

Type 51 Stainless Steel

Pressure Regulator Series

Features

- Ideal for sour gas and corrosive applications or environments
- Excellent stability and repeatability
- Low droop
- Tapped vent for exhaust gas capture
- Built-in filter assemblies and dripwells
- Manual or automatic drain options
- Filter only assemblies available
- Panel, bracket or pipe mounting

Description

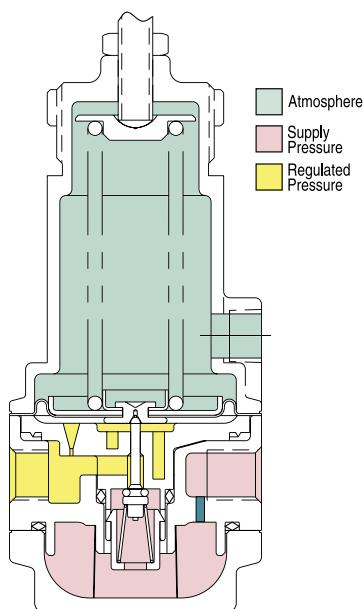
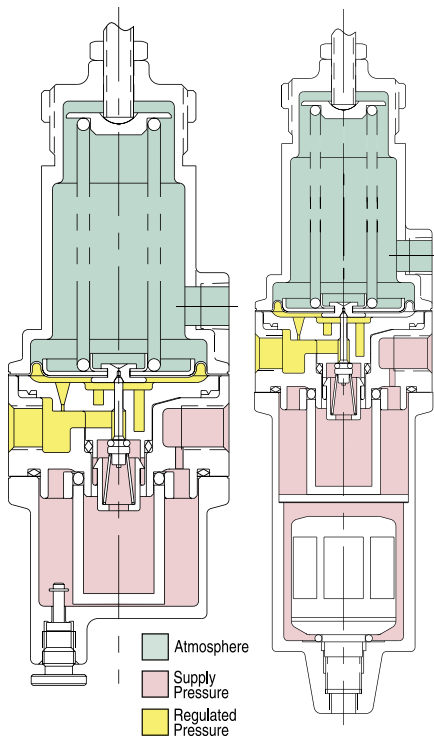
The Type 51SS regulator product line is designed for service with a wide variety of corrosive gases and environments. Special construction features include 316 stainless steel for the housing and filter assemblies, with fluorocarbon elastomers used for the control diaphragm and the supply valve.

These corrosion resistant materials are compatible with sour gas and for use in off-shore environments. Typical applications include petrochemical processing, chemical plants, food processing and paper/pulp mills.

This ruggedly built regulator operates in pressure ranges up to 150 PSIG (10.3 BAR). The Type 51SSFR and Type 51SSAR Regulators and the Type 51SSF and Type 51SSAF filter assemblies have built-in dripwells which trap water, oil and other contaminants. The contaminants are easily flushed out of the dripwell via a convenient manual or automatic drain valve. The 40-48 Micron Filter is constructed of sintered 316 stainless steel, and is easily removed.

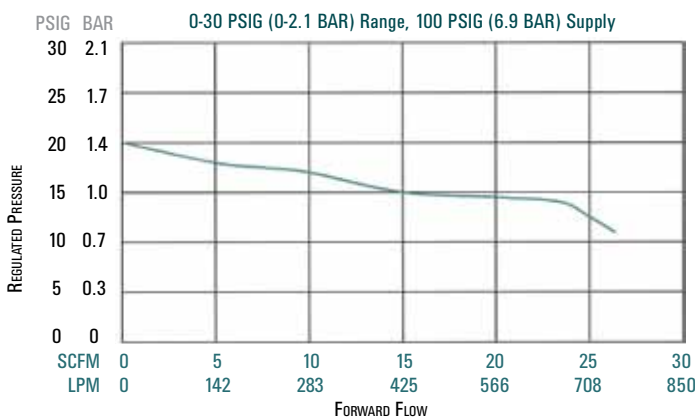
The Type 51SS products can be through-panel mounted with the mounting nut supplied (regulators only), bracket-mounted using the optional bracket (regulators only), or pipe mounted by its ports (regulators and filters).

The regulators and filter assemblies comply with NACE material requirement #MR-01-75 for sulfide stress cracking resistant metallic material for oil field equipment.



Once set to a desired pressure, the Marsh Bellofram Type 51 Stainless Steel Regulators maintain their settings permanently. The integral convoluted diaphragm provides constant adjustment to downstream pressure drop, downstream pressure increase and changes in forward flow.

Type 51SS: Regulated Pressure VS. Flow

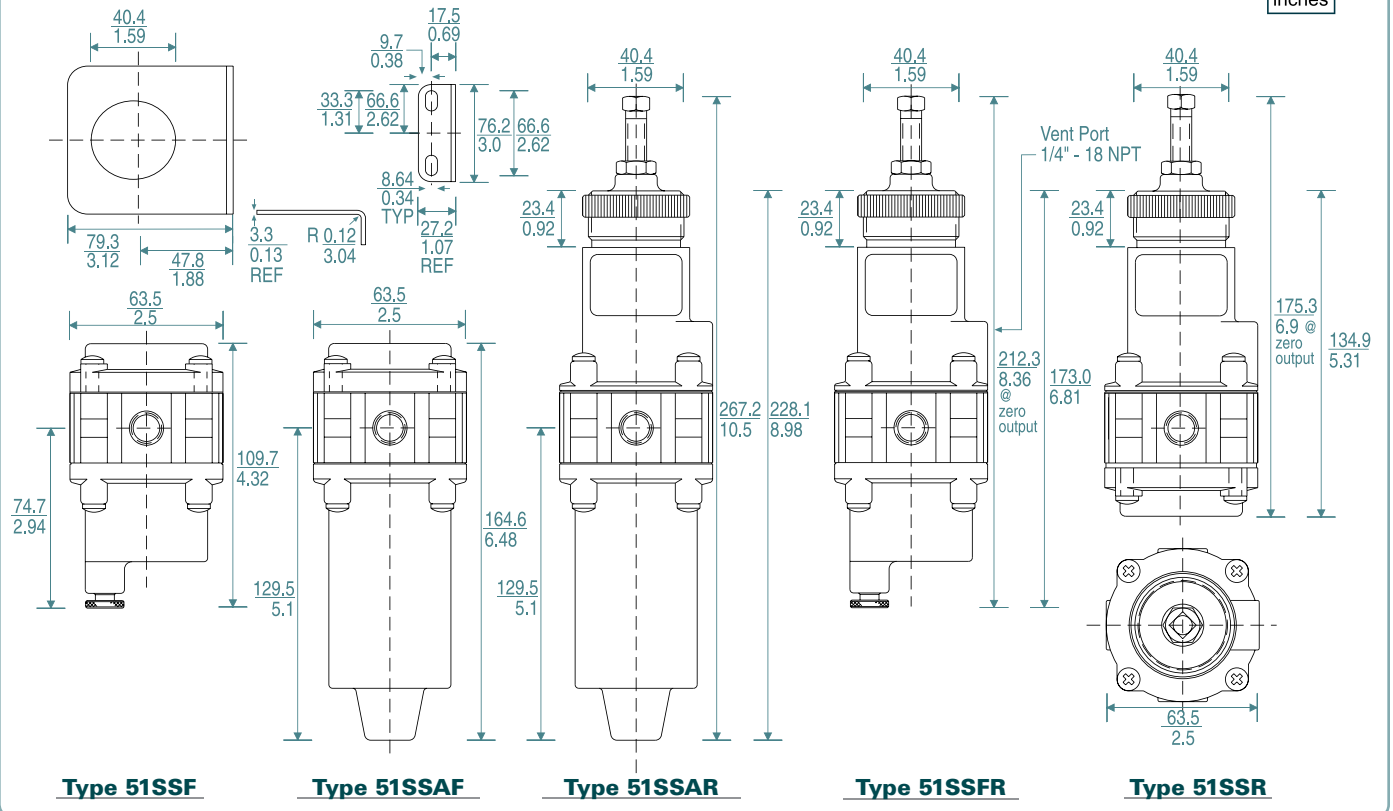


	Type 51SSR	Type 51SSFR	Type 51SSAR Auto Filter	Type 51SSF	Type 51SSAF
Filter	n/a	Built in 40 micron filter with manual drain	Built in 40 micron filter with auto-drain	40 micron filter	40 micron filter
Maximum Supply Pressure	250 PSIG (17.3 BAR)	250 PSIG (17.3 BAR)	250 psig (17.3 BAR)	250 PSIG (17.3 BAR)	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) 2-150 PSIG (0.1-10.3 BAR)	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-100 PSIG (0-6.9 BAR) 2-150 PSIG (0.1-10.3 BAR)	0-30 PSIG (0-2.1 BAR) 0-60 PSIG (0-4.1 BAR) 0-100 PSIG (0-6.9 BAR) 2-150 PSIG (0.1-10.3 BAR)	N/A	N/A
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	N/A	N/A
Sensitivity	1" (2.5 cm) of water	1" (2.5 cm) of water	01" (2.5 cm) of water	N/A	N/A
Repeatability	0.1 PSIG (0.01 BAR)	0.1 PSIG (0.01 BAR)	0.1 PSIG (0.01 BAR)	N/A	N/A
Flow @ 100 psig (6.9 BAR) Supply 20 psig (1.4 BAR) outlet	20 SCFM (566 LPM)	20 SCFM (566 LPM)	20 SCFM (566 LPM)	N/A	N/A
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)	N/A	N/A
Temperature Range	-0 to 180 °F (-18 to 82 °C)	-0 to 180 °F (-18 to 82 °C)	0 to 180 °F (-18 to 82 °C)	0 to 180 °F (-18 to 82 °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	N/A	N/A
Port Size	1/4 NPT or 3/8 NPT	1/4 NPT or 3/8 NPT	1/4 NPT or 3/8 NPT	1/4 NPT or 3/8 NPT	1/4 NPT or 3/8 NPT
Materials of Construction	316 Stainless Steel housing and screen fluorocarbon elastomers	316 Stainless Steel housing and filter assemblies fluorocarbon elastomers	316 Stainless Steel housing and filter assemblies fluorocarbon elastomers	316 Stainless Steel housing and filter assemblies fluorocarbon elastomers	316 Stainless Steel housing and filter assemblies fluorocarbon elastomers

Dimensional Drawings

Mounting Bracket

607-000-128



Type 51SS Ordering Information

	Part Number	Set Point Range	
		BAR	psig
51SSR	960-245-000	0-2.1	0-30
	960-246-000	0-4.1	0-60
	960-247-000	0-6.9	0-100
	960-248-000	0.1-10.3	2-150
51SSFR	960-242-000	0-2.1	0-30
	960-243-000	0-4.1	0-60
	960-244-000	0-6.9	0-100
	960-241-000	0.1-10.3	2-150
51SSAR	960-249-000	0-2.1	0-30
	960-250-000	0-4.1	0-60
	960-251-000	0-6.9	0-100
	960-252-000	0.1-10.3	2-150
51SSF	960-253-000	-	-
51SSAF	960-254-000	-	-

Type 51SS Option Ordering Matrix

Replace last three digits of part number with digits from table below.										
Option	1	2	3	4	7	8	9	10	11	
2 Non-Relieving		002	032	042	072	082	092			112
3 Socket Head Build Screw			003	043	073	083	093	103		113
4 5 Micron Filter				004	074	084	094	104		114
7 Mounting Bracket					007	087	097	107		117
8 Pressure Gauge						008	098	108		118
9 Tamper-Resistant Cover							009	109		119
10 Low Bleed								010		110
11 3/8 NPT Port										011

Options

• = option is available		T-51SSR	T-51SSFR	T-51SSAR	T-51SSF	T-51SSF
2	Non-Relieving	•	•	•		
3	Socket Head Build Screw	•	•	•	•	•
4	5 Micron Filter		•	•	•	•
7	Mounting Bracket	•	•	•		
8	Pressure Gauge	•	•	•	•	•
9	Tamper Resistant Cover	•	•	•		
10	Low Bleed	•	•	•		
11	3/8" Port	•	•	•	•	•



Regulator Options and Accessories

Non-Relieving

Used in applications where it is desirable to relieve pressure downstream and not at the regulator. Non-relieving regulators should not be used for low or no flow applications.

Socket Head Build Screw

Socket head build screws are provided in place of phillips drive screws.

5 Micron Filter

Replaces the 40 micron filter for more complete air filtration. (Except Type 51SSR)
P/N 836-000-002

Mounting Bracket

316 Stainless Steel bracket for side mounting.
P/N 607-000-128

Pressure Gauge

Dual scale (PSI / kPa) 2-1/2" (63mm) gauges. Ranges include 0-60 PSI (0-410 kPa), 0-100 PSI (0-690 kPa) and 0-200 PSI (0-1400 kPa). When specified with regulator, the correct range will be supplied.

Tamper Resistant Cover

A 316 stainless steel hexagonal cover placed over the adjusting screw and threaded onto the bonnet of the regulator with a wrench, prevents ordinary hand adjustments.

Low Bleed Diaphragm (Soft Relief Seat)

Used in applications where it is desirable to minimize the standard bleed rate of the regulator while maintaining the ability to relieve excess pressure at the regulator. (Bleed rate is reduced from less than 6 SCFH (2.8 LPM) to less than 0.1 SCFH (0.05 LPM)).