8	15.0	15.0	21.0
AM025M025	M25	M25	32.0	36.0	15.0	15.0	21.0
AM025M032	M25	M32	38.0	42.8	15.0	15.0	21.0
AM025M040	M25	M40	50.0	56.3	15.0	15.0	21.0
AM032M032	M32	M32	38.0	42.8	15.0	15.0	21.0
AM032M040	M32	M40	50.0	56.3	15.0	15.0	21.0
AM032M050	M32	M50	60.0	67.5	15.0	15.0	21.0
AM040M040	M40	M40	50.0	56.3	15.0	15.0	21.0
AM040M050	M40	M50	60.0	67.5	15.0	15.0	21.0
AM040M063	M40	M63	70.0	78.8	15.0	15.0	21.0
AM050M050	M50	M50	60.0	67.5	15.0	15.0	21.0
AM050M063	M50	M63	70.0	78.8	15.0	15.0	21.0
AM050M075	M50	M75	85.0	95.6	15.0	15.0	21.0
AM063M063	M63	M63	70.0	78.8	15.0	15.0	21.0
AM063M075	M63	M75	85.0	95.6	15.0	15.0	21.0
AM063M080	M63	M80	90.0	101.3	15.0	20.0	26.0
AM075M075	M75	M75	85.0	95.6	15.0	15.0	21.0
AM075M080	M75	M80	90.0	101.3	15.0	20.0	26.0
AM075M090	M75	M90	96.0	108.0	15.0	20.0	26.0
AM080M080	M80	M80	96.0	108.0	20.0	20.0	26.0
AM080M090	M80	M90	96.0	108.0	20.0	20.0	26.0
AM080M100	M80	M100	111.0	124.9	20.0	20.0	26.0
AM090M090	M90	M90	96.0	108.0	20.0	20.0	26.0
AM090M100	M90	M100	111.0	124.9	20.0	20.0	26.0
AM100M100	M100	M100	111.0	124.9	20.0	20.0	26.0

All dimensions are in mm.

SIZE REFERENCE

Metric Size Reference	NPT Size Reference	BSP Size Reference
M16 x 1.5	-	-
M20 x 1.5	½" / ¾"	½" / ¾"
M25 x 1.5	¾" / 1"	¾" / 1"
M32 x 1.5	1" / 1¼"	1" / 1¼"
M40 x 1.5	1¼" / 1½"	1¼" / 1½"
M50 x 1.5	1½"" / 2"	1½"" / 2"
M63 x 1.5	2" / 2½"	2" / 2½"
M63 x 1.5	2" / 2½"	2" / 2½"
M75 x 1.5	2½" / 3"	2½" / 3"
M75 x 1.5	2½" / 3"	2½" / 3"
M80 x 2.0	3"	3"
M90 x 2.0	3" / 3½"	3" / 3½"
M100 x 2.0	3½" / 4"	3½" / 4"
M115 x 2.0	4"	4"
M120 x 2.0	-	-

METRIC TO BSP

Product Code	Male Metric Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AM016B012	M16	½"	27.0	30.4	15.0	16.0	22.0
AM016B034	M16	¾"	32.0	36.0	15.0	16.0	22.0
AM020B012	M20	½"	27.0	30.4	15.0	16.0	22.0
AM020B034	M20	¾"	32.0	36.0	15.0	16.0	22.0
AM020B001	M20	1"	38.0	42.8	15.0	18.0	24.0
AM025B034	M25	¾"	32.0	36.0	15.0	16.0	22.0
AM025B001	M25	1"	38.0	42.8	15.0	18.0	24.0
AM025B114	M25	1¼"	45.0	50.6	15.0	18.0	24.0
AM032B001	M32	1"	38.0	42.8	15.0	18.0	24.0
AM032B114	M32	1¼"	45.0	50.6	15.0	18.0	24.0
AM032B112	M32	1½""	60.0	67.5	15.0	18.0	24.0
AM040B114	M40	1¼"	45.0	50.6	15.0	18.0	24.0
AM040B112	M40	1½"	60.0	67.5	15.0	18.0	24.0
AM040B002	M40	2"	70.0	78.8	15.0	18.0	24.0
AM050B112	M50	1½"	60.0	67.5	15.0	18.0	24.0
AM050B002	M50	2"	70.0	78.8	15.0	18.0	24.0
AM050B212	M50	2½"	80.0	90.0	15.0	18.0	24.0
AM063B002	M63	2"	70.0	78.8	15.0	18.0	24.0
AM063B212	M63	2½"	80.0	90.0	15.0	18.0	24.0
AM063B003	M63	3"	96.0	108.0	15.0	18.0	24.0
AM075B212	M75	2½"	80.0	90.0	15.0	18.0	24.0
AM075B003	M75	3"	96.0	108.0	15.0	18.0	24.0
AM075B312	M75	3½"	111.0	124.9	15.0	18.0	24.0
AM080B003	M80	3"	96.0	108.0	15.0	18.0	24.0
AM080B312	M80	3½"	111.0	124.9	15.0	18.0	24.0
AM080B004	M80	4"	125.0	140.6	15.0	18.0	24.0
AM090B312	M90	3½"	111.0	124.9	15.0	18.0	24.0
AM090B004	M90	4"	125.0	140.6	15.0	18.0	24.0
AM100B004	M100	4"	125.0	140.6	15.0	18.0	24.0

All dimensions except BSP are in mm.

NPT TO METRIC

Product Code	Male NPT Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AN012M020	½"	M20	27.0	30.4	15.0	15.0	21.0
AN012M025	½"	M25	32.0	36.0	15.0	15.0	21.0
AN012M032	½"	M32	38.0	42.8	15.0	15.0	21.0
AN034M025	¾"	M25	32.0	36.0	15.0	15.0	21.0
AN034M032	¾"	M32	38.0	42.8	15.0	15.0	21.0
AN034M040	¾"	M40	50.0	56.3	15.0	15.0	21.0
AN001M032	1"	M32	38.0	42.8	19.0	15.0	21.0
AN001M040	1"	M40	50.0	56.3	19.0	15.0	21.0
AN001M050	1"	M50	60.0	67.5	19.0	15.0	21.0
AN114M040	1¼"	M40	50.0	56.3	19.0	15.0	21.0
AN114M050	1¼"	M50	60.0	67.5	19.0	15.0	21.0
AN114M063	1¼"	M63	70.0	78.8	19.0	15.0	21.0
AN112M050	1½"	M50	60.0	67.5	19.0	15.0	21.0
AN112M063	1½"	M63	70.0	78.8	21.0	15.0	21.0
AN112M075	1½"	M75	85.0	95.6	21.0	15.0	21.0
AN002M063	2"	M63	70.0	78.8	21.0	15.0	21.0
AN002M075	2"	M75	85.0	95.6	21.0	15.0	21.0
AN002M080	2"	M80	96.0	108.0	21.0	20.0	26.0
AN212M075	2½""	M75	85.0	95.6	30.0	20.0	26.0
AN212M080	2½""	M80	96.0	108.0	30.0	20.0	26.0
AN212M090	2½""	M90	96.0	108.0	30.0	20.0	26.0
AN003M080	3"	M80	96.0	108.0	32.0	20.0	26.0
AN003M090	3"	M90	96.0	108.0	32.0	20.0	26.0
AN003M100	3"	M100	111.0	124.9	32.0	20.0	26.0
AN312M090	3½""	M90	111.0	124.9	32.0	20.0	26.0
AN312M100	3½""	M100	111.0	124.9	32.0	20.0	26.0
AN004M100	4"	M100	125.0	140.6	34.0	20.0	26.0

All dimensions except NPT are in mm.

BSP TO METRIC

Product Code	Male BSP Thread "A"	Female Metric Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AB012M020	½"	M20	27.0	30.4	16.0	15.0	21.0
AB012M025	½"	M25	32.0	36.0	16.0	15.0	21.0
AB012M032	½"	M32	35.0	39.4	16.0	15.0	21.0
AB034M025	¾"	M25	32.0	36.0	16.0	15.0	21.0
AB034M032	¾"	M32	38.0	42.8	16.0	15.0	21.0
AB034M040	¾"	M40	42.0	47.3	16.0	15.0	21.0
AB001M032	1"	M32	38.0	42.8	16.0	15.0	21.0
AB001M040	1"	M40	50.0	56.3	16.0	15.0	21.0
AB001M050	1"	M50	60.0	67.5	16.0	15.0	21.0
AB114M040	1¼"	M40	50.0	56.3	18.0	15.0	21.0
AB114M050	1¼"	M50	60.0	67.5	18.0	15.0	21.0
AB114M063	1¼"	M63	70.0	78.8	18.0	15.0	21.0
AB112M050	1½"	M50	60.0	67.5	18.0	15.0	21.0
AB112M063	1½"	M63	70.0	78.8	18.0	15.0	21.0
AB112M075	1½"	M75	85.0	95.6	18.0	15.0	21.0
AB002M063	2"	M63	70.0	78.8	18.0	15.0	21.0
AB002M075	2"	M75	85.0	95.6	18.0	15.0	21.0
AB002M080	2"	M80	96.0	108.0	18.0	20.0	26.0
AB212M075	2½"	M75	85.0	95.6	18.0	20.0	26.0
AB212M080	2½"	M80	96.0	108.0	18.0	20.0	26.0
AB212M090	2½"	M90	100.0	112.5	18.0	20.0	26.0
AB003M080	3"	M80	96.0	108.0	18.0	20.0	26.0
AB003M090	3"	M90	100.0	112.5	18.0	20.0	26.0
AB003M100	3"	M100	111.0	124.9	18.0	20.0	26.0
AB312M090	3½"	M90	100.0	112.5	18.0	20.0	26.0
AB312M100	3½"	M100	111.0	124.9	18.0	20.0	26.0
AB004M100	4"	M100	111.0	124.9	18.0	20.0	26.0

All dimensions except BSP are in mm.

NPT TO NPT

Product Code	Male NPT Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AN012N012	½"	½"	27.0	30.4	15.0	15.0	21.0
AN012N034	½"	¾"	32.0	36.0	15.0	15.0	21.0
AN012N001	½"	1"	38.0	42.8	15.0	18.0	24.0
AN034N034	¾"	¾"	32.0	36.0	15.0	15.0	21.0
AN034N001	¾"	1"	38.0	42.8	15.0	18.0	24.0
AN034N114	¾"	1¼"	50.0	56.3	15.0	19.0	25.0
AN001N001	1"	1"	38.0	42.8	19.0	18.0	24.0
AN001N114	1"	1¼"	50.0	56.3	19.0	19.0	25.0
AN001N112	1"	1½"	60.0	67.5	19.0	19.0	25.0
AN114N114	1¼"	1¼"	50.0	56.3	19.0	19.0	25.0
AN114N112	1¼"	1½"	60.0	67.5	19.0	19.0	25.0
AN114N002	1¼"	2"	65.0	73.1	19.0	19.0	25.0
AN112N112	1½"	1½"	60.0	67.5	21.0	19.0	25.0
AN112N002	1½"	2"	70.0	78.8	21.0	19.0	25.0
AN112N212	1½"	2½"	85.0	95.6	21.0	25.0	31.0
AN002N002	2"	2"	70.0	78.8	21.0	19.0	25.0
AN002N212	2"	2½"	85.0	95.6	21.0	25.0	31.0
AN002N003	2"	3"	96.0	108.0	21.0	27.0	33.0
AN212N212	2½"	2½"	85.0	95.6	30.0	25.0	31.0
AN212N003	2½"	3"	100.0	112.5	30.0	27.0	33.0
AN212N312	2½"	3½"	111.0	124.9	30.0	29.0	35.0
AN003N003	3"	3"	96.0	108.0	32.0	27.0	33.0
AN003N312	3"	3½"	111.0	124.9	32.0	29.0	35.0
AN003N004	3"	4"	125.0	140.6	32.0	29.0	35.0
AN312N312	3½"	3½"	111.0	124.9	32.0	29.0	35.0
AN312N004	3½"	4"	125.0	140.6	34.0	29.0	35.0
AN004N004	4"	4"	125.0	140.6	34.0	29.0	35.0

All dimensions except NPT are in mm.

BSP TO NPT

Product Code	Male BSP Thread "A"	Female NPT Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AB012N012	½"	½"	27.0	30.4	16.0	15.0	21.0
AB012N034	½"	¾"	32.0	36.0	16.0	15.0	21.0
AB012N001	½"	1"	38.0	42.8	16.0	18.0	24.0
AB034N034	¾"	¾"	32.0	36.0	16.0	15.0	21.0
AB034N001	¾"	1"	38.0	42.8	16.0	18.0	24.0
AB034N114	¾"	1¼"	50.0	56.3	16.0	19.0	25.0
AB001N001	1"	1"	40.0	45.0	16.0	18.0	24.0
AB001N114	1"	1¼"	50.0	56.3	16.0	19.0	25.0
AB001N112	1"	1½"	60.0	67.5	16.0	19.0	25.0
AB114N114	1¼"	1¼"	50.0	56.3	18.0	19.0	25.0
AB114N112	1¼"	1½"	60.0	67.5	18.0	19.0	25.0
AB114N002	1¼"	2"	65.0	73.1	18.0	19.0	25.0
AB112N112	1½"	1½"	60.0	67.5	18.0	19.0	25.0
AB112N002	1½"	2"	70.0	78.8	18.0	19.0	25.0
AB112N212	1½"	2½"	85.0	95.6	18.0	25.0	31.0
AB002N002	2"	2"	70.0	78.8	18.0	19.0	25.0
AB002N212	2"	2½"	85.0	95.6	18.0	25.0	31.0
AB002N003	2"	3"	96.0	108.0	18.0	27.0	33.0
AB212N212	2½"	2½"	85.0	95.6	18.0	25.0	31.0
AB212N003	2½"	3"	100.0	112.5	18.0	27.0	33.0
AB212N312	2½"	3½"	111.0	124.9	18.0	29.0	35.0
AB003N003	3"	3"	96.0	108.0	18.0	27.0	33.0
AB003N312	3"	3½"	111.0	124.9	18.0	29.0	35.0
AB003N004	3"	4"	125.0	140.6	18.0	29.0	35.0
AB312N312	3½"	3½"	111.0	124.9	18.0	29.0	35.0
AB312N004	3½"	4"	125.0	140.6	18.0	29.0	35.0
AB004N004	4"	4"	125.0	140.6	18.0	29.0	35.0

All dimensions except BSP and NPT are in mm.

NPT TO BSP

Product Code	Male NPT Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AN012B012	½"	½"	27.0	30.4	15.0	16.0	22.0
AN012B034	½"	¾"	32.0	36.0	15.0	16.0	22.0
AN012B001	½"	1"	38.0	42.8	15.0	18.0	24.0
AN034B034	¾"	¾"	32.0	36.0	15.0	16.0	22.0
AN034B001	¾"	1"	38.0	42.8	15.0	18.0	24.0
AN034B114	¾"	1¼"	45.0	50.6	15.0	18.0	24.0
AN001B001	1"	1"	38.0	42.8	19.0	18.0	24.0
AN001B114	1"	1¼"	45.0	50.6	19.0	18.0	24.0
AN001B112	1"	1½"	60.0	67.5	19.0	18.0	24.0
AN114B114	1¼"	1¼"	45.0	50.6	19.0	18.0	24.0
AN114B112	1¼"	1½"	60.0	67.5	19.0	18.0	24.0
AN114B002	1¼"	2"	70.0	78.8	19.0	18.0	24.0
AN112B112	1½"	1½"	60.0	67.5	21.0	18.0	24.0
AN112B002	1½"	2"	70.0	78.8	21.0	18.0	24.0
AN112B212	1½"	2½"	80.0	90.0	21.0	18.0	24.0
AN002B002	2"	2"	70.0	78.8	21.0	18.0	24.0
AN002B212	2"	2½"	80.0	90.0	21.0	18.0	24.0
AN002B003	2"	3"	96.0	108.0	21.0	18.0	24.0
AN212B212	2½"	2½"	80.0	90.0	30.0	18.0	24.0
AN212B003	2½"	3"	96.0	108.0	30.0	18.0	24.0
AN212B312	2½"	3½"	111.0	124.9	30.0	18.0	24.0
AN003B003	3"	3"	96.0	108.0	32.0	18.0	24.0
AN003B312	3"	3½"	111.0	124.9	32.0	18.0	24.0
AN003B004	3"	4"	120.0	135.0	32.0	18.0	24.0
AN312B312	3½"	3½"	111.0	124.9	33.0	18.0	24.0
AN312B004	3½"	4"	120.0	135.0	33.0	18.0	24.0
AN004B004	4"	4"	120.0	135.0	34.0	18.0	24.0

All dimensions except NPT and BSP are in mm.

BSP TO BSP

Product Code	Male BSP Thread "A"	Female BSP Thread "B"	Hex Across Flats Min "C"	Hex Across Corners Min "D"	Male Thread Length Min "E"	Female Thread Depth Min "F"	Hex Length Max "G"
AB012B012	½"	½"	27.0	30.4	16.0	16.0	22.0
AB012B034	½"	¾"	32.0	36.0	16.0	16.0	22.0
AB012B001	½"	1"	38.0	42.8	16.0	18.0	24.0
AB034B034	¾"	¾"	32.0	36.0	16.0	16.0	22.0
AB034B001	¾"	1"	38.0	42.8	16.0	18.0	24.0
AB034B114	¾"	1¼"	45.0	50.6	16.0	18.0	24.0
AB001B001	1"	1"	38.0	42.8	16.0	18.0	24.0
AB001B114	1"	1¼"	45.0	50.6	16.0	18.0	24.0
AB001B112	1"	1½"	60.0	67.5	16.0	18.0	24.0
AB114B114	1¼"	1¼"	45.0	50.6	18.0	18.0	24.0
AB114B112	1¼"	1½"	60.0	67.5	18.0	18.0	24.0
AB114B002	1¼"	2"	70.0	78.8	18.0	18.0	24.0
AB112B112	1½"	1½"	60.0	67.5	18.0	18.0	24.0
AB112B002	1½"	2"	70.0	78.8	18.0	18.0	24.0
AB112B212	1½"	2½"	80.0	90.0	18.0	18.0	24.0
AB002B002	2"	2"	70.0	78.8	18.0	18.0	24.0
AB002B212	2"	2½"	80.0	90.0	18.0	18.0	24.0
AB002B003	2"	3"	96.0	108.0	18.0	18.0	24.0
AB212B212	2½"	2½"	80.0	90.0	18.0	18.0	24.0
AB212B003	2½"	3"	96.0	108.0	18.0	18.0	24.0
AB212B312	2½"	3½"	111.0	124.9	18.0	18.0	24.0
AB003B003	3"	3"	96.0	108.0	18.0	18.0	24.0
AB003B312	3"	3½"	111.0	124.9	18.0	18.0	24.0
AB003B004	3"	4"	120.0	135.0	18.0	18.0	24.0
AB312B312	3½"	3½"	111.0	124.9	18.0	18.0	24.0
AB312B004	3½"	4"	120.0	135.0	18.0	18.0	24.0
AB004B004	4"	4"	120.0	135.0	18.0	18.0	24.0

All dimensions except BSP are in mm.

METRIC TO NPT/BSP, METRIC ADAPTOR SELECTION CHART

FEMALE / MALE	METRIC ADAPTOR											BSP / NPT ADAPTOR									
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
M16	A	A	A									A	A								
M20		A	A	A								A	A	A							
M25			A	A	A								A	A	A						
M32				A	A	A								A	A	A					
M40					A	A	A								A	A	A				
M50						A	A	A								A	A	A			
M63							A	A	A								A	A	A		
M75								A	A	A								A	A	A	
M80									A	A	A								A	A	A
M90										A	A									A	A

BSP/NPT TO METRIC, BSP/NPT ADAPTOR SELECTION CHART

FEMALE / MALE	METRIC ADAPTOR										BSP / NPT ADAPTOR									
	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
½"BSP/½"NPT	A	A	A								A	A	A							
¾"BSP/¾"NPT		A	A	A								A	A	A						
1"BSP/1"NPT			A	A	A								A	A	A					
1¼"BSP/1¼"NPT				A	A	A								A	A	A				
1½"BSP/1½"NPT					A	A	A								A	A	A			
2"BSP/2"NPT						A	A	A								A	A	A		
2½"BSP/2½"NPT							A	A	A								A	A	A	
3"BSP/3"NPT								A	A	A								A	A	A
3½"BSP/3½"NPT									A	A									A	A
4"BSP/4"NPT										A										A

PRODUCT CODE STRUCTURE

1st Character denotes the type, A = Adaptor	2nd Character denotes the male thread - Metric, NPT or BSP	3rd to 5th Character denotes the size of the male thread	6th Character denotes the female thread - Metric, NPT, or BSP	7th to 9th Character denotes the size of female thread	10th Character denotes the classification - Conduit (S) or Ex (E)	Example Product Code
A	M	040	M	063	E	AM040M063E

FIXED T ADAPTOR

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

- Allows two cable glands to be fitted to a single cable entry.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated ™)
- Supplied with a sealing gasket as standard. (Parallel male threads only.)
- Available in Metric BSPP, BSPT, ET and NPT thread forms.

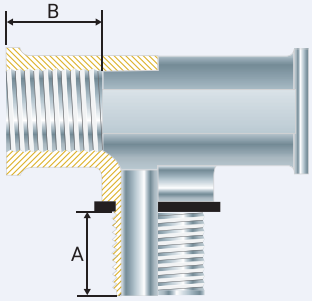
IP68

Technical Data

Type:	Fixed T Adaptor
Material:	
Body:	Brass (Marine Grade Electroless Nickel Plated™)
Sealing gasket:	Standard HDPE / Nylon or Extreme Temp. PTFE
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEX: Ex db I Mb / Ex eb I Mb, Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2 G, 1 D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db	
Operating temperature range:	-60°C to +95°C / 100°C (HDPE / Nylon sealing gasket) -60°C to 160°C (PTFE sealing gasket)	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31	IECEx CML16.0059U
ATEX	EN 60079 Part 0, 1, 7, 31	CML 16ATEX1137U
UKEX	BS EN 60079 Part 0,1,7,31	CML 21UKEX1012U
INMETRO (Brazil)	ABNT NBR IEC 60079-0, 1, 7, 31	TÜV 16.1856U
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/16.1806U
IP66/68 - Parallel IP65 - Tapered	IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-SG1952706-1 PDA



PATENTED

Conditions for Safe Use

- The service temperature range of -60°C to +95°C / 100°C / 160°C (HDPE / Nylon / PTFE sealing gaskets) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used. IP66/67/68 can also be achieved on threaded entries using an approved

Product Code	Male Thread		Female Thread		Spanner Size A/F	Installation Torque Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'A'		
FTM020M20E	M20x1.5-6g	17.0	M20x1.5-6g	16.0	27	21.0
FTM025M25E	M25x1.5-6g	17.0	M25x1.5-6g	16.0	35	30.0
FTM032M32E	M32x1.5-6g	17.0	M32x1.5-6g	16.0	40	42.0
FTM020N012E	M20x1.5-6g	17.0	½" NPT	16.0	27	21.0
FTM025N034E	M25x1.5-6g	17.0	¾" NPT	16.0	35	30.0
FTM032N001E	M32x1.5-6g	17.0	1" NPT	18.0	40	42.0
FTN012M20E	½" NPT	17.0	M20x1.5-6g	16.0	27	'wrench tight'
FTN034M25E	¾" NPT	17.0	M25x1.5-6g	16.0	35	'wrench tight'
FTN001M32E	1" NPT	17.0	M32x1.5-6g	16.0	40	'wrench tight'
FTN012N012E	½" NPT	17.0	½" NPT	16.0	27	'wrench tight'
FTN034N034E	¾" NPT	17.0	¾" NPT	16.0	35	'wrench tight'
FTN001N001E	1" NPT	17.0	1" NPT	18.0	40	'wrench tight'

All dimensions except NPT are in mm. For other thread types, contact CCG.

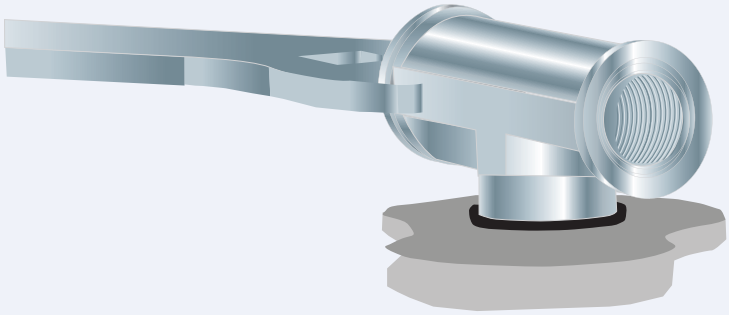
Note:
1. The female thread may be the size shown in the table or any size smaller.
2. The two female threads can be different types / sizes. For example FTN001M32N034E would have a 1" NPT male thread, one M32 female thread and one ¾" NPT female thread.

FTA_AD091222

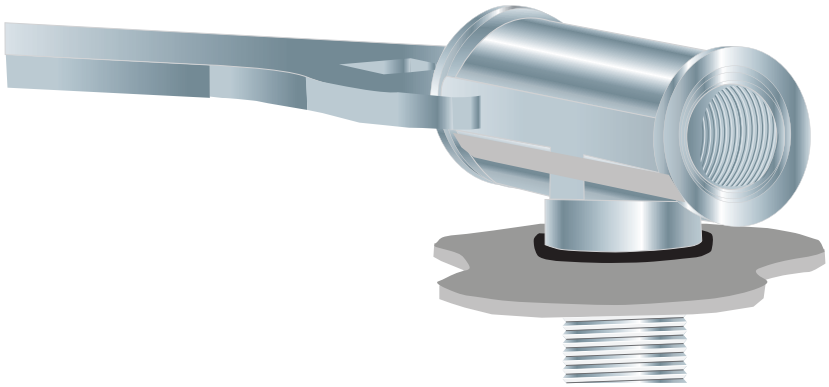
FITTING INSTRUCTIONS

Metric Illustration

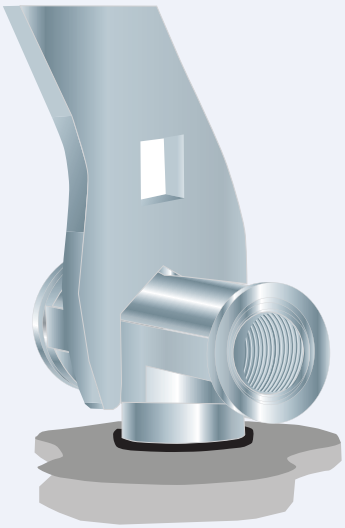
FIXED T ADAPTOR



1. Ensure that the threaded entry on the equipment has a flat surface to engage the sealing gasket. Tighten the T Adaptor, complete with sealing gasket, into the equipment using a spanner until it is fully secured, noting the maximum torque figures in the table overleaf.



2. If fitting to a clearance hole, secure the T Adaptor using a locknut. (Use a serrated washer and locknut in high vibration areas.)



3. Ensure the T Adaptor is securely positioned and hold the adaptor flats using a CCG Spanner whilst fitting cable glands to the female threads.

FIXED Y ADAPTOR

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

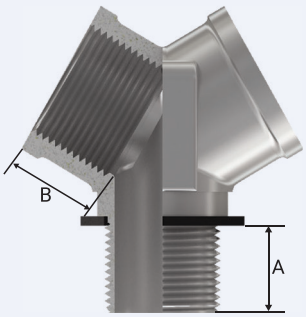
- Allows two cable glands to be fitted to a single cable entry.
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™)
- Supplied with a sealing gasket as standard. (Parallel male threads only.)
- Available in Metric BSPP, BSPT, ET and NPT thread forms.

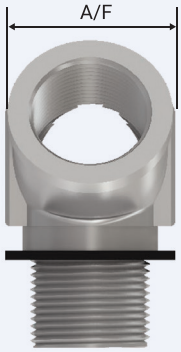
Technical Data

Type:	Fixed Y Adaptor
Material:	
Body:	Brass (Marine Grade Electroless Nickel Plated™)
Sealing gasket:	Standard HDPE / Nylon or Extreme Temp. PTFE
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEX: Ex db I Mb / Ex eb I Mb, Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2 G, 1 D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db	
Operating temperature range:	-60°C to +95°C / 100°C (HDPE / Nylon sealing gasket) -60°C to 160°C (PTFE sealing gasket)	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31	IECEx CML16.0059U
ATEX	EN 60079 Part 0, 1, 7, 31	CML 16ATEX1137U
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1012U
INMETRO (Brazil)	ABNT NBR IEC 60079-0, 1, 7, 31	TÜV 16.1856U
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/16.1806U
IP66/68 - Parallel IP65 - Tapered	IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-SG1952706-1 PDA





PATENTED

Conditions for Safe Use

- The service temperature range of -60°C to +95°C / 100°C / 160°C (HDPE / Nylon / PTFE sealing gaskets) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used. IP66/67/68 can also be achieved on threaded entries using an approved grease.

Product Code	Male Thread		Female Thread		Spanner Size A/F	Installation Torque Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'A'		
FYM020M20E	M20x1.5-6g	17.0	M20x1.5-6g	16.0	27	21.0
FYM025M25E	M25x1.5-6g	17.0	M25x1.5-6g	16.0	35	30.0
FYM032M32E	M32x1.5-6g	17.0	M32x1.5-6g	16.0	40	42.0
FYM020N012E	M20x1.5-6g	17.0	½" NPT	16.0	27	21.0
FYM025N034E	M25x1.5-6g	17.0	¾" NPT	16.0	35	30.0
FYM032N001E	M32x1.5-6g	17.0	1" NPT	18.0	40	42.0
FYN012M20E	½" NPT	17.0	M20x1.5-6g	16.0	27	'wrench tight'
FYN034M25E	¾" NPT	17.0	M25x1.5-6g	16.0	35	'wrench tight'
FYYN001M32E	1" NPT	17.0	M32x1.5-6g	16.0	40	'wrench tight'
FYN012N012E	½" NPT	17.0	½" NPT	16.0	27	'wrench tight'
FYN034N034E	¾" NPT	17.0	¾" NPT	16.0	35	'wrench tight'
FYN001N001E	1" NPT	17.0	1" NPT	18.0	40	'wrench tight'

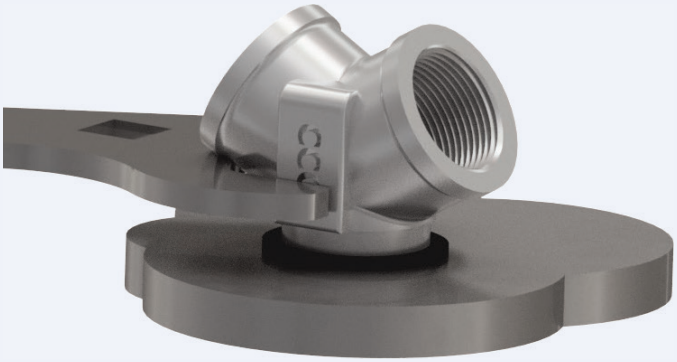
All dimensions except NPT are in mm. For other thread types, contact CCG.

Note:
1. The female thread may be the size shown in the table or any size smaller.
2. The two female threads can be different types / sizes. For example FYN001M32N034E would have a 1" NPT male thread, one M32 female thread and one ¾" NPT female thread.

FYA_AD091222

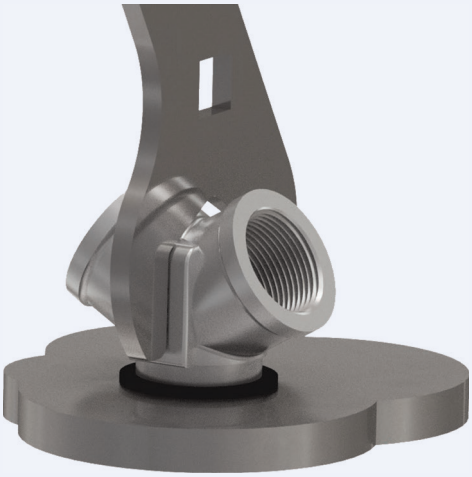
FITTING INSTRUCTIONS
Metric Illustration

FIXED Y ADAPTOR



1. Ensure that the threaded entry on the equipment has a flat surface to engage the sealing gasket. Tighten the Y Adaptor, complete with sealing gasket, into the equipment using a spanner until it is fully secured, noting the maximum torque figures in the table overleaf.

2. If fitting to a clearance hole, secure the Y Adaptor using a locknut. (Use a serrated washer and locknut in high vibration areas.)



3. Ensure the Y Adaptor is securely positioned and hold the adaptor flats using a CCG Spanner whilst fitting cable glands to the female threads.

90° Swivel Adaptor

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with sealing gasket as standard.
- Fitted with a silicone O-ring as standard.
- Can be fixed in any position around a 360° circle.
- Available in Metric and BSPP male thread forms and Metric, BSPP, BSPT and NPT female thread forms.

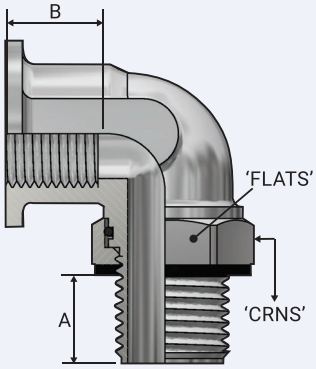
Technical Data

Type:	90° Swivel Adaptor
Material:	
Body and nut:	Brass (Marine Grade Electroless Nickel Plated™)
Sealing gasket:	Standard HDPE or Extreme Temp. PTFE
O-ring:	Silicone
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx: Ex db I Mb / Ex eb I Mb, Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da ATEX/UKEX: Ⓔx I M2 Ex db I Mb / Ex eb I Mb, Ⓔx II 2 G, 1 D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da NEC / CEC: Class I Div. 1/Div. 2 Gr ABCD; Class II Div. 1 Gr EFG/ Div. 2 Gr FG; Class III Div.1/Div.2; Class I Zone 1 AEx db IIC Gb /Ex db IIC Gb ; Class I Zone 1 AEx eb IIC Gb/Ex eb IIC Gb; Zone 21 AEx tb / Ex tb IIIC Db INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb,Ex tb IIIC Db
Operating temperature range:	-20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket)

Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML16.0059U IECEx MSC 17.0005U
ATEX	EN 60079 Part 0, 1, 7, 31	CML 16ATEX1137U
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1012U
NEC CEC	UL514B, UL2225, UL60079 Part 0, 1, 7, 31 CSA C22.2 No. 18.3-12, 174 CSA C22.2 No. 60079 Part 0, 1, 7, 31	LR1537/2
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 16.1856U
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/16-1806U
IP66/68 - Parallel IP65 - Tapered	IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529	ABS 20-SG1952706-1 PDA



PATENTED

Conditions for Safe Use

- The service temperature range of -20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used.

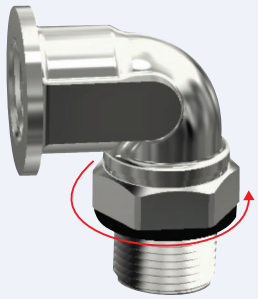
Product Code	Male Thread		Female Thread		Nut Hexagonal Details		Installation Torque Value Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'B'	Maximum 'Flats'	Maximum 'Crns'	
AELBM20M20E	M20x1.5-6g	17.0	M20x1.5-6g	16.0	27.0	30.4	21.0
AELBM25M25E	M25x1.5-6g	17.0	M25x1.5-6g	16.0	35.0	39.4	30.0
AELBM32M32E	M32x1.5-6g	17.0	M32x1.5-6g	16.0	40.0	45.0	42.0
AELBM20N012E	M20x1.5-6g	17.0	½" NPT	16.0	27.0	30.4	21.0
AELBM25N034E	M25x1.5-6g	17.0	¾" NPT	16.0	35.0	39.4	30.0
AELBM32N001E	M32x1.5-6g	17.0	1" NPT	16.0	40.0	45.0	42.0

All dimensions except NPT are in mm. For other thread types, contact CCG.

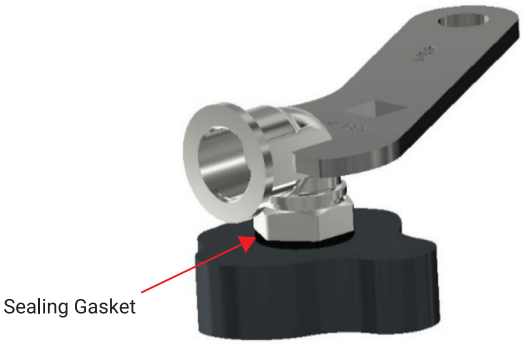
SWIVEL-AD010622

FITTING INSTRUCTIONS
Metric Illustration
90° SWIVEL ADAPTOR

1. The locking nut must be fully tightened onto the male thread before installing the adaptor.



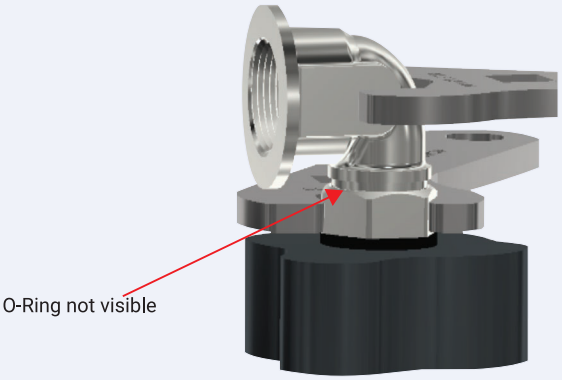
2. Ensure that the threaded entry on the equipment has a flat, square surface to engage the sealing gasket. Tighten the adaptor, complete with sealing gasket, into the equipment until it is fully secured noting the maximum torque figures in the table overleaf.



3. Unscrew the adaptor a maximum of 360° until it is pointing in the desired direction.

4. Hold the adaptor in the required orientation with a spanner and tighten the locking nut noting the maximum torque figures in the table overleaf.

5. Check that the O-ring seal is not visible (this ensures that the required number of threads are engaged in the equipment). If the O-ring is visible then repeat steps 1 to 4 correctly.

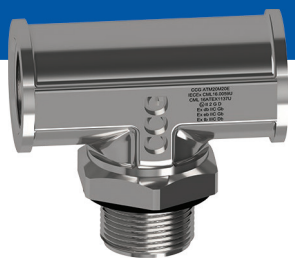


6. Hold the swivel adaptor flats using a spanner whilst fitting a cable gland to the female thread.

T Swivel Adaptor

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations



Features and Benefits

- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with sealing gasket as standard.
- Fitted with a silicone O-ring as standard.
- Can be fixed in any position around a 360° circle.
- Available in Metric and BSPP male thread forms and Metric, BSPP, BSPT and NPT female thread forms.

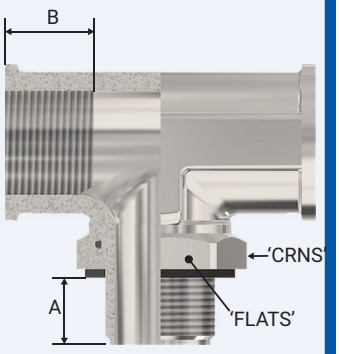
Technical Data

Type:	T Swivel Adaptor
Material:	
Body and nut:	Brass (Marine Grade Electroless Nickel Plated™)
Sealing gasket:	Standard HDPE or Extreme Temp. PTFE
O-ring:	Silicone
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEX: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb, Ex eb I Mb; ⟨Ex⟩ II 2 G, 1 D Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da NEC / CEC: Class I Div. 1/Div. 2 Gr ABCD; Class II Div. 1 Gr EFG/ Div. 2 Gr FG; Class III Div.1/Div.2; Class I Zone 1 AEx db IIC Gb /Ex db IIC Gb Class I Zone 1 AEx eb IIC INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db
Operating temperature range:	-20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket)

Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31	IECEx CML16.0059U
ATEX	EN 60079 Part 0, 1, 7, 31	CML 16ATEX1137U
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1012U
NEC CEC	UL514B, UL2225, UL60079 Part 0, 1, 7, 31 CSA C22.2 No. 18.3-12, 174 CSA C22.2 No. 60079 Part 0, 1, 7, 31	LR1537/2
INMETRO	ABNT NBR IEC 60079-0, 1, 7, 31	TÜV 16.1856U
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/16.1806U
IP66/68 - Parallel IP65 - Tapered	IEC 60529 IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529	ABS 20-SG1952706-1 PDA



PATENTED

Conditions for Safe Use

- The service temperature range of -20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used.

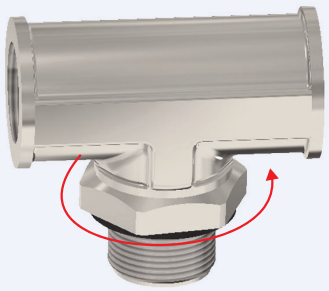
Product Code	Male Thread		Female Thread		Nut Hexagonal Details		Installation Torque Value Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'B'	Maximum 'Flats'	Maximum 'Crns'	
ATM20M20E	M20x1.5-6g	17.0	M20x1.5-6g	16.0	27.0	30.4	21.0
ATM25M25E	M25x1.5-6g	17.0	M25x1.5-6g	16.0	35.0	39.4	30.0
ATM32M32E	M32x1.5-6g	17.0	M32x1.5-6g	16.0	40.0	45.0	42.0
ATM20N012E	M20x1.5-6g	17.0	½" NPT	16.0	27.0	30.4	21.0
ATM25N034E	M25x1.5-6g	17.0	¾" NPT	16.0	35.0	39.4	30.0
ATM32N001E	M32x1.5-6g	17.0	1" NPT	16.0	40.0	45.0	42.0

All dimensions except NPT are in mm. For other thread types, contact CCG.

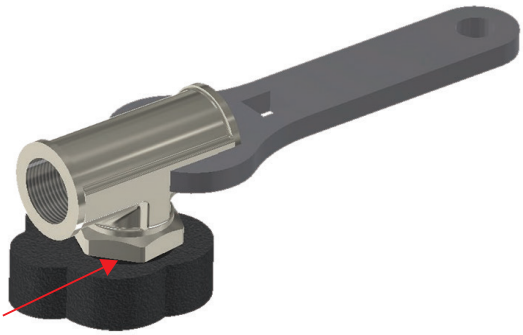
FITTING INSTRUCTIONS
Metric Illustration

T SWIVEL ADAPTOR

1. The locking nut must be fully tightened onto the male thread before installing the adaptor.

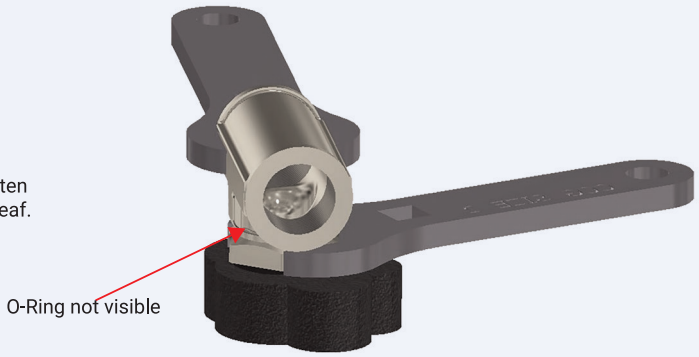


2. Ensure that the threaded entry on the equipment has a flat, square surface to engage the sealing gasket. Tighten the adaptor, complete with sealing gasket, into the equipment until it is fully secured noting the maximum torque figures in the table overleaf.



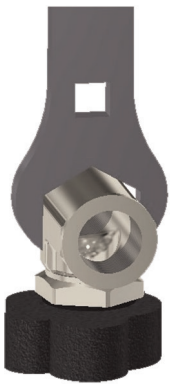
3. Unscrew the adaptor a maximum of 360° until it is pointing in the desired direction.

4. Hold the adaptor in the required orientation with a spanner and tighten the locking nut noting the maximum torque figures in the table overleaf.



5. Check that the O-ring seal is not visible (this ensures that the required number of threads are engaged in the equipment). If the O-ring is visible then repeat steps 1 to 4 correctly.

6. Hold the T-Swivel Adaptor flats using a spanner whilst fitting a cable gland to the female thread.



Y Swivel Adaptor

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

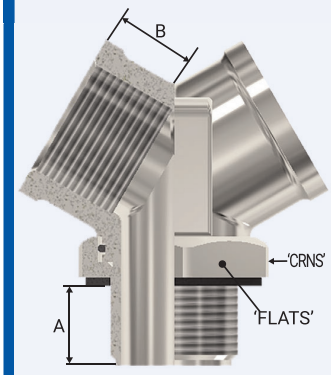
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with sealing gasket as standard.
- Fitted with a silicone O-ring as standard.
- Can be fixed in any position around a 360° circle.
- Available in Metric and BSPP male thread forms and Metric, BSPP, BSPT and NPT female thread forms.

Technical Data

Type:	Y Swivel Adaptor
Material:	
Body and nut:	Brass (Marine Grade Electroless Nickel Plated™)
Sealing gasket:	Standard HDPE or Extreme Temp. PTFE
O-ring:	Silicone
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEX: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb, Ex eb I Mb; ⟨Ex⟩ II 2 G, 1 D Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da NEC / CEC: Class I Div. 1/Div. 2 Gr ABCD; Class II Div. 1 Gr EFG/ Div. 2 Gr FG; Class III Div.1/Div.2; Class I Zone 1 AEx db IIC Gb /Ex db IIC Gb Class I Zone 1 AEx eb IIC INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb, Ex tb IIIC Db	
Operating temperature range:	-20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket)	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31	IECEx CML16.0059U
ATEX	EN 60079 Part 0, 1, 7, 31	CML 16ATEX1137U
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1012U
NEC CEC	UL514B, UL2225, UL60079 Part 0, 1, 7, 31 CSA C22.2 No. 18.3-12, 174 CSA C22.2 No. 60079 Part 0, 1, 7, 31	LR1537/2
INMETRO	ABNT NBR IEC 60079-0, 1, 7, 31	TÜV 16.1856U
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/16.1806U
IP66/68 - Parallel IP65 - Tapered	IEC 60529 IEC 60529	CML 15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529	ABS 20-SG1952706-1 PDA



PATENTED

Conditions for Safe Use

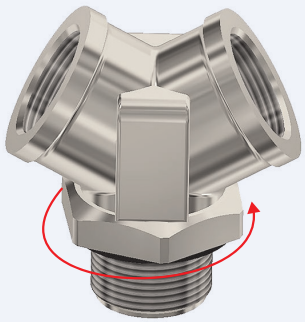
- The service temperature range of -20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used.

Product Code	Male Thread		Female Thread		Nut Hexagonal Details		Installation Torque Value Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'B'	Maximum 'Flats'	Maximum 'Crns'	
AYM20M20E	M20 x 1.5-6g	17.0	M20 x 1.5-6g	16.0	27.0	30.4	21.0
AYM25M25E	M25 x 1.5-6g	17.0	M25 x 1.5-6g	16.0	35.0	39.4	30.0
AYM32M32E	M32 x 1.5-6g	17.0	M32 x 1.5-6g	16.0	40.0	45.0	42.0
AYM20N012E	M20 x 1.5-6g	17.0	1/2" NPT	16.0	27.0	30.4	21.0
AYM25N034E	M25 x 1.5-6g	17.0	3/4" NPT	16.0	35.0	39.4	30.0
AYM32N001E	M32 x 1.5-6g	17.0	1" NPT	16.0	40.0	45.0	42.0

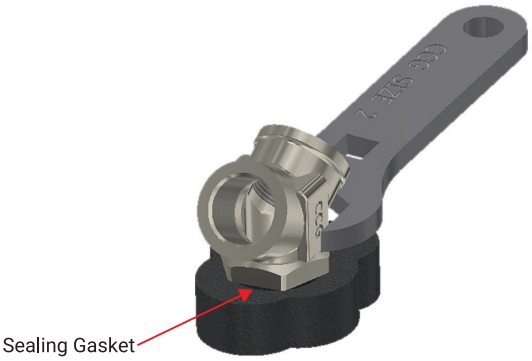
All dimensions except NPT are in mm.

FITTING INSTRUCTIONS
Metric Illustration
Y SWIVEL ADAPTOR

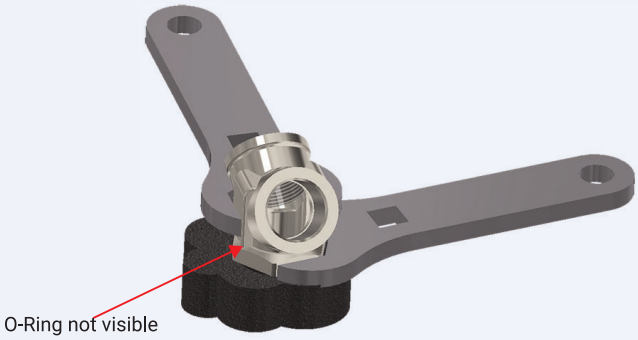
1. The locking nut must be fully tightened onto the male thread before installing the adaptor.



2. Ensure that the threaded entry on the equipment has a flat, square surface to engage the sealing gasket. Tighten the adaptor, complete with sealing gasket, into the equipment until it is fully secured noting the maximum torque figures in the table overleaf.



3. Unscrew the adaptor a maximum of 360° until it is pointing in the desired direction.
4. Hold the adaptor in the required orientation with a spanner and tighten the locking nut noting the maximum torque figures in the table overleaf.
5. Check that the O-ring seal is not visible (this ensures that the required number of threads are engaged in the equipment). If the O-ring is visible then repeat steps 1 to 4 correctly.

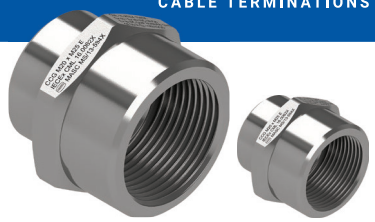


6. Hold the Y-Swivel Adaptor flats using a spanner whilst fitting a cable gland to the female thread.

UNION

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations



Features and Benefits

- Precision manufactured from high quality Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L.
- Converts mismatching threads to the required thread.

Technical Data

Type:	Union
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L.
Note:	The installer should check that the materials are suitable for the installation environment.

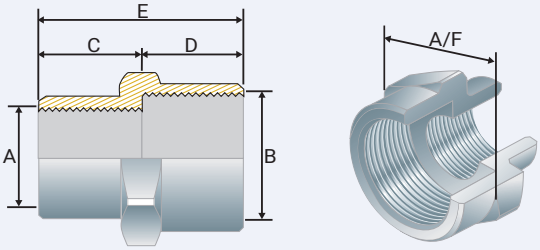
Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da TR CU: [Ex]1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / РΠ Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
TR CU (Russia)	ГОСТ Р МЗК 60079-0, 7, 31 ГОСТ IEC 60079-1	TC RU C-ZA.ME92.B.00695
SANS/IEC	IEC 60079 Part 0, 1, 7, 31 IEC 60529	MASC MS/13-594X
IP66/68 2m - Parallel IP65/66 - Tapered	IEC 60529 IEC 60529	CML15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS DNV-GL	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529 IEC 60079 Part 0, 1, 7 and IEC 60529	ABS 20-SG1952706-1-PDA DNV-GL TAE0000010
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with a CCG sealing gasket and for units with tapered thread when thread sealant is conducted as indicated in IEC 60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) is applicable if the gaskets are utilized to maintain an IP rating IP65/66/68 2m continued.
- A blanking element may not be installed on a Union.

UNION-UN010622



METRIC TO BSP

Product Code	Size Metric "A" x BSP "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UM016B012	M16 x ½ BSP	15	16	31	25
UM016B034	M16 x ¾ BSP	15	16	31	32
UM016B001	M16 x 1 BSP	15	18	33	35
UM016B114	M16 x 1¼ BSP	15	18	33	42
UM020B012	M20 x ½ BSP	15	16	31	25
UM020B034	M20 x ¾ BSP	15	16	31	32
UM020B001	M20 x 1 BSP	15	18	33	35
UM020B114	M20 x 1¼ BSP	15	18	33	42
UM020B112	M20 x 1½ BSP	15	18	33	52
UM025B012	M25 x ½ BSP	15	16	31	32
UM025B034	M25 x ¾ BSP	15	16	31	32
UM025B001	M25 x 1 BSP	15	18	33	35
UM025B114	M25 x 1¼ BSP	15	18	33	42
UM025B112	M25 x 1½ BSP	15	18	33	52
UM025B002	M25 x 2 BSP	15	18	33	60
UM032B012	M32 x ½ BSP	15	16	31	35
UM032B034	M32 x ¾ BSP	15	16	31	35
UM032B001	M32 x 1 BSP	15	18	33	35
UM032B114	M32 x 1¼ BSP	15	18	33	42
UM032B112	M32 x 1½ BSP	15	18	33	52
UM032B002	M32 x 2 BSP	15	18	33	60
UM032B212	M32 x 2½ BSP	15	18	33	80
UM040B012	M40 x ½ BSP	15	16	31	45
UM040B034	M40 x ¾ BSP	15	16	31	45
UM040B001	M40 x 1 BSP	15	18	33	45
UM040B114	M40 x 1¼ BSP	15	18	33	45
UM040B112	M40 x 1½ BSP	15	18	33	52
UM040B002	M40 x 2 BSP	15	18	33	60
UM040B212	M40 x 2½ BSP	15	18	33	80
UM040B003	M40 x 3 BSP	15	18	33	96
UM050B034	M50 x ¾ BSP	15	16	31	55
UM050B001	M50 x 1 BSP	15	18	33	55
UM050B114	M50 x 1¼ BSP	15	18	33	55
UM050B112	M50 x 1½ BSP	15	18	33	55
UM050B002	M50 x 2 BSP	15	18	33	60
UM050B212	M50 x 2½ BSP	15	18	33	80
UM050B003	M50 x 3 BSP	15	18	33	96
UM050B312	M50 x 3½ BSP	15	18	33	111
UM063B001	M63 x 1 BSP	15	18	33	70
UM063B114	M63 x 1¼ BSP	15	18	33	70
UM063B112	M63 x 1½ BSP	15	18	33	70
UM063B002	M63 x 2 BSP	15	18	33	70
UM063B212	M63 x 2½ BSP	15	18	33	80
UM063B003	M63 x 3 BSP	15	18	33	96
UM063B312	M63 x 3½ BSP	15	18	33	111
UM063B004	M63 x 4 BSP	15	18	33	125
UM075B114	M75 x 1¼ BSP	15	18	33	80
UM075B112	M75 x 1½ BSP	15	18	33	80
UM075B002	M75 x 2 BSP	15	18	33	80
UM075B212	M75 x 2½ BSP	15	18	33	80
UM075B003	M75 x 3 BSP	15	18	33	96
UM075B312	M75 x 3½ BSP	15	18	33	111
UM075B004	M75 x 4 BSP	15	18	33	125
UM080B112	M80 x 1½ BSP	20	18	38	85
UM080B002	M80 x 2 BSP	20	18	38	85
UM080B212	M80 x 2½ BSP	20	18	38	85
UM080B003	M80 x 3 BSP	20	18	38	96
UM080B312	M80 x 3½ BSP	20	18	38	111
UM080B004	M80 x 4 BSP	20	18	38	125
UM090B002	M90 x 2 BSP	20	18	38	96
UM090B212	M90 x 2½ BSP	20	18	38	96
UM090B003	M90 x 3 BSP	20	18	38	96
UM090B312	M90 x 3½ BSP	20	18	38	111
UM090B004	M90 x 4 BSP	20	18	38	125
UM100B212	M100 x 2½ BSP	20	18	38	111
UM100B003	M100 x 3 BSP	20	18	38	111
UM100B312	M100 x 3½ BSP	20	18	38	111
UM100B004	M100 x 4 BSP	20	18	38	125

All dimensions except BSP are in mm.

BSP TO BSP

Product Code	Size BSP "A" x BSP "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UB012B012	⅛ BSP x ⅛ BSP	16	16	32	27
UB034B012	¾ BSP x ⅛ BSP	16	16	32	32
UB034B034	¾ BSP x ¾ BSP	16	16	32	32
UB001B012	1 BSP x ⅛ BSP	18	16	34	40
UB001B034	1 BSP x ¾ BSP	18	16	34	40
UB001B001	1 BSP x 1 BSP	18	18	36	40
UB114B012	1¼ BSP x ⅛ BSP	18	16	34	47

METRIC TO NPT

Product Code	Size Metric "A" x NPT "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min. A/F
UM016N012	M16 x ½ NPT	15	15	30	25
UM016N034	M16 x ¾ NPT	15	15	30	27
UM016N001	M16 x 1 NPT	15	18	34	35
UM016N114	M16 x 1¼ NPT	15	19	34	42
UM020N012	M20 x ½ NPT	15	15	30	25
UM020N034	M20 x ¾ NPT	15	15	30	27
UM020N001	M20 x 1 NPT	15	18	34	35
UM020N114	M20 x 1¼ NPT	15	19	34	42
UM020N112	M20 x 1½ NPT	15	19	36	60
UM025N012	M25 x ½ NPT	15	15	30	27
UM025N034	M25 x ¾ NPT	15	15	30	27
UM025N001	M25 x 1 NPT	15	18	34	35
UM025N114	M25 x 1¼ NPT	15	19	34	42
UM025N112	M25 x 1½ NPT	15	19	36	60
UM025N002	M25 x 2 NPT	15	19	36	65
UM032N012	M32 x ½ NPT	15	15	30	40
UM032N034	M32 x ¾ NPT	15	15	30	40
UM032N001	M32 x 1 NPT	15	18	34	40
UM032N114	M32 x 1¼ NPT	15	19	34	42
UM032N112	M32 x 1½ NPT	15	19	36	60
UM032N002	M32 x 2 NPT	15	19	36	65
UM032N212	M32 x 2½ NPT	15	25	45	70
UM040N012	M40 x ½ NPT	15	15	30	45
UM040N034	M40 x ¾ NPT	15	15	30	45
UM040N001	M40 x 1 NPT	15	18	34	45
UM040N114	M40 x 1¼ NPT	15	19	34	45
UM040N112	M40 x 1½ NPT	15	19	36	60
UM040N002	M40 x 2 NPT	15	19	36	65
UM040N212	M40 x 2½ NPT	15	25	45	70
UM040N003	M40 x 3 NPT	15	27	47	85
UM050N034	M50 x ¾ NPT	15	15	30	55
UM050N001	M50 x 1 NPT	15	18	34	55
UM050N114	M50 x 1¼ NPT	15	19	34	55
UM050N112	M50 x 1½ NPT	15	19	36	60
UM050N002	M50 x 2 NPT	15	19	36	65
UM050N212	M50 x 2½ NPT	15	25	45	70
UM050N003	M50 x 3 NPT	15	27	47	85
UM050N312	M50 x 3½ NPT	15	29	48	111
UM063N001	M63 x 1 NPT	15	18	34	70
UM063N114	M63 x 1¼ NPT	15	19	34	70
UM063N112	M63 x 1½ NPT	15	19	36	70
UM063N002	M63 x 2 NPT	15	19	36	70
UM063N212	M63 x 2½ NPT	15	25	45	70
UM063N003	M63 x 3 NPT	15	27	47	85
UM063N312	M63 x 3½ NPT	15	29	48	111
UM063N004	M63 x 4 NPT	15	29	49	125
UM075N114	M75 x 1¼ NPT	15	19	34	80
UM075N112	M75 x 1½ NPT	15	19	36	80
UM075N002	M75 x 2 NPT	15	19	36	80
UM075N212	M75 x 2½ NPT	15	25	45	80
UM075N003	M75 x 3 NPT	15	27	47	85
UM075N312	M75 x 3½ NPT	15	29	48	111
UM075N004	M75 x 4 NPT	15	29	49	125
UM080N112	M80 x 1½ NPT	20	19	41	85
UM080N002	M80 x 2 NPT	20	19	41	85
UM080N212	M80 x 2½ NPT	20	25	50	85
UM080N003	M80 x 3 NPT	20	27	52	85
UM080N312	M80 x 3½ NPT	20	29	53	111
UM080N004	M80 x 4 NPT	20	29	54	125
UM090N002	M90 x 2 NPT	20	19	41	96
UM090N212	M90 x 2½ NPT	20	25	50	96
UM090N003	M90 x 3 NPT	20	27	52	96
UM090N312	M90 x 3½ NPT	20	29	53	111
UM090N004	M90 x 4 NPT	20	29	54	125
UM100N212	M100 x 2½ NPT	20	25	50	111
UM100N003	M100 x 3 NPT	20	27	52	111
UM100N312	M100 x 3½ NPT	20	29	53	111
UM100N004	M100 x 4 NPT	20	29	54	125

All dimensions except NPT are in mm.

BSP TO BSP

Product Code	Size BSP "A" x BSP "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UB114B034	1¼ BSP x ¾ BSP	18	16	34	47
UB114B001	1¼ BSP x 1 BSP	18	18	36	47
UB114B114	1¼ BSP x 1¼ BSP	18	18	36	47
UB112B012	1½ BSP x ½ BSP	18	16	34	55
UB112B034	1½ BSP x ¾ BSP	18	16	34	55
UB112B001	1½ BSP x 1 BSP	18	18	36	55
UB112B114	1½ BSP x 1¼ BSP	18	18	36	55
UB112B112	1½ BSP x 1½ BSP	18	18	36	55
UB002B034	2 BSP x ¾ BSP	18	16	34	65
UB002B001	2 BSP x 1 BSP	18	16	34	65
UB002B114	2 BSP x 1¼ BSP	18	18	36	65
UB002B112	2 BSP x 1½ BSP	18	18	36	65
UB002B002	2 BSP x 2 BSP	18	18	36	65
UB212B001	2½ BSP x 1 BSP	18	18	36	80
UB212B114	2½ BSP x 1¼ BSP	18	18	36	80
UB212B112	2½ BSP x 1½ BSP	18	18	36	80
UB212B002	2½ BSP x 2 BSP	18	18	36	80
UB212B212	2½ BSP x 2½ BSP	18	18	36	80
UB003B114	3 BSP x 1¼ BSP	18	18	36	96
UB003B112	3 BSP x 1½ BSP	18	18	36	96
UB003B002	3 BSP x 2 BSP	18	18	36	96
UB003B212	3 BSP x 2½ BSP	18	18	36	96
UB003B003	3 BSP x 3 BSP	18	18	36	96
UB312B112	3½ BSP x 1½ BSP	18	18	36	111
UB312B002	3½ BSP x 2 BSP	18	18	36	111
UB312B212	3½ BSP x 2½ BSP	18	18	36	111
UB312B003	3½ BSP x 3 BSP	18	18	36	111
UB312B312	3½ BSP x 3½ BSP	18	18	36	111
UB004B002	4 BSP x 2 BSP	18	18	36	125
UB004B212	4 BSP x 2½ BSP	18	18	36	125
UB004B003	4 BSP x 3 BSP	18	18	36	125
UB004B312	4 BSP x 3½ BSP	18	18	36	125
UB004B004	4 BSP x 4BSP	18	18	36	125

All dimensions except BSP are in mm.

METRIC, NPT AND BSP UNION

METRIC TO METRIC

Product Code	Size Metric "A" x Metric "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UM016M016	M16 x M16	15	15	30	24
UM020M016	M20 x M16	15	15	30	27
UM020M020	M20 x M20	15	15	30	27
UM025M016	M25 x M16	15	15	30	32
UM025M020	M25 x M20	15	15	30	32
UM025M025	M25 x M25	15	15	30	32
UM032M016	M32 x M16	15	15	30	38
UM032M020	M32 x M20	15	15	30	38
UM032M025	M32 x M25	15	15	30	38
UM032M032	M32 x M32	15	15	30	38
UM040M016	M40 x M16	15	15	30	45
UM040M020	M40 x M20	15	15	30	45
UM040M025	M40 x M25	15	15	30	45
UM040M032	M40 x M32	15	15	30	45
UM040M040	M40 x M40	15	15	30	45
UM050M020	M50 x M20	15	15	30	60
UM050M025	M50 x M25	15	15	30	60
UM050M032	M50 x M32	15	15	30	60
UM050M040	M50 x M40	15	15	30	60
UM050M050	M50 x M50	15	15	30	60
UM063M025	M63 x M25	15	15	30	80
UM063M032	M63 x M32	15	15	30	80
UM063M040	M63 x M40	15	15	30	80
UM063M050	M63 x M50	15	15	30	80
UM063M063	M63 x M63	15	15	30	80
UM075M032	M75 x M32	15	15	30	80
UM075M040	M75 x M40	15	15	30	80
UM075M050	M75 x M50	15	15	30	80
UM075M063	M75 x M63	15	15	30	80
UM075M075	M75 x M75	15	15	30	80
UM080M040	M80 x M40	20	15	35	96
UM080M050	M80 x M50	20	15	35	96
UM080M063	M80 x M63	20	15	35	96
UM080M075	M80 x M75	20	15	35	96
UM080M080	M80 x M80	20	20	40	96
UM090M050	M90 x M50	20	15	35	96
UM090M063	M90 x M63	20	15	35	96
UM090M075	M90 x M75	20	15	35	96
UM090M080	M90 x M80	20	20	40	96
UM090M090	M90 x M90	20	20	40	96
UM100M063	M100 x M63	20	20	40	111
UM100M075	M100 x M75	20	20	40	111
UM100M080	M100 x M80	20	20	40	111
UM100M090	M100 x M90	20	20	40	111
UM100M100	M100 x M100	20	20	40	111

All dimensions are in mm.

NPT TO BSP

Product Code	Size NPT "A" x BSP "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UN012B012	½ NPT x ½ BSP	15	16	31	27
UN034B012	¾NPT x ½ BSP	15	16	31	32
UN034B034	¾NPT x ¾ BSP	15	16	31	32
UN001B012	1 NPT x ½ BSP	18	16	35	42
UN001B034	1 NPT x ¾ BSP	18	16	35	45
UN001B001	1 NPT x 1 BSP	18	18	37	45
UN114B012	1¼ NPT x ½ BSP	19	16	35	47
UN114B034	1¼ NPT x ¾ BSP	19	16	35	47
UN114B001	1¼ NPT x 1 BSP	19	18	37	47
UN114B114	1¼ NPT x 1¼ BSP	19	18	37	47
UN112B012	1½ NPT x ½ BSP	19	16	37	55
UN112B034	1½ NPT x ¾ BSP	19	16	37	55
UN112B001	1½ NPT x 1 BSP	19	18	39	55
UN112B114	1½ NPT x 1¼ BSP	19	18	39	55
UN112B112	1½ NPT x 1½ BSP	19	18	39	55
UN002B034	2 NPT x ¾ BSP	19	16	37	65
UN002B001	2 NPT x 1 BSP	19	18	39	65
UN002B114	2NPT x 1¼ BSP	19	18	39	65
UN002B112	2 NPT x 1½ BSP	19	18	39	65
UN002B002	2 NPT x 2 BSP	19	18	39	65
UN212B001	2½ NPT x 1 BSP	25	18	48	80
UN212B114	2½ NPT x 1¼ BSP	25	18	48	80
UN212B112	2½ NPT x 1½ BSP	25	18	48	80
UN212B002	2½ NPT x 2 BSP	25	18	48	80
UN212B212	2½ NPT x 2½ BSP	25	18	48	80
UN003B114	3 NPT x 1¼ BSP	27	18	50	96
UN003B112	3 NPT x 1½ BSP	27	18	50	96
UN003B002	3 NPT x 2 BSP	27	18	50	96
UN003B212	3 NPT x 2½ BSP	27	18	50	96
UN003B003	3 NPT x 3 BSP	27	18	50	96
UN312B112	3½ NPT x 1½ BSP	29	18	51	111
UN312B002	3½ NPT x 2 BSP	29	18	51	111
UN312B212	3½ NPT x 2½ BSP	29	18	51	111
UN312B003	3½ NPT x 3 BSP	29	18	51	111
UN312B312	3½ NPT x 3½ BSP	29	18	51	111
UN004N002	4 NPT x 2 BSP	29	18	52	125
UN004N212	4 NPT x 2½ BSP	29	18	52	125
UN004N003	4 NPT x 3 BSP	29	18	52	125
UN004N312	4 NPT x 3½ BSP	29	18	52	125
UN004N004	4 NPT x 4 BSP	29	18	52	125

All dimensions except NPT and BSP are in mm.

BSP TO NPT

Product Code	Size BSP "A" x NPT "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UB012N012	½ BSP x ½ NPT	16	15	31	27
UB034N012	¾ BSP x ½ NPT	16	15	31	32
UB034N034	¾BSP x ¾ NPT	16	15	31	32
UB001N012	1 BSP x ½ NPT	18	15	33	40
UB001N034	1 BSP x ¾NPT	18	15	33	40
UB001N001	1 BSP x 1NPT	18	18	37	40
UB114N012	1¼ BSP x ½ NPT	18	15	33	47
UB114N034	1¼ BSP x ¾ NPT	18	15	33	47
UB114N001	1¼ BSP x 1 NPT	18	18	37	47
UB114N114	1¼ BSP x 1¼ NPT	18	19	37	47
UB112N012	1½ BSP x ½ NPT	18	15	33	55
UB112N034	1½ BSP x ¾ NPT	18	15	33	55
UB112N001	1½ BSP x 1 NPT	18	18	37	55
UB112N114	1½ BSP x 1¼ NPT	18	19	37	52
UB112N112	1½ BSP x 1½ NPT	18	19	39	55
UB002N034	2 BSP x ¾ NPT	18	15	33	65
UB002N001	2 BSP x 1 NPT	18	18	37	65
UB002N114	2 BSP x 1¼ NPT	18	19	37	65
UB002N112	2 BSP x 1½ NPT	18	19	39	65
UB002N002	2 BSP x 2 NPT	18	19	39	65
UB212N001	2½ BSP x 1NPT	18	18	37	80
UB212N114	2½ BSP x 1¼NPT	18	19	37	80
UB212N112	2½ BSP x 1½ NPT	18	19	39	80
UB212N002	2½ BSP x 2 NPT	18	19	39	80
UB212N212	2½ BSP x 2½ NPT	18	25	48	80
UB003N114	3 BSP x 1¼ NPT	18	19	37	96
UB003N112	3 BSP x 1½ NPT	18	19	39	96
UB003N002	3 BSP x 2 NPT	18	19	39	96
UB003N212	3 BSP x 2½ NPT	18	25	48	96
UB003N003	3 BSP x 3 NPT	18	27	50	96
UB312N112	3½ BSP x 1½ NPT	18	19	39	111
UB312N002	3½ BSP x 2 NPT	18	19	39	111
UB312N212	3½ BSP x 2½ NPT	18	25	48	111
UB312N003	3½ BSP x 3 NPT	18	27	50	111
UB312N312	3½ BSP x 3½ NPT	18	29	51	111
UB004N002	4 BSP x 2 NPT	18	19	39	125
UB004N212	4 BSP x 2½ NPT	18	25	48	125
UB004N003	4 BSP x 3 NPT	18	27	50	125
UB004N312	4 BSP x 3½ NPT	18	29	51	125
UB004N004	4 BSP x 4 NPT	18	29	52	125

All dimensions except BSP and NPT are in mm.

NPT TO NPT

Product Code	Size NPT "A" x NPT "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
UN012N012	½ NPT x ½ NPT	15	15	30	25
UN034N012	¾ NPT x ½ NPT	15	15	30	32
UN034N034	¾ NPT x ¾ NPT	15	15	30	32
UN001N012	1 NPT x ½ NPT	18	15	34	38
UN001N034	1 NPT x ¾ NPT	18	15	34	38
UN001N001	1 NPT x 1 NPT	18	18	38	38
UN114N012	1¼ NPT x ½ NPT	19	15	34	47
UN114N034	1¼ NPT x ¾ NPT	19	15	34	47
UN114N001	1¼ NPT x 1 NPT	19	18	38	47
UN114N114	1¼ NPT x 1¼ NPT	19	19	38	47
UN112N012	1½ NPT x ½ NPT	19	15	36	52
UN112N034	1½ NPT x ¾ NPT	19	15	36	52
UN112N001	1½ NPT x 1 NPT	19	18	40	52
UN112N114	1½ NPT x 1¼ NPT	19	19	40	52
UN112N112	1½ NPT x 1½ NPT	19	19	42	52
UN002N034	2 NPT x ¾ NPT	19	15	36	65
UN002N001	2 NPT x 1 NPT	19	18	40	65
UN002N114	2 NPT x 1¼ NPT	19	19	40	65
UN002N112	2 NPT x 1½ NPT	19	19	42	65
UN002N002	2 NPT x 2 NPT	19	19	42	65
UN212N001	2½ NPT x 1 NPT	25	18	49	80
UN212N114	2½ NPT x 1¼ NPT	25	19	49	80
UN212N112	2½ NPT x 1½ NPT	25	19	51	80
UN212N002	2½ NPT x 2 NPT	25	19	51	80
UN212N212	2½ NPT x 2½ NPT	25	25	60	80
UN003N114	3 NPT x 1 ¼ NPT	27	19	51	96
UN003N112	3 NPT x 1½ NPT	27	19	53	96
UN003N002	3 NPT x 2 NPT	27	19	53	96
UN003N212	3 NPT x 2½ NPT	27	25	62	96
UN003N003	3 NPT x 3NPT	27	27	64	96
UN312N112	3½ NPT x 1½ NPT	29	19	54	111
UN312N002	3½ NPT x 2 NPT	29	19	54	111
UN312N212	3½ NPT x 2½ NPT	29	25	63	111
UN312N003	3½ NPT x 3 NPT	29	27	65	111
UN312N312	3½ NPT x 3½ NPT	29	29	66	111
UN004N002	4 NPT x 2 NPT	29	19	55	125
UN004N212	4 NPT x 2½ NPT	29	25	64	125
UN004N003	4 NPT x 3 NPT	29	27	66	125
UN004N312	4 NPT x 3½ NPT	29	29	67	125
UN004N004	4 NPT x 4 NPT	29	29	68	125

All dimensions except NPT are in mm.

PRODUCT CODE STRUCTURE

1st Character denotes the type, U = Union	2nd Character denotes the female thread - **M**etric, **N**PT or **B**SP	3rd to 5th Character denotes the size of the female thread	6th Character denotes the female thread - **M**etric, **N**PT or **B**SP	7th to 9th Character denotes the size of female thread	10th Character denotes the classification - Conduit (**S**) or Ex (**E**)	Example Product Code
U	**B**	004	**N**	312	**E**	U**B**004**N**312**E**

BSP/NPT TO METRIC UNION SELECTION CHART

FEMALE / MALE	METRIC										
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
½"BSP/½"NPT	UN	UN	UN	UN	UN						
¾"BSP/¾"NPT	UN	UN	UN	UN	UN	UN					
1"BSP/1"NPT	UN	UN	UN	UN	UN	UN	UN				
1¼"BSP/1¼"NPT	UN	UN	UN	UN	UN	UN	UN	UN			
1½"BSP/1½"NPT		UN	UN	UN	UN	UN	UN	UN	UN		
2"BSP/2"NPT			UN	UN	UN	UN	UN	UN	UN	UN	
2½"BSP/2½"NPT				UN	UN	UN	UN	UN	UN	UN	UN
3"BSP/3"NPT					UN	UN	UN	UN	UN	UN	UN
3½"BSP/3½"NPT						UN	UN	UN	UN	UN	UN
4"BSP/4"NPT							UN	UN	UN	UN	UN

BSP/NPT TO BSP/NPT UNION SELECTION CHART

FEMALE / MALE	BSP / NPT									
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
½"BSP/½"NPT	UN									
¾"BSP/¾"NPT	UN	UN								
1"BSP/1"NPT	UN	UN	UN							
1¼"BSP/1¼"NPT	UN	UN	UN	UN						
1½"BSP/1½"NPT	UN	UN	UN	UN	UN					
2"BSP/2"NPT		UN	UN	UN	UN	UN				
2½"BSP/2½"NPT			UN	UN	UN	UN	UN			
3"BSP/3"NPT				UN	UN	UN	UN	UN		
3½"BSP/3½"NPT					UN	UN	UN	UN	UN	
4"BSP/4"NPT						UN	UN	UN	UN	UN

METRIC TO METRIC UNION SELECTION CHART

FEMALE / MALE	METRIC										
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
M16	UN										
M20	UN	UN									
M25	UN	UN	UN								
M32	UN	UN	UN	UN							
M40	UN	UN	UN	UN	UN						
M50		UN	UN	UN	UN	UN					
M63			UN	UN	UN	UN	UN				
M75				UN	UN	UN	UN	UN			
M80					UN	UN	UN	UN	UN		
M90						UN	UN	UN	UN	UN	
M100							UN	UN	UN	UN	UN

METRIC TO BSP/NPT UNION SELECTION CHART

FEMALE / MALE	BSP / NPT									
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
M16	UN	UN	UN	UN						
M20	UN	UN	UN	UN	UN					
M25	UN	UN	UN	UN	UN	UN				
M32	UN	UN	UN	UN	UN	UN	UN			
M40	UN	UN	UN	UN	UN	UN	UN	UN		
M50		UN	UN	UN	UN	UN	UN	UN	UN	
M63			UN	UN	UN	UN	UN	UN	UN	UN
M75				UN	UN	UN	UN	UN	UN	UN
M80					UN	UN	UN	UN	UN	UN
M90						UN	UN	UN	UN	UN
M100							UN	UN	UN	UN

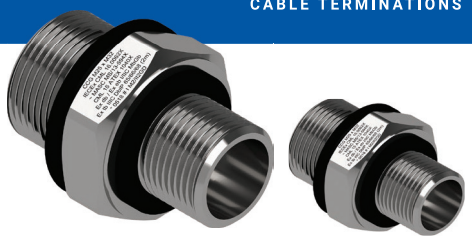
SIZE REFERENCE

Metric Size Reference	NPT Size Reference	BSP Size Reference
M16 x 1.5	-	-
M20 x 1.5	½ / ¾	½ / ¾
M25 x 1.5	¾ / 1	¾ / 1
M32 x 1.5	1 / 1¼	1 / 1¼
M40 x 1.5	1¼ / 1½	1¼ / 1½
M50 x 1.5	1½ / 2	1½ / 2
M63 x 1.5	2 / 2½	2 / 2½
M63 x 1.5	2 / 2½	2 / 2½
M75 x 1.5	2½ / 3	2½ / 3
M75 x 1.5	2½ / 3	2½ / 3
M80 x 2.0	3	3
M90 x 2.0	3 / 3½	3 / 3½
M100 x 2.0	3½ / 4	3½ / 4
M115 x 2.0	4	4
M120 x 2.0	-	-

COUPLER

Ex db, Ex eb, Ex ta , Ex nR, IP65/66/68

for General Industrial and Hazardous Area Installations



Features and Benefits

- Precision manufactured from high-quality Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L.
- Converts female threads to male threads
- Converts mismatching threads to the required thread.

Technical Data

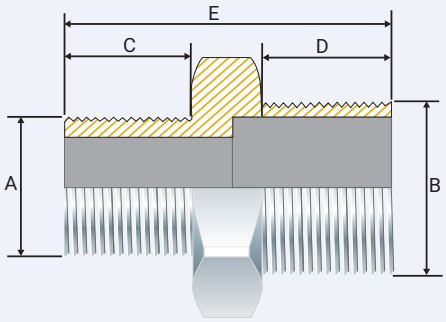
Type:	Coupler
Material:	Brass (Marine Grade Electroless Nickel Plated™), Stainless Steel 316/316L
Gasket Material:	Standard HDPE or Extreme Temp. PTFE
Note:	The installer should check that the materials are suitable for the installation environment

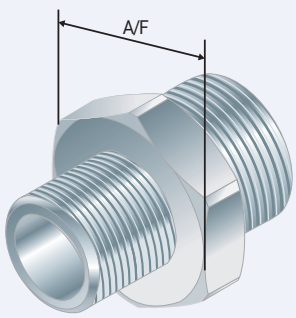
Standards and Certifications

Equipment Protection Levels:	IECEx: Ex db I Mb / Ex eb I Mb / Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da / Ex nR IIC ATEX/UKEX: Ⓔx I M2 Ex db I Mb / Ex eb I Mb, Ⓔx II 2G 1D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da INMETRO: Ex db I Mb, Ex eb I Mb, Ex db IIC Gb, Ex eb IIC Gb,Ex tb IIIC Db TR CU: 1Ex d IIC Gb X / PB Ex d I Mb X / 1Ex e IIC Gb X / РΠ Ex e I Mc X / Ex tb IIIC Db X	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 15, 31 IEC 60079 Part 0, 1, 7, 31	IECEx CML 16.0062X IECEx ITA 13.0005X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
TR CU (Russia)	ГОСТ Р МЭК 60079-0, 7, 31 ГОСТ IEC 60079-1	TC RU C-ZA.ME92.B.00695
SANS/IEC	IEC 60079 Part 0, 1, 7, 31 IEC 60529	MASC MS/13-594X
IP66/68 2m - Parallel IP65/66 - Tapered	IEC 60529 IEC 60529	CML15Y728
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS DNV-GL	IEC 60079 Part 0, 1, 7, 15, 31 and IEC 60529 IEC 60079 Part 0, 1, 7 and IEC 60529	ABS 20-SG1952706-1-PDA DNV-GL TAE0000010
London Underground Approval	BS EN 62444	LU 3043, LU 3044

Conditions and limitations for Safe Use - X

- An IP rating of IP66/68 is maintained for units with parallel threads when used with the supplied washer and for units with tapered thread when thread sealant is conducted as indicated in IEC 60079-14. Alternatively an IP65 rating is applicable.
- Operating temperature range -60°C to +95°C (HDPE gasket), -60°C to +100°C (nylon gasket) or -60°C to +160°C (PTFE gasket) is applicable if the gaskets are utilized to maintain an IP rating IP65/66/68 2m continued.
- A blanking element may not be installed on a Coupler.
- When the coupler with metric male thread and with the sealing washer fitted is intended for use / interface in threaded holes in a flameproof enclosure the applicable thread engagement must be achieved after the washer has been fitted. Thread engagement shall be at least five full threads.





BSP TO METRIC

Product Code	Size BSP "A" x Metric "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
CB012M016	½ BSP x M16	16.0	15.0	41.0	27.0
CB012M020	½ BSP x M20	16.0	15.0	41.0	32.0
CB012M025	½ BSP x M25	16.0	15.0	41.0	32.0
CB034M016	¾ BSP x M16	16.0	15.0	41.0	32.0
CB034M020	¾ BSP x M20	16.0	15.0	41.0	32.0
CB034M025	¾BSP x M25	16.0	15.0	41.0	32.0
CB034M032	¾ BSP x M32	16.0	15.0	41.0	38.0
CB034M040	¾ BSP x M40	16.0	15.0	41.0	45.0
CB001M016	1 BSP x M16	18.0	15.0	43.0	35.0
CB001M020	1 BSP x M20	18.0	15.0	43.0	42.0
CB001M025	1 BSP x M25	18.0	15.0	43.0	42.0
CB001M032	1 BSP x M32	18.0	15.0	43.0	42.0
CB001M040	1 BSP x M40	18.0	15.0	43.0	47.0
CB001M050	1 BSP x M50	18.0	15.0	43.0	60.0
CB114M020	1¼ BSP x M20	18.0	15.0	43.0	47.0
CB114M025	1¼ BSP x M25	18.0	15.0	43.0	47.0
CB114M032	1¼ BSP x M32	18.0	15.0	43.0	47.0
CB114M040	1¼ BSP x M40	18.0	15.0	43.0	52.0
CB114M050	1¼ BSP x M50	18.0	15.0	43.0	65.0
CB114M063	1¼ BSP x M63	18.0	15.0	43.0	70.0
CB112M020	1½ BSP x M20	18.0	15.0	43.0	52.0
CB112M025	1½ BSP x M25	18.0	15.0	43.0	52.0
CB112M032	1½ BSP x M32	18.0	15.0	43.0	52.0
CB112M040	1½ BSP x M40	18.0	15.0	43.0	55.0
CB112M050	1½ BSP x M50	18.0	15.0	43.0	65.0
CB112M063	1½ BSP x M63	18.0	15.0	43.0	70.0
CB112M075	1½ BSP x M75	18.0	15.0	43.0	80.0
CB002M025	2 BSP x M25	18.0	15.0	43.0	65.0
CB002M032	2 BSP x M32	18.0	15.0	43.0	65.0
CB002M040	2 BSP x M40	18.0	15.0	43.0	65.0
CB002M050	2 BSP x M50	18.0	15.0	43.0	65.0
CB002M063	2 BSP x M63	18.0	15.0	43.0	70.0
CB002M075	2 BSP x M75	18.0	15.0	43.0	80.0
CB002M080	2 BSP x M80	18.0	20.0	48.0	85.0
CB212M032	2½ BSP x M32	18.0	15.0	43.0	80.0
CB212M040	2½ BSP x M40	18.0	15.0	43.0	80.0
CB212M050	2½ BSP x M50	18.0	15.0	43.0	80.0
CB212M063	2½ BSP x M63	18.0	15.0	43.0	80.0
CB212M075	2½ BSP x M75	18.0	15.0	43.0	80.0
CB212M080	2½ BSP x M80	18.0	20.0	48.0	85.0
CB212M090	2½ BSP x M90	18.0	20.0	48.0	96.0
CB003M040	3 BSP x M40	18.0	15.0	43.0	96.0
CB003M050	3 BSP x M50	18.0	15.0	43.0	96.0
CB003M063	3 BSP x M63	18.0	15.0	43.0	96.0
CB003M075	3 BSP x M75	18.0	15.0	43.0	96.0
CB003M080	3 BSP x M80	18.0	20.0	48.0	96.0
CB003M090	3 BSP x M90	18.0	20.0	48.0	96.0
CB003M100	3 BSP x M100	18.0	20.0	48.0	111.0
CB312M050	3½ BSP x M50	18.0	15.0	43.0	111.0
CB312M063	3½ BSP x M63	18.0	15.0	43.0	111.0
CB312M075	3½ BSP x M75	18.0	15.0	43.0	111.0
CB312M080	3½ BSP x M80	18.0	20.0	48.0	111.0
CB312M090	3½ BSP x M90	18.0	20.0	48.0	111.0
CB312M100	3½ BSP x M100	18.0	20.0	48.0	111.0
CB004M063	4 BSP x M63	18.0	15.0	43.0	125.0
CB004M075	4 BSP x M75	18.0	15.0	43.0	125.0
CB004M080	4 BSP x M80	18.0	20.0	48.0	125.0
CB004M090	4 BSP x M90	18.0	20.0	48.0	125.0
CB004M100	4 BSP x M100	18.0	20.0	48.0	125.0

All dimensions except BSP are in mm.

BSP TO BSP

Product Code	Size BSP "A" x BSP "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
CB012B012	½ BSP x ½ BSP	16.0	16.0	42.0	27.0
CB034B012	¾ BSP x ½ BSP	16.0	16.0	42.0	35.0
CB034B034	¾ BSP x ¾ BSP	16.0	16.0	42.0	35.0
CB001B012	1 BSP x ½ BSP	18.0	16.0	44.0	42.0
CB001B034	1 BSP x ¾ BSP	18.0	16.0	44.0	42.0
CB001B001	1 BSP x 1 BSP	18.0	18.0	46.0	42.0
CB114B034	1¼ BSP x ¾ BSP	18.0	16.0	44.0	51.0
CB114B001	1¼ BSP x 1 BSP	18.0	18.0	46.0	51.0
CB114B114	1¼ BSP x 1¼ BSP	18.0	18.0	46.0	51.0
CB112B034	1½ BSP x ¾ BSP	18.0	16.0	44.0	53.0
CB112B001	1½ BSP x 1 BSP	18.0	18.0	46.0	53.0
CB112B114	1½ BSP x 1¼ BSP	18.0	18.0	46.0	53.0
CB112B112	1½BSP x 1½ BSP	18.0	18.0	46.0	53.0
CB002B001	2BSP x 1 BSP	18.0	18.0	46.0	65.0
CB002B114	2 BSP x 1¼ BSP	18.0	18.0	46.0	65.0
CB002B112	2 BSP x 1½ BSP	18.0	18.0	46.0	65.0
CB002B002	2 BSP x 2 BSP	18.0	18.0	46.0	65.0
CB212B114	2½ BSP x 1¼ BSP	18.0	18.0	46.0	80.0
CB212B112	2½ BSP x 1½ BSP	18.0	18.0	46.0	80.0
CB212B002	2½ BSP x 2 BSP	18.0	18.0	46.0	80.0
CB212B212	2½ BSP x 2½ BSP	18.0	18.0	46.0	80.0
CB003B112	3 BSP x 1½ BSP	18.0	18.0	46.0	96.0
CB003B002	3 BSP x 2 BSP	18.0	18.0	46.0	96.0
CB003B212	3 BSP x 2½ BSP	18.0	18.0	46.0	96.0
CB003B003	3 BSP x 3 BSP	18.0	18.0	46.0	96.0
CB312B002	3½ BSP x 2 BSP	18.0	18.0	46.0	111.0
CB312B212	3½ BSP x 2½ BSP	18.0	18.0	46.0	111.0
CB312B003	3½ BSP x 3 BSP	18.0	18.0	46.0	111.0
CB312B312	3½ BSP x 3½ BSP	18.0	18.0	46.0	111.0
CB004B212	4 BSP x 2½ BSP	18.0	18.0	46.0	111.0
CB004B003	4 BSP x 3 BSP	18.0	18.0	46.0	111.0
CB004B312	4 BSP x 3½ BSP	18.0	18.0	46.0	111.0
CB004B004	4 BSP x 4 BSP	18.0	18.0	46.0	111.0

All dimensions except BSP are in mm.

BSP TO NPT

Product Code	Size BSP "A" x NPT "B"	Thread Length Min "C"	Thread Length Max "D"	Overall Length Min "E"	Dimension Min A/F
CB012N012	½ BSP x ½ NPT	16.0	15.0	41.0	27.0
CB034N012	¾ BSP x ½ NPT	16.0	15.0	41.0	32.0
CB034N034	¾ BSP x ¾ NPT	16.0	15.0	41.0	32.0
CB001N012	1 BSP x ½ NPT	18.0	15.0	43.0	40.0
CB001N034	1 BSP x ¾ NPT	18.0	15.0	43.0	40.0
CB001N001	1 BSP x 1 NPT	18.0	19.0	47.0	40.0
CB114N034	1¼ BSP x ¾ NPT	18.0	15.0	43.0	47.0
CB114N001	1¼ BSP x 1 NPT	18.0	19.0	47.0	47.0
CB114N114	1¼ BSP x 1¼ NPT	18.0	19.0	47.0	47.0
CB112N034	1½ BSP x ¾ NPT	18.0	15.0	43.0	55.0
CB112N001	1½ BSP x 1 NPT	18.0	19.0	47.0	55.0
CB112N114	1½ BSP x 1¼ NPT	18.0	19.0	47.0	52.0
CB112N112	1½ BSP x 1½ NPT	18.0	21.0	49.0	55.0
CB002N001	2 BSP x 1 NPT	18.0	19.0	47.0	65.0
CB002N114	2 BSP x 1¼ NPT	18.0	19.0	47.0	65.0
CB002N112	2 BSP x 1½ NPT	18.0	21.0	49.0	65.0
CB002N002	2 BSP x 2 NPT	18.0	21.0	49.0	65.0
CB212N114	2½ BSP x 1¼ NPT	18.0	19.0	47.0	80.0
CB212N112	2½ BSP x 1½ NPT	18.0	21.0	49.0	80.0
CB212N002	2½ BSP x 2 NPT	18.0	21.0	49.0	80.0
CB212N212	2½ BSP x 2½ NPT	18.0	30.0	58.0	80.0
CB003N112	3 BSP x 1½ NPT	18.0	21.0	49.0	96.0
CB003N002	3 BSP x 2 NPT	18.0	21.0	49.0	96.0
CB003N212	3 BSP x 2½ NPT	18.0	30.0	58.0	96.0
CB003N003	3 BSP x 3 NPT	18.0	32.0	60.0	96.0
CB312N002	3½ BSP x 2 NPT	18.0	21.0	49.0	111.0
CB312N212	3½ BSP x 2½ NPT	18.0	30.0	58.0	111.0
CB312N003	3½ BSP x 3 NPT	18.0	32.0	60.0	111.0
CB312N312	3½ BSP x 3½ NPT	18.0	33.0	61.0	111.0
CB004N212	4 BSP x 2½ NPT	18.0	30.0	58.0	125.0
CB004N003	4 BSP x 3 NPT	18.0	32.0	60.0	125.0
CB004N312	4 BSP x 3½ NPT	18.0	33.0	61.0	125.0
CB004N004	4 BSP x 4 NPT	18.0	34.0	62.0	125.0

All dimensions except BSP and NPT are in mm.

PRODUCT CODE STRUCTURE

1st Character denotes the type, C = Coupler	2nd Character denotes the male thread - Metric, NPT or BSP	3rd to 5th Character denotes the size of the male thread	6th Character denotes the male thread - Metric, NPT or BSP	7th to 9th Character denotes the size of male thread	10th Character denotes the classification - Conduit (S) or Ex (E)	Example Product Code
C	**M**	025	**M**	020	**E**	**CM025M020E**

METRIC, NPT AND BSP COUPLER

SIZE REFERENCE

Metric Size Reference	NPT Size Reference	BSP Size Reference
M16 x 1.5	-	-
M20 x 1.5	½ / ¾	½ / ¾
M25 x 1.5	¾ / 1	¾ / 1
M32 x 1.5	1 / 1¼	1 / 1¼
M40 x 1.5	1¼ / 1½	1¼ / 1½
M50 x 1.5	1½ / 2	1½ / 2
M63 x 1.5	2 / 2½	2 / 2½
M63 x 1.5	2 / 2½	2 / 2½
M75 x 1.5	2½ / 3	2½ / 3
M75 x 1.5	2½ / 3	2½ / 3
M80 x 2.0	3	3
M90 x 2.0	3 / 3½	3 / 3½
M100 x 2.0	3½ / 4	3½ / 4
M115 x 2.0	4	4
M120 x 2.0	-	-

NPT TO NPT

Product Code	Size NPT "A" x NPT "B"	Thread Length Max "C"	Thread Length Max "D"	Overall Length Min "E"	Dimension Min A/F
CN012N012	½ NPT x ½ NPT	15.0	15.0	40.0	25.0
CN034N012	¾ NPT x ½ NPT	15.0	15.0	40.0	32.0
CN034N034	¾ NPT x ¾ NPT	15.0	15.0	40.0	32.0
CN001N012	1 NPT x ½ NPT	19.0	15.0	44.0	38.0
CN001N034	1 NPT x ¾ NPT	19.0	15.0	44.0	38.0
CN001N001	1 NPT x 1 NPT	19.0	19.0	48.0	38.0
CN114N034	1¼ NPT x ¾ NPT	19.0	15.0	44.0	47.0
CN114N001	1¼ NPT x 1 NPT	19.0	19.0	48.0	47.0
CN114N114	1¼ NPT x 1¼ NPT	19.0	19.0	48.0	47.0
CN112N034	1½ NPT x ¾ NPT	21.0	15.0	46.0	52.0
CN112N001	1½ NPT x 1 NPT	21.0	19.0	50.0	52.0
CN112N114	1½ NPT x 1¼ NPT	21.0	19.0	50.0	52.0
CN112N112	1½ NPT x 1½ NPT	21.0	21.0	52.0	52.0
CN112N002	1½ NPT x 2 NPT	21.0	21.0	52.0	52.0
CN002N001	2 NPT x 1 NPT	21.0	19.0	50.0	65.0
CN002N114	2 NPT x 1¼ NPT	21.0	19.0	50.0	65.0
CN002N112	2 NPT x 1½ NPT	21.0	21.0	52.0	65.0
CN002N002	2 NPT x 2 NPT	21.0	21.0	52.0	65.0
CN212N114	2½ NPT x 1¼ NPT	30.0	19.0	59.0	80.0
CN212N112	2½ NPT x 1½ NPT	30.0	21.0	61.0	80.0
CN212N002	2½ NPT x 2 NPT	30.0	21.0	61.0	80.0
CN212N212	2½ NPT x 2½ NPT	30.0	30.0	70.0	80.0
CN003N112	3 NPT x 1½ NPT	32.0	21.0	63.0	96.0
CN003N002	3 NPT x 2 NPT	32.0	21.0	63.0	96.0
CN003N212	3 NPT x 2½ NPT	32.0	30.0	72.0	96.0
CN003N003	3 NPT x 3 NPT	32.0	32.0	74.0	96.0
CN312N002	3½ NPT x 2 NPT	33.0	21.0	64.0	111.0
CN312N212	3½ NPT x 2½ NPT	33.0	30.0	73.0	111.0
CN312N003	3½ NPT x 3 NPT	33.0	32.0	75.0	111.0
CN312N312	3½ NPT x 3½ NPT	33.0	33.0	76.0	111.0
CN004N212	4 NPT x 2½ NPT	34.0	30.0	74.0	125.0
CN004N003	4 NPT x 3 NPT	34.0	32.0	76.0	125.0
CN004N312	4 NPT x 3½ NPT	34.0	33.0	77.0	125.0
CN004N004	4 NPT x 4 NPT	34.0	34.0	78.0	125.0

All dimensions except NPT are in mm.

NPT TO BSP

Product Code	Size NPT "A" x BSP "B"	Thread Length Max "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
CN012B012	½ NPT x ½ BSP	15.0	16.0	41.0	27.0
CN034B012	¾ NPT x ½ BSP	15.0	16.0	41.0	32.0
CN034B034	¾ NPT x ¾ BSP	15.0	16.0	41.0	32.0
CN001B012	1 NPT x ½ BSP	19.0	16.0	45.0	40.0
CN001B034	1 NPT x ¾ BSP	19.0	16.0	45.0	40.0
CN001B001	1 NPT x 1 BSP	19.0	18.0	47.0	40.0
CN114B034	1¼ NPT x ¾ BSP	19.0	16.0	45.0	47.0
CN114B001	1¼ NPT x 1 BSP	19.0	18.0	47.0	47.0
CN114B114	1¼ NPT x 1¼ BSP	19.0	18.0	47.0	47.0
CN112B034	1½ NPT x ¾ BSP	21.0	16.0	47.0	47.0
CN112B001	1½ NPT x 1 BSP	21.0	18.0	49.0	55.0
CN112B114	1½ NPT x 1¼ BSP	21.0	18.0	49.0	52.0
CN112B112	1½ NPT x 1½ BSP	21.0	18.0	49.0	55.0
CN002B001	2 NPT x 1 BSP	21.0	18.0	49.0	65.0
CN002B114	2 NPT x 1¼ BSP	21.0	18.0	49.0	65.0
CN002B112	2 NPT x 1½ BSP	21.0	18.0	49.0	65.0
CN002B002	2 NPT x 2 BSP	21.0	18.0	49.0	65.0
CN212B114	2½ NPT x 1¼ BSP	30.0	18.0	58.0	80.0
CN212B112	2½ NPT x 1½ BSP	30.0	18.0	58.0	80.0
CN212B002	2½ NPT x 2 BSP	30.0	18.0	58.0	80.0
CN212B212	2½ NPT x 2½ BSP	30.0	18.0	58.0	80.0
CN003B112	3 NPT x 1½BSP	32.0	18.0	60.0	96.0
CN003B002	3 NPT x 2 BSP	32.0	18.0	60.0	96.0
CN003B212	3 NPT x 2½ BSP	32.0	18.0	60.0	96.0
CN003B003	3 NPT x 3 BSP	32.0	18.0	60.0	96.0
CN312B002	3½ NPT x 2 BSP	33.0	18.0	61.0	111.0
CN312B212	3½ NPT x 2½ BSP	33.0	18.0	61.0	111.0
CN312B003	3½ NPT x 3 BSP	33.0	18.0	61.0	111.0
CN312B312	3½ NPT x 3½ BSP	33.0	18.0	61.0	111.0
CN004B212	4 NPT x 2½ BSP	34.0	18.0	62.0	125.0
CN004B003	4 NPT x 3 BSP	34.0	18.0	62.0	125.0
CN004B312	4 NPT x 3½ BSP	34.0	18.0	62.0	125.0
CN004B004	4 NPT x 4 BSP	34.0	18.0	62.0	125.0

All dimensions except NPT and BSP are in mm.

METRIC TO NPT

Product Code	Size Metric "A" x NPT "B"	Thread Length Min "C"	Thread Length Max "D"	Overall Length Min "E"	Dimension Min A/F
CM016N012	M16 x ½ NPT	15.0	15.0	40.0	27.0
CM016N034	M16 x ¾ NPT	15.0	15.0	40.0	32.0
CM016N001	M16 x 1 NPT	15.0	19.0	44.0	38.0
CM020N012	M20 x ½ NPT	15.0	15.0	40.0	27.0
CM020N034	M20 x ¾ NPT	15.0	15.0	40.0	32.0
CM020N001	M20 x 1 NPT	15.0	19.0	44.0	38.0
CM020N114	M20 x 1¼ NPT	15.0	19.0	44.0	70.0
CM020N112	M20 x 1½ NPT	15.0	21.0	46.0	80.0
CM025N012	M25 x ½ NPT	15.0	15.0	40.0	32.0
CM025N034	M25 x ¾ NPT	15.0	15.0	40.0	32.0
CM025N001	M25 x 1 NPT	15.0	19.0	44.0	38.0
CM025N114	M25 x 1¼ NPT	15.0	19.0	44.0	70.0
CM025N112	M25 x 1½ NPT	15.0	21.0	46.0	80.0
CM025N002	M25 x 2 NPT	15.0	21.0	46.0	85.0
CM032N034	M32 x ¾ NPT	15.0	15.0	40.0	38.0
CM032N001	M32 x 1 NPT	15.0	19.0	44.0	38.0
CM032N114	M32 x 1¼ NPT	15.0	19.0	44.0	70.0
CM032N112	M32 x 1½ NPT	15.0	21.0	46.0	80.0
CM032N002	M32 x 2 NPT	15.0	21.0	46.0	85.0
CM032N212	M32 x 2½ NPT	15.0	30.0	55.0	96.0
CM040N034	M40 x ¾ NPT	15.0	15.0	40.0	45.0
CM040N001	M40 x 1 NPT	15.0	19.0	44.0	45.0
CM040N114	M40 x 1¼ NPT	15.0	19.0	44.0	70.0
CM040N112	M40 x 1½ NPT	15.0	21.0	46.0	80.0
CM040N002	M40 x 2 NPT	15.0	21.0	46.0	85.0
CM040N212	M40 x 2½ NPT	15.0	30.0	55.0	96.0
CM040N003	M40 x 3 NPT	15.0	32.0	57.0	111.0
CM050N001	M50 x 1 NPT	15.0	19.0	44.0	55.0
CM050N114	M50 x 1¼ NPT	15.0	19.0	44.0	70.0
CM050N112	M50 x 1½ NPT	15.0	21.0	46.0	80.0
CM050N002	M50 x 2 NPT	15.0	21.0	46.0	85.0
CM050N212	M50 x 2½ NPT	15.0	30.0	55.0	96.0
CM050N003	M50 x 3 NPT	15.0	32.0	57.0	111.0
CM050N312	M50 x 3½ NPT	15.0	33.0	58.0	111.0
CM063N114	M63 x 1¼ NPT	15.0	19.0	44.0	70.0
CM063N112	M63 x 1½ NPT	15.0	21.0	46.0	80.0
CM063N002	M63 x 2 NPT	15.0	21.0	46.0	85.0
CM063N212	M63 x 2½ NPT	15.0	30.0	55.0	96.0
CM063N003	M63 x 3 NPT	15.0	32.0	57.0	111.0
CM063N312	M63 x 3½ NPT	15.0	33.0	58.0	111.0
CM063N004	M63 x 4 NPT	15.0	34.0	59.0	125.0
CM075N112	M75 x 1½ NPT	15.0	21.0	46.0	80.0
CM075N002	M75 x 2 NPT	15.0	21.0	46.0	85.0
CM075N212	M75 x 2½ NPT	15.0	30.0	55.0	96.0
CM075N003	M75 x 3 NPT	15.0	32.0	57.0	111.0
CM075N312	M75 x 3½ NPT	15.0	33.0	58.0	111.0
CM075N004	M75 x 4 NPT	15.0	34.0	59.0	125.0
CM080N002	M80 x 2 NPT	20.0	21.0	51.0	85.0
CM080N212	M80 x 2½ NPT	20.0	30.0	60.0	96.0
CM080N003	M80 x 3 NPT	20.0	32.0	62.0	111.0
CM080N312	M80 x 3½ NPT	20.0	33.0	63.0	111.0
CM080N004	M80 x 4 NPT	20.0	34.0	64.0	125.0
CM090N212	M90 x 2½ NPT	20.0	30.0	60.0	96.0
CM090N003	M90 x 3 NPT	20.0	32.0	62.0	111.0
CM090N312	M90 x 3½ NPT	20.0	33.0	63.0	111.0
CM090N004	M90 x 4 NPT	20.0	34.0	64.0	125.0
CM100N003	M100 x 3 NPT	20.0	32.0	62.0	111.0
CM100N312	M100 x 3½ NPT	20.0	33.0	63.0	111.0
CM100N004	M100 x 4 NPT	20.0	34.0	64.0	125.0

All dimensions except NPT are in mm.

METRIC TO METRIC

Product Code	Size Metric "A" x Metric "B"	Thread Length Min "C"	Thread Length Min "D"	Overall Length Min "E"	Dimension Min A/F
CM016M016	M16 x M16	15.0	15.0	40.0	24.0
CM020M016	M20 x M16	15.0	15.0	40.0	27.0
CM020M020	M20 x M20	15.0	15.0	40.0	27.0
CM025M016	M25 x M16	15.0	15.0	40.0	32.0
CM025M020	M25 x M20	15.0	15.0	40.0	32.0
CM025M025	M25 x M25	15.0	15.0	40.0	32.0
CM032M020	M32 x M20	15.0	15.0	40.0	38.0
CM032M025	M32 x M25	15.0	15.0	40.0	38.0
CM032M032	M32 x M32	15.0	15.0	40.0	38.0
CM040M020	M40 x M20	15.0	15.0	40.0	47.0
CM040M025	M40 x M25	15.0	15.0	40.0	47.0
CM040M032	M40 x M32	15.0	15.0	40.0	47.0
CM040M040	M40 x M40	15.0	15.0	40.0	47.0
CM050M025	M50 x M25	15.0	15.0	40.0	60.0
CM050M032	M50 x M32	15.0	15.0	40.0	60.0
CM050M040	M50 x M40	15.0	15.0	40.0	60.0
CM050M050	M50 x M50	15.0	15.0	40.0	60.0
CM063M032	M63 x M32	15.0	15.0	40.0	80.0
CM063M040	M63 x M40	15.0	15.0	40.0	80.0
CM063M050	M63 x M50	15.0	15.0	40.0	80.0
CM063M063	M63 x M63	15.0	15.0	40.0	80.0
CM075M040	M75 x M40	15.0	15.0	40.0	80.0
CM075M050	M75 x M50	15.0	15.0	40.0	80.0
CM075M063	M75 x M63	15.0	15.0	40.0	80.0
CM075M075	M75 x M75	15.0	15.0	40.0	80.0
CM080M050	M80 x M50	20.0	15.0	45.0	96.0
CM080M063	M80 x M63	20.0	15.0	45.0	96.0
CM080M075	M80 x M75	20.0	15.0	45.0	96.0
CM080M080	M80 x M80	20.0	20.0	50.0	96.0
CM090M063	M90 x M63	20.0	15.0	45.0	96.0
CM090M075	M90 x M75	20.0	15.0	45.0	96.0
CM090M080	M90 x M80	20.0	20.0	50.0	96.0
CM090M090	M90 x M90	20.0	20.0	50.0	96.0
CM100M075	M100 x M75	20.0	15.0	45.0	111.0
CM100M080	M100 x M80	20.0	20.0	50.0	111.0
CM100M090	M100 x M90	20.0	20.0	50.0	111.0
CM100M100	M100 x M100	20.0	20.0	50.0	111.0

All dimensions are in mm.

ADJUSTABLE ELBOW ADAPTOR

Ex db, Ex eb, Ex ta, IP65/66/68

for General Industrial and Hazardous Area Installations

Features and Benefits

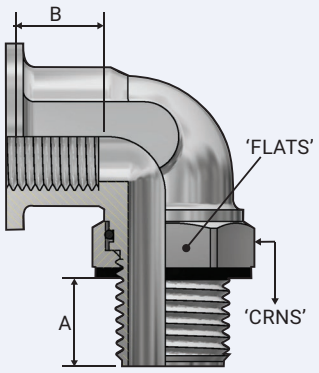
- Precision manufactured from high quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium or stainless steel 316/316L on request.
- Supplied with sealing gasket as standard.
- Fitted with a silicone O-ring as standard.
- Can be fixed in any position around a 360° circle.
- Available in Metric and BSPP male thread forms and Metric, BSPP, BSPT and NPT female thread forms.

Technical Data

Type:	Adjustable Elbow Adaptor
Material:	
Body and nut:	Brass (Marine Grade Electroless Nickel Plated™) Aluminium, Stainless Steel 316/316L on request.
Sealing gasket:	Standard HDPE or Extreme Temp. PTFE
O-ring:	Silicone
Note:	The installer should ensure that the materials are suitable for the installation environment.

Standards and Certifications

Equipment Protection Levels:	IECEx/INMETRO: Ex db I Mb / Ex eb I Mb, Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da ATEX/UKEX: ⟨Ex⟩ I M2 Ex db I Mb / Ex eb I Mb, ⟨Ex⟩ II 2 G, 1 D Ex db IIC Gb / Ex eb IIC Gb / Ex ta IIIC Da NEC / CEC: Class I Div. 1/Div. 2 Gr ABCD; Class II Div. 1 Gr EFG/ Div. 2 Gr FG; Class III Div.1/Div.2; Class I Zone 1 AEx db IIC Gb /Ex db IIC Gb ; Class I Zone 1 AEx eb IIC Gb/Ex eb IIC Gb; Zone 21 AEx tb / Ex tb IIIC Db	
Operating temperature range:	-20°C to +95°C (HDPE sealing gasket) -60°C to +160°C (PTFE sealing gasket)	
Conformance:	Standard:	Certificate:
IECEx	IEC 60079 Part 0, 1, 7, 31	IECEx TSA 23.0024X
ATEX	EN 60079 Part 0, 1, 7, 31	CML 15ATEX1040X
UKEX	BS EN 60079 Part 0, 1, 7, 31	CML 21UKEX1014X
NEC CEC	UL514B, UL2225, UL60079 Part 0, 1, 7, 31 CSA C22.2 No. 18.3-12, 174 CSA C22.2 No. 60079 Part 0, 1, 7, 31	E115595
INMETRO (Brazil)	ABNT NBR IEC 60079 Part 0, 1, 7, 31	TÜV 15.0485X
SANS	SANS/IEC 60079 Part 0, 1, 7, 31	MASC MS/23-9594X
IP66/68 - Parallel IP65 - Tapered	IEC 60529	CML 15Y728
IP68 – Tapered and approved grease	IEC 60529	IECEx TSA 23.0024X
Deluge Protection	DTS-01	CML 14CA370-2
Marine ABS	IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529	ABS 20-SG1952706-1 PDA



PATENTED

Conditions for Safe Use

- The service temperature range of -20°C to +95°C (HDPE sealing gasket) or -60°C to +160°C (PTFE sealing gasket) shall not be exceeded.
- All adaptors are rated IP65 for any sealing arrangement. If an IP rating of IP66/67/68 is required then the supplied sealing gasket shall be used.

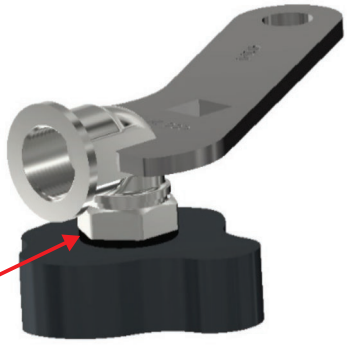
Product Code	Male Thread		Female Thread		Nut Hexagonal Details		Installation Torque Value Nm
	Type	Minimum Length 'A'	Type	Minimum Length 'B'	Maximum 'Flats'	Maximum 'Crns'	
AELBM20M20E	M20x1.5	17.0	M20x1.5	16.0	27.0	30.4	21.0
AELBM25M25E	M25x1.5	17.0	M25x1.5	16.0	35.0	39.4	30.0
AELBM32M32E	M32x1.5	17.0	M32x1.5	16.0	40.0	45.0	42.0
AELBM20N012E	M20x1.5	17.0	½ NPT	16.0	27.0	30.4	21.0
AELBM25N034E	M25x1.5	17.0	¾ NPT	16.0	35.0	39.4	30.0
AELBM32N001E	M32x1.5	17.0	1 NPT	16.0	40.0	45.0	42.0

All dimensions except NPT are in mm. For other thread types, contact CCG.

Adjustable Elbow Adaptor

1. The locking nut must be fully tightened onto the male thread before installing the adaptor.

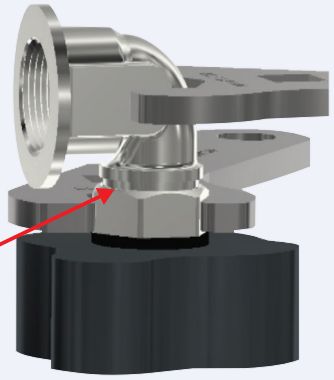
2. Ensure that the threaded entry on the equipment has a flat, square surface to engage the sealing gasket. Tighten the adaptor, complete with sealing gasket, into the equipment until it is fully secured noting the maximum torque figures in the table overleaf.



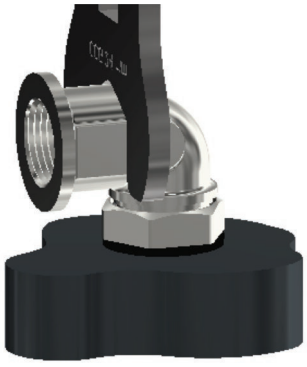
3. Unscrew the adaptor a maximum of 360° until it is pointing in the desired direction.

4. Hold the adaptor in the required orientation with a spanner and tighten the locking nut noting the maximum torque figures in the table overleaf.

5. Check that the O-ring seal is not visible (this ensures that the required number of threads are engaged in the equipment). If the O-ring is visible then repeat steps 1 to 4 correctly.



6. Hold the Adjustable Elbow Adaptor flats using a spanner whilst fitting a cable gland to the female thread.



METRIC TO METRIC COUPLER SELECTION CHART

MALE / MALE	METRIC										
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
M16	COU										
M20	COU	COU									
M25	COU	COU	COU								
M32		COU	COU	COU							
M40		COU	COU	COU	COU						
M50			COU	COU	COU	COU					
M63				COU	COU	COU	COU				
M75					COU	COU	COU	COU			
M80						COU	COU	COU	COU		
M90							COU	COU	COU	COU	
M100								COU	COU	COU	COU

METRIC TO NPT COUPLER SELECTION CHART

MALE / MALE	NPT									
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
M16	COU	COU	COU							
M20	COU	COU	COU	COU	COU					
M25	COU	COU	COU	COU	COU	COU				
M32		COU	COU	COU	COU	COU	COU			
M40		COU	COU	COU	COU	COU	COU	COU		
M50			COU	COU	COU	COU	COU	COU	COU	
M63				COU	COU	COU	COU	COU	COU	COU
M75					COU	COU	COU	COU	COU	COU
M80						COU	COU	COU	COU	COU
M90							COU	COU	COU	COU
M100								COU	COU	COU

BSP TO METRIC COUPLER SELECTION CHART

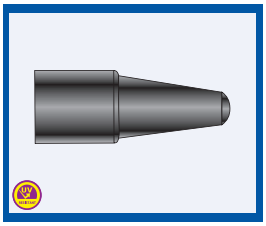
MALE / MALE	METRIC										
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
½"BSP	COU	COU	COU								
¾"BSP	COU	COU	COU	COU	COU						
1"BSP	COU	COU	COU	COU	COU	COU					
1¼"BSP		COU	COU	COU	COU	COU	COU				
1½"BSP		COU	COU	COU	COU	COU	COU	COU			
2"BSP			COU	COU	COU	COU	COU	COU	COU		
2½"BSP				COU	COU	COU	COU	COU	COU	COU	
3"BSPT					COU	COU	COU	COU	COU	COU	COU
3½"BSP						COU	COU	COU	COU	COU	COU
4"BSP							COU	COU	COU	COU	COU

BSP/NPT TO BSP/NPT COUPLER SELECTION CHART

MALE / MALE	BSP / NPT									
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
½"BSP/½"NPT	COU									
¾"BSP/¾"NPT	COU	COU								
1"BSP/1"NPT	COU	COU	COU							
1¼"BSP/1¼"NPT		COU	COU	COU						
1½"BSP/1½"NPT		COU	COU	COU	COU					
2"BSP/2"NPT			COU	COU	COU	COU				
2½"BSP/2½"NPT				COU	COU	COU	COU			
3"BSP/3"NPT					COU	COU	COU	COU		
3½"BSP/3½"NPT						COU	COU	COU	COU	COU
4"BSP/4"NPT							COU	COU	COU	COU

ACCESSORIES

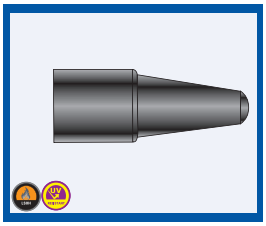
Long Shroud



Product Code	Size Ref	Metric Size
1523-0	0	M20
152301	1	M20
152302	2	M25
152303	3	M32
152304	4	M40
152305	5	M50
152306	6	M63
152307	7	M75
152308	8	M80

All dimensions are in mm.

LSOH Long Shroud



Product Code	Size Ref	Metric Size
1524-0	0	M20
152401	1	M20
152402	2	M25
152403	3	M32
152404	4	M40
152405	5	M50
152406	6	M63
152407	7	M75
152408	8	M80

All dimensions are in mm.

LSOH Grey Shroud

Product Code	Size Ref	Metric Size
1526-0	0	M20
152601	1	M20
152602	2	M25
152603	3	M32
152604	4	M40
152605	5	M50
152606	6	M63
152607	7	M75
152608	8	M80
152609	9	M90
152610	10	M100
152611	11	M110

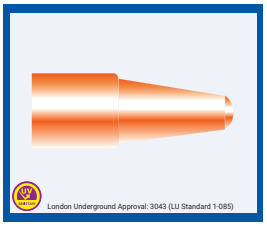
All dimensions are in mm.

LSOH-U Shroud Grey Long

Product Code	Size Ref	Metric Size
1528-0	0	M20
152801	1	M20
152802	2	M25
152803	3	M32
152804	4	M40

All dimensions are in mm.
For sizes larger than 4 use LSOH Shroud Grey Long.

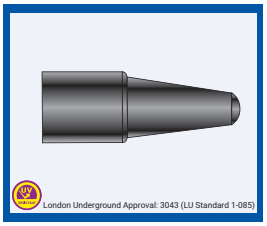
PVC-U Shroud Orange Long



Product Code	Size Ref	Metric Size
1527-0-OR	0	M20
152701-OR	1	M20
152702-OR	2	M25
152703-OR	3	M32
152704-OR	4	M40
152705-OR	5	M50
152706-OR	6	M63
152707-OR	7	M75
152708-OR	8	M80
152709-OR	9	M90
152710-OR	10	M100

All dimensions are in mm.

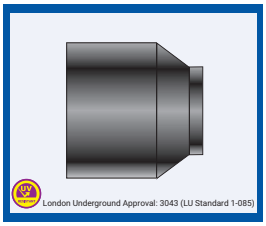
PVC-U Shroud Black Long



Product Code	Size Ref	Metric Size
1527-0	0	M20
152701	1	M20
152702	2	M25
152703	3	M32
152704	4	M40

All dimensions are in mm.
For sizes larger than 4 use PVC Shroud Black Long.

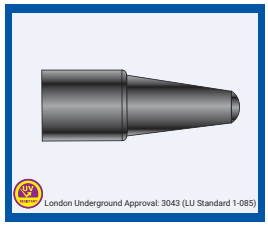
PVC Short Shroud



Product Code	Size Ref	Metric Size
1522-0	0	M20
152201	1	M20
152202	2	M25
152203	3	M32
152204	4	M40
152205	5	M50
152206	6	M63
152207	7	M75
152208	8	M80
152209	9	M90
152210	10	M100

All dimensions are in mm.

PVC Long Shroud

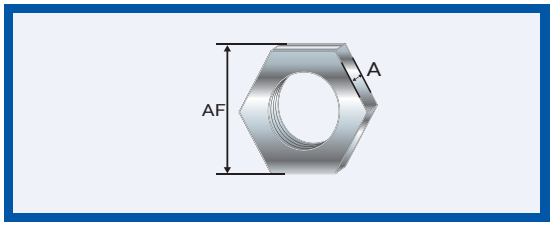


Product Code	Size Ref	Metric Size
1525-0	0	M20
152501	1	M20
152502	2	M25
152503	3	M32
152504	4	M40
152505	5	M50
152506	6	M63
152507	7	M75
152508	8	M80
152509	9	M90
152510	10	M100
152511	11	M110/115
152512	12	M120
152513	13	M130

All dimensions are in mm.

Brass Locknut (Nickel Plated)

STAINLESS STEEL 316/316L ON AVAILABLE ON REQUEST



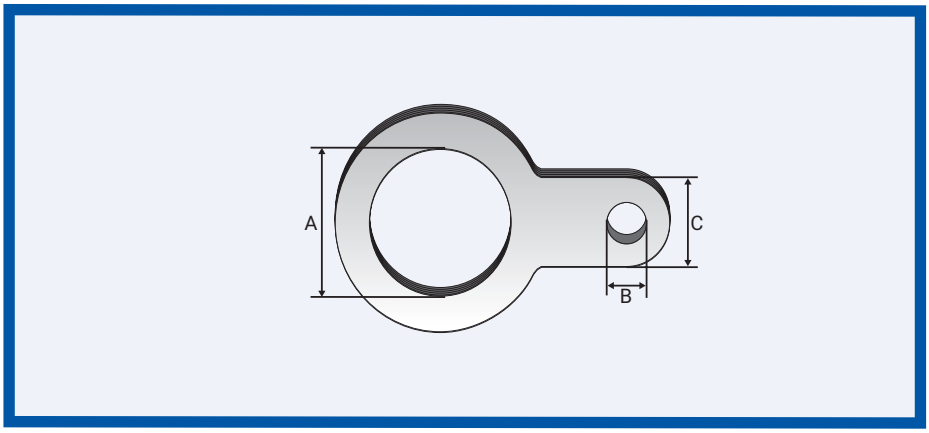
Product Code	Size Ref	Metric Size	Across Flats	Thickness (A)
300901-M16	0	M16x1.5	22	4
300901	1	M20x1.5	25	5
300902	2	M25x1.5	32	5
300903	3	M32x1.5	42	5
300904	4	M40x1.5	52	5
300905	5	M50x1.5	65	6
300906	6	M63x1.5	80	6
300907	7	M75x1.5	90	7
300908	8	M80x2.0	96	8
300909	9	M90x2.0	110	8

All dimensions are in mm.

ACCESSORIES

Slip-On Earth Tag

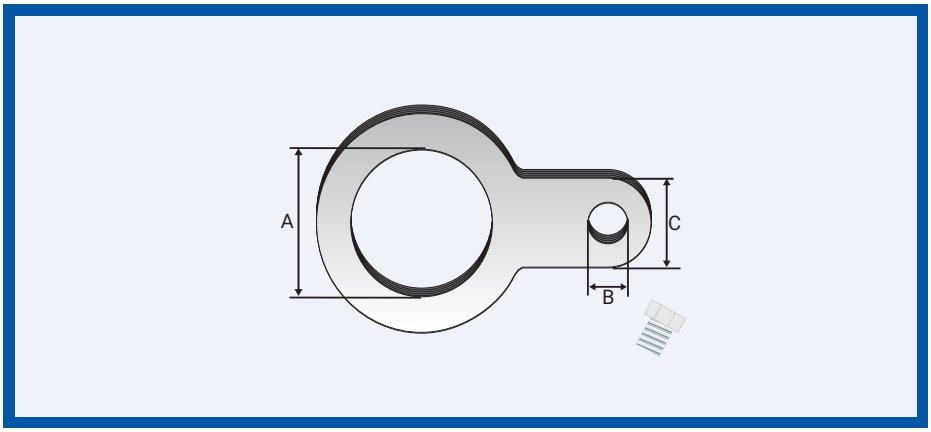
NICKEL PLATED BRASS OR STAINLESS STEEL 316/316L



Product Code	Size Ref.	Dimension 'A'	Dimension 'B'	Dimension 'C'	Square Section	Short Circuit Fault Current Ratings BS6121 Part 5: 1993	
6220-1	0/1	M20	7mm	12mm x 1.5mm	18mm²	20mm	3.06KA / 1 second
622902	2	M25	7mm	12mm x 1.5mm	18mm²	25mm	4.00KA / 1 second
622903	3	M32	12mm	22mm x 1.5mm	33mm²	32mm	5.40KA / 1 second
622904	4	M40	12mm	32mm x 1.5mm	48mm²	40mm	7.20KA / 1 second
622905	5	M50	12mm	40mm x 1.5mm	60mm²	50mm	10.40KA / 1 second
622906	6	M63	12mm	40mm x 1.5mm	60mm²	63mm	10.40KA / 1 second
622907	7	M75	12mm	40mm x 1.5mm	60mm²	75mm	10.40KA / 1 second
622908	8	M80	12mm	40mm x 1.5mm	60mm²	-	-
622909	9	M90	12mm	40mm x 1.5mm	60mm²	-	-

All dimensions are in mm.

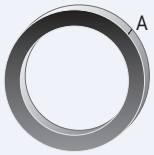
Screw-On Earth Tag



Product Code	Size Ref.	Dimension 'A'	Dimension 'B'	Dimension 'C'	Square Section	Short Circuit Fault Current Ratings BS6121 Part 5: 1993	
6030-1	0/1	M20	M6	10mm x 3mm	30mm²	20mm	26KA / 1 second
603202	2	M25	M6	10mm x 4mm	40mm²	25mm	26KA / 1 second
603203	3	M32	M6	12mm x 6mm	70mm²	32mm	26KA / 1 second
603204	4	M40	M8	20mm x 6mm	120mm²	40mm	26KA / 1 second
603205	5	M50	M10	24mm x 8mm	185mm²	50mm	43KA / 1 second
603206	6	M63	M12	40mm x 8mm	300mm²	63mm	43KA / 1 second
603207	7	M75	M12	40mm x 8mm	300mm²	75mm	43KA / 1 second
603208	8	M80	M12	40mm x 8mm	300mm²	-	-
603209	9	M90	M12	40mm x 8mm	300mm²	-	-

All dimensions are in mm.

Sealing Gasket Metric

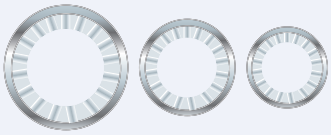


Product Code	Metric Size	Thickness 'A'
805520	M20	2.0
805525	M25	2.0
805532	M32	2.0
805540	M40	2.0
805550	M50	2.0
805563	M63	2.0
805575	M75	2.0
805580	M80	2.0
805590	M90	2.0

All dimensions are in mm.

Serrated Washer

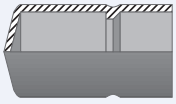
STAINLESS STEEL 316/316L



Product Code	Metric Size
805620	M20
805625	M25
805632	M32
805640	M40
805650	M50
805663	M63
805675	M75
805680	M80
805690	M90

All dimensions are in mm.

Insulation Sleeve



Product Code	Size Reference
550502	2

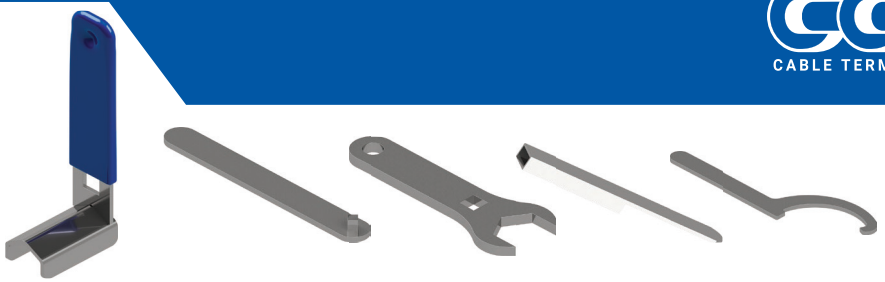
All dimensions are in mm.

Terminal Connector

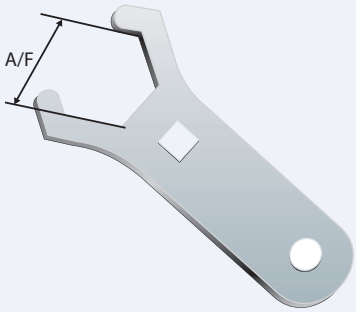
Product Code	Size Ref.	Hole Dimeter	Allen Key No.
580302	2	10mm	4mm

All dimensions are in mm.

TOOLS



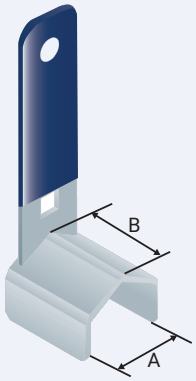
POSI SPANNER



Gland Size	A/F	SPANNER PRODUCT CODE		
		Posi Flex™	Posi Grip™	Posi Braid™
00/0	30	401206	401206	401206
1	34	401207	401207	401207
2	42	401208	401208	401208
3	52	401209	401209	401209
4	62	401210	401210	401210
5	74	401211	401211	401211
6	95	401212	401212	401212
7	110	401213	401213	401213
8	118	401214	401214	401214
9	130	401215	401215	401215

A/F dimensions are in mm. Refer to data sheet for installation torque value.

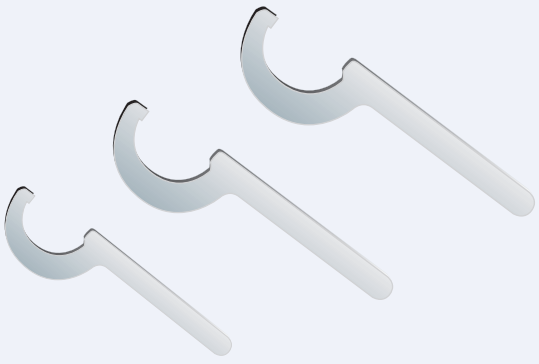
LOCKNUT SPANNER



Spanner Product Code	Suit Gland Size	Across Flats 'A'	Depth of Reach 'B'
40162025PA60	0 / 1	25.0	60.0
40162032PA60	2	32.0	60.0
40162040PA60	3	40.0	60.0
40162052PA60	4	52.0	60.0
40162065PA65	5	65.0	65.0
40162080PA70	6	80.0	70.0
40162096PA75	7 / 8	96.0	75.0
40162111PA80	9	111.0	80.0
40162125PA85	10	125.0	85.0
40162135PA85	11	135.0	85.0

Dimensions are in mm.

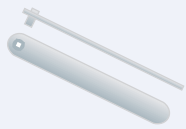
C SPANNER



Gland Size	A2	BW	CW	D1W	E1W
10	401610-C	401610-C	401610-C	401610-C	401610-C
11	401611-C	401611-C	401611-C	401611-C	401611-C
12	401612-C	401612-C	401612-C	401612-C	401612-C
13	401613-C	401613-C	401613-C	401613-C	401613-C

Refer to data sheet for installation torque value.

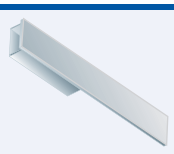
SQUARE POWER BAR



Product Code
401600-000

WIRE BENDING TOOL

FOR STEEL WIRE ARMOUR CABLE



Product Code
401701

CCG CABLE TERMINATIONS

SINGLE

CABLE CLEAT

SINGLE CABLE TYPE

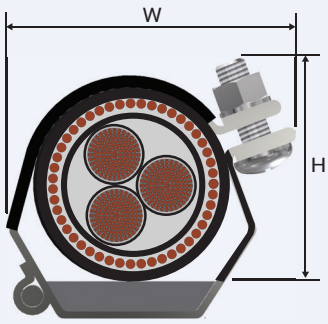
Features and Benefits

- Used to restrain single cables (single core or multi-core) onto cable ladder, tray or strut systems.
- Open hinge system allows easy placement of the cable into the cleat prior to tightening.
- Suitable for use with LV and HV cables.
- Manufactured from corrosion resistant, non-magnetic 316L Stainless Steel.
- Complete with LSOH polymeric liners to protect cable sheath during installation and movement due to electromechanical forces during short circuits.
- Accessible clamping bolt allows easy tightening with a single tool.
- Wide range 28mm - 150mm.

CABLE CLEATS

Construction

Frame:	Corrosion resistant, non-magnetic 316L Stainless Steel
Cable resting base:	LSOH Halogen Free Plastic - Polymeric composite
Liner:	LSOH Halogen Free Plastic - Polymeric composite
Locking hardware:	M10 Bolt (316 Stainless Steel) and Nylon Locking Nut



Technical Specifications

Type:	Single
Third party certified:	IEC 61914:2021
Lateral Load test:	Average 25 kg
Axial Load test:	Pass according to IEC 61914:2021
Impact resistance	Very Heavy
Temperature range	-40°C to +105°C
Needle flame test	650°C for 30 seconds
UV resistance test:	1,000 hrs

Standards and Certifications

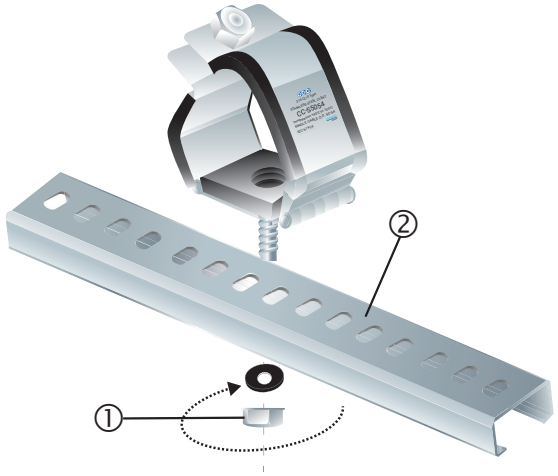
Conformance:	Standard:	Certificate:
Marine DNV	IEC 61914	TAE00004C3

IEC CE DNV

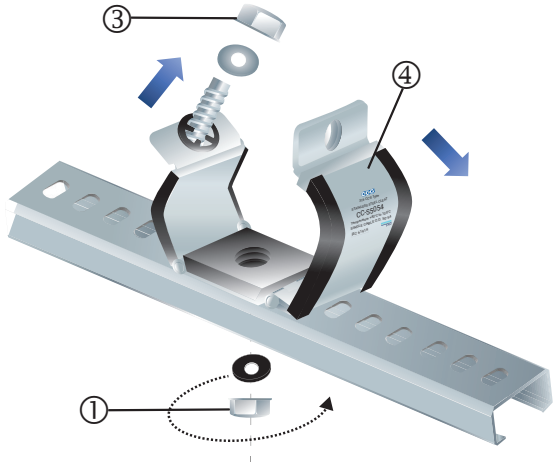
Product Code	Cable Range				Diamensions				Bottom Mounting Bolt	Torque Value Nm
	Min. Dia. mm	Min. Dia. in.	Max. Dia. mm	Max. Dia. in.	Height mm	Height in.	Width mm	Width in.		
CC-S2832	28.0	1.10	32.0	1.26	60.0	2.36	57.0	2.24	M10	14-20
CC-S3034	30.0	1.18	34.0	1.34	61.0	2.40	59.0	2.32	M10	14-20
CC-S3236	32.0	1.26	36.0	1.42	63.0	2.48	61.0	2.40	M10	14-20
CC-S3438	34.0	1.34	38.0	1.50	65.0	2.56	63.0	2.48	M10	14-20
CC-S3640	36.0	1.42	40.0	1.57	67.0	2.64	64.0	2.52	M10	14-20
CC-S3842	38.0	1.50	42.0	1.65	69.0	2.72	65.0	2.56	M10	14-20
CC-S4044	40.0	1.57	44.0	1.73	70.0	2.76	68.0	2.68	M10	14-20
CC-S4246	42.0	1.65	46.0	1.81	71.0	2.80	69.0	2.72	M10	14-20
CC-S4448	44.0	1.73	48.0	1.89	73.0	2.87	72.0	2.83	M10	14-20
CC-S4650	46.0	1.81	50.0	1.97	74.0	2.91	73.0	2.87	M10	14-20
CC-S4852	48.0	1.89	52.0	2.05	75.0	2.95	77.0	3.03	M10	14-20
CC-S5054	50.0	1.97	54.0	2.13	78.0	3.07	78.0	3.07	M10	14-20
CC-S5256	52.0	2.05	56.0	2.20	79.0	3.11	80.0	3.15	M10	14-20
CC-S5458	54.0	2.13	58.0	2.28	80.0	3.15	82.0	3.23	M10	14-20
CC-S5660	56.0	2.20	60.0	2.36	81.0	3.19	85.0	3.35	M10	14-20
CC-S5862	58.0	2.28	62.0	2.44	82.0	3.23	87.0	3.43	M10	14-20
CC-S6064	60.0	2.36	64.0	2.52	85.0	3.35	88.0	3.46	M10	14-20
CC-S6266	62.0	2.44	66.0	2.60	87.0	3.43	90.0	3.54	M10	14-20
CC-S6468	64.0	2.52	68.0	2.68	89.0	3.50	91.0	3.58	M10	14-20
CC-S6670	66.0	2.60	70.0	2.76	90.0	3.54	92.0	3.62	M10	14-20
CC-S6872	68.0	2.68	72.0	2.83	92.0	3.62	94.0	3.70	M10	14-20
CC-S7074	70.0	2.76	74.0	2.91	95.0	3.74	97.0	3.82	M10	14-20
CC-S7276	72.0	2.83	76.0	2.99	97.0	3.82	99.0	3.90	M10	14-20
CC-S7478	74.0	2.91	78.0	3.07	98.0	3.86	102.0	4.02	M10	14-20
CC-S7680	76.0	2.99	80.0	3.15	100.0	3.94	104.0	4.09	M10	14-20
CC-S7882	78.0	3.07	82.0	3.23	102.0	4.02	106.0	4.17	M10	14-20
CC-S8084	80.0	3.15	84.0	3.31	105.0	4.13	107.0	4.21	M10	14-20
CC-S8286	82.0	3.23	86.0	3.39	107.0	4.21	110.0	4.33	M10	14-20
CC-S8488	84.0	3.31	88.0	3.46	109.0	4.29	111.0	4.37	M10	14-20
CC-S8690	86.0	3.39	90.0	3.54	110.0	4.33	113.0	4.45	M10	14-20
CC-S9094	90.0	3.54	94.0	3.70	115.0	4.53	121.0	4.76	M10	14-20
CC-S94118	94.0	3.70	118.0	4.65	133.0	5.24	139.0	5.47	M10	14-20
CC-S118130	118.0	4.65	130.0	5.12	140.0	5.51	144.0	5.67	M10	14-20
CC-S127150	127.0	5.00	150.0	5.91	161.0	6.34	166.0	6.54	M10	14-20

All dimensions except Inches are in mm.

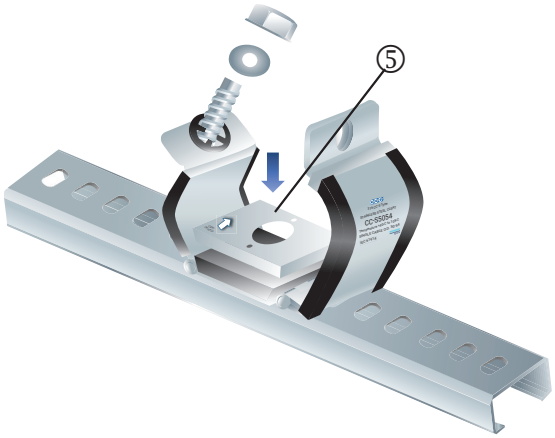
SINGLE CABLE CLEAT



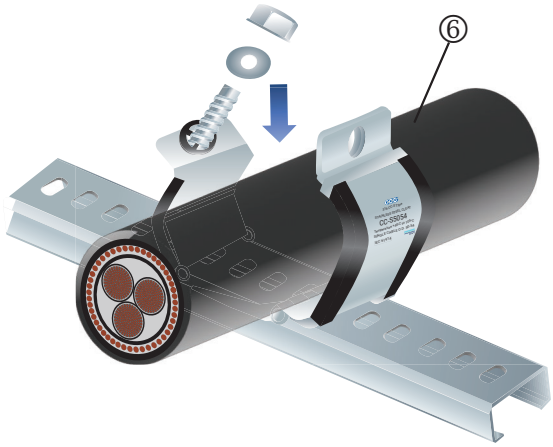
1 . Unscrew the bottom mounting nut ①. Place the Cable Cleat on the mount plate ②.



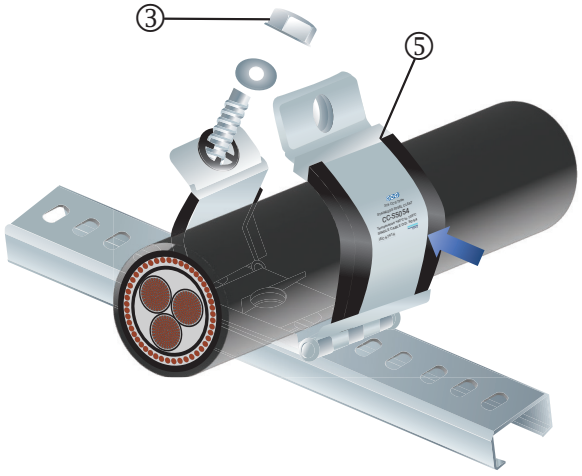
2. Tighten the bottom mounting nut ①. Unscrew the top nut ③. Open Up cable cleat arm ④



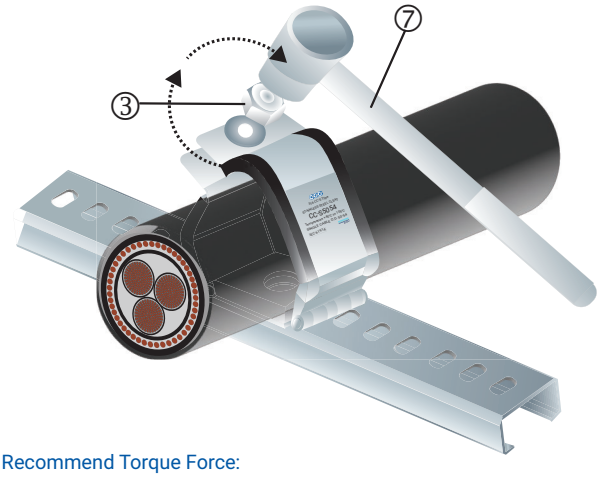
2. Place additional pads ⑤ according to cable outer diameter; refer to the arrows on the pads ⑤ for assembly orientation.



4. Place the cable ⑥ into cleat.



5. Close the cable cleat arm ⑤. Pre-assemble the top nut ③.



Recommend Torque Force:
M10 - 14-20 N.m

6. Tighten the top nut ③ to the installation torque using a torque wrench ⑦.

TREFOIL

CABLE CLEAT

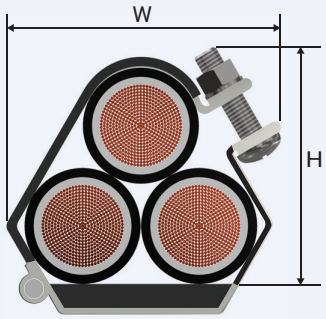
MULTIPLE CABLE TYPE

Features and Benefits

- Provides securing, support and retention of cables in cable ladder, tray or strut systems.
- Designed to hold cables together in a trefoil arrangement and to provide resistance to electromechanical forces during short circuit conditions. Suitable for use with LV and HV cables.
- Manufactured from corrosion resistant non-magnetic 316L Stainless Steel.
- Complete with LSOH polymeric liners to protect cable sheaths during installation and movement due to electromechanical forces during short circuits.
- Open hinge system allows for easy placement of cables into the cleat prior to tightening.
- Accessible tightening bolt allows for easy tightening with a single tool.
- Wide range 13mm to 128mm.

Construction

Frame:	Corrosion resistant, non-magnetic 316L Stainless Steel
Cable resting base:	LSOH Halogen Free Plastic - Polymeric composite
Liner:	LSOH Halogen Free Plastic - Polymeric composite
Locking hardware:	M10 Bolt (316 Stainless Steel) and Nylon Locking Nut



Technical Specifications

Type:	Trefoil
Third party certified:	IEC 61914:2021
Resistance to mechanical forces	See table on page 2
Lateral load test:	Average 25kg
Axial load test:	Pass according to IEC 61914:2021
Impact resistance:	Very Heavy
Temperature range:	-40°C to 105°C
Needle flame test:	650°C for 30 sec
UV resistance test:	1,000 hrs

Standards and Certifications

Conformance:	Standard:	Certificate:
Marine DNV	IEC 61914	TAE00004C3

Product Code	Cable Range				Diamensions				Bottom Mounting Bolt	Torque Value Nm
	Min. Dia. mm	Min. Dia. in.	Max. Dia. mm	Max. Dia. in.	Height mm	Height in.	Width mm	Width in.		
CC-T1323	13.0	0.51	23.0	0.91	73.0	2.87	68.0	2.68	M10	14-20
CC-T2125	21.0	0.83	25.0	0.98	75.0	2.95	72.0	2.83	M10	14-20
CC-T2329	23.0	0.91	29.0	1.14	80.0	3.15	79.0	3.11	M10	14-20
CC-T2531	25.0	0.98	31.0	1.22	83.0	3.27	82.0	3.23	M10	14-20
CC-T2733	27.0	1.06	33.0	1.30	84.0	3.31	85.0	3.35	M10	14-20
CC-T2935	29.0	1.14	35.0	1.38	89.0	3.50	90.0	3.54	M10	14-20
CC-T3238	32.0	1.26	38.0	1.50	92.0	3.62	96.0	3.78	M10	14-20
CC-T3541	35.0	1.38	41.0	1.61	98.0	3.86	100.0	3.94	M10	14-20
CC-T3844	38.0	1.5	44.0	1.73	100.0	3.94	106.0	4.17	M10	14-20
CC-T4248	42.0	1.65	48.0	1.89	104.0	4.09	113.0	4.45	M10	14-20
CC-T4551	45.0	1.77	51.0	2.01	107.0	4.21	120.0	4.72	M10	14-20
CC-T4753	47.0	1.85	53.0	2.09	110.0	4.33	122.0	4.80	M10	14-20
CC-T4955	49.0	1.93	55.0	2.70	113.0	4.45	125.0	4.92	M10	14-20
CC-T5157	51.0	2.01	57.0	2.24	115.0	4.53	127.0	5.00	M10	14-20
CC-T5359	53.0	2.09	59.0	2.32	118.0	4.65	135.0	5.31	M10	14-20
CC-T5561	55.0	2.17	61.0	2.40	122.0	4.80	138.0	5.43	M10	14-20
CC-T5763	57.0	2.24	63.0	2.48	125.0	4.92	141.0	5.55	M10	14-20
CC-T5965	59.0	2.32	65.0	2.56	126.0	4.96	145.0	5.71	M10	14-20
CC-T6167	61.0	2.4	67.0	2.64	131.0	5.16	148.0	5.83	M10	14-20
CC-T6369	63.0	2.48	69.0	2.72	134.0	5.28	153.0	6.02	M10	14-20
CC-T6571	65.0	2.56	71.0	2.80	139.0	5.47	155.0	6.10	M10	14-20
CC-T6773	67.0	2.64	73.0	2.87	143.0	5.63	156.0	6.14	M10	14-20
CC-T6975	69.0	2.72	75.0	2.95	146.0	5.75	161.0	6.34	M10	14-20
CC-T7177	71.0	2.8	77.0	3.03	150.0	5.91	164.0	6.46	M10	14-20
CC-T7379	73.0	2.87	79.0	3.11	154.0	6.06	166.0	6.54	M10	14-20
CC-T7581	75.0	2.95	81.0	3.19	157.0	6.18	170.0	6.69	M10	14-20
CC-T7783	77.0	3.03	83.0	3.27	160.0	6.30	174.0	6.85	M10	14-20
CC-T7985	79.0	3.11	85.0	3.35	162.0	6.38	178.0	7.01	M10	14-20
CC-T8187	81.0	3.19	87.0	3.43	168.0	6.61	181.0	7.13	M10	14-20
CC-T8389	83.0	3.27	89.0	3.50	172.0	6.77	185.0	7.25	M10	14-20
CC-T8896	88.0	3.46	96.0	3.78	180.0	7.09	195.0	7.68	M10	14-20
CC-T96103	96.0	3.78	103.0	4.06	189.0	7.44	203.0	7.99	M10	14-20
CC-T103111	103.0	4.06	111.0	4.37	198.0	7.80	206.0	8.11	M10	14-20
CC-T111119	111.0	4.39	119.0	4.69	207.0	8.15	215.0	8.46	M10	14-20
CC-T119128	119.0	4.69	128.0	5.04	216.0	8.50	223.0	8.78	M10	14-20

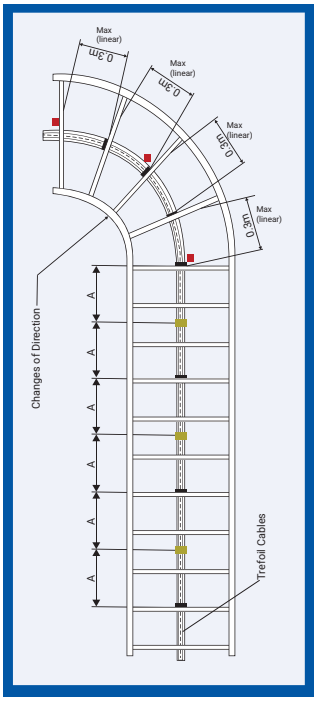
All dimensions except Inches are in mm.

TREFOIL CABLE CLEAT

How to select cable cleats

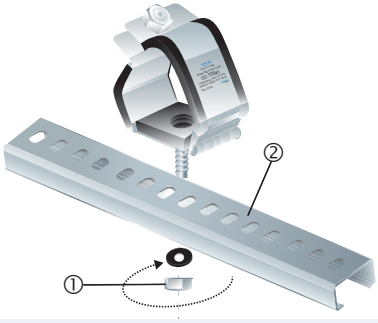
1. IDENTIFY
   - Which type of cable is being used. Single or multi-conductor?
   - What is the outer diameter of the cable?
   - What is the available short circuit current (RMS or Peak) of the cables?
   - If a ground wire is installed in the cleats, identify the outer diameter of the ground wire?

2. THE SYSTEM
   - What is the cable formation, singe or trefoil?
   - What type of the cable tray is installed?

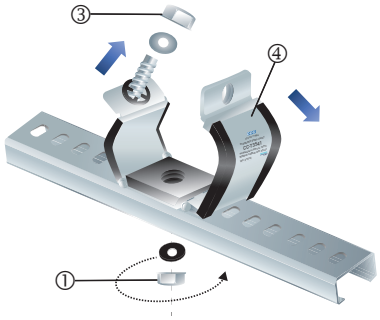


RESISTANCE TO MECHANICAL FORCES

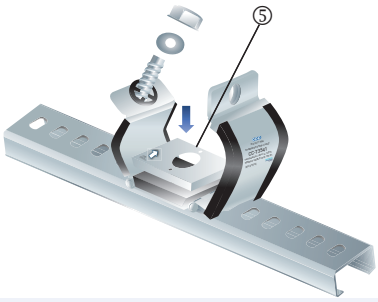
Max. Cable Cleat Spacing "A"		Cable diameter vs Peak Short Circuit Current (kA)																			
mm	in	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61
225	8.859	179	187	194	203	209	216	220	229	234	240	246	250	255	261	266	271	276	281	286	291
300	11.81	155	163	168	174	181	187	192	198	203	209	214	215	220	225	230	235	239	244	248	252
450	17.72	128	133	137	144	148	152	157	161	165	170	174	178	180	184	189	192	195	199	202	206
600	23.62	110	115	119	124	128	132	135	139	143	148	150	153	156	160	163	166	169	172	175	178
675	26.57	104	108	113	117	121	124	128	132	135	139	143	147	147	150	154	156	159	162	165	168
900	35.43	89	93	97	102	105	108	110	115	117	121	124	127	128	130	133	135	138	140	143	145



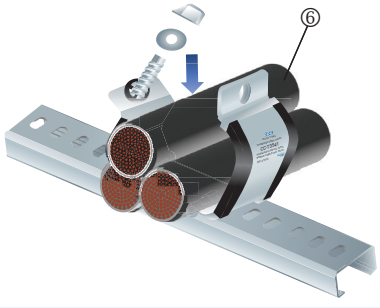
1 . Unscrew the bottom mounting nut ①. Place the Cable Cleat on the mount plate ②.



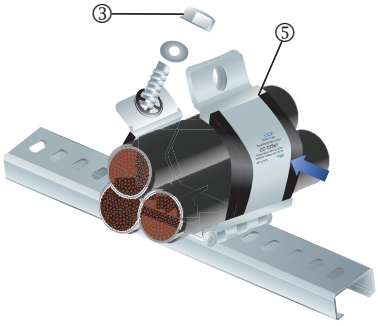
2. Tighten the bottom mounting nut ①. Unscrew the top nut ③. Open Up cable cleat arm ④.



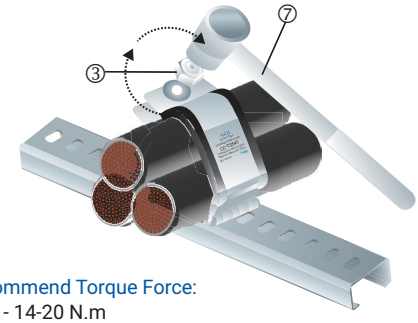
2. Place additional pads ⑤ according to cable outer diameter; refer to the arrows on the pads ⑤ for assembly orientation.



4. Place cables ⑥ into cleat.



5. Close the cable cleat arm ⑤. Pre-assemble the top nut ③.



Recommend Torque Force:
M10 - 14-20 N.m

6. Tighten the top nut ③ to the installation torque using a torque wrench ⑦.

QUAD

CABLE CLEAT

MULTIPLE CABLE TYPE

Features and Benefits

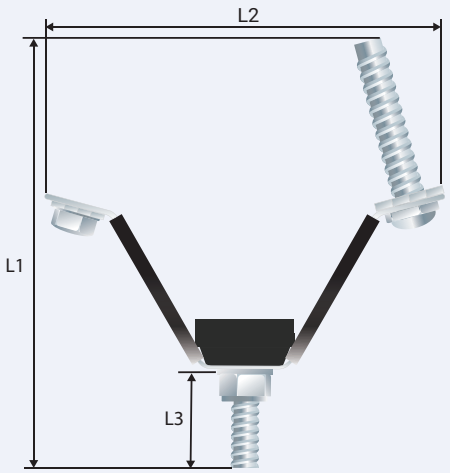
- Provides securing, support and retention of cables in cable ladder, tray or strut systems.
- Designed to hold cables together in a quad arrangement and to provide resistance to electromechanical forces during short circuit conditions.
- Suitable for use with LV and HV cables.
- Manufactured from corrosion resistant non-magnetic 316L Stainless Steel.
- Complete with LSOH polymeric liners to protect cable sheaths during installation and movement due to electro-mechanical forces during short circuits.
- Accessible tightening bolt allows for easy tightening with a single tool.
- Wide range 16mm to 70mm.

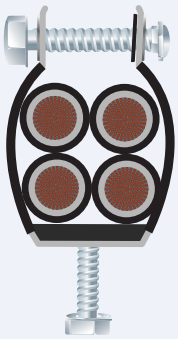
Construction

Frame:	Corrosion resistant, non-magnetic 316L Stainless Steel
Cable resting base:	LSOH Halogen Free Plastic - Polymeric composite
Liner:	LSOH Halogen Free Plastic - Polymeric composite
Locking hardware:	M8 or M10 Bolt (316 Stainless Steel) and Nylon Locking Nut

Technical Specifications

Type:	Quad
Standard:	IEC 61914:2021
Lateral load test:	Average 25kg
Axial load test:	Pass according to IEC 61914:2021
Impact resistance:	Very Heavy
Temperature range:	-50°C to 105°C
Needle flame test:	650°C for 30 sec
UV resistance test:	1,000 hrs

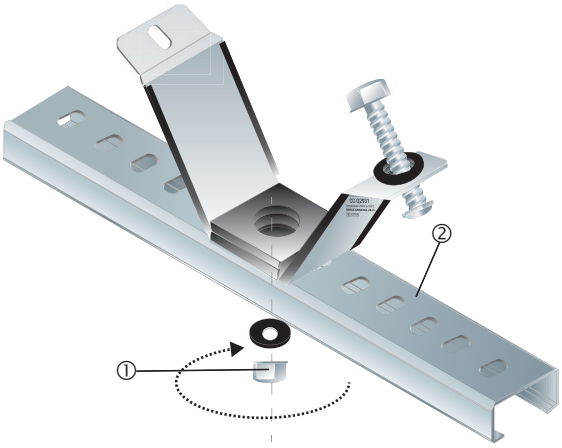




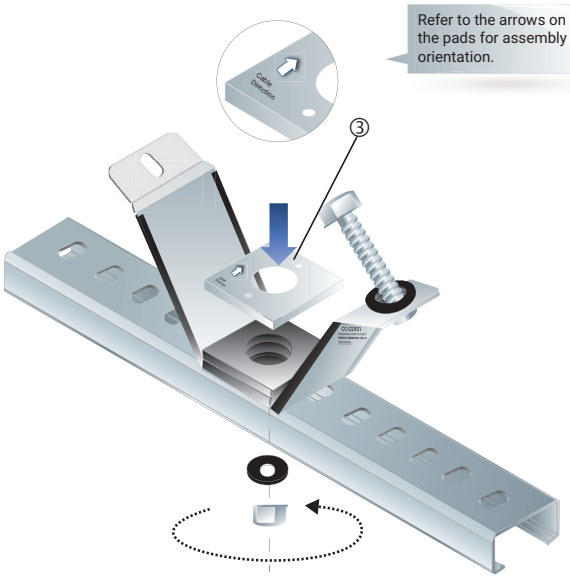
Product Code	Cable Range		Dimensions (mm)			Bottom Mounting Bolt	Torque Value Nm
	Min. Dia. mm	Max. Dia. mm	L1	L2	L3		
CC-Q1622	16.0	22.0	64.0	146.0	30.0	M8	10-15
CC-Q2325	23.0	25.0	71.0	162.0	35.0	M10	14-20
CC-Q2628	26.0	28.0	78.0	174.0	35.0	M10	14-20
CC-Q2931	29.0	31.0	87.0	189.0	35.0	M10	14-20
CC-Q3235	32.0	35.0	99.0	209.0	35.0	M10	14-20
CC-Q3641	36.0	41.0	112.0	232.0	35.0	M10	14-20
CC-Q4247	42.0	47.0	131.0	264.0	35.0	M10	14-20
CC-Q4853	48.0	53.0	148.0	293.0	35.0	M10	14-20
CC-Q5459	54.0	59.0	160.0	317.0	35.0	M10	14-20
CC-Q6065	60.0	65.0	176.0	345.0	35.0	M10	14-20
CC-Q6670	66.0	70.0	192.0	374.0	35.0	M10	14-20

All dimensions are in mm.

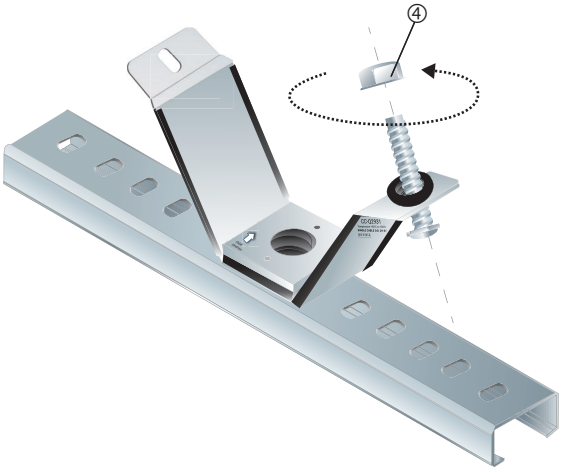
QUAD CABLE CLEAT



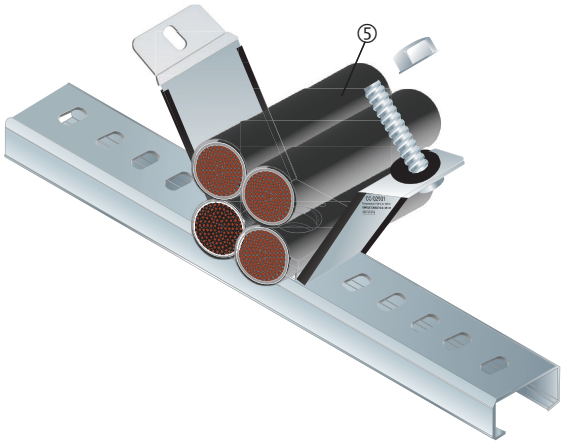
1. Unscrew the bottom mounting nut ①. Place the Cable Cleat on the mount plate ②.



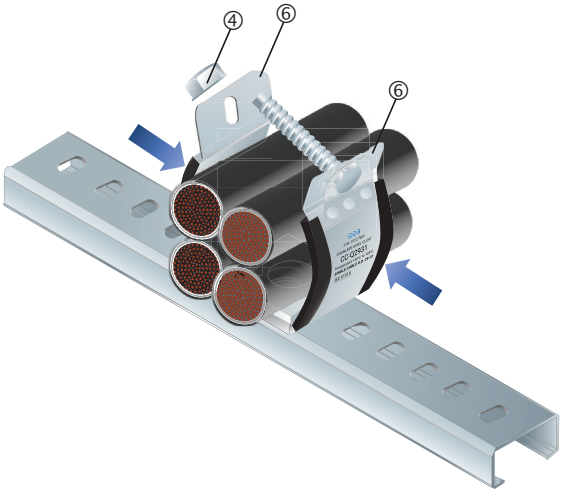
2. Place additional pads ③ according to cable outer diameter; refer to the arrows on the pads ③ for assembly orientation.



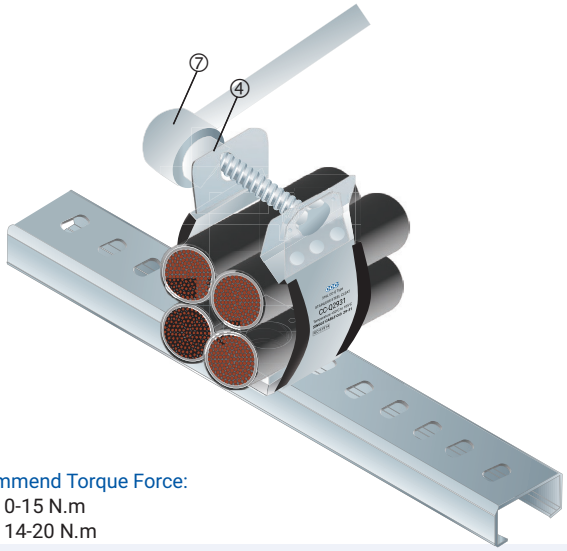
3. Unscrew the top nut ④ and prepare the cables.



4. Place cables ⑤ into cleat.



5. Close the cleat arm ⑥. Pre-assemble the top nut ④.



Recommend Torque Force:
M8 - 10-15 N.m
M10 - 14-20 N.m

6. Use a torque wrench ⑦ to tighten the top nut ④.

RE-FLEx™

Ex db IIC, Ex eb IIC, Ex ta IIIC

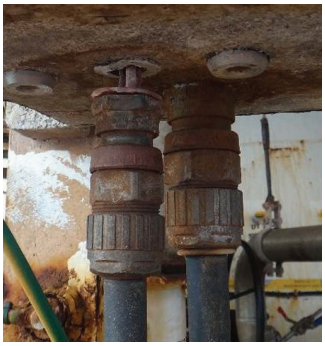
CABLE GLAND ENTRY THREAD GASKET REPLACEMENT SEAL for industrial and hazardous area installations

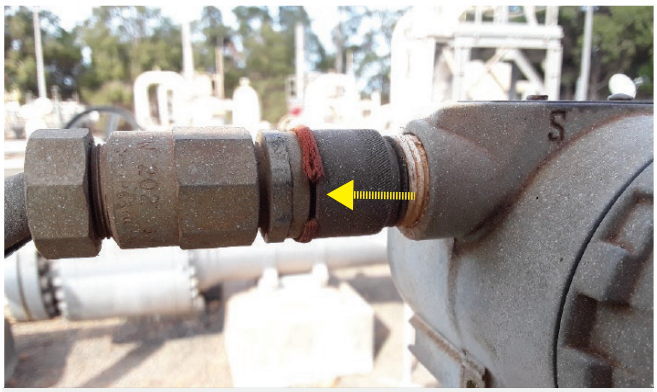
Features and Benefits

The legacy of certain cable gland manufacturers supplying thread sealing gaskets as accessories and not supplying them as an integral properly tested part of an Ex certified cable gland has resulted in many cable gland installations having failed or missing thread sealing gaskets.

This results in the IP rating and the Ex integrity of the equipment the gland is attached to being compromised, sometimes with serious consequences.

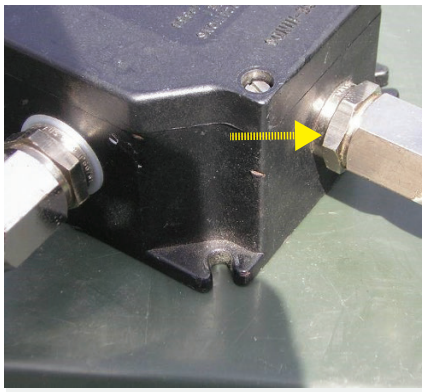
CCG's RE-FLEx™ thread gasket replacement system is used to replace substandard, failed, or damaged cable gland thread sealing gaskets, (Picture 1 and Picture 2) or to retrofit as a thread entry seal where a sealing gasket was not originally supplied and installed as part of the gland. (Picture 3)





Picture 1

Picture 2

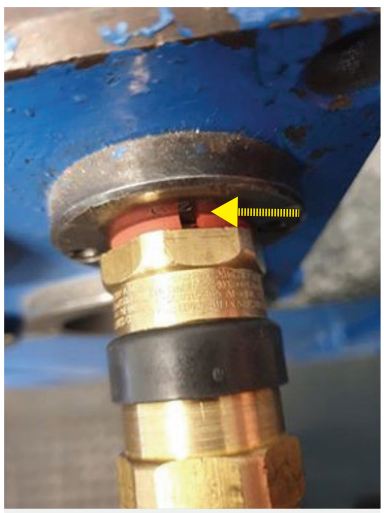


Picture 3

WARNING: Conduct a risk assessment and if necessary isolate power to the installation before commencing with the installation process.

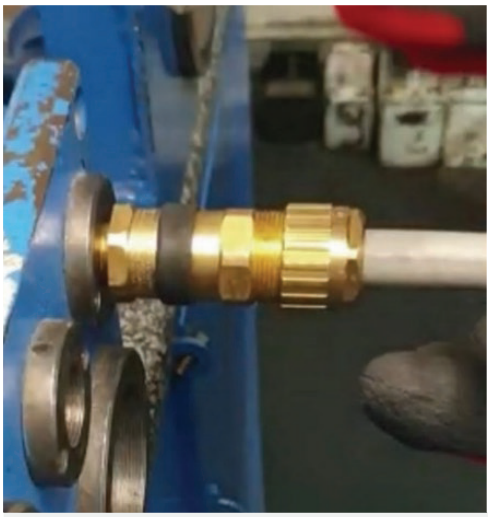
When a gland with a failed gasket (Picture 4) is installed in a threaded entry, the installer must remove the failed thread sealing gasket (Picture 5), which would leave a gap of approximately 2mm between the gland and the face of the enclosure (Picture 6). Or in the case of a gland that was not fitted with a gasket, such as (Picture 3), the gland would have to be loosened by about 1 ½ turns in a tapped entry or the internal locknut would need to be loosened to create a 2mm gap between the gland and the enclosure wall in the case of a untapped entry.

The installer must make sure to remove as much of the failed gasket's debris from the gap as possible.



Picture 4

Picture 5



Picture 6

RE-FLEx™

Entry Thread Size	Flex Cord Length
M20	450 mm
M25	750 mm
M32	1100 mm
M40	1700 mm

Product Code	Thickness	Length
520150	1mm	50m

1. Cut a length of the RE-FLEx sealing cord according to the gland entry thread size as per the table above.

Picture 7

Picture 8

Picture 9

2. Holding a small length of flex cord on the top of the gland with a thumb (Picture 8), start to tightly wind the cord in an anti-clockwise motion completely filling the gap between the gland and the enclosure wall face until the wound cord reaches the outer diameter of the gland body. (Picture 9)

Picture 10

Picture 11

RE-FLEx™

cord has been tested for use with cable glands certified to;

- IP 66/68

and

- Ex d, Ex e, Ex nR and Ex t
- Certificates:
- IECEx CML 18.0018X
- CML 21UKEX1011X
- CML 16ATEX1001X
- MASC S/22-9001X
- Temp. Range: -268°C to +260°C

3. Re-tighten the gland to the gland manufacturers recommended installation torque in Nm (Picture 10) to compress the cord and seal the thread entry.

4. When the gland is fitted to a clearance hole with a locknut, the same process can be used to install the cord, however in this case, the gland is held stationary and the securing locknut will have to be tightened from inside the enclosure.

5. You will now have a perfect IP 66/68 thread gasket seal between the gland body and the enclosure face. (Picture 11)

YouTube Instruction Video: https://youtu.be/QzvfkACpyPw

YouTube Instruction Video: https://youtu.be/Avar0j807ME

CCG HEX SPANNER SELECTION CHART

Gland Size	Hex	A2	BW	CW	D1W	E1W	IPLUS	E1EX	E1EX-U	EX-CGUARD	A2F	A2EX	ARMORTEX	FLP/FLPTR
0 0	22	-	401600-022	-	-	-	-	-	-	-	-	-	-	-
00 / 0	24	401600-024	-	401600-024	401600-024	401600-024	401600-024	401600-024	-	401600-024	401600-024	401600-024		-
0 0	25	-	-	-	-	-	-	-	401600-025	-	-	-	-	-
00 / 0	25	-	-	-	-	-	-	-	-	-	-	-	401600-025	401600-025
0	27	-	-	-	-	-	-	-	401601-027	-	-	-	-	-
1	27	401601-027	401601-027	401601-027	401601-027	401601-027	401601-027	401601-027	-	401601-027	401601-027	401601-027	-	-
1	30	-	-	-	-	-	-	-	-	-	-	-	401601-030	401601-030
2	30	-	-	-	-	-		-	401601-030	-	-	-	-	-
2	32	-	-	-	-	-	-	-	-	-	-	-	-	-
2	35	401602-035	401602-035	401602-035	401602-035	401602-035	401602-035	401602-035	-	401602-035	401602-035	401602-035	-	-
2	38	-	-	-	-	-	-	-	401602-038	-	-	-	-	-
2	40	-	-	-	-	-	-	-	-	-	-	-	401602-040	401602-040
3	40	-	-	-	-	-	-	-	-	-	-	-	-	-
3	42	401603-042	401603-042	401603-042	401603-042	401603-042	401603-042	401603-042	-	401603-042	401603-042	401603-042	-	-
3	45	-	-	-	-	-	-	-	401603-045	-	-	-	401603-045	401603-045
3	47	-	-	-	-	-	-	-	-	-	-	-	-	-
4	52	401604-052	401604-052	401604-052	401604-052	401604-052	401604-052	401604-052	-	401604-052	401604-052	401604-052	-	-
4	55	-	-	-	-	-	-	-	401604-055	-	-	-	401604-055	401604-055
4	60	-	-	-	-	-	-	-	-	-	-	-	-	-
5	65	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	401605-065	-	-
5	70	-	-	-	-	-	-	-	-	-	-	-	401605-070	401605-070
5	75	-	-	-	-	-	-	-	-	-	-	-	-	-
6	80	401606-080	401606-080	401606-080	401606-080	401606-080	401606-080	401606-080	-	401606-080	401606-080	401606-080	-	-
6	85	-	-	-	-	-	-	-	-	-	-	-	-	-
6	85	-	-	-	-	-	-	-	401606-085	-	-	-	401606-085	401606-085
7 / 8	96	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096	401607-096
9	111	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	401609-112	-	-
10	125	401610-126	401610-126	401610-126	401610-126	401610-126	401610-126	401610-126	401610-126	-	401610-126	401610-126	-	-
11	135	-	-	-	-	-	-	401611-136	-	-	401611-136	401611-136	-	-
12	140	-	-	-	-	-	-	401612-140	-	-	401612-140	401612-140	-	-
13	146	-	-	-	-	-	-	401613-148	-	-	401613-148	401613-148	-	-

Hex dimensions are in mm. Refer to data sheet for installation torque value.

CCG Cable Terminations - Australasia
Tel: 1300 CABLE GLANDS (1300 222 534)
Email: bnesales@ccgq.com.au

Information necessary for correct gland selection:

1. Check the environmental conditions (example: hazardous areas, indoor or outdoor applications).
2. Check the cable type and voltage rating (armoured or unarmoured).
3. Check the actual overall cable diameter and under armour bedding.
4. Check the size and type of armour.
5. Establish the earth bond attachment is required.
6. Outer sheath diameter should be used for selecting cable glands.

The charts (below) is based on published cable sizes by the cable manufacturers.

CCG cannot be held responsible should the cable gland not fit when the cable varies from published dimensions.

Assistance on selection is available, please contact CCG.

No. of Cores	2	3	4	5	6	7	8	10	12	19	27	37
1.5mm²	0	0	0	0	1*	1*	1	2	2	3	3	4
2.5mm²	0	0	1*	1	1	1	2	2	3	3	4	4
4mm²	1*	1*	1	1	2	2	2	3	3	4*	4	5*
6mm²	1	1	2	2	2	2						
10mm²	2*	2	2									
16mm²	2	2	3*									
25mm²	3*	3	3									
35mm²	3	3	4*									
50mm²	3	4	4									
70mm²	4*	4	5									
95mm²	4	5*	5									
120mm²	4	5	5									
150mm²	5*	5	6*									
185mm²	5	6	6									
240mm²	6	6	7*									
300mm²	6	7*	7									

PVC/SWA Cables

600-1000 Volt
Gland selection, ordering or enquiries

Information necessary for correct gland selection.

1. This chart is based on published cable sizes by the cable manufacturers.
2. We cannot be held responsible should the gland not fit when the cable varies from published dimensions.
3. Environmental conditions (e.g. hazardous areas, indoor or outdoor application).
4. Cable type and voltage rating (armoured or unarmoured).
5. Actual cable diameter overall, and under armour (bedding).
6. Size and type of armour.
7. If earth bound attachments is required.
8. Outer sheath diameter should be used for selecting gland size.
9. Assistance on selection is available on request.

*IT IS POSSIBLE THAT CERTAIN MAKES OF CABLE ACCEPT A GLAND ONE SIZE SMALLER

Single Core AWA XLPE Cable

Conduct Size	3.3/6.6	6.35/11	12.7/22	19/33
95	3	4	4	4
120	3	4	4	5
150	4	4	5	5
185	4	4	5	5
240	4	4	5	6
300	5	5	5	6
400	5	5	6	6
500	5	5	6	6
630	6	6	6	6
800	6	6	6	7
1000	6	6	7	7

Single Core Unarmoured XLPE Cable

Conduct Size	3.3/6.6	6.35/11	12.7/22	19/33
95	3	4	4	5
120	4	4	5	5
150	4	4	5	5
185	4	4	5	6
240	4	5	5	6
300	5	5	5	6
400	5	5	6	6
500	6	6	6	7
630	6	6	6	7
800	6	6	7	8
1,000	7	7	7	8

3 Core SWA XLPE Cable

Conduct Size	3.3/6.6	6.35/11	12.7/22	19/33
16	-	-	-	-
25	-	-	-	-
35	5	6	-	-
50	6	6	7	-
70	6	6	7	9
95	6	6	8	9
120	6	7	8	9
150	7	7	8	10
185	7	8	9	10
240	8	8	9	10
300	9	9	10	-

3 Core Unarmoured XLPE Cable

Conduct Size	3.3/6.6	6.35/11	12.7/22	19/33
16	5	5	-	-
25	5	6	-	-
35	5	6	-	-
50	6	6	7	-
70	6	6	8	9
95	6	6	8	9
120	7	8	8	10
150	7	8	9	10
185	8	8	9	11
240	9	9	10	11
300	9	9	10	-

Circular Multi-Core Control Cable

No. of Cores	COPPER / PVC / PVC			
	Unarmoured		SW Armoured	
	1.5mm²	2.5mm²	1.5mm²	2.5mm²
6	1	1	1	1
8	2	2	1	2
10	2	2	2	2
12	2	3	2	2
15	2	3	2	2
20	2	3	2	3
25	3	3	3	3
30	3	4	3	4
40	4	4	4	4
50	4	5	4	4

Unarmoured Cable

Copper +E Conductor Details	2 Core Ord. Duty Heavy Duty	3 Core Ord. Duty Heavy Duty	4 Core Ord. Duty Heavy Duty
1mm2	00 OD	00 OD	0 OD
(32/).2	00 HD	0 HD	0 HD
1.5mm	0 OD	0 OD	0 OD
30/0.25	0 HD	0 HD	0 HD
2.5mm2	0 OD	0 OD	0 OD
56/0.25	0 HD	1 HD	1 HD
4mm2	0 OD	0 OD	1 OD
50/0.25	1 HD	1 HD	1 HD

Cable Type		CCG Glands for Circular Cable PVC/PVC								CCG Glands for SWA Cable						CCG Glands for Instrumentation						
Copper Conductor (Cu)		Circular Cable, PVC Insulated, PVC Sheathed								Circular Cable, PVC Insulated, SWA/PVC Sheathed						Overall Screened (7/0.30)						
		1 Core	1 Core	2 Core	Dia	3 Core	Dia	4 Core	Dia	2 Core	Dia	3 Core	Dia	4 Core	Dia	Unarmoured			SW Armoured			
Details	Core Type	B/W	SDI	+E	mm	+E	mm	+E	mm	+E	mm	+E	mm	+E	mm	No. of Pairs	Dia mm	Gland Size	No. of Pairs	Dia mm	Gland Size
1.5mm²	(1/1.38)	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.5mm²	(7/0.50)	0	0	0	9.4	0	10.3	1	11	0	13.3	0	14.1	0	14.9	2	8.4	0	2	13.0	0
2.5mm²	(1/1.78)	0	0	-	-	-	-	-	-	-	-	-	-	-	-	4	9.1	0	4	13.7	0
2.5mm²	(7/0.67)	0	0	1*	10.9	1	12	1	12.9	0	14.8	1	16.5	1	17.5	6	11.3	1	6	15.9	1
4mm²	(7/0.85)	0	0	1	12.3	1	13.4	2	14.5	1	16.8	1	17.9	1	19.0	8	12.5	1	8	17.6	1
6mm²	(7/1.04)	0	0	1	13.3	2	14.4	2	15.7	1	17.9	1	19.0	2*	20.3	10	13.7	1	10	18.8	1
10mm²	(7/1 .35)	0	0	2	16.0	2	17.5	2	19.1	2	20.5	2	22.0	2	24.4	12	14.7	2	12	19.8	1
16mm²	(7/1.70)	0	0	2	17.7	2	19.4	3	21.3	2	22.3	2	24.6	3*	26.5	16	16.9	2	16	21.6	2
25mm²	(19/1.35)	0	1	3	20.5	3	22.3	3	24.6	2	25.8	3	27.6	3	29.9	20	18.5	2	20	24.5	2
35mm²	(19/1.53)	0	1	3	22.5	3	24.7	4	27.3	3	27.8	3	30	4*	32.7	24	19.9	2	-	-	-
50mm²	(19/1.78)	1	1	3	25.6	4	28.3	4	32.9	3	30.9	4	33.7	4	39.5	36	24.3	3	-	-	-
70mm²	(19/2.14)	1	2	-	-	4	32.6	5	38.1	-	-	4	39.2	5	44.7	50	27.9	4	-	-	-
95mm²	(37/1.78)	2	2	-	-	5	36.4	5	42.3	-	-	5	43.1	5	50.4	-	-	-	-	-	-
120mm²	(37/2.03)	2	3	-	-	5	42.0	6	48.7	-	-	5	48.9	6	56.9	-	-	-	-	-	-
150mm²	(37/2.25)	2	3	-	-	6	46.3	6	53.8	-	-	6	54.3	6	61.9	-	-	-	-	-	-
185mm²	(37/2.52)	3	3	-	-	6	51.6	7	60.2	-	-	6	59.8	7	69.4	-	-	-	-	-	-
240mm²	(61/2.25)	3	4	-	-	7	58.9	8	69.5	-	-	7	68.0	8	78.4	-	-	-	-	-	-
300mm²	(61/2.85)	4	4	-	-	8	65.3	9	77.8	-	-	7	74.5	9	88.9	-	-	-	-	-	-

* Denotes cable construction with stranded sector shaped conductors.

N.B. Cable diameter will vary with manufacturer. This chart to be used as a guide only, diameter must be checked to ensure gland performance.

CCG Unarmoured Cable

Cable Gland Size	Cable Details Minimum	Cable Details Maximum
00-16S	1.0	6.0
00-16ss	3.0	8.5
00-20ss	3.0	8.5
0-20s	7.0	11.5
1-20	11.0	15.0
2s-25s	11.5	17.5
2-25	15.0	20.0
3s-32s	16.0	22.0
3-32	20.0	26.5
4s-40s	22.0	31.5
4-40	26.0	34.0
5s-50s	29.0	38.0
5-50	34.0	44.5
6s-63s	38.0	50.0
6-63	44.5	56.5
7s-75s	50.0	62.0
7-75	56.0	67.5
8s-80s	54.0	69.0
8-80	65.0	74.0
9s-90s	60.0	75.0
9-90	73.0	81.5
10-100	81.0	91.0
11-110	91.0	101.0
12-120	101.0	109.0
13-130	109.0	119.0

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CCG CABLE TERMINATIONS

CCG OFFICE CONTACTS

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