

# DATASHEET F-033

---

Series F-033, F-042

## Vary-P Control Valves



---

## High Pressure Control Valves for Gases

F-033 / F-042 are 2-phase control valves for applications with high differential pressures, up to 350 bar and a maximum operating pressure of 350 resp. 650 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.

---

## Technical specifications

### Measurement / control system

|                       |  |
|-----------------------|--|
| Operating temperature | F-033C: -10...70°C<br>F-033CI / F-042CI: -10...70°C<br>F-033CX: -10...65°C |
|-----------------------|--|

---

### Mechanical parts

|                         |  |
|-------------------------|--|
| Material (wetted parts) | stainless steel 316L or comparable   |
| Pressure rating (PN)    | F-033 series: 350 bar(a)<br>F-042 series: 650 bar(a)   |
| Min. ΔP                 | 6 bar(d)   |
| Max. ΔP                 | up to 350 bar(d)   |
| Process connections     | F-033 series: compression type or face seal (VCR/VCO) couplings;<br>F-042 series: none (female thread); special high pressure connections on request |
| Seals                   | standard: Viton®;<br>on request (F-033 series only): EPDM, Kalrez®   |
| Protection class        | F-033C: IP40<br>F-033CI / F-042CI: IP65<br>F-033CX-XBB: II 1 G/D Ex ia IIC T6<br>F-033CX-XCB: II 2 G/D Ex e mb II T4                                 |

---

### Electrical properties

### Electrical connection

### Control valve options

### External actuator options to be connected to the controller

### Ex-proof specifications

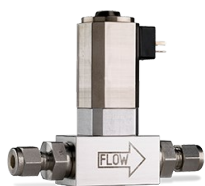
### Approvals / certificates

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



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

**Pilot-Operated Control Valves**

Flow up to approx. 500  
m<sup>3</sup>n/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