

Description

The FI-EMP3 monitor is an electric remote-controlled monitor designed for installation in fixed systems, mobile units, vehicles, and ships.

The FI-EMP3 is a welded monitor that can be manufactured in stainless steel or duplex. It has a nominal diameter of 3 inches and supports a recommended maximum flow rate of 4.000 Lpm. The reaction force generated by the monitor depends on the operating flow and pressure parameters and can be calculated using the following formula:

$$(N) = 0.233 \times Q \text{ (Lpm)} \times \sqrt{p \text{ (bar)}}$$

The FI-EMP3 electric monitor can be equipped with various electric actuators, either DC or AC, according to the specific requirements of the system and the customer. Manual emergency operation is always guaranteed. Depending on the sensors installed, the FI-EMP3 monitor can either be an electromechanical or a fully programmable unit, capable of performing automatic oscillation cycles within predefined zones of the system. The monitor is available in a safe area configuration or ATEX certified for Zone 1, 2, 21, 22.

The FI-EMP3 monitor can be equipped with nozzles and water or foam branchpipes.

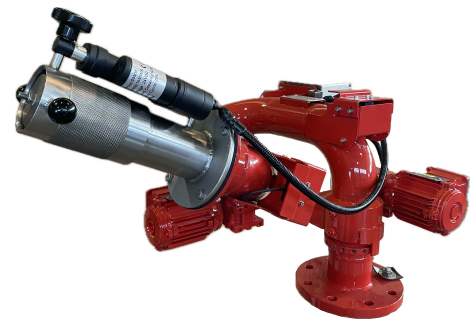
Application

The electric monitor FI-EMP3 is used in a wide range of applications, including:

- Refineries and petrochemical plants
- Chemical and pharmaceutical facilities
- Industrial plants
- Aircraft hangars
- Waste treatment plants
- Ships and vessels
- Fire fighting vehicles
- Heliports

Use and Maintenance

For detailed installation, operation, and maintenance procedures, please refer to the FI-EMP3 operation and maintenance manual.



Certifications



Machine Directive 2006/42/CE

The FI-EMP3 monitor, thanks to its motorized drive system with gearmotors, complies with the Machinery Directive 2006/42/EC and is therefore CE marked.

CNBOP-PIB

The FI-EMP3 monitor is approved for the Polish market. For detailed information on technical data and performance, please refer to certificate 063-U WB-0672.

DNV

The FI-EMP3 monitor, made of 316 stainless steel and duplex, is approved for installation on ships and offshore units. For detailed information on technical data and performance, please refer to certificate TAF00001BC rev.3.

ATEX Directive 2014/34/UE

The FI-EMP3 monitor can be supplied (on request) with ATEX certification for installation in classified areas Zone 1, 2, 21, and 22. Technical dossier no. FIERRE-200024EX-FT-12000-00-01 FTC – Rev.3 is filed with the notified body Bureau Veritas.

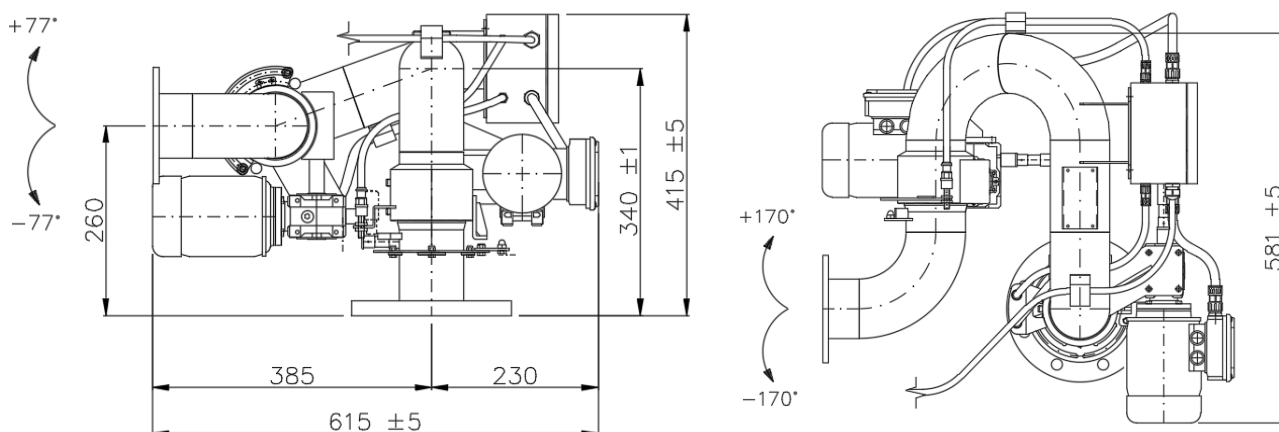
Compatibility with fluorine free foams

The Fierre monitors are compatible with fluorine-free concentrates. For more detailed information, please contact the company.

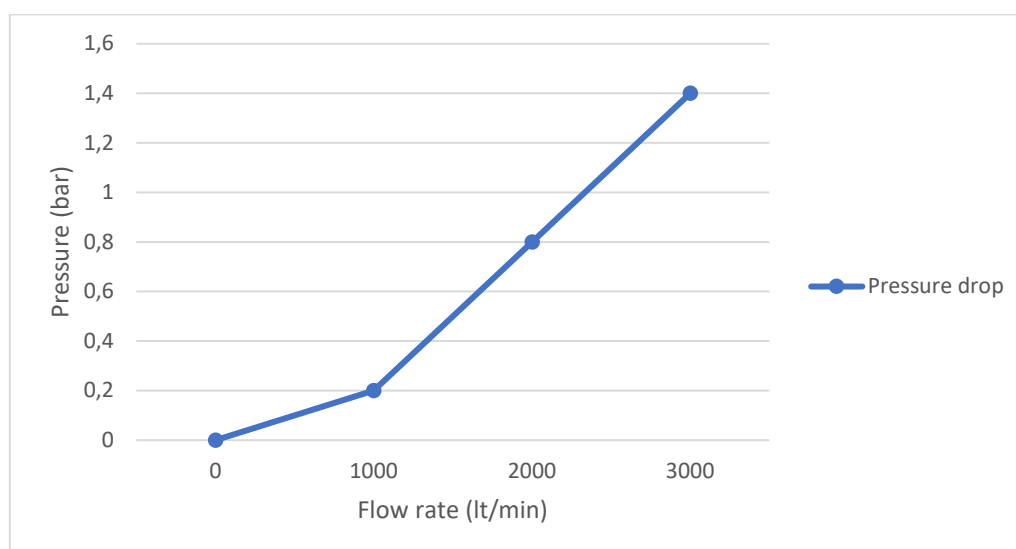
Technical characteristics

Material	Stainless steel (AISI 304 / 316) or duplex
Max. working pressure	16 bar
Max. recommended flow rate	4.000 lt/min
Inlet connection	Flanged 3" or 4", UNI PN 16 / ANSI / JIS
Outlet connection	Flanged std. Fierre (160 mm) or threaded (on request)
Weight	30 kg for the safe area version; 37 kg for the ATEX version (weights may vary depending on the specific configuration and components)
Rotation	+170° / -170° (may vary depending on the specific configuration)
Elevation	+77° / -77° (may vary depending on the specific configuration)
Design temperature	-20° / +40° C (components available for different operating temperatures)
Electric actuators	AC actuators: 230 V / 50 Hz / 1Ph – 400 V / 50 Hz / 3Ph Different frequencies available on request. DC actuators: 24 V
IP protection grade	IP 66 for all configurations
Sensors	Electromechanical version: inductive or magnetic sensors Programmable version: absolute potentiometers / encoders (4–20 mA)
Paint cycle	Epoxy primer and polyurethanic enamel color red RAL 3000 (100 µm final) Different paint cycles available on request.

Dimensions (standard configuration for safe area)

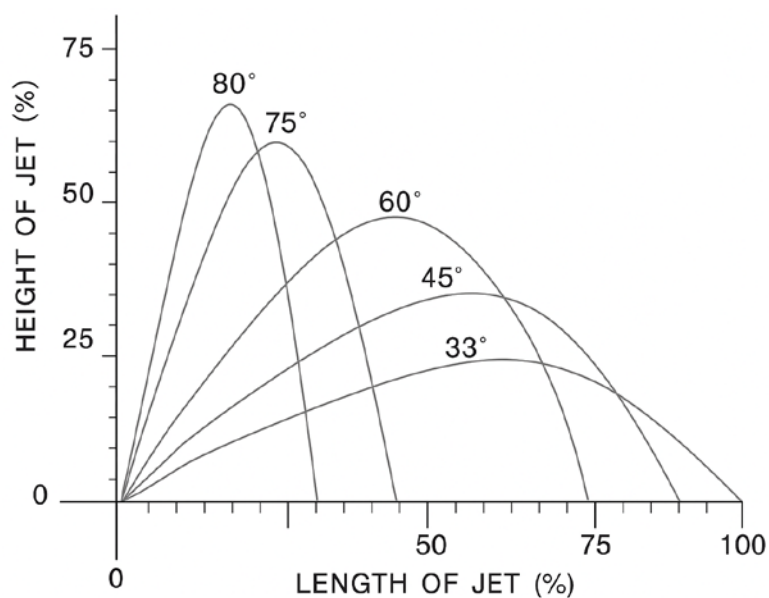


Pressure loss vs. flow rate



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.