FIERRE - Fire Fighting Equipment

Self-oscillating lever monitor FI-SO4

Description

The FI-SO4 monitor is a lever-operated self-oscillating monitor designed for installation in fixed systems and mobile units. The FI-SO4 monitor is a welded monitor that can be manufactured in carbon steel or stainless steel. The monitor has a nominal diameter of 4 inches and supports a recommended maximum flow rate of 7000 L/min. The reaction force generated by the monitor depends on the operational parameters of flow and pressure and can be calculated using the following formula: (N) = 0.233 × Q (L/min) × √p (bar).

The monitor is equipped with a hydraulic self-oscillating mechanism made of anodized aluminum. The hydraulic turbine operates using a minimal flow diverted from the monitor body itself, without the need for external hydraulic or electric power supply.

The monitor can oscillate within a range from 0° to 340°, adjustable in 20° increments, with an oscillation angle configurable at any position within the maximum operating range of 360°. The self-oscillation function can be deactivated by closing the ball valve that supplies the mechanism. In manual mode, both elevation and rotation are controlled by the movement lever, and thanks to the handwheels located on both movement joints, the monitor can be fixed in the desired position.

The FI-SO4 monitor can be equipped with manual nozzles and water or foam branches.

Application

The manual monitor FI-SO4 is used in a wide range of applications, including:

- Refineries and petrochemical plants
- Chemical and pharmaceutical facilities
- Industrial plants
- Aircraft hangars
- Waste treatment plants
- Heliports

Use and Maintenance

For detailed installation, operation, and maintenance procedures, please refer to the FI-SO4 operation and maintenance manual.

Certifications

ATEX Directive 2014/34/EU

Self-oscillating monitor available with ATEX certification (upon request) for installation in classified areas Zone 1, 2, 21 and 22. Technical file No. FIERRE_ATEX_2021_002 Rev. 1 filed with notified body Bureau Veritas – CE marking permitted.

Compatibility with fluorine free foams

FI-SO4 monitor is fluorine free compatible. For more detailed information, please contact the company.

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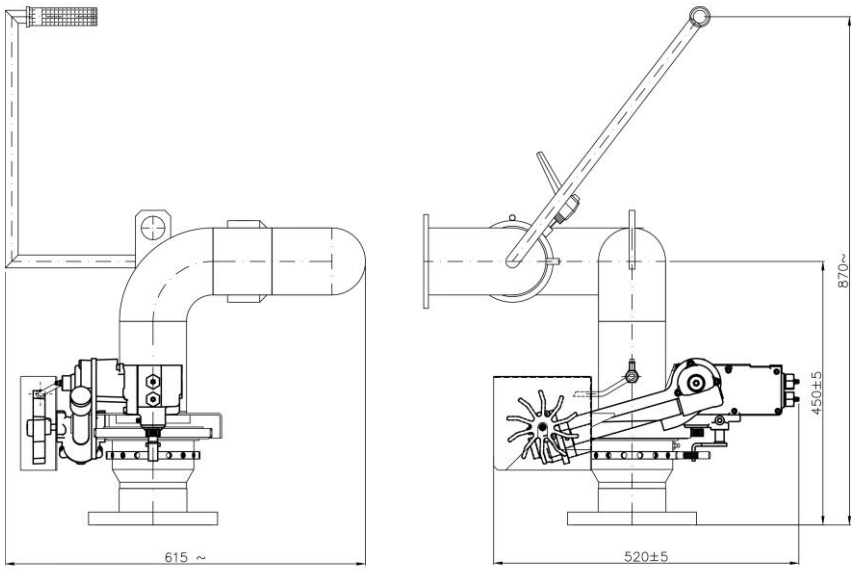
Technical characteristics	
Material	Carbon steel or stainless steel (aisi 304/316)
Max. working pressure	16 bar
Max. recommended flow rate	7000 lt/min
Inlet connection	Flanged 4" or 6" UNI PN 16, ANSI, JIS
Outlet connection	Flanged std. Fierre (160mm) or threaded (on request)
Weight	50 kg carbon steel; 40 kg stainless steel
Rotation	340° in self-oscillating mode adjustable each 20° 360° continuous in manual mode, without end stops
Elevation	+80° -80° (customizations available on request)
Joints	Mounted on double ring of spheres with greaser. Vertical and horizontal stand-by setting can be fixed via the locking knobs.
Paint cycle	Epoxi primer and polyurethanic enamel color red RAL 3000 (100 µm final). Different paint cycles available on request.

Dimensions



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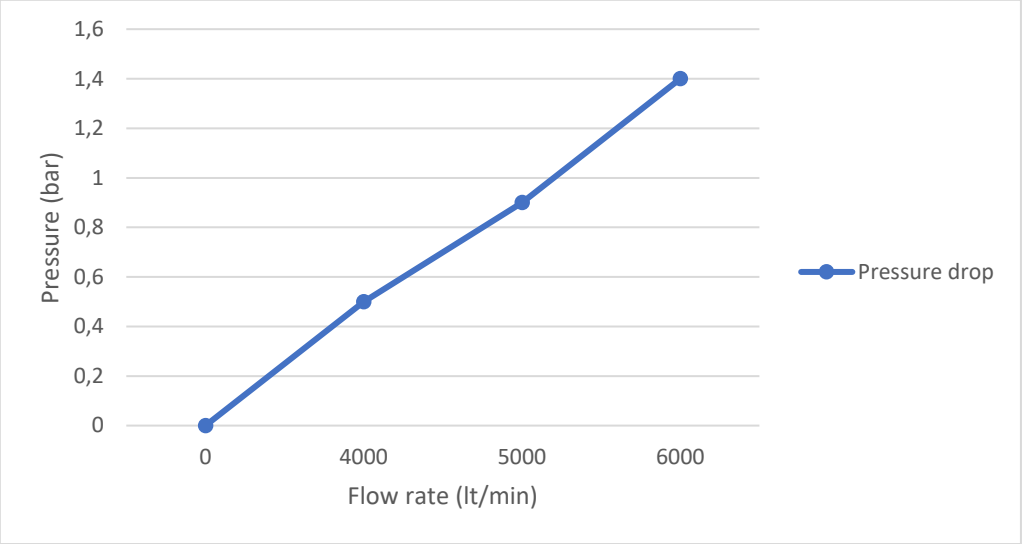
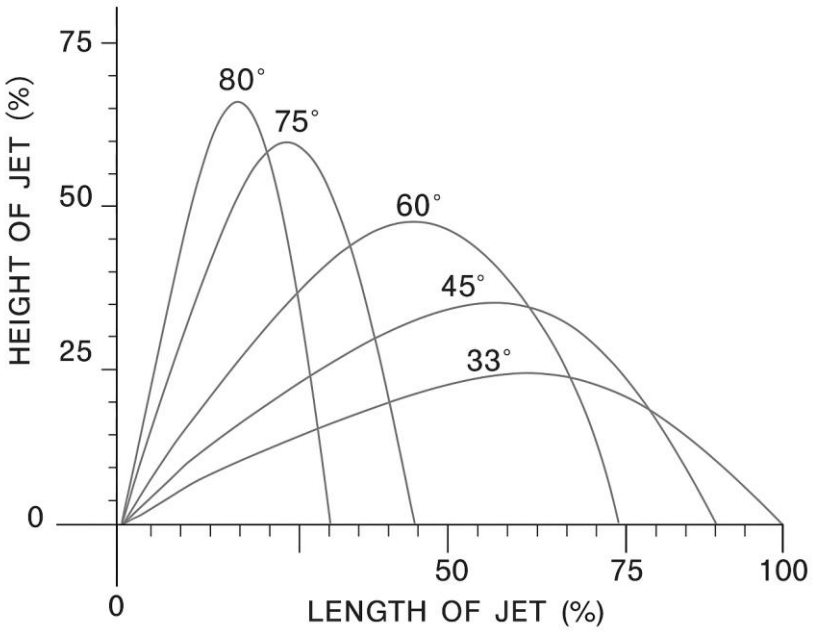
Pressure loss vs. flowrate



As the flow rate increases, the pressure loss in the monitor also increases. Since the performance data of the monitor/nozzle is based on the pressure at the nozzle, the pressure losses within the monitor body (from the monitor's inlet flange to the outlet connection) must be taken into account during the design phase.

Length and height relationship



Jet height as a function of throw distance at different monitor elevations.

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