

Low Pressure, Full Port Dump Valves

CV40 & CV41 Series

The CV40 control valve is a low pressure, full port dump valve. It features balanced plug control trim with a quick opening characteristic and adjustable top-works. The full port allows for high flow rates, and its standard soft-seat design gives a consistent leak-free shutoff when the valve closes.

The CV41 offers the same great features but with an open-yoke design.

Both the valves can be ordered with a metal-to-metal seat. The metal seat version comprises an unbalanced, hex-shaped plug to avoid sand buildup between the plug and cage.

The CV40 and CV41 can be used for discharging liquid or gas from separators, treaters, knockouts or other vessels. They can also be used for back pressure regulation when paired with a PC48 pressure controller, making it an economical choice for a variety of low pressure applications.

Specifications

Sizes: 2", 3" and 4"

Connections: Female NPT, flanged

Body Type: Globe, angle

Soft Seat Trim:

Trim Characteristic: Quick open

Trim Size: Full port and reduced port (1 size down)

Trim Type: Balanced

Metal Seat Trim:

Trim Characteristic: Modified percent

Trim Size:

2" Body Size: 1.00", 1.75"

3" Body Size: 2.75"

4" Body Size: 3.75"

Trim Type: Unbalanced

Pressure Rating:

2" NPT: 500 psi

2" Flanged: 250 psi

3" & 4" Flanged & NPT: 250 psi

Temperature Range: -20° F to 400° F (-28° C to 204° C)

Actuator Sizes: #35, #70 (Open-yoke only)

Input Signal Range: 3-15 or 6-30 psi

Materials:

Body: Ductile iron

Bonnet and Plug: Stainless steel

Bonnet Flange: Carbon steel

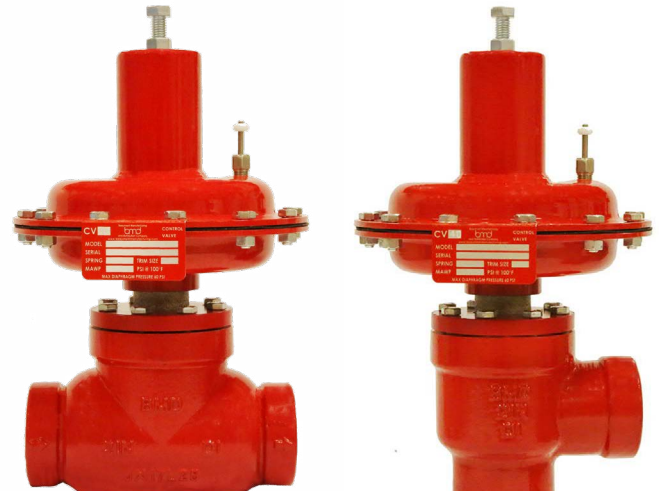
Seat: 304 stainless steel

Stem: 304 stainless steel

Actuator Housing: Carbon steel

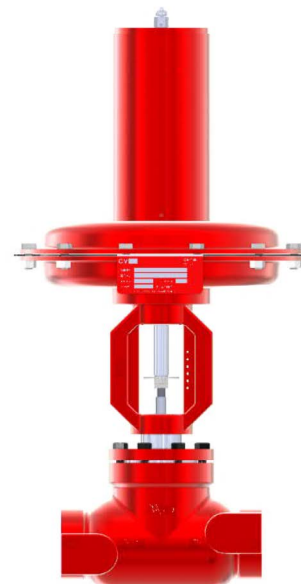
Bolting: A193 B7

Standard materials are good for NACE

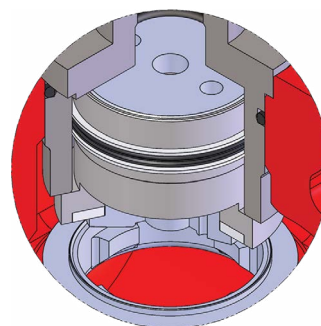


CV40 Reverse
(Globe Body)

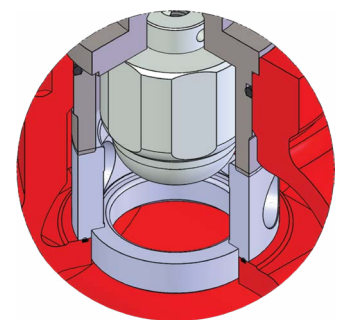
CV40 Reverse
(Angle Body)



CV41 Direct



Balanced Soft Seat Trim



Unbalanced Metal Seat Trim
(Severe Service)

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Cv Values

Cv						
Size	2" (.623 Lift)		3" (.664 Lift)		4" (.78 Lift)	
Body	Globe	Angle	Globe	Angle	Globe	Angle
Full Port	53.2	62.4	112.8	123	182	179.4
Reduced Port	35.4	33.2	74.8	78.4	114.8	112.2

Body Size	Orifice Size (in.)	Unbalanced Metal Seat Trim Valve Opening (% Travel)									
		10	20	30	40	50	60	70	80	90	100
2 Inch	1.00	2.3	3.3	5.5	8.3	12.8	17.4	19.5	21.1	21.9	22.4
	1.75	3.5	5.5	9.4	15.4	22.7	25.8	28.6	32.0	35.9	36.7
3 Inch	2.75	12.4	17.7	28.6	41.4	54.9	67.9	77.8	85.2	91.2	95.8
4 Inch	3.75	11.7	19.1	37.3	61.0	82.1	103.3	119.5	130.0	144.6	150.6

Body Size	Orifice Size (in.)	Full Port Throttling Trim Valve Opening (% Travel)									
		10	20	30	40	50	60	70	80	90	100
2 Inch	Full Port	8.0	14.8	24.2	31.9	38.8	43.7	46.8	49.3	51.0	52.6
3 Inch	Full Port	20.2	28.4	33.7	48.8	61.8	68.6	77.0	85.4	92.0	99.4
4 Inch	Full Port	13.0	18.0	41.6	64.0	83.6	97.3	112.0	125.4	135.4	149.0

Dimensions

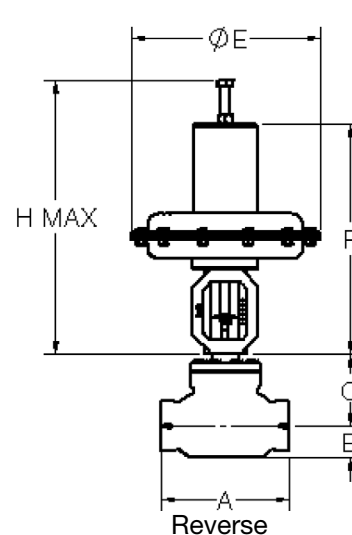
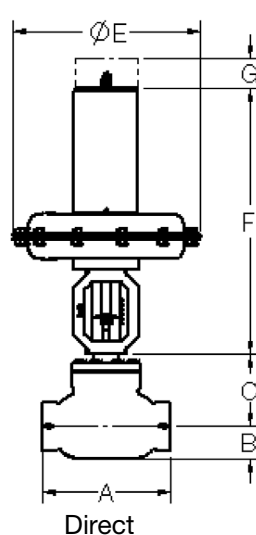
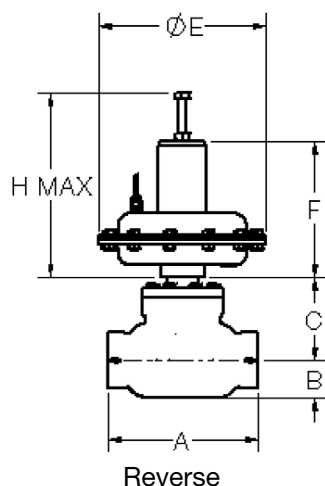
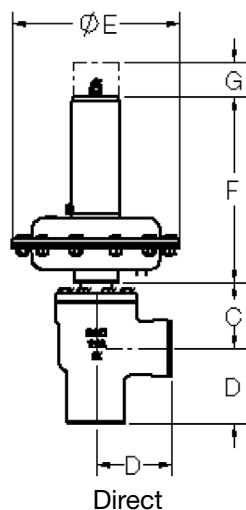
End Connection	Body Dimension														
	2"					3"					4"				
	Globe			Angle		Globe			Angle		Globe			Angle	
	A	B	C	C	D	A	B	C	C	D	A	B	C	A	B
NPT	8.50	2.13	4.72	3.77	4.38	12.00	3.00	6.51	3.88	5.50	15.00	3.75	7.16	4.96	6.50
150RFF	9.00	2.13	4.72	3.77	4.25	12.19	3.00	6.50	3.88	5.50	15.13	3.75	7.16	4.96	6.50

Size	CV40 and CV41 Actuator Dimensions (in.)								
	Direct			Reverse					
	E	F (CV40)	F (CV41)	G	E	F (CV40)	F (CV41)	H (CV40)	H (CV41)
No. 35, 3-15	9.50	10.50	16.04	5.50	9.50	7.75	13.38	9.70	15.33
No. 35, 6-30	9.50	12.12	17.66	7.00	9.50	9.62	15.25	10.70	16.33
No. 70, 3-15	12.50	12.09	15.00	7.00	12.50	9.62	15.25	12.57	18.20
No. 70, 6-30	12.50	15.41	20.95	10.00	12.50	11.37	17.00	14.33	19.96

G = Clearance needed for spring cover removal.

CV40

CV41



Weights

End Connection	Valve Weights with No. 35 Actuator											
	2"				3"				4"			
	Globe		Angle		Globe		Angle		Globe		Angle	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
CV40 NPT	48	22	51	23	69	31	56	25	111	50	85	39
CV40 ANSI 150	58	26	54	24	85	39	74	34	113	51	103	47
CV41 NPT	55.5	29.5	58.5	30.5	76.5	38.5	63.5	32.5	118.5	57.5	92.5	46.5
CV41 ANSI 150	65.5	33.5	61.5	31.5	92.5	46.5	81.5	41.5	120.5	58.5	110.5	54.5

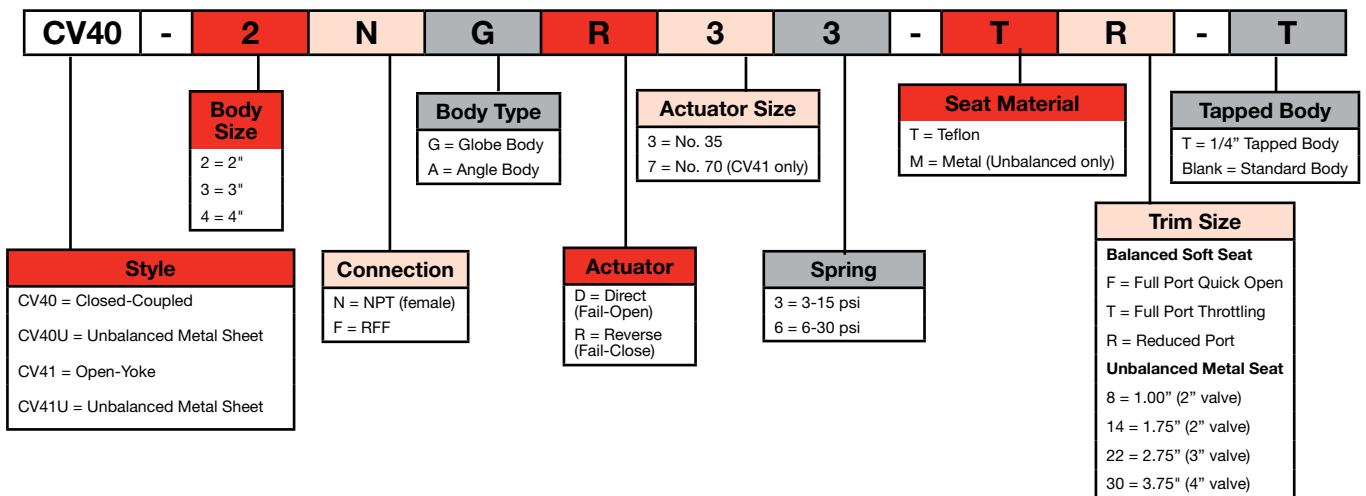
End Connection	Valve Weights with No. 70 Actuator											
	2"				3"				4"			
	Globe		Angle		Globe		Angle		Globe		Angle	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
CV40 NPT	63	28.8	66	29.8	84	37.8	71	31.8	126	56.8	100	45.8
CV40 ANSI 150	73	32.8	69	30.8	100	45.8	89	40.8	128	57.8	118	53.8
CV41 NPT	70.5	36.3	73.5	37.3	91.5	45.3	78.5	39.3	133.5	64.3	107.5	53.3
CV41 ANSI 150	80.5	40.3	76.5	38.3	107.5	53.3	96.5	48.3	135.5	65.3	125.5	61.3

How to Order

Options are listed below. All configurations may not be available. Call your sales representative or FW Murphy for more information.

Example Model No. **CV40-2NGR33-TR-T**

CV40 Series Dump Valve, 2" Globe Body, Threaded Ends, No. 35 Reverse Actuator, 3-15 psi Spring, Teflon Seat, Reduced Port, 1/4" Tapped Body



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