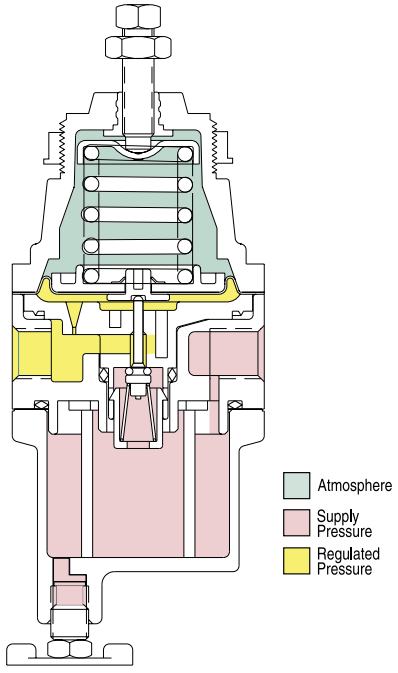
Type 51

Pressure Regulator Series

Features

- Excellent regulation, stability and repeatability
- Corrosion-resistant construction (no brass components, Type 51FR and Type 51AFR)
- NACE Constructed (Type 51FRCT Corrosive Tec)
- Low droop
- Small package size
- Panel, bracket or pipe mounting
- Fluorocarbon pintle seat (Type 51FR, Type 51AFR and Type 51FRCT)
- Automatic drain option (Type 51AFR)
- Meets ATEX Ⓔx II 2 G Dc T 6 (Non-electrical certification)



Description

The Bellofram Type 51 Precision Air Regulator series offers a high-performance regulator in a compact, low cost package. It operates in output pressure ranges up to 100 PSIG / 6.9 BAR (120 PSIG / 8.3 BAR in T-51FR Corrosive Tec), with a maximum supply pressure of 250 psi (17.3 BAR).

Materials of Construction for Standard Type 51 Series Regulators

Diecast aluminum for the body and dripwell; glass-reinforced thermoplastic polyester for the bonnet; acetal resin for the internals; BUNA-N for the diaphragm, gaskets and O-ring, fluorocarbon for the pintle seat, and aluminum for the drain valve (plated steel handle).

Materials of Construction for Corrosive Tec Type 51FRCT

Aluminum alloy bonnet, body, and filter bowl, 316 stainless steel internals, Inconel alloy range spring, nitrile diaphragm (fluorocarbon optional), 316 stainless steel valve assembly, and finished with an epoxy paint. All metallic parts for this unit conform to NACE material requirements #MR0175.

Materials of Construction for Wide Temperature Range 51FRWT

Aluminum alloy bonnet, body, and filter bowl, acetal resin, plated steel and aluminum internals. Nitrile diaphragm and finished with an vinyl paint.

From industry to industry, Marsh Bellofram's Type 51 Series of Regulators offer a low-cost, high performance option for a wide range of applications.

Type 51 Options

	• = option is available s = option is standard	Type 51FRWT	Type 51R	Type 51FR	Type 51AFR	Type 51FRCT
1	Fluorocarbon Pintle		•	s	s	s
2	Non-Relieving	•	•	•	•	•
3	Knob Sq. Head Adj. Screw	•	• s	• s	• s	 s
4	5 Micron Filter			•	•	•
5	Epoxy Finish	•	•	•	•	s
6	Tapped Vent Coalescing Filter	•			 •	s
7	Mounting Bracket	•	•	•	•	•
8	Pressure Gauge	•	•	•	•	•
9	Tamper Resistant Cover Panel Nut Mount	•	 s	 s	 s	•
10	Low Bleed					•
11	Fluorocarbon Diaphragm		•	•	•	•

These regulators are available standard (Type 51R) or as filter-regulators (Type 51FR and Type 51FRCT) and are even available with an automatic drain, for automated flushing out of contaminants (Type 51 AFR). These versatile regulators provide excellent regulation for a wide range of applications, including pneumatic instruments, controllers, chucks, and actuators. They can be through-panel mounted with the supplied mounting nut, bracket-mounted with the optional bracket or, due to their light weight, mounted by their ports. The Corrosive Tec is supplied with a tapped bonnet vent, to allow for the capture of exhaust air.

	Type 51R	Type 51FR Filter and Type 51AFR Auto Filter	Type 51FRCT Corrosive Tec	Type 51FRWT
Maximum Supply Pressure	250 PSIG (17.3 BAR)	250 PSIG (17.3 BAR)	250 PSIG (17.3 BAR)	250 PSIG (17.3 BAR)
Output Pressure Range	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-100 PSIG (0-6.9 BAR)	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-100 PSIG (0-6.9 BAR)	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-120 PSIG (0-8.3 BAR)	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-120 PSIG (0-8.3 BAR)
Supply Pressure Sensitivity @ 25 psig / 1.7 BAR change in supply	0.20 PSIG (0.01 BAR) output change	0.45 PSIG (0.03 BAR) output change	0.45 PSIG (0.03 BAR) output change	0.45 PSIG (0.03 BAR) output change
Sensitivity	1" (2.5 cm) of water	1" (2.5 cm) of water	1" (2.5 cm) of water	1" (2.5 cm) of water
Repeatability	0.1 PSIG (0.01 BAR)	0.1 PSIG (0.01 BAR)	0.1 PSIG (0.01 BAR)	0.1 PSIG (0.01 BAR)
Flow @ 100 psig (6.9 BAR) Supply 20 psig (1.4 BAR) outlet	15 SCFM (425 LPM)	20 SCFM (566 LPM)	20 SCFM (566 LPM)	20 SCFM (566 LPM)
Exhaust Capacity @ 5 psig (0.34 BAR) above setpoint	0.1 SCFM (2.8 LPM)	0.1 SCFM (2.8 LPM)	0.1 SCFM (2.8 LPM)	0.1 SCFM (2.8 LPM)
Temperature Range	-0 to 125˚F (-18 to 52˚C)	-0 to 125˚F (-18 to 52˚C)	0 to 180˚F (-18 to 82˚C)	-40 to 185˚F (-40 to 85˚C)
Air Consumption	6 SCFH (2.84 LPM) Maximum	6 SCFH (2.84 LPM) Maximum	6 SCFH (2.84 LPM) Maximum	6 SCFH (2.84 LPM) Maximum
Port Size	1/4 NPT	1/4 NPT	1/4 NPT	1/4 NPT
Materials of Construction	Aluminum, Plated Steel, Brass, Acetal Resin, Buna-N /Polyester, Music Wire	Aluminum, Plated Steel, Acetal Resin, Buna-N / Polyester, Music Wire, Fluorocarbon	Aluminum, Stainless Steel, Inconel, Buna-N / polyester, Fluorocarbon, acetal, polyphenylene sulfide	Aluminum, Plated Steel, Acetal Resin, Buna-N /Polyester, Music Wire

Type 51R, 51FR, 51AFR and 51FRCT Dimensional Drawings