

Cable Glands for Global Connection Solutions



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* Dual marked UL & ATEX.

Selection Chart

Cable Glands

Gland Type/Function	501/ 421	501/ 423	501/ 453 RAC	501/ 453 RAC L	501/ 453 UNIV	PSG 553/ RAC	453 UNIV	453 RAC	453/T	653 UNIV	653/T	ICG 623	ICG 653/ UNIV	ICG 653/ UNIV L	501/ 414
Industrial															
Industrial (UL Wet Locations)															
Dual certified EExe / EExd															
Certified IECEx															
Certified ExnR															
Group II certified															
Group I certified															
Certified Class 1, Div 1															
Certified Class 1, Div 2															
Certified Class 1, Zone 1															
Certified Class 1, Zone 2															
Certified UL / cUL															
Certified CSA															
Certified Cepel															
Certified GOST-R															
Certified GOST -K															
Certified DNV Marine approval															
Certified ABS Marine approval															
For use with non-armoured elastomer & plastic insulated cables															
May be used on unarmoured cables incorporating inner & outer sheaths															
For use with single wire armoured 'W', wire braided 'X' and steel tape armoured 'Z' elastomer and plastic insulated cables															
For use with single wire armoured 'W', wire braided 'X' and steel tape armoured 'Z' cables with a lead inner sheath															
For use with pliable wire armour															
For use with braided cables only															
For use with single wire armour only															
For cables exhibiting 'cold flow' characteristics															
For cables that are not substantially compact and circular, have extruded bedding and any fillers are hygroscopic															
For use with continuous corrugated aluminium, interlocked aluminium and interlocked steel metal clad and teck cables															
Provides a diaphragm seal on the cables inner sheath															
Provides a compound barrier seal between the individual insulated cores within the cable															
Provides an elastomeric seal between the individual insulated cores within the cable															
For use with enclosures containing an ignition source in gas group II C areas															
For use with enclosures exceeding 2 litres in volume, containing an ignition source and installed in a Zone 1 area															
Comes with a deluge boot as standard															
Has a 'compression' type seal															
Can be used with conduit systems															

SB 474	CSB 656 & 656N	121	123	150 / RAC	151 / RAC	153 / RAC	153 / RAC L	153 UNIV	114	153/X	701	711	710	753	755	Gland Type/Function
																Industrial
																Industrial (UL Wet Locations)
																Dual certified EExe / EExd
																Certified IECEx
																Certified ExnR
																Group II certified
																Group I certified
																Certified Class 1, Div 1
																Certified Class 1, Div 2
																Certified Class 1, Zone 1
																Certified Class 1, Zone 2
																Certified UL / cUL
																Certified CSA
																Certified Cepel
																Certified GOST-R
																Certified GOST -K
																Certified DNV Marine approval
																Certified ABS Marine approval
																For use with non-armoured elastomer & plastic insulated cables
																May be used on unarmoured cables incorporating inner & outer sheaths
																For use with single wire armoured 'W', wire braided 'X' and steel tape armoured 'Z' elastomer and plastic insulated cables
																For use with single wire armoured 'W', wire braided 'X' and steel tape armoured 'Z' cables with a lead inner sheath
																For use with pliable wire armour
																For use with braided cables only
																For use with single wire armour only
																For cables exhibiting 'cold flow' characteristics
																For cables that are not substantially compact and circular, have extruded bedding and any fillers are hygroscopic
																For use with continuous corrugated aluminium, interlocked aluminium and iterlocked steel metal clad and teck cables
																Provides a diaphragm seal on the cables inner sheath
																Provides a compound barrier seal between the individual insulated cores within the cable
																Provides an elastomeric seal between the individual insulated cores within the cable
																For use with enclosures containing an ignition source in gas group II C areas
																For use with enclosures exceeding 2 litres in volume, containing an ignition source and installed in a Zone 1 area
																Comes with a deluge boot as standard
																Has a 'compression' type seal
																Can be used with conduit systems

What is a Hazardous area cable gland?

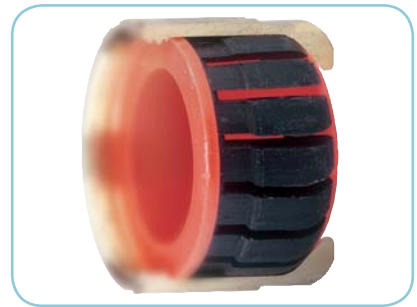
Cable glands are designed to terminate cables in to flameproof or increased safety equipment in hazardous areas. They provide a weather and gas-proof sealed connection between cable and equipment, prevent the cable being pulled out or twisted and provide a grounding of the cable armour.

The cost of a cable gland is insignificant when compared to that of other equipment. However, the cost of failure is high. Though some cable glands may be "fit for purpose" what would be the potential cost of failure?

The cable gland can become the weak link in the chain whereas it should preserve the integrity of the installation.

Why choose Hawke cable glands?

The features and associated benefits of the Hawke International range of cable glands have numerous patented features which bring numerous benefits to owners, operators and installers alike. Features such as the RAC ring (Reversible Armour Clamp), deluge seal (preventing water ingress into the gland as well as equipment), diaphragm seal (which prevents cable damage to soft bedded cables), and the Hawke back seal (with extremely wide cable acceptance and exceptional pull out resistance) all help reduce installation time, inspection time and reduce overall lifetime costs.



Once fitted, all Hawke Cable Glands can be easily disassembled to allow visual inspection of the inner seal on the cable sheath (501/453/UNIVERSAL) and full inspection, and if necessary repair of the cured compound in the barrier glands. No other barrier gland on the market will allow this.

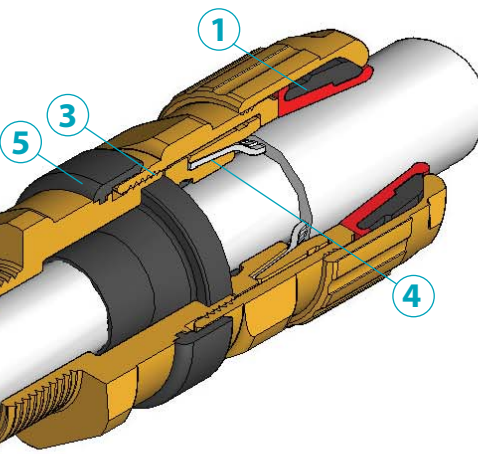
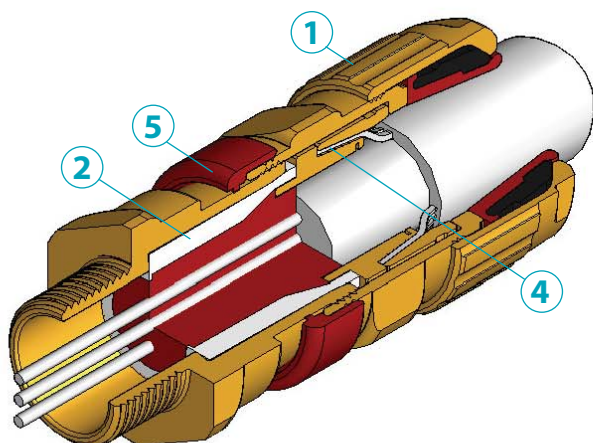
With low numbers of gland components making installation extremely simple, Hawke Cable Glands are right first time, every time.

For more information on specific features and benefits see pages 80, 94, 104 & 112.

Cable Glands - Group II



ICG 653 UNIVERSAL



501/453 UNIVERSAL

1 Unique Rear Sealing System

This arrangement offers IP66, IP67, IP68 (30 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters without the need for special seals and the cable acceptance range is stamped on the backnut for ease of inspection. The backnut can be hand tightened, with only one further spanner turn required to ensure IP66, IP67, IP68 and NEMA 4X.

2 Unique Inspectable Compound Chamber

The revolutionary Hawke compound chamber has been designed with inspectability in mind. The pre-lubricated compound chamber can be removed once the compound has fully cured, allowing full inspection of the flameproof seal. If required, minor surface voids can be repaired in-situ. This unique patented compound chamber now forms the compound as well as providing a flameproof seal.

3 Zero Cable Damage

The unique Hawke diaphragm sealing system does not damage cable which exhibit 'Cold Flow' characteristics. The diaphragm type seal is the only elastomeric seal to comply fully with IEC/EN 60079-14 and is therefore suitable on effectively filled 'cold flow' cables which would otherwise require barrier style cable glands. The Hawke diaphragm seal is also unique in that it is the only flameproof elastomeric seal that can be visually inspected in operation – a real benefit to inspectors.

4 The Original Reversible Armour Clamp

The original RAC clamping system was invented by Hawke over 10 years ago and is a well established proven performer in all conditions. Simply by reversing the clamping ring, the cable gland can adjust to accommodate all types of cable armour or braid. Unlike many of our competitors, the correct stamping orientation is marked clearly with the armour size and backed up by the presence of a groove in the component. Hawke's RAC clamping system is also fully inspectable when positioned on the cable.

5 Inspectable Deluge Seal

Hawke's Inspectable deluge seal offers IP66 and IP67 sealing and is certified as 'deluge proof' by ITS in accordance with DTS01. Indeed, Hawke's deluge seal is so good that it exceeds the expectations of the offshore industry by not only preventing ingress into the equipment, but also into the cable gland, which prevent corrosion of the cable armour.

Cable Glands

Hazardous Area

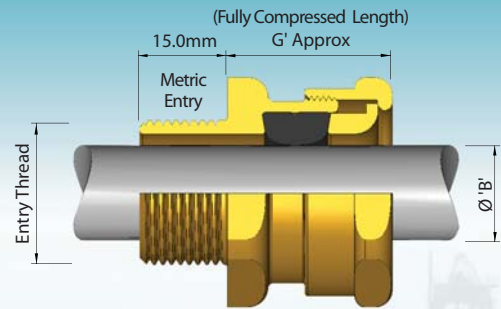
Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

501/421

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Application

The 501/421 cable gland provides a seal on the outer cable sheath and is intended for use on non-armoured elastomer and plastic insulated cables. The cable gland is dual certified Exd and Exe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min.	Max.	Min.	Max.			
2K	M16	-	3.0	8.0	-	-	23.5	19.0	21.2
Os	M20 ²	½"	3.0	8.0	-	-	23.8	24.0	26.5
O	M20 ²	½"	7.5	11.9	-	-	23.8	24.0	26.5
A	M20	¾" or ½"	11.0	14.3	8.5	13.5	24.8	30.0	32.5
B	M25	1" or ¾"	13.0	20.2	9.5	15.4	25.8	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	15.5	21.2	28.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	29.5	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	40.4	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	38.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	40.5	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	41.0	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	41.0	115.0	130.0
J	M100	4"	75.0	91.6	-	-	41.0	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). 2K - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Flameproof Exd and Increased Safety Exe Ⓜ II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 307.
- Alternative certification options available:



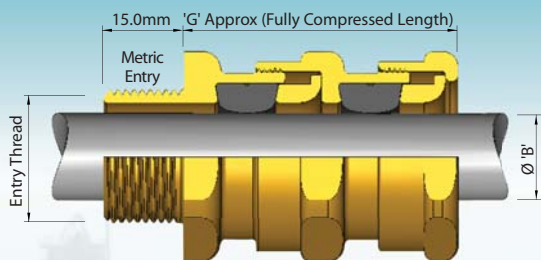
Features

- When used in Increased Safety applications, this cable gland may be used with braided cable where the braid and the outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
501/421	C	M32	S	501/421	C	1 ¼"NPT	S



Application

The 501/423 cable gland provides two independent seals on non-armoured elastomer and plastic insulated cables. The first is a flameproof seal on the inner or outer cable sheath, with an additional IP seal on the outer sheath. The cable gland is dual certified Exd and Exe and is suitable for installation in Zone 1 (21) and Zone 2 (22) hazardous areas.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min.	Max.	Min.	Max.			
Os	M20 ²	½"	3.0	8.0	-	-	40.0	24.0	26.5
O	M20 ²	½"	7.5	11.9	-	-	40.0	24.0	26.5
A	M20	¾" or ½"	11.0	14.3	8.5	13.5	40.4	30.0	32.5
B	M25	1" or ¾"	13.0	20.2	9.5	15.4	44.3	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	15.5	21.2	47.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	49.5	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	72.5	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	64.8	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	68.0	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	68.0	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	68.0	115.0	130.0
J	M100	4"	75.0	91.6	-	-	68.0	127.0	142.0

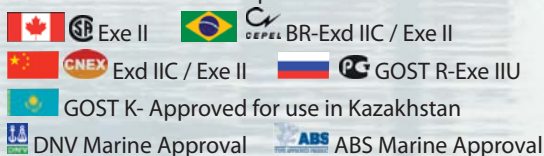
All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Flameproof Exd and Increased Safety Exe (Ex) II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 306.
- Alternative certification options available:



Features

- Provides superior cable retention to standard unarmoured cable glands, with a seal at two independent points.
- When used in Increased Safety applications, this cable gland may be used with braided cable where the braid and the outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
501/423	C	M32	S	501/423	C	1 ¼"NPT	S

Cable Glands

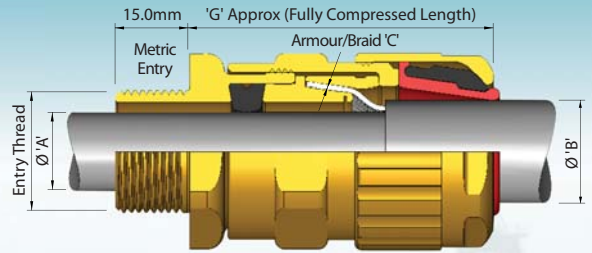
Hazardous Area

Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

501/453 RAC

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	Metric	"NPT * Standard or Option"	Inner Sheath 'A'				Outer Sheath 'B'		Armour / Braid 'C'		'G'	Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)		Min.	Max.	Orientation 1	Orientation 2			
			Min.	Max.	Min.	Max.	Min.	Max.					
Os	M20 ²	½"	3.0	8.0	-	-	5.5	12.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
O	M20 ²	½"	6.5	11.9	-	-	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	8.5	13.4	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	12.5	20.2	9.5	15.4	16.9	26.0	1.25 / 1.6	0.0 / 0.7	59.5	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	14.5	21.2	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.4	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	115.0	130.0
J	M100	4"	75.0	91.6	-	-	88.0	104.5	2.5 / 4.0	0.0 / 1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹Smaller value is applicable when selecting reduced NPT entry option. ²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm.

Technical Data

- Flameproof Exd and Increased Safety Exe Ex II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 302.
- Alternative certification options available:



Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a seal on the cables inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Deluge protection option available, contact Hawke Technical Sales for details.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

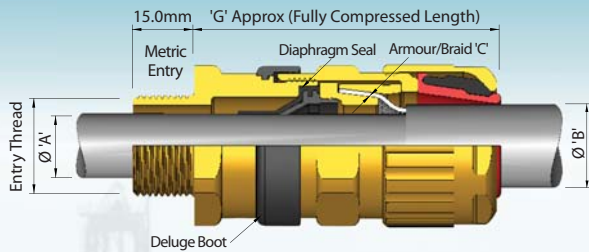
SELECTION TABLE		
Size Ref.	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information. Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
501/453/RAC	C	M32	AR	501/453/RAC	C	M32	S
501/453/RAC	C	1 ¼NPT	AR	501/453/RAC	C	1 ¼NPT	S

Flameproof Exd & Increased Safety Exe & Restricted Breathing ExnR Dual Certified ATEX / IECEx



Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- For particular use with Cables that exhibit 'Cold Flow' characteristics.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'		Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Min.	Max.	Min.	Max.	Orientation 1	Orientation 2			
Os	M20 ²	½"	3.5	8.1	5.5	12.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
O	M20 ²	½"	6.5	11.4	9.5	16.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
A	M20	¾" or ½"	8.4	14.3	12.5	20.5	0.8 / 1.25	0.0 / 0.8	63.0	30.0	32.5
B	M25	1" or ¾"	11.1	19.7	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.9	36.0	39.5
C	M32	1¼" or 1"	17.6	26.5	22.0	33.0	1.6 / 2.0	0.0 / 0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	23.1	32.5	28.0	41.0	1.6 / 2.0	0.0 / 0.7	77.9	55.0	60.6
D	M50	2" or 1½"	28.9	44.4 / 42.3 ¹	36.0	52.6	1.8 / 2.5	0.0 / 1.0	93.5	65.0	70.8
E	M63	2½" or 2"	39.9	56.3 / 54.3 ¹	46.0	65.3	1.8 / 2.5	0.0 / 1.0	94.0	80.0	88.0
F	M75	3" or 2½"	50.5	68.2 / 65.3 ¹	57.0	78.0	1.8 / 2.5	0.0 / 1.0	103.0	95.0	104.0
G	M80	3½"	67.0	73.0	75.0	89.5	2.0 / 3.5	0.0 / 1.0	90.6	106.4	115.0
H	M90	3½"	67.0	77.6	75.0	89.5	2.0 / 3.5	0.0 / 1.0	90.6	115.0	130.0
J	M100	4"	75.0	91.6	88.0	104.5	2.5 / 4.0	0.0 / 1.0	90.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering. G size and above are available in the 501/453/RAC design style.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

- Flameproof Exd and Increased Safety Exe (Ex II 2 GD ExtD A21 and Restricted Breathing ExnR (Ex II 3G).
- Certificate No's: For sizes Os to F: Baseefa06ATEX0057X and IECEx BAS 06.0014X. For sizes G to J: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 300 (Sizes Os to F) and AI 303 (Sizes G to J).
- Alternative certification options available:



Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a diaphragm seal on inner sheath of cable which will not damage cables that exhibit 'Cold Flow' characteristics.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour / braid.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

SELECTION TABLE

Size Ref.	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
501/453/UNIV	C	M32	AR	501/453/UNIV	C	1¼" NPT	AR

Cable Glands

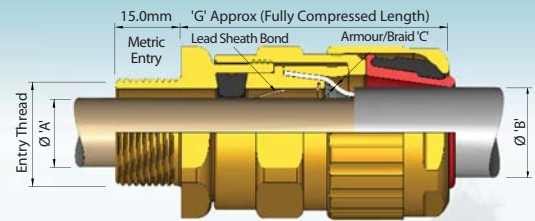
Hazardous Area

Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

501/453/RAC/L (for Lead Sheath Cables)

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables with a lead inner sheath.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	Metric	"NPT * Standard or Option"	Inner Sheath 'A'				Outer Sheath 'B'		Armour / Braid 'C'		'G'	Across Flats	Across Corners
			Standard Seal (L) Seal + Bond		Alternative Seal (K) Seal + Bond		Min.	Max.	Orientation 1	Orientation 2			
			Min.	Max.	Min.	Max.	Min.	Max.					
O	M20 ²	½"	6.5	10.5	-	-	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	-	-	8.5	13.0	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	12.5	19.0	9.5	15.4	16.9	26.0	1.25 / 1.6	0.0 / 0.7	59.5	36.0	39.5
C	M32	1½" or 1"	19.0	25.0	14.5	21.2	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25.0	31.2	22.0	28.0	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	42.3 / 42.8 ¹	27.5	34.8	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	53.3 / 54.5 ¹	39.0	46.5	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.4	80.0	88.0
F	M75	3" or 2½"	54.5	66.0 / 64.3 ¹	48.5	58.3	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0
G	M80	3½"	67.0	70.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	106.4	115.0
H	M90	3½"	67.0	75.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	115.0	130.0
J	M100	4"	75.0	89.5	-	-	88.0	104.5	2.5 / 4.0	0.0 / 1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). O - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Size O is available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

- Flameproof Exd and Increased Safety Exe Ex II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 302 and AI 336.
- Alternative certification options available:



Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a seal and an electrical bond to the cables lead inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Deluge protection option available, contact Hawke Technical Sales for details.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

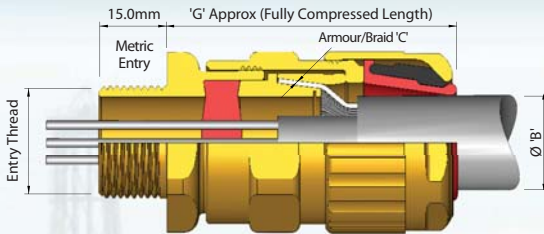
Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Standard Inner Seal + Bond, add suffix L to ordering information. Alternative Inner Seal +Bond, add suffix K to ordering information. Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	Lead	(Optional)	Cable Gland Type	Size	Thread	Lead	(Optional)	Cable Gland Type	Size	Thread	Lead	(Optional)
501/453/RAC	C	M32	L	AR	501/453/RAC	C	1 ¼" NPT	L	AR	501/453/RAC	C	1 ¼" NPT	K	AR



Application

- Outdoor or indoor use.
- For use with single wire armour 'W'; wire braid 'X'; steel tape armour 'Z'; elastomer and plastic insulated cables.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures for gas group IIC, under 2 litres in volume and containing an ignition source.
 - Enclosures for gas groups IIA or IIB, which are greater than 2 litres in volume and contain an ignition source.
- See technical section for installation rules and regulations

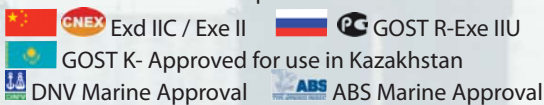
CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	"NPT * Standard or Option"	Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Min.	Max.	Orientation 1	Orientation 2			
A	M20	¾" or ½"	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.5	36.0	39.5
C	M32	1¼" or 1"	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

Technical Data

- Flameproof Exd and Increased Safety Exe (Ex) II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 312.
- Alternative certification options available:



Features

- Provides a barrier seal to the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- The required number of holes for the cores are punched in the seal by means of a special tool to suit the core size.
- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Deluge protection option available, contact Hawke Technical Sales for details.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

PUNCH TOOL SIZE DETAILS

Punch Ref.	No. 1	No. 2	No. 3
Cores C.S.A.mm ²	1.5 - 2.5	4.0 - 6.0	10.0

Deluge protection option available.

CABLE GLAND SIZE FOR CORE SIZE AND NUMBER

Max. No. of Cores	Cores Cross Sectional Area mm ²				
	1.5	2.5	4.0	6.0	10.0
7	A & B	A & B	B & C	C	C
4	-	-	-	B	-
3	-	-	-	-	B

Ordering Information

Format for ordering is as follows: To obtain punch tool required, refer to tables.

Cable Gland Type	Size	Thread	Punch Tool Required	Cable Gland Type	Size	Thread	Punch Tool Required
PSG 553/RAC	C	M32	Punch Tool No. 1	PSG 553/RAC	C	1 ¼" NPT	Punch Tool No. 1

Cable Glands

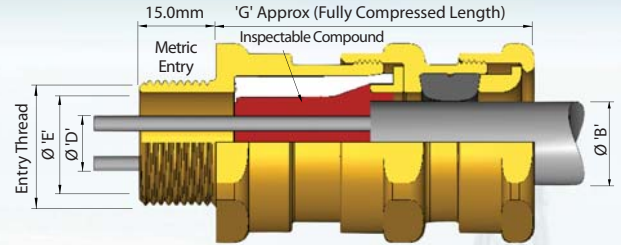
Hazardous Area

Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

ICG 623

Application

- Outdoor or indoor use.
- For use with non-armoured elastomer and plastic insulated cables.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source in gas group IIC areas or containing an ignition source in a Zone 1 area and exceeding 2 litres in volume.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details							'G'	Hexagon Dimensions	
	Metric	NPT *	Inner Sheath / Cores			Outer Sheath 'B'					Across Flats	Across Corners
			'D' Max. Over Cores	'E' Max Inner Sheath	Max. No. of Cores	Standard Seal		Alternative Seal (S)				
		Standard or Option				Min.	Max.	Min.	Max.			
Os	M20	½"	8.0	8.0	6	3.0	8.0	-	-	56.4	24.0	26.5
O	M20	½"	8.9	10.0	6	7.5	11.9	-	-	56.4	24.0	26.5
A	M20	¾" or ½"	11.0	12.5	10	11.0	14.3	8.5	13.4	55.8	30.0	32.5
B	M25	1" or ¾"	16.2	18.4	21	13.0	20.2	9.5	15.4	58.8	36.0	39.5
C	M32	1¼" or 1"	21.9	24.7	42	19.0	26.5	15.5	21.2	62.0	46.0	50.5
C2	M40	1½" or 1¼"	26.3	29.7	60	25.0	32.5	22.0	28.0	64.5	55.0	60.6
D	M50	2" or 1½"	37.1	41.7	80	31.5	44.4	27.5	34.8	72.8	65.0	70.8
E	M63	2½" or 2"	47.8	53.5	100	42.5	56.3	39.0	46.5	77.0	80.0	88.0
F	M75	3" or 2½"	59.0	66.2 / 65.3 ¹	120	54.5	68.2	48.5	58.3	80.7	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹ Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe Ex II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0058X and IECEx BAS 06.0015X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 305.
- Alternative certification options available:



Features

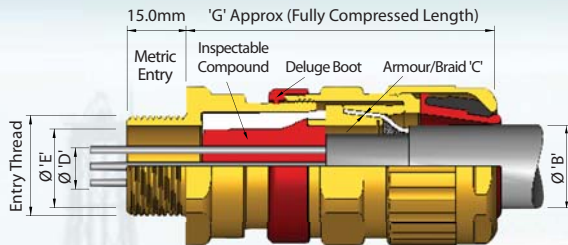
- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides a cable retention seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
ICG 623	C	M32	S	ICG 623	C	1 ¼" NPT	S

Two part sealing compound and assembly instructions are supplied with the cable gland.



Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source in gas group IIC areas or containing an ignition source in a Zone 1 area.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details							'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath / Cores			Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Sheath 'E'	Max. No. of Cores	Min	Max	Orientation 1	Orientation 2			
Os	M20	1/2"	8.9	10.0	6	5.5	12.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
O	M20	1/2"	8.9	10.0	6	9.5	16.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
A	M20	3/4" or 1/2"	11.0	12.5	10	12.5	20.5	0.8 / 1.25	0.0 / 0.8	67.0	30.0	32.5
B	M25	1" or 3/4"	16.2	18.4	21	16.9	26.0	1.25 / 1.6	0.0 / 0.7	73.6	36.0	39.5
C	M32	1 1/4" or 1"	21.9	24.7	42	22.0	33.0	1.6 / 2.0	0.0 / 0.7	78.0	46.0	50.5
C2	M40	1 1/2" or 1 1/4"	26.3	29.7	60	28.0	41.0	1.6 / 2.0	0.0 / 0.7	82.4	55.0	60.6
D	M50	2" or 1 1/2"	37.1	41.7	80	36.0	52.6	1.8 / 2.5	0.0 / 1.0	88.7	65.0	70.8
E	M63	2 1/2" or 2"	47.8	53.5	100	46.0	65.3	1.8 / 2.5	0.0 / 1.0	92.7	80.0	88.0
F	M75	3" or 2 1/2"	59.0	66.2 / 65.3 ¹	120	57.0	78.0	1.8 / 2.5	0.0 / 1.0	99.4	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting reduced NPT entry option. Note: Larger sizes are available.

Technical Data

- Flameproof Exd and Increased Safety Exe Ex II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0058X and IECEx BAS 06.0015X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 301.
- Alternative certification options available:



Features

- Provides a barrier seal to the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides armour clamping, using one clamping arrangement for all armour / braid types.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour / braid.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
ICG 653/UNIV	C	M32	AR	ICG 653/UNIV	C	1 1/4"NPT	AR

Two part sealing compound and assembly instructions are supplied with the cable gland.

Connection Solutions

www.ehawke.com

Cable Glands

Hazardous Area

Flameproof Exd & Increased Safety Exe

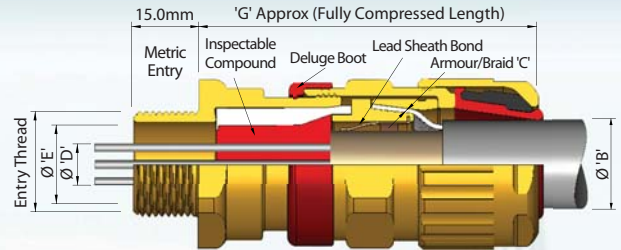
Dual Certified ATEX / IECEx

ICG 653/UNIVERSAL/L

(for Lead Sheath Cables)

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables with a lead inner sheath.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source in gas group IIC areas or containing an ignition source in a Zone 1 area.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE													
Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	Metric	NPT * Standard or Option	Inner Sheath / Cores			Outer Sheath 'B'	Armour / Braid 'C'		'G'	Across Flats	Across Corners		
			'D' Max. Over Cores	Max Inner Sheath 'E'			Max. No. of Cores	Orientation 1				Orientation 2	
Min.	Max.	Min.	Max.	Min.	Max.								
Os	M20	½"	8.5	4.0	10.0	6	5.5	12.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
O	M20	½"	8.5	4.0	10.0	6	9.5	16.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
A	M20	¾" or ½"	10.8	7.4	12.5	10	12.5	20.5	0.8 / 1.25	0.0 / 0.8	67.0	30.0	32.5
B	M25	1" or ¾"	16.2	11.0	18.4	21	16.9	26.0	1.25 / 1.6	0.0 / 0.7	73.6	36.0	39.5
C	M32	1¼" or 1"	21.9	14.0	24.7	42	22.0	33.0	1.6 / 2.0	0.0 / 0.7	78.0	46.0	50.5
C2	M40	1½" or 1¼"	26.3	21.0	29.7	60	28.0	41.0	1.6 / 2.0	0.0 / 0.7	82.4	55.0	60.6
D	M50	2" or 1½"	37.1	27.0	41.7	80	36.0	52.6	1.8 / 2.5	0.0 / 1.0	88.7	65.0	70.8
E	M63	2½" or 2"	47.8	39.0	53.3	100	46.0	65.3	1.8 / 2.5	0.0 / 1.0	92.7	80.0	88.0
F	M75	3" or 2½"	59.0	51.0	64.0	120	57.0	78.0	1.8 / 2.5	0.0 / 1.0	99.4	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

Technical Data

- Flameproof Exd and Increased Safety Exe II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0058X and IECEx BAS 06.0015X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 301 and AI 336.
- Alternative certification options available:



Features

- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides armour clamping, using one clamping arrangement for all armour / braid types.
- Provides a seal and an electrical bond on the cables lead inner sheath.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour / braid.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

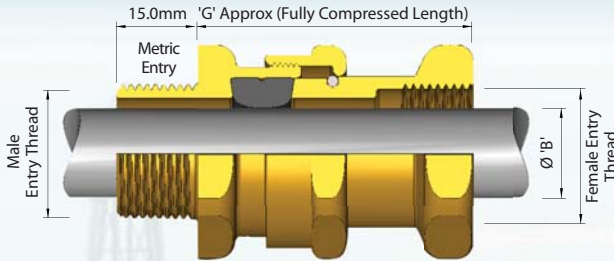
Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Standard Inner Seal + Bond, add suffix L to ordering information. Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	Lead	(Optional)	Cable Gland Type	Size	Lead	Thread	(Optional)
ICG 653/UNIV	C	M32	L	AR	ICG 653/UNIV	C	L	1 ¼" NPT	AR

Two part sealing compound and assembly instructions are supplied with the cable gland.



Application

- Outdoor or indoor use.
- For use with non-armoured elastomer and plastic insulated cables installed in conduit.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Male Entry Thread Size		Female Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Metric	NPT # Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
					Standard Seal		Alternative Seal (S)				
					Min.	Max.	Min.	Max.			
Os	M20 ²	½"	M20	-	3.0	8.0	-	-	54.5	24.0	26.5
O	M20 ²	½"	M20	-	7.5	11.9	-	-	54.5	24.0	26.5
A	M20	¾" or ½"	M20	-	11.0	14.3	8.5	13.4	56.4	30.0	32.5
B	M25	1" or ¾"	M25	-	13.0	20.2	9.5	15.4	48.2	36.0	39.5
C	M32	1¼" or 1"	M32	-	19.0	26.5	15.5	21.2	61.6	46.0	50.5
C2	M40	1½" or 1¼"	M40	-	25.0	32.5	22.0	28.0	64.6	55.0	60.6
D	M50	2" or 1½"	M50	-	31.5	44/42.3 ¹	27.5	34.8	83.2	65.0	70.8
E	M63	2½" or 2"	M63	-	42.5	56.3/54.3 ¹	39.0	46.5	83.2	80.0	88.0
F	M75	3" or 2½"	M75	-	54.5	68.2/65.3 ¹	48.5	58.3	86.4	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard.

¹ Smaller value is applicable when selecting reduced NPT male entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

NPT female thread sizes equivalent to those shown in the table for the male thread size are available. Hexagon dimensions as shown may alter.

Technical Data

- Flameproof Exd and Increased Safety Exe Ex II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 310.
- Alternative certification options available:

Exe II CNEC Exd IIC / Exe II

GOST R-Exe IIU

GOST K- Approved for use in Kazakhstan

Features

- Provides a cable retention seal onto the cables outer sheath.
- When used in Increased Safety applications, this cable gland may be used with braided cable where the braid and the cables outer sheath pass into the enclosure. The braid must be suitably terminated into the enclosure.
- Provides female running coupler for cable gland or conduit entry.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
501/414	C	M32	S	501/414	C	1 ¼"NPT	S

Cable Glands

Hazardous Area

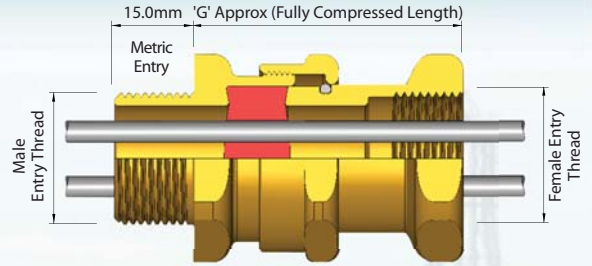
Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx

SB 474

Application

- Outdoor or indoor use.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures for gas group IIC, under 2 litres in volume and containing an ignition.
 - Enclosures for gas groups IIA and IIB, which are greater than 2 litres in volume and contain an ignition source.
- See technical section for installation rules and regulations.



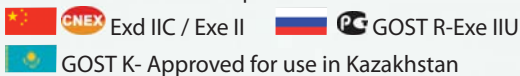
CABLE GLAND SELECTION TABLE							
Size Ref.	Male Entry Thread Size		Female Entry Thread Size		'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Metric	NPT # Standard or Option		Across Flats	Across Corners
A	M20	¾" or ½"	M20	-	56.4	30.0	32.5
B	M25	1" or ¾"	M25	-	48.2	36.0	39.5
C	M32	1¼" or 1"	M32	-	61.6	46.0	50.5

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

NPT female thread sizes equivalent to those shown in the table for the male thread size are available. Hexagon dimensions as shown may alter.

Technical Data

- Flameproof Exd and Increased Safety Exe II 2 GD ExtD A21.
- Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 309.
- Alternative certification options available:



Features

- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- The required number of holes for the cores are punched in the seal by means of a special tool to suit the core size.
- Provides female running coupler for cable gland or conduit entry.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

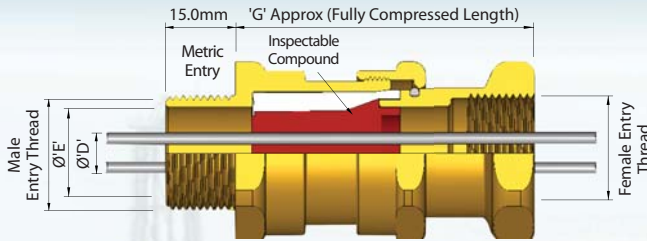
PUNCH TOOL SIZE DETAILS			
Punch Ref.	No. 1	No. 2	No. 3
Cores C.S.A.mm ²	1.5 - 2.5	4.0 - 6.0	10.0

Max. No. of Cores	Cores Cross Sectional Area mm ²				
	1.5	2.5	4.0	6.0	10.0
7	A & B	A & B	B & C	C	C
4	-	-	-	B	-
3	-	-	-	-	B

Ordering Information

Format for ordering is as follows: To obtain punch tool required, refer to tables.

Cable Gland Type	Size	Thread	Punch Tool Required	Cable Gland Type	Size	Thread	Punch Tool Required
SB 474	C	M32	Punch Tool No.1	SB 474	C	1¼"NPT	Punch Tool No.1



Application

- Outdoor or indoor use.
- For use with conduit incorporating individual insulated conductors.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source in gas group IIC areas or containing an ignition source in a Zone 1 area and exceeding 2 litres in volume.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

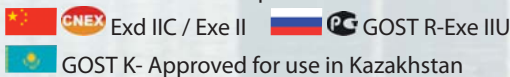
Size Ref.	Male Entry Thread Size		Female Entry Thread Size		Inner Sheath / Cores			'G' Metric	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Metric	NPT * Standard or Option	Max. Over Cores 'D'	Max Inner Sheath 'E'	Max. No. of Cores		Across Flats	Across Corners
A	M20	¾" or ½"	M20	¾" or ½"	11.0	12.5	10	74	30.0	32.5
B	M25	1" or ¾"	M25	1" or ¾"	16.2	18.4	21	65	36.0	39.5
C	M32	1½" or 1"	M32	1½" or 1"	21.9	24.7	42	80	46.0	50.5
C2	M40	1½" or 1¼"	M40	1½" or 1¼"	26.3	29.7	60	83	55.0	60.6
D	M50	2" or 1½"	M50	2" or 1½"	37.1	41.7	80	94	65.0	70.8
E	M63	2½" or 2"	M63	2½" or 2"	47.8	53.5	100	97	80.0	88.0
F	M75	3" or 2½"	M75	3" or 2½"	59.0	66.2 / 65.3 ¹	120	100	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹ Smaller value is applicable when selecting reduced NPT male entry option. Hexagon dimensions as shown may alter.

Technical Data

- Flameproof Exd and Increased Safety Exe $\text{Ex II 2 GD ExtD A21}$.
- Certificate No's: Baseefa06ATEX0058X and IECEx BAS 06.0015X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 375.
- Alternative certification options available:



Features

- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable or conduit.
- Seals conductors at entry to enclosure via conduit or enables an existing cable gland to be converted to a barrier type cable gland.
- The device is fitted with a simple compound filled chamber which permits packing around individual insulated conductors.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- If required, external voids can be repaired.
- Provides female running coupler for cable gland or conduit entry.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

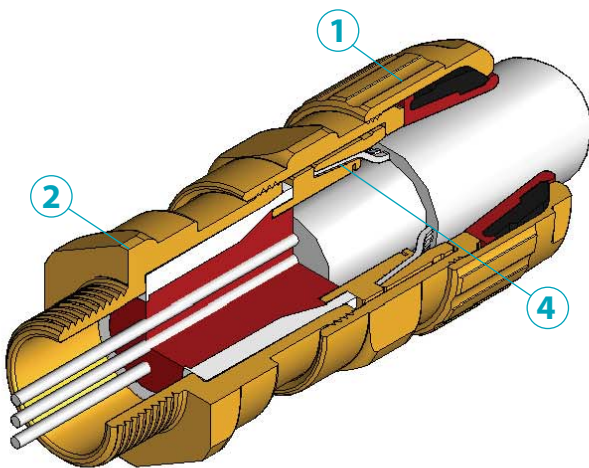
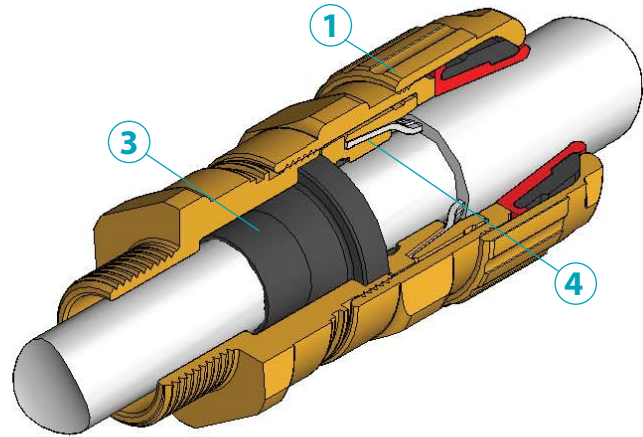
Format for ordering is as follows:

Cable Gland Type	Size	Male Thread	Female Thread	Cable Gland Type	Size	Male Thread	Female Thread
CSB 656 N	C	M32	M32	CSB 656 N	C	1 ¼"NPT	M32

Two part sealing compound and assembly instructions are supplied with the cable gland.

Cable Glands - Group I Mining



653 UNIVERSAL**453 UNIVERSAL****1 Unique Rear Sealing System**

This arrangement offers IP66, IP67, IP68 (30 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters without the need for special seals and the cable acceptance range is stamped on the backnut for ease of inspection. The backnut can be hand tightened, with only one further spanner turn required to ensure IP66, IP67, IP68 and NEMA 4X.

2 Unique Inspectable Compound Chamber

The revolutionary Hawke compound chamber has been designed with inspectability in mind. The pre-lubricated compound chamber can be removed once the compound has fully cured, allowing full inspection of the flameproof seal. If required, minor surface voids can be repaired in-situ. This unique patented compound chamber now forms the compound as well as providing a flameproof seal.

3 Zero Cable Damage

The unique Hawke diaphragm sealing system does not damage cable which exhibit 'Cold Flow' characteristics. The diaphragm type seal is the only elastomeric seal to comply fully with IEC/EN 60079-14 and is therefore suitable on effectively filled 'cold flow' cables which would otherwise require barrier style cable glands. The Hawke diaphragm seal is also unique in that it is the only flameproof elastomeric seal that can be visually inspected in operation – a real benefit to inspectors.

4 The Original Reversible Armour Clamp

The original RAC clamping system was invented by Hawke over 10 years ago and is a well established proven performer in all conditions. Simply by reversing the clamping ring, the cable gland can adjust to accommodate all types of cable armour or braid. Unlike many of our competitors, the correct stamping orientation is marked clearly and backed up by the presence of a groove in the component. Hawke's RAC clamping system is also fully Inspectable when positioned on the cable.

Cable Glands

Mining

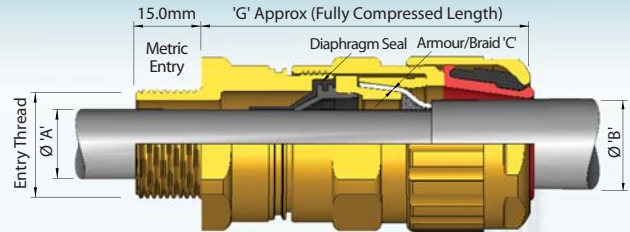
Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx

453/UNIVERSAL

Application

- Mining.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- For particular use with:-
 - Cables that exhibit 'Cold Flow' characteristics.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'		Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Min.	Max.	Min.	Max.	Orientation 1	Orientation 2			
Os	M20	½"	3.0	8.1	5.5	12.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
O	M20	½"	6.5	11.5	9.5	16.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
A	M20	¾" or ½"	8.4	14.3	12.5	20.5	0.8 / 1.25	0.0 / 0.8	63.0	30.0	32.5
B	M25	1" or ¾"	11.1	19.7	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.9	36.0	39.5
C	M32	1¼" or 1"	17.6	26.5	22.0	33.0	1.6 / 2.0	0.0 / 0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	23.1	32.5	28.0	41.0	1.6 / 2.0	0.0 / 0.7	77.9	55.0	60.6
D	M50	2" or 1½"	28.9	44.4 / 42.3 ¹	36.0	52.6	1.8 / 2.5	0.0 / 1.0	93.5	65.0	70.8
E	M63	2½" or 2"	39.9	56.3 / 54.3 ¹	46.0	65.3	1.8 / 2.5	0.0 / 1.0	94.0	80.0	88.0
F	M75	3" or 2½"	50.5	68.2 / 65.3 ¹	57.0	78.0	1.8 / 2.5	0.0 / 1.0	101.0	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard.

¹ Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe $\text{Ex} \text{I M2}$.
- Certificate No's: Baseefa08ATEX0330X and IECEx BAS 08.01 14X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 371.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a diaphragm seal on the cables inner sheath which will not damage cable that has 'Cold Flow' characteristics.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

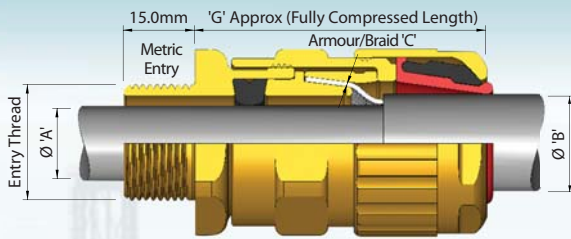
Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
453/UNIV	C	M32	AR	453/UNIV	C	1 ¼"NPT	AR



Application

- Mining.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'				Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)		Min.	Max.	Orientation 1	Orientation 2			
			Min.	Max.	Min.	Max.							
Os	M20	½"	3.0	8.0	-	-	5.5	12.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
O	M20	½"	6.5	11.9	-	-	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	8.5	13.4	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	12.5	19.7	9.5	15.4	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.5	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	14.5	21.2	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.9	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard.

¹Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe $\text{Ex} \text{I M2}$.
- Certificate No's: Baseefa08ATEX0331X and IECEx BAS 08.0112X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 383.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a seal onto the cables inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

SELECTION TABLE

Size Ref.	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information. Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Male Thread	(OPTIONAL)
453/RAC	C	M32	AR	453/RAC	C	1 ¼"NPT	AR
453/RAC	C	M32	S	453/RAC	C	1 ¼"NPT	S

Cable Glands

Mining

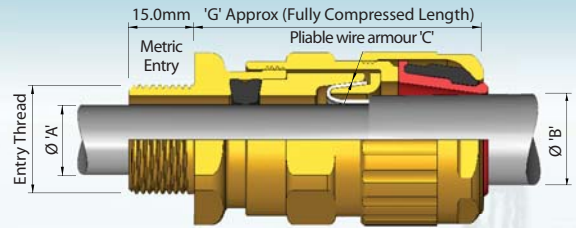
Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx

453/T

Application

- Mining.
- For use with pliable wire armoured cables.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details							'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'				Outer Sheath 'B'		Pliable Wire Armour 'C'		Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)		Min.	Max.				
			Min.	Max.	Min.	Max.	Min.	Max.				
Os	M20	½"	3.0	8.0	-	-	5.5	12.0	7 x 0.45	50.2	24.0	26.5
O	M20	½"	6.5	11.9	-	-	9.5	16.0	7 x 0.45	50.2	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	8.5	13.4	12.5	20.5	7 x 0.45	52.0	30.0	32.5
B	M25	1" or ¾"	12.5	19.7	9.5	15.4	16.9	26.0	7 x 0.45	59.2	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	14.5	21.2	22.0	33.0	7 x 0.45	63.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	28.0	41.0	7 x 0.71	68.7	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	36.0	52.6	7 x 0.71	86.1	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	46.0	65.3	7 x 1.25	82.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	57.0	78.0	7 x 1.25	87.0	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe $\text{Ex} \text{I} \text{M}2$.
- Certificate No's: Baseefa08ATEX0331X and IECEx BAS 08.0112X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 381.

Features

- Provides armour clamping using one clamping arrangement.
- Provides a seal onto the cables inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

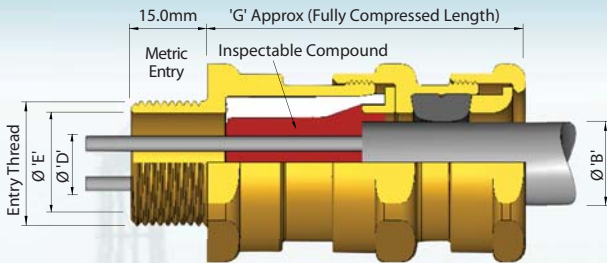
Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
453/T	C	M32	S	453/T	C	1 ¼"NPT	S

Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx



Application

- Mining.
- For use with non-armoured elastomer and plastic insulated cables.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details							Hexagon Dimensions		
	Metric	NPT * Standard or Option	Inner Sheath / Cores			Outer Sheath 'B'				'G'	Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Sheath 'E'	Max. No. of Cores	Standard Seal		Alternative Seal (S)				
Min.	Max.	Min.	Max.									
Os	M20	½"	8.0	8.0	6	3.0	8.0	-	-	52.0	24.0	26.5
O	M20	½"	8.9	10.0	6	7.5	11.9	-	-	52.0	24.0	26.5
A	M20	¾" or ½"	11.0	12.5	10	11.0	14.3	8.5	13.4	53.0	30.0	32.5
B	M25	1" or ¾"	16.2	18.4	21	13.0	20.2	9.5	15.4	69.5	36.0	39.5
C	M32	1¼" or 1"	21.9	24.7	42	19.0	26.5	15.5	21.2	64.0	46.0	50.5
C2	M40	1½" or 1¼"	26.3	29.7	60	25.0	32.5	22.0	28.0	68.3	55.0	60.6
D	M50	2" or 1½"	37.1	41.7	80	31.5	44.4	27.5	34.8	79.0	65.0	70.8
E	M63	2½" or 2"	47.8	53.5	100	42.5	56.3	39.0	46.5	78.9	80.0	88.0
F	M75	3" or 2½"	59.0	66.2 / 65.3 ¹	120	54.5	68.2	48.5	58.3	83.7	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe (Ex) I M2.
- Certificate No's: Baseefa08ATEX0329X and IECEx BAS 08.0115X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 305.

Features

- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides a cable retention seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
623	C	M32	S	623	C	1¼"NPT	S

Two part sealing compound and assembly instructions are supplied with the cable gland.

Cable Glands

Mining

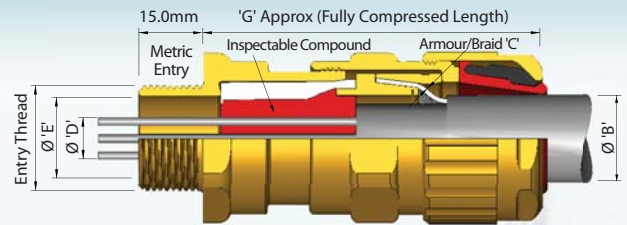
Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx

653/UNIVERSAL

Application

- Mining.
- For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables.
- For particular use with:
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details							'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath / Cores			Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Sheath 'E'	Max. No. of Cores	Min	Max	Orientation 1	Orientation 2			
Os	M20	1/2"	8.9	10.0	6	5.5	12.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
O	M20	1/2"	8.9	10.0	6	9.5	16.0	0.8 / 1.25	0.0 / 0.8	67.0	24.0	26.5
A	M20	3/4" or 1/2"	11.0	12.5	10	12.5	20.5	0.8 / 1.25	0.0 / 0.8	67.0	30.0	32.5
B	M25	1" or 3/4"	16.2	18.4	21	16.9	26.0	1.25 / 1.6	0.0 / 0.7	73.6	36.0	39.5
C	M32	1 1/4" or 1"	21.9	24.7	42	22.0	33.0	1.6 / 2.0	0.0 / 0.7	78.0	46.0	50.5
C2	M40	1 1/2" or 1 1/4"	26.3	29.7	60	28.0	41.0	1.6 / 2.0	0.0 / 0.7	82.4	55.0	60.6
D	M50	2" or 1 1/2"	37.1	41.7	80	36.0	52.6	1.8 / 2.5	0.0 / 1.0	88.7	65.0	70.8
E	M63	2 1/2" or 2"	47.8	53.5	100	46.0	65.3	1.8 / 2.5	0.0 / 1.0	92.7	80.0	88.0
F	M75	3" or 2 1/2"	59.0	66.2 / 65.3 ¹	120	57.0	78.0	1.8 / 2.5	0.0 / 1.0	99.4	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe $\text{Ex} \text{I} \text{M}2$.
- Certificate No's: Baseefa08ATEX0329X and IECEx BAS 08.0115X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 301.

Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Features

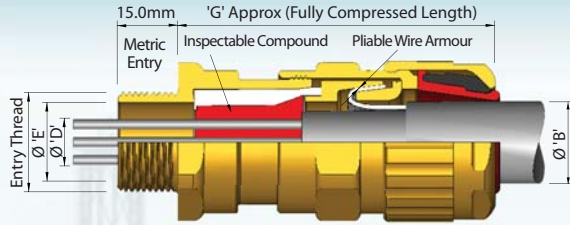
- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides armour clamping, using one clamping arrangement for all armour / braid types.
- Provides a cable retention seal and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternative Seal (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(Optional)	Cable Gland Type	Size	Thread	(Optional)
653/UNIV	C	M32	AR	653/UNIV	C	1 1/4"NPT	AR

Two part sealing compound and assembly instructions are supplied with the cable gland.



Application

- Mining.
- For use with pliable wire armoured cable.
- For particular use with:-
 - Cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers.
 - Cables that exhibit 'Cold Flow' characteristics.
 - Enclosures containing an ignition source.
- See technical section for installation rules and regulations

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						Hexagon Dimensions		
	Metric	NPT * Standard or Option	Inner Sheath / Cores			Outer Sheath 'B'		Pliable Wire Armour 'C'	'G'	Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Sheath 'E'	Max. No. of Cores	Min.	Max.				
O	M20	½"	8.9	10.0	6	9.5	16.0	7 x 0.45	64.5	24.0	26.5
A	M20	¾" or ½"	11.0	12.5	10	12.5	20.5	7 x 0.45	65.3	30.0	32.5
B	M25	1" or ¾"	16.2	18.4	21	16.9	26.0	7 x 0.45	71.6	36.0	39.5
C	M32	1¼" or 1"	21.9	24.7	42	22.0	33.0	7 x 0.45	75.8	46.0	50.5
C2	M40	1½" or 1¼"	26.3	29.7	60	28.0	41.0	7 x 0.71	82.7	55.0	60.6
D	M50	2" or 1½"	37.1	41.7	80	36.0	52.6	7 x 0.71	92.1	65.0	70.8
E	M63	2½" or 2"	47.8	53.5	100	46.0	65.3	7 x 1.25	92.9	80.0	88.0
F	M75	3" or 2½"	59.0	66.2 / 65.3 ¹	120	57.0	78.0	7 x 1.25	99.0	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting reduced NPT entry option.

Technical Data

- Flameproof Exd and Increased Safety Exe I M2.
- Certificate No's: Baseefa08ATEX0329X and IECEx BAS 08.0115X.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 346.

Features

- Provides a barrier seal between the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to create a barrier seal at the point of entry into the enclosure.
- The compound chamber may be separated from the cured compound to ensure that the chamber has been effectively filled. If required, external voids can be repaired.
- Provides armour clamping for pliable wire armour.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows:

Cable Gland Type	Size	Thread	Cable Gland Type	Size	Thread
653/T	C	M32	653/T	C	1 ¼"NPT

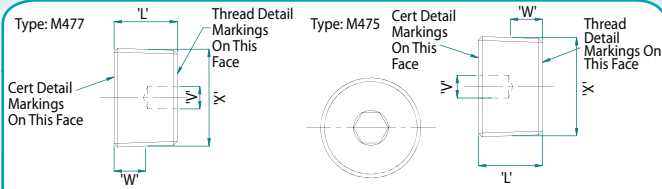
Two part sealing compound and assembly instructions are supplied with the cable gland.

Accessories Mining

Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx

Stopping Plug: M475 & M477



SELECTION TABLE

Thread Size		Hex. Key across Flats Size 'V'
Metric x 1.5p	NPT *	
M20	1/2"	10.0
M25	3/4"	10.0
M32	1"	10.0
M40	1 1/4"	10.0
M50	1 1/2"	10.0
M63	2" or 1 1/2"	10.0
M75	3"	10.0

All dimensions in millimetres (except * where dimensions are in inches).

Ordering Information

Format for ordering is as follows:

Stopping Plug Type	Size
M475	M32

Application

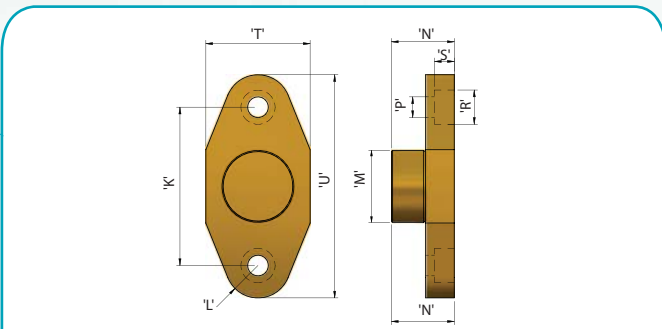
- Mining.
- See technical section for installation rules and regulations

Features

- To close unused cable gland entries and maintain the flameproof integrity of the equipment.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- M475 is fitted from the outside of the enclosure.
- M477 is fitted from the inside of the enclosure.

Technical Data

- Flameproof Exd & Increased Safety Exe (Ex) I M2.
- Certificate No's: Sira 06ATEX1240U.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/E60079-1 and IEC/EN 60079-7.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 379.
- Alternative certification options available: GOST R-Exe IIIU



SELECTION TABLE

Size Ref.	Flange Dimensions								
	K	L	M	N	P	R	S	T	U
O	44.4	12.7	19.05	26.1	6.7	11.1	7.0	30	70.0
A	44.4	12.7	19.05	26.1	6.7	11.1	7.0	30	70.0
B	57.1	12.7	25.40	26.1	6.7	11.1	7.0	36	82.5
C	69.8	14.3	31.75	27.7	9.1	15.1	8.7	46	98.4
C2	82.5	14.3	38.10	27.7	9.1	15.1	8.7	55	111.1
D	95.2	17.5	58.80	29.3	11.1	18.1	10.5	65	130.2
E	114.3	17.5	63.50	29.3	11.1	18.1	10.5	80	149.3
F	127.0	17.5	76.20	32.5	11.1	20.5	13.5	95	162.0

SELECTION TABLE

Size Ref.	Equipment Entry Hole Size	
	Max	Min
O / A	19.35	19.10
B	25.70	25.45
C	32.05	31.80
C2	38.40	38.15
D	51.10	50.85
E	63.80	63.55
F	76.50	76.25

All dimensions in millimetres.

Blanking Flange Type: 470

Application

- Mining.
- See technical section for installation rules and regulations

Features

- To close unused cable gland entries and maintain the flameproof integrity of the equipment.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.

Technical Data

- Flameproof Exd (Ex) I M2.
- Certificate No's: Baseefa08ATEX0333U and IECEx BAS 08.0013U
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0 and IEC/EN 60079-1.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 345.
- Alternative certification options available: GOST R-Exe IIIU

Ordering Information

Format for ordering is as follows:

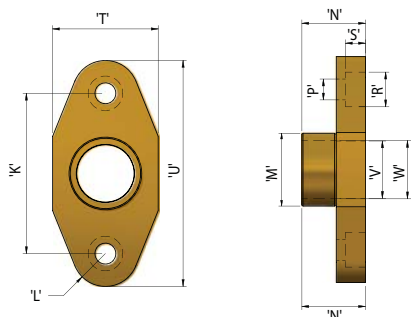
Blanking Flange Type	Size	Blanking Flange Type	Size
470	C	470	C

Adaptor Flange Type: 483

Cable Glands Mining

Flameproof Exd & Increased Safety Exe

Dual Certified ATEX / IECEx



SELECTION TABLE

Size Ref.	Equipment Entry Hole Size	
	Max	Min
O	25.70	25.45
A	25.70	25.45
B	32.05	31.80
C	38.40	38.15
C2	51.10	50.85
D	63.80	63.55
E	76.50	76.25
F	76.50	76.25

All dimensions in millimetres.

Application

- Mining.
- See technical section for installation rules and regulations

Features

- To allow metric threaded Group 1 cable gland types: 653/UNIV, 653/T, 653, 623, 453/UNIV, 453/T, 453/RAC and 453 to be used in size up spigot entries.
- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.

Technical Data

- Flameproof Exd Ex I M2.
- Certificate No's: Baseefa08ATEX0333U and IECEx BAS 08.0013U
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0 and IEC/EN 60079-1.
- Operating Temperature Range: -60°C to $+80^{\circ}\text{C}$.
- Assembly Instruction Sheet: AI 344.
- Alternative certification options available:



SELECTION TABLE

Size Ref.	Flange Dimensions											Casting Size
	K	L	M	N	P	R	S	T	U	V	W	
O	57.1	12.7	25.40	26.1	6.7	11.1	7.0	36	82.5	M20	20.0	B
A	57.1	12.7	25.40	26.1	6.7	11.1	7.0	36	82.5	M20	20.0	B
B	69.8	14.3	31.75	27.7	9.1	15.1	8.7	46	98.4	M25	25.4	C
C	82.5	14.3	38.10	27.7	9.1	15.1	8.7	55	111.1	M32	32.0	C2
C2	95.2	17.5	50.80	29.3	11.1	18.1	10.5	65	130.2	M40	40.0	D
D	114.3	17.5	63.50	29.3	11.1	18.1	10.5	80	149.3	M50	50.7	E
E	127.0	17.5	76.20	32.5	11.1	20.5	13.5	95	162.0	M63	63.4	F
F	127.0	17.5	76.20	48.0	11.1	20.5	13.5	95	162.0	M75	66.0	F

All dimensions in millimetres.

Ordering Information

Format for ordering is as follows:

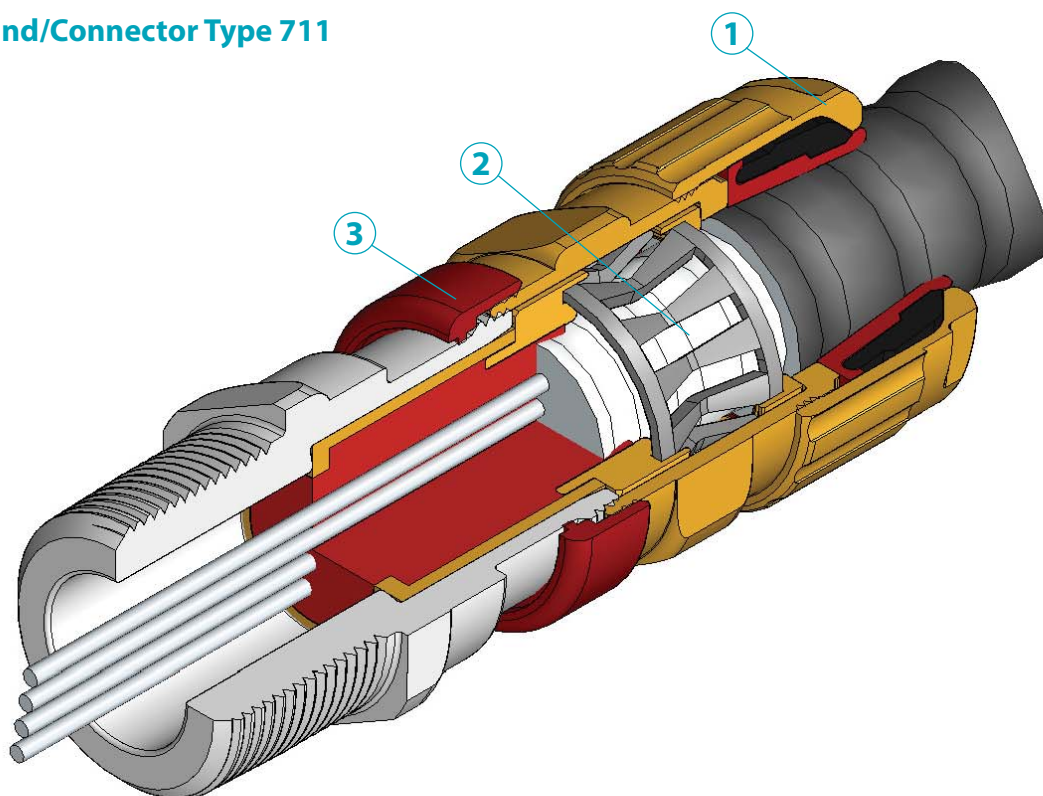
Adaptor Flange Type	Size	Adaptor Flange Type	Size
483	C	483	C

A 484 Flanged Adaptor option is also available which allows metric threaded Group 1 cable gland types 653/UNIV, 653/T, 653, 623, 453/UNIV, 453/T, 453/RAC and 453 to be fitted into a size for size spigot entry.

Cable Glands - American Series - NEC/IEC



Cable Gland/Connector Type 711



1 Unique Rear Sealing System

This arrangement offers IP66, IP67, IP68 (30 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters without the need for special seals and the cable acceptance range is stamped on the backnut for ease of inspection. The backnut can be hand tightened, with only one further spanner turn required to ensure IP66, IP67, IP68 and NEMA 4X.

2 Armour Grounding Device

This device provides 360° armour grounding which is fully inspectable. The grounding device is unique in that it remains in contact with the metal cable jacket when the cable gland /connector is disassembled for inspection.

3 Inspectable Deluge Seal

Hawke's Inspectable deluge seal offers IP66 and IP67 sealing and is certified as 'deluge proof' by ITS in accordance with DTS01. Indeed, Hawke's deluge seal is so good that it exceeds the expectations of the offshore industry by not only preventing ingress into the equipment, but also into the cable gland, which could potentially corrode the cable armour.

Cable Glands

North American Cable Glands/Connectors

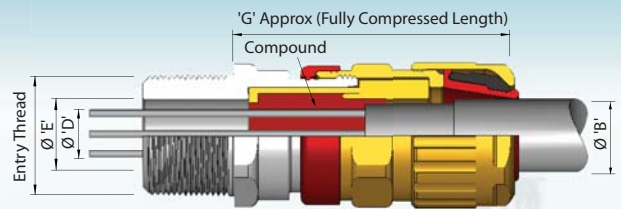
Explosion Proof
IECEX and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR
(Note: Dual Marked UL & ATEX as standard).

710

105

Application

- Outdoor or indoor use.
- For use with non-armoured cable, as permitted by the NEC.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details					'G'	Hexagon Dimensions	
	NPT Standard or Option	Metric *	Inner Jacket / Cores			Outer Jacket 'B'			Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Jacket 'E'	Max. No. of Cores	Min.	Max.			
Os	½"	M20 ¹	0.35"	0.39"	6	0.22"	0.47"	2.55"	0.94"	1.04"
O	½"	M20 ¹	0.35"	0.39"	6	0.37"	0.63"	2.55"	0.94"	1.04"
A	½" or ¾"	M20	0.43"	0.64"	10	0.49"	0.81"	2.59"	1.18"	1.28"
B	¾" or 1"	M25	0.64"	0.93"	21	0.66"	1.02"	2.80"	1.42"	1.56"
C	1" or 1¼"	M32	0.86"	1.23"	42	0.87"	1.30"	2.99"	1.81"	1.99"
C2	1¼" or 1½"	M40	1.04"	1.59"	60	1.10"	1.61"	3.18"	2.17"	2.36"
D	2" or 1½"	M50	1.46"	1.96"	80	1.42"	2.07"	3.60"	2.56"	2.79"
E	2½" or 2"	M63	1.88"	2.55"	100	1.81"	2.57"	3.59"	3.15"	3.46"
F	3" or 2½"	M75	2.32"	2.98"	120	2.24"	3.07"	3.99"	3.74"	4.09"
H ²	3½"	M90	2.79"	3.12"	120	3.07"	3.52"	3.54	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner jacket diameter is 0.43"

²UL approved only

Technical Data

- UL Listing No: E84940.
- Suitable for use in:
 - Class 1, Division 2, Gas Groups A, B, C and D
 - Class 1, Zone 2, Gas Groups IIA, IIB and IIC
 - AExd IIC and AExe II Class 1, Zone 2.
- Flameproof Exd, Increased Safety Exe and Restricted Breathing ExnR .
- Certificate No's: Sira 06ATEX1295X and IECEx SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to +80°C (ATEX / IECEx).
- Assembly Instruction Sheet: AI 316 (UL) and AI 391 (ATEX / IECEx).
- Alternative certification options available:

DNV Marine Approval ABS Marine Approval

Features

- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour and enclosure. Deluge seal is coloured red to indicate Hazardous Location product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

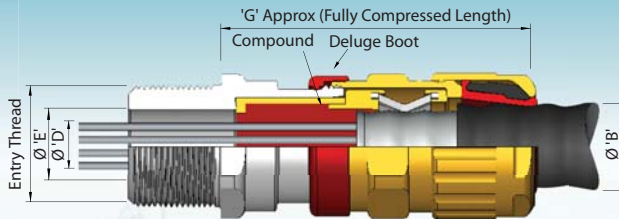
Ordering Information

Format for ordering is as follows:

Cable Gland / Connector Type	Size	Thread
710	C	1"NPT

Two part sealing compound and assembly instructions are supplied with the cable gland.

Explosion Proof
IECEX and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR
(Note: Dual Marked UL & ATEX as standard).



Application

- Outdoor or indoor use.
- For use with continuous corrugated aluminium Metal Clad (MCHL) cable.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	NPT Standard or Option	Metric *	Inner Jacket / Cores			Outer Jacket 'B'		Across Flats		Across Corners	
			Max. Over Cores 'D'	Armour Jacket 'E'		Max. No. of Cores	Min.				Max.
				Min.	Max.						
A	½" or ¾"	M20	0.43"	0.41"	0.64"	10	0.49"	0.81"	2.44"	1.18"	1.28"
B	¾" or 1"	M25	0.64"	0.49"	0.93"	21	0.66"	1.02"	2.68"	1.42"	1.56"
C	1" or 1¼"	M32	0.86"	0.85"	1.23"	42	0.87"	1.30"	2.76"	1.81"	1.99"
C2	1¼" or 1½"	M40	1.04"	1.17"	1.59"	60	1.10"	1.61"	2.96"	2.17"	2.36"
D	2" or 1½"	M50	1.46"	1.37"	1.96"	80	1.42"	2.07"	3.18"	2.56"	2.79"
E	2½" or 2"	M63	1.88"	1.76"	2.55"	100	1.81"	2.57"	3.21"	3.15"	3.46"
F	3" or 2½"	M75	2.32"	2.29"	2.98"	120	2.24"	3.07"	3.54"	3.74"	4.09"
H ¹	3½"	M90	2.79"	2.93"	3.47"	120	3.07"	3.52"	4.33"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). A - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹ UL approved only.

Technical Data

- UL Listing No: E84940.
- Suitable for use in:
 - Class 1, Division 1, Gas Groups A, B, C and D
 - Class 1, Zone 2, Gas Groups IIA, IIB and IIC
 - AExd IIC and AExe II Class 1, Zone 2.
- Flameproof Exd, Increased Safety Exe Ex II 2 GD and Restricted Breathing ExnR Ex II 3G .
- Certificate No's: Sira 06ATEX1295X and IECEX SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to +80°C (ATEX / IECEX).
- Assembly Instruction Sheet: AI 317 (UL) and AI 338 (ATEX / IECEX).
- Alternative certification options available:

DNV Marine Approval ABS Marine Approval

Features

- Provides 360° armour grounding which is fully Inspectable.
- Grounding Device remains in contact with cable when disassembled for inspection.
- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour and enclosure. Deluge seal is coloured red to indicate Hazardous Location product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows:

Cable Gland / Connector Type	Size	Thread
711	C	1" NPT

Two part sealing compound and assembly instructions are supplied with the cable gland.

Cable Glands

North American Cable Glands/Connectors

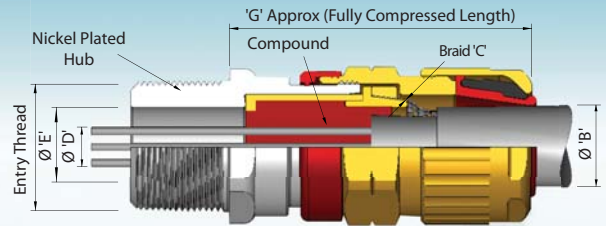
Explosion Proof
IECEX and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR
(Note: Dual Marked UL & ATEX as standard).

753

107

Application

- Outdoor or indoor use.
- For use with braid armoured marine shipboard jacketed or non-jacketed cable.
- See technical section for installation rules and regulations.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						Hexagon Dimensions		
	NPT Standard or Option	Metric *	Inner Jacket / Cores			Outer Jacket 'B'		Braid 'C'	'G'	Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Jacket 'E'	Max. No. of Cores	Min.	Max.				
Os	1/2"	M20 ²	0.35"	0.46"	6	0.22"	0.47"	0.008" / 0.013"	2.61"	0.94"	1.09"
O	1/2"	M20 ²	0.35"	0.46"	6	0.37"	0.63"	0.008" / 0.013"	2.61"	0.94"	1.09"
A	1/2" or 3/4"	M20	0.43"	0.49"	10	0.49"	0.81"	0.008" / 0.013"	2.65"	1.18"	1.36"
B	3/4" or 1"	M25	0.64"	0.72"	21	0.66"	1.02"	0.008" / 0.013"	2.75"	1.42"	1.64"
C	1" or 1 1/4"	M32	0.86"	0.97"	42	0.87"	1.30"	0.008" / 0.013"	2.93"	1.81"	2.09"
C2	1 1/4" or 1 1/2"	M40	1.04"	1.16"	60	1.10"	1.61"	0.008" / 0.013"	3.15"	2.17"	2.50"
D	2" or 1 1/2"	M50	1.46"	1.64"	80	1.42"	2.07"	0.008" / 0.013"	3.14"	2.56"	2.96"
E	2 1/2" or 2"	M63	1.88"	2.11"	100	1.81"	2.57"	0.008" / 0.013"	3.42"	3.15"	3.64"
F	3" or 2 1/2"	M75	2.32"	2.61 / 2.57" ¹	120	2.24"	3.07"	0.008" / 0.013"	3.61"	3.74"	4.31"
H ³	3 1/2"	M90	2.79"	3.05"	120	3.07"	3.52"	0.008" / 0.013"	3.54"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹ Smaller value is applicable when selecting standard NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner jacket diameter is 0.43"

³ UL approved only.

Technical Data

- UL Listing No: E84941.
- Suitable for use in:
 - Class 1, Division 1, Gas Groups A, B, C and D
 - Class 1, Zone 2, Gas Groups IIA, IIB and IIC
 - AExd IIC and AExe II Class 1, Zone 2.
- Flameproof Exd, Increased Safety Exe Ex II 2 GD and Restricted Breathing ExnR Ex II 3G.
- Certificate No's: Sira 06ATEX1295X and IECEX SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to +80°C (ATEX / IECEX).
- Assembly Instruction Sheet: AI 318/339 (UL) and AI 373 (ATEX / IECEX).
- Alternative certification options available:

DNV Marine Approval ABS Marine Approval

GOST R-Exe IIU

Features

- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour and enclosure. Deluge seal is coloured red to indicate Hazardous Location product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

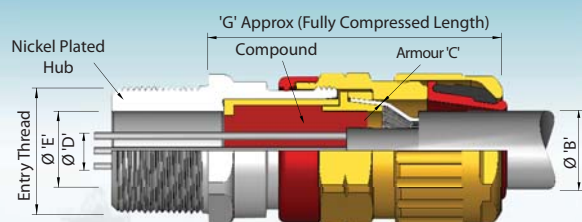
Ordering Information

Format for ordering is as follows:

Cable Gland / Connector Type	Size	Thread
753	C	1" NPT

Two part sealing compound and assembly instructions are supplied with the cable gland.

Explosion Proof
IECEx and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR
(Note: Dual Marked UL & ATEX as standard).



Application

- Outdoor or indoor use.
- For use with armoured jacketed cable, as permitted by the NEC.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	NPT Standard or Option	Metric*	Inner Jacket / Cores			Outer Jacket 'B'		'C'			'G'	Across Flats	Across Corners
			Max. Over Cores 'D'	Max Inner Jacket 'E'	Max. No. of Cores	Min.	Max.	Steel Wire Armour ³	Braid	Tape			
Os	1/2"	M20 ²	0.35"	0.46"	6	0.22"	0.47"	0.036" / 0.049"	0.008" / 0.013"	0.008" / 0.031"	2.61"	0.94"	1.09"
O	1/2"	M20 ²	0.35"	0.46"	6	0.37"	0.63"	0.036" / 0.049"	0.008" / 0.013"	0.008" / 0.031"	2.61"	0.94"	1.09"
A	1/2" or 3/4"	M20	0.43"	0.49"	10	0.49"	0.81"	0.036" / 0.049"	0.008" / 0.013"	0.008" / 0.031"	2.65"	1.18"	1.36"
B	3/4" or 1"	M25	0.64"	0.72"	21	0.66"	1.02"	0.049" / 0.062"	0.008" / 0.013"	0.008" / 0.039"	2.75"	1.42"	1.64"
C	1" or 1 1/4"	M32	0.86"	0.97"	42	0.87"	1.30"	0.062" / 0.078"	0.008" / 0.013"	0.008" / 0.055"	2.93"	1.81"	2.09"
C2	1 1/4" or 1 1/2"	M40	1.04"	1.16"	60	1.10"	1.61"	0.062" / 0.078"	0.008" / 0.013"	0.008" / 0.070"	3.15"	2.17"	2.50"
D	2" or 1 1/2"	M50	1.46"	1.64"	80	1.42"	2.07"	0.078" / 0.098"	0.008" / 0.013"	0.008" / 0.070"	3.14"	2.56"	2.96"
E	2 1/2" or 2"	M63	1.88"	2.11"	100	1.81"	2.57"	0.098"	0.008" / 0.013"	0.008" / 0.070"	3.42"	3.15"	3.64"
F	3" or 2 1/2"	M75	2.32"	2.61" / 2.57" ¹	120	2.24"	3.07"	0.098"	0.008" / 0.013"	0.008" / 0.070"	3.61"	3.74"	4.31"

All dimensions in inches (except * where dimensions are in millimetres). Metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹Smaller value is applicable when selecting standard NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner jacket diameter is 0.43

³UL listing only applies to Steel Wire Armour.

Technical Data

- UL Listing No: E84940.
- Suitable for use in:
 - Class 1, Division 2, Gas Groups A, B, C and D
 - Class 1, Zone 2, Gas Groups IIA, IIB and IIC
 - AExd IIC and AExe II Class 1, Zone 2.
- Flameproof Exd, Increased Safety Exe II 2 GD and Restricted Breathing ExnR II 3G.
- Certificate No's: Sira 06ATEX1295X and IECEx SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to +80°C (ATEX / IECEx).
- Assembly Instruction Sheet: AI 319 (UL) and AI 382 (ATEX / IECEx).
- Alternative certification options available:

DNV Marine Approval ABS Marine Approval

GOST R-Exe IIU

Ordering Information

Format for ordering is as follows:

Cable Gland / Connector Type	Size	Thread
755	C	1" NPT

Two part sealing compound and assembly instructions are supplied with the cable gland.

Cable Glands

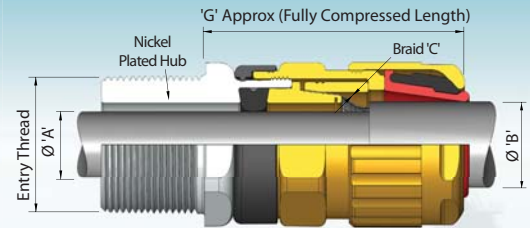
North American Cable Glands/Connectors

General Purpose

153/X

Application

- Outdoor or indoor use.
- For use with armoured marine shipboard jacketed or non-jacketed cable.
- See technical section for installation rules and regulations.



Size Ref.	Entry Thread Size		Cable Acceptance Details							Hexagon Dimensions		
	NPT Standard or Option	Metric *	Standard Seal		Alternative Seal (S)		Outer Jacket 'B'		Braid 'C'	'G'	Across Flats	Across Corners
			Min.	Max.	Min.	Max.	Min.	Max.				
Os	½"	M20 ²	0.12"	0.31"	-	-	0.22"	0.47"	0.008" / 0.013"	2.04"	0.94"	1.04"
O	½"	M20 ²	0.30"	0.46"	-	-	0.37"	0.63"	0.008" / 0.013"	2.04"	0.94"	1.04"
A	½" or ¾"	M20	0.44"	0.56"	0.34"	0.52"	0.49"	0.81"	0.008" / 0.013"	2.08"	1.18"	1.28"
B	¾" or 1"	M25	0.52"	0.79"	0.38"	0.60"	0.66"	1.02"	0.008" / 0.013"	2.74"	1.42"	1.55"
C	1" or 1¼"	M32	0.75"	1.04"	0.61"	0.83"	0.87"	1.30"	0.008" / 0.013"	2.52"	1.81"	1.98"
C2	1¼" or 1½"	M40	0.99"	1.27"	0.87"	1.10"	1.10"	1.61"	0.008" / 0.013"	2.69"	2.17"	2.38"
D	2" or 1½"	M50	1.24"	1.74" / 1.67" ¹	1.09"	1.37"	1.42"	2.07"	0.008" / 0.013"	3.11"	2.56"	2.78"
E	2½" or 2"	M63	1.68"	2.21" / 2.14" ¹	1.54"	1.83"	1.81"	2.57"	0.008" / 0.013"	3.10"	3.15"	3.46"
F	3" or 2½"	M75	2.15"	2.67" / 2.57" ¹	1.91"	2.29"	2.24"	3.07"	0.008" / 0.013"	3.29"	3.74"	4.09"
H	3½" or 3"	M90	2.64"	3.06"	-	-	2.96"	3.52"	0.008" / 0.013"	4.80"	4.53"	5.23"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner jacket diameter is 0.43"

³ UL approved only.

Technical Data

- UL Listed for use Wet Locations.
- UL Listing No: E218332.
- Construction and Test Standards: UL 514B.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C.
- Assembly Instruction Sheet: AI 341.
- Alternative certification options available:



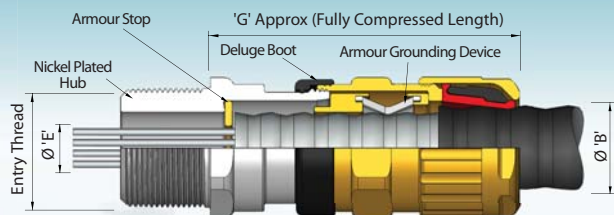
Features

- Provides armour clamping for marine shipboard cable.
- Provides a seal on the cables inner jacket.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour and enclosure. Deluge seal is coloured black to indicate General Purpose product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternate Clamping Ring (S), add suffix S to ordering information.

Cable Gland / Connector Type	Size	Thread	(OPTIONAL)	Cable Gland / Connector Type	Size	Thread	(OPTIONAL)
153	CX	M32	S	153	CX	1"NPT	S



Application

- Outdoor or indoor use.
- For use with continuous corrugated aluminium and interlocked steel Metal Clad MC and Teck type cables.
- See technical section for installation rules and regulations.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	NPT Standard or Option	Metric *	Armour Jacket 'E'		Outer Jacket 'B'			Across Flats	Across Corners
			Min.	Max.	Min.	Max.			
A	½" or ¾"	M20	0.41"	0.64"	0.49"	0.81"	2.44"	1.18"	1.28"
B	¾" or 1"	M25	0.49"	0.93"	0.66"	1.02"	2.68"	1.42"	1.56"
C	1" or 1¼"	M32	0.85"	1.23"	0.87"	1.30"	2.76"	1.81"	1.99"
C2	1¼" or 1½"	M40	1.17"	1.59"	1.10"	1.61"	2.96"	2.17"	2.36"
D	2" or 1½"	M50	1.37"	1.96"	1.42"	2.07"	3.18"	2.56"	2.79"
E	2½" or 2"	M63	1.76"	2.55"	1.81"	2.57"	3.21"	3.15"	3.46"
F	3" or 2½"	M75	2.29"	2.98"	2.24"	3.07"	3.54"	3.74"	4.09"
H	3½"	M90	2.93"	3.47"	3.07"	3.52"	4.33"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). A - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

Technical Data

- UL Listed for use Wet Locations.
- Certificate / Listing No: E165706.
- Construction and Test Standards: UL 514B.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C.
- Assembly Instruction Sheet: AI 315/342.
- Alternative certification options available:
 - DNV Marine Approval
 - ABS Marine Approval

Features

- Provides 360° armour grounding which is fully Inspectable.
- Grounding Device remains in contact with cable when disassembled for inspection.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour and enclosure. Deluge seal is coloured black to indicate General Purpose product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

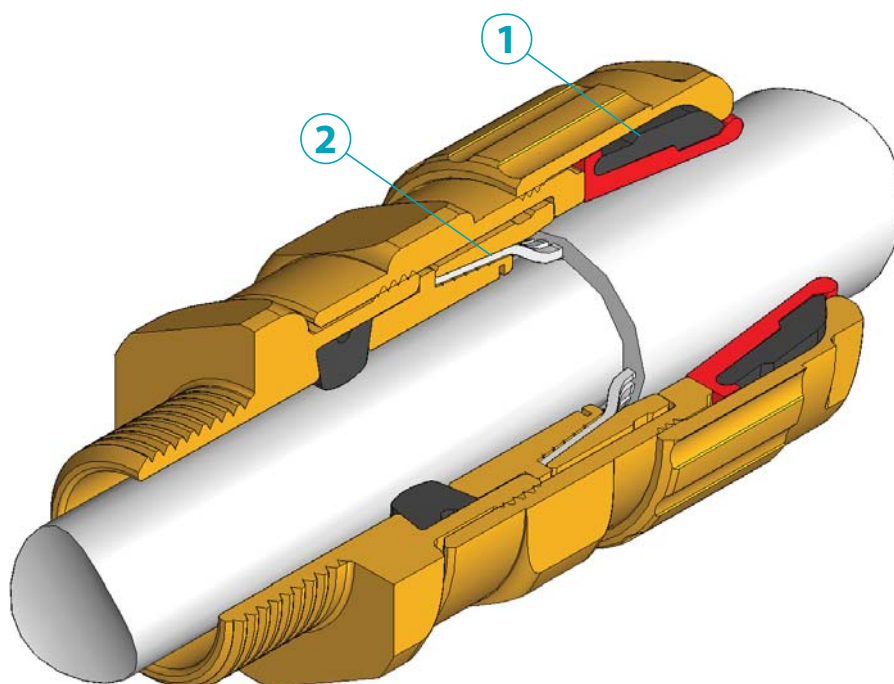
Ordering Information

Format for ordering is as follows:

Cable Gland / Connector Type	Size	Thread
701	C	1" NPT

Cable Glands - Industrial





1 Unique Rear Sealing System

This arrangement offers IP66, IP67, IP68 (30 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters without the need for special seals and the cable acceptance range is stamped on the backnut for ease of inspection. The backnut can be hand tightened, with only one further spanner turn required to ensure IP66, IP67, IP68 and NEMA 4X.

2 The Original Reversible Armour Clamp

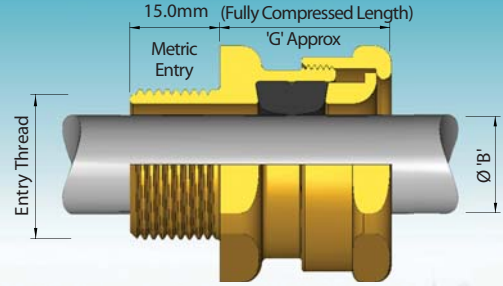
The original RAC clamping system was invented by Hawke over 10 years ago and is a well established proven performer in all conditions. Simply by reversing the clamping ring, the cable gland can adjust to accommodate all types of cable armour or braid. Unlike many of our competitors, the correct stamping orientation is marked clearly with a 'W', 'Z' or 'X' and backed up by the presence of a groove in the component. Hawke's RAC clamping system is also fully inspectable when positioned on the cable.

Optional Inspectable Deluge Seal

Hawke's Inspectable deluge seal offers IP66 and IP67 sealing and is certified as 'deluge proof' by ITS in accordance with DTS01. Indeed, Hawke's deluge seal is so good that it exceeds the expectations of the offshore industry by not only preventing ingress into the equipment, but also into the cable gland, which could potentially corrode the cable armour.

Application

- Outdoor or indoor use.
- For use with non-armoured elastomer and plastic insulated cables.



CABLE GLAND SELECTION TABLE									
Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min.	Max.	Min.	Max.			
2K	M16	-	3.0	8.0	-	-	23.5	19.0	21.2
Os	M20 ²	½"	3.0	8.0	-	-	23.8	24.0	26.5
O	M20 ²	½"	7.5	11.9	-	-	23.8	24.0	26.5
A	M20	¾" or ½"	11.0	14.3	8.5	13.4	24.8	30.0	32.5
B	M25	1" or ¾"	13.0	20.2	9.5	15.4	25.8	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	15.5	21.2	28.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	29.5	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	40.4	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	38.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	40.5	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	41.0	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	41.0	115.0	130.0
J	M100	4"	75.0	91.6	-	-	41.0	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). 2K - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type A2.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 392.

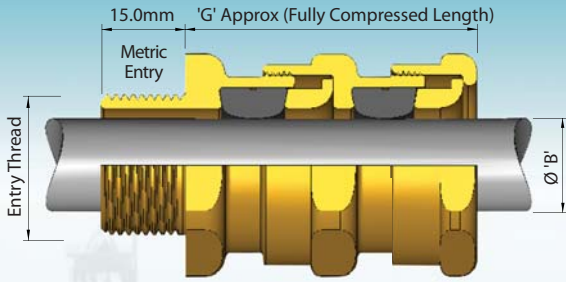
Features

- Provides a cable retention seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

Format for ordering is as follows: Alternate Clamping Ring (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
121	C	M32	S	121	C	1 ¼"NPT	S



Application

- Outdoor or indoor use.
- For use with non-armoured elastomer and plastic insulated cables.
- May be used on cables incorporating inner and outer cable sheath at two independent sealing points.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min.	Max.	Min.	Max.			
Os	M20 ²	½"	3.0	8.0	-	-	40.0	24.0	26.5
O	M20 ²	½"	7.5	11.9	-	-	40.0	24.0	26.5
A	M20	¾" or ½"	11.0	14.3	8.5	13.4	40.4	30.0	32.5
B	M25	1" or ¾"	13.0	20.2	9.5	15.4	44.3	36.0	39.5
C	M32	1¼" or 1"	19.0	26.5	15.5	21.2	47.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	49.5	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	72.5	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	64.8	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	68.0	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	68.0	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	68.0	115.0	130.0
J	M100	4"	75.0	91.6	-	-	68.0	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type A2.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 398.

Features

- Provides a cable retention seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

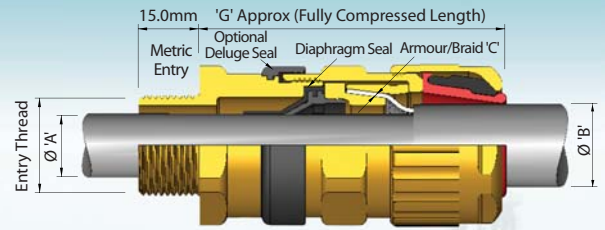
Ordering Information

Format for ordering is as follows: Alternate Clamping Ring (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
123	C	M32	S	123	C	1 ¼"NPT	S

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', aluminium strip armour 'Y', and steel tape armour 'Z' elastomer and plastic insulated cables.
- For particular use with:-
- Cables that exhibit 'Cold Flow' characteristics.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'		Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Min.	Max.	Min.	Max.	Orientation 1	Orientation 2			
Os	M20 ²	½"	3.0	8.1	5.5	12.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
O	M20 ²	½"	6.5	11.5	9.5	16.0	0.8 / 1.25	0.0 / 0.8	61.6	24.0	26.5
A	M20	¾" or ½"	8.4	14.3	12.5	20.5	0.8 / 1.25	0.0 / 0.8	63.0	30.0	32.5
B	M25	1" or ¾"	11.1	19.7	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.9	36.0	39.5
C	M32	1" or ¾"	17.6	26.5	22.0	33.0	1.6 / 2.0	0.0 / 0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	23.1	32.5	28.0	41.0	1.6 / 2.0	0.0 / 0.7	77.9	55.0	60.6
D	M50	2" or 1½"	28.9	44.4 / 42.3 ¹	36.0	52.6	1.8 / 2.5	0.0 / 1.0	93.5	65.0	70.8
E	M63	2½" or 2"	39.9	56.3 / 54.3 ¹	46.0	65.3	1.8 / 2.5	0.0 / 1.0	94.0	80.0	88.0
F	M75	3" or 2½"	50.5	68.2 / 65.3 ¹	57.0	78.0	1.8 / 2.5	0.0 / 1.0	103.0	95.0	104.0
G	M80	3½"	67.0	73.0	75.0	89.5	2.0 / 3.5	0.0 / 1.0	90.6	106.4	115.0
H	M90	3½"	67.0	77.6	75.0	89.5	2.0 / 3.5	0.0 / 1.0	90.6	115.0	130.0
J	M100	4"	75.0	91.6	88.0	104.5	2.5 / 4.0	0.0 / 1.0	90.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering. G size and above are available in the 153/RAC design style.

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type E1W, E1X, E1Y and E1Z.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 372 (Sizes Os to F) and AI 303 (Sizes G to J).

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a diaphragm seal on the cables inner sheath which will not damage cable that has 'Cold Flow' characteristics.
- Provides an outer deluge seal to prevent moisture ingress to the cable armour / braid.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

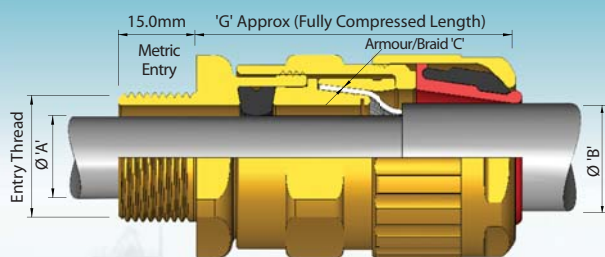
Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternate Seal (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
153/UNIV	C	M32	AR	153/UNIV	C	1 ¼"NPT	AR



Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', aluminium strip armour 'Y' and steel tape armour 'Z' elastomer and plastic insulated cables.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	Metric	NPT * Standard or Option	Inner Sheath 'A'				Outer Sheath 'B'		Armour / Braid 'C'		'G'	Across Flats	Across Corners
			Standard Seal	Alternative Seal (S)	Min.	Max.	Orientation 1	Orientation 2					
Os	M20 ²	½"	3.0	8.0	-	-	5.5	12.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
O	M20 ²	½"	6.5	11.9	-	-	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	8.5	13.4	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	12.5	20.2	9.5	15.4	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.5	36.0	39.5
C	M32	1¼" or 1"	19.0	26.53	14.5	21.2	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3 ¹	27.5	34.8	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3 ¹	39.0	46.5	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.9	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3 ¹	48.5	58.3	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0
G	M80	3½"	67.0	73.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	106.4	115.0
H	M90	3½"	67.0	77.6	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	115.0	130.0
J	M100	4"	75.0	91.6	-	-	88.0	104.5	2.5 / 4.0	0.0 / 1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type E1W, E1X, E1Y and E1Z.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 399.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a seal on the cables inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

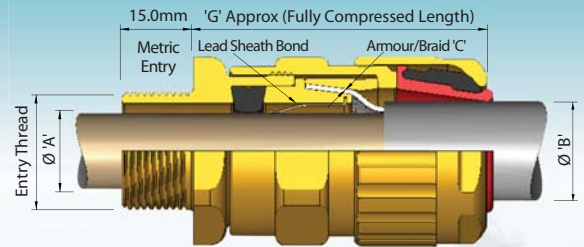
Ordering Information

Format for ordering is as follows: Alternate Clamping Ring (AR), add suffix AR to ordering information. Alternate Seal (S), add suffix S to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
153/RAC	C	M32	AR	153/RAC	C	1 ¼"NPT	AR
153/RAC	C	M32	S	153/RAC	C	1 ¼"NPT	S

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', aluminium strip armour 'Y' and steel tape armour 'Z' elastomer and plastic insulated cables.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details								Hexagon Dimensions		
	Metric	NPT * Standard or Option	Inner Sheath 'A'				Outer Sheath 'B'		Armour / Braid 'C'		'G'	Across Flats	Across Corners
			Standard (L) Seal + Bond		Alternative Seal (K) Seal + Bond		Min.	Max.	Orientation 1	Orientation 2			
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.						
O	M20 ²	½"	6.5	10.5	-	-	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	-	-	8.5	13.4	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	12.5	19.0	9.5	15.4	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.5	36.0	39.5
C	M32	1¼" or 1"	19.0	25.0	14.5	21.2	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	25.0	31.2	22.0	28.0	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	31.5	42.3 / 42.8 ¹	27.5	34.8	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	42.5	53.3 / 54.5 ¹	39.0	46.5	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.9	80.0	88.0
F	M75	3" or 2½"	54.5	66.0 / 64.3 ¹	48.5	58.3	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0
G	M80	3½"	67.0	70.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	106.4	115.0
H	M90	3½"	67.0	75.0	-	-	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	115.0	130.0
J	M100	4"	75.0	89.5	-	-	88.0	104.5	2.5 / 4.0	0.0 / 1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). O - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type E2W, E2X, E2Y and E2Z.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 399 and AI 336.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a seal and an electrical bond on the cables inner sheath.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

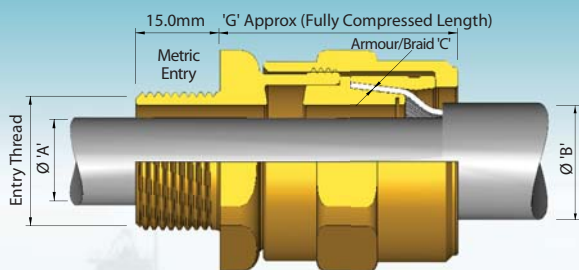
Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Standard Inner Seal + Bond, add suffix L to ordering information. Alternative Inner Seal + Bond, add suffix K to ordering information. Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	Lead	(OPTIONAL)	Cable Gland Type	Size	Thread	Lead	(OPTIONAL)	Cable Gland Type	Size	Thread	Lead	(OPTIONAL)
153/RAC	C	M32	L	AR	153/RAC	C	1¼"NPT	L	AR	153/RAC	C	1¼"NPT	K	AR



Application

- Indoor use.
- For use with single wire armour 'W', wire braid 'X', aluminium strip armour 'Y' and steel tape armour 'Z' elastomer and plastic insulated cables.

CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A'	Outer Sheath 'B'	Armour / Braid 'C'			Across Flats	Across Corners
			Max.	Max.	Orientation 1	Orientation 2			
O	M20 ²	½"	11.9	16.0	0.8 / 1.25	0.0 / 0.8	37.0	24.0	26.5
A	M20	¾" or ½"	14.3	20.5	0.8 / 1.25	0.0 / 0.8	38.2	30.0	32.5
B	M25	1" or ¾"	20.2	26.0	1.25 / 1.6	0.0 / 0.7	42.7	36.0	39.5
C	M32	1¼" or 1"	26.5	33.0	1.6 / 2.0	0.0 / 0.7	46.9	46.0	50.5
C2	M40	1½" or 1¼"	32.5	41.0	1.6 / 2.0	0.0 / 0.7	49.9	55.0	60.6
D	M50	2" or 1½"	44.4 / 42.3 ¹	52.6	1.8 / 2.5	0.0 / 1.0	63.5	65.0	70.8
E	M63	2½" or 2"	56.3 / 54.3 ¹	65.3	1.8 / 2.5	0.0 / 1.0	60.4	80.0	88.0
F	M75	3" or 2½"	68.2 / 65.3 ¹	78.0	1.8 / 2.5	0.0 / 1.0	63.2	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type BW, BX, BY and BZ.
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 325.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Alternative Reversible Armour Clamping Rings (RAC)

SELECTION TABLE

Size Ref.	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

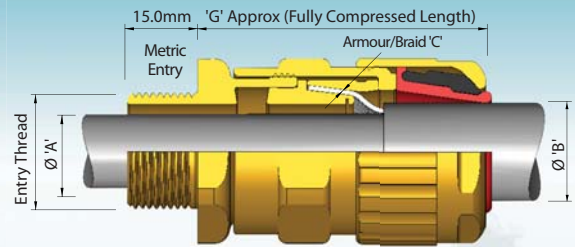
Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
150/RAC	C	M32	AR	150/RAC	C	1 ¼"NPT	AR

Application

- Outdoor or indoor use.
- For use with single wire armour 'W', wire braid 'X', aluminium strip armour 'Y' and steel tape armour 'Z' elastomer and plastic insulated cables.



CABLE GLAND SELECTION TABLE

Size Ref.	Entry Thread Size		Cable Acceptance Details					'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Inner Sheath 'A' Max.	Outer Sheath 'B'		Armour / Braid 'C'			Across Flats	Across Corners
				Min.	Max.	Orientation 1	Orientation 2			
Os	M20 ²	½"	8.0	5.5	12.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
O	M20 ²	½"	11.9	9.5	16.0	0.8 / 1.25	0.0 / 0.8	52.0	24.0	26.5
A	M20	¾" or ½"	14.3	12.5	20.5	0.8 / 1.25	0.0 / 0.8	53.0	30.0	32.5
B	M25	1" or ¾"	20.2	16.9	26.0	1.25 / 1.6	0.0 / 0.7	69.5	36.0	39.5
C	M32	1¼" or 1"	26.5	22.0	33.0	1.6 / 2.0	0.0 / 0.7	64.0	46.0	50.5
C2	M40	1½" or 1¼"	32.5	28.0	41.0	1.6 / 2.0	0.0 / 0.7	68.3	55.0	60.6
D	M50	2" or 1½"	44.4 / 42.3 ¹	36.0	52.6	1.8 / 2.5	0.0 / 1.0	79.0	65.0	70.8
E	M63	2½" or 2"	56.3 / 54.3 ¹	46.0	65.3	1.8 / 2.5	0.0 / 1.0	78.9	80.0	88.0
F	M75	3" or 2½"	68.2 / 65.3 ¹	57.0	78.0	1.8 / 2.5	0.0 / 1.0	83.7	95.0	104.0
G	M80	3½"	72.0	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	106.4	115.0
H	M90	3½"	80.0	75.0	89.5	2.0 / 3.5	0.0 / 1.0	95.6	115.0	130.0
J	M100	4"	90.0	88.0	104.5	2.5 / 4.0	0.0 / 1.0	95.6	127.0	142.0

All dimensions in millimetres (except * where dimensions are in inches). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For G size glands and above, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹Smaller value is applicable when selecting reduced NPT entry option.

²Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer sheath diameter is 10.9mm

Technical Data

- Construction and Test Standards: EN 50262, BS 6121 : Part 1 Type CW, CX, CY and CZ.
- Ingress Protection: IP66 to IEC/EN 60529.
- Deluge Protection to DTS01 (Deluge Seal Optional).
- Operating Temperature Range: -60°C to +100°C.
- Assembly Instruction Sheet: AI 393.

Features

- Provides armour clamping using one clamping arrangement for all armour / braid types.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

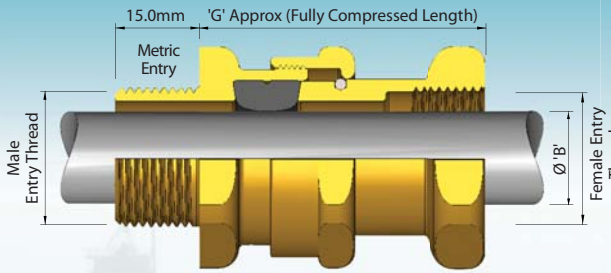
Alternative Reversible Armour Clamping Rings (RAC)

Size Ref.	SELECTION TABLE	
	Steel Wire Armour / Braid / Tape	
	Orientation 1	Orientation 2
B	0.9 - 1.25	0.5 - 0.9
C	1.2 - 1.6	0.6 - 1.2
C2	1.2 - 1.6	0.6 - 1.2
D	1.45 - 1.8	1.0 - 1.45
E	1.45 - 1.8	1.0 - 1.45
F	1.45 - 1.8	1.0 - 1.45

Ordering Information

Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
151/RAC	C	M32	AR	151/RAC	C	1 ¼"NPT	AR



Application

- Outdoor or indoor use.
- For use with non-armoured elastomer and plastic insulated cables installed in conduit.

CABLE GLAND SELECTION TABLE

Size Ref.	Male Entry Thread Size		Female Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT * Standard or Option	Metric	NPT # Standard or Option	Outer Sheath 'B'					Across Flats	Across Corners
					Standard Seal		Alternative Seal (S)				
					Min.	Max.	Min.	Max.			
A	M20	¾" or ½"	M20	-	11.0	14.3	8.5	13.4	56.4	30.0	32.5
B	M25	1" or ¾"	M25	-	13.0	20.2	9.5	15.4	48.2	36.0	39.5
C	M32	1¼" or 1"	M32	-	19.0	26.5	15.5	21.2	61.6	46.0	50.5
C2	M40	1½" or 1¼"	M40	-	25.0	32.5	22.0	28.0	64.6	55.0	60.6
D	M50	2" or 1½"	M50	-	31.5	44.4 / 42.3 ¹	27.5	34.8	83.2	65.0	70.8
E	M63	2½" or 2"	M63	-	42.5	56.3 / 54.3 ¹	39.0	46.5	83.2	80.0	88.0
F	M75	3" or 2½"	M75	-	54.5	68.2 / 65.3 ¹	48.5	58.3	86.4	95.0	104.0

All dimensions in millimetres (except * where dimensions are in inches). Metric entry threads are 1.5mm pitch as standard.

¹Smaller value is applicable when selecting reduced NPT male entry option.

NPT female thread sizes equivalent to those shown in the table for the male thread size are available. Hexagon dimensions as shown may alter.

Technical Data

- Construction and Test Standards: EN 50262.
- Ingress Protection: IP66 to IEC/EN 60529 and NEMA 4X.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 394.

Features

- Provides a cable retention seal onto the cables outer sheath.
- Provides female running coupler for cable gland or conduit entry.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

Ordering Information

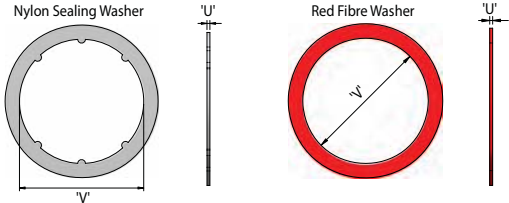
Format for ordering is as follows: Alternative Clamping Ring (AR), add suffix AR to ordering information.

Cable Gland Type	Size	Thread	(OPTIONAL)	Cable Gland Type	Size	Thread	(OPTIONAL)
114/RAC	C	M32	AR	114/RAC	C	1¼"NPT	AR

Cable Glands Accessories



Nylon Sealing and Red Fibre Washer



The diagrams show a Nylon Sealing Washer (grey) and a Red Fibre Washer (red). Both are circular with a diameter 'V' and a thickness 'U'. The Nylon washer has a raised lip, while the Red Fibre washer is a simple ring.

SELECTION TABLE		
Metric Gland Size 'V'	NPT * Gland Size 'V'	'U'
M20	1/2"	1.5
M20	3/4"	1.5
M25	1"	1.5
M32	1 1/4"	1.5
M40	1 1/2"	1.5
M50	2"	1.5
M63	2 1/2"	1.5
M75	3"	1.5
M80 ¹	3 1/2"	1.5
M90 ¹	3 1/2"	1.5
M100 ¹	4"	1.5

All dimensions in millimetres (except * where dimensions are in inches).

¹ M80, M90 and M100 washers are only available in Red Fibre

Application

- For use on cable gland entry threads.

Features

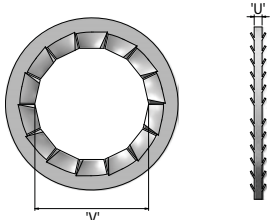
- To maintain ingress protection rating at the enclosure.
- Retaining 'Pips' make washer captive on metric cable gland entry thread.

Ordering Information

Format for ordering is as follows:

Sealing Washer Type	Size / Thread	Sealing Washer Type	Size / Thread
Nylon Washer	M25	Fibre Washer	M25

Serrated Washer



The diagram shows a Serrated Washer (grey) with a diameter 'V' and a thickness 'U'. The washer has a serrated inner edge.

SELECTION TABLE		
Metric Gland Size 'V'	NPT * Gland Size 'V'	'U'
M20	1/2"	1.5
M20	3/4"	1.5
M25	1"	1.5
M32	1 1/4"	1.5
M40	1 1/2"	1.5
M50	2"	1.5
M63	2 1/2"	1.5
M75	3"	1.5

All dimensions in millimetres (except * where dimensions are in inches).

Application

- For use on cable gland entry threads.

Features

- To dampen vibrations of the cable gland / equipment assembly which may loosen the cable gland or locknut.
- Manufactured in Stainless Steel (standard).

Ordering Information

Format for ordering is as follows:

Serrated Washer Type	Size / Thread	Serrated Washer Type	Size / Thread
Serrated Washer	M25	Serrated Washer	1"NPT

Earth Tags

SELECTION TABLE				
Metric Gland Size 'V'	'Y'	'W'	'X'	'Z'
M20	7.0	39.6	33.1	1.6
M25	10.5	45.5	36.5	1.6
M32	12.2	52.0	40.9	1.6
M40	13.6	59.6	44.2	1.6
M50	13.5	78.9	58.1	1.6
M63	13.5	87.6	66.8	1.6
M75	13.5	93.7	72.9	1.6
M80	14.0	128.0	104.0	3.0
M90	14.0	128.0	104.0	3.0
M100	14.0	128.0	104.0	3.0

All dimensions in millimetres.

Application

- Provides an earth bond attachment for a cable gland.

Features

- Manufactured in Brass (standard).
- Stainless Steel earthtags are available, but dimensions may differ slightly to those stated in the selection table. Please contact Hawke Technical Sales for details.

Ordering Information

Format for ordering is as follows:

Type	Size / Thread
Earthtag	M25

Locknut

SELECTION TABLE							
Metric x 1.5mm Pitch				NPT			
Metric Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'	NPT * Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'
M16	19.0	21.9	3.2	-	-	-	-
M20	24.0	26.9	4.0	½"	30.0	33.6	4.7
M20	24.0	26.9	4.0	¾"	30.0	33.6	4.7
M25	30.0	33.6	4.0	1"	36.0	40.3	6.4
M32	46.0	53.1	4.0	1¼"	46.0	53.1	6.4
M40	46.0	53.1	4.8	1½"	55.0	61.6	6.4
M50	65.0	72.8	4.7	2"	65.0	72.8	6.4
M63	80.0	89.6	6.4	2½"	80.0	89.6	6.4
M75	95.0	107.0	6.4	3"	95.0	107.0	6.4
M80 ¹	106.4	119.2	10.0	3½"	127.0	143.0	9.0
M90 ¹	106.4	119.2	10.0	3½"	127.0	143.0	9.0
M100 ¹	127.0	142.2	10.0	4"	139.7	158.0	9.0

All dimensions in millimetres (except * where dimensions are in inches).

Application

- Secures a cable gland in position at the equipment.

Features

- Heavy duty locknuts manufactured in Brass (standard).
- Stainless Steel earthtags are available, but dimensions may differ slightly to those stated in the selection table. Please contact Hawke Technical department for details.

Ordering Information

Format for ordering is as follows:

Type	Size / Thread
Locknut	M25

Accessory Type: Shroud (TPE)



SELECTION TABLE

Size Ref:
O / Os
A
B
C
C2
D
E
F
G
H
J

Application

- Outdoor or indoor use.
- For fitting over cable glands when additional environmental and corrosion protection is required.

Features

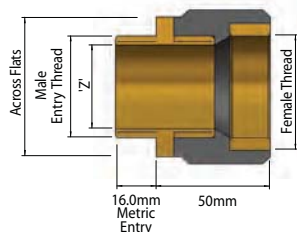
- Manufactured in Low Smoke and Fume, Halogen free TPE material with excellent UV and ozone resistance (black) supplied as standard.

Ordering Information

Format for ordering is as follows:

Shroud Type	Size / Thread
Shroud	C

Insulated Adaptor Type: 478/1 Flameproof Exd



SELECTION TABLE

Size Ref.	Male Thread	Female Thread	Bore 'Z'	Hexagon Dimensions	
	Metric	Metric		Across Flats	Across Corners
A	M20	M20	14.3	35.0	40.0
B	M25	M25	19.3	41.0	47.0
C	M32	M32	25.8	49.0	54.0
C2	M40	M40	33.0	55.0	63.5
D	M50	M50	43.0	70.0	80.5
E	M63	M63	54.0	80.0	92.4
F	M75	M75	67.0	90.0	103.5

All dimensions in millimetres.

Application

- Outdoor or indoor use.
- Provides electrical insulation between a cable gland or a conduit fitting and an electrical enclosure. E.g. to provide a means of isolating armour / braid on signal / instrument cable.

Features

- Insulated portion manufactured from glass filled nylon.
- Female insert and entry component are manufactured in Brass (standard).

Technical Data


- Flameproof Exd II 2 GD.
- Certificate No's: Sira 06ATEX1240U.
- Suitable for use in Zone 1, Zone 2 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0 and IEC/EN 60079-1.
- Ingress Protection: IP66.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 377.
- Alternative certification options available

Ordering Information

Format for ordering is as follows:

Adaptor Type	Male Thread	Female Thread
478/1	M32	M32

Stopping Plug Type 475 & 477



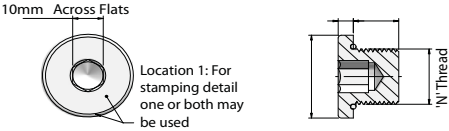
SELECTION TABLE		
Thread Size		Hex. Key across Flats Size 'V'
Metric x 1.5p	NPT *	
M20	¾" or ½"	10.0
M25	1" or ¾"	10.0
M32	1¼" or 1"	10.0
M40	1½" or 1¼"	10.0
M50	2" or 1½"	10.0
M63	2½" or 2"	10.0
M75	3" or 2½"	10.0

All dimensions in millimetres (except * where dimensions are in inches).

Ordering Information
Format for ordering is as follows:

Stopping Plug Type	Size
475	M32

387 Stopping Plug



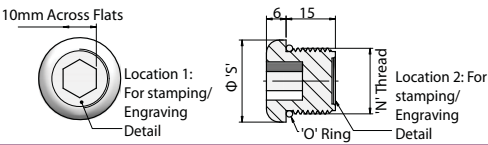
APPLICATION DATA		
N' Thread Size	S' Dia. (mm)	Key Size (Across Flats) (mm)
M16	25.4	10
M20	30	10
M25	35	10
M32	42	10
M40	54	10
M50	63.5	10
M63	76.2	10
M75	89	10

Note: The PL6, PL7, S Series and EZE ATEX / IECEx enclosures can only be fitted with the 387 ATEX approved metal Stopping Plugs.

Ordering Information
Format for ordering is as follows:

Stopping Plug Type	Size
387	M32

375 Stopping Plug



APPLICATION DATA		
N' Thread Size	S' Dia. (mm)	Key Size (Across Flats)(mm)
M20	25	10
M25	30	10

Note: The PL6, PL7, S Series and EZE ATEX / IECEx enclosures can only be fitted with the 375 ATEX approved plastic Stopping Plugs.

Ordering Information
Format for ordering is as follows:

Stopping Plug Type	Size
375	M32

Application

- To close unused cable gland entries and maintain the flame proof integrity of the equipment.
- See technical section for installation rules and regulations.

Features

- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.
- 475 is fitted from the outside of the enclosure.
- 477 is fitted from the inside of the enclosure.

Technical Data

- Flameproof Exd & Increased Safety Exe Ⓜ II 2GD IP66.
- Certificate No's: Sira 06ATEX1240U.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66 with suitable thread sealant in threaded entries only
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 379.
- Alternative certification options available:



Application

- To close unused cable gland entries and maintain the flameproof integrity of the equipment.
- See technical section for installation rules and regulations.

Features

- Manufactured in Brass (standard), Nickel Plated Brass or 316 Stainless Steel.

Technical Data

- Flameproof Exd & Increased Safety Exe Ⓜ II 2GD IP66.
- Certificate No's: Sira 06ATEX1240U.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: To meet with IP66 and IP67, the stopping plugs must be fitted perpendicular to the equipment face in a suitably sized threaded or plain hole and the equipment face must be smooth. Plain holes must be no larger than 0.7mm above the major diameter of the stopping plug thread and the plug must be held in place with a lock nut. A serrated washer may also be fitted.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 378.

Application

- See technical section for installation rules and regulations.

Features

- To close unused cable gland entries and maintain the integrity of the equipment.
- Manufactured in Black Nylon (standard)

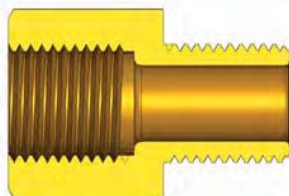
Technical Data

- Increased Safety II 2 GD Exe II ExtD.
- 375 Certificate No's: Baseefa06ATEX0236U and IECEx BAS.06.0056U.
- Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66 and IP67 to IEC/EN 60529.
- Ingress Protection for PL6 Series Enclosures: IP66 and IP67 to IEC/EN 60529.
- Ingress Protection for PL7 Series, S Series and EZE Enclosures: IP66 and IP67 to IEC/EN 60529.
- Deluge Protection to DTS01.
- Operating Temperature Range: -60°C to +75°C.
- Suitable for T6 and T5 applications.
- Assembly Instruction Sheet: AI 360.

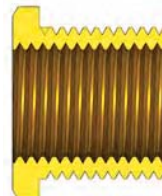
Adaptors and Reducers Type: 476

Flameproof Exd & Increased Safety
Exe Certified ATEX 

Adaptor



Reducer



ADAPTOR AND REDUCERS SELECTION TABLE


		Male Thread															
		Metric							NPT*								
		M16	M20	M25	M32	M40	M50	M63	M75	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Female Thread	Metric	M16															
		M20															
		M25															
		M32															
		M40															
		M50															
		M63															
	M75																
	NPT*	1/2"															
		3/4"															
		1"															
		1 1/4"															
		1 1/2"															
		2"															
2 1/2"																	
3"																	



All dimensions in millimetres (except * where dimensions are in inches). All metric threads are 1.5mm pitch as standard.

Application

- Provides a means of connection between the equipment and cable glands with dissimilar thread sizes or types.
- See technical section for installation rules and regulations.

Technical Data Group I

- Flameproof & Increased Safety Exde  I M2.
- Certificate No's: Sira 06ATEX1240U.
- Suitable for use in Mines.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 377.
- Alternative certification options available:

  GOST R-Exe IIU

Ordering Information

Format for ordering is as follows:


Adaptor Type	Male Thread	Female Thread
M476	M32	M40
Reducer Type	Male Thread	Female Thread
M476/1	M32	3/4"

Connection Solutions
www.ehawke.com

Features

- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or (Aluminium) - none mining only.
- Brass NPT entries are nickel plated as standard.
- Available for both Group I & Group II applications.

Technical Data Group II

- Flameproof & Increased Safety Exde IIC  II 2 GD IP66.
- Certificate No's: Sira 06ATEX1240U.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7.
- Ingress Protection: IP66.
- Operating Temperature Range: -60°C to +80°C.
- Assembly Instruction Sheet: AI 377.

Ordering Information

Format for ordering is as follows:

Adaptor Type	Male Thread	Female Thread
476	M32	M40
Reducer Type	Male Thread	Female Thread
476/1	M32	3/4"

Desiccant Breather Range



HBP & HB Types

Transformer Breather
Units & Accessories

Desiccant Breather Range

Why Choose Hawke?

When specifying products used in critical electrical supply applications you need the utmost confidence, Hawke has many years of experience in the manufacture and supply of Desiccant Breathers to the electrical supply industry where control of humidity ingress is essential for the safe operation of large transformers. Hawke products comply with the latest international quality standard (EN ISO 9001).



The Purpose of a Hawke Desiccant Breather

The purpose of a Hawke Desiccant Breather is to effectively remove water vapour from air entering Transformers or similar equipment, where without such controls reduced efficiency or possible failure could result. Therefore, it is imperative that the level of humidity in the air space in the top of the conservator tank is kept to a minimum, to avoid any reduction in the effectiveness of the cooling/insulating medium. Temperature gradients can result in a change in the volume of the cooling medium and/or air space. The Hawke Desiccant Breather provides the customer with the most effective and reliable method of preventing moisture entering the equipment during such changes.

Why Choose A Hawke Desiccant Breather?

Hawke Desiccant Breathers are made up of four basic parts, making assembly as simple as possible and therefore keeping servicing time down to an absolute minimum.

Hawke Breathers are filled with a Desiccant gel which changes colour from orange to clear as it absorbs water vapour. Attached to every Hawke Breather is a Desiccant colour change indicator, which allows easy assessment of the breather's status. When the desiccant becomes saturated it can be reactivated or replaced, dependant on the type of breather.

The HB range of Desiccant Breathers have a strong metal shield giving maximum protection to the polycarbonate charge, spare charges are available on request.

Independent extensive testing of the oil seal has proved that it is more effective than mechanical seals. Making the Hawke Desiccant Breather the best on the market.

Principle of Operation

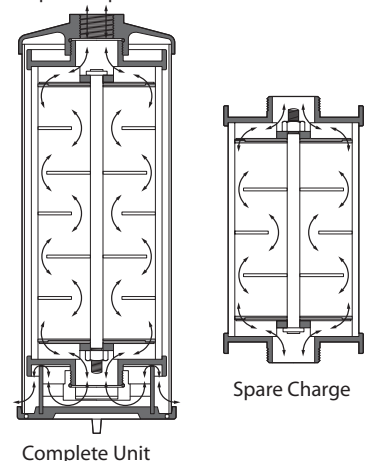
When the charge is screwed into the top casting, it automatically produces a seal, this method is also used to create a seal between the cartridge and the oil cup.

All threaded portions are enclosed, this eliminates the danger of corrosion.

The positioning of the annular baffles ensure that any air passing through the charge circulates through the maximum quantity of Desiccant gel. This eliminates the problem of the air "channelling" through the centre, hence giving a clear indication of the Desiccant state at the periphery.

The lower casting acts as an oil cup as well as a protective screen retainer. Whilst the red line on the transparent tube gives a clear indication of the required oil level.

Principle of Operation

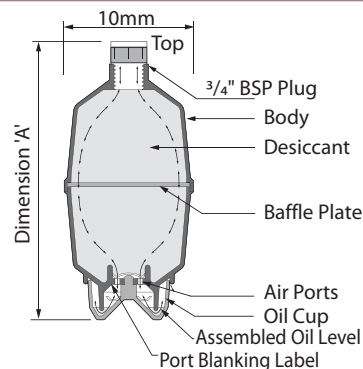


HBP General Description

The HBP Desiccant Breather has been specially designed to provide an economical protection device for smaller transformers having a low oil content. The Breather body and oil seal cup are moulded in high strength polycarbonate, which offers mechanical strength and weather resistance, the transparent material also allows all round visibility of the Desiccant at a distance.

The design of the HBP Desiccant Breather allows the capacity to be increased for use on larger transformers. This is known as the HBP/2.

Hawke Desiccant Breather types HBP and HBP/2 are refillable.



HBP & HBP/2 TRANSFORMER BREATHERS

Ref No.	Transformer Total Oil Content Litres	Maximum weight of Desiccant Kg.	Length of Assembly Dimension "A"	Diameter of Charge Container	Length of Charge Container
HBP	Up to 1250	0.65	215	100	190
HBP/2	Up to 2500	1.00	310	100	290

All dimensions in millimetres (approximate).

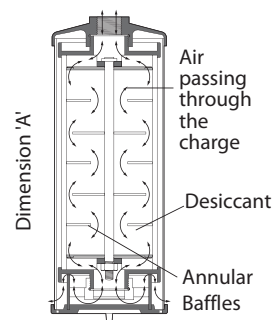
Full installation and maintenance instructions are supplied with each Hawke desiccant breather.

HB General Description

The HB Desiccant Breather is ideal for a large range of transformer sizes. The charge is constructed from high strength polycarbonate with the additional protection of a polythene coated metal screen, its identical die cast end plates are sealed in position to form a very strong unit.

Sizes 1,2,3 and 4 tapped to accept 3/4" B.S.P.P.

Sizes 5 and above supplied with standard hole positions to accept a flanged fixing to BS10 table D (1" pipe).



HB TRANSFORMER BREATHERS

Ref No.	Transformer Total Oil Content Litres	Maximum weight of Desiccant Kg.	Length of Assembly Dimension "A"	Diameter of Charge Container	Length of Charge Container
HB1	Up to 1115	0.70	230	105	170
HB2	From 1115 up to 2230	1.20	330	105	300
HB3	From 2230 up to 4455	2.40	530	105	470
HB4	From 4455 up to 11150	5.00	350	215	280
HB5	From 11150 up to 22230	8.50	500	215	430
HB6	From 22230 up to 33420	12.00	650	215	600
HB7	From 33420 up to 44550	15.00	800	215	730
HB55	From 33420 up to 44550	17.00	850	215	430
HB66	From 44550 up to 66840	24.00	1000	215	600
HB77	From 66840 up to 89120	30.00	1150	215	730
HB777	From 89120 up to 133680	45.00	1150	215	730

All dimensions in millimetres (approximate).

Full installation and maintenance instructions are supplied with each Hawke desiccant breather.

HB Types

Multiple Breather Units & Accessories

Desiccant Breather Range

Multiple Breather Units Types: HB55, HB66, HB77 & HB777

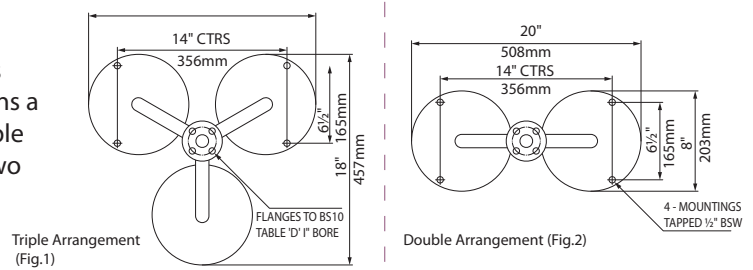
The design of the Hawke Desiccant Breather in its single unit form (i.e. HB2) has been limited to weights and dimensions which enable easy handling during initial installation and subsequent charge replacement. However, parallel arrangements are available for those situations where the oil volume of the transformer requires larger volumes of Desiccant gel.

Please see table on page 129 for more information.



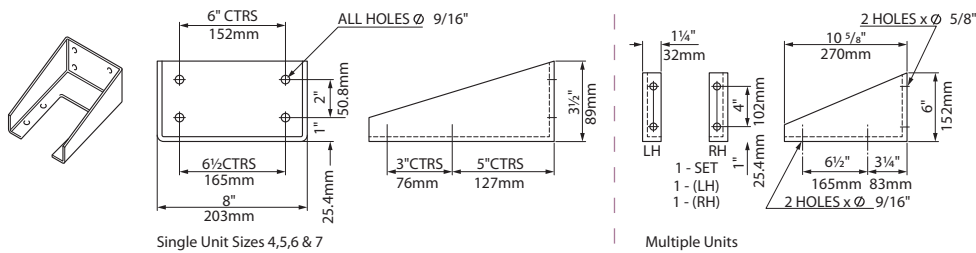
Where Breather charges are operated in parallel, it is essential that only one oil valve is used, this maintains a balanced air flow through each branch of the multiple arrangement. The pipework for the connection of two and three breathers in parallel are standard fittings.

See Fig. 1 and Fig. 2 for dimensional drawings.



All interconnecting pipework is polythene coated to provide protection where installations are located outdoors.

Accessories for Hawke Transformer Breather Units



Transformer Breather Dryer Unit

Hawke have designed a new, highly efficient, specialist drying unit that can be used on all HB products. This portable unit will dry out and recharge saturated charges. This exercise can be carried out 3 times prolonging the working life of each charge.

The unit comprises of :

- A (240 volt or 110 volt) Blower Motor complete with thermal protection.
- 1/2 Kw Heater element.
- Pressure release valve and air filter.
- Stainless Steel two way connecting pipework and manifold with adaptors accepting up to two breather charges.
- Substantial mild steel black enamel coated framework.

