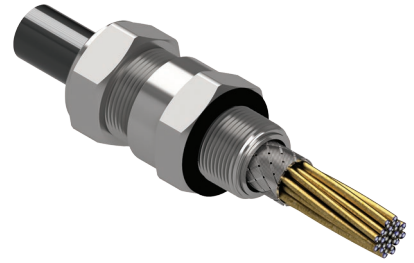


# VARITEx™-D

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

COMPRESSION GLAND for use with Braid or Copper Tape screened cables



### Features and Benefits

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

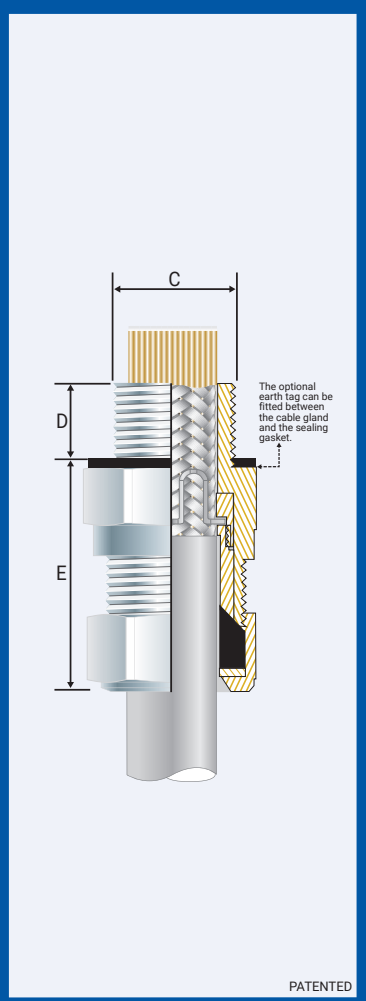


### Technical Data

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

### Standards and Certifications

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



### Conditions for Safe Use - X

- None

Product Code	Gland Size Reference	Metric Entry Thread		NPT Entry Thread		Cable Detail		Max Length 'E'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	'C'	Min 'D'	Min 'B'	Max 'B'		Max 'Flats'	Max 'Crns'	
047000-16	00-16ss	M16x1.5	12	-	-	3.0	8.5	38.0	24.0	27.0	32.5
047000	00-20ss	M20x1.5	12	1/2/3/4	15	3.0	8.5	38.0	24.0	27.0	32.5
0470-0	0-20s	M20x1.5	12	1/2/3/4	15	7.0	12.0	39.0	24.0	27.0	32.5
047001	1-20	M20x1.5	12	1/2/3/4	15	11.0	15.0	45.0	27.0	30.0	32.5
047022	2s-25s	M25x1.5	12	3/4/1	15/19	11.5	17.5	44.0	35.0	39.0	47.5
047002	2-25	M25x1.5	12	3/4/1	15/19	15.0	20.0	44.0	35.0	39.0	47.5
047033	3s-32s	M32x1.5	12	1/1 1/4	19	16.0	22.0	48.0	42.0	47.0	55.0
047003	3-32	M32x1.5	12	1/1 1/4	19	20.0	26.5	48.0	42.0	47.0	55.0
047044	4s-40s	M40x1.5	12	1 1/4/1 1/2	19/21	22.0	31.5	55.0	52.0	59.0	65.0
047004	4-40	M40x1.5	12	1 1/4/1 1/2	19/21	26.0	34.0	55.0	52.0	59.0	65.0
047055	5s-50s	M50x1.5	12	1 1/2/2	21	29.0	38.0	57.0	65.0	73.0	82.5
047005	5-50	M50x1.5	12	1 1/2/2	21	34.0	44.5	57.0	65.0	73.0	82.5
047066	6s-63s	M63x1.5	12	2/2 1/2	21/30	38.0	50.0	63.0	80.0	90.0	97.5
047006	6-63	M63x1.5	12	2/2 1/2	21/30	44.5	46.0	63.0	80.0	90.0	97.5
047077	7s-75s	M75x1.5	12	2 1/2/3	30/32	50.0	62.0	64.0	96.0	108.0	115.5
047007	7-75	M75x1.5	12	2 1/2/3	30/32	56.0	67.5	64.0	96.0	108.0	115.5
047008	8-80	M80x2.0	16	3	32	54.0	69.0	71.0	96.0	108.0	120.0

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

# VARITEx™ -D COMPRESSION GLAND

### ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

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

### MUST HAVE THREADED ENTRIES

- The same thread size as the cable gland. (Thread adapters should be used to correct

any mismatch).

- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

### OR CLEARANCE HOLES (not Ex d)

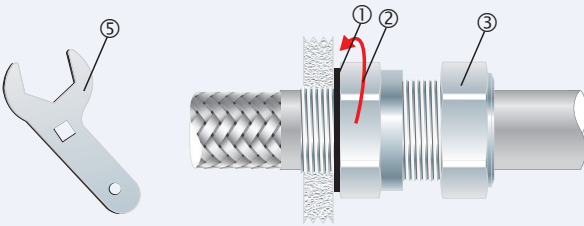
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
- Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry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

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

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

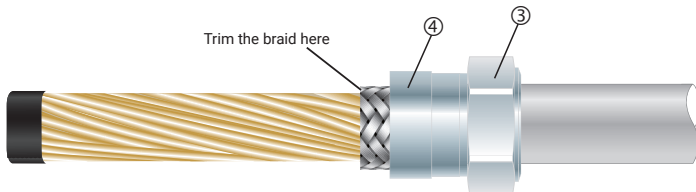


3. Wrap insulation tape over and around the end of the screen to prevent the screen from being displaced as the cable is fitted to the gland. The insulating tape should form a gradual taper to assist with passing the cable through the internal earthing device.

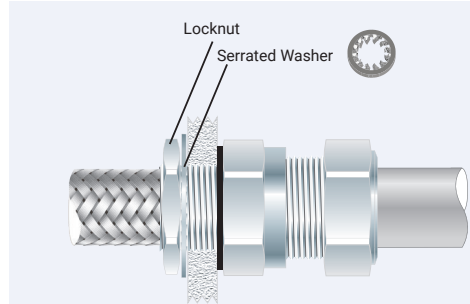


4. To maintain IP66/68, ensure the gasket ① is in place. Screw the gland assembly into the apparatus. Tighten the entry component ② to the specified installation torque using a CCG spanner ⑤. If necessary slacken, but do not remove, the outer nut ③. Pass the cable through the gland until the taped end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

5. If the braid is to be earthed inside the enclosure as well as in the gland, then miss out step 6 and continue to step 7 does not apply to copper tape screened cables.

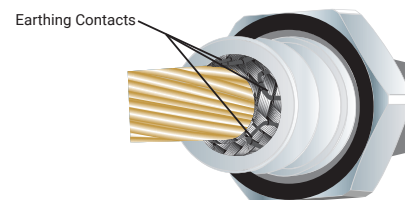


6. If the braid or copper tape is to be earthed in the cable gland only, then fully slacken the outer nut assembly ③ and remove the cable and earthing insert ④. Trim the screen close to the insert. Re-tape the end of the conductors and replace the cable, earthing insert ④ and outer seal nut assembly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

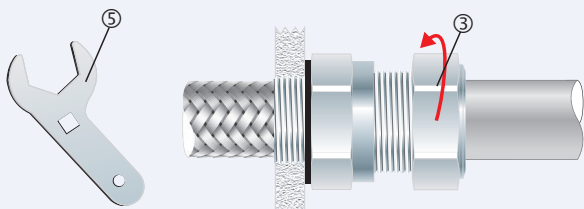


Alternative installation through an unthreaded entry. If the apparatus is untapped use a locknut.

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



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



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