HAWKE International

CABLE GLANDS & ACCESSORIES

For Harsh & Hazardous Environments

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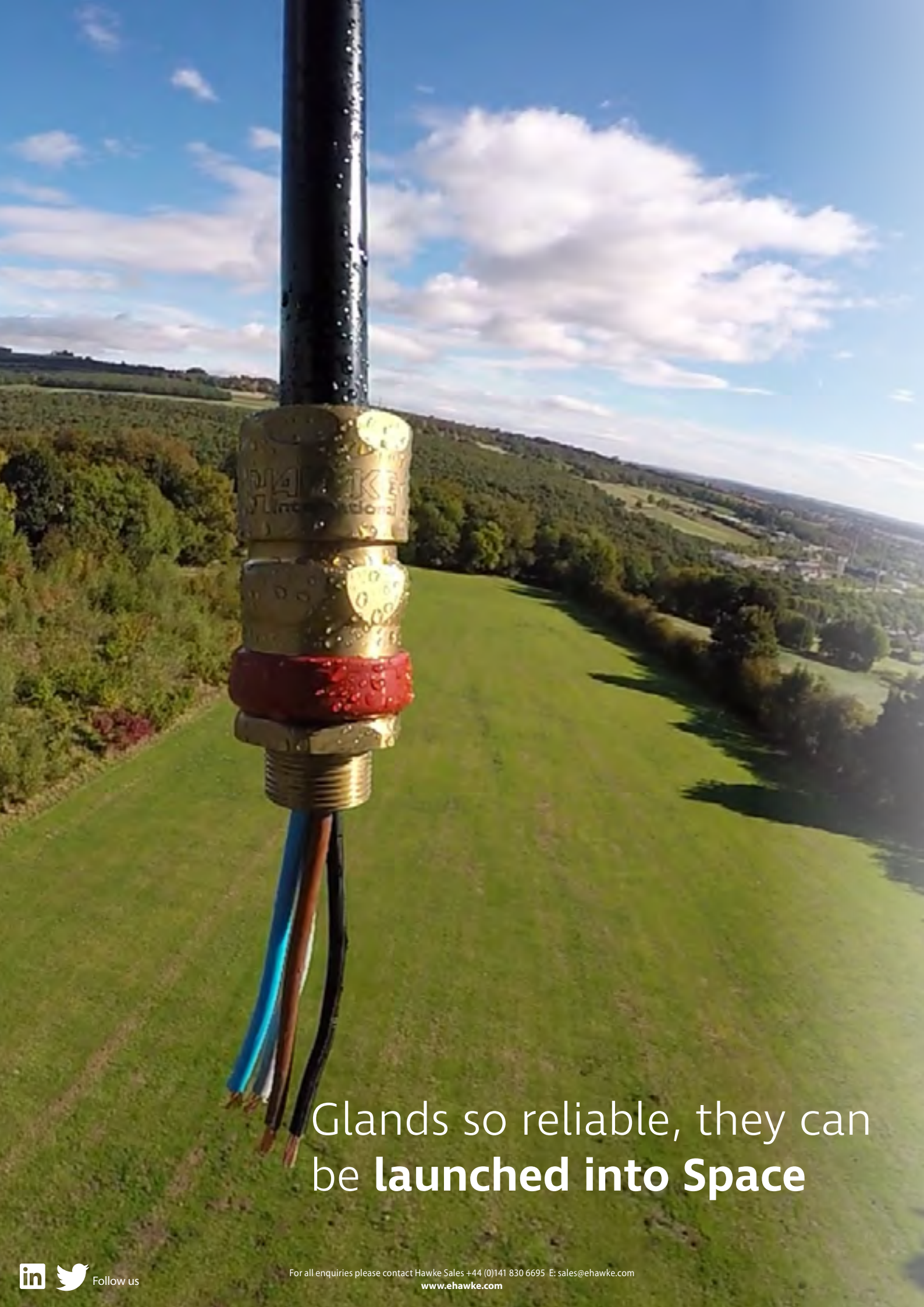
HUBBELL
Harsh & Hazardous



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Introduction

Coldflow Compliant Glands

Compression Glands

Barrier Glands

Conduit Glands

American Series Glands

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More Hawke Products

What is a **Cable Gland**

A Cable Gland is, in simple terms, a device designed to attach and secure a cable to a piece of equipment or enclosure.

A Cable Gland provides strain relief and can include a provision for making a connection to the armour, braid, lead or aluminium sheath of the cable. For unarmoured and braided cables, this strain relief is provided by the seal only. For armoured cables the armour and clamp can also provide the pull out resistance. In hazardous areas, cable glands are also used to maintain the protection concept of the equipment or enclosure into which they are being terminated – in most instances Exe or Exd.

Why specify cable glands?

A poorly installed cable gland, or the incorrect gland chosen for a specific cable/application can become the weak link in the chain, whereas it should preserve the integrity of the overall installation. Whilst the cost of cable glands is insignificant compared to that of other hazardous area equipment, the cost of failure can be catastrophic.

Failure can take many forms and include:

- Water or dust ingress into the equipment
- Cable properties compromised
- Damage to the cable which can lead to explosion risk
- Cables becoming loose from equipment
- Electric shock risk
- Equipment failure
- Failure to meet essential HSE requirements

Why choose **Hawke** Cable Glands

All Hawke International cable glands meet, and in most cases exceed, the test requirements for products used in potentially hazardous areas. With over 60 years of experience manufacturing cable termination products for the most arduous environments, and a reputation built off safety and reliability, Hawke International cable glands offer the safest, most cost-effective glanding product available today. Plus, our global network of offices and distribution partners, offers unrivalled technical support, giving peace of mind to installers and owners alike.

Certifications Explained

Whilst many standards aim to unify the testing and design requirements for Hazardous Area cable glands, national or international codes of practice and standards may differ in their approach and testing requirements. Hawke International aims to ensure all its products are globally certified wherever possible.

However, we are not happy simply to pass the tests as dictated by the various standards but will always aim to meet and exceed these requirements with the user in mind, striking a balance between meeting the essential test requirements and offering the safest and simplest product for installers and users in real world applications not mirrored by the tests.

See below for a list of our certifications.

Cable Gland **Tightening Guide**

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented **Inbuilt Tightening Guide.**

Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance.

Whilst Hawke International goes to great lengths to ensure products are designed to be as simple to install, inspect and maintain as is possible, differing levels of competency, training and understanding can lead to glands being incorrectly installed. With hazardous area products, any poor installation issues can not only lead to expensive equipment failure, but also potential explosion risks and associated risk to life.

How it works

The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. Following the relevant cable gland Installation Instructions, the back seal should be tightened until a seal is formed on the cable outer sheath and then tightened one further turn.

Step 1

Follow cable gland installation instructions until final stage – tightening of rear seal

Step 2

Tighten backnut until a seal is formed onto the cable, then tighten one further turn

Step 3

The backnut should be level with the marking guide corresponding to its diameter – this can be visually inspected and adjusted as necessary

Note: The cable gland installation instructions have a printed cable OD measure for if the cable OD is not known

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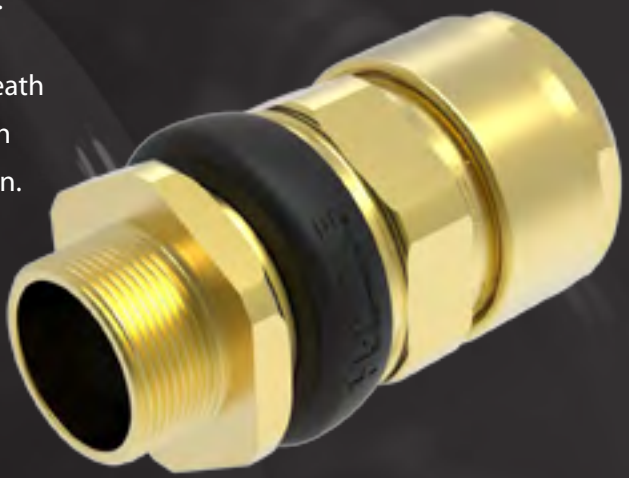
Cold flow Compliant Cable Gland

Cold flow, or creep as it is referred to in material science, is the tendency of any solid material to move or deform over a period of time under the influence of mechanical stresses.

Although temperature and various other environmental factors impact cold flow, materials such as plastics and rubbers will begin to creep at room temperature. Cable gland manufacturers can help to negate the impact of cold flow through the reduction of load stresses on the cable itself.

The polymer sealing element found in most hazardous area cable glands will only form an effective seal on a cable when compressed or displaced through the action of tightening opposing components of a cable gland. This force applied to the seal either compresses or displaces the sealing face of the seal onto the cable inner sheath. In either case, the force applied in tightening the gland is transferred through this sealing element and on to the inner sheath of the cable.

This force can cause cold flow where the cable inner sheath may move away from the seal and create a possible path for gas or flame propagation in the event of an explosion.



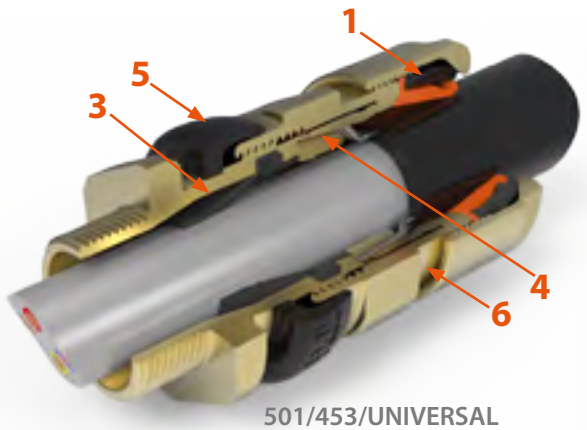
501/453/UNIVERSAL

The only known **independently tested non-barrier gland <u>proven</u> to not cause damage to cables**

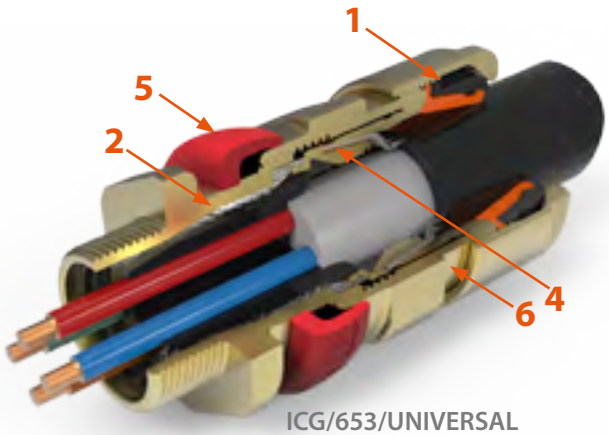
and to meet the Essential Safety and Health Requirements when fitted to an actual cable – *not* a solid stainless steel test mandrel.

Visit www.harshandhazardous.com/coldflow to find out more.

Features



501/453/UNIVERSAL



ICG/653/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 with out 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. With a unique clear non-metallic compound chamber for both IEC and NEC application, the barrier seal can be made using either a QSP quick setting 2-part hand-mixed putty, or a liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. The transparent compound chamber allows full visibility of the flameproof sealduring installation and inspection making the ExPress barrier resin unparalleled as a global solution.

3 Zero Cable Damage

The unique Hawke diaphragm sealing system does not damage cable which exhibits '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. In fact, 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 prevents corrosion of the cable armour.

6 Cable Tightening Guide

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented INBUILT TIGHTENING GUIDE. Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance. The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. The backnut, once tightened to the line corresponding to the cable diameter, ensures there is no cable damage whilst still maintaining IP and pull-out.

The only **"upgradeable" Exd gland** in the world

The **501/453/UNIVERSAL** cable gland offers installers the unique opportunity to upgrade the diaphragm seal, meant for use on effectively filled cable inner sheath's, to a barrier type gland, whereby a seal is formed around each individual cable core. This offers the user the ability to **purchase just one Exd gland** for both their standard, and barrier gland requirements.

The **ExPress barrier kit** provides the user with everything required to change the patented diaphragm seal found in the **501/453/UNIVERSAL** to the patented compound seal found in the **ICG/653/UNIVERSAL**. This flexibility is unrivalled and offers unparalleled cost savings, flexibility and peace of mind.
See Page 13 for order details.

BARRIER Upgrade Kits

One gland – two applications

The **501/453/UNIVERSAL** gland has been a market leading Ex cable gland for 2 decades, but the latest version truly lives up to its **UNIVERSAL** name.

The **501/453/UNIVERSAL** gland still utilises the industry leading internal diaphragm seal to meet the explosion requirements of Exd whilst also helping to prevent cold flow in cables. The **501/453/UNIVERSAL** offers installers the unique opportunity to upgrade the diaphragm seal, meant for use on effectively filled cable inner sheath's, to a barrier type gland, whereby a seal is formed around each individual cable core.

The upgrade kits are available in both **QSP** and **Ex**Press versions and come with everything needed to turn the 501/453/UNIVERSAL into the ICG/653/UNIVERSAL gland. This offers the user the ability to purchase just one Exd gland for both their standard, and barrier gland requirements.

This flexibility is unrivalled and offers unparalleled cost saving and peace of mind.

QSP 2-part hand mix putty - simple to use with a cure time from 30 minutes. Particularly useful where termination space is limited or cables are running horizontally to the installation area. Can be inspected and repaired if necessary, allowing for the very highest level of safety

ExPress **barrier resin** - a globally certified, liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. Utilising a unique clear compound chamber allowing full visibility of the flameproof seal during installation and inspection.

Ordering Information

Format for ordering is as follows:

Product type	Resin type	Size*	Material**
Conversion pack	QSP	A	NP (Nickel Plate)
Conversion pack	**Ex**Press Resin	A	Brass

*Ordering Example: Conversion Pack/ **Ex**Press / A / NP*

** To match the size of the 501/453/UNIV you want to convert to a ICG653/UNIV*
*** To match the material of the 501/453/UNIV you want to convert to a ICG653/UNIV*

Alternative Reversible Armour Clamping Ring Size Selection

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

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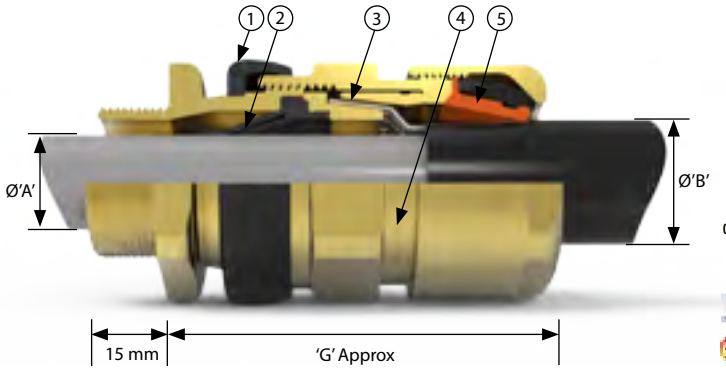
501/453/UNIV

Flameproof, Increased Safety, Dust Protection & Restricted Breathing
Class - Zones
Certified ATEX / IECEx / c CSA us

MADE IN BRITAIN

- 1 Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Passive diaphragm seal
  - Suitable for cables exhibiting 'Cold Flow.' Fully inspectable
- 3 Reversible Armour Clamp - For all types of armour and braid
- 4 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



International Approvals

The 501/453 Universal Cable Gland is dual certified Exe/Exd, robust and 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. This cable gland is the first and only cable gland capable of being upgraded to a barrier type solution in the field, see across the page for more details . See technical section for installation rules and regulations.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
			Inner Sheath 'ØA'		Outer Sheath 'B'		Armour / Braid 'C'				
	Metric	NPT* Standard or Option	Min.	Max.	Min.	Max.	Orientation 1	Orientation 2		Across Flats	Across Corners
Os	M20[2]	½"	3.5	8.1	5.5	12.0	0.8 / 1.25	0.0 / 0.8	58.4	24.0	26.5
O	M20[2]	½"	6.5	11.4	9.5	16.0	0.8/1.25	0.0 / 0.8	58.4	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	59.6	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	66.4	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	71.2	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	75.2	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	98.0	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	94.4	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	102.0	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

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

[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
For alternative Armour Clamping Ring see table on Page 10

Technical Data

ATEX/IECEx

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb, Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	CML 19ATEX1268X CML
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-1 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68* (30 metres for 7 days) IP69 to IEC/EN 6052 (when installed with a Hawke IP washer)
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +80°C

c CSA us

c CSA us Classification	Certificate No's: CSA1015065
Area Classification	Class I, Zone I, Aex eb IIC Gb. Zone 21, AEXtb IIIC Db. Class I, Div.2 Groups ABCD; Class II Div.2, Groups EFG; Class III cCSA CI D2 ABCD CII D2 EFG CIII Exdb Exeb IIC Gb CSAus AEx eb IIC Gb AExtb IIIC Db CI Zn1 Zn21
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Suitable for use in C1D2 applications where permitted by the NEC

Ordering Information

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

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

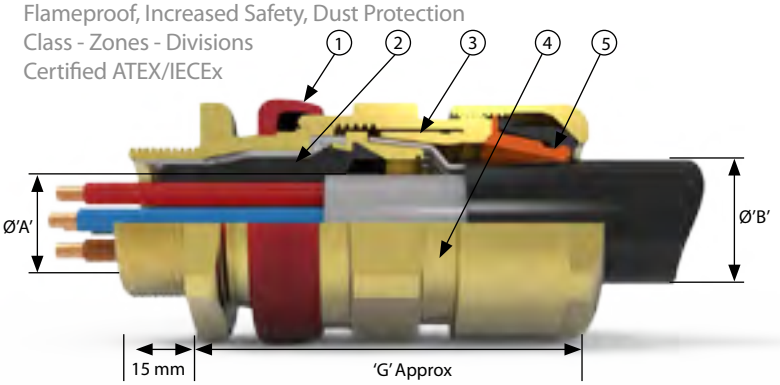
Example Code: 501/453/UNIV C M32 Stainless

MADE IN BRITAIN

International Approvals

ICG/653 UNIVERSAL

Flameproof, Increased Safety, Dust Protection
Class - Zones - Divisions
Certified ATEX/IECEx



1. Inspectable Deluge Seal
   - Offering IP66, IP67, IP68 & IP69 Ingress Protection
2. Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
3. Reversible Armour Clamp
   - For all types of armour and braid.
4. Patented Cable Gland Tightening Guide
   - Helps prevent damage caused by over tightening
5. Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

Dual certified Exe/Exd barrier gland providing a seal around individual cable cores, especially for cables that exhibit "cold flow" characteristics, are not effectively filled, have hygroscopic fillers or contain fibre optic cores. For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' elastomer and plastic insulated cables. The ICG/653/UNIVERSAL is available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
			Inner Sheath Cores 'ØA'				Outer Sheath 'B'		Armour Braid 'C'				
	Metric	NPT* Standard or Option	Max Inner Sheath 'E'	Max Over Core Diameter	Max No of Cores	Max No of Fibre Optic	Min	Max	Orientation 1	Orientation 2		Across Flats	Across Corners
Os	M20	½"	8.1	8.0	12	48	5.5	12.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
O	M20	½"	11.7	8.8	12	48	9.5	16.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
A	M20	¾" or ½"	14.0	10.8	15	72	12.5	20.5	0.8/1.25	0.0/0.8	60.6	30.0	32.5
B	M25	1" or ¾"	19.9	15.9	30	144	16.9	26.0	1.25/1.6	0.0/0.7	67.3	36.0	39.5
C	M32	1¼" or 1"	26.2	21.9	42	-	22.0	33.0	1.6/2.0	0.0/0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	32.3	26.7	60	-	28.0	41.0	1.6/2.0	0.0/0.7	78.3	55.0	60.6
D	M50	2"	44.2	37.7	80	-	36.0	52.6	1.8/2.5	0.0/1.0	97.5	65.0	70.8
E	M63	2½"	56.0	49.0	100	-	46.0	65.3	1.8/2.5	0.0/1.0	93.5	80.0	88.0
F	M75	3"	68.0	59.8	120	-	57.0	78.0	1.8/2.5	0.0/1.0	104.5	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

ATEX/IECEx

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb, Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	Certificate No's: CML18ATEX1268X and IECEx CML 18.0131X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C

c CSA us

Type of Protection	Flameproof AExd IIC Gb, Increased Safety AExe IIC Gb and Dust AExtD Zone 21
c CSA us Classification	Certificate No's: CSA1015065 for Marine Shipboard Cable
Area Classification	Explosion-proof Class 1 Division 2 Groups ABCD, Class II Division 2 Groups EFG, Class III
	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Alternative Reversible Armour Clamping Ring Size Selection

Size Ref	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	Barrier Type	Material	(Optional)
ICG 653/UNIV	C	M32	- (Standard 2 part compound)	Brass	AR
ICG 653/UNIV	C	1 1/4"	EP (ExPress Resin)	Brass	AR

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

Example Code: ICG 653/UNIV C M32 EP Stainless Steel

For information on sealing options, see Page 10

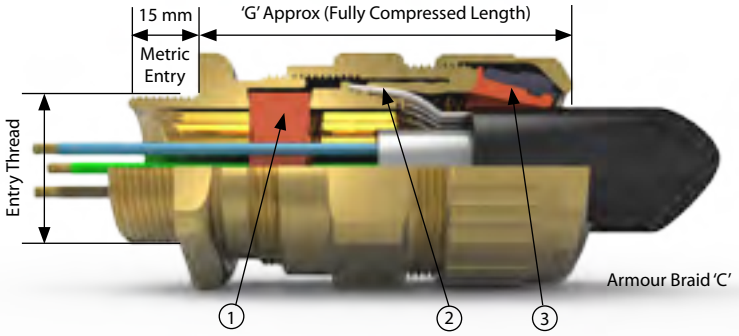
PSG 553 RAC

Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

MADE IN BRITAIN

International Approvals

- 1 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 a special tool to suit core size.
- 2 Provides armour clamping using one clamping arrangement for all armour/braid types.
- 3 Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.



The PGS/553/RAC dual certified Exe/Exd gland offers an instant barrier seal around the individual cable cores, with the silicon seal forming a barrier around the individual cores of a cable. This results in unparalleled speed of installation, inspection and flexibility, with no need for compounds or resin to achieve the Exd barrier seal, no curing time and instant gland completion.

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'		Length	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

Technical Data

	ATEX/IECEx
Type of Protection	Flameproof Exd and Increased Safety Exe II 2 GD ExtD A21
ATEX Classification	Baseefa06ATEX0056X and IECEx BAS 06.0013X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 61241-0 and IEC/EN 61241-1
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X
Deluge Protection	Deluge Protection to DTS01 (Deluge Seal Optional)
Operating Temperature	-60°C to +80°C

Cable Gland Size for Core Size and Number

Max No. of Cores	Cores Cross Sectional Area mm²				
	1.5	2.5	4.0	6.0	10.0
7	A & B	A & B	B & C	C	C
4	-	-	-	B	-
3	-	-	-	-	B

Deluge protection option available

Punch Tool Size Details

Punch Ref	No. 1	No. 2	No. 3
Cores C.S.A.mm²	1.5 - 2.5	4.0 - 6.0	10.0

Ordering Information

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

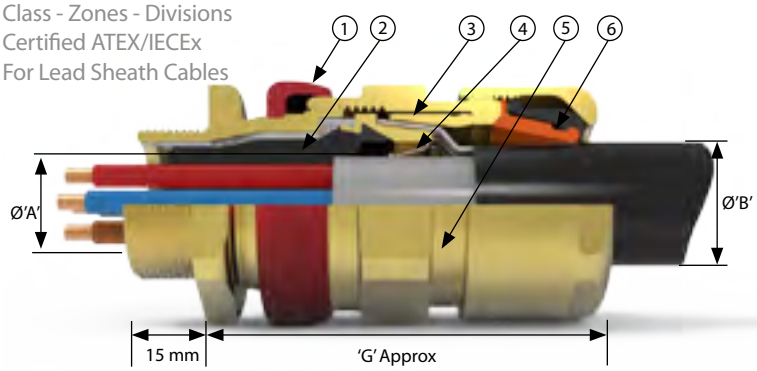
Cable Gland Type	Size	Thread	Punch Tool Required
PSG/553/RAC	C	M32	Punch Tool No. 1
PSG/553/RAC	C	1¼" NPT	Punch Tool No. 1

Order Example: PSG/553/RAC C M32 Punch Tool No. 1

MADE IN BRITAIN

ICG/653/UNIVERSAL/L

Flameproof, Increased Safety, Dust Protection
Class - Zones - Divisions
Certified ATEX/IECEx
For Lead Sheath Cables



- 1 Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
- 3 Reversible Armour Clamp
  - For all types of armour and braid.
- 4 Electrical Bond on the cables lead inner sheath
- 5 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

Dual certified fully inspectable Exe/Exd barrier gland providing a seal around individual cable cores on lead sheathed cables which are not effectively filled, have hygroscopic fillers or fibre optic cores. For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' elastomer and plastic insulated cables with a lead inner sheath. Available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Inner Sheath / Cores 'ØA'				Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Max Inner Sheath	Max Over Core Diameter	Max No of Cores	Max No of Fibre Optic	Min	Max	Orientation 1	Orientation 2			
Os	M20	½"	8.1	8.0	12	48.0	5.5	12.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
O	M20	½"	10.2	8.8	12	48.0	9.5	16.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
A	M20	¾" or ½"	12.5	10.8	15	72.0	12.5	20.5	0.8/1.25	0.0/0.8	60.6	30.0	32.5
B	M25	1" or ¾"	18.0	15.9	30	144.0	16.9	26.0	1.25/1.6	0.0/0.7	67.3	36.0	39.5
C	M32	1¼" or 1"	24.3	21.9	42	-	22.0	33.0	1.6/2.0	0.0/0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	30.3	26.7	60	-	28.0	41.0	1.6/2.0	0.0/0.7	78.3	55.0	60.6
D	M50	2"	41.9	37.7	80	-	36.0	52.6	1.8/2.5	0.0/1.0	97.5	65.0	70.8
E	M63	2½"	52.9	49.0	100	-	46.0	65.3	1.8/2.5	0.0/1.0	93.5	80.0	88.0
F	M75	3"	64.9	59.8	120	-	57.0	78.0	1.8/2.5	0.0/1.0	104.5	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

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb, Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	Certificate No's: CML18ATEX1268X and IECEx CML 18.0131X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C
Assembly Instruction	AI 2001

Alternative Reversible Armour Clamping Ring Size Selection

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	Barrier Type	Material	(Optional)
ICG 653/UNIV/L	C	M32	- (Standard 2 part compound)	Brass	AR
ICG 653/UNIV/L	C	1 1/4"	EP (ExPress Resin)	Brass	AR

Example Code: ICG 653/UNIV /L C M32 EP Stainless Steel
Two part sealing compound and assembly instructions are supplied with the cable gland

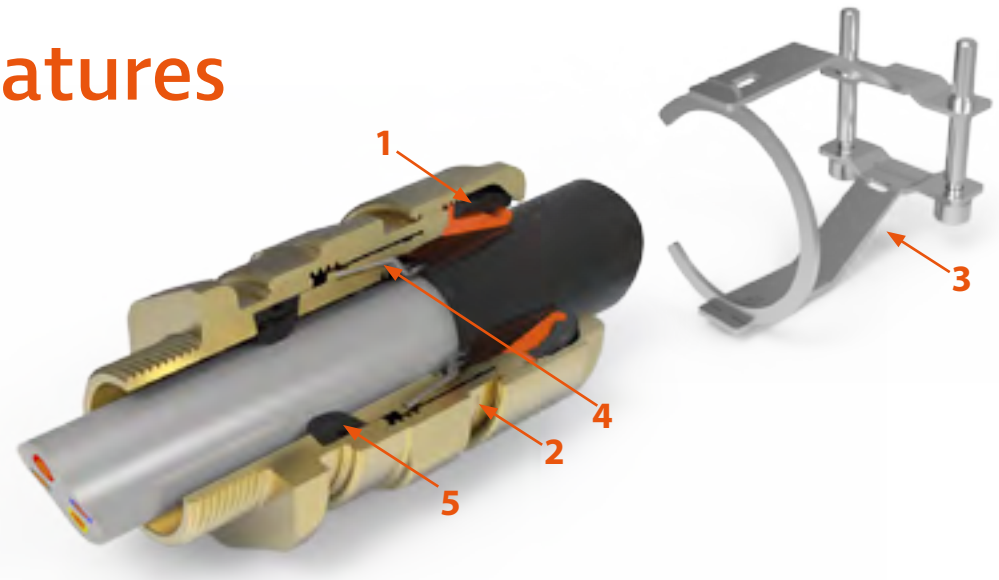
For information on sealing options, see Page 10

International Approvals

Compression Glands

A compression gland utilises a polymer sealing element to seal on the inner sheath, outer sheath, or both inner and outer sheath's. It is used to protect against water and dust ingress, secure the cable to equipment and in some cases, provide explosion protection in the event of an ignition.

Features



501/453/RAC

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 with out 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 Cable Tightening Guide

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented INBUILT TIGHTENING GUIDE. Removing the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance. The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. The backnut, once tightened to the line corresponding to the cable diameter, ensures there is no cable damage whilst still maintaining IP and pull-out.

3 100% Pull-Out Clamp (optional)

All Hawke Cable glands can be fitted with the optional 100% pull-out clamp. This cost effective solution removes the need to separately clamp/cleat cable, by taking care of this requirement as part of the gland assembly. Unlike other manufacturers, who utilise the rear ingress protection seal to offer pull-out resistance, the Hawke pull-out clamp keeps these 2 functions separate, ensuring neither is compromised and both components act independently.

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 Thermoset (TSE) Compression Seal

Cross-linked (vulcanised) during the moulding process with the application of heat and pressure. Once formed, they will not 'melt' and will exhibit optimum sealing properties over a wide range of temperatures as well as recovery from deformation (compression set).

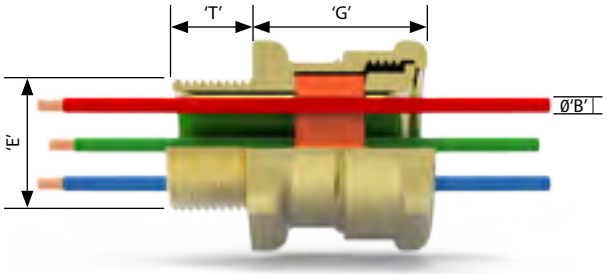
For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

PSG/421

Flameproof, Increased Safety, Dust Protection
Certified ATEX / IECEx

MADE IN BRITAIN

- Allows the termination of multiple unarmoured cables into one singular cable entry.
- The required number of holes for the cores are punched in the seal by a special tool to suit the core size.



International Approvals

The PSG/421 dual certified Exe/Exd gland offers an instant barrier seal around individual cables, with each silicone seal accepting a wide variance of cable diameters. This results in unparalleled speed of installation, inspection and flexibility, with no need for compounds or resin to achieve the Exd barrier seal, no curing time and instant gland completion. Each gland allows for multiple cables to be fitted into a single entry

Cable Gland Selection Table

Size Ref.	Entry Thread Size 'E'		Fully Compressed Length 'G'	Hexagon Dimensions	
	Metric	NPT* Standard or Option		Across Flats	Across Corners
O	M20[1]	½"	23.8	24.0	26.5
A	M20	¾" or ½"	24.8	30.0	32.5
B	M25	1" or ¾"	25.8	36.0	39.5
C	M32	1¼" or 1"	28.2	46.0	50.5

'T' - 2k to F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. All dimensions in millimentres (except * where dimensions are in inches)
[1] *Sizes Os and O are available with an M16 thread size.*

Technical Data

	ATEX/IECEx
Type of Protection	Flameproof Ex db IIC Gb, Increased Safety Ex eb IIC Gb and Dust Extb IIIC Db Ex II 2GD
ATEX Classification	Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66 and IP67 to IEC/EN 60529
Operating Temperature	-60°C to +80°C

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	O	-	-	B	-
3	-	O	-	-	B

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

Ordering Information

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

Cable Gland Type	Size	Thread	Material	Punch Tool Required
PSG/421	C	M32	Brass	Punch Tool No. 1
PSG/421	C	1¼" NPT	Brass	Punch Tool No. 1

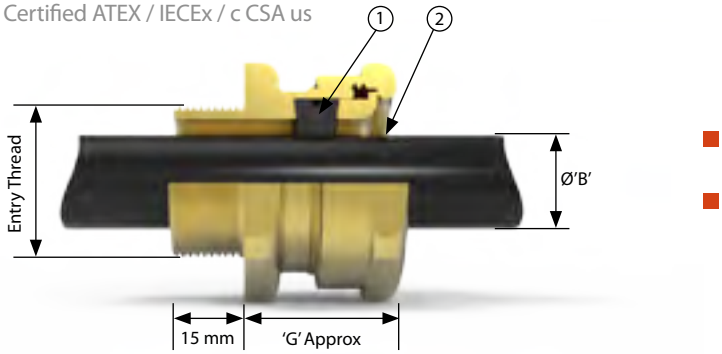
Order Example: PSG/421 C M32 Brass Punch Tool No. 1

MADE IN BRITAIN

International Approvals

501/421

Flameproof, Increased Safety, Dust Protection
Class - Zones
Certified ATEX / IECEx / c CSA us



■1 Elastomeric Exd flameproof and Exe Increased Safety seal on cable outer sheath

■2 Rounded Cable entry to prevent cable damage

The 501/421 dual certified Exe/Exd cable gland is intended for use on non-armoured elastomer and plastic insulated cables. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. For Exd application the cable must be suitable inline with 60079-14. The braid must then be suitably terminated inside the enclosure. See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
			Outer Sheath 'B'						
			Standard Seal		Alterntative Seal (S)				
	Metric	NPT* Standard	Min.	Max.	Min.	Max.		Across Flats	Across Corners
2K	M16	–	3.2	8.0	–	–	23.5	19.0	21.2
Os	M20[2]	½"	3.2	8.0	–	–	23.8	24.0	26.5
O	M20[2]	½"	6.5	11.9	–	–	23.8	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	9.0	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"	19.5	26.5	15.5	21.2	29.2	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	30.5	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]	49.5	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

2K to F size meric 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. All dimensions in millimetres (except * where dimensions are in inches).

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

ATEX/IECEx	
Type of Protection	Flameproof Ex db IIC Gb, Increased Safety Ex eb IIC Gb and Dust Extb IIIC Db Ex II 2GD
ATEX Classification	Certificate No's: CML 19ATEX1167X CML 19.0045X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 (when installed with a Hawke IP washer)
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C
c CSA us	
Type of Protection	Flameproof AExd IIC Gb, Increased Safety AExe IIC Gb and Dust AExtD Zone 21
c CSA us Classification	Certificate No's: CSA1015065
Area Classification	Class I, Zone I, Aex eb IIC Gb. Zone 21, AEXtb IIIC Db. Class I, Div.2 Groups ABCD; Class II Div.2, Groups EFG; Class III cCSA Cl D2 ABCD CII D2 EFG CIII Exdb Exeb IIC Gb CSAus AEx eb IIC Gb AExtb IIIC Db Cl Zn1 Zn21
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Suitable for use in C1D2 applications where permitted by the NEC

Ordering Information

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

Cable Gland Type	Size	Thread	Material	(Optional)
501/421	C	M32	Brass	S
501/421	C	1¼" NPT	Brass	S

Order Example: 501/421 C M32 Brass S

For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

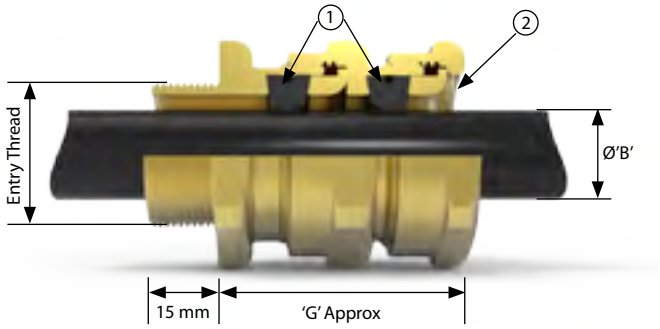
501/423

Flameproof, Increased Safety, Dust Protection
Class - Zones - Divisions
Certified ATEX / IECEx / c CSA us

MADE IN BRITAIN

International Approvals

- 1 Two Independent Elastomeric Exd flameproof seals on cable outer sheath – The double seals provide superior cable retention over standard unarmoured Cable Glands
- 2 Rounded Cable entry to prevent cable damage



The 501/423 dual certified Exe/Exd cable gland incorporates two independent seals and is intended for use on non-armoured elastomer and plastic insulated cables. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. For Exd application the cable must be suitable inline with 60079-14. The braid must then be suitably terminated inside the enclosure. The two seals provide superior cable retention over standard unarmoured cable glands. See technical section for installation rules and regulations.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details – Outer Sheath 'B'				'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Standard Seal		Alterntative Seal (S)			Across Flats	Across Corners
			Min.	Max.	Min.	Max.			
Os	M20[2]	½"	3.2	8.0	–	–	40.0	24.0	26.5
O	M20[2]	½"	6.5	11.9	–	–	40.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	9.0	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"	19.5	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]	49.5	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

Os to F size meric 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. All dimensions in millimetres (except * where dimensions are in inches).

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

	ATEX/IECEx
Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex 2 GD
ATEX Classification	CML 19ATEX1167X CML 19.0045X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C

	c CSA us
c CSA us Classification	Certificate No's: CSA1015065
Area Classification	Class I, Zone I, Aex eb IIC Gb. Zone 21, AEXtb IIIC Db. Class I, Div.2 Groups ABCD; Class II Div.2, Groups EFG; Class III cCSA Cl D2 ABCD CII D2 EFG CIII Exdb Exeb IIC Gb CSAus AEx eb IIC Gb AExtb IIIC Db Cl Zn1 Zn21
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Suitable for use in C1D2 applications where permitted by the NEC

Ordering Information

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

Cable Gland Type	Size	Thread	Material	(Optional)
501/423	C	M32	Brass	S
501/423	C	1¼" NPT	Brass	S

Order Example: 501/423 C M32 Brass S

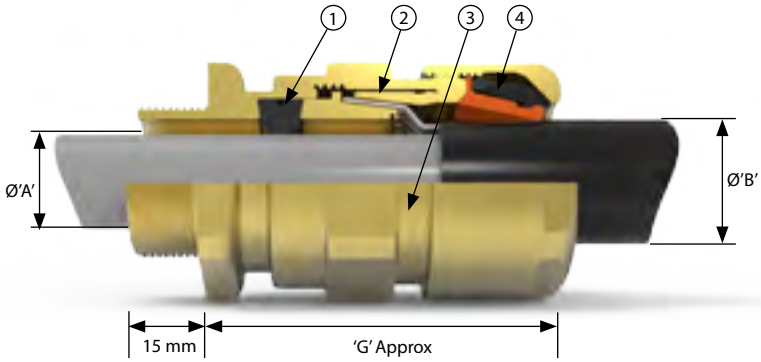
Product design and specifications are subject to change without notice. Please check the Hawke website for latest specifications.

MADE IN BRITAIN

International Approvals

501/453/RAC

Flameproof, Increased Safety, Dust Protection
Class - Zones
Certified ATEX / IECEx / c CSA us



- 1 Elastomeric Exd flameproof seal on cable inner sheath
- 2 Reversible Armour Clamp
  - For all types of armour and braid.
- 3 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The 501/453/RAC Cable Gland is dual certified Exe/Exd, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath. 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	Inner Sheath 'ØA'				Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				Orientation 1	Orientation 2			
			Min	Max	Min	Max	Min	Max					
Os	M20[2]	½"	3.2	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	9.0	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"	13.0	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"	19.5	26.5	15.5	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]	49.5	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

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

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

ATEX/IECEx	
Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	CML 19ATEX1167X CML 19.0045X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +100°C
c CSA us	
c CSA us Classification	Certificate No's: CSA1015065
Area Classification	Class I, Zone I, Aex eb IIC Gb. Zone 21, AEXtb IIIC Db. Class I, Div.2 Groups ABCD; Class II Div.2, Groups EFG; Class III cCSA CI D2 ABCD CII D2 EFG CIII Exdb Exeb IIC Gb CSAus AEx eb IIC Gb AExtb IIIC Db CI Zn1 Zn21
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Suitable for use in C1D2 applications where permitted by the NEC

Ordering Information

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

Cable Gland Type	Size	Thread	Material	(Optional)
501/453/RAC	C	M32	Brass	AR
501/453/RAC	C	1¼" NPT	Brass	S

Order Example: 501/453/RAC C M32 BRASS AR

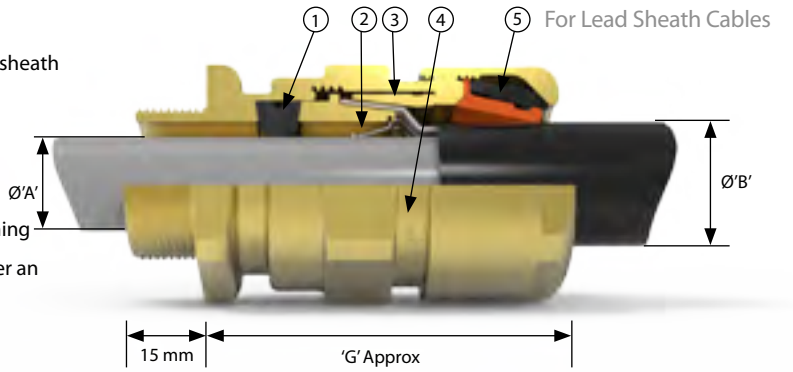
For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

501/453/RAC/L

Flameproof, Increased Safety, Dust Protection
Class - Zones
Certified ATEX / IECEx / c CSA us
For Lead Sheath Cables

MADE IN BRITAIN

- 1 Elastomeric Exd flameproof seal on cable inner sheath
- 2 Electrical Bond on the cables lead inner sheath
- 3 Reversible Armour Clamp
  - For all types of armour and braid.
- 4 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



The 501/453/RAC/L Cable Gland is dual certified Exe/Exd, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables with lead covered inner sheaths. The gland provides an elastomeric seal on the cable inner sheath, continuity to the lead sheath and a low smoke, zero halogen IP and retention seal onto the cable outer sheath. See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
			Inner Sheath 'ØA'				Outer Sheath 'B'		Armour Braid 'C'				
			Std Seal (L) Seal + Bond		Alt Seal (K) Seal + Bond								
	Metric	NPT* Standard	Min	Max	Min	Max	Min	Max	Orientation 1	Orientation 2		Across Flats	Across Corners
Os	M20[2]	½"	6.5	10.2	-	-	9.5	16.0	0.8/1.25	0.0/0.8	52.0	24.0	26.5
A	M20	¾" or ½"	-	-	9.0	12.5	12.5	20.5	0.8/1.25	0.0/0.8	53.0	30.0	32.5
B	M25	1" or ¾"	13.0	18.0	9.5	15.4	16.9	26.0	1.25/1.6	0.0/0.7	59.5	36.0	39.5
C	M32	1¼" or 1"	19.5	24.3	16.0	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	30.3	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	41.9	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	52.9	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	64.9/64.3[1]	49.5	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

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

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 outer sheath diameter is 10.9mm

Technical Data

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	CML 19ATEX1167X CML 19.0045X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 (when fitted with a Hawke washer)
Deluge Protection	Deluge Protection to DTS01 (Deluge Seal Optional)
Operating Temperature	-60°C to +80°C

Ordering Information

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

Cable Gland Type	Size	Thread	Material	(Optional)
501/453/RAC/L	C	M32	Brass	AR
501/453/RAC/L	C	1¼" NPT	Brass	AR

Order Example: 501/453/RAC/L C M32 Brass AR

International Approvals

HAWKE International

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HUBBELL Harsh & Hazardous

Barrier Glands

A barrier gland is a cable gland that provides a seal around the individual cores of a cable to maintain the flameproof integrity of Exd equipment.

These glands meet the requirements of IEC 60079-1 and employ a compound seal, or other sealing method around each core to prevent the migration of an explosion from within a piece of flameproof equipment to the outside atmosphere.

Hawke International has a comprehensive, and UNIQUE range of barrier glands offering numerous features and benefits not to be found from other manufacturers.

3 Seal Options - ALL FULLY INSPECTABLE!

Hawke International is the ***only*** cable gland manufacturer to offer 3 solutions to Exd barrier glanding:

● QSP 2-part Hand Mix Putty

Simple to use with a cure time from 30 minutes. Particularly useful where termination space is limited or cables are running horizontally to the installation area. Can be inspected and repaired if necessary, allowing for the very highest level of safety.

● ExPress Barrier Resin

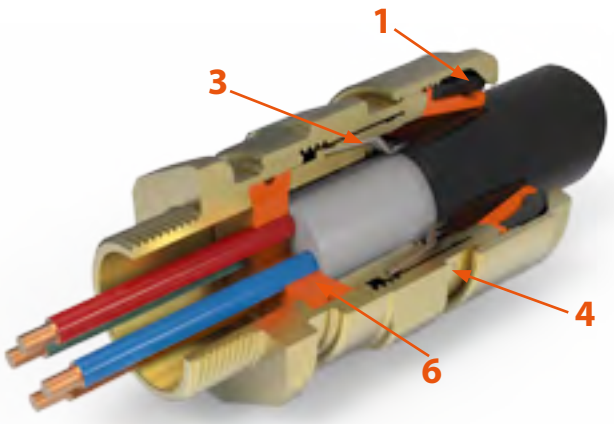
A liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. Utilising a unique clear compound chamber for full visibility of the flameproof seal during installation and inspection, the ExPress barrier resin is unparalleled as a global solution, with a 30 minute gel time and unrivalled ease of use.

● Instant Barrier Seal

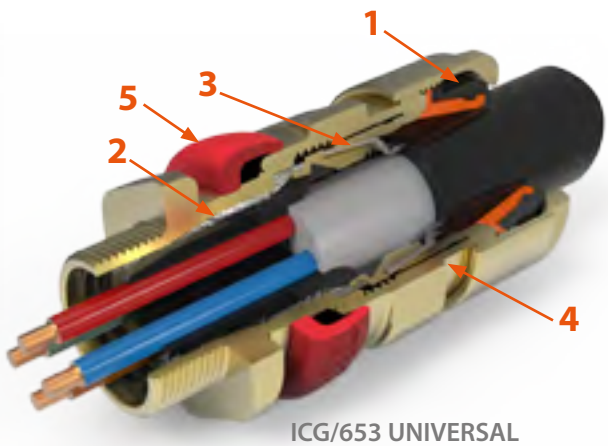
No resin. No mixing. No cure time.

The PSG553 RAC (Punched Seal Gland) provides market leading installation and inspection time. Simply pass the individual cores through the punched seal and tighten. Fully inspectable and no waiting time – irrespective of temperature, location or installation position.

Features



PSG/553/RAC



ICG/653 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. With a unique clear non-metallic compound chamber for both IEC and NEC applications, the barrier seal can be made using either a QSP quick setting 2-part hand-mixed putty, or a liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. The transparent compound chamber allows full visibility of the flameproof seal during installation and inspection making the ExPress barrier resin unparalleled as a global solution.

3 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.

4 Cable Tightening Guide

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented INBUILT TIGHTENING GUIDE. Removing the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance. The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. The backnut, once tightened to the line corresponding to the cable diameter, ensures there is no cable damage whilst still maintaining IP and pull-out.

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 prevents corrosion of the cable armour.

6 Compound Free, Instant Barrier Seal

The PSG553 RAC (Punched Seal Gland) provides market leading installation and inspection time. Simply pass the individual cores through the punched seal and tighten. Fully inspectable and no waiting time – irrespective of temperature, location or installation position.

The First Globally Certified, Fully Inspectable, Elastomeric Compound Pot

Why a silicone compound pot?

At Hawke, we prioritise complete inspectability of all seals and explosion protection features within our products. The search for inspectability pushed us toward the unique transparent silicone compound pot in which the compound is visible both as it is being installed and once installation is complete.

How does it work?

A traditional metallic compound pot uses a flamepath to dissipate the energy of an ignition. The flamepath is a tightly controlled clearance between the pot and the gland housing. If this clearance is too **large** there is a risk of ignition. If this clearance is too **small** the pot won't fit into the gland. Any scratches or damage renders the gland useless. Our silicone pot works by being compressed when installed so the flamepath gap is always zero.

How was the silicone compound pot tested and certified?

The compound pot and resin have been certified in accordance with ATEX/IECEx 60079 and UL2225. They have been through rigorous testing processes including and not limited to chemical exposure, hydrostatic pressure, thermal ageing and explosion testing.

What are the benefits of the silicone compound pot over a brass compound pot?

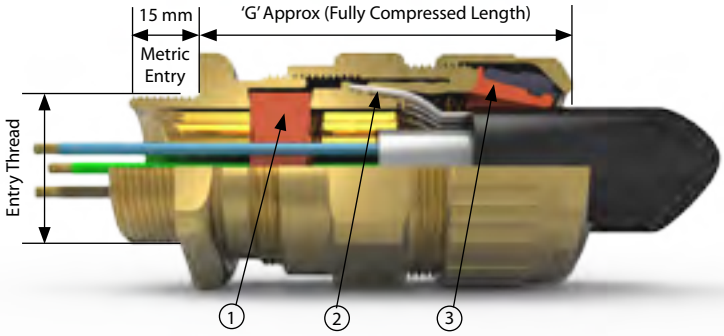
- When terminating the barrier gland the resin is visible to the installer, so the process is much more controlled and visible. Any issues such as voids or underfilling can be immediately addressed before the compound cures.
- The resin is visible through the compound pot and as such can be inspected without the product being destroyed. Traditional metallic compound pots must be cut off to inspect, discarded and then remade with a new gland.
- If the flamepath surface of a metallic pot is damaged, or in glands where the entry is used to form the flameproof seal, the whole assembly must be cut off the cable and replaced. If damage occurs to the silicone compound pot, it can be replaced.

MADE IN BRITAIN

PSG 553 RAC

Flameproof Exd & Increased Safety Exe
Dual Certified ATEX / IECEx

International Approvals



■1 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 a special tool to suit core size.

■2 Provides armour clamping using one clamping arrangement for all armour/braid types.

■3 Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer sheath.

The PGS/553/RAC dual certified Exe/Exd gland offers an instant barrier seal around the individual cable cores, with the silicon seal forming a barrier around the individual cores of a cable. This results in unparalleled speed of installation, inspection and flexibility, with no need for compounds or resin to achieve the Exd barrier seal, no curing time and instant gland completion.

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'		Length	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

Technical Data

	ATEX/IECEx
Type of Protection	Flameproof Exd and Increased Safety Exe II 2 GD ExtD A21
ATEX Classification	Baseefa06ATEX0056X and IECEx BAS 06.0013X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 61241-0 and IEC/EN 61241-1
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X
Deluge Protection	Deluge Protection to DTS01 (Deluge Seal Optional)
Operating Temperature	-60°C to +80°C

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

Deluge protection option available

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

Ordering Information

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

Cable Gland Type	Size	Thread	Punch Tool Required
PSG/553/RAC	C	M32	Punch Tool No. 1
PSG/553/RAC	C	1¼" NPT	Punch Tool No. 1

Order Example: PSG/553/RAC C M32 Punch Tool No. 1

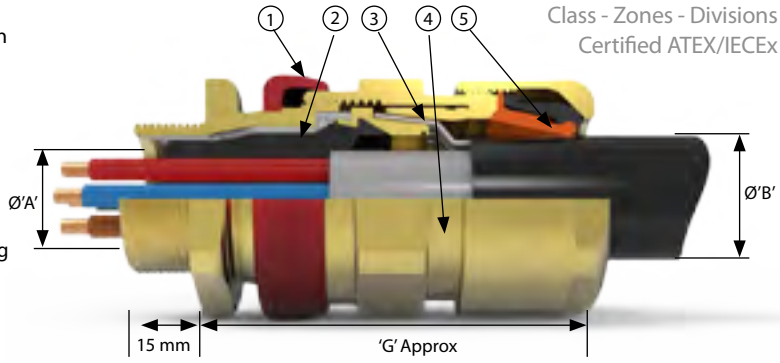
For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

ICG/653/UNIV

Flameproof, Increased Safety, Dust Protection
Class - Zones - Divisions
Certified ATEX/IECEx

MADE IN BRITAIN

- **1** Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- **2** Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
- **3** Reversible Armour Clamp
  - For all types of armour and braid.
- **4** Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- **5** Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



Dual certified Exe/Exd barrier gland, providing a seal around individual cable cores, especially for cables that exhibit "cold flow" characteristics, are not effectively filled, have hygroscopic fillers or contain fibre optic cores.. For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' elastomer and plastic insulated cables. The ICG/653/UNIVERSAL is available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
	Metric	NPT* Standard or Option	Inner Sheath Cores 'ØA'				Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Max Inner Sheath 'E'	Max Over Core Diameter	Max No of Cores	Max No of Fibre Optic	Min	Max	Orientation 1	Orientation 2			
Os	M20	½"	8.1	8.0	12	48	5.5	12.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
O	M20	½"	11.7	8.8	12	48	9.5	16.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
A	M20	¾" or ½"	14.0	10.8	15	72	12.5	20.5	0.8/1.25	0.0/0.8	60.6	30.0	32.5
B	M25	1" or ¾"	19.9	15.9	30	144	16.9	26.0	1.25/1.6	0.0/0.7	67.3	36.0	39.5
C	M32	1¼" or 1"	26.2	21.9	42	-	22.0	33.0	1.6/2.0	0.0/0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	32.3	26.7	60	-	28.0	41.0	1.6/2.0	0.0/0.7	78.3	55.0	60.6
D	M50	2"	44.2	37.7	80	-	36.0	52.6	1.8/2.5	0.0/1.0	97.5	65.0	70.8
E	M63	2½"	56.0	49.0	100	-	46.0	65.3	1.8/2.5	0.0/1.0	93.5	80.0	88.0
F	M75	3"	68.0	59.8	120	-	57.0	78.0	1.8/2.5	0.0/1.0	104.5	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

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb, Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	Certificate No's: CML18ATEX1268X and IECEx CML 18.0131X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke washer)
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C

c CSA us (not applicable when dual marked)

Type of Protection	Flameproof AExd IIC Gb, Increased Safety AExe IIC Gb and Dust AExtD Zone 21
c CSA us Classification	Certificate No's: CSA1015065 for Marine Shipboard Cable
Area Classification	Explosion-proof Class 1 Division 2 Groups ABCD, Class II Division 2 Groups EFG, Class III
	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Alternative Reversible Armour Clamping Ring Size Selection

Size Ref	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	Barrier Type	Material	(Optional)
ICG 653/UNIV	C	M32	- (Standard 2 part compound)	Brass	AR
ICG 653/UNIV	C	1 1/4"	EP (ExPress Resin)	Brass	AR

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

For information on sealing options, see Page 10

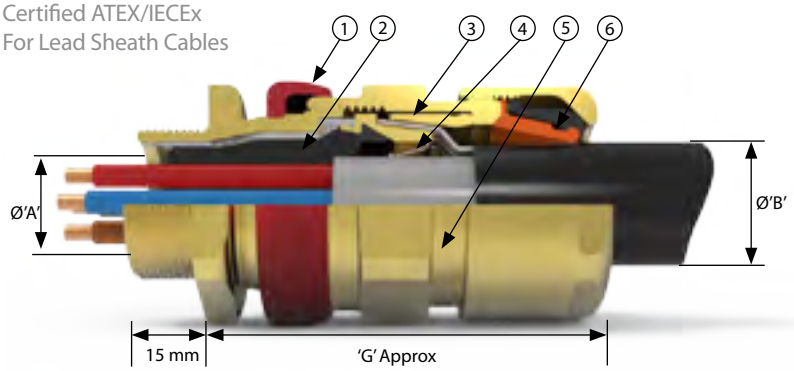
Example Code: ICG 653/UNIV C M32 EP Stainless Steel

Product design and specifications are subject to change without notice. Please check the Hawke website for latest specifications.

MADE IN BRITAIN

ICG/653/UNIVERSAL/L

Flameproof, Increased Safety, Dust Protection
Certified ATEX/IECEx
For Lead Sheath Cables



- 1 Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
- 3 Reversible Armour Clamp
  - For all types of armour and braid.
- 4 Electrical Bond on the cables lead inner sheath
- 5 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

Dual certified fully inspectable Exe/Exd barrier gland providing a seal around individual cable cores on lead sheathed cables which are not effectively filled, have hygroscopic fillers or fibre optic cores. For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' elastomer and plastic insulated cables with a lead inner sheath. Available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes

International Approvals

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
			Inner Sheath / Cores 'ØA'				Outer Sheath 'B'		Armour Braid 'C'				
	Metric	NPT* Standard	Max Inner Sheath	Max Over Core Diameter	Max No of Cores	Max No of Fibre Optic	Min	Max	Orientation 1	Orientation 2		Across Flats	Across Corners
Os	M20	½"	8.1	8.0	12	48.0	5.5	12.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
O	M20	½"	10.2	8.8	12	48.0	9.5	16.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
A	M20	¾" or ½"	12.5	10.8	15	72.0	12.5	20.5	0.8/1.25	0.0/0.8	60.6	30.0	32.5
B	M25	1" or ¾"	18.0	15.9	30	144.0	16.9	26.0	1.25/1.6	0.0/0.7	67.3	36.0	39.5
C	M32	1¼" or 1"	24.3	21.9	42	-	22.0	33.0	1.6/2.0	0.0/0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	30.3	26.7	60	-	28.0	41.0	1.6/2.0	0.0/0.7	78.3	55.0	60.6
D	M50	2"	41.9	37.7	80	-	36.0	52.6	1.8/2.5	0.0/1.0	97.5	65.0	70.8
E	M63	2½"	52.9	49.0	100	-	46.0	65.3	1.8/2.5	0.0/1.0	93.5	80.0	88.0
F	M75	3"	64.9	59.8	120	-	57.0	78.0	1.8/2.5	0.0/1.0	104.5	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

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb, Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	Certificate No's: CML18ATEX1268X and IECEx CML 18.0131X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 (when installed with a Hawke IP washer)
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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	Barrier Type	Material	(Optional)
ICG 653/UNIV/L	C	M32	- (Standard 2 part compound)	Brass	AR
ICG 653/UNIV/L	C	1 1/4"	EP (ExPress Resin)	Brass	AR

Example Code: ICG 653/UNIV /L C M32 EP Stainless Steel
Two part sealing compound and assembly instructions are supplied with the cable gland

For information on sealing options, see Page 10

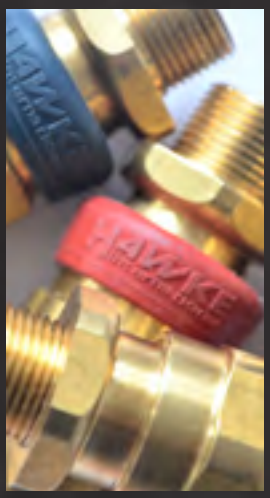
For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

Conduit Cable Glands

Hawke International conduit cable glands offer an opportunity to terminate fixed and flexible conduit in a hazardous area, providing a female running coupler for gland or conduit entry maintaining both Exe and Exd protection concepts along with protecting against ingress of water and dust.

● QSP 2-part Hand Mix Putty

Simple to use with a cure time from 30 minutes. Particularly useful where termination space is limited or cables are running horizontally to the installation area. Can be inspected and repaired if necessary, allowing for the very highest level of safety.

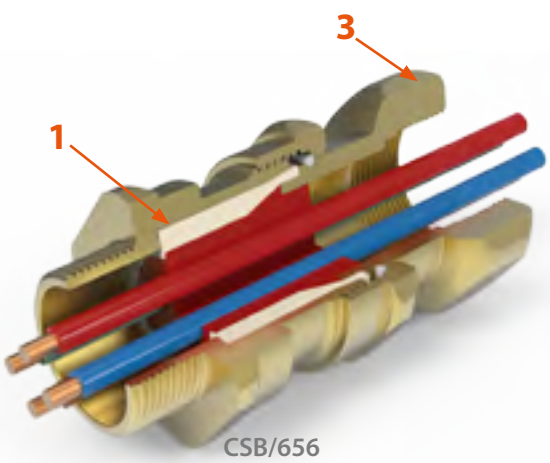


● Instant Barrier Seal

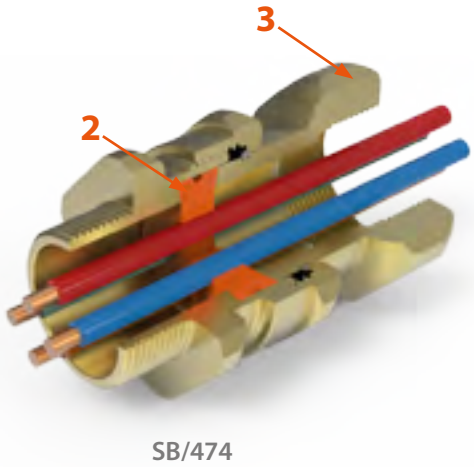
No resin. No mixing. No cure time.

The PSG474 (Punched Seal Gland) provides market leading installation and inspection time. Simply pass the individual cores through the punched seal and tighten. Fully inspectable and no waiting time – irrespective of temperature, location or installation position.

Features



CSB/656



SB/474

1 Unique Inspectable Compound Chamber

The revolutionary Hawke compound chamber has been designed with inspectability in mind. With a unique clear non-metallic compound chamber for both IEC and NEC applications, the barrier seal can be made using either a QSP quick setting 2-part hand-mixed putty, or a liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. The transparent compound chamber allows full visibility of the flameproof sealduring installation and inspection making the ExPress barrier resin unparalleled as a global solution.

2 No resin. No mixing. No cure time.

The PSG474 (Punched Seal Gland) provides market leading installation and inspection time. Simply pass the individual cores through the punched seal and tighten. Fully inspectable and no waiting time – irrespective of temperature, location or installation position.

3 Female Running Coupler

Provides a female running coupler for cable gland or conduit entry. Seals conductors at entry to enclosure via conduit or enables an existing cable gland to be converted to a barrier type cable gland.

For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

CSB/656N

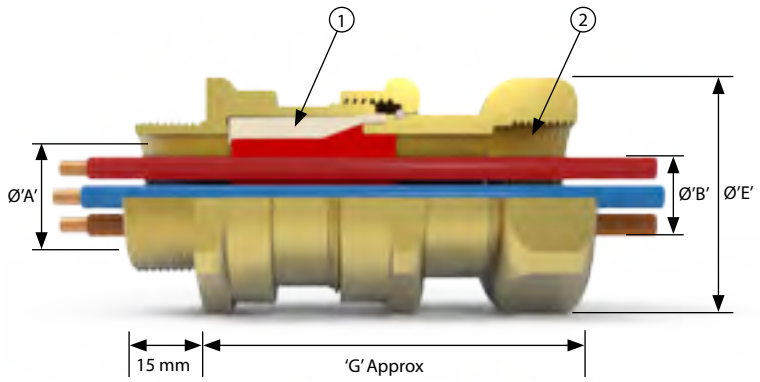
Flameproof, Increased Safety, Dust Protection
Certified ATEX / IECEx / c CSA us

MADE IN BRITAIN

International Approvals

■1 Fully inspectable barrier seal provides an Exd seal between the individual cable cores

■2 Female running coupler for cable gland or conduit entry. Can be used to upgrade standard non-barrier gland into a flameproof Exd barrier gland.



The Dual certified Exe/Exd CSB656N cable gland offers an inspectable barrier seal around the individual cable cores and a female running coupler for conduit or cable gland entry. See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size				Cable Acceptance Details			'G' Metric	Hexagon Dimensions	
	Male		Female		Inner Sheath / Cores 'ØA'					
	Metric	NPT* Standard or Option	Metric	NPT# Standard or Option	Max Over Cores 'B'	Max Inner Sheath 'E'	Max No of Cores		Across Flats	Across Corners
A	M20	¾" or ½"	M20	¾" or ½"	10.8	12.5	15	74.0	30.0	32.5
B	M25	1" or ¾"	M25	1" or ¾"	15.9	18.4	30	65.0	36.0	39.5
C	M32	1¼" or 1"	M32	1¼" or 1"	21.9	24.7	42	80.0	46.0	50.5
C2	M40	1½" or 1¼"	M40	1½" or 1¼"	26.7	29.7	60	83.0	55.0	60.6
D	M50	2"	M50	2" or 1½"	37.7	41.7	80	94.0	65.0	70.8
E	M63	2½"	M63	2½" or 2"	49.0	53.5	100	97.0	80.0	88.0
F	M75	3"	M75	3" or 2½"	59.8	66.2 / 65.3[1]	120	100.0	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.

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

Technical Data

ATEX/IECEx

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
ATEX Classification	Certificate No's: CML19ATEX1170X, and IECEx CML19.0048X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

c CSA us

Type of Protection	Flameproof AExd IIC Gb, Increased Safety AExe IIC Gb and Dust AExtD Zone 21
c CSA us Classification	Certificate No's: CSA1015065 for Marine Shipboard Cable
Area Classification	Explosion-proof Class 1 Division 2 Groups ABCD, Class II Division 2 Groups EFG, Class III
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Ordering Information

Format for ordering is as follows:

Cable Gland Type	Size	Male Thread	Female Thread	Material
CSB 656N	C	M32	M32	Brass
CSB 656N	C	1¼" NPT	M32	Brass

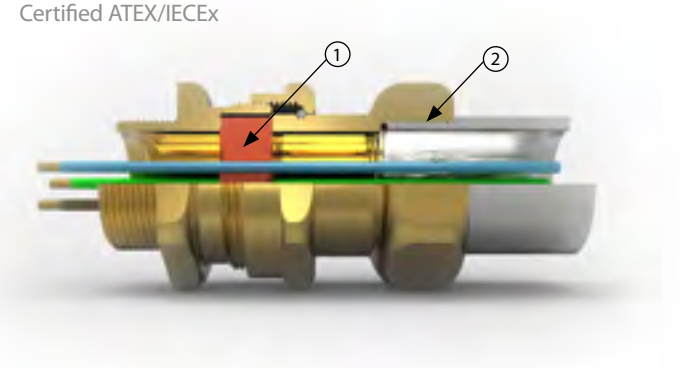
Two part sealing compound and assembly instructions are supplied with the cable gland

Order Example: CSB 656N C M32 M32 Brass

MADE IN BRITAIN

SB/474

Flameproof, Increased Safety, Dust Protection
Certified ATEX/IECEx



■1 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 a special tool to suit core size.

■2 Female running coupler for cable gland or conduit entry. Can be used to upgrade standard nonbarrier gland into a flameproof Exd barrier gland.

For outdoor or indoor use, the SB474 is also for particular use with cables that are not effectively filled, compact and/or circular, have tape bedding or have hygroscopic fillers. Also, with cables that exhibit 'Cold Flow' characteristics.

Cable Gland Selection Table

Size Ref.	Entry Thread Size 'A'				'G' Metric	Hexagon Dimensions	
	Male		Female			Across Flats	Across Corners
	Metric	NPT* Standard or Option	Metric	NPT# Standard or Option			
A	M20	¾" or ½"	M20	-	69.0	30.0	32.5
B	M25	1" or ¾"	M25		61.0	36.0	39.5
C	M32	1¼" or 1"	M32	-	61.95	46.0	50.5

T' - 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

Type of Protection	Flameproof Exd IIC Gb, Increased Safety Exe IIC Gb and Dust Extb IIIC Db Ex II 2GD
ATEX Classification	Certificate No's: Baseefa06ATEX0056X and IECEx BAS 06.0013X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66 and IP67 and IP68* (30 metres for 7 days)
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C

** Additional installation procedures required*

Cable Gland Size for Core Size and Number

Max No. of Cores	Cores Cross Sectional Area mm²				
	1.5	2.5	4.0	6.0	10.0
7	A & B	A & B	B & C	C	C
4	-	-	-	B	-
3	-	-	-	-	B

Punch Tool Size Details

Punch Ref	No. 1	No. 2	No. 3
Cores C.S.A.mm²	1.5 - 2.5	4.0 - 6.0	10.0

Ordering Information

To select the correct size punch tool, please see table. Format for ordering is as follows:

Cable Gland Type	Size	Male Thread	Female Thread	Material	Punch Tool Required
SB/474	C	M32	M32	Brass	Punch Tool No 1
SB/474	C	1¼" NPT	1¼" NPT	Brass	Punch Tool No 1

Order Example: SB/474 C M32/M32 Brass

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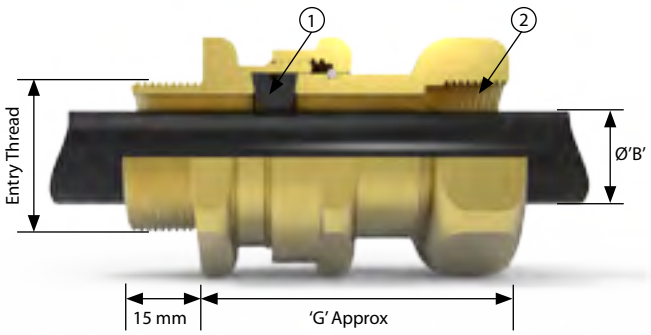
501/414

Flameproof, Increased Safety, Dust Protection
Certified ATEX / IECEx / c CSA us

MADE IN BRITAIN

■1 Elastomeric Exd flameproof seal on cable inner sheath

■2 Female running coupler for cable gland or conduit entry. Can be used to upgrade standard non-barrier gland into a flameproof Exd barrier gland.



The Dual certified Exe/Exd 501/414 cable gland offers a female running coupler and a seal onto the cable outer sheath for use with non-armoured elastomer and plastic insulated cables installed in conduit. May also be used with braided cables under certain conditions
See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size				Cable Acceptance Details				'G'	Hexagon Dimensions	
	Male		Female		Outer Sheath 'B'					Across Flats	Across Corners
	Metric	NPT* Standard	Metric	NPT# Standard	Standard Seal		Alternative Seal				
					Min	Max	Min	Max			
Os	M20[2]	½"	M20	–	3.2	8.0	-	-	54.5	24.0	26.5
O	M20[2]	½"	M20	–	6.5	11.9	-	-	54.5	24.0	26.5
A	M20	¾" or ½"	M20	–	10.0	14.3	9.0	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]	49.5	58.3	86.4	95.0	104.0

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

[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*
 # 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

ATEX/IECEx

Type of Protection	Flameproof Ex db IIC Gb, Increased Safety Ex eb IIC Gb and Dust Extb IIIC Db Ex II 2GD
ATEX Classification	Certificate No's: CML 19ATEX1167X CML 19.0045X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 when installed with a Hawke washer
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C

c CSA us

Type of Protection	Flameproof AExd IIC Gb, Increased Safety AExe IIC Gb and Dust AExtD Zone 21
c CSA us Classification	Certificate No's: CSA1015065
Area Classification	Class I, Zone I, Aex eb IIC Gb. Zone 21, AEXtb IIIC Db. Class I, Div.2 Groups ABCD; Class II Div.2, Groups EFG; Class III cCSA CI D2 ABCD CII D2 EFG CIII Exdb Exeb IIC Gb CSAus AEx eb IIC Gb AExtb IIIC Db CI Zn1 Zn21
Construction & Test Standards	UL 60079-0, UL 60079-1, UL 60079-7, ISA 60079-31, CSA 22.2 No: 60079-0, CSA 22.2 No: 60079-1, CSA 22.2 No: 60079-7, CSA 22.2 No: 60079-31, UL 2225

Ordering Information

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

Cable Gland Type	Size	Male Thread	Female Thread	Material	(Optional)
501/414	C	M32	M32	Brass	S
501/414	C	1¼" NPT	1¼" NPT	Brass	S

Order Example: 501/414 C M32/M32 Brass

HAWKE International

HAZCON

CONTROL STATIONS

- Use in Zones 1/21 & 2/22
- Operating range -50°C to +60°C
- IP66 Ingress Protection
- Globally Certified
- Easy Installation
- Wide range of Push Buttons
- 2 or 3 way Selector Switches
- Emergency Stop Button options

Glass Reinforced Polymer (GRP) & Stainless Steel Control Stations.

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HUBBELL Harsh & Hazardous

American Certified Glands

The range of Hawke International American cable glands provide a seal around the individual cores of a cable to maintain the flameproof integrity of Exd equipment.

These glands meet the requirements of NEC and employ a compound seal around each core to prevent the migration of an explosion from within a piece of flameproof equipment to the outside atmosphere. Hawke International has a comprehensive, and UNIQUE range of barrier glands offering numerous features and benefits not to be found from other manufacturers.

2 Seal Options - BOTH FULLY INSPECTABLE!

Our American cable glands are available with our quick setting 2-part resin, or an injectable liquid seal - ExPress, both of which offer full inspection of the seal in-situ:

● 2-part Hand Mix Compound

Simple to use with a cure time from 30 minutes. Particularly useful where termination space is limited or cables are running horizontally to the installation area. Can be inspected and repaired if necessary, allowing for the very highest level of safety.

● ExPress Barrier Resin

A liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. Utilising a unique clear compound chamber allowing full visibility of the flameproof seal during installation and inspection, the ExPress barrier resin is unparalleled as a global solution.

The First Globally Certified, Fully Inspectable, Elastomeric Compound Pot

Why a silicone compound pot?

At Hawke, we prioritise complete inspectability of all seals and explosion protection features within our products. The search for inspectability pushed us toward the unique transparent silicone compound pot in which the compound is visible both as it is being installed and once installation is complete.

How does it work?

A traditional metallic compound pot uses a flamepath to dissipate the energy of an ignition. The flamepath is a tightly controlled clearance between the pot and the gland housing. If this clearance is too large there is a risk of ignition. If this clearance is too small the pot won't fit into the gland. Any scratches or damage renders the gland useless. Our silicone pot works by being compressed when installed so the flamepath gap is always zero.

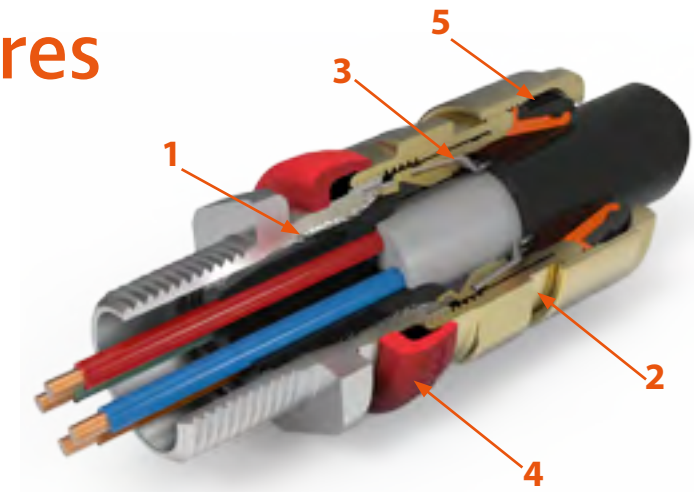
How was the silicone compound pot tested and certified?

The compound pot and resin have been certified in accordance with ATEX/IECEx 60079 and UL2225. They have been through rigorous testing processes including and not limited to; chemical exposure, hydrostatic pressure, thermal ageing and explosion testing.

What are the benefits of the silicone compound pot over a brass compound pot?

- When terminating the barrier gland the resin is visible to the installer, so the process is much more controlled and visible. Any issues such as voids or underfilling can be immediately addressed before the compound cures.
- The resin is visible through the compound pot and as such can be inspected without the product being destroyed. Traditional metallic compound pots must be cut off to inspect, discarded and then remade with a new gland.
- If the flamepath surface of a metallic pot is damaged, the whole assembly must be cut off the cable and replaced. If damage occurs to the silicone compound pot, it can be replaced.

Features



753

1 The World's Only Non-Metallic, Fully Inspectable Flameproof Barrier Seal

The barrier seal can be made using either a QSP quick setting 2-part hand-mixed putty, or a liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. The transparent compound chamber allows full visibility of the flameproof seal during installation and inspection making the ExPress barrier resin unparalleled as a global solution.

2 Cable Tightening Guide

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented INBUILT TIGHTENING GUIDE. Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance. The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. The backnut, once tightened to the line corresponding to the cable diameter, ensures there is no cable damage whilst still maintaining IP and pull-out.

3 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.

4 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 prevents corrosion of the cable armour.

5 Unique Rear Sealing System

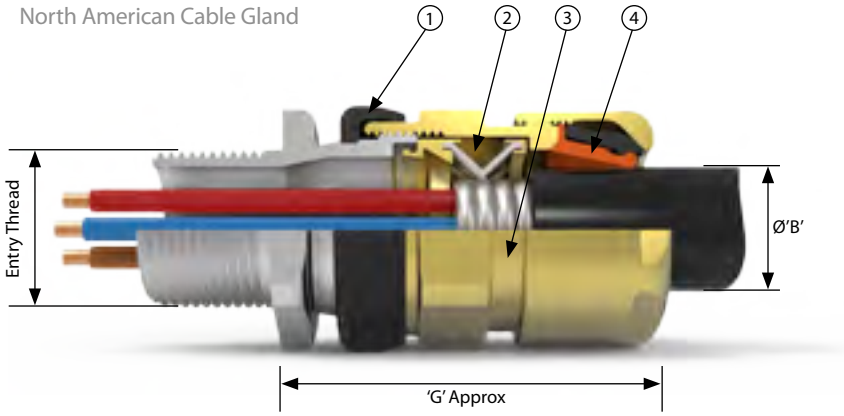
This arrangement offers IP66, IP67, IP68 (30 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters with out 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.

MADE IN BRITAIN

International Approvals

701

General Purpose
North American Cable Gland



- 1 Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Fully inspectable 360deg grounding device which remains in contact with the cable when disassembled for inspection.
- 3 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The American series 701 general purpose gland is suitable for use with continuous corrugated Aluminum Metal Clad (MCHL) cable. Features a Fully inspectable 360deg grounding device which remains in contact with the cable when disassembled for inspection.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Armour Jacket 'E'		Outer Jacket 'B'			Across Flats	Across Corners
			Min	Max	Min	Max			
A	M20	½ or ¾"	0.41"	0.64"	0.49"	0.81"	2.5"	1.18"	1.28"
B	M25	¾" or 1"	0.55"	0.93"	0.67"	1.02"	2.59"	1.42"	1.56"
C	M32	1" or 1¼"	0.85"	1.23"	0.87"	1.30"	2.93"	1.81"	1.99"
C2	M40	1¼" or 1½"	1.17"	1.59"	1.10"	1.61"	3.03"	2.17"	2.39"
D	M50	2" or 1½"	1.37"	1.96"	1.42"	2.07"	3.90"	2.56"	2.79"
E	M63	2½" or 2"	1.81"	2.55"	1.81"	2.57"	3.66"	3.15"	3.46"
F	M75	3" or 2½"	2.37"	2.98"	2.24"	3.07"	3.93"	3.74"	4.09"
H	M90	3½"	2.93"	3.47"	2.95"	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

Type of Protection	UL Listed for use Wet Locations
Certificate/Listing No	E165706
Construction & Test Standards	UL 514B
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer, metric threads only)
Deluge Protection	DTS01
Operating Temperature	-50°C to +60°C

Alternative certification options are available

Ordering Information

Format for ordering is as follows:

Cable Gland Type	Size	Thread	Material
701	C	1" NPT	Brass

Order Example: 701 C 1" NPT Brass

For information on barrier options, see Page 10

For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

710

North American
Explosion proof, IECEx and ATEX Approved Flameproof Exd, Increased Safety Exe
(Note: Dual Marked UL & ATEX as standard)

MADE IN BRITAIN

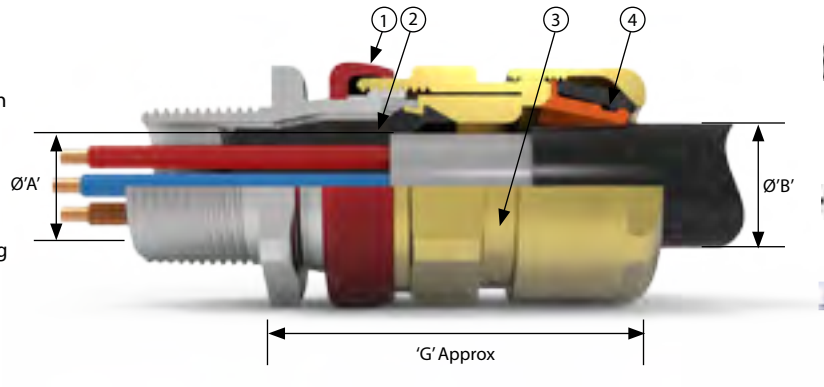
International Approvals

■1 Inspectable Deluge Seal
- Offering IP66, IP67, IP68 & IP69 Ingress Protection

■2 Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound

■3 Patented Cable Gland Tightening Guide
- Helps prevent damage caused by over tightening

■4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



The American series 710 dual certified Exe/Exd cable gland is suitable for use with the following cable types: TC-ER-HL, TC-ER, PLTC, PLTC-ER, ITC, ITC-HL & ITC-ER (see technical data for more information) The gland provides a barrier seal around the individual cores within the cable and prevents entry of the products of an explosion into the cable. The gland features the worlds only NEC certified transparent elastomeric fully inspectable compound chamber

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT[1] Standard	Inner Jacket/Cores 'ØA'				Outer Jacket 'B'			Across Flats	Across Corners
			Max Over Cores 'D'	Min Inner Jacket 'E'	Max Inner Jacket 'E'	Max No of Cores	Min	Max			
Os	M20	½"	0.31"	0.14"	0.32"	12	0.22"	0.47"	2.3"	0.94"	1.04"
O	M20	½"	0.35"	0.26"	0.46"	12	0.37"	0.63"	2.3"	0.94"	1.04"
A	M20	¾" or ½"	0.43"	0.33"	0.55"	15	0.49"	0.81"	2.39"	1.18"	1.28"
B	M25	1" or ¾"	0.63"	0.44"	0.78"	30	0.66"	1.02"	2.65"	1.42"	1.56"
C	M32	1¼" or 1"	0.86"	0.69"	1.03"	42	0.87"	1.3"	2.88"	1.81"	1.99"
C2	M40	1½" or 1¼"	1.05"	0.91"	1.27"	60	1.1"	1.61"	3.08"	2.17"	2.39"
D	M50	2"	1.48"	1.14"	1.74"	80	1.42"	2.07"	3.84"	2.56"	2.79"
E	M63	2½"	1.93"	1.57"	2.20"	100	1.81"	2.57"	3.68"	3.15"	3.46"
F	M75	3"	2.35"	1.99"	2.68"	120	2.24"	3.07"	4.11"	3.74"	4.09"

All dimensions in inches (except * where dimensions are in millietres). 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.
[3] UL approved only

Technical Data

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
c UL us Classification	For use with cable type TC-ER-HL Class I, Groups A, B, C and D (up to 1"). TC-ER, PLTC, PLTC-ER, ITC, ITC-HL or ITC-ERClass I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; and Class III Hazardous Locations For use with cable type
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	UL 2225, CSA C22.2 No. 174-18, UL 514B and CSA C22.2 NO. 18.3-12 , IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions apply) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer, metric threads only)
Deluge Protection	to DTS01
Operating Temperature	-50°C to +80°C (UL) and -60°C to +80°C (ATEX/IECEx)
Alternative Certification	Options available: DNV Marine Approval, ABS Marine Approval

Ordering Information

Format for ordering is as follows:

Cable Gland Type	Size	Thread	Material
710	C	M32	Stainless Steel
710	C	1" NPT	Brass

Order Example: 710 C M32 Stainless Steel

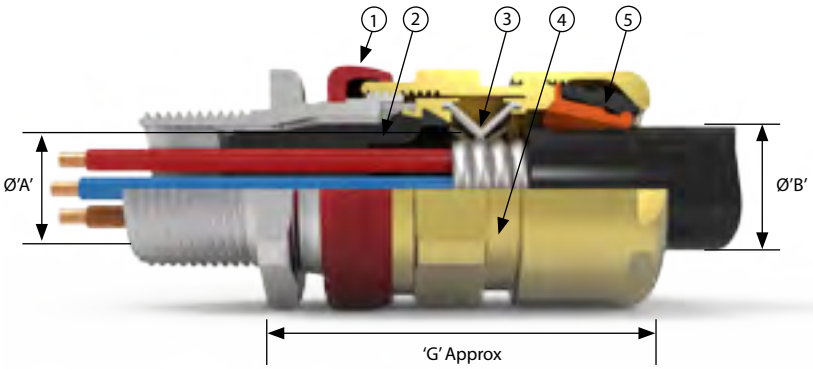
For information on barrier options, see Page 10

MADE IN BRITAIN

711

Explosion proof, IECEx and ATEX approved flameproof Exd, Increased Safety Exe and Restricted Breathing ExnR (note: Dual Marked UL & ATEX as standard

International Approvals



1. Inspectable Deluge Seal - Offering IP66, IP67, IP68 & IP69 Ingress Protection
2. Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
3. Fully inspectable 360deg grounding device which remains in contact with the cable when disassembled for inspection.
4. Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
5. Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The American series 711 dual certified Exe/Exd gland is suitable for use with continuous corrugated Aluminum Metal Clad (MCHL) cable and provides a barrier seal around the individual cores within the cable and prevents entry of the products of an explosion into the cable. The gland features the worlds only NEC certified transparent elastomeric fully inspectable compound chamber

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details						'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Inner Jacket/Cores 'ØA'				Outer Jacket 'B'			Across Flats	Across Corners
			Max Over Cores	Armour Jacket Min	Armour Jacket Max	Max No of Cores	Min	Max			
A	M20	¾" or ½"	0.43"	0.41"	0.64"	15	0.49"	0.81"	2.5"	1.18"	1.28"
B	M25	1" or ¾"	0.63"	0.55"	0.93"	30	0.67"	1.02"	2.59"	1.42"	1.56"
C	M32	1¼" or 1"	0.86"	0.85"	1.23"	42	0.87"	1.30"	2.93"	1.81"	1.99"
C2	M40	1½" or 1¼"	1.05"	1.17"	1.59"	60	1.10"	1.61"	3.03"	2.17"	2.39"
D	M50	2"	1.48"	1.37"	1.96"	80	1.42"	2.07"	3.9"	2.56"	2.79"
E	M63	2½"	1.93"	1.81"	2.55"	100	1.81"	2.57"	3.66"	3.15"	3.46"
F	M75	3"	2.35"	2.37"	2.98"	120	2.24"	3.07"	3.93"	3.74"	4.09"

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.

[1] UL approved only

Technical Data

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
c CSA us Classification	See AI Sheet
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	UL 2225,IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer, metric threads only)
Deluge Protection	to DTS01
Operating Temperature	-50°C to +80°C (UL) and -60°C to +85°C (ATEX/IECEx)
Listing	UL Listing No: E84940
Use	Suitable for use in Class1, 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
Alternative Certification	Options available: DNV Marine Approval, ABS Marine Approval

Ordering Information

Format for ordering is as follows:

Cable Gland Type	Size	Thread	Barrier Type	Material
711	C	1" NPT	- (Standard 2-part compound)	Nickel Plated
711	C	1" NPT	EP (Express Resin)	Stainless Steel

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

Order Example: 711 C 1"NPT EP Stainless Steel

For information on barrier options, see Page 10

For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

753

North American
Explosion proof, IECEx and ATEX Approved Flameproof Exd, Increased Safety Exe
(Note: Dual Marked UL & ATEX as standard)

MADE IN BRITAIN

International Approvals

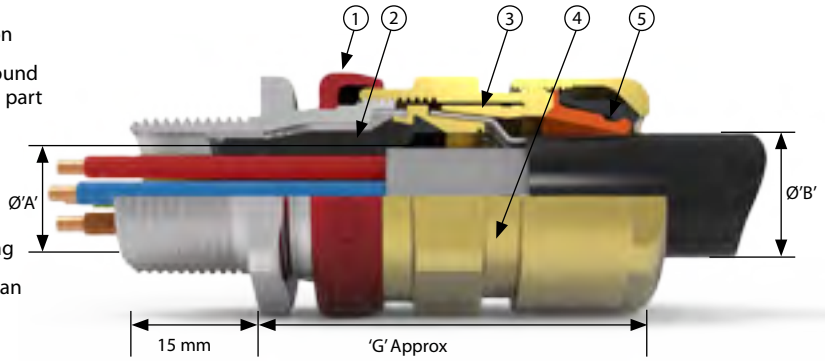
■1 Inspectable Deluge Seal
- Offering IP66, IP67, IP68 & IP69 Ingress Protection

■2 Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound

■3 Reversible Armour Clamp
- For all types of armour and braid.

■4 Patented Cable Gland Tightening Guide
- Helps prevent damage caused by over tightening

■5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



The American series 753 dual certified Exe/Exd gland is now suitable for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' and provides a barrier seal to the individual cores within the cable and prevents entry of the products of an explosion into the cable. The gland features the worlds only NEC certified transparent elastomeric fully inspectable compound chamber. The 753 is available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details							'G'	Hexagon Dimensions	
	Metric	NPT* Standard	Inner Jacket Cores 'ØA'			Outer Jacket 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Max Over Cores	Max Inner Jacket	Max No Cores	Min	Max	Orientation 1	Orientation 2			
Os	M20	½"	0.31"	0.32"	12.0	0.22"	0.47"	0.0315"/0.0492"	0"/0.0315"	2.3"	0.94"	1.09"
O	M20	½"	0.35"	0.46"	12.0	0.37"	0.63"	0.0315"/0.0492"	0"/0.0315"	2.3"	0.94"	1.09"
A	M20	¾" or ½"	0.43"	0.55"	15.0	0.49"	0.81"	0.0315"/0.0492"	0"/0.0315"	2.39"	1.18"	1.36"
B	M25	1" or ¾"	0.63"	0.78"	30.0	0.66"	1.02"	0.0492"/0.063"	0"/0.0276"	2.65"	1.42"	1.64"
C	M32	1¼" or 1"	0.86"	1.03"	42.0	0.87"	1.3"	0.063"/0.0787"	0"/0.0276"	2.88"	1.81"	2.09"
C2	M40	1½" or 1¼"	1.05"	1.27"	60.0	1.1"	1.61"	0.063"/0.0787"	0"/0.0276"	3.08"	2.17"	2.5"
D	M50	2"	1.48"	1.74"	80.0	1.42"	2.07"	0.0709"/0.0984"	0"/0.0394"	3.84"	2.56"	2.96"
E	M63	2½"	1.93"	2.20"	100.0	1.81"	2.57"	0.0709"/0.0984"	0"/0.0394"	3.68"	3.15"	3.64"
F	M75	3"	2.35"	2.68"	120.0	2.24"	3.07"	0.0709"/0.0984"	0"/0.0394"	4.11"	3.74"	4.31"
H3	M90	3½"	2.79"	3.05"	120.0	3.07"	3.52"	0.0787"/0.1378"	0"/0.0394"	3.54"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millietres). 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] *UL approved only*

Technical Data

Type of Protection	Flameproof Exdb IIC Gb, Increased Safety Exeb IIC Gb and Dust Extb IIIC Db Ex II 2 GD
c UL us Classification	Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC
Construction & Test Standards	CSA C22.2 No. 174-18, UL 514B and CSA C22.2 NO. 18.3-12 , IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31
Ingress Protection	IP66, IP67 and IP68* (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer, metric threads only)
Deluge Protection	to DTS01
Operating Temperature	-50°C to +80°C (UL) and -60°C to +85°C (ATEX/IECEx)
Alternative Certification	Options available: DNV Marine Approval, ABS Marine Approval

Alternative Reversible Armour Clamping Ring Size Selection

Size Ref	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

For information on barrier options, see Page 10

Ordering Information

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

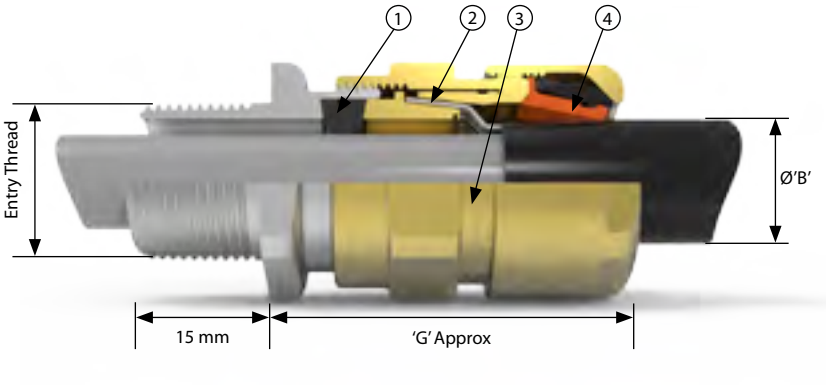
Cable Gland Type	Size	Thread	Material
753	C	M32	Brass
153	C	1" NPT	Stainless Steel

Example Code: 753 C M32 EP Stainless Steel

MADE IN BRITAIN

153 X

North American
General Purpose



- 1 Elastomeric seal on cable inner sheath
- 2 Fully Inspectable Armour Clamp - For 'W' wire braid
- 3 Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The 153/X Cable Gland is general purpose cable gland for use with wire braid 'X', elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath. See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dims	
	Metric	NPT* Standard or Option	Standard Seal		Alternative Seal (S)		Outer Jacket 'B'		Armour / Braid 'C'			Across Flats	Across Corners
			Min	Max	Min	Max	Min	Max	Orientation 1	Orientation 2			
Os	M20[2]	½"	0.13"	0.31"	-	-	0.22"	0.47"	0.0315"/0.0492"	0"/0.0315"	2.05"	0.94"	1.04"
O	M20[2]	½"	0.26"	0.47"	-	-	0.37"	0.63"	0.0315"/0.0492"	0"/0.0315"	2.05"	0.94"	1.04"
A	M20	¾" or ½"	0.39"	0.56"	0.35"	0.53"	0.49"	0.81"	0.0315"/0.0492"	0"/0.0315"	2.09"	1.18"	1.28"
B	M25	1" or ¾"	0.51"	0.8"	0.37"	0.61"	0.67"	1.02"	0.0492"/0.063"	0"/0.0276"	2.34"	1.42"	1.56"
C	M32	1¼" or 1"	0.77"	1.04"	0.61"	0.83"	0.87"	1.30"	0.063"/0.0787"	0"/0.0276"	2.52"	1.81"	1.99"
C2	M40	1½" or 1¼"	0.98"	1.28"	0.87"	1.10"	1.10"	1.61"	0.063"/0.0787"	0"/0.0276"	2.69"	2.17"	2.39"
D	M50	2" or 1½"	1.24"	1.75"/1.66"[1]	1.08"	1.37"	1.42"	2.07"	0.0709"/0.0984"	0"/0.0394"	3.11"	2.56"	2.79"
E	M63	2½" or 2"	1.67"	2.22"/2.14"[1]	1.54"	1.83"	1.81"	2.57"	0.0709"/0.0984"	0"/0.0394"	3.09"	3.15"	3.46"
F	M75	3" or 2½"	2.15"	2.69"/2.57"[1]	1.95"	2.30"	2.24"	3.07"	0.0709"/0.0984"	0"/0.0394"	3.30"	3.74"	4.09"
H	M90	3" or 3½"	2.64"	3.06"	-	-	2.96"	3.52"	0.0787"/0.1378"	0"/0.0394"	3.76"	4.53"	5.12"

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

Area Classification	UL listed for use Wet Locations. UL listing No: E218332
Construction & Test Standards	UL 514B
Ingress Protection	IP66, IP67 and IP68* (30 metres for 7 days, special conditions apply) to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Operating Temperature	-50°C to +60°C
Alternative Certification	Options available: DNV Marine Approval, ABS Marine Approval

Ordering Information

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

Cable Gland Type	Size	Thread	(Optional)
153/X	C	M32	S
153/X	C	1" NPT	S

Order Example: 153/X C M32 S

Industrial Cable Glands

The Hawke International range of Industrial Cable Glands retain many of the patented features found within our hazardous area glands.

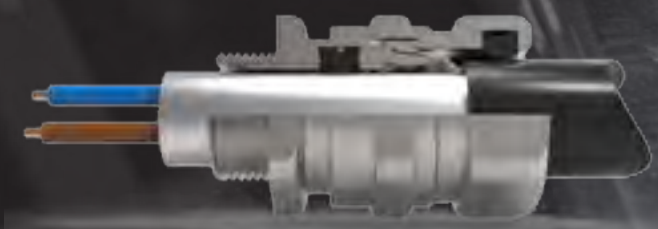
Designed for the harshest environments and to the latest standards, our range of Industrial Cable Glands are used in a multitude of environments - offshore wind, petrochemical, rail, heavy industry, data centres, pharmaceutical and many, many more.



FIREMATE™

The **FireMate** cable gland range is tested to the latest industrial and fire standards (BS EN 61984, voltage directive LVD 2014/35/EU, BSEN50200:2006 and BS8434-2:2003 + A2 2009) and will maintain its structural integrity in the world's most severe environments.

Ideal for underground and overground rail networks, marine safety and commercial and public building applications.

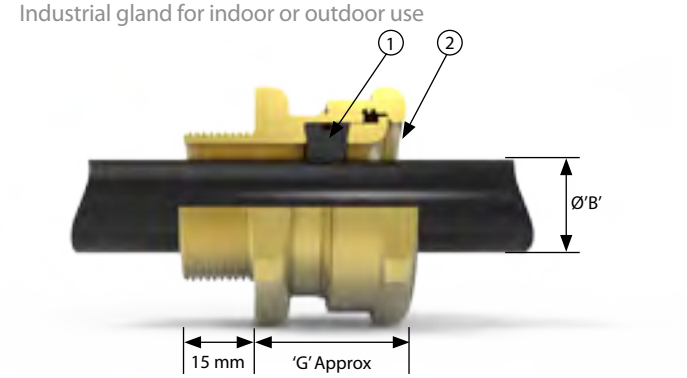


MADE IN BRITAIN

CE

121

Industrial gland for indoor or outdoor use



- 1 Elastomeric seal on cable inner sheath
- 2 Rounded Cable entry to prevent cable damage

The 121 industrial cable gland is intended for use on non-armoured elastomer and plastic insulated cables in indoor and outdoor applications. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure. 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	Outer Sheath 'B'					Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)				
			Min	Max	Min	Max			
2K	M16	–	3.2	8.0	–	–	23.5	19.0	21.2
Os	M20[2]	½"	3.2	8.0	–	–	23.8	24.0	26.5
O	M20[2]	½"	6.5	11.9	–	–	23.8	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	9.0	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"	19.5	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]	49.5	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.

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 & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type A2
Ingress Protection	IP66 and IP67 to IEC/EN 60529 (when installed with a Hawke IP washer)
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C
Assembly Instruction	AI 392

Ordering Information

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

Cable Gland Type	Size	Thread	(Optional)
121	C	M32	S
121	C	1¼" NPT	S

Order Example: 121 C M32 S

For all enquiries please contact Hawke Sales +44 (0)141 830 6695 E: sales@ehawke.com
www.ehawke.com

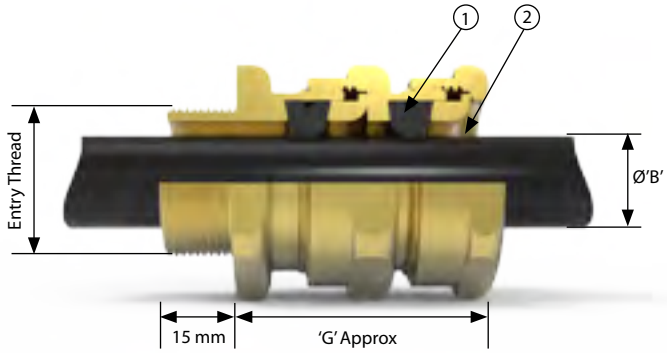
123

Industrial gland for indoor or outdoor use

MADE IN BRITAIN

CE

- 1 Elastomeric seal on cable inner sheath
- 2 Rounded Cable entry to prevent cable damage



The 123 dual seal industrial cable gland incorporates two independent seals and is intended for use on non-armoured elastomer and plastic insulated cables in indoor or outdoor applications. This cable gland may be used with braided cables where the braid and outer sheath pass into the enclosure. The braid must then be suitably terminated inside the enclosure . The two seals provide superior cable retention over standard unarmoured cable glands.

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
			Outer Sheath 'B'						
	Metric	NPT* Standard	Standard Seal		Alternative Seal (S)			Across Flats	Across Corners
			Min	Max	Min	Max			
Os	M20[2]	½"	3.2	8.0	–	–	40.0	24.0	26.5
O	M20[2]	½"	6.5	11.9	–	–	40.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	9.0	13.4	43.0	30.0	32.5
B	M25	1" or ¾"	13.0	20.2	9.5	15.4	46.6	36.0	39.5
C	M32	1¼" or 1"	19.5	26.5	15.5	21.2	48.8	46.0	50.5
C2	M40	1½" or 1¼"	25.0	32.5	22.0	28.0	51.1	55.0	60.6
D	M50	2" or 1½"	31.5	44.4 / 42.3[1]	27.5	34.8	67.7	65.0	70.8
E	M63	2½" or 2"	42.5	56.3 / 54.3[1]	39.0	46.5	65.2	80.0	88.0
F	M75	3" or 2½"	54.5	68.2 / 65.3[1]	49.5	58.3	67.5	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

Construction & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type A2
Ingress Protection	IP66 and IP67 to IEC/EN 60529
Deluge Protection	Deluge Protection to DTS01
Operating Temperature	-60°C to +100°C

Ordering Information

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

Cable Gland Type	Size	Thread	(Optional)
123	C	M32	S
123	C	1¼" NPT	S

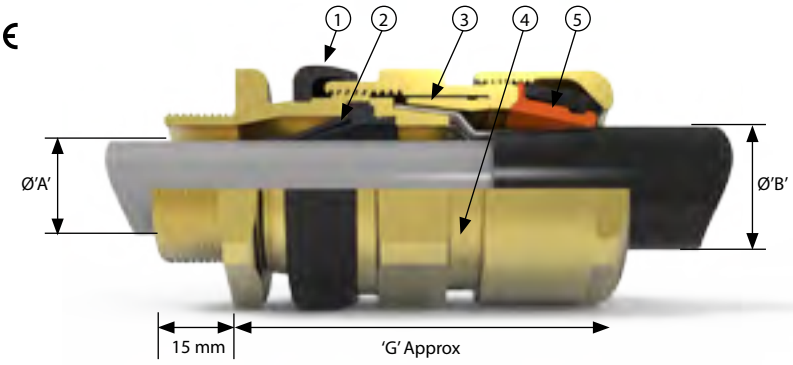
Order Example: 123 C M32 S

MADE IN BRITAIN

CE

153 UNIVERSAL

Industrial gland for indoor or outdoor use



- **1** Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- **2** Passive diaphragm seal
  - Suitable for cables exhibiting 'Cold Flow.' Fully inspectable
- **3** Reversible Armour Clamp - For all types of armour and braid.
- **4** Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- **5** Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The industrial 153/Universal Cable Gland is robust and 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	Inner Sheath 'ØA'		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	58.4	24.0	26.5
O	M20[2]	½"	6.5	11.4	9.5	16.0	0.8/1.25	0.0/0.8	58.4	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	59.6	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	66.4	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	71.2	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	75.2	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	98.0	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	94.4	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	102.0	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.

[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 & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type E1W, E1X, E1Y and E1Z
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions apply) and IP69 to IEC/EN 60529 (when fitted with a Hawke washer)
Deluge Protection	to DTS01
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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	Material	(Optional)
153/UNIV	C	M32	Brass	AR
153/UNIV	C	1¼" NPT	NP Brass	AR

Example Code: 153/UNIV C M32 Stainless

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www.ehawke.com

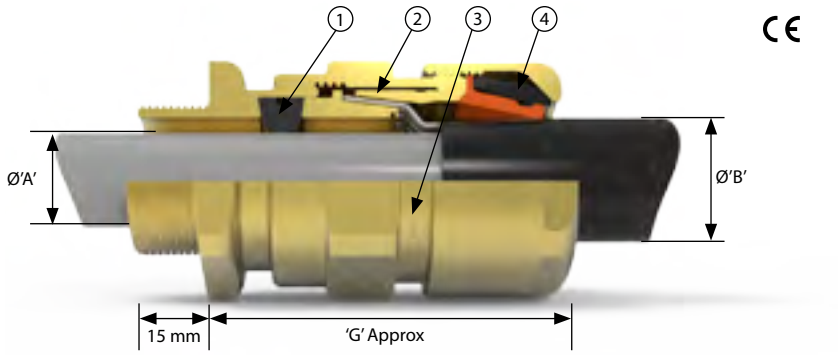
153/RAC

Industrial gland for indoor or outdoor use

MADE IN BRITAIN

CE

- 1 Elastomeric seal on cable inner sheath
- 2 Fully Inspectable Armour Clamp
- 3 Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



The 153/RAC Cable Gland is an industrial gland for indoor or outdoor use, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath. 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	Inner Sheath 'ØA'				Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Std Seal		Alt Seal (S)		Min	Max	Orientation 1	Orientation 2			
Os	M20[2]	½"	3.2	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	9.0	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"	13.0	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"	19.5	26.5	15.5	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]	49.5	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 outer sheath diameter is 10.9mm*

Technical Data

Construction & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type E1W, E1X, E1Y and E1Z
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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 Seal (S), Alternative Clamping Ring (AR), add suffix S and/or AR to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
153/RAC	C	M32	Brass	AR
153/RAC	C	1¼" NPT	Brass	S

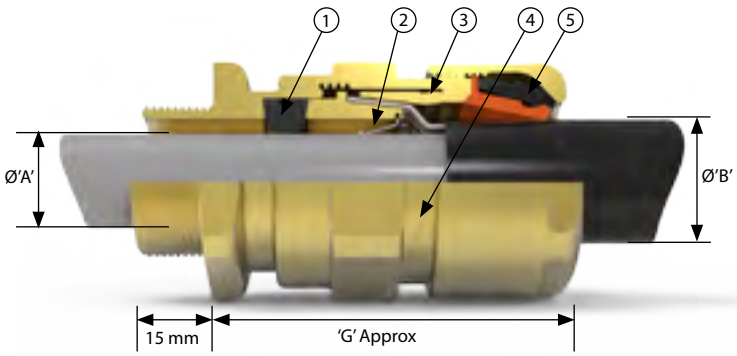
Example Code: 153/RAC C M32 BRASS AR

MADE IN BRITAIN

153/RAC/L

For Lead Sheath Cables. Industrial gland for indoor or outdoor use

CE



- 1 Elastomeric seal on cable inner sheath
- 2 Electrical Bond on the cables lead inner sheath
- 3 Reversible Armour Clamp
  - For all types of armour and braid.
- 4 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The 153/RAC/L Cable Gland is an industrial gland for indoor or outdoor use on Lead Sheath Cables, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer sheath. 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	Inner Sheath 'ØA'				Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Std (L) Seal +Bond		Alt Seal (S)		Min	Max	Orientation 1	Orientation 2			
			Min	Max	Min	Max							
O	M20[2]	½"	6.5	10.2	-	-	9.5	16.0	0.8/1.25	0.0/0.8	52.0	24.0	26.5
A	M20	¾" or ½"	10	14.3	9.0	12.5	12.5	20.5	0.8/1.25	0.0/0.8	53.0	30.0	32.5
B	M25	1" or ¾"	13	18.0	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"	19.5	24.3	15.5	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	30.3	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	41.9[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	52.9	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	64.9/64.3[1]	49.5	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). 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

Construction & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type E2W, E2X, E2Y and E2Z
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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 Seal (S), Alternative Clamping Ring (AR), add suffix S and/or AR to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
153/RAC/L	C	M32	Brass	AR
153/RAC/L	C	1¼" NPT	Brass	S

Order Example: 153/RAC/L C M32 Brass AR

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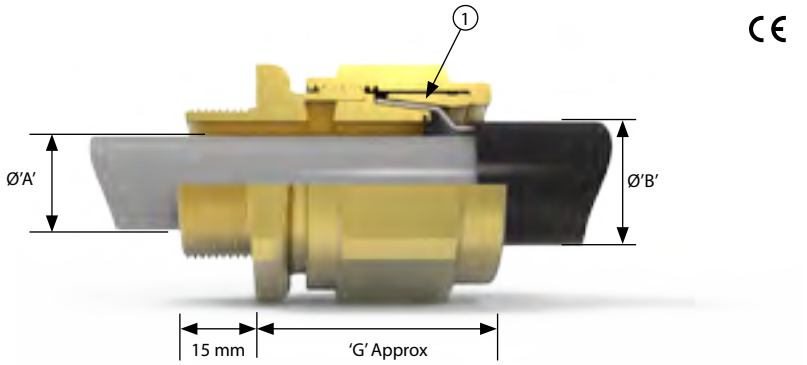
150/RAC

Industrial gland for indoor use

MADE IN BRITAIN

CE

■ 1 Reversible Armour Clamp
- For all types of armour and braid.



The 150/RAC Cable Gland is an industrial gland for indoor or outdoor use, robust and 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	Inner Sheath 'ØA' Max	Outer Sheath 'B' Max	Armour Braid 'C' Orientation 1	Armour Braid 'C' Orientation 2		Across Flats	Across Corners
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 / 1.25	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). O - 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 & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type BW, TX, BY and BZ
Operating Temperature	-60°C to +100°C

Ordering Information

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

Cable Gland Type	Size	Thread	(Optional)
150/RAC	C	M32	AR
150/RAC	C	1¼" NPT	AR

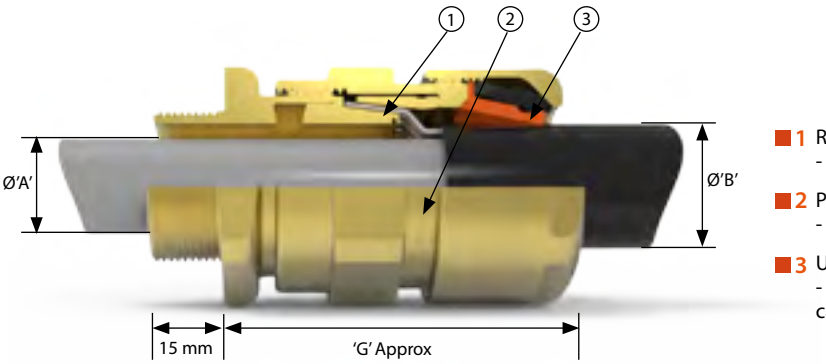
Order Exampe: 150/RAC C M32 AR

MADE IN BRITAIN

151/RAC

Industrial gland for indoor or outdoor use

CE



- 1 Reversible Armour Clamp
  - For all types of armour and braid.
- 2 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 3 Unique Rear Seal
  - Offering ultimate sealing over an extremely wide cable acceptance range.

The 151/RAC Cable Gland is an industrial gland for indoor or outdoor use, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables. The gland provides a low smoke, zero halogen IP and retention seal onto the cable outer sheath.
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	Inner Sheath 'ØA'	Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Max	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	53.0	30.0	32.5
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"	73.0	75.0	89.5	2.0/3.5	0.0/1.0	95.6	106.4	115.0
H	M90	3½"	77.6	75.0	89.5	2.0/3.5	0.0/1.0	95.6	115.0	130.0
J	M100	4"	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 3, 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

Construction & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type CW, CX, CY and CZ
Ingress Protection	IP66 (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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)
151/RAC	C	M32	AR
151/RAC	C	1¼" NPT	AR

Order Example: 151/RAC C M32 AR

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114

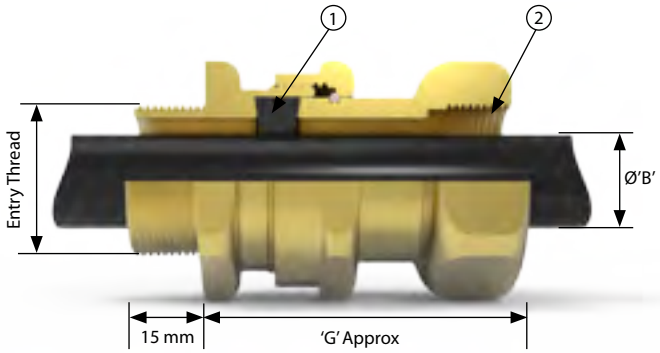
Industrial gland for indoor or outdoor use

MADE IN BRITAIN

CE

■1 Elastomeric seal on cable inner sheath

■2 Female running coupler for cable gland or conduit entry.



The 114 industrial cable gland offers a female running coupler and a seal onto the cable outer sheath for use with non-armoured elastomer and plastic insulated cables installed in conduit. May also be used with braided cables under certain conditions - See technical section for installation rules and regulations

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Female Entry Thread Size		Cable Acceptance Details				'G'	Hexagon Dimensions	
					Outer Sheath 'B'						
					Standard Seal		Alternative Seal (S)				
	Metric	NPT* Standard	Metric	NPT* Standard	Min	Max	Min	Max		Across Flats	Across Corners
Os	M20	½"	M20	-	3.2	8.0	-	-	56.4	24.0	26
O	M20	½"	M20	-	6.5	11.9	-	-	56.4	24.0	26.5
A	M20	¾" or ½"	M20	-	10.0	14.3	9.0	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	-	19.5	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]	49.5	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 entry option. Hexagon dimensions as shown may alter.

Technical Data

Construction & Test Standards	BS EN 62444:2013
Ingress Protection	IP66 to IEC/EN 60529 (when installed using a Hawke IP washer)
Operating Temperature	-60°C to +100°C

Ordering Information

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

Cable Gland Type	Size	Male Thread	Female Thread	Material	(Optional)
114	C	M32	M32	Brass	S
114	C	1¼" NPT	1¼" NPT	Brass	S

Order Example: 114 C M32 M32 Brass S

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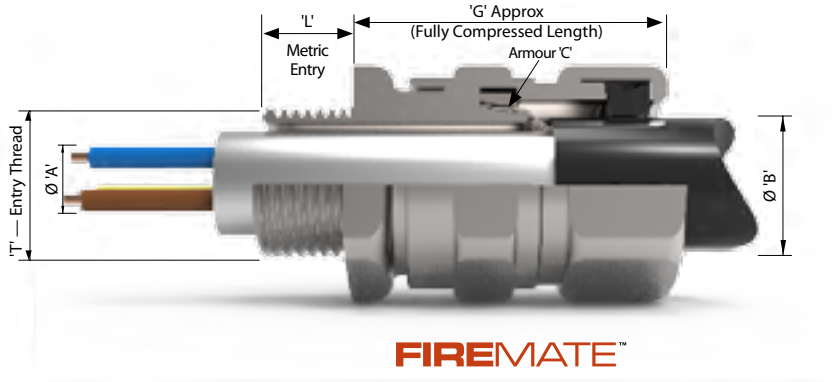
FM/CW

FireMate Industrial gland for indoor or outdoor use

MADE IN BRITAIN

CE



Cable Gland Selection Table

Size Ref.	Entry Thread Size		Length of Thread (mm)	Cable Acceptance Details				'G'	Hexagon Dimensions	
	Metric	NPT* Standard		Inner Sheath 'A'	Outer Sheath 'B'		Armour Braid 'C'		Across Flats	Across Corners
					Min	Max				
Os	M20[2]	½"	10.0	8.0	6.5	16.0	0.8/1.25	49.0	24.0	26.5
O	M20[2]	½"	10.0	11.9	6.5	16.0	0.8/1.25	49.0	24.0	26.5
A	M20	¾" or ½"	10.0	14.3	11.5	20.9	0.8/1.25	49.0	30.0	32.5
B	M25	1" or ¾"	10.0	20.2	17.0	27.2	1.25/1.6	52.0	36.0	39.5
C	M32	1¼" or 1"	10.0	26.5	23.5	33.6	1.6/2.0	60.0	46.0	50.5

T' - metric entry threads are 1.5mm pitch as standard. All dimensions in millimetres (except * where dimensions are in inches).

[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 & Test Standards	BS EN 62444:2013 BS6121: Part 1 type CW
Ingress Protection	IP66 IEC/EN 60529
Material	Nickel Plated Brass with Intumescent Rubber Seal
Operating Temperature	Range: -20°C to +70°C
Sealing/Clamping Arrangement	Two part armour clamp, single compression seal
Earth	Electrical continuity using the armour wire termination (SWA, AWA)
Cable Type HICW	Single Wire Armour SWA and AWA
Cable Type H1CX	Braid Wire Armour, Pliable Wire Armour (PWA), Steel Tape Armour (STA)
Kit Information	Intumescent sealing material used for FireMate versions
Assembly Instructions	AI 505

Note: IP seal required to maintain IP66.

Fire Test

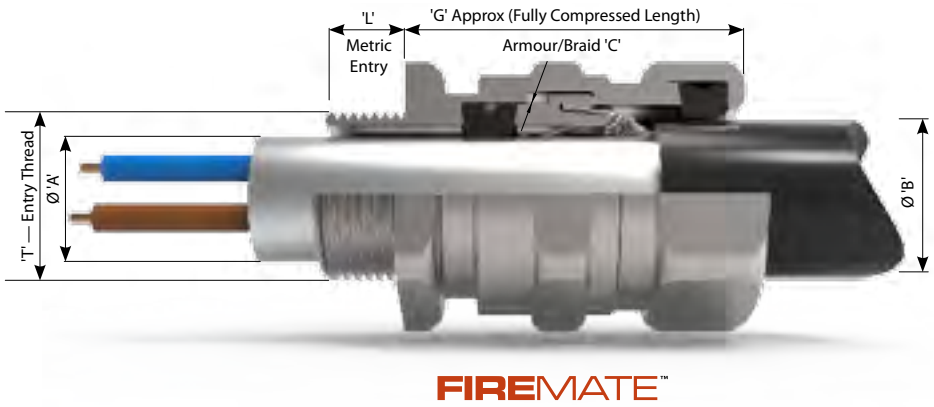
In accordance with BS EN50200:2006 (Resistance to fire with mechanical shock)	120mins at 830 (+40-0)°C with mechanical shock and a rated voltage of 240v rms.
Fire test: In accordance with BS 8434-2:2003 +A2 2009 (Resistance to fire with mechanical shock and water spray)	120mins at 930 (+40-0)°C with mechanical shock and a rated voltage of 240v rms. (60 mins fire and shock and 60 mins fire, shock and water)

MADE IN BRITAIN

FM/E1W

Further information

CE



FIREMATE™

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Length of Thread (mm)	Cable Acceptance Details							'G'	Hexagon Dimensions	
				Inner Sheath Ø 'A'				Outer Sheath 'B'		Armour Braid 'C'		Across Flats	Across Corners
				Standard Seal		Alternative Seal 'S'							
	Metric	NPT* Standard		Min	Max	Min	Max	Min	Max				
Os	M20[2]	½"	10.0	3.2	8.0	-	-	6.5	16.0	0.0	50.0	24.0	26.5
O	M20[2]	½"	10.0	6.5	11.9	-	-	6.5	16.0	0.8/1.25	50.0	24.0	26.5
A	M20	¾" or ½"	10.0	10.0	14.3	9.0	13.4	11.5	20.9	0.8/1.25	51.0	30.0	32.5
B	M25	1" or ¾"	10.0	13.0	20.2	9.5	15.4	17.0	27.2	1.25/1.6	55.0	36.0	39.5
C	M32	1¼" or 1"	10.0	19.5	26.5	15.5	21.2	23.5	33.6	1.6/2.0	57.0	46.0	50.5

T' - metric entry threads are 1.5mm pitch as standard. All dimensions in millimetres (except * where dimensions are in inches).

[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 & Test Standards	BS EN 62444:2013, BS 6121: Part 1 Type E1W, E1X, E1Y and E1Z
Ingress Protection	IP66, IP67 and IP68 (30 metres for 7 days) to IEC/EN 60529
Deluge Protection	to DTS01
Operating Temperature	-60°C to +80°C
Assembly Instruction	AI 372 (Sizes Os to F) and AI 303 (Sizes G to J)

Note: IP seal required to maintain IP66.

Fire Test

In accordance with BS EN50200:2006 (Resistance to fire with mechanical shock)	120mins at 830 (+40-0)°C with mechanical shock and a rated voltage of 240v rms.
Fire test: In accordance with BS 8434-2:2003 +A2 2009 (Resistance to fire with mechanical shock and water spray)	120mins at 930 (+40-0)°C with mechanical shock and a rated voltage of 240v rms. (60 mins fire and shock and 60 mins fire, shock and water)

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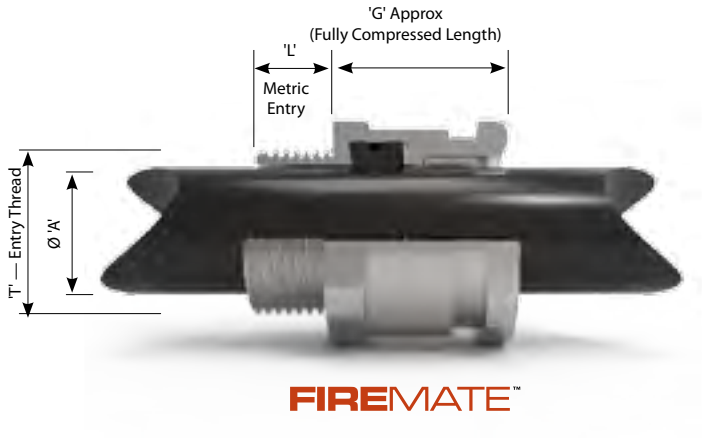
FM/A2

FireMate Industrial gland for indoor or outdoor use

MADE IN BRITAIN

CE



Cable Gland Selection Table

Size Ref.	Entry Thread Size 'T'	Length of Thread (mm) 'L'	Cable Acceptance Details		'G'	Hexagon Dimensions	
			Outer Sheath 'A'				
			Standard Seal				
	Metric		Min	Max		Across Flats	Across Corners
2K	M16	10.0	3.2	8.0	23.5	19.0	21.2
Os	M20[1]	10.0	3.7	8.0	23.5	19.0	21.2
O	M20[1]	10.0	6.5	11.9	23.5	24.0	26.5
A	M20	10.0	10.0	14.3	23.5	24.0	26.5
B	M25	10.0	13.0	20.2	28.0	32.0	36.0
C	M32	10.0	19.5	26.5	29.0	41.0	44.0

T' - metric entry threads are 1.5mm pitch as standard. All dimensions in millimetres

[1] *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 & Test Standards	BS EN 62444:2013 BS6121: Part 1 type A2
Ingress Protection	IP66 IEC/EN 60529
Material	Nickel Plated Brass with Intumescent Rubber Seal
Operating Temperature	Range: -20°C to +70°C
Sealing Arrangement	Single compression seal
Cable Type	Non armoured
Kit Information	Intumescent sealing material used for FireMate versions
Assembly Instructions	AI 507

Note: IP seal required to maintain IP66.

Fire Test

In accordance with BS EN50200:2006 (Resistance to fire with mechanical shock)	120mins at 830 (+40-0)°C with mechanical shock and a rated voltage of 240v rms.
Fire test: In accordance with BS 8434-2:2003 +A2 2009 (Resistance to fire with mechanical shock and water spray)	120mins at 930 (+40-0)°C with mechanical shock and a rated voltage of 240v rms. (60 mins fire and shock and 60 mins fire, shock and water)

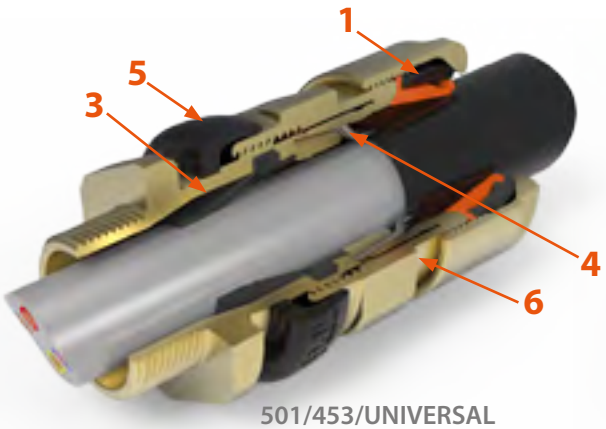
Mining Cable Glands

Hawke Cable glands for mining applications are designed to withstand much harsher operating conditions than equipment used in surface applications.

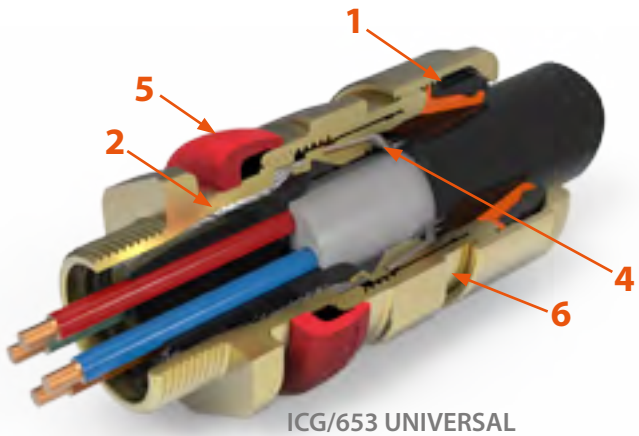
The mining industry was the birthplace for much of todays hazardous area certification. It was in these extremely tough and hostile mining environments that many modern day explosion proof products were born and this is also true for our range of cable glands.

Having serviced the mining industry for over 50 years, Hawke mining glands are recognised for their durability and ease of use.

Features



501/453/UNIVERSAL



ICG/653 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 with out 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. With a unique clear non-metallic compound chamber for both IEC and NEC application, the barrier seal can be made using either a QSP quick setting 2-part hand-mixed putty, or a liquid injectable and fast curing resin, allowing for faster installation time than traditional 2-part compounds. The transparent compound chamber allows full visibility of the flameproof seal during installation and inspection making the ExPress barrier resin unparalleled as a global solution.

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 prevents corrosion of the cable armour.

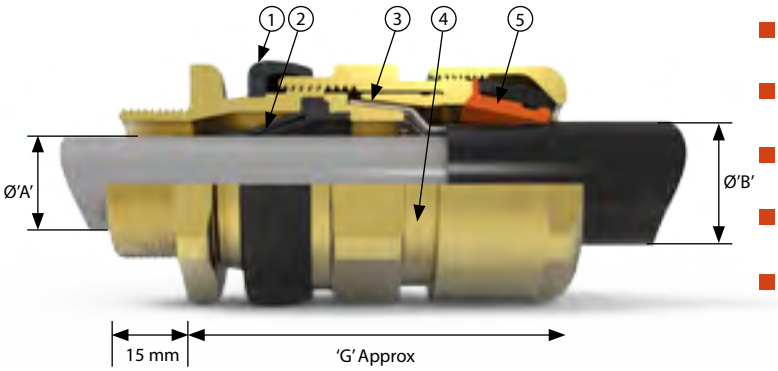
6 Cable Tightening Guide

To help address issues with the overtightening of cable glands and the resultant damage to cables and seals, Hawke International has developed the patented INBUILT TIGHTENING GUIDE. Without the need for fiddly measuring systems, the guide provides a permanent visual indication of the gland tightness through installation, inspection and maintenance. The gland is permanently marked with various lines/numbers indicating the correct tightening level related to the cable diameter. The backnut, once tightened to the line corresponding to the cable diameter, ensures there is no cable damage whilst still maintaining IP and pull-out.

MADE IN BRITAIN

453/UNIV GP1

Mining, Flameproof, Increased Safety
Certified ATEX / IECEx



1. Inspectable Deluge Seal - Offering IP66, IP67, IP68 & IP69 Ingress Protection
2. Passive diaphragm seal - Suitable for cables exhibiting 'Cold Flow.' Fully inspectable
3. Reversible Armour Clamp - For all types of armour and braid.
4. Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
5. Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

International Approvals

The 453 Universal group I mining Cable Gland is dual certified Exe/Exd, robust and 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, with a fully inspectable passive inner diaphragm seal. 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	Inner Sheath Ø'A'		Outer Sheath 'B'		Armour Braid 'C'			Across Flats	Across Corners
			Min	Max	Min	Max	Orientation 1	Orientation 2			
Os	M20	½"	3.5	8.1	5.5	12.0	0.8 / 1.25	0.0 / 0.8	58.4	24.0	26.5
O	M20	½"	6.5	11.4	9.5	16.0	0.8 / 1.25	0.0 / 0.8	58.4	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	59.6	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	66.4	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	71.2	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	75.2	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	98.0	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	94.4	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	102.0	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

Type of Protection	Flameproof Exdb I Mb, Increased Safety Exeb I Mb Ex IM2
ATEX Classification	CML 19ATEX1166X and CML 19.0044X
Area Classification	Suitable for use in Mines
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7
Ingress Protection	IP66, IP67, IP68 and IP69 (30 metres for 7 days, special conditions may apply) to IEC/EN 60529 (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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	Material	(Optional)
453/UNIV	C	M32	Brass	AR
453/UNIV	C	1¼" NPT	NP Brass	AR

Example Code: 453/UNIV C M32 Stainless

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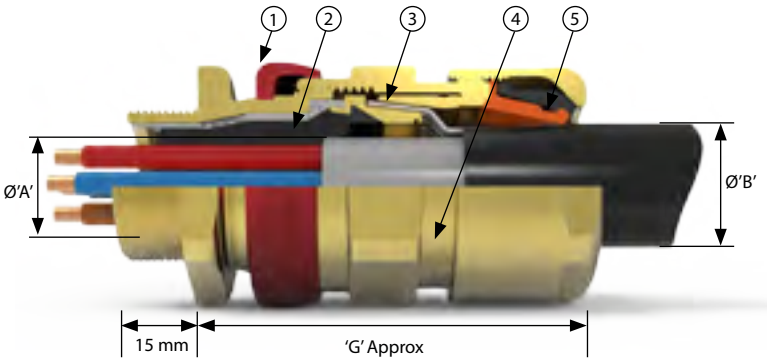
653/UNIV GP1

Mining, Flameproof, Increased Safety, Dust Protection
Certified ATEX/IECEx

MADE IN BRITAIN

- 1 Inspectable Deluge Seal
  - Offering IP66, IP67, IP68 & IP69 Ingress Protection
- 2 Transparent Elastomeric Fully Inspectable Compound Pot – compatible with both injectable resin and 2 part compound
- 3 Reversible Armour Clamp - For all types of armour and braid.
- 4 Patented Cable Gland Tightening Guide
  - Helps prevent damage caused by over tightening
- 5 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.



International Approvals

Dual certified Exe/Exd group I mining barrier gland, providing a seal around individual cable cores, especially for cables that exhibit "cold flow" characteristics, are not effectively filled, have hygroscopic fillers or fibre optic cores. For use with single wire armour 'W', wire braid 'X', steel tape armour 'Z' elastomer and plastic insulated cables. The 653/UNIVERSAL is available with either ExPress liquid barrier resin or QSP 2-part hand mix compound, both with a cure time of 30 minutes

Cable Gland Selection Table

Size Ref.	Entry Thread Size		Cable Acceptance Details								'G'	Hexagon Dimensions	
			Inner Sheath / Cores Ø'A'				Outer Sheath 'B'		Armour Braid 'C'				
	Metric	NPT* Standard	Max Inner Sheath 'E'	Max Over Core Diameter	Max No of Cores	Max No of Fibre Optic	Min	Max	Orientation 1	Orientation 2		Across Flats	Across Corners
Os	M20	½"	8.1	8.0	12	48.0	5.5	12.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
O	M20	½"	11.7	8.8	12	48.0	9.5	16.0	0.8/1.25	0.0/0.8	58.4	24.0	26.5
A	M20	¾" or ½"	14.0	10.8	15	72.0	12.5	20.5	0.8/1.25	0.0/0.8	60.6	30.0	32.5
B	M25	1" or ¾"	19.9	15.9	30	144.0	16.9	26.0	1.25/1.6	0.0/0.7	67.3	36.0	39.5
C	M32	1¼" or 1"	26.2	21.9	42	-	22.0	33.0	1.6/2.0	0.0/0.7	73.2	46.0	50.5
C2	M40	1½" or 1¼"	32.3	26.7	60	-	28.0	41.0	1.6/2.0	0.0/0.7	78.3	55.0	60.6
D	M50	2"	44.2	37.7	80	-	36.0	52.6	1.8/2.5	0.0/1.0	97.5	65.0	70.8
E	M63	2½"	56.0	49.0	100	-	46.0	65.3	1.8/2.5	0.0/1.0	93.5	80.0	88.0
F	M75	3"	68.0	59.8	120	-	57.0	78.0	1.8/2.5	0.0/1.0	104.5	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

Type of Protection	Flameproof Exdb I Mb, Increased Safety Exeb I Mb Ex IM2
ATEX Classification	Certificate No's: CML19ATEX1169X and IECEx CML 19.0047X
Area Classification	Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7
Ingress Protection	IP66, IP67, IP68 (30 metres for 7 days, special conditions may apply) and IP69 to IEC/EN 60529 and NEMA 4X (when installed with a Hawke IP washer)
Deluge Protection	To DTS01
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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	Barrier Type	Material	(Optional)
653/UNIV	C	M32	- (Standard 2 part compound)	Brass	AR
653/UNIV	C	1 1/4"	EP (ExPress Resin)	Brass	AR

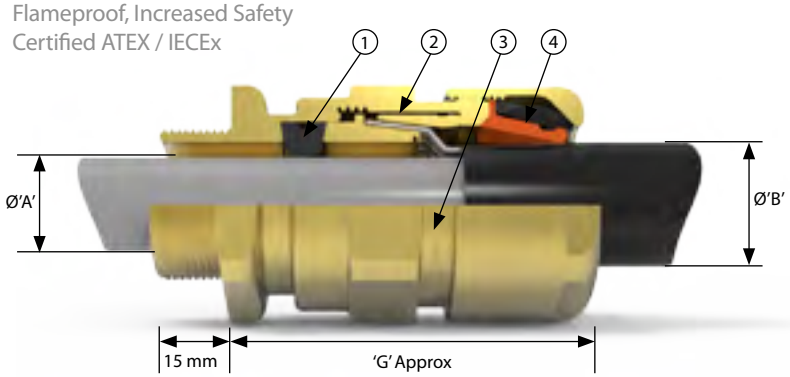
Example Code: 653/UNIV C M32 EP Stainless Steel
Two part sealing compound and assembly instructions are supplied with the cable gland

MADE IN BRITAIN

453/RAC GP1

Mining
Flameproof, Increased Safety
Certified ATEX / IECEx

International Approvals



- 1 Elastomeric Exd flameproof seal on cable inner sheath
- 2 Reversible Armour Clamp - For all types of armour and braid.
- 3 Patented Cable Gland Tightening Guide - Helps prevent damage caused by over tightening
- 4 Unique Rear Seal - Offering ultimate sealing over an extremely wide cable acceptance range.

The 453/RAC group I mining Cable Gland is dual certified Exe/Exd, robust and for use with single wire armour 'W', wire braid 'X', steel tape armour 'Z', elastomer and plastic insulated cables The gland provides an elastomeric seal on the cable inner sheath, and a low smoke, zero halogen IP and retention seal onto the cable outer 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	Inner Sheath Ø'A'				Outer Sheath 'B'		Armour Braid 'C'		'G'	Across Flats	Across Corners
			Standard Seal		Alternative Seal (S)								
			Min	Max	Min	Max	Min	Max	Orientation 1	Orientation 2			
Os	M20	½"	3.2	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	9.0	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"	13.0	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"	19.5	26.5	15.5	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]	49.5	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

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

Technical Data

Type of Protection	Flameproof Exdb I Mb, Increased Safety Exeb I Mb Ex IM2
ATEX Classification	CML 19ATEX1165X and CML 19.0043X
Area Classification	Suitable for use in Mines
Construction & Test Standards	IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-7
Ingress Protection	IP66, IP67 and IP68* (30 metres for 7 days, special conditions apply) to IEC/EN 60529 (when installed with a Hawke IP washer)
Operating Temperature	-60°C to +80°C

Alternative Reversible Armour Clamping Ring Size Selection

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 Seal (S), Alternative Clamping Ring (AR), add suffix S and/or AR to ordering information

Cable Gland Type	Size	Thread	Material	(Optional)
453/RAC	C	M32	Brass	AR
453/RAC	C	1¼" NPT	Brass	S

Order Example: 453/RAC C M32 BRASS AR

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To easily overcome fitting issues, we have produced an extensive range of thread adaptors, reducers and fittings. These enable interconnection of dissimilar sized connections on cable glands and enclosures while remaining compliant with international standards and approvals. This ensures that the integrity of equipment and safety in hazardous environments is not compromised.

Designed and Manufactured in the UK

All of our cable glands and related accessories are designed and manufactured from our world-class facility in Manchester, UK where they have been produced for over 60 years.

MADE IN BRITAIN

375

Domed Head Stopping Plug

MADE IN BRITAIN

Selection Table

Thread Size	'S' Dia (mm)	Allen Key (mm)
M16	23	8
M20	27.5	10
M25	32	10
M32	39	10
M40	49	10
M50	59	10
M63	72	10
M75	84	10

Ordering Information

Product	Thread Size	Material	Finish
375	M32	N/A	N/A

General Information

- Manufactured in Polyamide with Nitrile O-Ring.
- M16 to M75 as standard.
- Thread length is 15mm as standard.
- Metric entry threads are 1.5mm pitch as standard.
- 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 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 410.

Certification Details

- Increased Safety Exe IIC Gb, Extb IIIC Db, II 2GD.
- Certificate No's: Baseefa 12ATEX0095X and IECEx BAS 12.0065X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +75°C.
- Group II and III.

390

Hexagon Head Stopping Plug

MADE IN BRITAIN

Selection Table

Thread Size	Length of Thread (mm)	Across Flats (mm)	Across Corners (mm)
M16	15	24	26.5
M20	15	30	32.5
M25	15	36	39.5
M32	15	46	50.5
M40	15	55	60.6
M50	15	65	70.8
M63	15	80	88
M75	15	95	104

Ordering Information

Product	Thread Size	Material	Finish
390	M32	Brass	Nickel Plated

Note: When ordering metric threads larger than M75, include the thread pitch details

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel. (Aluminium for Group II use only).
- M16 to M130 as standard.
- M16 to M75 are 1.5mm pitch as standard.
- M80 to M130 are 2.0mm pitch as standard (20mm thread length).
- Other parallel thread options available on request, including BSPP, PG, ET and NPSM. NPT threads also available.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 412.

Certification Details

- Increased Safety Exe I Mb, Exe IIC Gb, Extb IIIC Db, I M2/II 2GD.
- Certificate No's: Baseefa 11ATEX0157X and IECEx BAS 11.0079X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range: Nitrile 'O' Ring fitted as standard -60°C to +80°C Silicone Option -60°C to +160°C.
- Group 1, II and III.

MADE IN BRITAIN

383

Earth Lead Adaptor (Male to Female)

General Information

- Manufactured in Brass, Nickel Plated Brass and Stainless Steel.
- PVC Insulated Cable as standard, (Optional LSOH cable).
- M20 to M75 as standard, other thread forms available on request.
- Different thread sizes and types are permitted each end of the adaptor. The thread sizes may differ by one size only.
- If longer cable lengths than standard are required, advise length in millimeters.
- 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 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 413.

Selection Table

Thread Size Male / Female	Across Flats (mm)	Across Corners (mm)	Cable Length (mm)	Cable Size (sq. mm)
M20 / M20	24	26.5	250	4
M25 / M25	30	32.5	250	4
M32 / M32	36	39.5	250	6
M40 / M40	46	50.5	250	10
M50 / M50	55	60.5	500	16
M63 / M63	70	77.5	500	25
M75 / M75	80	88	500	25

Certification Details

- Increased Safety Exe IIC Gb, Extb IIIC Db, II 2GD.
- Certificate No's: Baseefa 11ATEX0152X and IECEx BAS 11.0074X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +80°C.
- Group II and III.

Ordering Information

Product	Thread Size	Material	Finish
383	M32 Male x M32 Female	Brass	Nickel Plated

Note: Always state the male thread first

MADE IN BRITAIN

389

Breather Drain & Locknut

General Information

- Manufactured in Brass, Nickel Plated Brass, Stainless Steel – Grade 316L. O Ring manufactured from Silicone Rubber.
- M20 and M25 with 1.5mm pitch as standard.
- Longer thread lengths are available on request.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 408.

Selection Table

Thread Size	Length of Thread (mm)	Across Flats (mm)	Across Corners (mm)
M20	15	30	32.5
M25	15	36	39.5

Ordering Information

Product	Thread Size	Pitch	Material	Finish
389	M25	1.5 mm	Brass	Nickel Plated

Certification Details

- Increased Safety Exe I Mb, Exe IIC Gb, Extb IIIC Db, I M2 / II 2GD.
- Certificate No's: Baseefa 11ATEX0153X and IECEx BAS 11.0075X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range:
  Nitrile 'O' Ring fitted as standard -60°C to +80°C
  Silicone Option -60°C to +160°C
- Group I, II and III.

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475

Tamper Proof Stopping Plug

MADE IN BRITAIN

Selection Table

Thread Size	Thread Size (NPT)	Allen Key (mm)
M16	½" *	6 / 10 *
M20	¾" or ½"	10
M25	1" or ¾"	10
M32	1 ¼" or 1"	10
M40	1 ½" or 1 ¼"	10
M50	2" or 1 ½"	10
M63	2 ½" or 2"	10
M75	3" or 2 ½"	10

** smaller size if for M16 only.*

Ordering Information

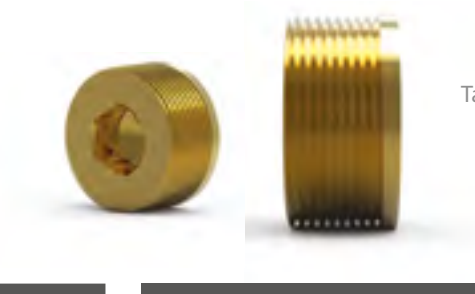
Product	Thread Size	Material	Finish
475	M32	Brass	Nickel Plated

General Information

- The 475 is fitted from outside of the enclosure.
- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel. (Aluminium for Group II use only).
- M16 to M75 as standard.
- Other thread options available on request, including BSPP, PG, NPT and ET.
- Metric entry threads are 1.5mm pitch as standard.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 404.

Certification Details

- Flameproof Exd I Mb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Baseefa 10ATEX0262X and IECEx BAS 10.0120X
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +160°C.
- Group I, II and III.



477

Tamper Proof Stopping Plug

MADE IN BRITAIN

Selection Table

Thread Size	Thread Size (NPT)	Allen Key (mm)
M16	½" *	6 / 10 *
M20	¾" or ½"	10
M25	1" or ¾"	10
M32	1 ¼" or 1"	10
M40	1 ½" or 1 ¼"	10
M50	2" or 1 ½"	10
M63	2 ½" or 2"	10
M75	3" or 2 ½"	10

* smaller size if for M16 only.

Ordering Information

Product	Thread Size	Material	Finish
477	M32	Brass	Nickel Plated

General Information

- The 477 is fitted from inside of the enclosure.
- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel. (Aluminium for Group II use only).
- M16 to M75 as standard.
- Other parallel thread options available on request, including BSPP, PG, NPT and ET.
- Metric entry threads are 1.5mm pitch as standard.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 404.

Certification Details

- Flameproof Exd IM2, Exd IIC Gb, Extb IIIC Db, IM2 II 2GD.
- Certificate No's: Baseefa 10ATEX0262X and IECEx BAS 10.0120X
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +160°C.
- Group I, II and III.

MADE IN BRITAIN

487

Domed Head Stopping Plug

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel. (Aluminium for Group II use only).
- M16 to M130 as standard.
- Other parallel thread options available on request, including BSPP, PG, NPSM and ET. NPT available as 387 Exe Plug.
- Metric entry threads are 1.5mm pitch as standard.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 411.

Selection Table

Thread Size	Length of Thread (mm)	Overall Dia. (mm)	Allen Key (mm)
M16	15	24	6
M20	15	26.5	10
M25	15	34	10
M32	15	45	10
M40	15	51.5	10
M50	15	61.5	10
M63	15	74.5	10
M75	15	86.5	10

Certification Details

- Increased Safety and Flameproof Exe I Mb, Exd I Mb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Baseefa 11ATEX0149X and IECEx BAS 11.0071X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range:
  Nitrile 'O' Ring fitted as standard -60°C to +80°C
  Silicone Option -60°C to +160°C
- Group I, II and III.

Ordering Information

Product	Thread Size	Material	Finish
487	M32	Brass	Nickel Plated

Note: When ordering metric threads larger than M75, include the thread pitch details.

MADE IN BRITAIN

489

Breather Drain

General Information

- The Breather Drain may only be fitted to the underside Exd enclosures with internal volumes of 2.5 litres or less.
- Manufactured in Brass, Nickel Plated Brass, Stainless Steel – Grade 316L.
- Nitrile O Ring supplied as standard, Silicone option available.
- M20 and M25 with 1.5mm pitch as standard.
- Other thread options available on request, including BSPP, PG, NPT, ET and NPSM.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0 & IEC/EN 60079-1 and IEC/EN 60079-31.
- Ingress Protection: IP66.
- Assembly Instruction Sheet: AI 409.

Selection Table

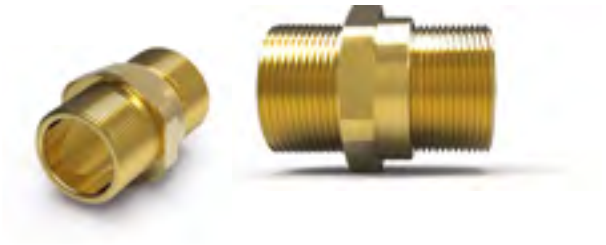
Thread Size	Length of Thread (mm)	Across Flats (mm)	Across Corners (mm)
M20	15	30	32.5
M25	15	36	39.5

Certification Details

- Flameproof Exd I Mb, Exd IIC, Extb IIIC Db IM2 / II 2GD.
- Certificate No's: Baseefa 11ATEX0154X and IECEx BAS 11.0076X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Ambient Temperature Range -60°C to +60°C.
- Temperature Classification: T6.
- Group I, II and III.

Ordering Information

Product	Thread Size	Material	Finish
489	M20	Brass	Nickel Plated



479

Inline Adaptor (Male to Male)

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Male Thread Size	Thread Pitch (mm)	Thread Length (mm)	Across Flats (mm)	Across Corners (mm)
M16	1.5	M16	1.5	15	24	26.5
M20	1.5	M20	1.5	15	30	32.5
M25	1.5	M25	1.5	15	36	39.5
M32	1.5	M32	1.5	15	46	50.5
M40	1.5	M40	1.5	15	55	60.6
M50	1.5	M50	1.5	15	65	70.8
M63	1.5	M63	1.5	15	80	88
M75	1.5	M75	1.5	15	95	109.5

Note: Different thread sizes and types are permitted at each end of the adaptor, a step of one thread size is permitted between the male threads.
Where different thread types/ sizes are supplied, the overall dimensions of the adaptor may differ from the ones in the table

Ordering Information

Product	Thread Size	Material	Finish
479	M32 Male x 1 ¼" NPT Male	Brass	Nickel Plated

General Information

- Manufactured in Brass, Nickel Plated Brass, Aluminium, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other thread options available on request, including BSPP, PG, NPT, ET and NPSM.
- Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 414.

Certification Details

- Increased Safety and Flameproof Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, II 2GD.
- Certificate No's: Baseefa 11ATEX0150U and IECEx BAS 11.0072U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +200°C.
- Group II and III.

** The operating temperature may have to be reduced if an IP washer is used*

480

Inline Adaptor (Female to Female)

MADE IN BRITAIN

Selection Table

Female Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Across Flats (mm)	Across Corners (mm)
M16	1.5	M16	1.5	16	24	26.5
M20	1.5	M20	1.5	16	30	32.5
M25	1.5	M25	1.5	16	36	39.5
M32	1.5	M32	1.5	16	46	50.5
M40	1.5	M40	1.5	16	55	60.6
M50	1.5	M50	1.5	16	65	70.8
M63	1.5	M63	1.5	16	80	88
M75	1.5	M75	1.5	16	95	109.5

Note: Different thread sizes and types are permitted at each end of the adaptor, a step of one thread size is permitted between the female threads.
Where different thread types/ sizes are supplied, the overall dimensions of the adaptor may differ from the ones in the table

Ordering Information

Product	Thread Size	Material	Finish
479	M32 Female x 1 ¼" NPT Female	Brass	Nickel Plated

General Information

- Manufactured in Brass, Nickel Plated Brass, Aluminium, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other thread options available on request, including BSPP, PG, NPT, ET and NPSM.
- Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 414.

Certification Details

- Increased Safety and Flameproof Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, II 2GD.
- Certificate No's: Baseefa 11ATEX0150U and IECEx BAS 11.0072U
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +200°C.
- Group II and III.

** The operating temperature may have to be reduced if an IP washer is used*

MADE IN BRITAIN

SIZE GUIDE

Selection Guides for Adaptors and Reducers

A = Adaptor
R = Reducer

Male Thread			Female Thread: METRIC & ET																Female Thread: NPT, BSPP, BSPTr & NPSM														Female Thread: PG									
			½"	⅝"	¾"	1"	1¾"	1½"	2"	2½"																															
			M12	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M115	M120	M130	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	5"	6"	PG7	PG9	PG11	PG135	PG16	PG21	PG29	PG36	PG42	PG48
METRIC & ET	½"*	M12*	A	A	A														A	A												A	A	A							
	⅝"	M16*	A	A	A	A													A	A	A											A	A	A	A						
	¾"	M20	R	A	A	A	A												A	A	A	A										R	A	A	A	A	A				
	1"	M25	R	R	R	A	A	A											R	A	A	A	A									R	R	R	A	A	A	A			
	1¼"	M32	R	R	R	R	A	A	A										R	R	R	A	A	A								R	R	R	R	R	A	A	A		
	1½"	M40	R	R	R	R	R	A	A	A									R	R	R	R	A	A	A							R	R	R	R	R	R	A	A	A	
	2"	M50	R	R	R	R	R	R	A	A	A								R	R	R	R	R	A	A	A						R	R	R	R	R	R	R	A	A	A
	2½"	M63	R	R	R	R	R	R	R	A	A	A							R	R	R	R	R	R	A	A	A					R	R	R	R	R	R	R	R	R	A
		M75	R	R	R	R	R	R	R	R	A	A	A						R	R	R	R	R	R	R	A	A	A				R	R	R	R	R	R	R	R	R	R
		M80	R	R	R	R	R	R	R	R	R	A	A	A					R	R	R	R	R	R	R	R	A	A	A			R	R	R	R	R	R	R	R	R	R
		M90	R	R	R	R	R	R	R	R	R	R	A	A	A				R	R	R	R	R	R	R	R	A	A	A			R	R	R	R	R	R	R	R	R	R
		M100	R	R	R	R	R	R	R	R	R	R	R	A	A	A			R	R	R	R	R	R	R	R	R	A	A	A		R	R	R	R	R	R	R	R	R	R
		M110	R	R	R	R	R	R	R	R	R	R	R	R	A	A	A		R	R	R	R	R	R	R	R	R	R	A	A	A	R	R	R	R	R	R	R	R	R	R
		M115	R	R	R	R	R	R	R	R	R	R	R	R	R	A	A	A	R	R	R	R	R	R	R	R	R	R	A	A	A	R	R	R	R	R	R	R	R	R	R
		M120	R	R	R	R	R	R	R	R	R	R	R	R	R	R	A	A	R	R	R	R	R	R	R	R	R	R	R	A	A	R	R	R	R	R	R	R	R	R	R
		M130	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	A	R	R	R	R	R	R	R	R	R	R	R	A	A	R	R	R	R	R	R	R	R	R	R
NPT, BSPP, BSPTr & NPSM	½"*	⅜"*	A	A	A	A													A	A	A											A	A	A	A						
	⅝"	½"	R	A	A	A	A												A	A	A	A										R	R	A	A	A	A				
	¾"	¾"	R	R	R	A	A	A											R	A	A	A	A									R	R	R	R	A	A	A			
	1"	1"	R	R	R	R	A	A	A										R	R	R	A	A	A								R	R	R	R	R	A	A	A		
	1¼"	1 ¼"	R	R	R	R	R	A	A	A									R	R	R	R	A	A	A							R	R	R	R	R	R	A	A	A	
	1½"	1 ½"	R	R	R	R	R	R	A	A	A								R	R	R	R	A	A	A	A						R	R	R	R	R	R	R	R	A	A
	2"	2"	R	R	R	R	R	R	R	A	A	A							R	R	R	R	R	R	A	A	A					R	R	R	R	R	R	R	R	R	R
	2½"	2 ½"	R	R	R	R	R	R	R	R	A	A	A						R	R	R	R	R	R	R	A	A	A				R	R	R	R	R	R	R	R	R	R
		3"	R	R	R	R	R	R	R	R	R	R	A	A	A				R	R	R	R	R	R	R	R	A	A	A			R	R	R	R	R	R	R	R	R	R
		3 ½"	R	R	R	R	R	R	R	R	R	R	R	A	A	A			R	R	R	R	R	R	R	R	R	A	A	A		R	R	R	R	R	R	R	R	R	R
		4"	R	R	R	R	R	R	R	R	R	R	R	R	A	A	A		R	R	R	R	R	R	R	R	R	R	A	A	A	R	R	R	R	R	R	R	R	R	R
		5"	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	A	A	R	R	R	R	R	R	R	R	R	R
		6"	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	A	R	R	R	R	R	R	R	R	R	R
PG		PG7*	A	A	A														A	A												A	A	A							
		PG9	A	A	A														A	A												A	A	A	A						
		PG11*	R	A	A	A													A	A	A											R	A	A	A	A					
		PG13.5	R	A	A	A	A												A	A	A	A										R	R	A	A	A	A				
		PG16	R	R	A	A	A	A											R	A	A	A										R	R	A	A	A	A	A			
		PG21	R	R	R	A	A	A											R	R	A	A	A									R	R	R	R	R	A	A	A		
		PG29	R	R	R	R	R	A	A	A									R	R	R	A	A	A								R	R	R	R	R	R	A	A	A	
		PG36	R	R	R	R	R	R	A	A	A								R	R	R	R	A	A	A							R	R	R	R	R	R	R	A	A	A
		PG42	R	R	R	R	R	R	A	A	A								R	R	R	R	R	A	A							R	R	R	R	R	R	R	R	A	A
		PG48	R	R	R	R	R	R	R	A	A								R	R	R	R	R	R	A	A						R	R	R	R	R	R	R	R	R	A

Ordering Example:

Product	Thread Size	Material	Product	Thread Size	Material
Locknut	M25	Brass	Locknut	1" NPT	Brass

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SIZE GUIDE

Selection Guides for Adaptors and Reducers

MADE IN BRITAIN

Metric – BS 3643

Size	Major Dia. (mm)	Pitch (mm)
M12	11.97	1.5
M16	15.97	1.5
M20	19.97	1.5
M25	24.97	1.5
M32	31.97	1.5
M40	39.97	1.5
M50	49.97	1.5
M63	62.97	1.5
M75	74.97	1.5
M80	79.97	2
M90	89.97	2
M100	99.97	2
M110	109.97	2
M115	114.97	2
M120	115.97	2
M130	129.97	2

Pipe Gauge PG – DIN 40430

Size	Major Dia. (mm)	TPI
PG 7	12.5	20
PG 9	15.2	18
PG 11	18.6	18
PG 13.5	20.4	18
PG 16	22.5	18
PG 21	28.3	16
PG 29	37	16
PG 36	47	16
PG 42	54	16
PG 48	59.3	16

Electrical Thread Imperial ET – BS 31

Size	Major Dia. (mm)	TPI
½"	12.5	18
5/8"	15.88	16
¾"	19.05	16
1"	25.4	16
1 ¼"	31.75	16
1 ½"	38.1	14
2"	50.8	14
2 ½"	63.5	14

National Pipe Thread NPT – USAS B 2.1 Taper 1 in 15 on Major Diameter

Size	Major Dia. (mm)	TPI
3/8"	17.15	18
½"	21.34	14
¾"	26.67	14
1"	33.4	11 ½
1 ¼"	42.16	11 ½
1 ½"	48.26	11 ½
2"	60.33	11 ½
2 ½"	73.03	8
3"	88. 90	8
3 ½"	101.6	8
4"	114.3	8
5"	141.3	8
6"	168.28	8

National Pipe Straight Mechanical NPSM – USAS B 2.1

Size	Major Dia. (mm)	TPI
3/8"	17.15	18
½"	21.34	14
¾"	26.67	14
1"	33.4	11 ½
1 ¼"	42.16	11 ½
1 ½"	48.26	11 ½
2"	60.33	11 ½
2 ½"	73.03	8
3"	88. 90	8
3 ½"	101.6	8
4"	114.3	8
5"	141.3	8
6"	168.28	8

British Standard Pipe - Parallel BSPP – BS 2779 & BSPTr – BS 21

Size	Major Dia. (mm)	TPI
3/8"	16.66	19
½"	20.96	14
¾"	26.44	14
1"	33.25	11
1 ¼"	41.91	11
1 ½"	47.8	11
2"	59.61	11
2 ½"	75.18	11
3"	87.88	11
4"	113.03	11
5"	138.43	11
6"	163.35	11

MADE IN BRITAIN

476

Adaptor/Reducer (Male to Female)

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel. (Aluminium for Group II use only).
- M12 to M130 (¾" NPT to 6" NPT) as standard.
- Other thread options available on request, including BSPP, BSPTr, PG, ET, NPT and NPSM.
- Up to two step thread sizes above the male thread on the adaptor is permitted.
- Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 380.

Certification Details

- Increased Safety and Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Baseefa 11ATEX0067X and IECEx BAS 11.0037X.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +200°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

Ordering Information

Product	Thread Size	Material	Finish
476/Adaptor	M20 Male x 1" NPT Female	Brass	Nickel Plated

Ordering Information

Product	Thread Size	Material	Finish
476/Reducer	M32 Male x M20 Female	Stainless Steel	N/A

Always state the male thread first.
Note: When ordering metric threads larger than M75, include the thread pitch details.

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490

Swivel In-Line Union with Lockstop (M to F)

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Typical A/F (mm) 'E'	Typical A/C (mm) 'F'
M16	1.5	M16	1.5	16	36	39.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	46	50.5
M32	1.5	M32	1.5	16	46	50.5
M40	1.5	M40	1.5	16	65	70.8
M50	1.5	M50	1.5	16	65	70.8
M63	1.5	M63	1.5	16	95	104
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the inline swivel, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the inline swivel may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
490	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other parallel male thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Integral Silicone O Ring seal.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 416.

Certification Details

- Increased Safety & Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Sira 11ATEX1347U and IECEx SIR 11.0152U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +100°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

491

Swivel In-Line Union (M to F)

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Typical A/F (mm) 'E'	Typical A/C (mm) 'F'
M16	1.5	M16	1.5	16	36	39.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	46	50.5
M32	1.5	M32	1.5	16	46	50.5
M40	1.5	M40	1.5	16	65	70.8
M50	1.5	M50	1.5	16	65	70.8
M63	1.5	M63	1.5	16	95	104
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the inline swivel, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the inline swivel may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
491	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Integral Silicone O Ring seal.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 417.

Certification Details

- Increased Safety & Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Sira 11ATEX1347U and IECEx SIR 11.0152U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +100°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

MADE IN BRITAIN

492

Swivel 90° Elbow with Lockstop (M to F)

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other parallel male thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Integral Silicone O Ring seal.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 418.

Certification Details

- Increased Safety & Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Sira 11ATEX1347U and IECEx SIR 11.0152U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +100°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Typical A/F (mm) 'C'	Typical A/C (mm) 'D'
M16	1.5	M16	1.5	16	36	39.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	55	60.6
M32	1.5	M32	1.5	16	55	60.6
M40	1.5	M40	1.5	16	80	88
M50	1.5	M50	1.5	16	80	88
M63	1.5	M63	1.5	16	95	104
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the elbow, a step of one thread size is permitted between the two threads. Where different thread types / sizes are supplied, the overall dimensions of the elbow may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
492	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

MADE IN BRITAIN

493

Swivel 90° Elbow (M to F)

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Integral Silicone O Ring seal.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 419.

Certification Details

- Increased Safety & Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Sira 11ATEX1347U and IECEx SIR 11.0152U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +100°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Typical A/F (mm) 'C'	Typical A/C (mm) 'D'
M16	1.5	M16	1.5	16	36	39.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	55	60.6
M32	1.5	M32	1.5	16	55	60.6
M40	1.5	M40	1.5	16	80	88
M50	1.5	M50	1.5	16	80	88
M63	1.5	M63	1.5	16	95	104
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the elbow, a step of one thread size is permitted between the two threads. Where different thread types / sizes are supplied, the overall dimensions of the elbow may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
493	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

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494

90° Fixed Elbow (M to F)

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Typical A/F (mm) 'C'	Typical A/C (mm) 'D'
M16	1.5	M16	1.5	16	36	39.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	55	60.6
M32	1.5	M32	1.5	16	55	60.6
M40	1.5	M40	1.5	16	80	88
M50	1.5	M50	1.5	16	80	88
M63	1.5	M63	1.5	16	95	104
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the elbow, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the elbow may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
494	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M20 to M75 as standard.
- Other thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- NPT threads are not permitted on the male threaded selection.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 428.

Certification Details

- Increased Safety & Flameproof Exe IMb, Exd IMb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, IM2 / II 2GD.
- Certificate No's: Sira 11ATEX1347U and IECEx SIR 11.0152U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +100°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

495

90° Fixed Elbow (M to M)

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Male Thread Size	Thread Pitch (mm)	Male Thread Length (mm)	Typical Block Size (mm)
M20	1.5	M20	1.5	15	27
M25	1.5	M25	1.5	15	35
M32	1.5	M32	1.5	15	42
M40	1.5	M40	1.5	15	50
M50	1.5	M50	1.5	15	60
M63	1.5	M63	1.5	15	78
M75	1.5	M75	1.5	15	90

Note: Different thread sizes and types are permitted at each end of the elbow, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the elbow may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
495	M32 Male x M32 Male	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M20 to M75 as standard.
- Other thread options available on request, including BSPP, PG, ET and NPSM. NPT threads are not permitted.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 429.

Certification Details

- Flameproof Exd IIC Gb, Increased Safety Exe IIC Gb and Dust Extb IIIC Db II 2GD.
- Certificate No's: Baseefa 14ATEX0014U and IECEx BAS 14.0002U
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +200°C.
- Group II and III.

** The operating temperature may have to be reduced if an IP washer is used*

MADE IN BRITAIN

496

Swivel 90° Fixed Elbow (F to F)

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M20 to M75 as standard.
- Other parallel male thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and mining applications.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 430.

Selection Table

Female Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Female Thread Length (mm)	Typical Block Size (mm)
M20	1.5	M20	1.5	16	27
M25	1.5	M25	1.5	16	35
M32	1.5	M32	1.5	16	42
M40	1.5	M40	1.5	16	50
M50	1.5	M50	1.5	16	60
M63	1.5	M63	1.5	16	78
M75	1.5	M75	1.5	16	90

Note: Different thread sizes and types are permitted at each end of the elbow, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the elbow may increase in size.

Certification Details

- Flameproof Exd IIC Gb, Increased Safety Exe IIC Gb and Dust Extb IIIC Db II 2GD.
- Certificate No's: Baseefa 14ATEX0014U and IECEx BAS 14.0002U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -60°C to +200°C.
- Group II and III.

** The operating temperature may have to be reduced if an IP washer is used*

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
496	M32 Female x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

MADE IN BRITAIN

481

Union (M to F)

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other parallel thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1 and Zone 2.
- Construction and Test Standards: IEC/EN 60079-0 and IEC/EN 60079-1.
- Ingress Protection: IP54.
- Assembly Instruction Sheet: AI 407.

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Across Flats (mm)	Across Corners (mm)
M16	1.5	M16	1.5	16	30	32.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	46	50.5
M32	1.5	M32	1.5	16	46	50.5
M40	1.5	M40	1.5	16	55	60.5
M50	1.5	M50	1.5	16	80	88
M63	1.5	M63	1.5	16	80	88
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the adaptor, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the adaptor may increase in size.

Certification Details

- Flameproof Exd IIC Gb, II 2G.
- Certificate No's: Baseefa 14ATEX0014U and IECEx BAS 14.0002U
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +80°C.
- Group II.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
481	M32 Male x M32 Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

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482

Union (F to F)

MADE IN BRITAIN

Selection Table

Female Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Across Flats (mm)	Across Corners (mm)
M16	1.5	M16	1.5	16	30	32.5
M20	1.5	M20	1.5	16	36	39.5
M25	1.5	M25	1.5	16	46	50.5
M32	1.5	M32	1.5	16	46	50.5
M40	1.5	M40	1.5	16	55	60.5
M50	1.5	M50	1.5	16	80	88
M63	1.5	M63	1.5	16	80	88
M75	1.5	M75	1.5	16	95	104

Note: Different thread sizes and types are permitted at each end of the union, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the union may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
482	M32 Female x M32 Female	1.5 mm	Brass	Nickel Plated

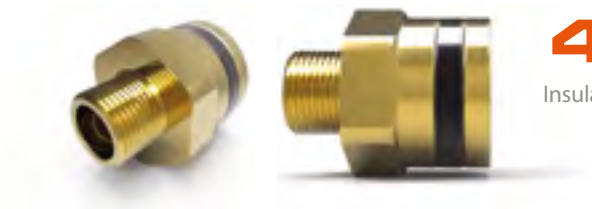
Always state the male thread first.

General Information

- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel and Stainless Steel.
- M16 to M75 as standard.
- Other parallel thread options available on request, including BSPP, PG, ET and NPSM.
- NPT female threads can also be supplied in sizes ranging from ½" to 3".
- Suitable for use in Zone 1 and Zone 2.
- Construction and Test Standards: IEC/EN 60079-0 and IEC/EN 60079-1.
- Ingress Protection: IP54.
- Assembly Instruction Sheet: AI 407.

Certification Details

- Flameproof Exd IIC Gb, II 2G.
- Certificate No's: Baseefa 14ATEX0155U and IECEx BAS 11.0077U.
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- Operating Temperature Range -60°C to +80°C.
- Group II.



478

Insulated Adaptor

MADE IN BRITAIN

Selection Table

Male Thread Size	Thread Pitch (mm)	Female Thread Size	Thread Pitch (mm)	Thread Length (mm)	Across Flats (mm)	Across Corners (mm)
M20	1.5	M20	1.5	15	36	39.5
M25	1.5	M25	1.5	15	46	50.5
M32	1.5	M32	1.5	15	55	60.6
M40	1.5	M40	1.5	15	65	70.5
M50	1.5	M50	1.5	15	80	88
M63	1.5	M63	1.5	15	95	104
M75	1.5	M75	1.5	15	106.4	115

Note: Different thread sizes and types are permitted at each end of the adaptor, a step of one thread size is permitted between the two threads.
Where different thread types / sizes are supplied, the overall dimensions of the adaptor may increase in size.

Ordering Example:

Product	Thread Size	Pitch	Material	Finish
478	M20 Male x ¾" NPT Female	1.5 mm	Brass	Nickel Plated

Always state the male thread first.

General Information

- For converting dissimilar or similar thread forms or thread sizes and insulating cable gland entry from the equipment.
- Manufactured in Brass, Nickel Plated Brass, Steel, Nickel Plated Steel, Stainless Steel. (Aluminium for Group II use only).
- Insulating Material: Polyamide
- M20 to M75 as standard.
- Other parallel thread options available on request, including BSPP, PG, ET and NPSM.
- NPT threads can also be supplied in sizes ranging from ½" to 3"
- Suitable for use in Zone 1, Zone 2, Zone 21 and Zone 22.
- Construction and Test Standards: IEC/EN 60079-0, IEC/EN 60079-1 IEC/EN 60079-7 and IEC/EN 60079-31.
- Ingress Protection: IP66. (when installed with a Hawke washer)
- Assembly Instruction Sheet: AI 426.

Certification Details

- Increased Safety and Flameproof Exe I Mb, Exd I Mb, Exe IIC Gb, Exd IIC Gb, Extb IIIC Db, I M2 / II 2GD.
- Certificate No's: Baseefa 12ATEX0207X and IECEx BAS 12.0111X
- Ex TC RU C-GB.ГБ05.B.00750 EAC
- *Operating Temperature Range -55°C to +95°C.
- Group I, II and III.

** The operating temperature may have to be reduced if an IP washer is used*

MADE IN BRITAIN

SHROUDS

For Hawke Cable Glands

General Information

- Available to fit Hawke gland sizes Os to J.
- Suitable for outdoor or indoor use.
- For fitting over cable glands when additional environmental and corrosion protection is required.
- Manufactured in Low Smoke and Fume, Halogen Free TPE material with excellent UV, ozone and weathering resistance.
- Black supplied as standard, other colour options are available, please contact the Hawke Sales Team for further information.

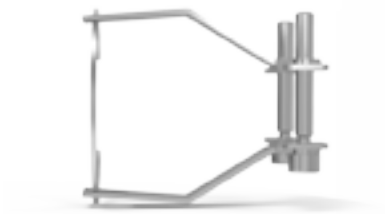
Ordering Example:

Product	Thread Size
Shroud	C

MADE IN BRITAIN

PULL-OUT CLAMP

For Hawke Cable Glands



General Information

- Integral cable clamping for additional strain relief
- Retro-fit to installed glands
- Captive fittings for easy installation
- Manufactured in Stainless Steel as standard

Selection Table

Size Reference	Cable Acceptance		Overall Length
	Min	Max	
O/Os	3.2	16	56
A	9	20.5	56
B	9.5	26	65
C	9.5	26	65

Example Code: pull-out clamp/Os

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WASHERS

Nylon Washers

MADE IN BRITAIN

Selection Table

Gland Size Metric	Gland Size NPT *	Thickness
M16	½"	1.5
M20	¾"	1.5
M25	1"	1.5
M32	1 ¼"	1.5
M40	1 ½"	1.5
M50	2"	1.5
M63	2 ½"	1.5
M75	3"	1.5
M80	3 ½"	1.5
M90	4"	1.5
M100	4 ½	1.5
M110	5"	1.5
M115	6"	1.5
M120	6"	1.5
M130	6"	1.5

*Note: All dimensions are in millimetres except where * denotes dimensions in inches.*

Ordering Example:

Product	Thread Size
Nylon Washer	M25

General Information

- For use on cable gland entry threads.
- To maintain ingress protection rating of the enclosure.
- Retaining "pips" make washer captive on metric cable gland entry thread.
- Sealing washer for PG thread sizes available.

Certification Details

- BS EN 60529.
- ISO 60079-0, ISO 60079-7.
- -60°C / +130°C.
- IP66/67/68/69.

SERRATED WASHER

Stainless Steel

MADE IN BRITAIN

Selection Table

Gland Size Metric	Gland Size NPT *	Thickness
M16	½"	1.5
M20	¾"	1.5
M25	1"	1.5
M32	1 ¼"	1.5
M40	1 ½"	1.5
M50	2"	1.5
M63	2 ½"	1.5
M75	3"	1.5
M80	3 ½"	1.5
M90	4"	1.5
M100	4 ½	1.5
M110	5"	1.5
M115	6"	1.5
M120	6"	1.5
M130	6"	1.5

*Note: All dimensions are in millimetres except where * denotes dimensions in inches.*

Ordering Example:

Product	Thread Size	Product	Thread Size
Serrated Washer	M25	Serrated Washer	1" NPT

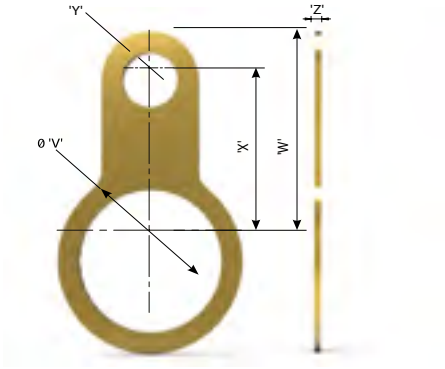
General Information

- For use on cable gland entry threads.
- To dampen vibrations of the cable gland / equipment assembly.
- Manufactured in Stainless Steel as standard.

MADE IN BRITAIN

EARTHTAGS

Brass or Stainless Steel



General Information

- Provides an earth bond attachment for a cable gland.
- Manufactured in Brass as standard.
- Stainless Steel earthtags are available, but the dimensions may differ slightly to those stated in the selection table. Please contact Hawke Sales Team for details.
- The earthtags shape may vary for different sizes.

Selection Table

Gland Size 'V'	'Y'	'W'	'X'	'Z'
M20	6.75	39.6	33.1	1.5
M25	6.85	45.5	36.5	1.5
M32	12.6	52	40.9	1.5
M40	13.4	59.6	44.2	1.5
M50	13.5	78.9	58.1	1.5
M63	13.5	87.6	66.8	1.5
M75	13.5	93.7	72.9	1.5
M80	14	128	104	1.5
M90	14	128	104	1.5
M100	14	128	104	2
M110	13.5	136	115	2
M115	13.5	141	120	2
M120	13.5	143.5	122.5	2
M130	13.5	153	128	2

Note: All dimensions are in millimetres.

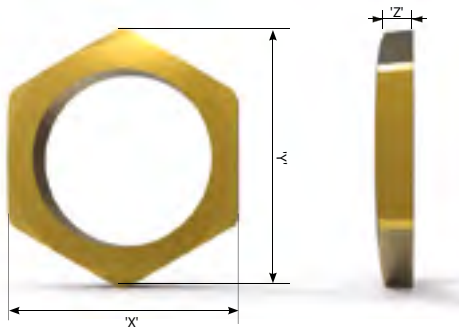
Ordering Example:

Product	Thread Size	Material	Finish
Earthtag	M25	Brass	N/A

MADE IN BRITAIN

LOCKNUTS

Brass or Stainless Steel



General Information

- For use on cable gland entry threads.
- Manufactured in Brass as standard.
- Stainless Steel locknuts are also available, but dimensions may differ from the ones in the table.
- Locknuts for PG thread sizes are available.

Selection Table

Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'	NPT * Gland Size	Across Flats 'X'	Across Corners 'Y'	'Z'
M16	22	24	3.7/4.7	–	–	–	–
M20	24	26.4	3.7/4.7	½"	27	29.7	3.0/4.0
M25	30	33.3	3.7/4.7	¾"	30.5	33.5	3.7/4.7
M32	40	44	3.7/4.7	1"	36	39.5	6.0/7.0
M40	46	50.5	4.5/5.5	1 ¼"	46	50.5	6.0/7.0
M50	65	71.5	4.5/5.5	1 ½"	55	60.6	6.0/7.0
M63	80	88	6.0/7.0	2"	65	70.8	6.0/7.0
M75	90	99	6.5/7.5	2 ½"	80	90	6.0/7.0
M80	107	122.2	9.5/10.5	3"	95	107	6.0/7.0
M90	107	122.2	9.5/10.5	3 ½"	128	143	8.5/9.5
M100	128	147	9.5/10.5	4"	128	143	8.5/9.5
M110	128	147	9.5/10.5	5"	170	187	9.5/10.5
M115	128	147	9.5/10.5	6"	200	220	9.5/10.5
M120	140	152	9.5/10.5	---	---	---	---
M130	150	165	9.5/10.5	---	---	---	---

*Note: All dimensions are in millimetres except where * denotes dimensions in inches.*

Ordering Example:

Product	Thread Size	Material	Product	Thread Size	Material
Locknut	M25	Brass	Locknut	1" NPT	Brass

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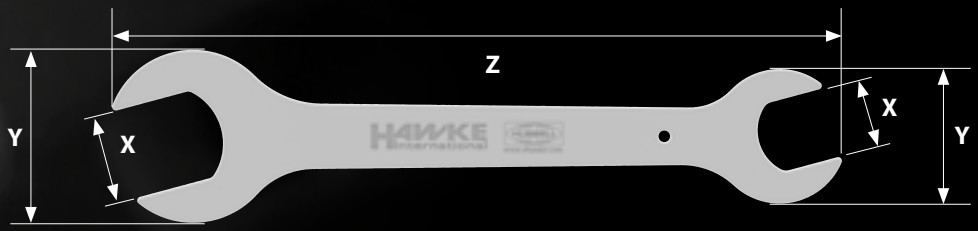
GLAND SPANNERS

Further information

MADE IN BRITAIN

Type 1
see table



Type 2
see table

Gland Spanners

The Hawke range of Gland Spanners have been designed for use with Hawke's market-leading range of harsh and hazardous area, industrial, mining and explosive area Cable Glands.

Our Gland spanners have been engineered to minimise the accidental injury caused by slippage, as is commonly found with adjustable spanners or wrenches. **Individually sized for use with the full range of Hawke cable glands.**

Gland Spanner Selection Table

Material	Mild steel zinc plated							
Type	1		1		2	2	2	2
Dimension	O	A	B	C	C2	D	E	F
A/F (X)	24	30	36	46	55	65	80	95
Thickness	4		4		6	6	6	6
Head Size (Y)	46	56	70	90	110	120	150	170
Overall Length (Z)	302.5		370.5		496.5	435.5	486.5	423.5

MADE IN BRITAIN

Exe ENCLOSURES

Plastic

Hawke's range of Plastic Enclosures offer an operating temperature range from -60°C to +75°C with one-piece captive silicone gaskets offering excellent ingress resistance of up to IP66, IP67 and DTS01 deluge protection.

The innovative **5-series enclosures** utilise an innovative clamshell design providing unrivalled access for both installation and inspection. In tests, this design can save up to a 45% time saving in installation alone as a direct result of this unique design.

The **PL6 range** offers an industry leading impact resistance of up to 20Nm and an extremely high corrosion resistance.

Hawke International have been supplying **Plastic Enclosures** into the Hazardous Area market for over 40 years.

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www.ehawke.com

Exe ENCLOSURES

Stainless Steel

MADE IN BRITAIN

Boasting robust stainless steel construction and electropolished surface finish, the 3 range options, **EJB, S-Series and EA Range** offer unrivalled flexibility to the user and installer.

EJB – Our economy range of enclosures – highly durable, high IP and available in 3 footprints. Simple, yet highly effective.

S-Series – Extremely versatile 316L stainless steel enclosures, with an extensive range of sizes available. Globally certified offering true global application.

EA Range – Designed with productivity in mind, the Exe Easy Access range allows for far faster installation and inspection times with its unique sloped face design and cut-away sides. This, plus un-paralleled ease of access, amazing ingress protection, removable hinged lid makes the EA enclosure an extremely cost effective solution.

Hawke's **Exe Stainless Steel Enclosures** have been serving the Harsh and Hazardous industries for decades.

MADE IN BRITAIN

HAZCON CONTROL STATIONS

GRP and Stainless Steel

Developed to exceed customer expectations, the Control Station range is for use wherever potential explosion hazards exist (Zone 1/21 & 2/22) and boasts a huge selection of pushbuttons, ammeters and selector switches.

Available in both high impact GRP (Glass Reinforced Antistatic Polymer) and 316L Stainless Steel and certified to ATEX/IECEx and UL, the range can also be marked cULus, EAC and Inmetro – a true globally certified range.

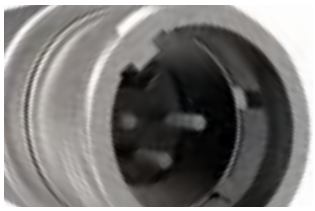
- IP66 Ingress protection
- 5 enclosure size offerings
- High switch contact blocks
- AC/DC compatible LED's
- External mounting feet
- Add another bullet point

Ex CONNECTORS

For Harsh & Hazardous Environments

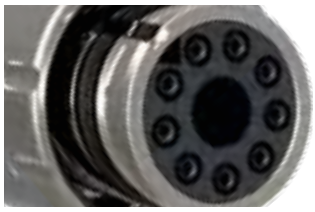
MADE IN BRITAIN

Hawke International has over 50 years experience in Hazardous Area connection systems, from instrumentation, Fiber Optic to low/medium power applications.



FibreEx

Fibre Optic connectors for use in extreme hazardous environments



InstrumEx

Live make-and-break connectors for Ex d applications up to 250V

ControlEx

Multi-pin, globally approved Ex d connectors up to 1000V

PowerEx

High Power connectors for up to 780A and 1000V *(other voltages available on request)*

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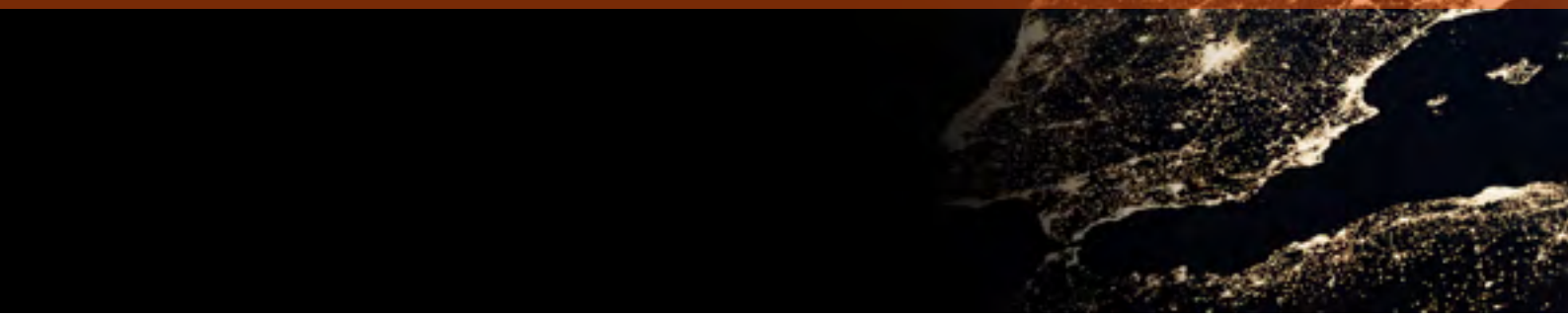

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