



F-OEM Specifications

P/N: XXX-FOEM

Version : 1.0

Performance

Available pressure ranges	0 to 7000 mbar (0 to 101 psi) Required pressure supply : 7100 mbar (103 psi) Maximum pressure supply : 7400 mbar (107.32 psi)
	0 to 2000 mbar (0 to 29 psi) Required pressure supply : 2100 mbar (30.45 psi) Maximum pressure supply : 2600 mbar (37.7 psi)
	0 to 1000 mbar (0 to 14.5 psi) Required pressure supply : 1100 mbar (16 psi) Maximum pressure supply : 1400 mbar (20.3 psi)
	0 to 345 mbar (0 to 5 psi) Required pressure supply : 1100 mbar (16 psi) Maximum pressure supply : 1300 mbar (18.85 psi)
	0 to 69 mbar (0 to 0.9 psi) Required pressure supply : 150 mbar (2.18 psi) Maximum pressure supply : 300 mbar (4.35 mbar)
	0 to 25 mbar (0 to 0.36 psi) Required pressure supply : 150 mbar (2.18 psi) Maximum pressure supply : 300 mbar (4.35 mbar)
	Vacuum : 0 to -25 mbar (0 to -0.36 psi) 0 to -69 mbar (0 to -0.9 psi) 0 to -345 mbar (0 to -5 psi) 0 to -800 mbar (0 to -11.6 psi) Required vacuum supply : -800 mbar (-11.6 psi) min
	Push-Pull : -800 to 1000 mbar (-11.6 to 14.5 psi) Required pressure supply : 1100 mbar (16 psi) and required vacuum supply -800 mbar (-11.6 psi) min Maximum pressure supply : 1400 mbar (20.3 psi)
Pressure stability	<0.1% full scale – CV (on measured values)
Accuracy	0.25% full scale
Repeatability (10)	<0.01% full scale Standard deviation of mean values for same pressure order
Sensor resolution	0.03% of max pressure
Mechanical response time (Minimum)	Down to 30 ms
Typical settling time	<70 ms Time to reach area between 95 and 105% of target pressure Measure done on a 15 mL reservoir to reach 2000 mbar using a 2 bar F-OEM
Typical depressurization time	0.4 sec (from 15 mL reservoir from 2 to 0 bar)
Mechanical	
Weight	0.1 Kg (F-OEM OEM microfluidics flow controller), 0.4 Kg (per pressure module with manifold), 0.3 kg (per switch module)
Dimensions	See datasheet
Noise	Low noise <20 dB
Manifold	Aluminum
Valve	FKM/FKM, Stainless Steel
Interior tubing	Silicon platinum
Pressure sensor	High temperature polyamide, Epoxy, Silicone gel

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Exhaust restrictor	FKM/FKM, Stainless Steel
Operating temperature range	-10°C to 80°C
Storage temperature	-40° to 85°C
Operating humidity	0-95% HR
Storage humidity	0-95% HR
Internal leakage	0.36 l/min Depends on range and pressure. Measure done on a 1 bar FOEM at 500 mbar.
Sensor type	Piezzo resistive silicon pressure sensor
Pneumatic connections	OD 4mm female push in fitting (on standard version, can be fittingless, then it is an M5 thread)
Mounting type	M3 screws
Gas Compatibility	Pressurized or bottled clean dry and non-corrosive or explosive gas (Ambient air, N2, Ar, CO2) (O2 could be a thing, need to check)
Gas temperature	4°C to 37°C
Electrical	
Digital communication interface	USB (standard board), RS232 (alternative board) + other protocols on demand
Readout sample times	5 ms
RS232 connection	Sub DB9
Power supply connector type	Phoenix contact MSTBA 2.5
Power supply	External power, 2A or 7A available from standard, but custom can be accepted using MBPT terminal block connection 0-24VDC, digital controlled output 5 or 24 volts selectable
Build-in power modules	24 VDC – up to 7A (168W) maximum
Current supply	Depends on configuration
Maximum power consumption	>1W groundable for F-OEM microfluidics flow controller (can be increased depending on peripherals, eg pump, fans etc) – 6W maximum per FEZ module, 48W maximum per SWEZ module (rotary valves ~ 12W)
Data Update Rate - data refresh rate	50 Hz
Digital Data Update Rate - internal refresh rate	50 Hz
Digital communication protocol	USB, RS232
Flow sensor connection	Mini-USB connection
Switch and valve connection RJ45	RJ45 female (or 2wire terminal block for SWEZ lite)
Switch connection lite version	Cable terminal 2 wire
Additional USB ports	2 x USB2.0 ports (available only on the USB connection protocol version)
Compatible Operated System (OS)	Windows, Linux, ARM, raspberry, MAC
Software control	OxyGen or SDK
Fluigent's product combination	
Flow control	Liquid flow rate sensor input, customizable to work with third party sensors (through SDK)
Switch and Valve control RJ45	Control up to 4 x switches or valves per module - compatible with Fluigent 2 position switches and rotary valves (M-switch, L-switch, 2-switch)

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