

The Model 5300 3-Way Control Valve is designed to withstand the severe service applications common to the oil and gas industry. It can be installed in converging (blender) or diverging (diverter) flow configurations. The ease of maintenance and rugged steel construction make the Model 5300 a perfect choice for a wide variety of 3-way valve applications.

### Features:

- **Variety of End Connections** – The Model 5300 is available with female NPT threaded connections, or flanged connections from ANSI 150 to ANSI 1500. ANSI ratings above class 600 are available in either raised-face (RF) or ring joint (RTJ) style flange facing.
- **Simple Maintenance** – Valve trim or the complete actuator assembly can be quickly changed by simply removing the hammer nut and lifting the actuator assembly off the valve body. Disassembly of the actuator or removing the valve from the line is not required. No special tools are required.
- **SST Trim** – Valve trim is available in solid 316 SST or 316 SST with TFE plug inserts for positive shut-off.
- **Actuation** – Comes complete with a spring opposed diaphragm actuator which can be set up to fail to the lower port or fail to the upper port.



## SPECIFICATIONS

### Body Styles

1" and 2"

### End Connections / Pressure Ratings

FNPT:

4000 psig from -20 to 200°F (276 bar from -29 to 93°C)

Flanged<sup>1</sup>:

- 150# RF 275 psig ( 19 bar)
- 300# RF 740 psig ( 51 bar)
- 600# RF 1480 psig (102 bar)
- 600# RTJ 1480 psig (102 bar)
- 900# RF 2220 psig (152 bar)
- 900# RTJ 2220 psig (152 bar)
- 1500# RF 3750 psig (259 bar)
- 1500# RTJ 3750 psig (259 bar)

### Available Trim Sizes

1" Valve:

- 1" Full Port
- 3/4" x 3/8" Blow Case

2" Valve:

- 1 1/2" Reduced Port
- 2" Full Port

### Flow Characteristic

Quick Opening (On/Off)

### Flow Coefficients

Body Size	Trim Size	Flow Direction	C <sub>v</sub>
1"	1"	C-U	9.0
		C-L	12.5
	3/4" x 3/8"	C-U	7.7
		C-L	3.2
2"	1 1/2"	C-U	38.0
		C-L	51.0
	2"	C-U	46.0
		C-L	66.0

1. Pressure ratings at 100°F (38°C).

2. Pressure drop values shown are based on 30 psig supply pressure to actuator.

### Actuator Size (Diaphragm Effective Area)

Size 35 (35 in<sup>2</sup>)

Size 70 (70 in<sup>2</sup>)

### Actuator Housing Maximum Pressure

Size 35: 50 psig

Size 70: 35 psig

### Maximum Allowable Shutoff Pressure Drops<sup>2</sup>

Body Size	Trim Size	Actuator	Maximum Pressure Drop, psid	
			Diverting	Blending
1"	1"	Size 35	800	400
	3/4" x 3/8"		1300	1300
	1"		1000	800
2"	1 1/2"	Size 70	600	190
	2"		400	90

### Assembled Valve Temperature Limits

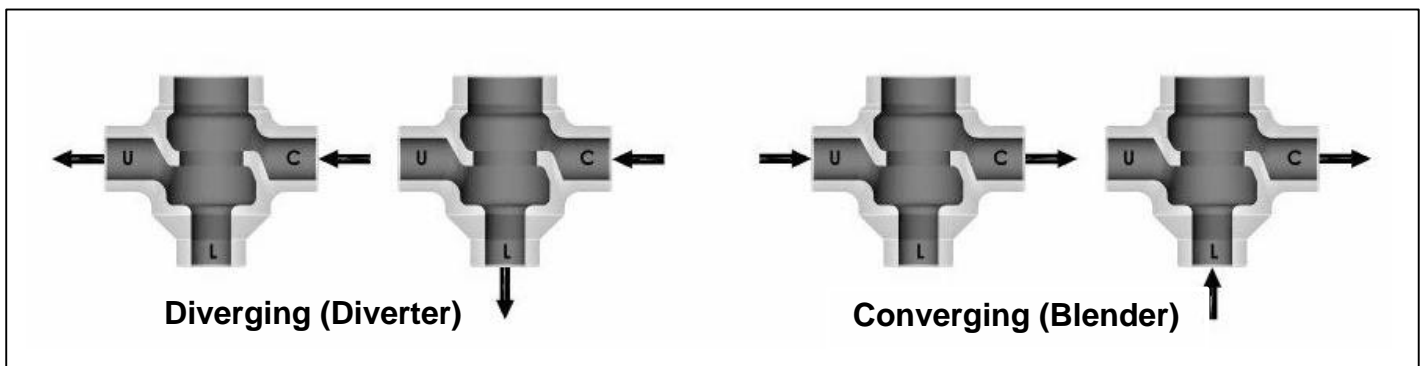
WCC body with Buna-N seals: -20 to 180°F (-29 to 82°C)

WCC body with Viton seals: -20 to 200°F (-29 to 93°C)

### Materials of Construction

Valve Body:	WCC Carbon Steel
Bonnet:	WCC Carbon Steel
Hammer Nut:	WCC Carbon Steel
Seat / Cage:	316 SST
Plug:	Solid 316 SST or 316 SST with TFE soft-seat insert
Valve Stem:	303 SST
Packing:	PTFE V-Ring
Seals:	Buna-N or Viton
Actuator Housing:	Steel
Diaphragm:	Nylon-reinforced Nitrile
Actuator Spring:	Steel

## Flow Configurations



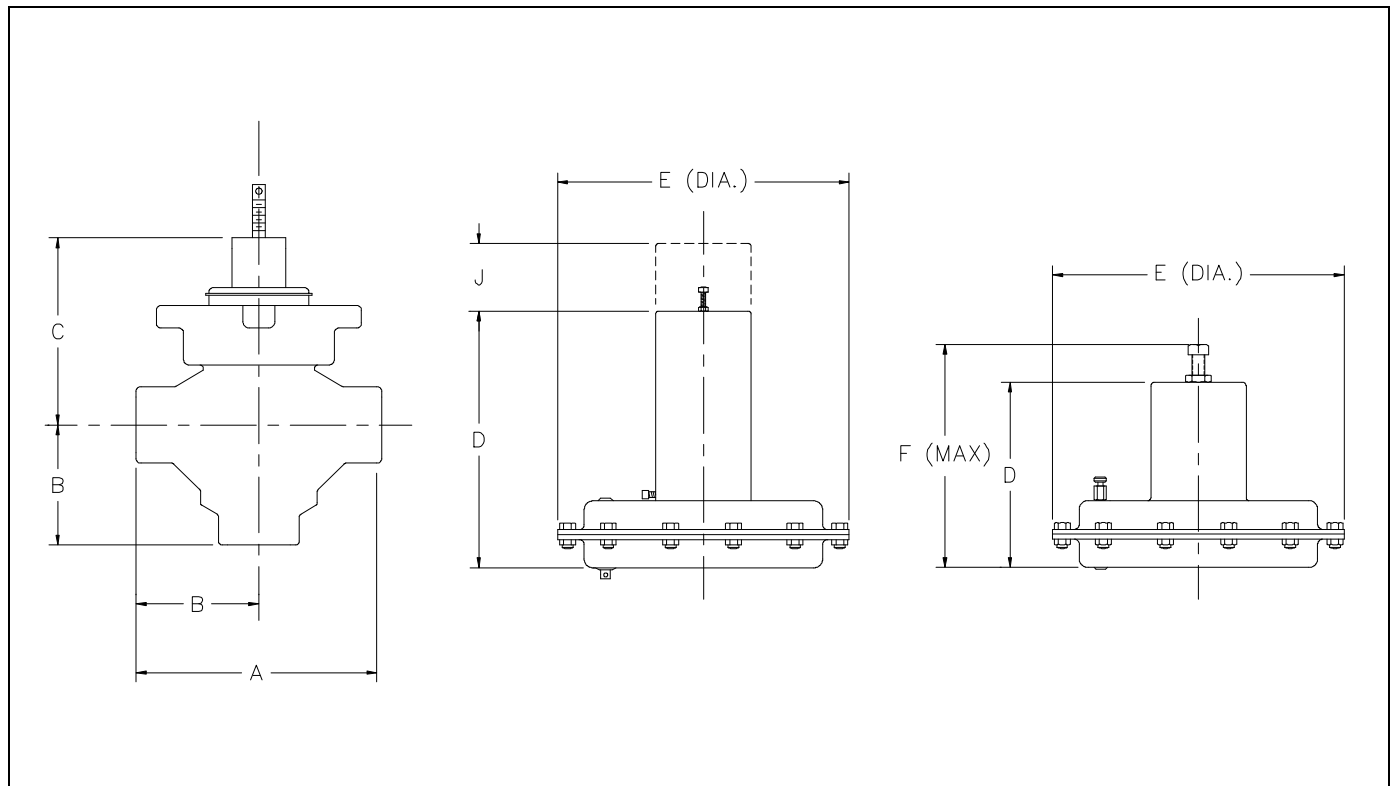
**Valve Assembly Dimensions (Inches)**

End Connection Style	1" Valve Body			2" Valve Body		
	A	B	C	A	B	C
NPT	6.25	3.12	4.62	10.50	5.25	7.00
150# RF	7.25	3.62	4.62	13.00	6.50	7.00
300# RF	7.75	3.88	4.62	13.00	6.50	7.00
600# RF	8.25	4.12	4.62	15.50	7.75	7.00
600# RTJ	8.25	4.12	4.62	15.62	7.81	7.00
900# RF	9.38	4.69	4.62	15.50	7.75	7.00
900# RTJ	9.38	4.69	4.62	15.62	7.81	7.00
1500# RF	9.38	4.69	4.62	15.50	7.75	7.00
1500 RTJ	9.38	4.69	4.62	15.62	7.81	7.00

**Actuator Assembly Dimensions (Inches)**

Actuator Size	Direct			Reverse		
	D	E	J <sup>1</sup>	D	E	F
Size 35	11.25	9.50	5.50	9.25	9.50	11.25
Size 70	13.75	12.50	7.00	11.50	12.50	13.50

1. Clearance required for spring cover removal.



## Model Number Information

Sample Model Number: 5300 - 2 S 5 - W 70 R B - 3 A Q

<b>BODY SIZE</b>	<b>CODE</b>
1"	1
2"	2
<b>END CONNECTIONS</b>	<b>CODE</b>
Female NPT	S
Raised Face (RF) Flange	F
Ring Type Joint (RTJ) Flange	J
Other	(special)
<b>ANSI CLASS (PRESSURE RATING)</b>	<b>CODE</b>
150 ( 275 psig @ 100°F)	1
300 ( 740 psig @ 100°F)	3
600 (1480 psig @ 100°F)	6
900 (2220 psig @ 100°F)	9
1500 (3750 psig @ 100°F)	5
FNPT Ends (4000 psig @ 200°F)	
<b>MATERIALS OF CONSTRUCTION</b>	<b>CODE</b>
WCC Steel – Standard Service	-
WCC Steel – NACE MR-01-75	N
<b>BODY STYLE</b>	<b>CODE</b>
3-Way	W
<b>ACTUATOR SELECTION</b>	<b>CODE</b>
Size 35	35
Size 70	70
<b>ACTUATOR TYPE</b>	<b>CODE</b>
Direct Acting (fails to lower port)	D
Reverse Acting (fails to upper port)	R
<b>SEAL MATERIAL</b>	<b>CODE</b>
Buna-N	B
Viton	V
<b>TRIM MATERIAL</b>	<b>CODE</b>
Solid 316 SST	3
316 SST with TFE Soft-Seat Insert	8
<b>TRIM SIZE</b>	<b>CODE</b>
Full Port	A
Reduced Port	B
3/4" x 3/8" Blow Case Trim (1" Valve only)	C
<b>TRIM CHARACTERISTIC</b>	<b>CODE</b>
Quick Opening (On/Off)	Q

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