

## Installation Manual for E1FWRM Cable Gland

**E1FWRM Flameproof Ex d Cable Gland suitable for Armoured Cables with Double Compression and Rigid Conduit fitting**

**Please read all instructions carefully before beginning the installation**

CABTEK E1FWRM type Cable Glands are for Indoor and Outdoor use in the appropriate Hazardous Areas with armoured cable. They provide flameproof seal on the cable inner sheath and environmental seal on the cable outer sheath with environmental protection to IP66. They are suitable for normal industrial environmental of temperature, humidity and vibration.

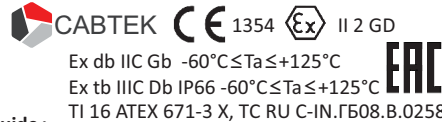
Cable Glands are made of Brass CW614N and SS 316L assembled with VMQ Silicone Rubber and Nylon Substrate.

Material Compatibility under chemical corrosion or attack by aggressive substance must be considered before installation.

Cable Gland confirm to following Standards for Group II and III, Category 2 for Zone 1, 2 and category 2 for 21 & 22 for ambient temperature range  $-60^{\circ}\text{C} \leq \text{Ta} \leq +125^{\circ}\text{C}$

**Standards Applied :** EN 60079-0: 2012+A11:2013,  
EN 60079-1: 2014 &  
EN 60079-31: 2014

**Ex marking on E1FWRM type Cable Glands:**



### Installation Guide :

- Installation must be carried out by a competent electrician, skilled in cable gland installation.
- Installation should not be carried out under live conditions.
- Once installed do not dismantle except for occasional inspection. If necessary, dismantle by reverting the installation instruction. The gland is not serviceable and spare parts are not supplied separately.
- Parts of glands are not interchangeable with any other design. If manufacturer's parts are mixed, certification will be invalidated.
- The female thread in the enclosure must comply with relevant standard and do not damage threads on assemblies.
- The glands should only be used with substantially round and compact cables with correct tools.
- Installation should only be performed by a competent person using the correct torque tools. Spanners should be used for tightening. Read all instructions before beginning installation.
- Any modification which differs from the condition as delivered is not permitted.

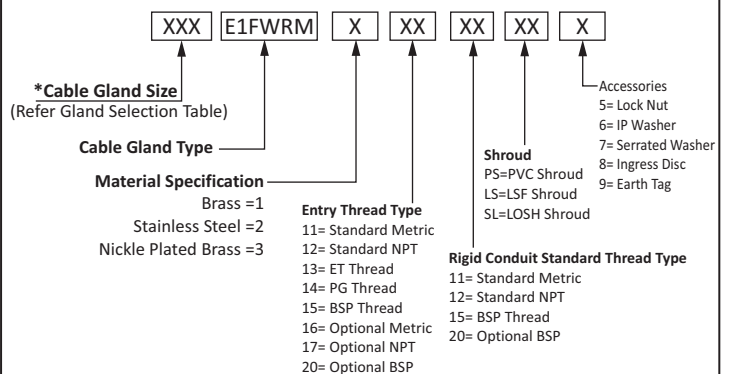
- Accessories are available from CABTEK, as optional extras, to assist with fixing, sealing and earthing, Locknut, Earth Tag, Serrated Washer, Entry Thread (I.P.) /Sealing Washer, Shroud.

### Special Condition of Safe Use of Cable Glands:

- The Cable Entries are only suitable for fixed installations.
- Cable must be effectively clamped from pulling and twisting.
- Cable Glands shall not be used in enclosure where the temperatures at the point of entry /mounting are outside the range of  $-60^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .
- The glands should only be used with substantially round cables and tightened to the rated torque with Torque wrenches.
- Install in accordance with requirements of EN60079-14.
- The cable glands are provided with a sealing ring with an axial sealing height of at least 5 mm. With reference to the clearance groove, the end-user should ensure that at least five complete turns of the connector thread are made. In order to guarantee a screw depth of 8 mm, the enclosure should have a wall thickness of min. 10 mm ; if <10 mm, then if necessary, use a washer when cable entries are attached to the pressure-resistant enclosure.
- In the case of NPT connecting threads, the end-user must ensure that the necessary IP protection is guaranteed; this can be done using a suitable thread sealing agent.
- Installation should not be carried out under live conditions.

### CABLE GLAND ORDERING DETAILS :

#### Product Code For Ordering Purpose



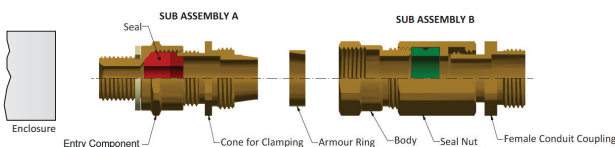
For example : 20SE1FWRM31 11 11 6= E1FWRM20s-M20(M)-M20(M) Nickle Plated Cable Gland with IP Washer

For cable gland technical details like Cable Gland Size, Cable diameter, thread and torque details given as below.

### GLAND SELECTION CHART

Size	Standard Entry Thread "C"			Entry Thread "A"		Entry Optional Thread "E"		Armoured Cable Dia. "B"				Standard Connection Thread "F"			Torque (Nm)			
	Metric	NPT/BSP	ET	Metric	NPT	Metric	NPT	Min.	Max.	Min.	Max.	Min.	Max.	Metric		NPT	BSP(G)	
20s16	M20x1.5	3/4"	3/4"	PG 11	15.00	15.00	M25x1.5	3/4"	0.90	1.25	3.10	8.60	6.10	13.10	M20x1.5	3/4"	3/4"	35
20s	M20x1.5	3/4"	3/4"	PG 13.5	15.00	15.00	M25x1.5	3/4"	0.90	1.25	6.20	11.70	9.50	15.90	M20x1.5	3/4"	3/4"	35
20	M20x1.5	3/4"	3/4"	PG 16	15.00	15.00	M25x1.5	3/4"	0.90	1.25	6.50	13.90	12.50	20.90	M20x1.5	3/4"	3/4"	35
25	M25x1.5	3/4"	1"	PG 21	15.00	15.00	M32x1.5	1"	1.25	1.60	11.30	19.90	19.90	26.20	M25x1.5	3/4"	3/4"	45
32	M32x1.5	1"	1 1/4"	PG 29	15.00	15.00	M40x1.5	1 1/4"	1.60	2.00	17.00	26.20	23.70	33.90	M32x1.5	1"	1"	55
40	M40x1.5	1 1/4"	1 1/2"	PG 36	15.00	15.00	M50x1.5	1 1/2"	1.60	2.00	23.60	32.10	27.90	40.40	M40x1.5	1 1/4"	1 1/4"	65
50s	M50x1.5	1 1/2"	2"	PG 36	15.00	15.00	M63x1.5	2"	2.00	2.50	31.50	38.20	35.20	46.70	M50x1.5	1 1/2"	1 1/2"	80
50	M50x1.5	2"	2"	PG 42	15.00	15.00	M63x1.5	2 1/2"	2.00	2.50	35.80	44.00	40.40	53.00	M50x1.5	1 1/2"	1 1/2"	80
63s	M63x1.5	2"	2 1/2"	PG 48	15.00	15.00	M75x1.5	2 1/2"	2.00	2.50	41.70	50.00	45.60	59.40	M63x1.5	2"	2"	95
63	M63x1.5	2 1/2"	2 1/2"	-	15.00	15.00	M75x1.5	3"	2.00	2.50	47.50	56.00	54.60	65.80	M63x1.5	2"	2"	95
75s	M75x1.5	2 1/2"	3"	-	15.00	15.00	M90x1.5	3"	2.00	2.50	55.00	62.00	59.00	72.00	M75x1.5	2 1/2"	2 1/2"	110
75	M75x1.5	3"	3"	-	15.00	15.00	M90x1.5	3 1/2"	2.50	3.00	62.00	68.00	66.70	78.40	M75x1.5	2 1/2"	2 1/2"	110
90	M90x1.5	3 1/2"	3 1/2"	-	18.00	18.00	M100x1.5	4"	3.00	3.50	67.00	79.00	76.20	90.30	M90x1.5	3"	3"	150

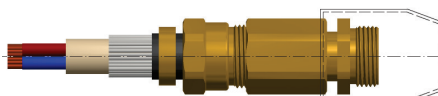
- Separate the cable gland part as shown in below picture. Please do not separate subassembly in shown picture.



- Determine the conductor length required to suite the equipment and prepare the cable accordingly. Remove the Outer sheath of cable as per requirement to see the insulated conductors and armor.

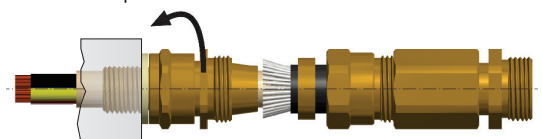


- Fit the shroud over the outer sheath of cable.

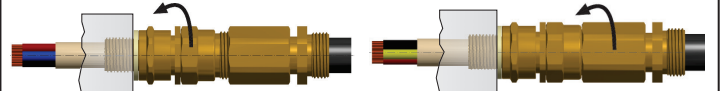


- Check the seal in the entry component and it is in a relaxed state by loosening the outer seal nut and inner seal. Fit the subassembly "A" part to the enclosure. Use the thread seals to maintain the IP rating of equipment and cable glands. Hand-tighten then use wrench to tighten a further. **DO NOT EXCEED MAX TORQUE FOR ENCLOSURE.** The surface of the enclosure should be sufficiently flat and rigid to make both the IP joint and a suitable earth connection (if required). In the case of painted enclosures, serrated washer should be fitted to break through the paint and make satisfactory earth contact. Secure the complete gland into the enclosure.

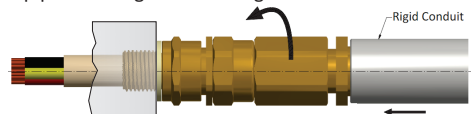
- Then tighten the outer seal nut and Body assemblies B by hand into the subassemblies "A" of Entry Component and cone for clamping until heavy resistance is felt or seal grip the outer sheath of cable. Then tighten the body with torque wrench or spanner.



- Tighten the assemblies of Outer Seal Nut and Body until the outer seal nut makes metal to metal contact or seal nut clearly engaged the cable and cannot be further tightened without the use of excessive force by installer.



- Bring conduit pipe to cable gland for fitting over the conduit anchorage.



### Warning:

Please study carefully these instructions before installation. These glands should not be used in any application other than those mentioned here, unless CABTEK states in writing that the product is suitable for such application. CABTEK will not take any responsibility for any damage, injury or other consequential loss caused where the glands are not installed or used according to installation instructions. This leaflet is not intended to advice on the selection of cable glands. Installation must be carried out by a competent electrician, skilled in cable gland installation. Installation should not be carried out under live conditions.

### Customer Care:

For any more information regarding please send your query to us by mail or telephone number

Tel: +91-76006 16887

Mo.: +91-94277 71205

Email: info@aksharbrassind.com, Website : www.aksharbrassind.com



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