

# DATASHEET F-004

---

## Series F-004A, F-004B

### Bellows Valves with Pressure Compensation



---

### Control Valves for Low Pressure Drop Applications

These are direct acting control valves similar to the F-001 series. They are also closed by spring force. A bellows compensates the closing force acting on the plunger to such a degree that only a very small magnetic force is required and in this way large orifices can be opened, which is impossible in the F-001 design as it would cause oscillation. The bellows pressure compensated design, however, enables us to smoothly control large flows at extremely low pressures.

---

## Technical specifications

### Measurement / control system

Operating temperature	-10... 70 °C
Max. Kv-value	F-004AC / F-004AI: 0,03...0,3 F-004BI: 0,1...1

### Mechanical parts

Material (wetted parts)	stainless steel 316L or comparable
Pressure rating (PN)	10 bar(g)
Max. ΔP	for gases: 5 bar(d) for liquids: 2 bar(d)
Process connections	compression type or face seal (VCR/VCO) couplings
Seals	standard: Viton®; options: EPDM, Kalrez® (FFKM)
Weight	F-004AC / F-004AI: 1,2 kg F-004BI: 3,4 kg
Protection class	F-004AC: IP40 F-004AI / F-004BI: IP65

### Electrical properties

Power supply	+15...24 Vdc +/-10%
Max. power consumption	max. 3,5 W (at 15 Vdc)

### 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:  $6.6 \times 10^{-2}$



**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)  
pressures applications



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

**Pilot-Operated Control Valves**

Flow up to approx. 500  
m<sup>3</sup>/h  
Pressure up to 64/100 bar  
Kv: 0.04...6.0



**BRONKHORST HIGH-TECH B.V.**

Nijverheidsstraat 1A  
NL-7261 AK Ruurlo (NL)  
Tel. [+31 573 45 88 00](tel:+31573458800)  
[info@bronkhorst.com](mailto:info@bronkhorst.com)

