CIRCOR ENERGY | GO Regulator

BP-3 Series
Adjustable Back Pressure Regulators

Introduction

The BP-3 Series is designed for either liquid or gas service in instrumentation systems. Similar in design to pressure reducing control regulators which regulate outlet pressures, back pressure regulators control the inlet pressure. The many features of this regulator, particularly its precise throttling action, make it ideal for this type of application. In low flow or closed systems, over-pressures often are released by pressure relief valves. This type of relief is on-off with no throttling control. In contrast to relief valves, the back pressure control regulator with its throttling action substantially improves system pressure regulation.

Typical Applications
- Analytical instrumentation
- Gas and liquid sampling
- Petrochemical industry
- Air compressors
- Research labs
- Pilot plants

Technical Data

CONSTRUCTION	316L stainless steel
ADJUSTABLE PRESSURE CONTROL RANGES	0–6, 0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750 & 0–1000 psig
OPERATING TEMPERATURE	−40° F to +500° F (−40° C to +260° C)
C_V COEFFICIENT	0.2
OPTIONAL VARIOUS ORIFICE SIZES	0.005, 0.025, 0.03, 0.04, 0.06, and 0.3

Features & Benefits
- Only 316L stainless steel and PTFE in flow stream
- Bubble tight shutoff
- Gas or liquid service

Options
- Wetted materials of construction Brass, MONEL®, HASTELLOY® C-276, Titanium
- Extra ports
- Panel mount (requires a 1⅜″ mounting hole)
- High purity connections
- Pressure gauges

pressure regulators

Adjustable Back Pressure Regulators

Maximum Temperature and Control Pressures

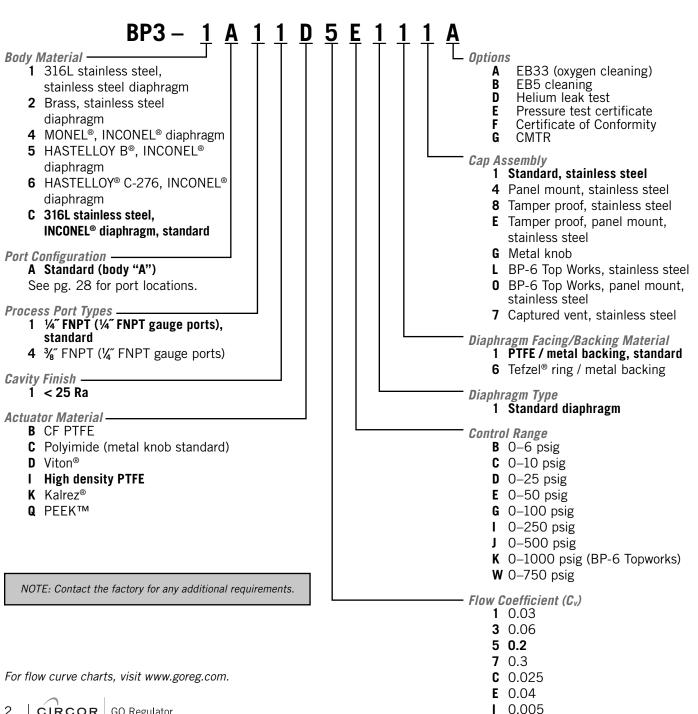| SEAT MATERIAL	MAXIMUM TEMPERATURE	@	MAXIMUM CONTROL RANGE
Viton®	250° F (121° C)	@	250 psig (1.71 MPa)
Kalrez®	300° F (148° C)	@	250 psig (1.72 MPa)
High Density PTFE	200° F (93° C)	@	500 psig (5.16 MPa)
Polyimide	500° F (260° C)	@	1000 psig (6.88 MPa)
PEEK™	500° F (260° C)	@	1000 psig (6.88 MPa)

Note: Temperatures in excess of 175° F (79° C) require the use of a metal knob or the tamper proof option.

How to Order
For additional configurations, consult the factory. **Standard items in bold.**

BP3 – 1 A 1 1 D 5 E 1 1 1 A

Body Material
- **1** 316L stainless steel, stainless steel diaphragm
- **2** Brass, stainless steel diaphragm
- **4** MONEL®, INCONEL® diaphragm
- **5** HASTELLOY B®, INCONEL® diaphragm
- **6** HASTELLOY® C-276, INCONEL® diaphragm
- **C** 316L stainless steel, INCONEL® diaphragm, standard

Port Configuration
- **A** Standard (body "A")
- See pg. 28 for port locations.

Process Port Types
- **1** ¼″ FNPT (¼″ FNPT gauge ports), standard
- **4** ⅜″ FNPT (¼″ FNPT gauge ports)

Cavity Finish
- **1** < 25 Ra

Actuator Material
- **B** CF PTFE
- **C** Polyimide (metal knob standard)
- **D** Viton®
- **I** High density PTFE
- **K** Kalrez®
- **Q** PEEK™

NOTE: Contact the factory for any additional requirements.

For flow curve charts, visit www.goreg.com.

Options
- **A** EB33 (oxygen cleaning)
- **B** EB5 cleaning
- **D** Helium leak test
- **E** Pressure test certificate
- **F** Certificate of Conformity
- **G** CMTR

Cap Assembly
- **1** Standard, stainless steel
- **4** Panel mount, stainless steel
- **8** Tamper proof, stainless steel
- **E** Tamper proof, panel mount, stainless steel
- **G** Metal knob
- **L** BP-6 Top Works, stainless steel
- **O** BP-6 Top Works, panel mount, stainless steel
- **7** Captured vent, stainless steel

Diaphragm Facing/Backing Material
- **1** PTFE / metal backing, standard
- **6** Tefzel® ring / metal backing

Diaphragm Type
- **1** Standard diaphragm

Control Range
- **B** 0–6 psig
- **C** 0–10 psig
- **D** 0–25 psig
- **E** 0–50 psig
- **G** 0–100 psig
- **I** 0–250 psig
- **J** 0–500 psig
- **K** 0–1000 psig (BP-6 Topworks)
- **W** 0–750 psig

Flow Coefficient (C_v)
- **1** 0.03
- **3** 0.06
- **5** 0.2
- **7** 0.3
- **C** 0.025
- **E** 0.04
- **I** 0.005