

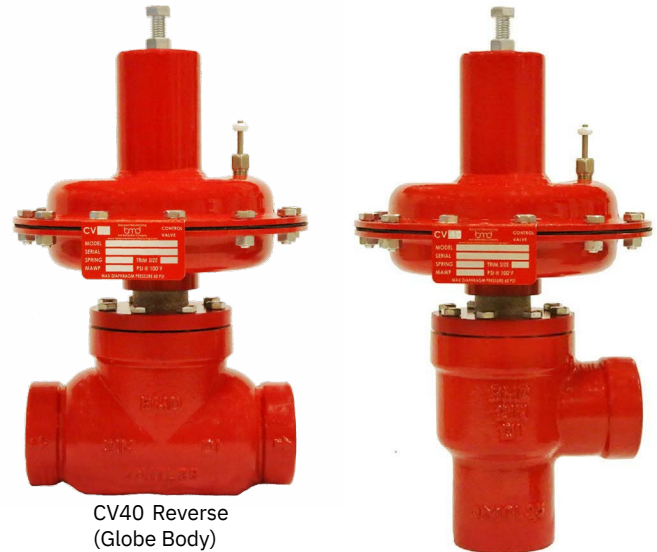
# Low Pressure, Full Port Dump Valves CV40 & CV41 Series

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.

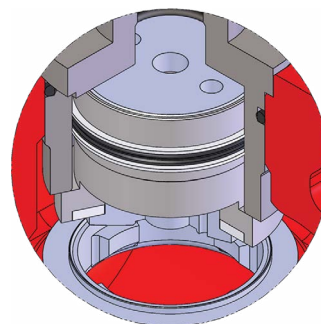


CV40 Reverse  
(Globe Body)

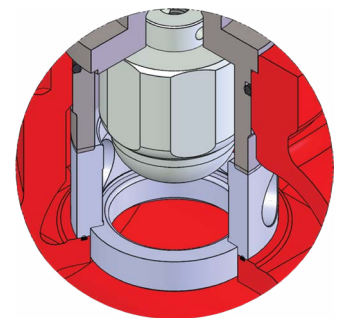
CV40 Reverse  
(Angle Body)



CV41 Direct



Balanced Soft Seat Trim



Unbalanced Metal Seat Trim  
(Severe Service)

## 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

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# Cv Values

Size	Cv					
	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

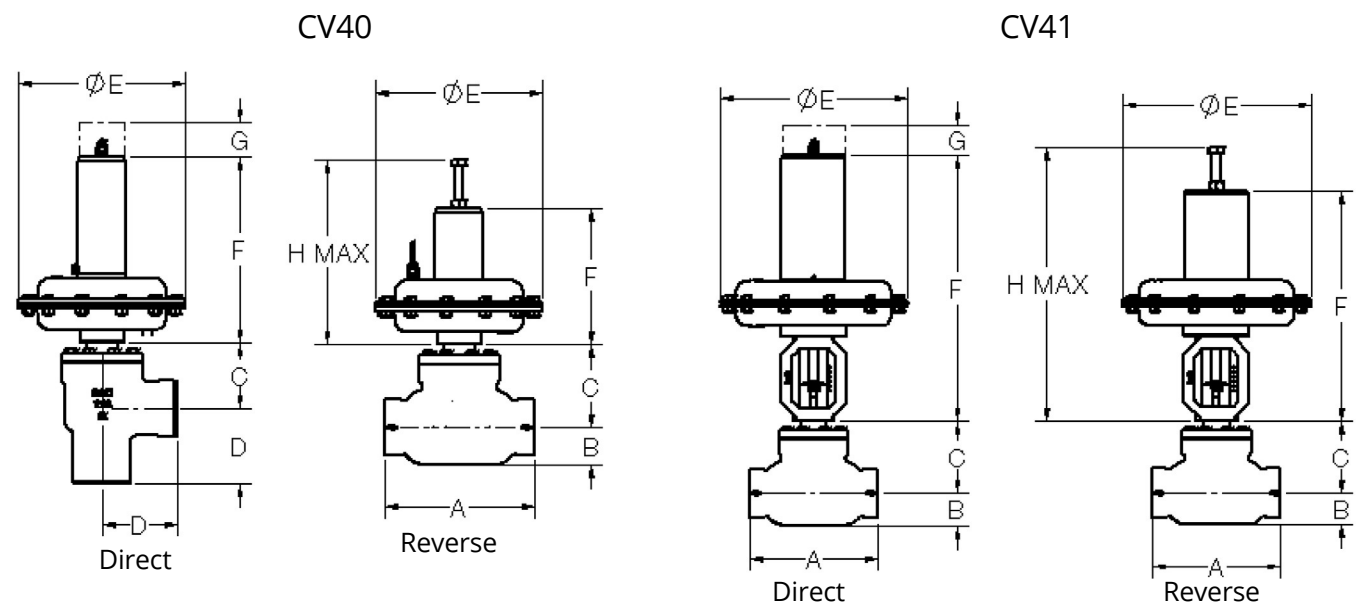
Body Size	Orifice Size (in.)	Full Port Throttling Trim Valve Opening (% Travel)									
		10	20	30	40	50	60	70	80	90	100
2 Inch	Full Port	8.0	14.8	24.2	31.9	38.8	43.7	46.8	49.3	51.0	52.6
3 Inch	Full Port	20.2	28.4	33.7	48.8	61.8	68.6	77.0	85.4	92.0	99.4
4 Inch	Full Port	13.0	18.0	41.6	64.0	83.6	97.3	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				
	EF (CV40)	F (CV41)	G	E	F (CV40)	F (CV41)	H (CV40)	H (CV41)	
No. 35, 3-159.50	10.50	16.04		5.50	9.50	7.75	13.38	9.70	15.33
No. 35, 6-309.50	2.12	17.66		7.00	9.50	9.62	15.25	10.70	16.33
No. 70, 3-1512.50	12.09	15.00		7.00	12.5	9.62	15.25	12.57	18.20
No. 70, 6-3012.50	15.41	20.95		10.00	0	11.37	17.00	14.33	19.96
					12.5				
					0				

G = Clearance needed for spring cover removal.



# Weights

End Connection	Valve Weights with No. 35 Actuator											
	2"				3"				4"			
	Globe		Angle		Globe		Angle		Globe		Angle	
	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	lbkg	
CV40 NPT	4822		5123		6931		5625		111 50		8539	
CV40 ANSI	5826		5424		8539		7434		113 51		103 47	
150 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	65.5 33.5		61.5 31.5		92.5 46.5		81.5 41.5		120.5 58.5		110.5 54.5	

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

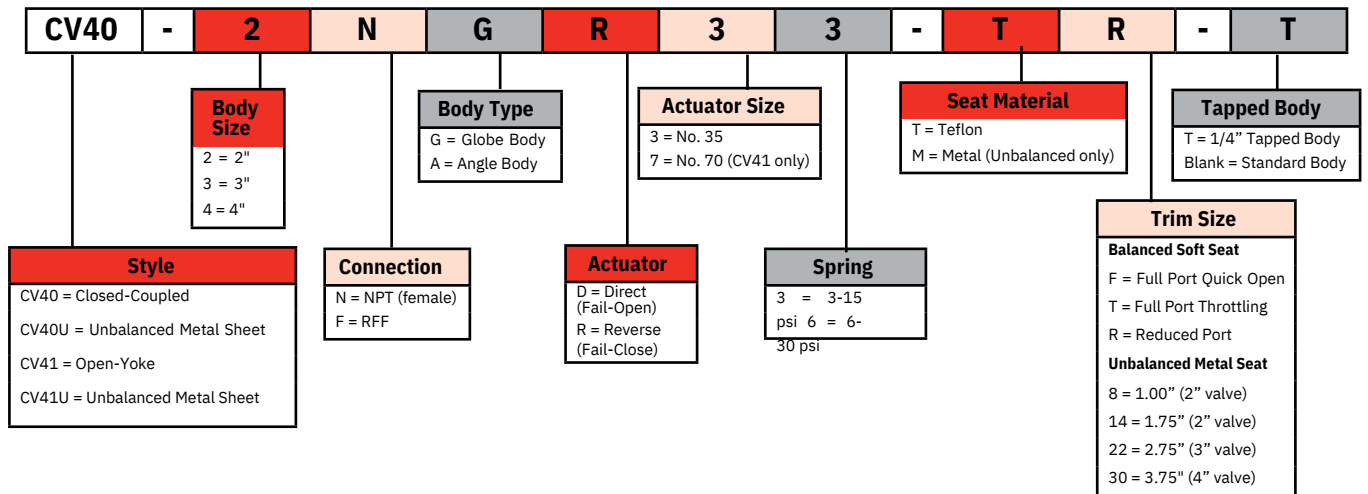
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## How to Order

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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