

FL1 - series

Closing plugs



Closing plug for cutting ring fittings, ISO 8434-1 (DIN 2353)

Reference	Material	Surface protection	Seal	Nominal diameter (mm)	Max pressure (bar)	Load class (DIN 2353)
FL1-EZN-06-LS	Steel	Zinc plated	NBR (nitrile rubber)	6	315	L (light),S (heavy)
FL1-EZN-08-LS	Steel	Zinc plated	NBR (nitrile rubber)	8	315	L (light),S (heavy)
FL1-EZN-10-LS	Steel	Zinc plated	NBR (nitrile rubber)	10	315	L (light),S (heavy)
FL1-EZN-12-LS	Steel	Zinc plated	NBR (nitrile rubber)	12	315	L (light),S (heavy)
FL1-EZN-14-S	Steel	Zinc plated	NBR (nitrile rubber)	14	315	S (heavy)
FL1-EZN-15-L	Steel	Zinc plated	NBR (nitrile rubber)	15	315	L (light)
FL1-EZN-16-S	Steel	Zinc plated	NBR (nitrile rubber)	16	160	S (heavy)
FL1-EZN-18-L	Steel	Zinc plated	NBR (nitrile rubber)	18	160	L (light)
FL1-EZN-20-S	Steel	Zinc plated	NBR (nitrile rubber)	20	160	S (heavy)
FL1-EZN-22-L	Steel	Zinc plated	NBR (nitrile rubber)	22	160	L (light)
FL1-EZN-25-S	Steel	Zinc plated	NBR (nitrile rubber)	25	630	S (heavy)
FL1-EZN-28-L	Steel	Zinc plated	NBR (nitrile rubber)	28	630	L (light)
FL1-EZN-30-S	Steel	Zinc plated	NBR (nitrile rubber)	30	630	S (heavy)
FL1-EZN-35-L	Steel	Zinc plated	NBR (nitrile rubber)	35	630	L (light)
FL1-EZN-38-S	Steel	Zinc plated	NBR (nitrile rubber)	38	630	S (heavy)
FL1-EZN-42-L	Steel	Zinc plated	NBR (nitrile rubber)	42	400	L (light)
FL1-STF-06-LS	Stainless steel		Fluor caoutchouc (FPM/FKM)	6	400	L (light),S (heavy)
FL1-STF-08-LS	Stainless steel		Fluor caoutchouc (FPM/FKM)	8	400	L (light),S (heavy)
FL1-STF-10-LS	Stainless steel		Fluor caoutchouc (FPM/FKM)	10	400	L (light),S (heavy)
FL1-STF-12-LS	Stainless steel		Fluor caoutchouc (FPM/FKM)	12	315	L (light),S (heavy)
FL1-STF-14-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	14	315	S (heavy)
FL1-STF-15-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	15	315	L (light)
FL1-STF-16-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	16	315	S (heavy)
FL1-STF-18-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	18	315	L (light)
FL1-STF-20-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	20	315	S (heavy)
FL1-STF-22-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	22	315	L (light)
FL1-STF-25-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	25	160	S (heavy)
FL1-STF-28-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	28	160	L (light)
FL1-STF-30-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	30	160	S (heavy)
FL1-STF-35-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	35	160	L (light)
FL1-STF-38-S	Stainless steel		Fluor caoutchouc (FPM/FKM)	38	630	S (heavy)
FL1-STF-42-L	Stainless steel		Fluor caoutchouc (FPM/FKM)	42	630	L (light)



Blind fittings for cutting ring fittings, ISO 8434-1 (DIN 2353)

Reference	Material	Surface protection	Nominal diameter (mm)	Max pressure (bar)	Load class (DIN 2353)	Union nut thread
FL1-EZ-06-L	Steel	Zinc plated	6	315	L (light)	M12 x 1.5
FL1-EZ-08-L	Steel	Zinc plated	8	315	L (light)	M14 x 1.5
FL1-EZ-10-L	Steel	Zinc plated	10	315	L (light)	M16 x 1.5
FL1-EZ-12-L	Steel	Zinc plated	12	315	L (light)	M18 x 1.5
FL1-EZ-15-L	Steel	Zinc plated	15	630	L (light)	M22 x 1.5
FL1-EZ-18-L	Steel	Zinc plated	18	315	L (light)	M26 x 1.5
FL1-EZ-22-L	Steel	Zinc plated	22	400	L (light)	M30 x 2
FL1-EZ-28-L	Steel	Zinc plated	28	315	L (light)	M36 x 2
FL1-EZ-35-L	Steel	Zinc plated	35	400	L (light)	M45 x 2
FL1-EZ-42-L	Steel	Zinc plated	42	160	L (light)	M52 x 2
FL1-EZ-06-S	Steel	Zinc plated	6	400	S (heavy)	M14 x 1.5
FL1-EZ-08-S	Steel	Zinc plated	8	160	S (heavy)	M16 x 1.5
FL1-EZ-10-S	Steel	Zinc plated	10	400	S (heavy)	M18 x 1.5
FL1-EZ-12-S	Steel	Zinc plated	12	160	S (heavy)	M20 x 1.5
FL1-EZ-14-S	Steel	Zinc plated	14	315	S (heavy)	M22 x 1.5
FL1-EZ-16-S	Steel	Zinc plated	16	160	S (heavy)	M24 x 1.5
FL1-EZ-20-S	Steel	Zinc plated	20	315	S (heavy)	M30 x 2
FL1-EZ-25-S	Steel	Zinc plated	25	315	S (heavy)	M36 x 2
FL1-EZ-30-S	Steel	Zinc plated	30	315	S (heavy)	M42 x 2
FL1-EZ-38-S	Steel	Zinc plated	38	315	S (heavy)	M52 x 2
FL1-ST-06-L	Stainless steel		6	630	L (light)	M12 x 1.5
FL1-ST-08-L	Stainless steel		8	315	L (light)	M14 x 1.5
FL1-ST-10-L	Stainless steel		10	400	L (light)	M16 x 1.5
FL1-ST-12-L	Stainless steel		12	315	L (light)	M18 x 1.5
FL1-ST-15-L	Stainless steel		15	400	L (light)	M22 x 1.5
FL1-ST-18-L	Stainless steel		18	160	L (light)	M26 x 1.5
FL1-ST-22-L	Stainless steel		22	400	L (light)	M30 x 2
FL1-ST-28-L	Stainless steel		28	160	L (light)	M36 x 2
FL1-ST-35-L	Stainless steel		35	400	L (light)	M45 x 2
FL1-ST-42-L	Stainless steel		42	160	L (light)	M52 x 2
FL1-ST-06-S	Stainless steel		6	315	S (heavy)	M14 x 1.5
FL1-ST-08-S	Stainless steel		8	160	S (heavy)	M16 x 1.5
FL1-ST-10-S	Stainless steel		10	315	S (heavy)	M18 x 1.5
FL1-ST-12-S	Stainless steel		12	315	S (heavy)	M20 x 1.5
FL1-ST-14-S	Stainless steel		14	315	S (heavy)	M22 x 1.5
FL1-ST-16-S	Stainless steel		16	315	S (heavy)	M24 x 1.5
FL1-ST-20-S	Stainless steel		20	630	S (heavy)	M30 x 2
FL1-ST-25-S	Stainless steel		25	315	S (heavy)	M36 x 2
FL1-ST-30-S	Stainless steel		30	400	S (heavy)	M42 x 2
FL1-ST-38-S	Stainless steel		38	315	S (heavy)	M52 x 2

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

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

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

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

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, screw
connections on request up
to +550°C)

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

Temperaturbereich:
-60°C bis max. +400°C (mit
Elastomerdichtung: -20°C bis max.
+200°C, 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 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 assembly paste 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.



Closing plugs for brass screw connections, DIN EN 1254-2

Reference	Material	Nominal diameter (mm)	Max pressure (bar)
FL1-B-04	Brass	4	150
FL1-B-05	Brass	5	150
FL1-B-06	Brass	6	150
FL1-B-08	Brass	8	135
FL1-B-10	Brass	10	95
FL1-B-12	Brass	12	75
FL1-B-14	Brass	14	89
FL1-B-15	Brass	15	82
FL1-B-16	Brass	16	76
FL1-B-18	Brass	18	67
FL1-B-22	Brass	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 snijringbuis koppelingen 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