

DATASHEET IQPD-700C

IQ+FLOW IQPD-700C EPC (P1-control)

Microfluidic Back Pressure Controller, Downported



Microfluidic Back Pressure Controllers

Bronkhorst® model IQPD-700C Back Pressure Controllers are miniature devices which are ideal for use in cramped environments or in systems requiring minimum internal volume e.g. desktop equipment. The downported Pressure Controller has a chip-based (MEMS) sensor and is suited for pressure ranges between 0,1...0,5 bar and 2...10 bar absolute or gauge. Communication with the devices can be either in analog mode or digital over RS232 or RS485.

The ultra compact IQ+FLOW instruments are typically recommended for integration in analytical, bioprocessing and medical equipment.

Technical specifications

Measurement / control system

Absolute pressure sensors	Code: 1K5AC (chip sensor) - Ranges (FS): 0,5 ... 1,5 bara - P-max: 3,0 bara Code: 3K0AC (chip sensor) - Ranges (FS): 1,0 ... 3,0 bara - P-max: 6,0 bara Code: 10KAC (chip sensor) - Ranges (FS): 3,0 ... 10 bara - P-max: 10 bara Code: 2K0AS (media-isolated) - Ranges (FS): 0,5 ... 2,0 bara - P-max: 3 bara Code: 6K0AS (media-isolated) - Ranges (FS): 2,0 ... 6,0 bara - P-max: 10 bara Code: 10KAS (media-isolated) - Ranges (FS): 3,0 ... 10 bara - P-max: 10 bara
Relative pressure sensors	Code: 1K5GC (chip sensor) - Ranges (FS): 0,5 ... 1,5 barg - P-max: 3,0 barg Code: 3K0GC (chip sensor) - Ranges (FS): 1,0 ... 3,0 barg - P-max: 6,0 barg Code: 10KGC (chip sensor) - Ranges (FS): 3,0 ... 10 barg - P-max: 10 barg Code: 0K6GS (media-isolated) - Ranges (FS): 0,2 ... 0,6 barg - P-max: 1 barg Code: 2K0GS (media-isolated) - Ranges (FS): 0,5 ... 2,0 barg - P-max: 3 barg Code: 6K0GS (media-isolated) - Ranges (FS): 2,0 ... 6,0 barg - P-max: 10 barg Code: 10KGS (media-isolated) - Ranges (FS): 3,0 ... 10 barg - P-max: 10 barg
Accuracy (incl. linearity and hysteresis)	$\leq \pm 0,5 \% \text{ FS}$ (Based on calibration at ambient temperature)
Repeatability	$\leq \pm 0,2 \% \text{ FS}$
Pressure rangeability	measurement: 1 : 50 (2...100%) control: 1 : 5 (with flow range 1 : 50)
Fluids	Chip-sensor : dry, clean, non-flammable and non-corrosive gases. Absolute pressure sensors not suitable for Helium. Media-isolated sensor : Gases compatible with aluminium or stainless steel SS316L and Viton.
Operating temperature	5 ... 50 °C
Temperature sensitivity	span: 0,1% RD/°C; zero: 0,05% FS/°C
Max. Kv-value	$2,37 \times 10^{-3}$
Leak integrity, outboard	$1 \times 10^{-6} \text{ mbar-l/s He}$

Measurement / control system

Attitude sensitivity	negligible
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Mechanical parts

Material (wetted parts)	body : aluminium (default) or stainless steel SS316L (option); chip sensor (default) : Si, SiOx, epoxy, aluminium; media-isolated sensor (option) : stainless steel SS316L
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Process connections	downported construction
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Seals	FKM/Viton® seals and plunger (default); FKM/Viton® seals and FFKM/Kalrez® plunger (option)
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Weight	120 g (Aluminium) / 180 g (SS316L)
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Ingress protection	IP40
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Electrical properties

Readout sample time	2 msec
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Power supply	+15 ... 24 Vdc
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Max. power consumption	100 mA
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Analog output	0...5 (10) Vdc or 0 (4)...20 mA (sourcing output)
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Digital communication	RS232, RS485 (Modbus-RTU/ASCII or FLOW-BUS)
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Electrical connection

Power/Analog/RS232/RS485	RJ45 modular jack
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Control valve options

External actuator options to be connected to the controller

Ex-proof specifications

Approvals / certificates

Technical specifications subject to change without notice.

For dimensional drawings and hook-up diagrams please visit the [product page](#) on our [website](#)

Recommended accessories



E-8000 SERIES

Digital Readout / Control Systems

Bright, wide angle, 1.8" display (TFT technology)
User friendly operation, menu driven with 4 push buttons



PIPS SERIES

Plug-in Power Supply

For lab-style or industrial devices
Interchangeable plugs (Euro, UK, USA, Australian, IEC) for mains connection

Related products



IQ+FLOW IQP-700C EPC (P1-CONTROL)

Min. pressure 0,1...0,5 bar
Max. pressure 2...10 bar
Ultra compact
MEMS technology



IQ+FLOW IQPD-600C EPC (P2-CONTROL)

Min. pressure 0,025...0,5 bar
Max. pressure 0,5...10 bar
Ultra compact; downported
MEMS technology



IQ+FLOW IQPD-500C

Min. pressure 0,01...0,5 bar
Max. pressure 0,2...10 bar
Ultra compact; downported
MEMS technology



IQ+FLOW IQFD-200C DOWNPORTED MFC

Min. flow 0...10 mln/min
Max. flow 0...5 l/min
Pressure rating 10 bar
Ultra compact (MEMS technology)
Top-mount construction