

EMS-CF-FP-DP

Liquid-service element differential-pressure monitor, 2 psid clean to 60 psid maximum

The element window instrument; electrical and pressure rows stay open until a supplier document is held

A liquid-service differential-pressure monitor catalogued on the window it has to span: 0.17 bar (2 psid) on a clean 2 µm element, a 35 psid (2.4 bar) recommended change-out and a 60 psid (4.1 bar) maximum at 20 °C (68 °F). The line-pressure rating has to sit above the loop working pressure, against a side-stream vessel published to 150 psi (10.3 bar) and proof-tested at 1.5× under IEC 62368-1, about 15.5 bar (derived). It exists to trigger the element change before flow visibly falls, and it publishes no electrical or pressure value until a supplier document is held.

ORDERING INFORMATION

Part number	EMS-CF-FP-DP
Instrument	Liquid-service element differential-pressure monitor
Span it must cover	0 to at least 2.4 bar (35 psid)
Clean reference it must show	0.17 bar (2 psid)
Maximum it must show	60 psid (4.1 bar) at 20 °C
Line-pressure requirement	Above the loop working pressure
Compatible kit	EMS-CF-FP-K
Electrical output	Open — confirmed at order

THE ELEMENT WINDOW IT SPANS

Parameter	Value	Notes
Clean element ΔP	0.17 bar (2 psid)	Published on a clean 2 µm element; the bottom of the operating window
Recommended change-out ΔP	35 psid (2.4 bar)	The primary element-change trigger, and the point the instrument exists to announce
Maximum differential pressure	60 psid (4.1 bar)	At 20 °C (68 °F); past this the element is outside its published differential limit
Span the instrument must cover	0 to at least 2.4 bar (35 psid)	The selection rule published for liquid element monitoring
Headroom, clean to change-out	About 17×	Derived from the two published figures
Headroom, clean to maximum	About 30×	Derived from the two published figures
Temperature condition	ΔP is comparable only at a stated temperature	The published maximum is specified at 20 °C (68 °F); trend ΔP with fluid temperature on the same chart

PRESSURE ENVELOPE

Parameter	Value	Notes
Line-pressure requirement	Above the loop working pressure	Published selection rule for a liquid element monitor
Vessel working pressure on the same loop	Up to 150 psi (10.3 bar)	Published for the side-stream vessel
Hydrostatic proof requirement	1.5× rated maximum working pressure	IEC 62368-1; on a 150 psi (10.3 bar) vessel this is about 15.5 bar (derived)

Parameter	Value	Notes
Static and line pressure limit	Open — not published	Confirmed against the supplier document at order
Overload rating	Open — not published	Confirmed against the supplier document at order

SIGNAL, MATERIALS AND MECHANICAL

Parameter	Value	Notes
Electrical output	Open — not published	This model is catalogued on the window it must span and publishes no electrical value until a supplier document is held
Protocol	Open — not published	Confirmed against the supplier document at order
Supply voltage	Open — not published	Confirmed at order
Accuracy	Open — not published	Confirmed at order. The low-range units in this family publish accuracy as a percentage of span, and the figure for this model is confirmed on the same basis
Resolution	Open — not published	Confirmed at order
Wetted materials	Open — not published	Confirmed against the supplier document at order
Process connection	Open — not published	Confirmed against the supplier document at order
Calibration interval	Open — not published	No interval is published in the source research; confirmed at order

WHY THE LOW-RANGE UNITS CANNOT SERVE THIS DUTY

Parameter	Value	Notes
Low-range unit range	±125 Pa and ±500 Pa	Gas-side and low-differential monitoring units in the same family
Full scale in psi	0.018 psi and 0.0725 psi	Derived from ±125 Pa and ±500 Pa; marked as calculated
Comparison with the change-out point	About 480× on the ±500 Pa unit	Derived: 35 psid (2.4 bar) against a 0.0725 psi full scale. Neither low-range unit can display the change-out point or the 0.17 bar (2 psid) clean reading of a 2 µm element
Instrumentation rule	Differential pressure is the primary element-change trigger	A flow reading alone shows the symptom and not the cause; differential pressure moves first

BANDS READ BESIDE THIS INSTRUMENT, BY LOOP TYPE

Parameter	Value	Notes
Conductivity band, glycol-premix or facility-water loop	50–300 µS/cm	The liquid chemistry the differential-pressure reading is judged against; the loop type is named because a de-ionised loop carries a different band
Conductivity band, de-ionised technology cooling loop	0.2–20 µS/cm	A near-DI technology cooling loop with no glycol is held here
pH band, glycol-premix or facility-water loop	7.0–9.0 pH	Set by the metallurgy of the loop
pH band, de-ionised technology cooling loop	8.0–9.5 pH	The technology cooling side of the ASHRAE split loop

APPLICATIONS

- Element differential pressure across a side-stream or full-flow filter housing
- Change-out trigger at 35 psid (2.4 bar)
- Loading trend read beside a flow meter
- Heat-exchanger fouling trend where a liquid-service span is required

COMPATIBLE PRODUCTS

- EMS-CF-FP-K filter performance monitoring installation kit
- EMS-CF-FP-FC or EMS-CF-FP-FL for the flow side of the same trend
- EMS-CF-S05, EMS-CF-S08, EMS-CF-S10, EMS-CF-S12 and EMS-CF-S15 side-stream units
- EMS-CF-F5-20, EMS-CF-F1-20 and the wider cartridge ladder

LOW-RANGE DIFFERENTIAL-PRESSURE UNITS

Parameter	Value	Notes
EMS-CF-FP-D1	±125 Pa	0.018 psi full scale (derived); radio output
EMS-CF-FP-D5	±500 Pa	0.0725 psi full scale (derived); the 35 psid change-out point sits about 480× its span
EMS-CF-FP-DP	Liquid element window	0.17 bar (2 psid) clean to 60 psid (4.1 bar) maximum at 20 °C

FLOW AND DIFFERENTIAL-PRESSURE LADDER

Parameter	Value	Notes
EMS-CF-FP-FL	Full-bore magnetic flow meter	1–24 in (DN25–DN600); ±0.75% of rate
EMS-CF-FP-FC	Compact magnetic flow meter	DN 4, 8, 15, 25; 0.14–1.66 L/s
EMS-CF-FP-D1	Low-range ΔP transmitter	±125 Pa; does not span a liquid element window
EMS-CF-FP-D5	Low-range ΔP transmitter	±500 Pa; does not span a liquid element window
EMS-CF-FP-DP	Liquid-service element ΔP monitor	2 psid clean to 60 psid maximum
EMS-CF-FP-K	Filter performance monitoring installation kit	Static pressure tip, connector, valve

NOTES

- This model is catalogued on the window it must span. Its electrical output, wetted materials, overload rating, static and line pressure limit, accuracy, resolution, process connection and supply voltage are not published in the source research and stay open until a supplier document is held.
- The 15.5 bar hydrostatic figure is derived: 1.5× the published 150 psi (10.3 bar) vessel working pressure, at the test required by IEC 62368-1.
- The about 17×, about 30× and about 480× ratios are derived from published figures and are marked as calculated wherever they appear.
- Differential-pressure figures are comparable only at a stated temperature; the published element maximum is specified at 20 °C (68 °F).
- Conductivity and pH rows are labelled by loop type: 50–300 μS/cm and pH 7.0–9.0 on a glycol-premix or facility-water loop; 0.2–20 μS/cm and pH 8.0–9.5 on a de-ionised technology cooling loop.

Full specification sheet and current pricing
 EMS-Trade Cooling · ems-cool.com
 Typical lead time confirmed on order acknowledgement.

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