90° ADAPTORS
– FIXED AND SWIVEL TYPES
Class I / II / III Div. 1, 2
Class I /II /III Zone 1 & Zone 21

Fixed Type   Swivel Type

Features and Benefits

- Used where a cable gland cannot be fitted in the conventional orientation.
- Product with metric male threads are supplied with a sealing gasket.
- The fixed type is available with NPT male threads up to size 1″ NPT (Metric to M32). The swivel type is available with Metric male threads only up to size M32.
- The swivel type can be fixed with the female thread in any position around a 360° circle.
- The female thread can be the same size as the male thread or any size smaller.

Technical Data

Product:	90° Fixed Adaptor / 90° Swivel Adaptor
Material:	Brass (Marine Grade Electroless Nickel Plated) or Stainless Steel
Gasket:	HDPE, Nylon 66 or PTFE. (Selected according to the temperature range required)
Note:	The installer should check that the materials are suitable for the installation environment
Temperature ranges:	When fitted with sealing gaskets the temperature range for the 90° Adaptors will be:

Sealing gasket material	Temperature range
HDPE	-20°C or -60°C to +95°C
Nylon 66	-20°C or -60°C to +100°C
PTFE	-20°C or -60°C to +160°C
Note:	-60°C temperature range applies to AEx / Ex eb applications only

Standards and Certifications

Type	Certificate	Protection Level
NEC / CEC:	LR1537-2	Class I/II/III Div. 1,2; Class I, Zone 1; Zone 21
		AEx / Ex db IIC Gb, AEx/ Ex eb IIC Gb, AEx/ Ex tb IIIC Db IC Db

In accordance with NEC/CEC the products can additionally be used in Zones 2 and 22

c (PS) us CERTIFIED *Other certification types are available for this product e.g. IECEx.*

Specific Conditions of Use - X

1. Products have a minimum IP rating of IP65 with no sealing gasket. Metric threads can have an IP rating of IP66/67/68 if fitted with the supplied sealing gasket. NPT threads can have an IP rating of IP66/67/68 if fitted using a suitable thread sealant.
2. Only one 90° adaptor should be installed in any one cable entry.
3. The 90° adaptor should not be fitted with a blanking plug for AEx / Ex db applications.
4. Suitable for use in indoor and outdoor locations.

Product Code

Product Code		Male Thread	Female Thread
Fixed	**Swivel**		
FELBM20M20E-MNA	AELBM20M20E-MNA	M20	M20
FELBM25M25E-MNA	AELBM25M25E-MNA	M25	M25
FELBM32M32E-MNA	AELBM32M32E-MNA	M32	M32
FELBM20N012E-MNA	AELBM20N012E-MNA	M20	½" NPT
FELBM25N034E-MNA	AELBM25N034E-MNA	M25	¾" NPT
FELBM32N001E-MNA	AELBM32N001E-MNA	M32	1" NPT
FELBN012M20E-MNA	-	½" NPT	M20
FELBN034M20E-MNA	-	¾" NPT	M20
FELBN034M25E-MNA	-	¾" NPT	M25
FELBN001M32E-MNA	-	1" NPT	M32

Fitting Instructions

90° Adaptors with NPT male threads should be tightened wrench tight. 90° Adaptors with metric threads should be tightened according to the table.
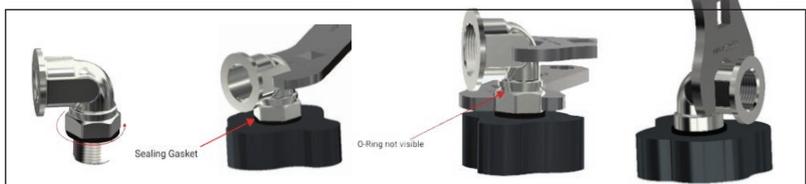
Thread Size	Torque Nm
M20	21
M25	30
M32	42

Fixed Adaptor

1. If a sealing gasket is used then ensure that the threaded entry on the equipment has a flat square surface to engage the sealing gasket.
2. If fitting to a clearance hole, secure the adaptor using a locknut. (Use a locknut and a serrated washer in high vibration areas.)
3. Tighten the adaptor or locknut using a spanner as shown to the torque levels indicated above.

Adjustable Adaptor

Sealing Gasket   O-Ring not visible

1. The locking nut must be fully tightened onto the male thread before installing the adaptor.
2. Ensure that the threaded entry on the equipment has a flat square surface to engage the sealing gasket. Tighten the adaptor using a spanner as shown to the torque levels indicated above.
3. Unscrew the adaptor a maximum of 360° until it is pointing in the correct direction.
4. Hold the adaptor in the required orientation with a spanner and tighten the locking nut against the equipment, noting the torque figure shown above.
5. Check that the 0-ring seal is not visible. (This ensures that the correct number of threads are engaged in the equipment.) If the O-ring is visible then repeat steps 1-4 correctly.

Fixed and Adjustable Adaptor

1. Hold the fixed or swivel adaptor flats using a spanner to resist the torque applied whilst fitting a cable gland to the female thread.