



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Amphenol® Cable Glands and Cord Grips

12-055-1



Amphenol

Table of Contents

	Page Number
Introduction	1
Amphenol® Cable Glands	2-3
ATEX Approved Glands Featuring Elastometric Seals	
EX-20	4-5
EX-25	6-7
EE-30	8-9
EX-35	10-11
EX-40	12-13
EX-45	14-15
EE-RG	16-17
ATEX Approved Glands Featuring Elastometric Seals for Flat Cable	
EX-50	18-19
EX-55	20-21
ATEX Approved Barrier Glands	
EX-60	22-23
EX-65	24-25
EX-70	26-27
EX-75 Stopper Box	28-29
Industrial Glands	
CGA	30-31
CGSS	32-33
CGDS	34-35
CGU	36-37
Accessories	
ARAdaptors & Reducers	38-39
Nylon Adaptors & Reducers	40-41
Insulated Adaptors	42-43
Mushroom Head Stopping Plugs	44-45
Nylon Mushroom Head Stopping Plugs	46-47
Type A & Type B Stopping Plugs	48-49
Breather Drain	50-51
Locknuts, Earth Tags, etc.	52
Entry Thread Reference Tables	53
Ingress Protection, Gland Weight Data	54
Amphenol®/Pyle® Cord Grips	55
Cord Grip Specifications	56-57
DB/DBM Group	58-59
DBZ Group	60-61
DBL/DBZL Group	62-63
DBA Group	64-65
DBF Group, Flared Nipples	66-67
DBZP Series	68-69
Grommets	70-71
Accessories	72-73
Additional Amphenol® Industrial Products	74-75
Amphenol Sales Offices and Distributors Listing	76

For further information on your individual application requirements, contact:

Amphenol Corporation
 Amphenol Industrial Operations
 40-60 Delaware Avenue
 Sidney, New York 13838-1395

Phone: 607-563-5011 Fax: 607-563-5351

View and download or print Amphenol catalogs on-line at: www.amphenol-industrial.com

Amphenol operates quality systems that are certified to ISO 9001:2000 by third party registrars.

For product specific questions regarding RoHS compliance, consult Amphenol Industrial Operations, or call the RoHS Product Compliance and Technical Support line: 1-866-315-8559

Amphenol® Cable Glands and Cord Grips

Amphenol Industrial offers more choices, more solutions, and more options than any other interconnect manufacturer in the world. In addition to the broadest range of connector solutions in the market, we also offer an extensive line of Explosion Proof and General Duty Cable Glands. We also carry a complete line of liquid tight strain-relief products in our Cord Grip line of performance cable seals. Our combination of Glands and Cord Grips makes Amphenol Industrial the one stop supplier for all your connector and cable sealing solutions.

Cable Glands

Amphenol Industrial Operations, the worldwide leader of explosion proof and hazardous environment interconnects, introduces our broad range of explosion proof and industrial cable glands. The new Cable Gland product line is designed to perform in the most demanding environments. Amphenol's complete line of EX Zone 1 and 2 rated cable glands offers our customers great flexibility. In addition, we have a complete line of general duty industrial application cable glands suitable for armored and unarmored cable.

- SIRI/ATEX certified to Exd/Exe (Class I, Div. I)
- CSA Approved
- IP66/68; Deluge; NEMA rated products
- Temperature Ranges from -40°F to +180°F
- Brass and Stainless Steel available.



Amphenol Cable Glands are RoHS Compliant.



Cord Grips

Whether you need a straight, 45°, or 90° strain relief, Amphenol's family of cord Grips has you covered. Strong, lightweight aluminum components provide a long lasting, reliable liquid tight solution. Amphenol Industrial Cord Grips offer a complete line of strain relief options that include gland nuts, mechanical clamps and basketweave cable grips. UL and CSA listed, our Cord Grips have been put to the test for over 40 years.

- Tapered rubber grommets and seal
- Machined Components
- Male and female threads available
- Tapered conduit threads



Amphenol Cord Grips are available with RoHS Compliant options. Please contact Amphenol Industrial Operations for information.



Amphenol Explosion Proof and Industrial Cable Glands

This section will provide you with information on Amphenol's complete family of cable glands, and will assist you in determining which of our glands will satisfy your specific need. If you have further questions, please contact our factory or one of the Amphenol Industrial distributors listed in the back of this catalog.

Amphenol Industrial Operations, the recognized leader in explosion proof and hazardous environment interconnects, offers a complete line of Industrial and Explosion Proof Glands. Whether part of an integrated connector solution, or as part of a bulkhead feed through, Amphenol has the solution you are looking for. Our product range includes general duty industrial cable glands meant to seal on unarmored cable, right up to our ATEX approved EX glands capable of protecting the most rugged cable in your zone rated applications.

Our EX Approved Glands also provide a complete zone rated interconnect solution when used in conjunction with our ATEX approved Star-Line EX explosion proof connector series. For additional information on the Star-Line EX product, consult Amphenol catalog 12-054.

Features & Benefits

ATEX and CSA Certified: Approved to perform in the most hazardous environments.

Variety of Styles: Cable glands available to accommodate any cable type.

IP Ratings Included: Watertight seals allow for both indoor and outdoor applications.

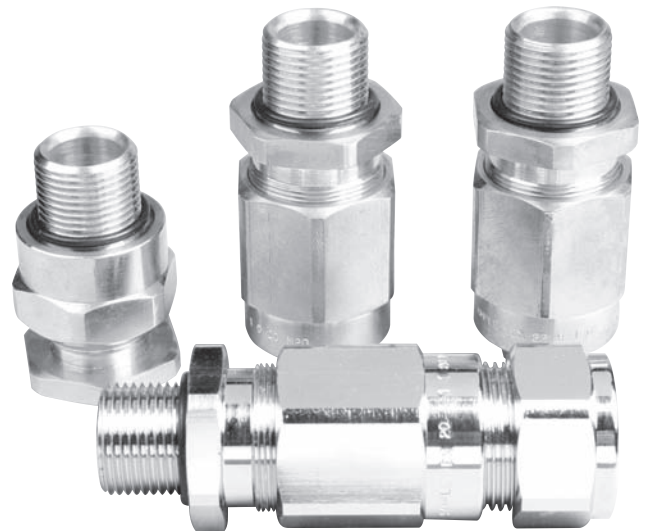
Machined Components made from brass and stainless steel.

Complete Line of Accessories: Including locknuts, washers, and earth tags.

Entry Thread Flexibility: Both metric and NPT threads available on most styles.

Applications

- Oil and Gas Exploration Equipment
- Machine and Heavy Electronics
- Pharmaceutical Manufacturing Facilities
- Production Platforms
- Chemical and Paint Manufacturing Facilities
- Robotics and Welding Equipment
- Process Control Equipment
- Motors and Generators



Cable Gland Selection Guide

This table is designed to be a quick reference to the cable glands found in this publication.

Gland Type	Outer Seal	Inner Seal	Lead Option	Armor Clamp	Certification	IP Rating	Page Number
ATEX/CSA Approved Glands with Elastomeric Seals							
EX-20	✓	✓	✓	✓	Exd/Exe	Deluge, IP66, 68 NEMA, 4X	4
EX-25	✓	✓	✓	✓	Exd/Exe (Not CSA)	IP66, IP67	6
EE-30	✓	×	✓	×	Exe (Not CSA)	IP66	8
EX-35	✓	×	×	×	Exd/Exe	IP66 IP68 NEMA 4X	10
EX-40	✓ x2	×	×	×	Exd/Exe	IP66 IP68 NEMA 4X	12
EX-45	✓	×	×	×	Exd/Exe	IP66 IP68 NEMA 4X	14
EE-RG	✓	×	×	×	Exe	IP66 IP68	16
ATEX/CSA Approved Glands with Elastomeric Seals for Flat Cable							
EX-50	Flat Cable	Flat Cable	×	Braid	Exd/Exe	IP66	18
EX-55	Flat Cable	×	×	×	Exd/Exe	IP68	20
ATEX Approved Compound Filled Barrier Glands							
EX-60	✓	Compound	✓	✓	Exd	Deluge, IP66, IP68 NEMA, 4X	22
EX-65	Compound	Compound	✓	×	Exd	Deluge, IP66, IP68 NEMA, 4X	24
EX-70	✓	Compound	✓	×	Exd	Deluge, IP66, IP68 NEMA, 4X	26
EX-75 (stopper box)	×	Compound	×	×	Exd	Deluge, IP66, IP68 NEMA, 4X	28
Non Hazardous Industrial Glands							
CGA	×	×	×	✓	Industrial (BS6121)	IP30	30
CGSB	✓	×	×	✓	Industrial	IP66	32
CGDS	✓	✓	✓	✓	Industrial	IP67	34
CGU	✓	×	✓	×	Industrial	IP66, IP66	36

EX-20

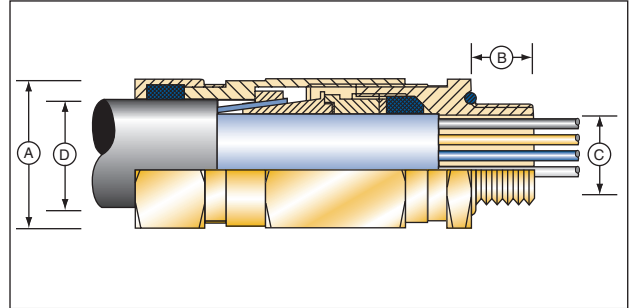
EX-20 type glands provide a seal on the inner sheath, a seal on the outer sheath, an entry thread seal and a universal armor clamp for armored cable. The armor clamp provides an electrical bond between the cable armor and the gland. EX-20 glands can also be used to terminate unarmored or lead sheathed cables. EX-20 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection; IP66, 68 to 25 meters and is deluge resistant. An integral 'O' ring entry thread seal is fitted to metric versions as standard.

EXAMPLE PART NUMBER

EX-20 [W] [X] [Y] [R] [YY] [ZZ]

- W** - Gland material (B = Brass / S = Stainless Steel)
X - Seal Material (1 = Neoprene / 3 = Silicone)
Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
R - Reduced bore option
YY - Gland size (Cable Range)
ZZ - Entry thread

Sample: EX-20-B-1-0-R-20-M20



DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 & EN 50281-1-1:1998

CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II
CSA Exd IIC/Exe II 4X, Class 1, Zone 1

CERTIFICATE

Sira 05ATEX1120X - Ex Notified Body No. 0518
Pending

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-20-B-1-0-R-20-M20 XX Sira 05ATEX1120X  II 2GD EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-20 type glands will only maintain Flameproof Exd integrity when used with cable that is substantially round and compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use Type EX-20 Gland
IIC, IIB, IIA	NO	Any	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 liters or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 and IP68 @ 25 meters, Enclosure Type 4X
Meets the requirements of DTS01 1991

OPERATING TEMPERATURES

Standard Seals -20°C to +85°C
Extended Seals - 60°C to +180°C (Silicone seals)

MATERIALS

Brass CZ121 (EX-20-B)
316 Stainless Steel (EX-20-S)

Inner and outer sheath material: Standard (EX-20-W-1) Neoprene, black. Option (EX-20-W-3) Silicone, white.
Reduced bore outer sheath seal (R) Silicone, red (EX-20-W-X-Y-R)

Entry thread seal: Nitrile is supplied with neoprene seal version. Silicone is supplied with silicone seal version

THREADS
ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

SEALS
Extended operating temperature -60°C to +180°C, halogen free versions: Brass (EX-20-B-3); 316 Stainless Steel (EX-20-S-3)

PLATING
Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES
Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN) Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET) IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW) Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW) Shroud - PVC (EX-PVC)
Gland and accessory kits: K1- includes gland, locknut, earthtag, nylon IP washer and PVC shroud

Gland Size	Entry Threads		Entry Thread Length	Max Across Corners	Max Protrusion Length	Gland Seal Range						Armor Acceptance Range	Shroud Size
						Cable Inner Sheath [C]		Cable Outer Sheath [D]					
	Metric	NPT/BSP				[B]	[A]	Min	Max	Standard			
16	M20	N1 or N2	16	28.0	78.0	3.4	8.4	9.0	13.5	6.7	10.3	0.15 - 1.25	L24
20s	M20	N1 or N2	16	28.0	78.0	7.2	11.7	11.5	16.0	9.4	12.5	0.15 - 1.25	L24
20	M20	N1 or N2	16	33.0	78.0	9.4	14.0	15.5	21.1	12.0	17.6	0.15 - 1.25	EL30
25	M25	N2 or N3	16	41.4	90.0	13.5	20.0	20.3	27.4	16.8	23.9	0.15 - 1.60	EL38
32	M32	N3 or N4	16	50.6	105.0	19.5	26.3	26.7	34.0	23.2	30.5	0.15 - 2.00	EL46
40	M40	N4 or N5	16	60.5	113.0	23	32.2	33.0	40.6	28.6	36.2	0.20 - 2.00	EL55
50s	M50	N5 or N6	16	71.5	125.0	28.1	38.2	39.4	46.7	34.8	42.4	0.30 - 2.50	EL65
50	M50	N6	16	71.5	125.0	33.1	44.1	45.7	53.2	41.1	48.5	0.30 - 2.50	EL65
63s	M63	N6 or N7	19	88.0	125.0	39.2	50.1	52.1	59.5	47.5	54.8	0.30 - 2.50	EL80
63	M63	N7	19	88.0	125.0	46.7	56.0	58.4	65.8	53.8	61.2	0.30 - 2.50	EL80
75s	M75	N7 or N8	19	99.0	131.0	52.1	62.0	64.8	72.2	60.2	68.0	0.30 - 2.50	EL90
75	M75	N8	19	99.0	131.0	58.0	68.0	71.1	78.0	66.5	73.4	0.30 - 2.50	EL90
80	M80 x 2	N8 or N9	25	115.2	170.0	62.2	72.0	77.0	84.0	-	-	0.45 - 3.15	L104
80H	M80 x 2	N8 or N9	25	115.2	170.0	62.2	72.0	79.6	90.0	-	-	0.45 - 3.15	L104
85	M85 x 2	N8 or N9	25	115.2	170.0	69.0	78.0	79.6	90.0	75.0	85.4	0.45 - 3.15	L104
90	M90 x 2	N9 or N10	25	125.7	170.0	74.0	84.0	88.0	96.0	-	-	0.45 - 3.15	L114
90H	M90 x 2	N9 or N10	25	125.7	170.0	74.0	84.0	92.0	102.0	-	-	0.45 - 3.15	L114
100	M100 x 2	N9 or N10	25	125.7	170.0	82.0	90.0	92.0	102.0	87.4	97.4	0.45 - 3.15	L114

All Dimensions are in millimeters

NOTES:

- NPT entry thread reference details on page 53.
- Gland Size does not necessarily equate to the entry thread size.
- Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-20 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.
- When used to terminate unarmored cable, the gland is suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting.

EX-25

EX-25 type glands provide a seal on the inner sheath, a seal on the outer sheath and an armor specific clamp for armored cable. The armor clamp provides an electrical bond between the cable armor and the gland. EX-25 type connectors can be used to terminate lead sheath cables. EX-25 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP66, IP67.

EXAMPLE PART NUMBER

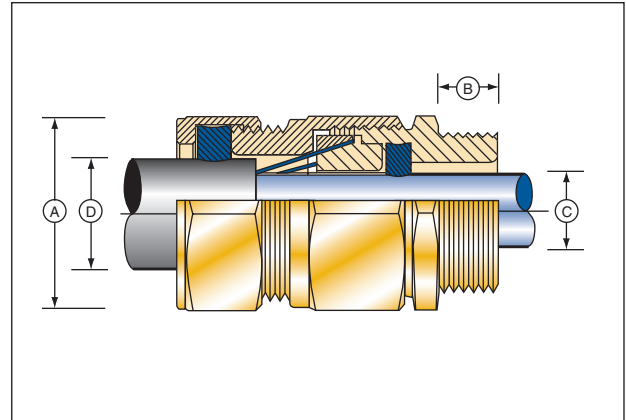
EX-25* [W] [X] [Y] [R] [YY] [ZZ]

- * - Armor Types (W = SWA / X = SWB / Z = STA)
- W - Gland material (B = Brass / S = Stainless Steel)
- X - Seal Material (1 = Neoprene / 3 = Silicone / 4 = No Seal)
- Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
- R - Reduced bore option
- YY - Gland size (Cable Range)
- ZZ - Entry Thread

Sample: **EX-25-W-B-1-0-R-20-M20**

DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 and EN 50281-1-1:1998



CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II

CERTIFICATE

SIRA 05ATEX1122X - Ex Notified Body No. 0518

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-25W-B-1-0-R-20-M20 XX SIRA 05ATEX1122X  II 2GD IP67 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-25 type glands will only maintain Flameproof Exd integrity when used with cable that is substantially round and compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use Type EX-25 Gland
IIC, IIB, IIA	NO	Any	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 litres or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 and IP67

OPERATING TEMPERATURES

Standard Seals -20°C to +80°C

Silicone Seals - 60°C to +180°C

VARIATIONS

Omission of outer seal:

Brass (EX-25*-B-4); 316 Stainless Steel (EX-25*-S-4)

MATERIALS

Brass CZ121 (EX-25*-B)

316 Stainless Steel (EX-25*-S)

SEALS

Extended operating temperature -60°C to +180°C, halogen free versions:
Brass (EX-25-B-3); 316 Stainless Steel (EX-25-S-3)

THREADS

ISO Metric; NPT; NPS; ISO Pipe Thread
(BSP Taper, BSP Parallel)

CLAMPS

SWA steel wire armor (EX-25-W)
SWB woven steel wire armor (EX-25-X)
STA steel tape armor (EX-25-Z)

PLATING

Nickel (1); Tin (2); Zinc (3); Electroless
Nickel (4)

ACCESSORIES

Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN)
Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET)
IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW)
Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW)
Shroud - PVC (EX-PVC); PCP (EX-PCP); Low Smoke Zero Halogen (EX-LSH)

Gland and accessory kits:

K2 - includes gland, locknut, earthtag, fibre IP washer and PVC shroud

K3 - includes gland, locknut, earthtag, nylon IP washer and PCP shroud

K4 - includes brass gland, brass locknut, brass earthtag, IP washer and zero halogen shroud

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Max Protrusion Length	Gland Seal Range						Armour Acceptance Range		Shroud Size
						Cable Inner Sheath [C]		Cable Outer Sheath [D]						
						Standard		Reduced (R)						
	Min	Max				Min	Max	Min	Max	W	XZ			
	Metric	NPT/BSP												
16	M20	N1 or N2	16	26.5	58.0	4.0	8.4	8.4	13.5	4.9	10.0	0.90	0.15-0.35	L24
20s	M20	N1 or N2	16	26.5	58.0	8.0	11.7	11.5	16.0	9.4	12.5	0.90-1.25	0.15-0.35	L24
20	M20	N1 or N2	16	33.0	58.0	6.7 *	14.0	15.5	21.1	12.0	17.6	0.90-1.25	0.15-0.50	L30
25	M25	N2 or N3	16	41.4	58.0	13.0	20.0	20.3	27.4	16.8	23.9	1.25-1.60	0.15-0.50	L38
32	M32	N3 or N4	16	50.6	65.0	19.0	26.3	26.7	34.0	23.2	30.5	1.60-2.00	0.15-0.55	L46
40	M40	N4 or N5	16	60.5	72.0	25.0	32.2	33.0	40.6	28.6	36.2	1.60-2.00	0.20-0.60	L55
50s	M50	N5 or N6	16	71.5	73.0	31.5	38.2	39.4	46.7	34.8	42.4	2.00-2.50	0.20-0.60	L65
50	M50	N6	16	71.5	73.0	36.5	44.1	45.7	53.2	41.1	48.5	2.00-2.50	0.30-0.80	L65
63s	M63	N6 or N7	19	88.0	76.0	42.5	50.1	52.1	59.5	47.5	54.8	2.50	0.30-0.80	L80
63	M63	N7	19	88.0	76.0	49.5	56.0	58.4	65.8	53.8	61.2	2.50	0.30-0.80	L80
75s	M75	N7 or N8	19	99.0	82.0	54.5	62.0	64.8	72.2	60.2	68.0	2.50	0.30-1.00	L90
75	M75	N8	19	99.0	82.0	60.5	68.0	71.1	78.0	66.5	73.4	2.50	0.30-1.00	L90
80	M80 x 2	N8 or N9	25	115.2	110.0	62.2	72.0	77.0	84.0	-	-	3.15	0.45-1.00	L104
80H	M80 x 2	N8 or N9	25	115.2	110.0	62.2	72.0	79.6	90.0	-	-	3.15	0.45-1.00	L104
85	M85 x 2	N8 or N9	25	115.2	110.0	69.0	78.0	79.6	90.0	75.0	85.4	3.15	0.45-1.00	L104
90	M90 x 2	N9 or N10	25	125.7	110.0	74.0	84.0	88.0	96.0	-	-	3.15	0.45-1.00	L114
90H	M90 x 2	N9 or N10	25	125.7	110.0	74.0	84.0	92.0	102.0	-	-	3.15	0.45-1.00	L114
100	M100 x 2	N9 or N10	25	125.7	110.0	82.0	90.0	92.0	102.0	87.4	97.4	3.15	0.45-1.00	L114

All Dimensions are in Millimeters

NOTES:

* EX-25 gland size 20, the silicone inner seal only seals to a minimum of 11.0mm and NOT 6.7mm.

- NPT entry thread reference details on page 53.
- Gland Size does not necessarily equate to the entry thread size.
- "W" refers to the wire diameter in a steel wire armored cable.
- "XZ" refers to the wire diameter in a woven steel wire armored cable or the tape thickness in a steel tape armored cable.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-25 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EE-30

EE-30 type glands provide a seal on the outer sheath and an armor specific clamp for armored cable. The armor clamp provides an electrical bond between the cable armor and the gland. EE-30 type glands maintain Increased Safety Exe methods of explosion protection and IP66.

EXAMPLE PART NUMBER

EE-30* [W] [X] [Y] [R] [YY] [ZZ]

- * - Armor Type (W = SWA / X = SWB / Z = STA)
- W - Gland material (B = Brass / S = Stainless Steel)
- X - Seal Material (1 = Neoprene / 3 = Silicone)
- Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
- R - Reduced bore option
- YY - Gland size (Cable Range)
- ZZ - Entry thread

Sample: **EE-30W-B-1-0-R-20-M20**

DESIGN STANDARD

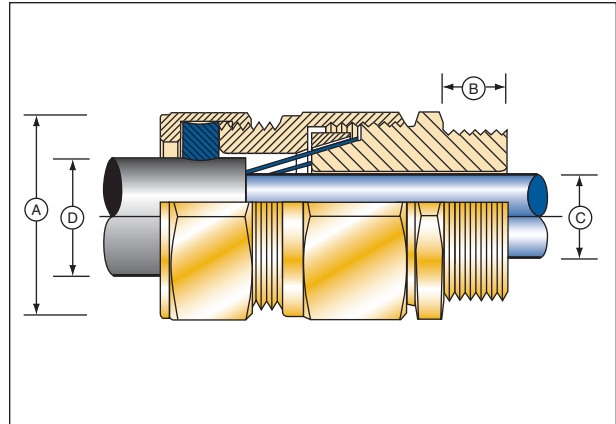
EN 50014:1998, EN 50019:2000 and EN 50281-1-1:1998

CERTIFICATION

ATEX II 2 GD, E Exe II

CERTIFICATE

SIRA 05ATEX1122X - Ex Notified Body No. 0518



GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EE-30W-B-1-0-R-20-M20 XX SIRA 05ATEX1122X  II 2GD IP66 EExe II (XX = Year Code)

APPLICATION

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66

OPERATING TEMPERATURES

Standard Seals -20°C to +80°C
Silicone Seals - 60°C to +180°C

MATERIALS

Brass CZ121 (EE-30*-B)
316 Stainless Steel (EE-30*-S)

SEALS

Extended operating temperature -60°C to +180°C, halogen free versions:
Brass (EE-30*-B-3); 316 Stainless Steel (EE-30*-S-3)

THREADS

ISO Metric; NPT; NPS; ISO Pipe Thread
(BSP Taper, BSP Parallel)

CLAMPS

SWA steel wire armor (EE-30-W)
SWB woven steel wire armor (EE-30-X)
STA steel tape armor (EE-30-Z)

PLATING

Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES

Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN)
 Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET)
 IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW)
 Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW)
 Shroud - PVC (EX-PVC); PCP (EX-PCP); Low Smoke Zero Halogen (EX-LSH)

Gland and accessory kits:

K1 - includes gland, locknut, earthtag, nylon IP washer and PVC shroud

K4 - includes brass gland, brass locknut, brass earthtag, IP washer and zero halogen shroud

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Max Protrusion Length	Cable Inner Sheath [C]		Gland Seal Range				Armour Acceptance Range		Shroud Size
						Min	Max	Cable Outer Sheath [D]		Min	Max			
	Standard	Reduced (R)						W	XZ					
	Metric	NPT/BSP												
16	M20	N1 or N2	10	26.5	54.0	-	11.7	9.0	13.5	6.7	10.3	0.90-1.25	0.15-0.35	L24
20s	M20	N1 or N2	10	26.5	54.0	-	11.7	11.5	16.0	9.4	12.5	0.90-1.25	0.15-0.35	L24
20	M20	N1 or N2	10	33.0	54.0	-	14.0	15.5	21.0	12.0	17.6	0.90-1.25	0.15-0.50	L30
25	M25	N2 or N3	10	41.4	54.0	-	20.0	20.3	27.4	16.8	23.9	1.25-1.60	0.15-0.50	L38
32	M32	N3 or N4	10	50.6	60.0	-	26.3	26.7	34.0	23.2	30.5	1.60-2.00	0.15-0.55	L46
40	M40	N4 or N5	15	60.5	67.0	-	32.2	33.0	40.6	28.6	36.2	1.60-2.00	0.20-0.60	L55
50s	M50	N5 or N6	15	71.5	67.0	-	38.2	39.4	46.7	34.8	42.4	2.00-2.50	0.20-0.60	L65
50	M50	N6	15	71.5	67.0	-	44.1	45.7	53.2	41.1	48.5	2.00-2.50	0.30-0.80	L65
63s	M63	N6 or N7	15	88.0	69.0	-	50.1	52.1	59.5	47.5	54.8	2.50	0.30-0.80	L80
63	M63	N7	15	88.0	69.0	-	56.0	58.4	65.8	53.8	61.2	2.50	0.30-0.80	L80
75s	M75	N7 or N8	15	99.0	77.0	-	62.0	64.8	72.2	60.2	68.0	2.50	0.30-1.00	L90
75	M75	N8	15	99.0	77.0	-	68.0	71.1	78.0	66.5	73.4	2.50	0.30-1.00	L90
80	M80 x 2	N8 or N9	20	115.2	104.0	-	72.0	77.0	84.0	-	-	3.15	0.45-1.00	L104
80H	M80 x 2	N8 or N9	20	115.2	104.0	-	72.0	79.6	90.0	-	-	3.15	0.45-1.00	L104
85	M85 x 2	N8 or N9	20	115.2	104.0	-	78.0	79.6	90.0	75.0	85.4	3.15	0.45-1.00	L104
90	M90 x 2	N9 or N10	20	125.7	104.0	-	84.0	88.0	96.0	-	-	3.15	0.45-1.00	L114
90H	M90 x 2	N9 or N10	20	125.7	104.0	-	84.0	92.0	102.0	-	-	3.15	0.45-1.00	L114
100	M100 x 2	N9 or N10	20	125.7	104.0	-	90.0	92.0	102.0	87.4	97.4	3.15	0.45-1.00	L114

All Dimensions are in Millimeters

NOTES:

- NPT entry thread reference details on page 53.
- Gland Size does not necessarily equate to the entry thread size.
- "W" refers to the wire diameter in a steel wire armored cable.
- "XZ" refers to the wire diameter in a woven steel wire armored cable or the tape thickness in a steel tape armored cable.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- Where EX-30 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EX-35

EX-35 type glands provide a single pull resistant seal on the outer sheath of unarmoured cable. EX-35 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP66, IP68 to 25 meters. Integral O-Ring entry thread seal, as illustrated, is provided as standard on metric versions.

EXAMPLE PART NUMBER

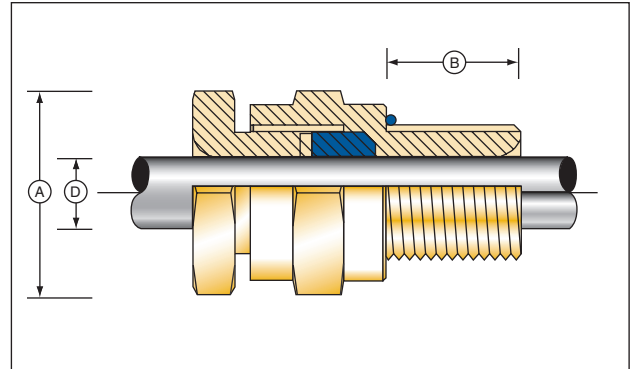
EX-35 [W] [X] [Y] [YY] [ZZ]

- W** - Gland material (B = Brass / S = Stainless Steel)
X - Seal Material (1 = Neoprene / 3 = Silicone)
Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
YY - Gland size (Cable Range)
ZZ - Entry thread

Sample: EX-35-B-1-0-20-M20

DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 and EN 50281-1-1:1998



CERTIFICATION.

ATEX II 2 GD, E Exd IIC / E Exe II
CSA Exd IIC/Exe II 4X, Class 1, Zone 1

CERTIFICATE

SIRA 05ATEX1123X - Ex Notified Body No. 0518
Pending

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-35-B-1-0-20-M20 XX SIRA 05ATEX1123X (Ex) II 2GD IP68 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-35 type glands will only maintain Flameproof Exd integrity when used with cable that is substantially round and compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-35 Gland
IIC, IIB, IIA	NO	2 liters or less	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 liters or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 and IP68 @ 25 meters, Enclosure Type 4X

OPERATING TEMPERATURES

Standard Seals -20°C to +80°C
Silicone Seals - 60°C to +180°C

MATERIALS

Brass CZ121 (EX-35-B)
316 Stainless Steel (EX-35-S)

Outer sheath seal material:

Standard (EX-35-W-1) Neoprene, black. Option (EX-35-W-3) Silicone, white.

Integral entry thread seal: Nitrile is supplied with neoprene outer seal version. Silicone is supplied with silicone outer seal version.

THREADS
ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

SEALS
Extended operating temperature -60°C to +180°C, halogen free versions: Brass (EX-35-B-3); 316 Stainless Steel (EX-35-S-3)

PLATING
Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES
Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN) Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET) IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW) Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW) Shroud - PVC (EX-SPVC); PCP (EX-SPCP); Low Smoke Zero Halogen (EX-LSH)
Gland and accessory kits: K2 - includes gland, locknut, fiber IP washer and PVC shroud K3- includes gland, locknut, nylon IP washer and PCP shroud

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Max Protrusion Length	Gland Seal Rance		Shroud Size
	Metric	NPT/BSP				Cable Outer/Lead Sheath		
						Min	Max	
16	M20	N1 or N2	16	28.0	33.0	4.0	8.4	L24
20s	M20	N1 or N2	16	28.0	33.0	7.2	11.7	L24
20	M20	N1 or N2	16	33.0	33.0	9.6	14.0	L30
25	M25	N2 or N3	16	41.4	33.0	13.5	20.0	L38
32	M32	N3 or N4	16	50.6	33.0	19.5	26.3	L46
40	M40	N4 or N5	16	60.5	37.0	23.0	32.2	L55
50s	M50	N5 or N6	16	71.5	37.0	28.2	38.2	L65
50	M50	N6	16	71.5	37.0	33.2	44.1	L65
63s	M63	N6 or N7	19	88.0	37.0	39.3	50.1	L80
63	M63	N7	19	88.0	37.0	46.7	56.0	L80
75s	M75	N7 or N8	19	99.0	37.0	52.3	62.0	L90
75	M75	N8	19	99.0	37.0	58.1	68.0	L90
80	M80 x 2	N8 or N9	25	115.2	50.0	62.3	72.0	L104
85	M85 x 2	N8 or N9	25	115.2	50.0	69.1	78.0	L104
90	M90 x 2	N9 or N10	25	125.7	50.0	74.1	84.0	L114
100	M100 x 2	N9 or N10	25	125.7	50.0	82.1	90.0	L114

All Dimensions are in Millimeters

- NOTES:**
- NPT entry thread reference details on page 53.
 - Suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting.
 - Gland Size does not necessarily equate to the entry thread size.
 - Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
 - Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
 - Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
 - For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
 - Where EX-35 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
 - The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
 - Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EX-40

EX-40 type glands provide two pull resistant seals on the outer sheath of any cable. EX-40 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP66, IP68 to 25 meters. An integral O-Ring entry thread seal, as illustrated, is provided as standard on metric versions.

EXAMPLE PART NUMBER

EX-40 [W] [X] [Y] [YY] [ZZ]

- W** - Gland material (B = Brass / S = Stainless Steel)
X - Seal Material (1 = Neoprene / 3 = Silicone)
Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
YY - Gland size (Cable Range)
ZZ - Entry thread

Sample: EX-40-B-1-0-20-M20

DESIGN STANDARD

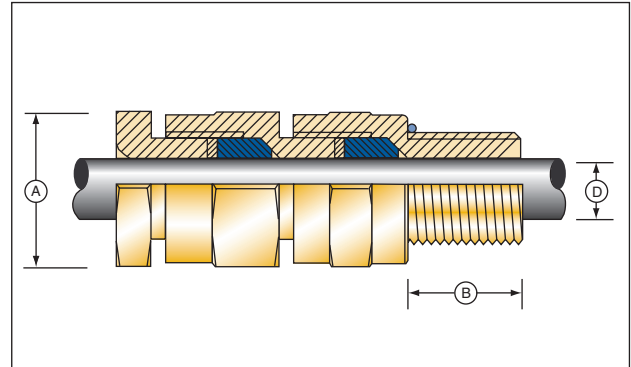
EN50014:1998, EN50018:2000, EN50019:2000 and EN 50281-1-1:1998

CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II
CSA Exd IIC/Exe II 4X, Class 1, Zone 1

CERTIFICATE

SIRA 05ATEX1123X - Ex Notified Body No. 0518
Pending



GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-40-B-1-0-20-M20 XX SIRA 05ATEX1123X  II 2GD IP68 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-40 type glands will only maintain Flameproof Exd integrity when used with cable that is substantially round and compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-40 Gland
IIC, IIB, IIA	NO	Any	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 litres or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 and IP68 @ 25 meters, Enclosure Type 4X

OPERATING TEMPERATURES

Standard Seals -20°C to +80°C
Silicone Seals - 60°C to +180°C

MATERIALS

Brass CZ121 (EX-40-B)
316 Stainless Steel (EX-40-S)

Outer sheath seal material: Standard (EX-40-W-1) Neoprene, black. Option (EX-40-W-3) Silicone, white
Integral entry thread seal: Nitrile is supplied with neoprene outer seal version. Silicone is supplied with silicone outer seal version.

THREADS
ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

SEALS
Extended operating temperature -60°C to +180°C, halogen free versions: Brass (EX-40-B-3); 316 Stainless Steel (EX-40-S-3)

PLATING
Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES
Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN) Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET) IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW) Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW) Shroud - PVC (EX-PVC); PCP (EX-PCP); Low Smoke Zero Halogen (EX-LSH)

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Max Protrusion Length	Gland Seal Range Cable Outer/Lead Sheath		Shroud Size
	Metric	NPT/BSP				Min	Max	
20s	M20	N1 or N2	16	28.0	66.0	7.2	11.7	L24
20	M20	N1 or N2	16	29.7	66.0	9.6	14.0	L27
25	M25	N2 or N3	16	39.6	66.0	13.5	20.0	L36
32	M32	N3 or N4	16	45.1	66.0	19.5	26.3	L41
40	M40	N4 or N5	16	55.9	74.0	23.0	32.2	L51
50s	M50	N5 or N6	16	71.5	74.0	28.2	38.2	L65
50	M50	N6	16	71.5	74.0	33.2	44.1	L65
63s	M63	N6 or N7	19	88.0	74.0	39.3	50.1	L80
63	M63	N7	19	88.0	74.0	46.7	56.0	L80
75s	M75	N7 or N8	19	99.0	74.0	52.3	62.0	L90
75	M75	N8	19	99.0	74.0	58.1	68.0	L90
80	M80 x 2	N8 or N9	25	115.2	100.0	62.3	72.0	L104
85	M85 x 2	N8 or N9	25	115.2	100.0	69.1	78.0	L104
90	M90 x 2	N9 or N10	25	125.7	100.0	74.1	84.0	L114
100	M100 x 2	N9 or N10	25	125.7	100.0	82.1	90.0	L114

All Dimensions are in Millimeters

NOTES:

- NPT entry thread reference details on page 53.
- Suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting.
- Gland Size does not necessarily equate to the entry thread size.
- Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-35 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EX-45

EX-45 type glands provide a seal on the outer sheath of unarmoured cable and a conduit connection thread. EX-40-M type glands provide a male thread for connection and EX-40-F type glands provide a female thread for connection. EX-45 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP66, IP68 to 25 metres. An 'O' ring IP entry thread seal is fitted as standard.

EXAMPLE PART NUMBER

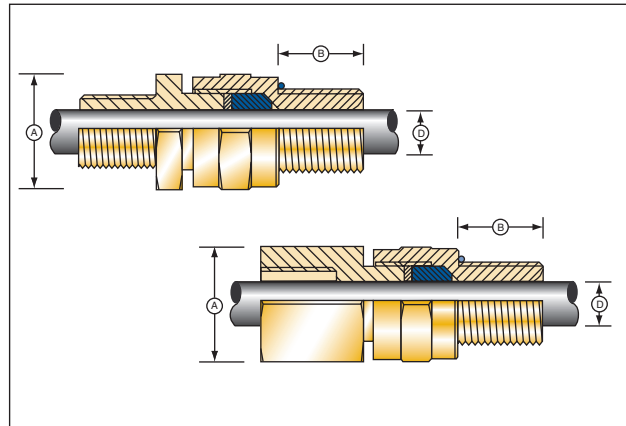
EX-45 [A] [W] [X] [Y] [YY] [ZZ]

- A** - M = Male Connector / F = Female Connector
- W** - Gland material (B = Brass / S = Stainless Steel)
- X** - Seal Material (1 = Neoprene / 3 = Silicone)
- Y** - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
- Z** - Connection Thread
- YY** - Gland size (Cable Range)
- ZZ** - Entry thread

Sample: EX-45-F-B-1-0-M20-20-M20

DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 and EN 50281-1-1:1998



CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II
CSA Exd IIC/Exe II 4X, Class 1, Zone 1

CERTIFICATE

SIRA 05ATEX1123X - Ex Notified Body No. 0518
Pending

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-45-F-B-1-0-M20-20-M20 XX SIRA 05ATEX1123X (Ex) II 2GD IP68 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-45 type glands will only maintain Flameproof Exd integrity when used with cable that is substantially round and compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-45 Gland
IIC, IIB, IIA	NO	Any	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 litres or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 and IP68 @ 25 meters, Enclosure Type 4X

OPERATING TEMPERATURES

Standard Seals -20°C to +80°C
Silicone Seals - 60°C to +180°C

MATERIALS

Brass CZ121 (EX-45-A-B)
316 Stainless Steel (EX-45-A-S)

Outer sheath seal material: Standard (EX-45-A-W-1) Neoprene, black. Option (EX-45-A-W-3) Silicone, white
Integral entry thread seal: Nitrile is supplied with neoprene outer seal version. Silicone is supplied with silicone outer seal version.

THREADS
ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel); PG

SEALS
Extended operating temperature -60°C to +180°C, halogen free versions: Brass (EX-45-A-B-3); 316 Stainless Steel (EX-45-A-S-3)

PLATING
Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES
Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN) Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET) IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW) Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW)

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Gland Seal Range		Conduit Connector	
	Metric	NPT/BSP			Cable Outer Sheath [D]		NPT	ISO
					Min	Max		
16	M20	N1 or N2	16	28.0	4.0	8.4	N1 or N2	M20
20s	M20	N1 or N2	16	28.0	7.2	11.7	N1 or N2	M20
20	M20	N1 or N2	16	33.0	9.6	14.0	N1 or N2	M20
25	M25	N2 or N3	16	41.4	13.5	20.0	N2 or N3	M25
32	M32	N3 or N4	16	50.6	19.5	26.3	N3 or N4	M32
40	M40	N4 or N5	16	60.5	23.0	32.2	N4 or N5	M40
50s	M50	N5 or N6	16	71.5	28.2	38.2	N5 or N6	M50
50	M50	N6	16	71.5	33.2	44.1	N6	M50
63s	M63	N6 or N7	19	88.0	39.3	50.1	N6 or N7	M63
63	M63	N7	19	88.0	46.7	56.0	N7	M63
75s	M75	N7 or N9	19	99.0	52.3	62.0	N7 or N9	M75
75	M75	N9	19	99.0	58.1	68.0	N9	M75

All Dimensions are in Millimeters

NOTES:

- Suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting.
- Gland Size does not necessarily equate to the entry thread size.
- Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-35 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.
- Other conduit connection threads eg PG, BSP are available upon request.

EE-RG

EE-RG type glands provide a seal on the outer sheath of unarmoured cable. EE-RG type glands maintain Increased Safety Exe method of explosion protection and IP66, IP68.

EXAMPLE PART NUMBER

EE-RG[X]-[ZZ]

X - Material (1 = Black Polyamide 6 / 2 = Blue Polyamide 6 / 3 = Grey Polyamide 6)

ZZ - Entry Thread

EE-RG1-M20

DESIGN STANDARD

EN50014:1997 and EN50019:2000

CERTIFICATION

ATEX II 2 GD, E Exe II



CERTIFICATE

SIRA 00ATEX 1072 - Ex Notified Body No. 0518

GLAND MARKING

Example:

SIRA 00ATEX1072X EB (Cable Range) II2GD EExeII

For industrial versions the hazardous area information is omitted

APPLICATION

Exe Equipment

Gas Group II, Zones 1 and 2

INGRESS PROTECTION

IP66 without a sealing washer

IP68 with a sealing washer

OPERATING TEMPERATURES

Sizes M25 and below: -20°C to +60°C

Sizes above M25: -10°C to +60°C

MATERIALS

Standard (EX-RG1) Black Polyamide 6

Option (EE-RG2) Blue Polyamide 6

Industrial, Non Ex Versions: Grey Polyamide 6 (EE-RG3)

Note: Polyamide 6 is self extinguishing, flame retardant and halogen free

Outer Seath seal material: Santoprene, black

THREADS

ISO Metric

ACCESSORIES

Locknut - Nylon (EX-NLN); Brass (EX-BLN)

IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW)

Gland Size Metric	Entry Thread Length	Max Across Corners	Gland Seal Range Cable Outer Sheath	
			Min	Max
-	9	16.5	3.5	6.0
M16	9	20.9	5.0	8.0
-	9	24.2	6.0	10.0
M20	10	26.4	8.0	13.5
-	10	28.6	10.0	15.0
M25	11	35.2	13.0	19.0
M32	12	45.1	18.0	25.0
M40	14	57.2	24.0	32.0
M50	16	64.9	29.0	38.0
M63	16	71.5	36.0	44.0

All Dimensions are in Millimeters

NOTES:

- Suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting
- Gland sizes M25 and above shall not be used for applications where there is a "high" risk of mechanical damage
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full



EX-50

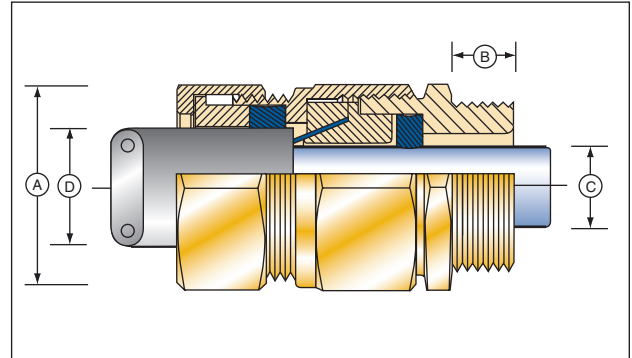
EX-50 type glands provide pull resistant seals on the inner and outer sheath and a braid armor clamp. The armor clamp provides an electrical bond between the cable armor and the gland. EX-50 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP66.

EXAMPLE PART NUMBER

EX-50 [W] [Y] [YY] [ZZ]

- W** - Gland Material (B = Brass / S = Stainless Steel)
- Y** - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
- YY** - Gland Size (Cable Range)
- ZZ** - Entry Thread

Sample: EX-50-B-3-20S-M20



DESIGN STANDARD

EN 50014:1998, EN 50018:2000, EN 50019:2000 and EN 50281-1-1:1998

CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II

CERTIFICATE

SIRA 05ATEX1121X - Ex Notified Body No. 0518

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-50-B-3-20S-M20 XX SIRA 05ATEX1121X II 2GD IP66 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-50 type glands will only maintain Flameproof Exd integrity when used with cable that has a suitable profile and is compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-50 Gland
IIC, IIB, IIA	NO	2 litres or less	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 litres or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66

OPERATING TEMPERATURES

Standard Seals - 60°C to +180°C

MATERIALS

Brass CZ121 (EX-50-B)
316 Stainless Steel (EX-50-S)

THREADS

ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

PLATING

Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES

Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN)
 Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET)
 IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW)
 Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW)

Gland Size	Entry Threads	Entry Thread Length	Max Across Corners	Max Protrusion Length	Gland Seal				Range				Armor Acceptance Range
					Cable Inner Sheath [C]				Cable Outer Sheath [D]				
	Metric	[B]	[A]	Width		Thickness		Width		Thickness			
				Min	Max	Min	Max	Min	Max	Min	Max		
20s	M20	16	26.5	58.0	6.3	11.7	4.0	7.0	7.9	11.7	4.5	7.0	0.1-0.3
20R	M20	16	33.0	58.0	8.1	13.5	5.8	6.2	7.5	16.1	3.0	8.3	0.1-0.45
20	M20	16	33.0	58.0	10.3	13.5	5.6	9.0	11.0	13.5	4.5	9.0	0.1-0.3

All Dimensions are in Millimeters

NOTES:

- Gland Size does not necessarily equate to the entry thread size.
- "X" refers to the wire diameter in a braided cable.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-50 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EX-55

EX-55 type glands provide a single pull resistant seal on the outer sheath of unarmoured flat cable. EX-55 type glands maintain Flameproof Exd and Increased Safety Exe methods of explosion protection and IP68 to 25 meters.

EXAMPLE PART NUMBER

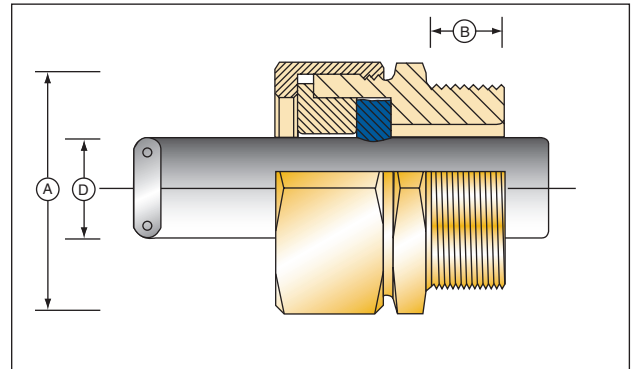
EX-55 [W] [Y] [YY] [ZZ]

- W** - Gland Material (B = Brass / S = Stainless Steel)
Y - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
YY - Gland Size (Cable Range)
ZZ - Entry Thread

EX-55-B-3-20S-M20

DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 and EN50281-1-1:1998



CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II

CERTIFICATE

SIRA 05ATEX1121X - Ex Notified Body No. 0518

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-55-B-3-20S-M20 XX SIRA 05ATEX1121X  II 2GD IP68 EExdIIC / EExe II (XX = Year Code)

APPLICATION

EExd Equipment

EX-55 type glands will only maintain Flameproof Exd integrity when used with cable that has a suitable profile and is compact with extruded bedding. The cable shall be deemed to be effectively filled. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-55 Gland
IIC, IIB, IIA	NO	Any	Zone 1 or 2	YES
IIB, IIA	YES	Any	Zone 2	YES
IIB, IIA	YES	2 litres or less	Zone 1	YES

EExe Equipment

Gas Group II, Zones 1 and 2

Other Equipment

Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP68 @ 25 meters

OPERATING TEMPERATURES

Standard Seal - 60°C to +180°C (Silicone seal)

MATERIALS

Brass CZ121 (EX-55-B)
316 Stainless Steel (EX-55-S)

Outer sheath seal material: Silicone, red or white

THREADS

ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

PLATING

Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES

Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN)
 Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET)
 IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW)
 Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW)

Gland Size	Entry Threads	Entry Thread Length	Max Across Corners	Gland Seal Range Cable Outer Sheath [D]			
				Width		Thickness	
	Metric	[B]	[A]	Min	Max	Min	Max
20s	M20	16	26.5	6.3	11.7	4.0	7.0
20R	M20	16	33.0	8.1	13.5	5.8	6.2
20	M20	16	33.0	10.3	13.5	5.6	9.0

All Dimensions are in Millimeters

NOTES:

- Suitable only for fixed installations. The cable must be clamped near the gland to prevent pulling and twisting.
- Gland Size does not necessarily equate to the entry thread size.
- Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- Where EX-55 type glands are fitted into non-metallic Increased Safety Exe enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.

EX-60

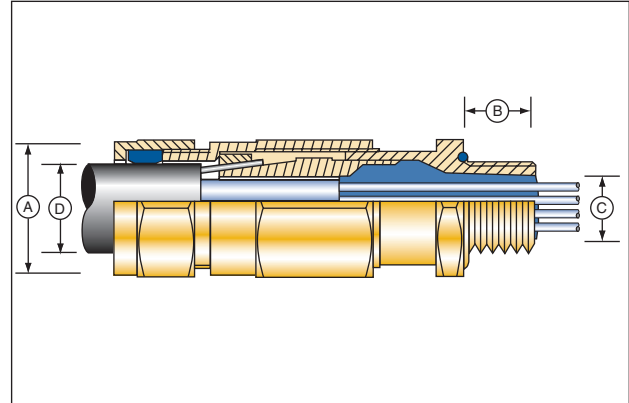
EX-60 type glands provide a Flameproof EExd compound filled barrier, a seal on the outer sheath, a universal armor clamp for armored, screened or braided cable and an entry thread seal. The armor clamp provides an electrical bond between the cable armor, screen or braid and the gland. EX-60 type glands maintain EExd Flameproof method of explosion protection; IP66, 68 to 100 meters and is deluge resistant.

EXAMPLE PART NUMBER

EX-60 [W] [Y] [R] [YY] [ZZ]

- W** - Gland Material (B = Brass / S = Stainless Steel)
- Y** - Plating (0 = No Plating / 1 = Nickel / 2 = Tin / 3 = Zinc / 4 = Electroless Nickel)
- R** - Reduced bore option
- YY** - Gland Size (Cable Range)
- ZZ** - Entry Thread

EX-60-B-1-R-20S-M20



DESIGN STANDARD

EN50014:1998, EN50018:2000, EN50019:2000 and EN50281-1-1:1998
IEC 60079-0 (2000-06), IEC 60079-1 (2001-02)

CERTIFICATION

ATEX II 2 GD, E Exd IIC / E Exe II
CSA Exd I & IIC 4X, Class 1, Zone 1

CERTIFICATE

SIRA 05SIRA1124X - Ex Notified Body No. 0518
Pending

GLAND MARKING

CENELEC and ATEX

Example:

Amphenol 13838 USA EX-60-B-1-R-20S-M20 XX SIRA 05ATEX1124X I M2 II 2GD EExd I & IIC IP68 (XX = Year Code)

APPLICATION

EExd Equipment

EX-60 type Glands will maintain Flameproof Exd integrity when used with any armored or unarmored cable types. Ref: IEC60079-14:2002 Section 10.4.2

Gas Group	Internal Ignition Source	Enclosure Volume	Which Zone	Use EX-60 Gland
I, IIC, IIB, IIA	YES	Any	Zone 1 or 2	YES

Other Equipment

Mining Equipment Group I, M2
Ignitable Dust, Zones 21 and 22

INGRESS PROTECTION

IP66 & IP68 @ 100 Meters
Meets the requirements of DTS01 1991

CURING TIME

@ 21°C
Conductor termination can be effected after 1 hour
The equipment can be energised after 4 hours
The compound chamber can be inspected after 4 hours

OPERATING TEMPERATURES

- 60°C to +85°C

MATERIALS
Brass CZ121 (EX-60-B) 316 Stainless Steel (EX-60-S)
Inner LSOH compound Standard outer sheath seal is LSOH silicone, white (EX-60-W-Y) Reduced bore outer sheath seal is LSOH silicone, red (EX-60-W-Y-R)
Entry thread Seal: Red LSOH silicone

THREADS
ISO Metric; NPT; NPS; ISO Pipe Thread (BSP Taper, BSP Parallel)

PLATING
Nickel (1); Tin (2); Zinc (3); Electroless Nickel (4)

ACCESSORIES
Locknut - Brass (EX-BLN); 316 Stainless Steel (EX-SLN) Earth Tag - Brass (EX-BET), 316 Stainless Steel (EX-SET) IP Washer - Nylon (EX-NSW); Red Fibre (EX-FSW) Serrated Lock Washer - 316 Stainless Steel (EX-SSW), Galvanised Steel (EX-GSW) Shroud - PVC (EX-PVC)
Gland and accessory kits: K5- includes gland, locknut, earthtag, integral IP "O" ring & PVC shroud

Gland Size	Entry Threads		Entry Thread Length [B]	Max Across Corners [A]	Max Protrusion Length	Gland Seal Range						Armor Acceptance Range	Shroud Size	
						Cable Inner Sheath / Cores [C]			Cable Outer Sheath [D]					
	Metric	NPT/BSP				Max No. of	Max Over	Max Inner	Standard		Reduced (R)			
									Min	Max	Min			Max
16	M20	N1 or N2	16	28.0	72.0	7	9.0	11.7	9.0	13.5	6.7	10.3	0.15 - 1.25	L24
20s	M20	N1 or N2	16	28.0	72.0	8	10.4	11.7	11.5	16.0	9.4	12.5	0.15 - 1.25	L24
20	M20	N1 or N2	16	33.0	73.0	14	12.5	14.0	15.5	21.1	12.0	17.6	0.15 - 1.25	EL30
25	M25	N2 or N3	16	41.4	83.0	25	17.8	20.0	20.3	27.4	16.8	23.9	0.15 - 1.60	EL38
32	M32	N3 or N4	16	50.6	103.0	50	23.5	26.3	26.7	34.0	23.2	30.5	0.15 - 2.00	EL46
40	M40	N4 or N5	16	60.5	105.0	80	28.8	32.2	33.0	40.6	28.6	36.2	0.20 - 2.00	EL55
50s	M50	N6	16	71.5	115.0	100	34.2	38.2	39.4	46.7	34.8	42.4	0.20 - 2.50	EL65
50	M50	N6	16	71.5	115.0	100	39.4	44.1	45.7	53.2	41.1	48.5	0.20 - 2.50	EL65
63s	M63	N7	19	88.0	115.0	120	44.8	50.1	52.1	59.5	47.5	54.8	0.30 - 2.50	EL80
63	M63	N7	19	88.0	115.0	120	50.0	56.0	58.4	65.8	53.8	61.2	0.30 - 2.50	EL80
75s	M75	N8	19	99.0	122.0	140	55.4	62.0	64.8	72.2	60.2	68.0	0.30 - 2.50	EL90
75	M75	N8	19	99.0	122.0	140	60.8	68.0	71.1	78.0	66.5	73.4	0.30 - 2.50	EL90
80	M80x2	N8 or N9	25	115.2	162.0	160	64.4	72.0	77.0	84.0	-	-	0.45 - 3.15	L104
85	M85x2	N8 or N9	25	115.2	162.0	180	69.8	78.0	79.6	90.0	75.0	85.4	0.45 - 3.15	L104
90	M90x2	N9 or N10	25	125.7	166.0	200	75.1	84.0	88.0	96.0	-	-	0.45 - 3.15	L114
100	M100x2	N9 or N10	25	125.7	166.0	220	80.5	90.0	92.0	102.0	87.4	97.4	0.45 - 3.15	L114

All Dimensions are in Millimeters

NOTES:

- NPT entry thread reference details on page 53.
- Gland Size does not necessarily equate to the entry thread size.
- Integral entry thread seal option is not available for glands with tapered entry threads. IP washers can be supplied if required.
- Please note that dimensions (A) and (B) may differ for glands with non-Metric entry threads. Please refer to our thread data tables for specific dimensions.
- Unless otherwise stated ISO Metric entry threads have a 1.5mm pitch.
- For Flameproof Exd applications the female thread into which the gland is to be fitted must comply with clause 5.3 of EN 50018:2000 (clause 5.3 IEC 79-1) and an engagement of at least 5 full threads must be achieved for parallel threads and should be achieved for tapered threads.
- If EX-60 type glands are fitted into non-metallic enclosures they must be included within the earth circuit of the system.
- The user should seek expert advice if intending to combine flammable gases and combustible dusts in one environment/installation.
- Full assembly instructions are supplied with glands, the instructions must be read prior to installation and adhered to in full.