

EX CORROSION GUARD® VX

VORTEX® BARRIER GLAND for Steel or Aluminium Wire Armoured Tray and Marine Shipboard Cable

Features and Benefits

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



Technical Data

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

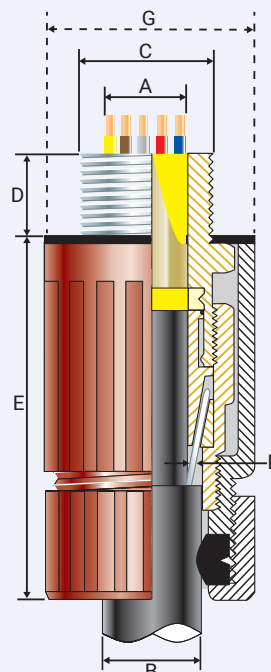
Temperature Range

When fitted with sealing gaskets the temperature range for the gland will be:-

Sealing Gasket Material: Standard Seals: -60°C and +95°C/100°C(HDPE/Nylon Sealing Gasket)

Standards and Certifications

Equipment Protection Levels:	NEC / CEC: Class I Div 2 Gr ABCD, Class II Div 2 Gr FG Class III Div 2 Ex db IIC Gb, Class I Zone 1 AEx eb IIC Gb / Ex eb IIC Gb Zone 20 AEx ta IIIC Da / Ex ta IIIC Da', Class I Zone 2 AEx nR IIC Gc / Ex nR IIC Gc, 8 IECEx: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da	
Conformance:	Standard:	Certificate:
CEC	CSA C22.2 No. 18.3-12, 174:2018 & 213:2017	E115595
	CSA C22.2 No. 60079 - 0, 1, 7, 15, 31	
NEC	UL514B, UL121201 UL 60079 - 0, 7, 15, 31	
IECEx	IEC 60079 - 0, 1, 7, 15, 31	IEC Ex CML 18.0018X
IP66/68 100m - Parallel	IEC 60529	CML 15Y728
Nema Type 4X	NEMA 250	E115595
Deluge Protection	DTS-01	CML 14CA370-2
Corrosion Protection	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
Marine ABS	IEC 60079, 0, 1, 7, 15, 31, IEC 60529	ABS 20-SG1952706-PDA
DNV	IEC 60079, 0, 1, 7, 15, 31, IEC 60529	TAE0000010
EMC Compatible	EN 55011, + A1, EN 55022	SGS EMC305079/1



PATENTED



Installation Requirements / Specific Conditions of Use

- The cable glands, sizes M20, 3/4" NPT and smaller, shall only be used on fixed installations where the cable is clamped, or stress applied to the cable in the gland is prevented. (NEC/CEC only)
- The cable glands shall only be used if the temperature, at the point of entry, is as specified above

Product Code	Gland Size Ref	Metric Entry Thread		Cable Detail				Max Length 'E'	Max. Dia. Over Cores	Max. No. of Cores	Armour Dia		Max Dia 'G'	Hexagonal Detail		Install. Torque Value Nm
		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'				Min 'F'	Max 'F'		Max 'Flats'	Max 'Crns'	
056100-16-VX-NPT-MNA	00-16ss	M16x1.5	0.591	0.118	0.335	0.315	0.531	1.811	0.315	10	0.008	0.035	1.299	0.945	1.063	21/15
056100-VX-NPT-MNA	00-20ss	M20x1.5	0.591	0.118	0.335	0.315	0.531	1.811	0.429	10	0.008	0.035	1.299	0.945	1.063	21/15
056101-VX-NPT-MNA	0-20s	M20x1.5	0.591	0.276	0.472	0.453	0.630	1.811	0.429	10	0.008	0.049	1.299	0.945	1.063	21/15
056101-VX-NPT-MNA	1-20	M20x1.5	0.591	0.354	0.591	0.571	0.807	2.008	0.492	13	0.008	0.049	1.417	1.063	1.181	21/15
056122-VX-NPT-MNA	2s-25s	M25x1.5	0.591	0.433	0.689	0.630	0.965	2.283	0.610	20	0.008	0.063	1.811	1.378	1.535	30/22
056102-VX-NPT-MNA	2-25	M25x1.5	0.591	0.551	0.787	0.807	1.043	2.283	0.610	20	0.008	0.063	1.811	1.378	1.535	30/22
056133-VX-NPT-MNA	3s-32s	M32x1.5	0.591	0.591	0.866	0.906	1.201	2.638	0.854	40	0.008	0.079	2.087	1.654	1.850	42/31
056103-VX-NPT-MNA	3-32	M32x1.5	0.591	0.748	1.043	1.043	1.319	2.638	0.854	40	0.008	0.079	2.087	1.654	1.850	42/31
056144-VX-NPT-MNA	4s-40s	M40x1.5	0.591	0.866	1.240	1.181	1.555	2.913	1.181	60	0.012	0.079	2.677	2.047	2.323	52/38
056104-VX-NPT-MNA	4-40	M40x1.5	0.591	1.024	1.339	1.299	1.673	2.913	1.181	60	0.012	0.079	2.677	2.047	2.323	52/38
056155-VX-NPT-MNA	5s-50s	M50x1.5	0.591	1.142	1.496	1.339	1.870	3.504	1.429	80	0.016	0.098	3.307	2.559	2.874	57/42
056105-VX-NPT-MNA	5-50	M50x1.5	0.591	1.339	1.752	1.673	2.067	3.504	1.429	80	0.016	0.098	3.307	2.559	2.874	57/42
056166-VX-NPT-MNA	6s-63s	M63x1.5	0.591	1.496	1.969	1.791	2.382	4.016	1.886	100	0.016	0.098	4.331	3.150	3.543	66/49
056106-VX-NPT-MNA	6-63	M63x1.5	0.591	1.732	2.224	2.067	2.579	4.016	1.886	100	0.016	0.098	4.331	3.150	3.543	66/49
056177-VX-NPT-MNA	7s-75s	M75x1.5	0.591	1.969	2.441	2.244	2.854	4.173	2.291	120	0.016	0.124	4.882	3.780	4.252	72/53
056107-VX-NPT-MNA	7-75	M75x1.5	0.591	2.205	2.657	2.579	3.071	4.173	2.291	120	0.016	0.124	4.882	3.780	4.252	72/53
056108-VX-NPT-MNA	8-80	M80x2.0	0.787	2.323	2.717	2.559	3.051	4.606	2.421	140	0.098	0.124	4.882	3.780	4.252	80/59
056199-VX-NPT-MNA	9s-90s	M90x2.0	0.787	2.598	2.953	2.874	3.406	4.606	2.776	160	0.118	0.138	4.882	4.370	4.921	89/66
056109-VX-NPT-MNA	9-90	M90x2.0	0.787	2.913	3.209	3.228	3.583	4.606	2.776	160	0.118	0.138	5.512	4.370	4.921	89/66
056110-VX-NPT-MNA	10-100	M100x2.0	0.787	3.189	3.583	3.543	3.937	4.606	3.110	180	0.118	0.138	5.512	4.921	5.551	98/72

All dimensions are in inches.

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EX CORROSION GUARD® VX (VORTEX®)

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

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

MUST HAVE THREADED ENTRIES

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

- With a thread tolerance of metric class '6H' or equivalent.

- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

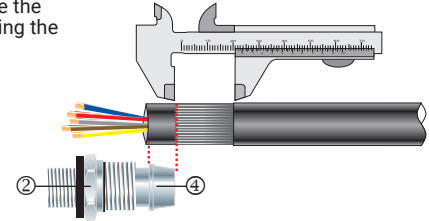
OR CLEARANCE HOLES (not Ex d)

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

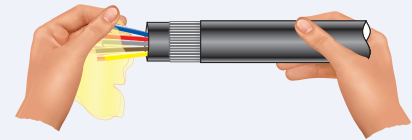
1. Separate the inner ② from the gland body ③. Prepare the cable cutting back the outer sheath to expose the armour to the length as per table below. Strip back the inner bedding to expose the inner cable cores using the cone ④ as a gauge.

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

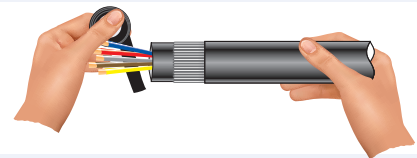
If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish. Any drain wires should also be insulated with heat shrink tubing or coated with insulating varnish.



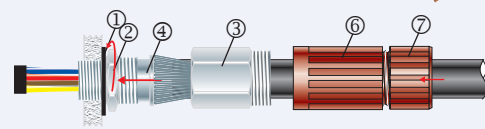
2. Using a clean cloth, clean the cable cores insulation.



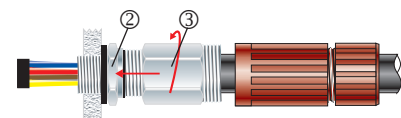
3. Using the insulation tape, bundle the cores together at the end.



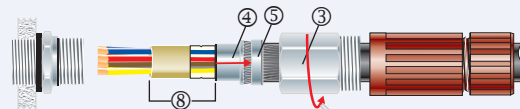
4. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the inner ② into the apparatus and tighten to installation torque using a CCG Spanner. If apparatus is untapped use a locknut. Pass the bundled cable cores through corrosion guard outer nut ⑦, corrosion guard body ⑥ and the gland body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



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



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



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

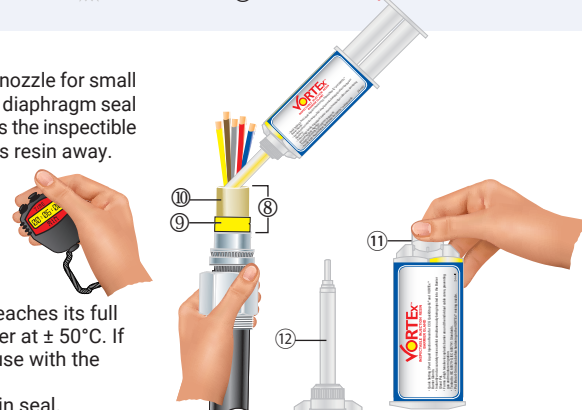
7. Remove the cap ⑪ from resin applicator and attach the mixing nozzle ⑫ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑧ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Ensure the resin fills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

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

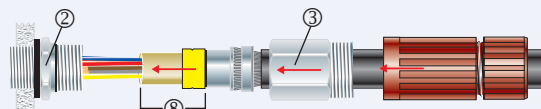
- 15 minutes at 10°C
- 7 minutes at 20°C
- 6 minutes at 30°C
- 5 minutes at 40°C

The cable gland can now be handled safely, and the resin will continue to cure until it reaches its full hardness. For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is Resin left in the tube, discard the mixing nozzle ⑫ and replace the cap ⑪ for use with the next gland.

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



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



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

