

FLEXI-FLOW Compact

FF-S20K

Pre-configured product with ModBus/FLOW-BUS



Technical specifications

Measurement & control

Type of media	Gases
Flow range	0...20 l/min
Accuracy	$\pm 1.5\%$ Rd plus $\pm 0.5\%$ FS (N ₂ /Air/O ₂)
Repeatability	$< \pm 0.2\%$ Rd
Turndown ratio	1:50
Multi fluid capability	embedded gas data for 22 unique gases plus any mixture of these gases
Pre-installed gases	C ₂ H ₂ , Air, C ₃ H ₄ , Ar, CO ₂ , CO, C ₃ H ₆ , D ₂ , C ₂ H ₆ , C ₂ H ₄ , He, H ₂ , Kr, CH ₄ , Ne, N ₂ , N ₂ O, O ₂ , C ₃ F ₈ , C ₃ H ₆ , C ₃ H ₈ , C ₃ H ₄
Settling time (in control, typical)	<150 ms
Control stability	$< \pm 0.1\%$ FS (typical for 1 l/min N ₂)
Response time (sensor)	<30 ms
Operating temperature	0...+50 °C (32 - 122°F)
Temperature sensitivity	zero 0.015% FS/°C; span 0.05% Rd/°C
Leak integrity, outboard	tested $< 2 \times 10^{-9}$ mbar l/s He
Long term stability	<0.5% FS over period of 3 years, then <0.2% FS per year
Pressure sensitivity	standard: $< 0.15\%$ Rd/bar typical N ₂ ; with pressure correction: typical factor 5 improved
Leak-by through closed valve	typical $< 1 \cdot 10^{-4}$ mbar-l/s He
Mounting	any position, attitude sensitivity negligible
Warm-up time	30 min
Storage/transport conditions	0...+50°C, max. 95% RH (non-condensing)

Approvals

Marking	CE, RoHS, WEEE, REACH
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Mechanical specs

Pressure rating (PN) - in barg	16
Ingress protection	IP40
Surface roughness wetted parts	<1.6 µm Ra (<0.8 µm Ra for stainless steel body)
Material wetted parts	aluminium, stainless steel, silicon nitride, epoxy, aluminiumoxide, glas, FKM
Sealing material	FKM 51415
Plunger material	FFKM with PI (polyimide) foil
Process connections	1/8"BSPP female thread (ISO1179-1); compression type, push-in or face seal (VCR/VCO) couplings to be ordered seperately
Max. ΔP	5 bar (d)
Weight	0.2

Electrical properties

Power supply	+24 Vdc $\pm 10\%$
Power consumption	2.5 Watt (typical, in control)
Digital communication	Modbus-RTU, Modbus-ASCII, FLOW-BUS, EtherCAT®, EtherNet/IP, Modbus-TCP, POWERLINK, PROFINET

Electrical interfaces

Service interface	USB-C, Bluetooth
Power (main connector)	9-pin D-sub (male)
Function (instrument connector)	RS485
Modbus RTU/ASCII/FLOW-BUS	9-pin D-sub (male)
Modbus TCP / EtherNet/IP / EtherCAT® / PROFINET / POWERLINK	2x RJ45