General-Purpose Diaphragm-Sensing Back-Pressure Regulators (KBP Series)

The KBP series is a high-sensitivity, general-purpose regulator designed to control back-pressure levels in analytical or process systems upstream of the regulator. The convoluted diaphragm provides excellent sensitivity and set-point repeatability. The metal-to-metal diaphragm seal minimizes the potential for leakage.

Features

- Convoluted, nonperforated diaphragm
- Metal-to-metal diaphragm seal
- Low internal volume
- Two-piece cap design provides linear load on the seal

Technical Data

Maximum Inlet Pressure

- Equal to pressure control range

Pressure Control Ranges

- 0 to 10 psig (0.68 bar) through 0 to 500 psig (34.4 bar)

Flow Coefficient (C_v)

- 0.20

See page 49 for flow graphs.

Maximum Operating Temperature

- 176°F (80°C) with PCTFE retainer seal
- 392°F (200°C) with PEEK retainer seal

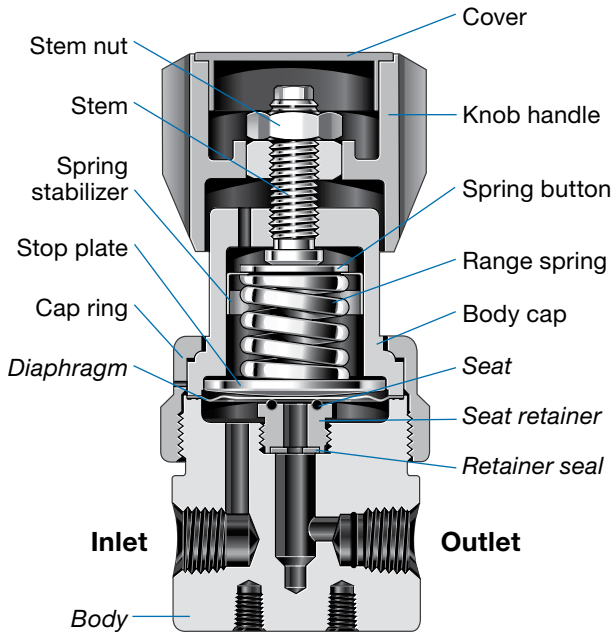
Weight

- 2.4 lb (1.1 kg)

Ports

- 1/4 in. female NPT inlet, outlet, and gauge ports (all body materials)
- 1/4 in. tube butt weld inlet, outlet, and gauge ports (316 SS body material only)
- 1/4 in. VCR inlet, outlet, and gauge ports (316 SS body material only)

Materials of Construction



Component	316 SS	Brass CW721R
	Material	
Knob handle, cover	Nylon with 316 SS insert	
Spring button	316 SS (0 to 500 psig range) Zinc-plated steel (all other ranges)	
Spring stabilizer①	301 SS	
Range spring	316 SS or zinc coated/plated steel, depending on configuration	
Stem, stem nut, cap ring, stop plate, body cap, panel nuts②	316 SS	
VCR nuts②	316 SS	—
Nonwetted lubricant	Hydrocarbon-based	
Seat retainer	*316 SS*	
Retainer seal	*PCTFE or PEEK*	
Seat	*Fluorocarbon FKM or FFKM*	
Diaphragm③	*Alloy X-750*	
Body	*316 SS*	*Brass CW721R*
Tube butt weld ports,② VCR gland ports②	*316L SS*	—
Wetted lubricant	*PTFE-based*	

Wetted components listed in *italics.*

① Not included in regulators with 0 to 500 psig (0 to 34.4 bar) control range.

② Not shown.

③ Regulators with control ranges higher than 0 to 100 psig (0 to 6.8 bar) are assembled with two diaphragms.