

High-Sensitivity Diaphragm-Sensing, Pressure-Reducing Regulators (KLF Series)

The KLF series provides high-sensitivity pressure control of gases or liquids with minimum droop in both low-flow and low-pressure applications.

Features

- Large-diameter convoluted, nonperforated diaphragm for increased pressure sensitivity
- Metal-to-metal diaphragm seal
- High-flow, dual-gauze type filter positively retained in inlet port

Technical Data

Maximum Inlet Pressure

- 3600 psig (248 bar)

Pressure Control Ranges

- 0 to 2.0 psig (0.13 bar) through 0 to 250 psig (17.2 bar)

Flow Coefficient (C_v)

- 0.02 and 0.06

See page 43 for flow graphs.

- 0.20 and 0.50 also available

Supply-Pressure Effect

Flow Coefficient (C _v)	Pressure Control Range	
	Up to 10 psig (0.68 bar)	25 psig (1.7 bar) and Higher
	Supply Pressure Effect, %	
0.02	0.1	0.2
0.06	0.4	0.6
0.20	0.7	0.9
0.50	1.0	1.4

Maximum Operating Temperature

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

Weight

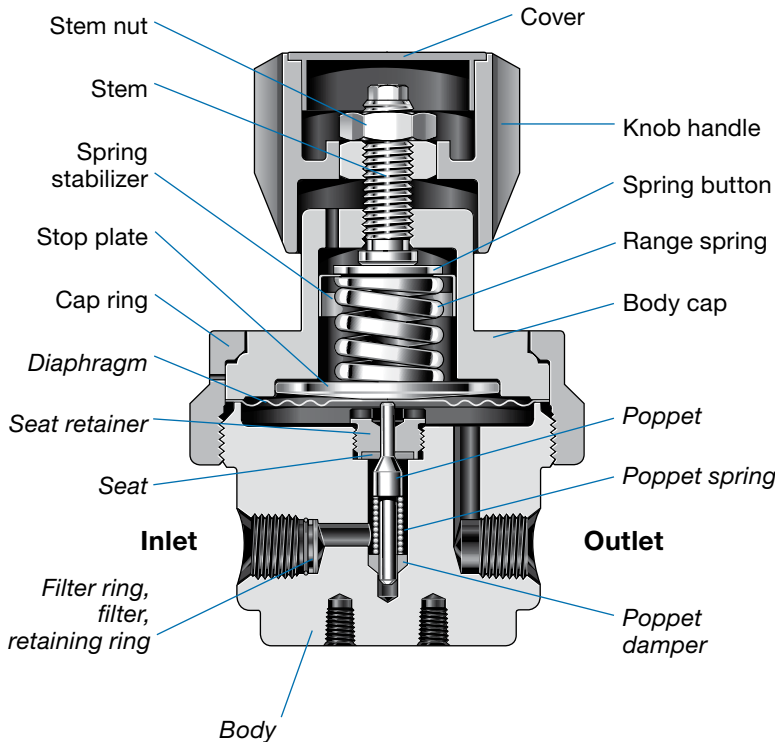
- 4.0 lb (1.8 kg)

Ports

- 1/4 in. female NPT inlet, outlet, and gauge ports



Materials of Construction



Component	Material
Knob handle, cover	Nylon with 316 SS insert
Spring button	Zinc-plated steel
Spring stabilizer ^①	301 SS
Range spring	316 SS or zinc-plated steel, depending on configuration
Stem, stem nut, cap ring, stop plate, body cap, panel nuts ^②	316 SS
Nonwetted lubricant	Hydrocarbon-based
<i>Body, seat retainer, filter, retaining ring</i>	316 SS
<i>Seat</i>	PCTFE or PEEK
<i>Diaphragm,^③ poppet spring</i>	Alloy X-750
<i>Poppet</i>	S17400 SS
<i>Poppet damper, filter ring</i>	PTFE
<i>Wetted lubricant</i>	PTFE-based

Wetted components listed in *italics*.

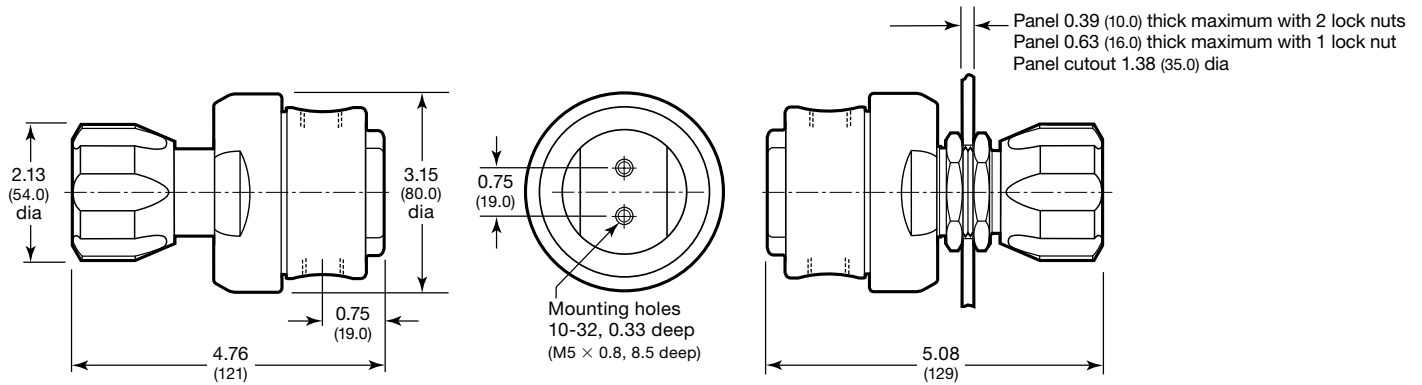
① Not required in all configurations.

② Not shown.

③ Regulators with control range 0 to 250 psig (0 to 17.2 bar) are assembled with two diaphragms.

Dimensions

Dimensions, in inches (millimeters), are for reference only and are subject to change.



Ordering Information

Build a KLF series regulator ordering number by combining the designators in the sequence shown below.

4 5 6 7 8 9 10 11 12 13 14 15 16
KLF 1 B C F 4 1 2 A 2 0 0 0 0

4 Body Material

- 1 = 316 SS
- A = 316 SS, ASTM G93 Level E-cleaned

5 Pressure Control Range

- B = 0 to 2.0 psig (0 to 0.13 bar)^①
- C = 0 to 10 psig (0 to 0.68 bar)
- D = 0 to 25 psig (0 to 1.7 bar)
- E = 0 to 50 psig (0 to 3.4 bar)
- F = 0 to 100 psig (0 to 6.8 bar)
- G = 0 to 250 psig (0 to 17.2 bar)

^① Available with 15 psig (1.0 bar) maximum inlet pressure only.

6 Maximum Inlet Pressure^①

- C = 15 psig (1.0 bar)^②
- F = 100 psig (6.8 bar)
- J = 500 psig (34.4 bar)
- L = 1000 psig (68.9 bar)
- P = 3000 psig (206 bar)^③
- R = 3600 psig (248 bar)^④

^① For better resolution and control, select a pressure that closely matches system pressure.

^② Available with 0 to 2.0 psig (0 to 0.13 bar) pressure control range only.

^③ Available for regulators assembled with CGA cylinder connection or inlet hose only.

^④ Not available for regulators assembled with CGA cylinder connection or inlet hose.

7 Port Configuration

- A, B, C, E, F, H, K, L, M, N
- See **Port Configurations**, page 52.

8 Ports

- 4 = 1/4 in. female NPT

9 Seat Material

- 1 = PCTFE
- 2 = PEEK

10 Flow Coefficient (C_v)

- 1 = 0.02
- 2 = 0.06
- 5 = 0.20
- 7 = 0.50

11 Sensing Mechanism, Vent

- A = Alloy X-750 diaphragm, no vent
- E = Alloy X-750 diaphragm, captured vent, no self vent

12 Handle, Mounting

- 2 = Knob
- 3 = 316 SS antitamper nut
- 6 = Knob, panel mount
- 7 = 316 SS antitamper nut, panel mount

For knob handle color options, see page 56.

13 Isolation and Relief Valves

- 0 = No valves
- For isolation and relief valve options, see page 54.

14 Cylinder Connections

- 0 = No connection
- For CGA cylinder connection options, see page 53.

15 Gauges

- 0 = No gauges
- For inlet and outlet gauge options, see page 54.

16 Options

- 0 = No options
- 3 = 3 ft, 1/4 in. FM series metal flexible hose, 1/4 in. female NPT inlet^①
- 4 = 3 ft, 1/4 in. TH series PTFE-lined, stainless steel braided hose, 1/4 in. female NPT inlet^①

For more information about hoses, see page 56.

^① Hoses are not available for ASTM G93 Level E-cleaned regulators.