

DATASHEET F-001

Series F-001, F-011, F-021

Direct-operated control valves



Low Flow Control Valves for Gases

Control valves F-001 / F-011 are suitable for low flow rates (up to approx. 50 l_n/min N₂-equivalent) with pressure ratings up to 64 resp. 100 bar. The F-001 valve module is also used as pilot valve in bigger valves and controllers. F-021 is a direct acting control valve for high pressure applications, up to 200 bar.

Technical specifications

Measurement / control system

Operating temperature	F-001AV / F-011AV / F-021AV: -10...+70°C F-001AI / F-011AI / F-021AI: -10...+70°C F-001AX / F-011AX: -10...+65°C
Max. Kv-value	F-001 series: 6,6 x 10 ⁻² F-011 series: 6,6 x 10 ⁻² F-021 series: 1,56 x 10 ⁻³
Leak integrity, outboard	tested < 2 x 10 ⁻⁹ mbar l/s He

Mechanical parts

Material (wetted parts)	stainless steel 316L/320; other on request
Pressure rating (PN)	F-001 series: 64 bar(a) F-011 series: 100 bar(a) F-021 series: 200 bar(a)
Max. ΔP	contact distributor (depends on Kv-value)
Process connections	compression type or face seal (VCR/VCO) couplings
Seals	< 100 bar: standard: Viton®; options: EPDM, Kalrez® (FFKM), FDA and USP Class VI approved compounds > 100 bar: Viton
Protection class	F-001AV / F-011AV / F-021AV: IP40 F-001AI / F-011AI / F-021AI: IP65 F-001AX-XBB / F-011AX-XBB: II 1 G/D Ex ia IIC T6 F-001AX-XCB / F-011AX-XCB: II 2 G/D Ex e mb T4
Plunger	< 100 bar: standard: Viton®; options: EPDM, Kalrez® (FFKM), FDA and USP Class VI approved compounds > 100 bar: Viton

Electrical properties

Supply voltage	IP40 / IP65 style: 15 Vdc or 24 Vdc; Ex-proof coil XBB: max. 28 Vdc/110 mA; Ex-proof coil XCB: max. 24 Vdc
Valve control signal	0... 185 mA
Coil resistance	IP40 / IP65 style: 62 Ohm; Ex-proof coil XBB: 295 Ohm; Ex-proof coil XCB: 65 Ohm (at 20°C)
De-energized position	Standard: Normally closed; Option: Normally opened
Electrical connection	IP40 coil: shielded cable; IP65 coil: DIN 43650 connection; Ex-proof coils: cable gland M20x1,5

Electrical connection

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](#)



Related products



SERIES F-033, F-042

Vary-P Control Valves

Flow up to approx. 100

l/min

Pressure up to 400/700 bar

For high (differential)
pressure applications



SERIE F-002A, F-003A, F-003B

Pilot-Operated Control Valves

Flow up to approx. 500

m³/h

Pressure up to 64/100 bar

Kv: 0.04...6.0



SERIES F-004A, F-004B

Bellows Valves with Pressure Compensation

Flow up to approx. 1000

l/min

For low (differential)
pressure applications

Kv: 0.03...1.0



BRONKHORST HIGH-TECH B.V.

Nijverheidsstraat 1A

NL-7261 AK Ruurlo (NL)

Tel. +31 573 45 88 00

info@bronkhorst.com

