

Type-51

General Purpose Regulators



Precision
Control
Devices

PRECISION CONTROL DEVICE

FEATURES

- Excellent regulation, stability and repeatability
- Corrosion-resistant construction (no brass components, T-51FR & T-51AFR)
- NACE Constructed (T-51FRCT Corrosive Tec)
- Low droop
- Low cost
- Small package size
- Panel, bracket or pipe mounting
- Fluorocarbon pintle seat (T-51FR, T-51AFR & T-51FRCT)
- Auto drain option (T-51AFR)

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 T-51 Series Regulators (Non-Corrosive Tec): Die-cast 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).

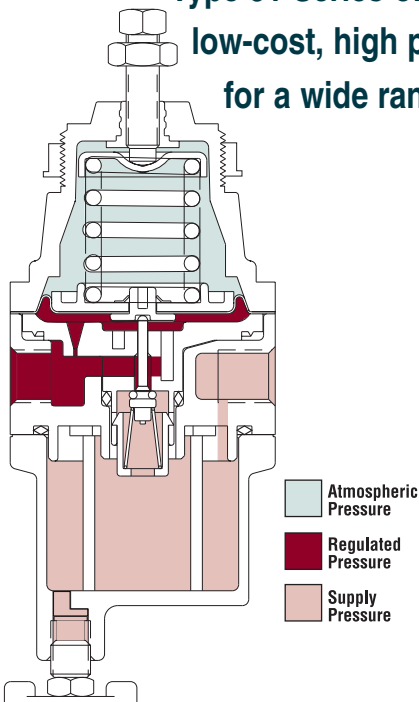
Materials of construction for Corrosive Tec T-51FRCT: Aluminum alloy bonnet, body, and filter bowl, 316 stainless steel internals, Inconel alloy range spring, nitrile diaphragm (fluorocarbon optional), 316 stainless steel valve assembly, and painted with an epoxy finish. All metallic parts for this unit conform to NACE material requirements #MR-01-75 Class III.

These regulators are available standard (T-51R) or as filter-regulators (T-51FR & T-51FRCT) and are even available with an automatic drain, for automated flushing out of contaminants, (T-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.



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.



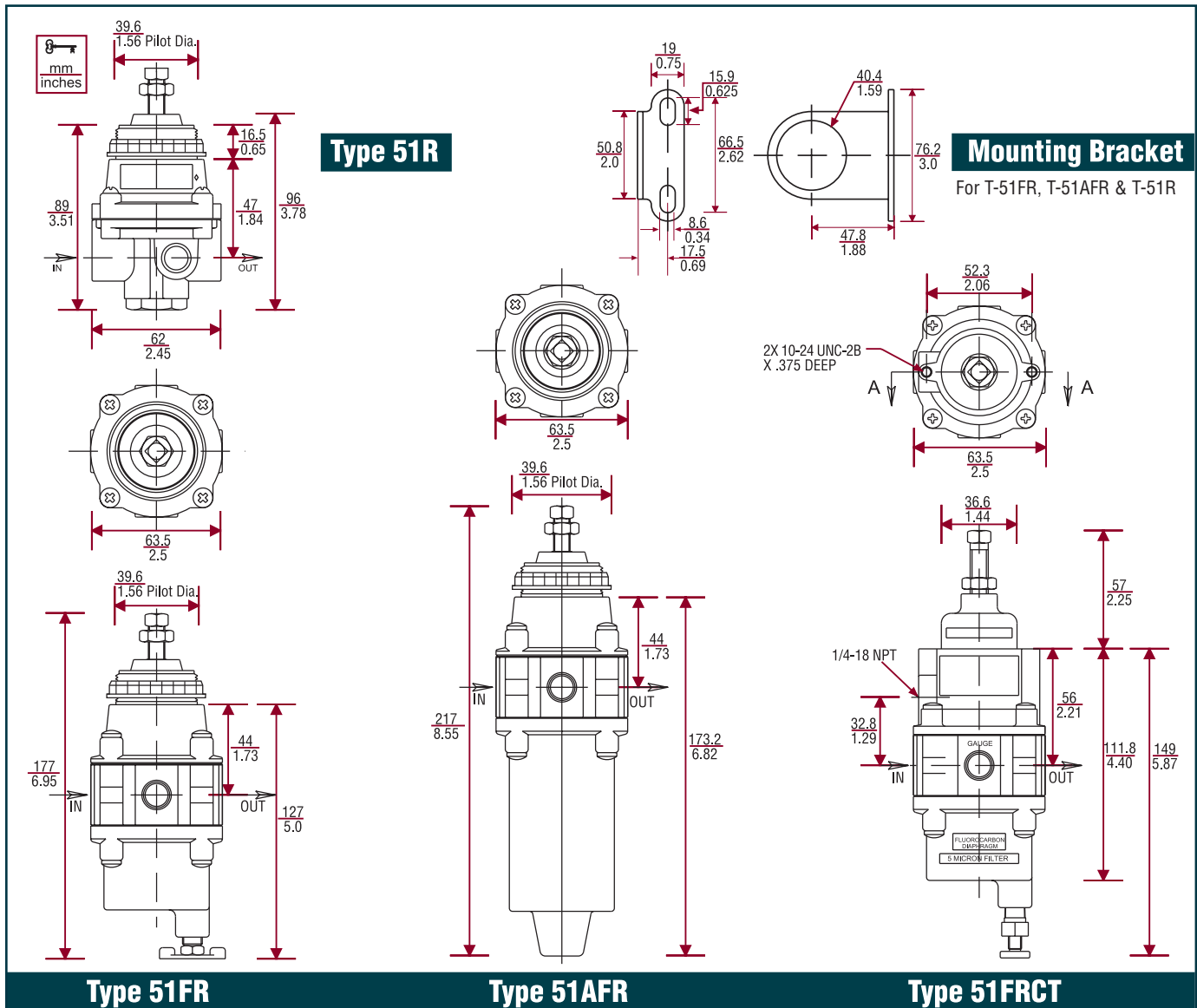
OPTIONS

• = option is available

s = option is standard

	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 Coating	•	•	•	s
6 Tapped Vent				s
Coalescing filter			•	
7 Mounting Bracket	•	•	•	•
8 Pressure Gauge	•	•	•	•
9 Tamper - Resistant Cover				•
Panel Nut Mount	s	s	s	
10 Soft Relief Seat				•
Low Bleed				•
11 Fluorocarbon Diaphragm	•	•	•	•

	TYPE 51R Regulator	TYPE 51FR Filter Regulator	TYPE 51AFR Auto Filter Regulator	TYPE 51FRCT Corrosive Tec
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) 0-100 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)
Supply Pressure Sensitivity @ 25 psig / 170 kPa 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 (0.4 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 Limits	0 to 125°F (-18 to 52°C)	0 to 125°F (-18 to 52°C)	0 to 125°F (-18 to 52°C)	0 to 180°F (-18 to 82°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, plated steel, acetal resin, Buna-N / polyester, music wire, Fluorocarbon	Aluminum, Stainless Steel, Inconel, Buna-N / polyester, Fluorocarbon, acetal, polyphenylene sulfide



PART NUMBERS:

	Part Number	Port Size (NPT)	Set Point Range	
			BAR	psig
T-50	960-062-000	1/4"	0-0.7	0-10
	960-067-000	1/4"	0-2.1	0-30
	960-068-000	1/4"	0-4.1	0-60
	960-069-000	1/4"	0-8.3	0-120
T-50 NACE	960-300-000	1/4"	0-2.1	0-30
	960-301-000	1/4"	0-4.1	0-60
	960-302-000	1/4"	0-8.3	0-120

OPTION ORDERING MATRIX:

Replace last three digits of part number with digits from table below.

OPTION	1	2	3	4	5	6	7	8	9	10	11
1 Fluorocarbon Pintle	001	021	031	041	051	061	071	081	091	101	111
2 Non-Relieving		002	032	042	052			082	092		112
3 Knob			003	043	053	063	073	083		103	113
4 5 Micron Filter				004	054	064	074	084	094	104	114
5 Epoxy Coating					005	065	075	085	095	105	115
6 Tapped Vent						006	076	086	096	106	116
7 Mounting Bracket							007	087	097	107	117
8 Pressure Gauge								008	098	108	118
9 Tamper-Proof Cover									009	109	119
10 Soft Relief Seat										010	110
11 Fluorocarbon Diaphragm											011

REGULATOR OPTIONS & ACCESSORIES:

FLUOROCARBON PINTLE

A special elastomeric pintle used where elements in the supply air, such as flame retardant synthetic lubricants, are particularly destructive to ordinary pintle material.

NON RELIEVING

Used in applications where it is desirable to relieve pressure downstream of the regulator, for some constant flow applications, and where the gas flowing through the regulator must not escape at the regulator. Non-relieving regulators should not be used for low or no flow applications.

KNOB

Option to replace the square head pressure adjusting screw.

5 MICRON FILTER

Replaces the 40 micron filter supplied with the standard Type 50 for more complete air filtration.

CORROSIVE RESISTANT EPOXY FINISH

An epoxy paint applied to the body and dripwell of the regulator exterior surfaces to provide increased corrosion resistance. (Standard with Type 50 NACE)

TAPPED VENT

Allows installation of plumbing to capture exhaust air. (Standard with Type 50 NACE)

MOUNTING BRACKET

T-50: Steel (dichromate finish) bracket for side mounting.

T-50 NACE: Stainless Steel bracket for side mounting.

PRESSURE GAUGE

T-50: Dual scale 2 in. (50.8 mm) gauges. Ranges include 0-30 psig (0-200 kPa), 0-60 psig (0-400 kPa), 0-100 psig (0-700 kPa) and 0-160 psig (0-1100 kPa).

T-50 NACE: A dual scale, 0-60 psig (0-400 kPa) or 0-200 psig (0-1400 kPa) 2.47" diameter (63mm) stainless steel pressure gauge is available and must be ordered separately, p/n 625-000-016 (0-60 psig) and p/n 625-000-018 (0-200 psig).

NOTE: Although the case is stainless steel, the internal components are not made of NACE qualified materials.

When specified with regulator, the correct range will be supplied.

TAMPER PROOF COVER

An aluminum tubular cover placed over a slotted head adjusting screw and screwed onto the bonnet of the regulator with a wrench. Prevents ordinary hand adjustments. Supplied with an o-ring that is designed to seal the adjusting screw threads in capture bleed applications.

SOFT RELIEF SEAT

Used in applications where it is desirable to reduce the standard bleed rate from 6 SCFH [0.17 m3/hr] to less than 0.1 SCFH [0.003 m3/hr]. (Not available with Type 50 NACE)

FLUOROCARBON DIAPHRAGM

Diaphragm as well as all seals are made of fluorocarbon elastomer to prevent deterioration from elements in the air supply, such as flame retardant synthetic lubricants normally destructive to standard Buna-N material.

To order BSPT add "BSPT" to end of part number.

IMPORTANT NOTICE: Our recommendations, if any, for the use of this product are based on tests believed to be reliable. The greatest care is exercised in the selection of our raw materials and in our manufacturing, no guarantee or warranty, express or implied, is made as to such use or effects incidental to such use, handling or possession or the results to be obtained, whether in accordance with the directions or claimed so to be. The manufacturing expressly disclaims responsibility therefor. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing laws and/or patents covering any material use.