

DATASHEET F-002-003

Serie F-002A, F-003A, F-003B

Pilot-Operated Control Valves



Control Valves for High Gas Flow

These are unique, indirect acting control valves suitable for high flow rates, up to 500 m³_n/h N₂-equivalent. They use a the 'Vary-P' mechanism (see series F-033) as pilot valve. Hence they are also pressure compensated, so both the inlet pressure and the outlet pressure may change within the specified ΔP limits, without impact on the control function.

Technical specifications

Measurement / control system

Operating temperature	F-002AV / F-012AV / F-003AV / F-013AV: -10...70°C F-002AI / F-012AI / F-003AI / F-013AI: -10...70°C F-003BI / F-013BI: -10...70°C F-002AX / F-012AX / F-003AX / F-013AX: -10...65°C F-003BX / F-013BX: -10...65°C
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Max. Kv-value	F-002A.. / F-012A.. series: 0,04...0,4 F-003A.. / F-013A.. series: 0,15...1,5 F-003B.. / F-013B.. series: 0,6...6
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Mechanical parts

Material (wetted parts)	stainless steel 316L/320; other on request
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Pressure rating (PN)	F-002 / F-003 series: 64 bar(a) F-012 / F-013A.. series: 100 bar(a) F-013B.. series: 95 bar(a)
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Max. ΔP	20 bar(d)
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Process connections	compression type or face seal (VCR/VCO) couplings
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Seals	standard: FKM/Viton®; options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds
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Protection class	F-002AV / F-012AV / F-003AV / F-013AV: IP40 F-002AI / F-012AI / F-003AI / F-013AI / F-003BI / F-013BI: IP65 F-002AX-XBB / F-012AX-XBB / F-003AX-XBB / F-013AX-XBB: II 1 G/D Ex ia IIC T6 F-002AX-XCB / F-012AX-XCB: II 2 G/D Ex e mb II T4 F-003AX-XCB / F-013AX-XCB / F-003BX-XCB / F-013BX-XCB: II 2 G/D Ex e mb II T4
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Electrical properties

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-001, F-011, F-021

Direct-operated control valves

Flow up to approx. 50
l/min
Pressure up to
64/100/200 bar
Kv-max: 6.6×10^{-2}



SERIES F-033, F-042

Vary-P Control Valves

Flow up to approx. 100
l/min
Pressure up to 350/650
bar
For high (differential)
pressures applications



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