EN

EL-FLOW Prestige

FG-200CV

High Performance Mass Flow Controller for Gases

Bronkhorst®

Technical specifications

Measurement & control

Type of media	Gases
Flow range	min. 0.014…0.7 ml_n/min max. 0.18…9 ml_n/min
Accuracy	±0.5% Rd plus ±0.1% FS; ±0.8% Rd plus ±0.2% FS for ranges 3…5 mln/min; ±1% Rd plus ±1% FS for ranges < 3 mln/min (accuracy according SEMI E56)
Repeatability	<±0.2% Rd (or <±0.04% FS whichever is greater), <±0.5% Rd for models <5 mln/min
Turndown ratio	1:150 (1:50 in analog mode)
Multi fluid capability	embedded gas data for 100 unique gases plus any mixture of maximum 5 of these gases.
Settling time (in control, typical)	< 2 sec.
Control stability	≤ ± 0.1 % FS (typical for 1 ln/min N2)
Operating temperature	-10…+70°C
Temperature sensitivity	zero: < 0.02% FS/°C; span: < 0.025% Rd/°C
Leak integrity, outboard	tested < 2 x 10^{-9} mbar l/s He
Pressure sensitivity	standard: < 0.15% Rd/bar typical N2; with pressure correction: < 0.02% Rd typical N2
Max. Kv-value	6.6 x 10^{-2}
Mounting	max. error at 90° off horizontal 0.07% FS at 1 bar, typical N2
Warm-up time	30 minutes
Storage/transport conditions	0...+50°C, max. 95% RH (non-condensing)

Approvals

Electrical safety	IEC 61010-1
Marking	CE, RoHS, WEEE, REACH

Mechanical specs

Pressure rating (PN) - in barg	64
Ingress protection	IP40
Material wetted parts	stainless steel 316L or comparable, degreased for use on oxygen (O2)
Sealing material	standard: FKM/Viton® options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds
Plunger material	standard: FFKM with PI (polyimide) foil; options: EPDM with PI foil, FDA and USP Class VI approved EPDM, FDA and USP Class VI approved FFKM/Kalrez®
Process connections	compression type or face seal (VCR/VCO) couplings
Weight	0.7 kg

Electrical properties

Power supply	+15…24 Vdc
Power consumption	3 W typical at 24 V for fieldbus: add 0.9 W
Analog output	0…5 (10) Vdc or 0 (4)…20 mA (sourcing)
Analog setpoint	0…5 (10) Vdc or 0 (4)…20 mA (sinking)
Digital communication	standard: RS232 options: DeviceNet™, CANopen®, PROFIBUS DP, Modbus RTU/ASCII, FLOW-BUS, EtherCAT®, PROFINET, Modbus/TCP, EtherNet/IP, POWERLINK

Electrical interfaces

Power (main connector)	9-pin D-sub (male)
Function (instrument connector)	RS232, Analog, RS485
PROFIBUS DP	9-pin D-sub (female)
CANopen / DeviceNet	5-pin M12A (male)
Modbus RTU/ASCII/FLOW-BUS	RJ45
Modbus TCP / EtherNet/IP / EtherCAT®/ PROFINET / POWERLINK	2x RJ45

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