FIERRE - Fire Fighting Equipment

Twin vertical foam bladder tank FI-PI X2

Description

The Fierre FI-PI X2 twin vertical foam bladder tank system consists of two steel pressure vessels containing foam concentrate within an elastomeric bladder. In this configuration, one of the two tanks can be used as a backup for the main tank, or both tanks can operate simultaneously. The bladder allows the water pressure to be transferred to the foam concentrate without the two fluids mixing together. The foam proportioner supplied with the tank doses the concentrate into the fire water line to generate the required foam solution. The solution then flows to the discharge devices that protect the hazard area.

The foam bladder tank requires only a pressurized water supply for operation and does not need any external energy sources.

The proportioner and piping are factory-installed with flow orientation upon request. The pre-piped system includes all the necessary valves for operation. Upon request, a hydraulic or electric control valve can be installed on the water inlet lines or foam outlet lines.

Application

Fierre foam bladder tanks are used in a wide range of applications, including:

- Refineries and petrochemical plants
- Chemical and pharmaceutical facilities
- Industrial plants
- Aircraft hangars
- Water / foam sprinkler systems
- Heliports

Use and Maintenance

For detailed installation, operation, and maintenance procedures, please refer to the Fierre foam bladder tank operation and maintenance manual.



Approvals

CE

European Pressure Equipment Directive 2014/68/EU

Fierre tanks with capacity ≥ 800 litres and design pressure of 12 bar are CE marked in compliance with the European Directive 2014/68/EU. According to this directive, tanks with capacity < 800 litres are acceptable based on sound engineering practice as defined by the code and cannot be CE marked.

ASME

Upon request, Fierre bladder tanks are also available designed and manufactured according to ASME VIII Div.1 (no stamp).

Compatibility with Fluorine-Free Foams

Fierre bladder tanks are compatible with fluorine-free foam concentrates. For further details, please contact the company.

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Construction features

- Vertical tanks on legs equipped with holes for floor anchoring
- Standard design pressure of 12 bar; higher pressures available upon request
- 100% pressure tested according to the applicable design code
- Shell and heads made of ASTM A516 Gr. 70 or EN10028-3 P275NH / P355NH
- Corrosion-resistant brass drain and vent ball valves
- Welded lifting lugs to facilitate safe handling operations
- Grounding clamp for electrical safety
- Safety valve on the water side of the bladder tank to prevent slow overpressure and compensate for thermal variations
- Oversizing to allow thermal expansion of the foam concentrate (volumetric expansion tolerance)
- Internal PVC piping for foam concentrate distribution
- Internal channel to equalize pressure, protect the bladder, and facilitate draining during maintenance and service
- Pressure gauge level indicator; column level indicator available upon request

Standard design specifications

Design pressure	12 bar
Max. operating pressure	12 bar
Hydraulic test pressure	18 bar
Design temperature	-10° / +50° C
Painting cycle	**Surface preparation:** sandblasting SA 2,5 **Primer coat:** Epoxy-vinyl primer, 50 µm **Top coat:** Polyurethane enamel, 50 µm **Standard color:** red RAL 3000

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Standard materials

Components	Materials
Tank shell and heads	ASTM A516 Gr. 70 o EN10028-3 P275NH / P355NH
Bladder	Hypalon / Neoprene
Vent and drain valves	Brass
Pressure gauges	Stainless steel 304
Ball shut-off valves	Body A150, stainless steel ball
Foam non-return valve	Stainless steel
Water and foam nozzles	Stainless steel

Options

- Special painting cycles for saltwater or aggressive environments
- Column-type level indicator
- Stainless steel valves
- ATEX-certified instrumentation
- Manual or electric foam concentrate filling pump
- Hydraulically or electrically actuated control valve
- Corrosion-resistant stainless steel nameplate
- Increased wall thickness for corrosion allowance
- Internal protective coatings
- Design pressure higher than 12 bar
- Ladder | Work platform | Protective sunshield
- Skid-mounted base according to Customer specifications
- Non-destructive tests according to the applicable construction code (RT, LP, MT, etc.)
- Factory acceptance test, inspections by Notified Body or Third-Party Authority
- Special packaging for maritime transport and fumigated crates

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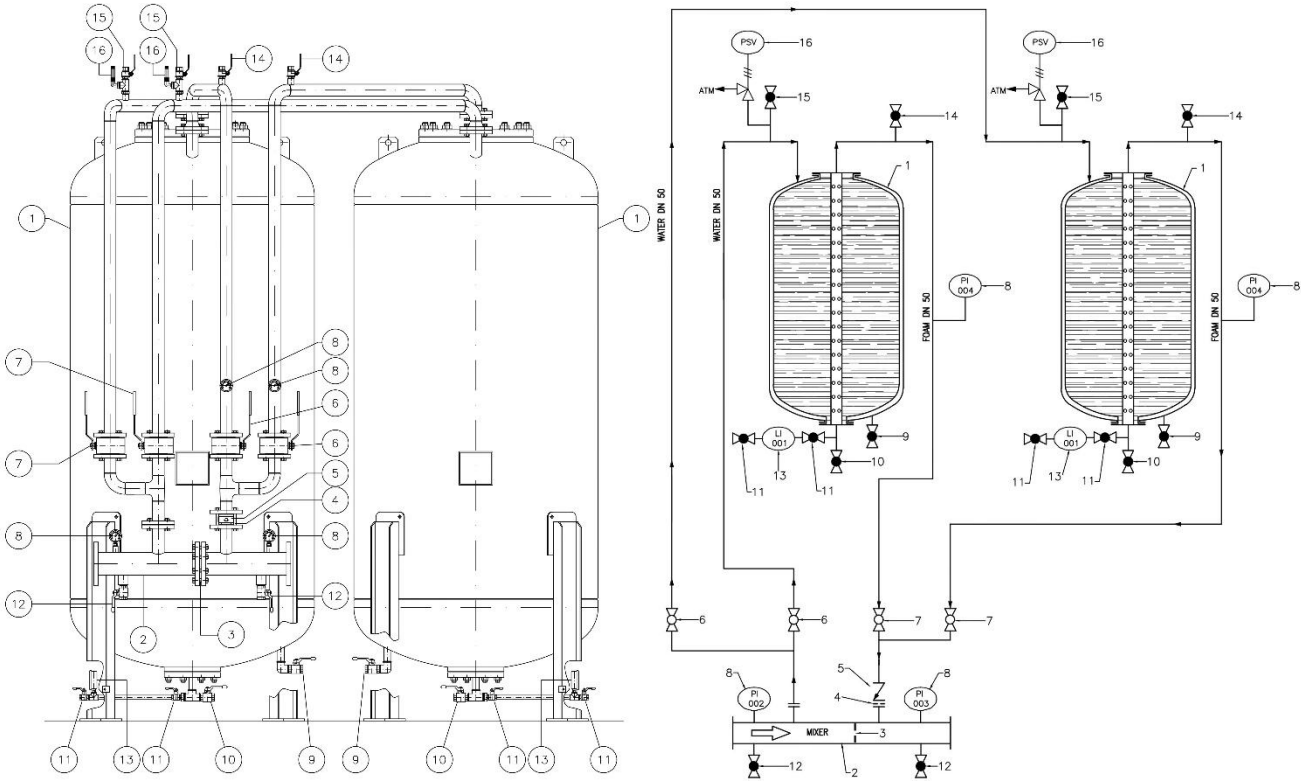
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Layout e P&ID



Item	Components	Item	Components
1	Tank	9	Water drain valve
2	Foam proportioner	10	Foam filling and drain valve
3	Water nozzle	11	Shut-off and pressure gauge drain valves
4	Foam nozzle	12	Proportioner drain valves
5	Foam non-return valve	13	Level indicator pressure gauge 0-400 millibar
6	Foam shut-off valve	14	Foam pipe vent valve
7	Water shut-off valve	15	Water pipe vent valve
8	Pressure gauges 0-25 bar	16	Safety valve

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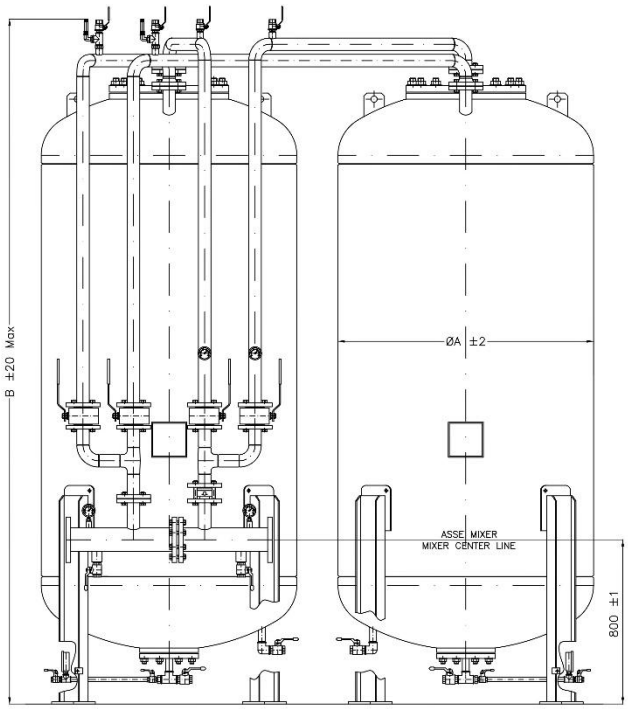
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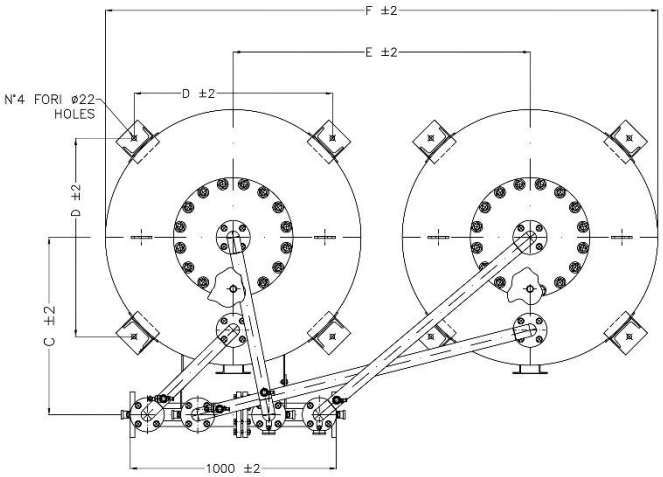
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Dimensions





Model	Measures (mm)						Capacity (Lt)	Empty weight (Kg)
	A	B	C	D	E	F		
FI-PI 2x5	800	1955	650	624	1000	1800	2x500	675
FI-PI 2x6	800	2165	650	624	1000	1800	2x600	735
FI-PI 2x8	800	2565	650	624	1000	1800	2x800	825
FI-PI 2x10	1000	2248	750	790	1200	2220	2x1000	895
FI-PI 2x15	1000	2838	750	790	1200	2200	2x1500	1075
FI-PI 2x20	1100	3109	800	864	1300	2400	2x2000	1605

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Model	Measures (mm)						Capacity (Lt)	Empty weight (Kg)
	A	B	C	D	E	F		
FI-PI 2x25	1170	3339	800	914	1340	2510	2x2500	1775
FI-PI 2x30	1270	3372	860	984	1440	2710	2x3000	1840
FI-PI 2x35	1360	3412	900	1048	1530	2890	2x3500	2035
FI-PI 2x40	1450	3450	950	1112	1650	3100	2x4000	2450
FI-PI 2x45	1450	3715	950	1112	1650	3100	2x4500	2610
FI-PI 2x50	1600	3536	1050	1245	1800	3400	2x5000	2940
FI-PI 2x55	1600	3751	1050	1245	1800	3400	2x5500	3085
FI-PI 2x60	1750	3603	1150	1351	1950	3700	2x6000	3240
FI-PI 2x65	1750	3734	1150	1351	1950	3700	2x6500	3325
FI-PI 2x70	1750	3953	1150	1351	1950	3700	2x7000	3500
FI-PI 2x75	1750	4164	1150	1351	1950	3700	2x7500	3650
FI-PI 2x80	1960	3749	1200	1534	2200	4160	2x8000	4450
FI-PI 2x85	1960	3899	1200	1534	2200	4160	2x8500	4595
FI-PI 2x90	2100	3821	1300	1636	2350	4650	2x9000	4850
FI-PI 2x100	2200	3873	1350	1707	2450	4650	2x10000	5115
FI-PI 2x110	2200	4003	1350	1707	2450	4650	2x11000	5265
FI-PI 2x120	2200	4273	1350	1707	2450	4650	2x12000	5575
FI-PI 2x150	2200	5173	1350	1707	2450	4650	2x15000	6590

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