

Description

The FI-PM-UL foam proportioner is a venturi-type mixer, designed to maintain mixing accuracy and ensure the correct generation of the foam solution as per system design, provided that the system's flowrate and pressure remain within the product's operating range. This type of mixer can only be used in combination with a foam bladder tank.

The mixer is constructed with a carbon steel or stainless steel body and features two calibrated orifices: one dedicated to system flowrate and the other for foam concentrate mixing.

The FI-PM-UL proportioner is available in various diameters and is available in the following models:

- FI-PM-UL-C: carbon steel construction
- FI-PM-UL-S: st. steel 316 construction

Application

The Fierre FI-PM mixer is designed exclusively for use with foam bladder tanks.

This mixer is particularly suitable for foam deluge systems where the flowrate remains fixed or varies within a limited range.



Approvals



The FI-PM-UL foam proportioner is UL Listed, listed system components can be found at <https://iq.ulprospector.com>.

UL Listed GHXV.EX28056 - Proportioners, Foam Concentrate.

Operation

Upon system activation, the water pressure inside the tank compresses the bladder, pushing the foam concentrate toward the proportioner, which accurately doses the amount of concentrate to be introduced into the fire water supply, ensuring consistent mixing.

The resulting water-foam mixture is then delivered to the discharge devices located in the hazard area.

To ensure proper operation of the proportioner, a straight pipe section of at least five nominal diameters must be provided both upstream and downstream of the proportioner.

Construction and operating features

- Available in diameters from 2" (DN50) to 6" (DN150). Different connection diameters are available upon request
- Flanged or grooved water line connections, compliant with UNI or ANSI standards. Foam inlet connection also flanged or grooved, UNI or ANSI
- FI-PM-UL-C with body made of carbon steel; FI-PM-UL-S with body made of st. steel aisi 316
- Corrosion-resistant st. steel or brass drain ball valves
- 100% pressure tested according to the applicable design code
- Suitable for horizontal or vertical installation
- Proportioner designed for foam concentrate mixing at 3%
- Minimum operating pressure of 3 bar

Standard design specification

Design pressure	16 bar
Operating pressure range	3 bar - 16 bar
Hydraulic test pressure	24 bar
Design temperature	-10° +50°
Painting cycle	Surface preparation: sandblasting Sa 2½ Primer coat: two-component epoxy primer, 60 µm Top coat: two-component aliphatic acrylic polyurethane finish, 60 µm Total dry film thickness: 120 µm ; Standard colour: RAL 3000 (Red)

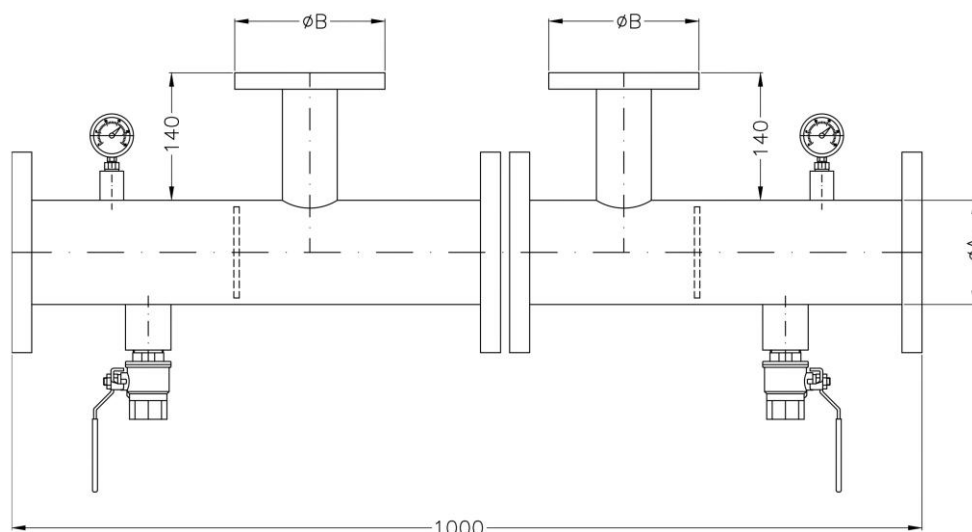
Standard materials

FI-PM-UL-C		FI-PM-UL-S	
Components	Materials	Components	Materials
Flanges	Carbon steel	Flanges	St. steel 316
Body	Carbon steel	Body	St. steel 316
Drain valves	St. steel or brass	Drain valves	St. steel
Pressure gauges	St. steel 304	Pressure gauges	St. steel 304
Calibrated nozzles	St. steel	Calibrated nozzles	St. steel

Options

- Special coating cycles for applications with salt water or in aggressive environments
- ATEX certified instrumentation
- Auxiliary instrumentation (water/foam shut-off valves, foam check valve, electrically or hydraulically operated control valve, manual pump)
- Corrosion-resistant stainless steel identification plate
- Non-destructive testing according to the applicable construction code (RT, LP, MT, etc.)

Dimensions and performance



Model	Measures		Flow rate (lt/min)	Flow rate (GPM)	Mixing rate %	Equivalent length Ft	Delta P bar	Weight (Kg)
	A (Ø)	B (Ø)						
FI-PM2-UL	2"	2"	109 - 400	29 - 130	3	276	0,16 - 2,56	25
FI-PM2 1/2-UL	2 1/2"	2"	477 - 1488	126 - 393	3	60	0,29 - 2,13	30
FI-PM3-UL	3"	2"	806 - 3199	213 - 845	3	43	0,18 - 3,33	33
FI-PM4-UL	4"	2"	1128 - 5988	298 - 1582	3	38	0,12 - 2,75	41
FI-PM6-UL	6"	2"	2978 - 8150	787 - 2153	3	86	0,13 - 0,7	64