

# DATASHEET F-033

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Series F-033, F-042

## Vary-P Control Valves



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## High Pressure Control Valves for Gases

F-033 / F-042 are 2-phase control valves for applications with high differential pressures, up to 400 bar and a maximum operating pressure of 400 resp. 700 bar! These unique valves feature a pressure compensation mechanism, maintaining a constant pressure difference of 4 bar across the flow control section. By doing so both the inlet pressure and the outlet pressure may change without having any impact on the Vary-P valve function.

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## Technical specifications

### Measurement / control system

Operating temperature	F-033C: -10...70°C F-033CI / F-042CI: -10...70°C F-033CX: -10...65°C
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### Mechanical parts

Material (wetted parts)	stainless steel 316L or comparable
Pressure rating (PN)	F-033 series: 400 bar(a) F-042 series: 700 bar(a)
Min. ΔP	6 bar(d)
Max. ΔP	up to 400 bar(d)
Process connections	F-033 series: compression type or face seal (VCR/VCO) couplings; F-042 series: none (female thread); special high pressure connections on request
Seals	standard: Viton®; on request (F-033 series only): EPDM, Kalrez®
Weight	F-033 series: 2,3 kg F-042 series: 8,3 kg
Protection class	F-033C: IP40 F-033CI / F-042CI: IP65 F-033CX-XBB: II 1 G/D Ex ia IIC T6 F-033CX-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

#### Certification for hazardous areas

#### Approvals / certificates

Technical specifications subject to change without notice.

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

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## Related products



**SERIES F-001, F-011, F-021, V30I**

**Direct-operated control valves**

Flow up to approx. 50  
l/min

Pressure up to  
64/100/200 bar

Kv-max:  $6.6 \times 10^{-2}$



**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



**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