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Model 5100

Installation, Operation and Maintenance Instructions

1.0 GENERAL

1.1 Model Number Information

Sample Model Number: 5100 – 5 S S 9 – R A B – 35

BODY SIZE	CODE							
1" MNPT x ½" FNPT	5							
1" MNPT x 1" FNPT	1							
2" MNPT x 1" FNPT	2							
BODY CONNECTION	CODE							
Screwed	S							
WETTED MATERIALS	CODE							
Standard	S							
NACE	N							
VALVE RATING	CODE							
2220 psig (153 Bar)	9							
ACTUATOR STYLE	CODE							
Reverse (Fail Close)	R							
BODY STYLE	CODE							
Angle	A							
SEALS	CODE							
Buna-N	B							
Viton	V							
ACTUATOR SIZE	CODE							
35 Sq.In. (9.5" Dia.)	35							

1.2 Specifications

Process Connections

1" MNPT x ½" FNPT
 1" MNPT x 1" FNPT
 2" MNPT x 1" FNPT

Body Style

"Freezeless" Angle

Maximum Operating Pressure

2220 psig (153 bar)

Operating Temperature

-20° to 180°F (-29° to 82°C)

Air Supply Connection

¼" FNPT

Action

Reverse (Fail Close)

Actuator Effective Area

35 Sq. In.

Maximum Supply Pressure

50 psig (3.5 bar)

Materials of Construction

Body: 1018 Carbon Steel
 Plug & Seat: 302 SST
 Valve Stem: 303 SST
 316 SST (optional)
 Seals: Buna-N
 Viton (optional)
 Actuator Housing: Steel

Trim Characteristic

Quick Opening (On/Off)

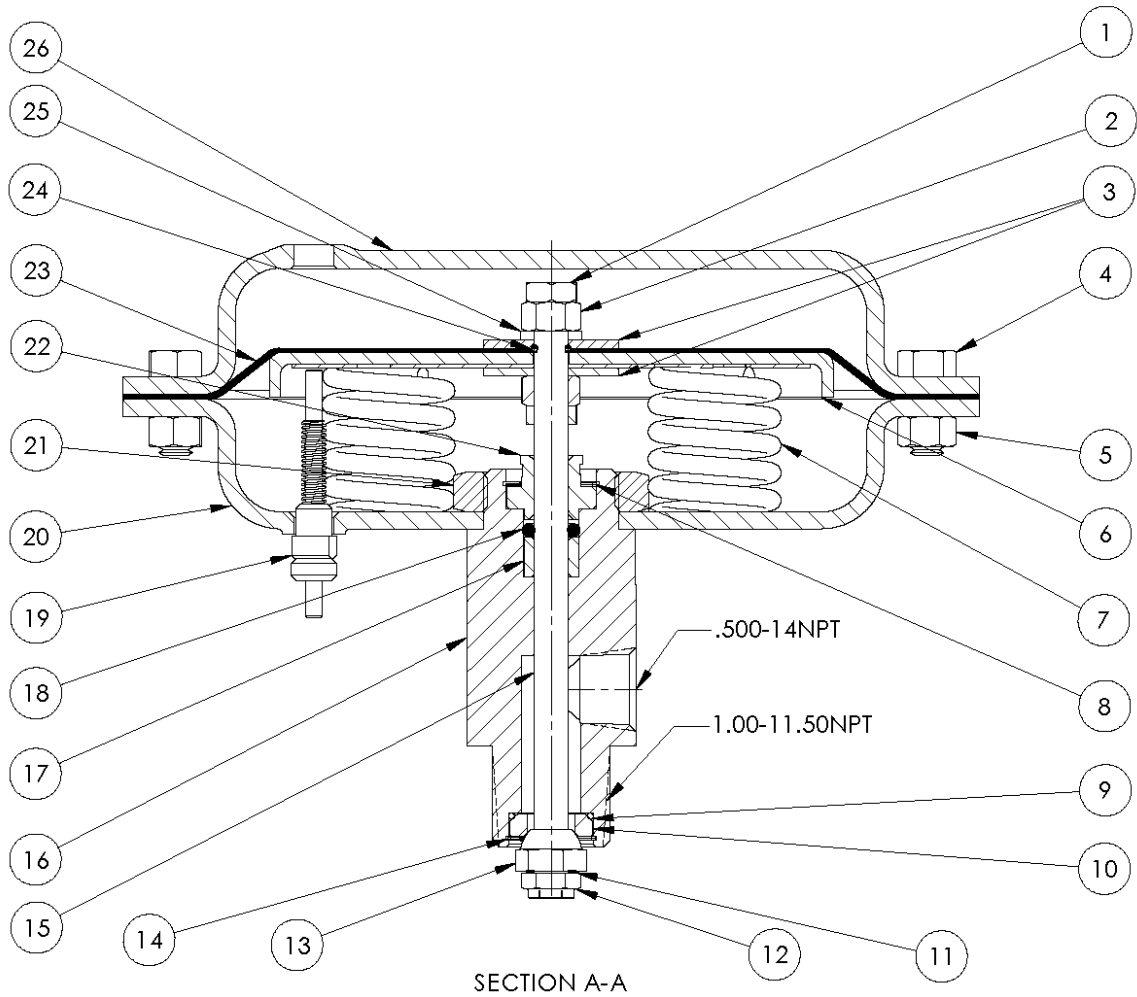
Port Diameter / Flow Coefficient (C_v)

0.38" 4.8 C_v

Estimated Weight

1" MNPT x ½" FNPT: 13.5 lbs (6.6 Kg)
 1" MNPT x 1" FNPT: 14.5 lbs (6.6 Kg)
 2" MNPT x 1" FNPT: 14.5 lbs (6.6 Kg)

1.3 Parts List



Model 5100

Installation, Operation and Maintenance Instructions

ITEM	DESCRIPTION	QTY	PART NO.	MATERIAL
1	HEX JAM NUT	2	51259	CS
2	HEX NUT	2	51360	CS
3	WASHER	2	51820	CS
4	HEX CAP SCREW	12	51314	CS
5	HEX NUT	12	51316	CS
6	DIAPHRAGM PLATE	1	51284	CS
7	SPRING ASSEMBLY	1	51812	CS
8	RETAINING RING - SPIRAL	1	51815	CS
* 9	SEAT O-RING	1	51816	BUNA
			51817	‡ VITON
10	VALVE SEAT, .38	1	51810	SST
	VALVE SEAT, .50		51811	
	VALVE SEAT, .38		51856	‡ KYNAR
	VALVE SEAT, .50		51857	
11	TRIM GASKET	1	51828	FIBER
12	HEX LOCK NUT	1	51822	CS/NYL
13	VALVE PLUG	1	51808	SST
14	RETAINING RING - SPIRAL	1	51814	SST
15	STEM	1	51187	SST
			51188	‡ SST
16	VALVE BODY, .50FNPT X 1.00MNPT	1	51800	CS
	VALVE BODY, 1.00FNPT X 1.00MNPT		51801	
	VALVE BODY, 1.00FNPT X 2.00MNPT		51803	
17	WIPER BUSHING	1	51806	TFE
* 18	STEM O-RING	1	51818	BUNA
			51819	‡ VITON
19	POSITION INDICATOR	1	51317	SST/DELTRIN
20	DIAPHRAGM HOUSING, LOWER	1	51826	CS
21	HEX LOCK NUT	1	51802	CS
22	O-RING RETAINER	1	51804	KYNAR
* 23	DIAPHRAGM	1	51276	BUNA
* 24	DIAPHRAGM O-RING	1	51310	BUNA
			51312	‡ VITON
25	LOCK WASHER	1	51322	CS
26	DIAPHRAGM HOUSING, UPPER	1	51824	CS

* RECOMMENDED SPARE PARTS

‡ MEETS NACE MR-01-75 SPECIFICATIONS

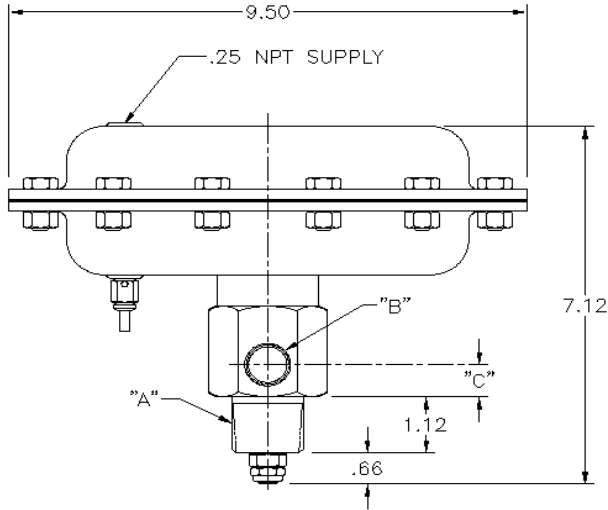
VALVE REPAIR KIT

DESCRIPTION	PART NO.
BUNA SEALS	80001
VITON SEALS	80002

TRIM REPAIR KIT

DESCRIPTION	PART NO.
0.38 QO SST/BUNA	85032
0.50 QO SST/BUNA	85098
0.38 QO SST/VITON	85033
0.50 QO SST/VITON	85099

1.4 Dimensions



BODY SIZE CODE	"A"	"B"	"C"
1	1.00 MNPT	1.00 FNPT	0.75"
2	2.00 MNPT	1.00 FNPT	0.75"
5	1.00 MNPT	0.50 FNPT	0.63"

Model 5100

Installation, Operation and Maintenance Instructions

2.0 INSTALLATION

1. Prior to valve installation, inspect the unit for damages which might have occurred during shipment and handling. Remove any items covering the process connections of the valve. Inspect the inlet and outlet connections to assure that no debris has become lodged inside the valve.
2. Install valve using good piping practices.

WARNING: Working pressure of control valve body does not necessarily reflect the shut-off pressure of which the actuator is capable. Check actuator shut-off charts or call the factory.

3. Connect instrument air to the actuator.

3.0 MAINTENANCE

WARNING: System pressure must be bled off to 0 psig prior to any maintenance involving disassembly of the valve or valve actuator.

3.1 Preventive Maintenance

1. Seat and Valve Plug
Normal Service: Check for wear or damage every six months
Severe Service: Check for wear or damage every sixty days
2. Valve Stem O-Ring
Inspect once a year
3. Actuator Diaphragm
Inspect once a year
4. Body
Check for wear or damage every time the actuator is removed.

3.2 Troubleshooting

Problem	Possible Cause	Fix
Valve leaks when closed	Debris between the plug and seat preventing tight shut-off.	Remove debris.
	Plug and seat are worn out.	Replace trim.
Valve will not open	Pressure drop across valve seat is too great.	Increase actuating air pressure to 35 psig. If this does not solve the problem, then the orifice is too large. Consult pressure drop table or contact factory.
Supply air leaking out of diaphragm housing breather plug during operation	Diaphragm is worn out or torn. Diaphragm plates have worked loose and need to be tightened.	Remove pressure and disassemble. Tighten If diaphragm is damaged, replace. If nuts that hold diaphragm plates are loose, tighten.