



# UNITEx™ -D

## CAPTIVE COMPONENT GLAND® WITH VARIABLE DELUGE SEAL™ for Multi Armoured Cable

### Features and Benefits

- Gland for use in ordinary and hazardous locations.
- Two part handling, no loose parts.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire, aluminium, braid and tape armour.
- Patented disconnect system that allows inspection of armour clamp and inner seal after assembly.
- With a patented Variable Deluge Seal™ as standard.
- Factory fitted with a specially formulated elastomeric seal for Built-in Safety™, seals on the inner and outer sheath of the cable to IP65/66/68.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™) available in aluminium and stainless steel 316/316L on request.
- Complete with thread sealing gasket.



### Technical Data

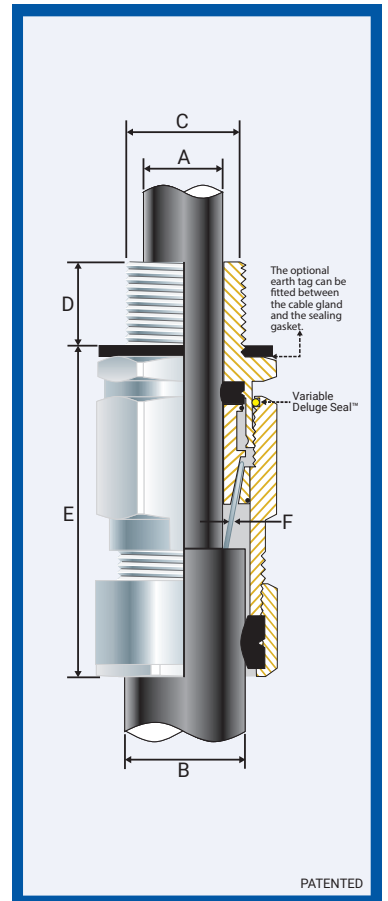
Type:	UNITEx™-D
Gland Material:	Brass (Marine Grade Electroless Nickel Plated™), Aluminium, Stainless Steel 316/316L
Seal Material:	Standard Thermoset Elastomer or Extreme Temperature Seals
Sealing Gasket Material:	HDPE, Nylon 66 or PTFE
Cable Type:	Steel or Aluminium wire, Braided or Tape Armour
Armour Clamping:	Rotating Captive Cone and Inspectible Cone Ring
Sealing Area:	Inner Sheath, Outer Sheath and Variable Deluge Seal™
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.

### 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)  
 Extreme Temp. Seals: -60°C and +160°C (PTFE Sealing Gasket)

### Standards and Certifications

Equipment Protection Levels:	NEC / CEC: Cl I Div 2 Gr ABCD, Cl II Div 2 Gr FG, Cl III Div 2 Ex db IIC Gb, Cl I Zn 1AEx eb IIC Gb / Ex eb IIC Gb Zn 21 AEx ta IIIC Da / Ex ta IIIC Da, Cl I Zn 2 AEx nR IIC Gc / Ex nR IIC Gc, IP66/67/68, IP65, Type 4X IECEX: Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc	
Conformance:	Standard:	Certificate:
CEC	CSA C22.2 No. 18.3-12, 174:2018 & 213:2017	E115594
NEC	CSA C22.2 No. 60079 - 0, 1, 7, 15, 31	
IECEX	UL514B, UL121201 UL 60079 - 0, 7, 15, 31	
IP66/68 850m – Parallel	IEC 60079 - 0, 1, 7, 15, 31	IECEX CML 18.0018X
IP68 – Tapered and approved grease	IEC 60529	CML 15Y728
Nema Type 4X	IEC 60529	IECEX CML 18.0018X
Deluge Protection	NEMA 250	E115594
Corrosion Protection	DTS-01	CML 14CA370-2
Marine ABS	ASTM B117-11, BS EN ISO 3231	EXOVA N968667
DNV-GL	IEC/EN 60079 - 0, 1, 7, 15, 31	ABS 20-SG1952706-PDA
ClassNK	IEC 60079 - 0, 1, 7, IEC 60529	DNV-GL TAE0000010
EMC Compatible	IEC 60079 - 0, 1, 7, 15, 31	TA20270M
	EN 55011, + A1, EN 55022	SGS EMC305079/1



### Conditions for Safe Use - X

- The cable glands 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.
- According to IEC 60079-14, 10.6.2: An Ex d gland will only maintain Ex d integrity when used with substantially round, compact and filled cable. If not a CCG VORTEX® barrier gland should be used.

### NPT Entry Thread

Gland Size Ref	Product Code	NPT Entry Thread		Alternative Thread Product Code	NPT Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail	
		'C'	Min 'D'		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'
00s-20ss	055400S-012NPT-MNA	1/2	0.590	055400S-034NPT-MNA	3/4	0.590	0.118	0.335	0.197	0.413	2.204	0.008	0.035	0.945	1.063
00-20ss	055400-012NPT-MNA	1/2	0.590	055400-034NPT-MNA	3/4	0.590	0.118	0.335	0.315	0.551	2.204	0.008	0.035	0.945	1.063
0s-20s	0554-0S-012NPT-MNA	1/2	0.590	0554-0S-034NPT-MNA	3/4	0.590	0.275	0.472	0.315	0.551	2.322	0.008	0.049	0.945	1.063
0-20s	0554-0-012NPT-MNA	1/2	0.590	0554-0-034NPT-MNA	3/4	0.590	0.275	0.472	0.453	0.630	2.322	0.008	0.049	0.945	1.063
1-20	055401-012NPT-MNA	1/2	0.590	055401-034NPT-MNA	3/4	0.590	0.354	0.590	0.492	0.807	2.873	0.008	0.049	1.063	1.181
2s-25s	055422-034NPT-MNA	3/4	0.590	055422-001NPT-MNA	1	0.748	0.433	0.689	0.630	0.964	3.227	0.008	0.063	1.377	1.535
2-25	055402-034NPT-MNA	3/4	0.590	055402-001NPT-MNA	1	0.748	0.551	0.787	0.708	1.063	3.227	0.008	0.063	1.377	1.535
3s-32s	055433-001NPT-MNA	1	0.748	055433-114NPT-MNA	1 1/4	0.748	0.590	0.866	0.787	1.200	3.699	0.008	0.079	1.653	1.850
3-32	055403-001NPT-MNA	1	0.748	055403-114NPT-MNA	1 1/4	0.748	0.748	1.043	0.905	1.318	3.699	0.008	0.079	1.653	1.850
4s-40s	055444-114NPT-MNA	1 1/4	0.748	055444-112NPT-MNA	1 1/2	0.826	0.866	1.240	1.043	1.535	3.935	0.012	0.079	2.046	2.322
4-40	055404-114NPT-MNA	1 1/4	0.748	055404-112NPT-MNA	1 1/2	0.826	1.023	1.338	1.102	1.574	4.132	0.012	0.079	2.046	2.322
5s-50s	055455-112NPT-MNA	1 1/2	0.826	055455-002NPT-MNA	2	0.826	1.141	1.495	1.385	1.869	4.762	0.016	0.098	2.558	2.873
5-50	055405-112NPT-MNA	1 1/2	0.826	055405-002NPT-MNA	2	0.826	1.338	1.751	1.747	2.078	4.762	0.016	0.098	2.558	2.873
6s-63s	055466-002NPT-MNA	2	0.826	055466-212NPT-MNA	2 1/2	1.181	1.495	1.968	1.791	2.381	4.959	0.016	0.098	3.148	3.542
6-63	055406-002NPT-MNA	2	0.826	055406-212NPT-MNA	2 1/2	1.181	1.732	2.224	2.149	2.593	4.959	0.016	0.098	3.148	3.542
7s-75s	055477-212NPT-MNA	2 1/2	1.181	055477-003NPT-MNA	3	1.259	1.968	2.440	2.322	2.853	5.431	0.016	0.124	3.778	4.250
7-75	055407-212NPT-MNA	2 1/2	1.181	055407-003NPT-MNA	3	1.259	2.204	2.656	2.558	3.070	5.431	0.016	0.124	3.778	4.250
8-80	055408-003NPT-MNA	3	1.259	-	-	-	2.322	2.715	2.558	3.050	5.588	0.016	0.124	3.778	4.250
9s-90s	055499-003NPT-MNA	3	1.259	055499-312NPT-MNA	3 1/2	1.299	2.597	2.952	2.873	3.404	6.139	0.016	0.138	4.368	4.919
9-90	055409-003NPT-MNA	3	1.259	055409-312NPT-MNA	3 1/2	1.299	2.912	3.207	3.227	3.581	6.139	0.016	0.138	4.368	4.919
10-10	055410-312NPT-MNA	3 1/2	1.299	055410-004NPT-MNA	4	1.338	3.188	3.581	3.542	3.935	6.808	0.016	0.138	4.919	5.549
2L-25L	055422LNPT-MNA	3/4	0.591		1	0.748	0.433	0.689	0.708	1.063	3.227	0.008	0.063	1.377	1.535
3L-32L	055433LNPT-MNA	1	0.748		1 1/4	0.748	0.590	0.866	0.905	1.318	3.699	0.008	0.079	1.653	1.850
4L-40L	055444LNPT-MNA	1 1/4	0.748		1 1/2	0.826	0.866	1.240	1.102	1.574	4.132	0.012	0.079	2.046	2.322
5L-50L	055455LNPT-MNA	1 1/2	0.826		2	0.826	1.141	1.495	1.747	2.078	4.762	0.016	0.098	2.558	2.873
6L-63L	055466LNPT-MNA	2	0.826		2 1/2	1.181	1.495	1.968	2.149	2.593	4.959	0.016	0.098	3.148	3.542
7L-75L	055477LNPT-MNA	2 1/2	1.181		3	1.259	1.968	2.440	2.558	3.070	5.431	0.016	0.124	3.778	4.250
9L-90L	055499LNPT-MNA	3	1.259		3 1/2	1.299	2.597	2.952	3.227	3.581	6.139	0.018	0.138	4.368	4.919

All dimensions are in inches. Intermediate thread sizes are available on request. NPT threads should be tightened 'wrench tight'

CCG reserves the right to make alterations to the technical data, dimensions, designs and products available without notice. The illustrations cannot be considered binding. Please contact CCG for assistance. UNITEx-D-OMG250123NA

## Metric Entry Thread

Gland Size Ref	Product Code	Metric Entry Thread		Cable Detail				Max Length 'E'	Armour Dia		Hexagonal Detail		Tightening Torque Nm/lb ft
		'C'	Min 'D'	Min 'A'	Max 'A'	Min 'B'	Max 'B'		Min 'F'	Max 'F'	Max 'Flats'	Max 'Crns'	
00s-20ss	055400S-MNA	M20x1.5	0.591	0.118	0.335	0.197	0.413	2.205	0.008	0.035	0.945	1.063	21/15
00-20ss	055400-MNA	M20x1.5	0.591	0.118	0.335	0.315	0.551	2.205	0.008	0.035	0.945	1.063	21/15
0s-20s	0554-0S-MNA	M20x1.5	0.591	0.276	0.472	0.315	0.551	2.323	0.008	0.049	0.945	1.063	21/15
0-20s	0554-0-MNA	M20x1.5	0.591	0.276	0.472	0.453	0.630	2.323	0.008	0.049	0.945	1.063	21/15
1-20	055401-MNA	M20x1.5	0.591	0.354	0.591	0.492	0.807	2.874	0.008	0.049	1.063	1.181	21/15
2s-25s	055422-MNA	M25x1.5	0.591	0.433	0.689	0.630	0.965	3.228	0.008	0.063	1.378	1.535	30/22
2-25	055402-MNA	M25x1.5	0.591	0.551	0.787	0.709	1.063	3.228	0.008	0.063	1.378	1.535	30/22
3s-32s	055433-MNA	M32x1.5	0.591	0.591	0.866	0.787	1.201	3.701	0.008	0.079	1.654	1.850	42/31
3-32	055403-MNA	M32x1.5	0.591	0.748	1.043	0.906	1.319	3.701	0.008	0.079	1.654	1.850	42/31
4s-40s	055444-MNA	M40x1.5	0.591	0.866	1.240	1.043	1.535	3.937	0.012	0.079	2.047	2.323	52/38
4-40	055404-MNA	M40x1.5	0.591	1.024	1.339	1.102	1.575	4.134	0.012	0.079	2.047	2.323	52/38
5s-50s	055455-MNA	M50x1.5	0.591	1.142	1.496	1.386	1.870	4.764	0.016	0.098	2.559	2.874	57/42
5-50	055405-MNA	M50x1.5	0.591	1.339	1.752	1.748	2.079	4.764	0.016	0.098	2.559	2.874	57/42
6s-63s	055466-MNA	M63x1.5	0.591	1.496	1.969	1.791	2.382	4.961	0.016	0.098	3.150	3.543	66/49
6-63	055406-MNA	M63x1.5	0.591	1.732	2.224	2.150	2.594	4.961	0.016	0.098	3.150	3.543	66/49
7s-75s	055477-MNA	M75x1.5	0.591	1.969	2.441	2.323	2.854	5.433	0.016	0.124	3.780	4.252	72/53
7-75	055407-MNA	M75x1.5	0.591	2.205	2.657	2.559	3.071	5.433	0.016	0.124	3.780	4.252	72/53
8-80	055408-MNA	M80x2.0	0.787	2.323	2.717	2.559	3.051	5.591	0.016	0.124	3.780	4.252	80/59
9s-90s	055499-MNA	M90x2.0	0.787	2.598	2.953	2.874	3.406	6.142	0.016	0.138	4.370	4.921	89/66
9-90	055409-MNA	M90x2.0	0.787	2.913	3.209	3.228	3.583	6.142	0.016	0.138	4.370	4.921	89/66
10-10	055410-MNA	M100x2.0	0.787	3.189	3.583	3.543	3.937	6.811	0.016	0.138	4.921	5.551	98/72
2L-25L	055422L-MNA	M25x1.5	0.591	0.433	0.689	0.807	1.043	3.227	0.008	0.063	1.377	1.535	30/22
3L-32L	055433L-MNA	M32x1.5	0.591	0.591	0.866	0.906	1.319	3.699	0.008	0.079	1.653	1.850	42/31
4L-40L	055444L-MNA	M40x1.5	0.591	0.866	1.240	1.299	1.673	4.132	0.012	0.079	2.046	2.322	52/38
5L-50L	055455L-MNA	M50x1.5	0.591	1.142	1.496	1.673	2.067	4.762	0.016	0.098	2.558	2.873	57/42
6L-63L	055466L-MNA	M63x1.5	0.591	1.496	1.969	2.067	2.579	4.959	0.016	0.098	3.148	3.542	66/49
7L-75L	055477L-MNA	M75x1.5	0.591	1.969	2.441	2.579	3.071	5.431	0.016	0.124	3.778	4.250	72/53
9L-90L	055499L-MNA	M90x2.0	0.787	2.598	2.953	3.228	3.583	6.139	0.118	0.138	4.368	4.919	89/66

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

## FITTING INSTRUCTION

### 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>R\_a</math> 6.3  $\mu\text{m}$ .
- 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

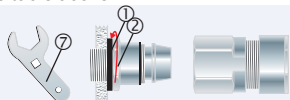
- any mismatch).
- With a thread tolerance of metric class '6H' or equivalent.
- Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications

### 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.)

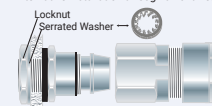
Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length	Gland Size	Armour Length
00-16ss	20.0	3s-32s	30.0	6s-63s	45.0	9-90	50.0
00-20ss	20.0	3-32	30.0	6-63	45.0	10-100	60.0
0-20s	20.0	4s-40s	30.0	7s-75s	50.0	11-115	60.0
1-20	25.0	4-40	30.0	7-75	50.0	12-120	60.0
2s-25s	25.0	5s-50s	35.0	8-80	50.0	13-130	60.0
2-25	25.0	5-50	35.0	9s-90s	50.0		

- For accurate sizing, use a CCG Dimension Tape (A) on the inner and outer cable sheath. Cut back the cable outer sheath to expose the armour to a length as per the table above.



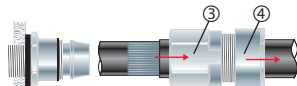
If the gland has NPT entry threads fitted to a threaded entry, then IP68 (2m) can be achieved by applying one of the following tested and approved grease types to the thread:- Renolite Lubrene CA700 or LX220 EP2, Renolite LC-WP2 or Moly LX2, or Dow Corning 4 Electrical Compound.

Alternative installation through an unthreaded entry.

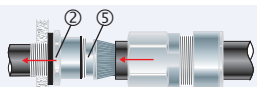


If the apparatus is untapped use a locknut.

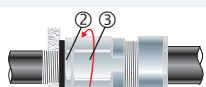
- To maintain IP66/68 ensure the gasket (1) is in place. Screw the inner (2) into the apparatus. Tighten the inner (2) to the installation torque using a CCG Spanner (7).



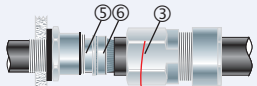
- Pass the outer nut (4) and the body (3) over the cable.



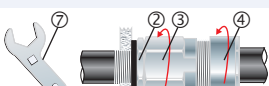
- Pass the cable end through the inner (2). Splay the armour wires over the cone (5).



- Tighten the body (3) onto the inner (2) until hand tight, then tighten with a CCG Spanner (7) with 3/4 turn to lock the armour between the cone (5) and the cone ring (6).



- Unscrew the body (3). Check that the armour has locked between the cone (5) and cone ring (6). (O-Ring on the cone ring (6) is sacrificial).



- Tighten the body (3) onto the inner (2) to the installation torque using a CCG Spanner (7). The Variable Deluge Seal™ will engage automatically as the body is tightened onto the inner (2). Tighten the outer nut (4) to produce a moisture proof seal by turning until the seal makes contact with the outer sheath of cable and then make one full turn.