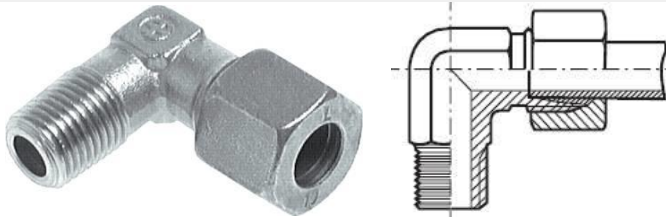


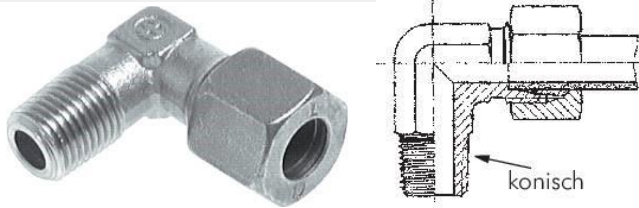
FL2E-MC - series

Angle screw in connections



Angle screw in connections (R-threads / G-threads)

Steel, zinc plated	Stainless steel (cutting ring)	Stainless steel (compression ring)	Load class (DIN 2353)	Nominal outer diameter connection 1 (inch)	Tube diameter (mm)	Max pressure (bar)
FL2E-MC-EZ-018R-04-LL	FL2E-MC-ST-018R-04-LL		LL (very light)	R 1/8	4	100
FL2E-MC-EZ-018R-05-LL			LL (very light)	R 1/8	5	100
FL2E-MC-EZ-018R-06-LL	FL2E-MC-ST-018R-06-LL		LL (very light)	R 1/8	6	100
FL2E-MC-EZ-018R-08-LL	FL2E-MC-ST-018R-08-LL		LL (very light)	R 1/8	8	100
FL2E-MC-EZ-014R-10-LL			LL (very light)	R 1/4	10	100
FL2E-MC-EZ-014R-12-LL			LL (very light)	R 1/4	12	100
FL2E-MC-EZ-018R-06-L	FL2E-MC-ST-018R-06-L	FL2E-MO-ST-018R-06-L	L (light)	R 1/8	6	315
FL2E-MC-EZ-014R-06-L	FL2E-MC-ST-014R-06-L	FL2E-MO-ST-014R-06-L	L (light)	R 1/4	6	315
FL2E-MC-EZ-014R-08-L	FL2E-MC-ST-014R-08-L	FL2E-MO-ST-014R-08-L	L (light)	R 1/4	8	315
FL2E-MC-EZ-018R-08-L	FL2E-MC-ST-018R-08-L	FL2E-MO-ST-014R-08-L	L (light)	R 1/8	8	315
FL2E-MC-EZ-038R-08-L	FL2E-MC-ST-038R-08-L	FL2E-MO-ST-038R-08-L	L (light)	R 3/8	8	315
	FL2E-MC-ST-012R-08-L	FL2E-MO-ST-012R-08-L	L (light)	R 1/2	8	315
FL2E-MC-EZ-014R-10-L	FL2E-MC-ST-014R-10-L	FL2E-MO-ST-014R-10-L	L (light)	R 1/4	10	315
FL2E-MC-EZ-038R-10-L	FL2E-MC-ST-038R-10-L	FL2E-MO-ST-038R-10-L	L (light)	R 3/8	10	315
FL2E-MC-EZ-012R-10-L	FL2E-MC-ST-012R-10-L	FL2E-MO-ST-012R-10-L	L (light)	R 1/2	10	315
FL2E-MC-EZ-038R-12-L	FL2E-MC-ST-038R-12-L	FL2E-MO-ST-038R-12-L	L (light)	R 3/8	12	315
FL2E-MC-EZ-014R-12-L	FL2E-MC-ST-014R-12-L	FL2E-MO-ST-014R-12-L	L (light)	R 1/4	12	315
FL2E-MC-EZ-012R-12-L	FL2E-MC-ST-012R-12-L	FL2E-MO-ST-012R-12-L	L (light)	R 1/2	12	315
FL2E-MC-EZ-012R-15-L	FL2E-MC-ST-012R-15-L	FL2E-MO-ST-012R-15-L	L (light)	R 1/2	15	315
FL2E-MC-EZ-038R-15-L	FL2E-MC-ST-038R-15-L	FL2E-MO-ST-038R-15-L	L (light)	R 3/8	15	315
FL2E-MC-EZ-012R-18-L	FL2E-MC-ST-012R-18-L	FL2E-MO-ST-012R-18-L	L (light)	R 1/2	18	315
FL2E-MC-EZ-034G-22-L	FL2E-MC-ST-034G-22-L	FL2E-MO-ST-034G-22-L	L (light)	G 3/4	22	160
FL2E-MC-EZ-100G-28-L	FL2E-MC-ST-100G-28-L		L (light)	G 1	28	160
FL2E-MC-EZ-114G-35-L	FL2E-MC-ST-114G-35-L		L (light)	G 1 1/4	35	160
FL2E-MC-EZ-112G-42-L	FL2E-MC-ST-112G-42-L		L (light)	G 1 1/2	42	160
FL2E-MC-EZ-014R-06-S	FL2E-MC-ST-014R-06-S	FL2E-MO-ST-014R-06-S	S (heavy)	R 1/4	6	630
FL2E-MC-EZ-014R-08-S	FL2E-MC-ST-014R-08-S	FL2E-MO-ST-014R-08-S	S (heavy)	R 1/4	8	630
FL2E-MC-EZ-038R-10-S	FL2E-MC-ST-038R-10-S	FL2E-MO-ST-038R-10-S	S (heavy)	R 3/8	10	630
FL2E-MC-EZ-038R-12-S	FL2E-MC-ST-038R-12-S	FL2E-MO-ST-038R-12-S	S (heavy)	R 3/8	12	630
FL2E-MC-EZ-012R-14-S	FL2E-MC-ST-012R-14-S	FL2E-MO-ST-012R-14-S	S (heavy)	R 1/2	14	630
FL2E-MC-EZ-012R-16-S	FL2E-MC-ST-012R-16-S	FL2E-MO-ST-012R-16-S	S (heavy)	R 1/2	16	400
FL2E-MC-EZ-034G-20-S	FL2E-MC-ST-034G-20-S	FL2E-MO-ST-034G-20-S	S (heavy)	G 3/4	20	400
FL2E-MC-EZ-100G-25-S	FL2E-MC-ST-100G-25-S	FL2E-MO-ST-100G-25-S	S (heavy)	G 1	25	400
FL2E-MC-EZ-114G-30-S	FL2E-MC-ST-114G-30-S		S (heavy)	G 1 1/4	30	400
FL2E-MC-EZ-112G-38-S	FL2E-MC-ST-112G-38-S		S (heavy)	G 1 1/2	38	315



Angle screwed connections (NPT-thread)

Steel, zinc plated	Stainless steel (cutting ring)	Stainless steel (compression ring)	Load class (DIN 2353)	Nominal outer diameter connection 1 (inch)	Tube diameter (mm)	Max pressure (bar)
FL2E-MC-EZ-018N-04-LL	FL2E-MC-ST-018N-04-LL		LL (very light)	1/8 NPT	4	100
FL2E-MC-EZ-018N-06-LL	FL2E-MC-ST-018N-06-LL		LL (very light)	1/8 NPT	6	100
FL2E-MC-EZ-018N-08-LL	FL2E-MC-ST-018N-08-LL		LL (very light)	1/8 NPT	8	100
FL2E-MC-EZ-018N-06-L	FL2E-MC-ST-018N-06-L	FL2E-MO-ST-018N-06-L	L (light)	1/8 NPT	6	315
FL2E-MC-EZ-014N-06-L	FL2E-MC-ST-014N-06-L	FL2E-MO-ST-014N-06-L	L (light)	1/4 NPT	6	315
	FL2E-MC-ST-038N-06-L	FL2E-MO-ST-038N-06-L	L (light)	3/8 NPT	6	315
FL2E-MC-EZ-014N-08-L	FL2E-MC-ST-014N-08-L	FL2E-MO-ST-014N-08-L	L (light)	1/4 NPT	8	315
	FL2E-MC-ST-018N-08-L	FL2E-MO-ST-018N-08-L	L (light)	1/8 NPT	8	315
FL2E-MC-EZ-014N-10-L	FL2E-MC-ST-014N-10-L	FL2E-MO-ST-014N-10-L	L (light)	1/4 NPT	10	315
	FL2E-MC-ST-038N-10-L	FL2E-MO-ST-038N-10-L	L (light)	3/8 NPT	10	315
FL2E-MC-EZ-038N-12-L	FL2E-MC-ST-038N-12-L	FL2E-MO-ST-038N-12-L	L (light)	3/8 NPT	12	315
	FL2E-MC-ST-014N-12-L	FL2E-MO-ST-014N-12-L	L (light)	1/4 NPT	12	315
	FL2E-MC-ST-012N-12-L	FL2E-MO-ST-012N-12-L	L (light)	1/2 NPT	12	315
FL2E-MC-EZ-012N-15-L	FL2E-MC-ST-012N-15-L	FL2E-MO-ST-012N-15-L	L (light)	1/2 NPT	15	315
FL2E-MC-EZ-012N-18-L	FL2E-MC-ST-012N-18-L	FL2E-MO-ST-012N-18-L	L (light)	1/2 NPT	18	315
FL2E-MC-EZ-034N-22-L	FL2E-MC-ST-034N-22-L	FL2E-MO-ST-034N-22-L	L (light)	3/4 NPT	22	160
FL2E-MC-EZ-100N-28-L	FL2E-MC-ST-100N-28-L		L (light)	1 NPT	28	160
FL2E-MC-EZ-114N-35-L	FL2E-MC-ST-114N-35-L		L (light)	1 1/4 NPT	35	160
FL2E-MC-EZ-112N-42-L	FL2E-MC-ST-112N-42-L		L (light)	1 1/2 NPT	42	160
FL2E-MC-EZ-014N-06-S	FL2E-MC-ST-014N-06-S	FL2E-MO-ST-014N-06-S	S (heavy)	1/4 NPT	6	630
	FL2E-MC-ST-038N-06-S	FL2E-MO-ST-038N-06-S	S (heavy)	3/8 NPT	6	630
	FL2E-MC-ST-012N-06-S	FL2E-MO-ST-012N-06-S	S (heavy)	1/2 NPT	6	630
FL2E-MC-EZ-014N-08-S	FL2E-MC-ST-014N-08-S	FL2E-MO-ST-014N-08-S	S (heavy)	1/4 NPT	8	630
	FL2E-MC-ST-038N-08-S	FL2E-MO-ST-038N-08-S	S (heavy)	3/8 NPT	8	630
	FL2E-MC-ST-012N-08-S	FL2E-MO-ST-012N-08-S	S (heavy)	1/2 NPT	8	630
FL2E-MC-EZ-038N-10-S	FL2E-MC-ST-038N-10-S	FL2E-MO-ST-038N-10-S	S (heavy)	3/8 NPT	10	630
	FL2E-MC-ST-014N-10-S	FL2E-MO-ST-014N-10-S	S (heavy)	1/4 NPT	10	630
FL2E-MC-EZ-038N-12-S	FL2E-MC-ST-038N-12-S	FL2E-MO-ST-038N-12-S	S (heavy)	3/8 NPT	12	630
	FL2E-MC-ST-014N-12-S	FL2E-MO-ST-014N-12-S	S (heavy)	1/4 NPT	12	630
	FL2E-MC-ST-012N-12-S	FL2E-MO-ST-012N-12-S	S (heavy)	1/2 NPT	12	630
FL2E-MC-EZ-012N-14-S	FL2E-MC-ST-012N-14-S	FL2E-MO-ST-012N-14-S	S (heavy)	1/2 NPT	14	630
	FL2E-MC-ST-038N-14-S	FL2E-MO-ST-038N-14-S	S (heavy)	3/8 NPT	14	630
FL2E-MC-EZ-012N-16-S	FL2E-MC-ST-012N-16-S	FL2E-MO-ST-012N-16-S	S (heavy)	1/2 NPT	16	400
FL2E-MC-EZ-034N-20-S	FL2E-MC-ST-034N-20-S	FL2E-MO-ST-034N-20-S	S (heavy)	3/4 NPT	20	400
FL2E-MC-EZ-100N-25-S	FL2E-MC-ST-100N-25-S	FL2E-MO-ST-100N-25-S	S (heavy)	1 NPT	25	400
FL2E-MC-EZ-114N-30-S	FL2E-MC-ST-114N-30-S		S (heavy)	1 1/4 NPT	30	400
FL2E-MC-EZ-112N-38-S	FL2E-MC-ST-112N-38-S		S (heavy)	1 1/2 NPT	38	315

ENGLISH Zinc-plated steel type

Materials:
Bodies: Zinc plated steel, any existing elastomer seal: NBR

Temperature range:
-40°C to max. +120°C (with an elastomer seal: -35°C to max. +100°C)

Stainless steel type and screw connection

Materials:
Body: 1.4571, any existing elastomer seal: FKM

NEDERLANDS Type verzinkt staal

Materialen:
Lichaam: Verzinkt staal of beschikbare elastomeerafdichting: NBR

Temperatuurbereik:
-40 °C tot max. +120 °C (met elastomeerafdichting: -35 °C tot max. +100 °C)

Type roestvrij staal en NC-klemring

Materialen:
Lichaam: 1.4571, eventueel beschikbare elastomeerafdichting: FKM

DEUTSCH Typ Stahl verzinkt

Werkstoffe:
Körper: Stahl verzinkt, ggf. vorhandene Elastomerdichtung: NBR

Temperaturbereich:
-40°C bis max. +120°C (mit Elastomerdichtung: -35°C bis max. +100°C)

Typ Edelstahl und NC-Klemmring

Werkstoffe:
Körper: 1.4571, ggf. vorhandene Elastomerdichtung: FKM

FRANÇAIS Type acier galvanisé

Matériaux:
Corps : Acier galvanisé, éventuelle présence de joint en élastomère: NBR

Plage de température:
-40°C à max. +120°C (avec joint en élastomère: -35°C à +100°C max.)

Type acier inoxydable et anneau de serrage NC

Matériaux:
Corps : 1.4571, éventuelle présence de joint en élastomère : FKM

Temperature range:

-60°C up to max. +400°C (with elastomer seal: -20°C to max. +200°C, NC screw connections on request up to +550°C)

Temperatuurbereik:

-60 °C tot max. +400 °C (met elastomeerafdichting: -20 °C tot max. +200 °C, NC-koppelingen op aanvraag tot +550 °C)

Temperaturbereich:

-60°C bis max. +400°C (mit Elastomerdichtung: -20°C bis max. +200°C, NC-Verschraubungen auf Anfrage bis +550°C)

Plage de température:

-60°C à max. +400°C (avec joint en élastomère: -20°C à +200°C max, raccords NC sur demande jusqu'à +550°C)

Montage cutting ring screw connections and compression ring fittings

- 1) Cut the tube away at a right angle and lightly deburr and clean the inside and outside. Do not use a tube cutter. In the case of thin-walled or soft pipes a reinforcing ring must be used.
- 2) Thoroughly oil the socket threads and cone, inner union nuts and cutting ring. For stainless steel cutting ring connections PASTE ES must be used (optional for compression ring).
- 3) Push the union nut and cutting ring onto the tube. Ensure the correct position of the cutting ring/compression ring - otherwise the assembly will be incorrect.
- 4) Loosen the union nut as far as possible by hand. Attach the marking of the union nut for checking the specified rotations. Press tube in the cone until the stop. Tighten the union nut with screw wrench approx. 1 rotation. The tube must not be rotated.
- 5) Loosen the union nut to check the assembly. **Cutting ring:** The raised tube material must cover the front cutting ring area. If not, retighten slightly. Due to the spring effect of the cutting ring, this can still be rotated - no functional error. **compression ring:** The compression ring can no longer be displaced.
- 6) Final assembly: Assemble the union nuts on sockets until there is a noticeable increase in force. Then tighten with 1/4 - 1/2 rotation (cutting ring fitting), or 3/4 rotation (compression ring fitting).

Warning:

Assembly of stainless steel screw connections only with the aid of suitable lubricant.

Notes on compression ring fittings**Advantages:**

• Compatible with all cutting ring fittings according to DIN EN ISO 8434-1 (DIN 2353). Also resistant to dynamic loads such as vibrations and pulsations. It can be loosened and screwed back in as often as is necessary. • In contrast to a cutting ring the compression ring is not hardened, therefore it cannot rust and has good chemical resistance. • Lubrication of the nut thread for initial assembly is not necessary, • Vacuum tightness $Q < 10^{-8}$ mbar l/s, • Ideal for use in gas and water area

Required tube quality:

The screw connections must be processed with heat treated, seamless stainless steel tubes (1.4571) according to DIN EN ISO 1127. The tolerance category should be D4/T3, the surface must not show any damage and its hardness should not be more than Rockwell HRB 90.



Angle screwed connections with conical male thread

Reference	Material	Nominal outer diameter connection 1 (inch)	Tube diameter (mm)	Max pressure (bar)
FL2E-MO-B-018R-04	Brass	R 1/8	4	150
FL2E-MO-B-018R-05	Brass	R 1/8	5	150
FL2E-MO-B-014R-05	Brass	R 1/4	5	150
FL2E-MO-B-018R-06	Brass	R 1/8	6	150
FL2E-MO-B-014R-06	Brass	R 1/4	6	150
FL2E-MO-B-018R-08	Brass	R 1/8	8	135
FL2E-MO-B-014R-08	Brass	R 1/4	8	135
FL2E-MO-B-038R-08	Brass	R 3/8	8	135
FL2E-MO-B-014R-10	Brass	R 1/4	10	95
FL2E-MO-B-038R-10	Brass	R 3/8	10	95
FL2E-MO-B-012R-10	Brass	R 1/2	10	95
FL2E-MO-B-014R-12	Brass	R 1/4	12	75
FL2E-MO-B-038R-12	Brass	R 3/8	12	75
FL2E-MO-B-012R-12	Brass	R 1/2	12	75
FL2E-MO-B-038R-14	Brass	R 3/8	14	89
FL2E-MO-B-012R-14	Brass	R 1/2	14	89
FL2E-MO-B-038R-15	Brass	R 3/8	15	82
FL2E-MO-B-012R-15	Brass	R 1/2	15	82
FL2E-MO-B-038R-16	Brass	R 3/8	16	76
FL2E-MO-B-012R-16	Brass	R 1/2	16	76
FL2E-MO-B-034R-16	Brass	R 3/4	16	76
FL2E-MO-B-012R-18	Brass	R 1/2	18	67
FL2E-MO-B-034R-18	Brass	R 3/4	18	67
FL2E-MO-B-034R-22	Brass	R 3/4	22	54

ENGLISH

Temperature range:

-60°C up to max. +300°C (with seal:
-20°C up to max. +80°C)

Recommended raw materials:

Copper, polyamide (with reinforced sleeve)

Note:

The brass compression ring screw connections cannot be combined with the cutting ring pipe screw connectors ISO 8434-1 (DIN 2353). When using soft copper tube a correction factor of 0.65 must be used (pressure x 0.65). When using polyamide tube the operating pressure of the tube applies.

Materials:

Brass

NEDERLANDS

Temperatuurbereik:

-60°C tot max. +300°C (met afdichting: -20°C tot max. +80°C)

Aanbevolen buismaterialen:

Koper, polyamide (met versterkingshuls)

Aanwijzing:

De messing klemringkoppelingen kunnen niet met snijringbuiskoppelingen ISO 8434-1 (DIN 2353) gecombineerd worden. Bij gebruik van zachte koperen buis dient de correctiefactor van 0,65 toegepast te worden (Druk x 0,65). Bij gebruik van polyamide buis gelden de bedrijfsdrukken van de buis.

Materialen

Messing

DEUTSCH

Temperaturbereich:

-60°C bis max. +300°C (mit Dichtung: -20°C bis max. +80°C)

Empfohlene Rohrwerkstoffe:

Kupfer, Polyamid (mit Verstärkungshülse)

Hinweis:

Die Messing-Klemmringverschraubungen sind nicht mit Schneidring-Rohrverschraubungen ISO 8434-1 (DIN 2353) kombinierbar. Bei Verwendung von weichem Kupferrohr ist der Korrekturfaktor von 0,65 anzuwenden (Druck x 0,65). Bei Verwendung von Polyamidrohr gelten die Betriebsdrücke des Rohres.

Werkstoffe:

Messing

FRANÇAIS

Plage de température:

-60°C à max. +300°C (avec joint: -20°C jusqu'à max. +80°C)

Matériaux de tubes recommandés:

Cuivre, polyamide (avec douille de renfort)

Remarque:

Les raccords à bagues de serrage en laiton ne peuvent pas être combinés avec des raccords filetés de tuyaux à bagues coupantes ISO 8434-1 (DIN 2353). Lors de l'utilisation d'un tuyau en cuivre doux, un facteur de correction de 0,65 doit être appliqué (pression x 0,65). Lors de l'utilisation d'un tuyau en polyamide, les pressions de service du tube s'appliquent.

Matériaux:

Laiton