

PR-7 Series

Ultra High Flow Adjustable Pressure Reducing Regulator



The PR-7 Series has been designed for those applications using high gas flow rates while still requiring a compact package. In addition, this unit will handle hydrogen flows up to 1000 liters per minute with none of the resonance problems typical with many regulators attempting such an application.

While designed for gas flow applications with low inlet pressures and low differential pressures, this valve has been constructed to withstand inlet pressures up to 3600 psig. With capability of holding outlet pressures closely with large changes of flow requirements, this valve is very suitable as a primary pressure supply to other pressure regulators located downstream.

Features & Specifications

- Minimal droop with large flow increased
- No resonance with large hydrogen flows
- Stainless steel diaphragm or INCONEL® diaphragm
- 316L stainless steel or brass construction (optional HASTELLOY®, MONEL®, or chrome-plated brass)
- T-handle adjusting assembly for easier adjustment in the 250 and 500 psig ranges
- Material of construction: Brass, stainless steel, Viton®, PTFE, PEEK™, or Kalrez®
- Stainless steel cap
- Cv flow coefficient = 1.1 (full Cv with ½" ported unit only)
- Operating temperatures up to +250° F (+121° C)
- Maximum inlet pressure of 3600 psig with PEEK™ seat
- Inlet/outlet connections: ¼", ⅜", or ½" FNPT
- Outlet pressure ranges of: 0–10, 0–25, 0–50, 0–100, 0–150, 0–250 & 0–500 psig

Options

- Self-relieving
- Panel mount
- Captured vent

pressure regulators

How to Order

PR7 –

BODY MATERIAL

- 1 316L stainless steel, stainless steel diaphragm
- 2 Brass, stainless steel diaphragm
- 4 MONEL®, INCONEL® diaphragm
- 6 HASTELLOY® C, INCONEL® diaphragm
- 8 Brass, chrome-plated, stainless steel diaphragm
- C SS 316L, INCONEL® diaphragm

PORT CONFIGURATION

- A Standard
- For more port configurations, see page 33.

PROCESS PORT TYPES

(GAUGE PORT TYPES, IF SPECIFIED)

- 1 ¼" FNPT (¼" FNPT gauge ports)
- 4 ⅜" FNPT (¼" FNPT gauge ports)
- 5 ½" FNPT (¼" FNPT gauge ports)
- J ½" Tri-clover (¼" FNPT gauge ports)
- L ¾" Tri-clover (¼" FNPT gauge ports)

SURFACE FINISH OF DIAPHRAGM CAVITY

- 1 < 25 Ra

SEAT MATERIAL

- D Viton®
- I PTFE
- K Kalrez®
- Q PEEK™

FLOW COEFFICIENT (Cv)

- 8 1.1

OPTIONS

- A EB33
- B EB5
- D Helium leak test
- E Pressure test certificate
- F Certificate of Conformity
- G CMTR

CAP ASSEMBLY

- 1 Standard, stainless steel
- 2 T-handle, stainless steel
- 3 T-handle, panel mount, stainless steel
- 4 Panel mount, stainless steel
- 7 Captured vent, stainless steel
- 8 Tamper-proof, stainless steel
- C Captured vent, panel mount, stainless steel
- E Tamper-proof, panel mount, stainless steel

DIAPHRAGM MATERIAL

- 1 PTFE/metal backing
- 2 PTFE/Viton®
- 5 Viton®/metal backing
- 6 Tefzel® ring/metal backing

DIAPHRAGM TYPE

- 1 Non-self-relieving
- 3 Self-relieving

OUTLET RANGE

- C 0–10 psig
- D 0–25 psig
- E 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig
- R 0–150 psig

NOTE: Contact the factory for any additional requirements.

Maximum Temperature & Operating Inlet Pressures

Up to 100 psig Outlet Pressure

SEAT MATERIAL	MAXIMUM TEMPERATURE*	@	MAXIMUM OPERATING INLET PRESSURE
PTFE	150° F (66° C)	@	1000 psig (6.90 MPa)
PEEK™	250° F (121° C)	@	3600 psig (24.82 MPa)
Viton®	250° F (121° C)	@	300 psig (2.07 MPa)
Kalrez®	250° F (121° C)	@	300 psig (2.07 MPa)

* Temperatures in excess of 175° F (80° C) require a metal knob or the tamper-proof option.

0–250 psig & 0–500 psig Outlet Pressure (T-handle or Tamper-proof)

SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM OPERATING INLET PRESSURE
PTFE	150° F (66° C)	@	1000 psig (6.90 MPa)
PEEK™	250° F (121° C)	@	3600 psig (24.82 MPa)

HASTELLOY® is a registered trademark of Haynes International, Inc.
 MONEL® is a registered trademark of Special Metals Corporation.
 Kalrez® and Viton® are registered trademarks of DuPont Dow Elastomers.
 PEEK™ is a trademark of Victrex PLC.

Outline and Mounting Dimensions

Weight = 3.2 lbs (1.45kg)

