



and Distribution Company

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CV10 and CV15 Control Valves

The CV10/CV15 are compact, cage-guided valves also known as dump valves. They are ideally suited for a wide range of applications such as pressure control, level control and flow control. Typical installations include separators, scrubbers, wellheads and other production equipment. The CV10 is a close coupled designed and the CV15 is an open yoke design.

The CV10/CV15's hammer union makes maintenance easy by allowing the topworks to be removed without taking the valve out of line. This feature reduces the amount of time needed to inspect and replace the valve trim.

The CV10/CV15 are available in a variety of material options and different trim sizes. A NACE option is available for sour service. For abrasive service, where flows contain high amounts of sand, the CV10/CV15 can be outfitted with a sand body with a replaceable plug. A 2" 6000 PSI globe body is also available.



CV10



CV15

CV10

Specifications

Sizes: 1" and 2"

Connections: Female NPT, Flanged, Butt Weld, Socket Weld

Body Type: Globe, Tee (1" only), Angle (2" only)

Trim Characteristic: Quick Open, Modified % (Throttling)

Trim Size: 0.25", 0.375" (3/8"), 0.50", 0.75", 1.00", 1.25", 1.50" (Requires CV10F/CV15F)

Pressure Rating: 4000 psi (-50°F to 200°F), 3755 psi at 400°F, 2" 6000 (-50°F to 200°F), 5630 psi at 400°F globe body available

Temperature Range:

CV10 (close coupled): -50° F to 200° F (-46° C to 93° C)

CV15 (open yoke): -50° F to 400° F (-46° C to 204° C)

Shutoff: ANSI Class IV

Actuator Sizes: No. 35 (35 in² area), No. 70 (70 in² area)

Input Signal Ranges: 3-15 psi, 6-30 psi

Materials:

Body: WCC Steel, LCC (Low Temp Option)

Packing Plug: SST, A105 Steel, Nickel Plated, A350 LF2 (Low Temp Option)

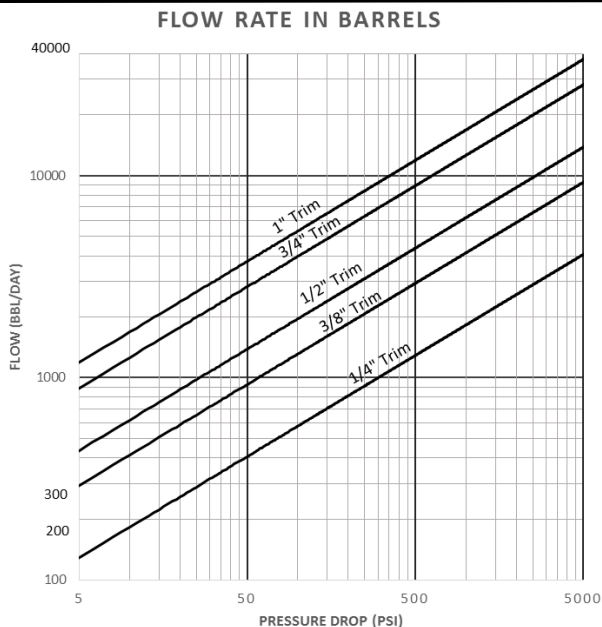
Hammer Nut: A105 Steel, A350 LF2 (Low Temp Option)

Trim: 17-4 Stainless, Carbide (Optional)

Actuator Housing: Carbon Steel

Yoke: A395 Ductile Iron

Flow Rates



Cv Values

Body Size	Trim Size (in.)	Body Style / Valve Opening (% Travel)												
		Modified Percent										Quick Open		
		Globe Body										Angle Body	Globe Body	Angle Body
		10	20	30	40	50	60	70	80	90	100	100	100	100
1 Inch	0.25	0.284	0.506	0.657	0.767	0.875	0.989	1.1	1.2	1.32	1.4		1.68	
	0.375	0.311	0.621	0.942	1.28	1.64	2.07	2.51	2.93	3.35	3.7		3.82	
	0.5	0.502	1.05	1.59	2.09	2.61	3.14	3.72	4.27	4.96	5.62		5.7	
	0.75	0.882	1.76	2.76	3.82	4.93	6.17	7.49	8.85	10	11		11.6	
	1	1.01	2.02	3.44	5.07	6.78	8.42	10.3	12.4	14.3	15.4		15.5	
	1.25												17.6	
2 Inch	0.25	0.284	0.506	0.657	0.77	0.88	0.99	1.1	1.2	1.32	1.4	1.66	1.68	1.98
	0.375	0.311	0.621	0.942	1.28	1.64	2.07	2.51	2.93	3.35	3.7	4.35	3.82	4.47
	0.5	0.592	1.17	1.76	2.34	2.95	3.7	4.57	5.5	5.95	6.08	6.9	6.19	7
	0.75	0.882	1.81	2.98	4.11	5.74	7.03	8.49	10.1	11.5	12.9	15.2	13	15.8
	1	1.08	2.12	3.58	5.43	7.46	9.27	11.4	13.7	15.8	17.1	21.1	18	22
	1.25												24	26
	1.5												29	33

Shut-Off Pressures

Maximum Shut-Off Pressures for Reverse Acting (Fail Closed) Actuators

Trim Size (in.)	Flow Direction	Signal to No. 35 Actuator				Signal to No. 70 Actuator			
		3 - 15 Spring		6 - 30 Spring		3 - 15 Spring		6 - 30 Spring	
		3-15 psig	0-20 psig	6-30 psig	0-35 psig	3-15 psig	0-20 psig	6-30 psig	0-35 psig
0.25	Up	3800	4000	4000	4000	4000	4000	4000	4000
0.375		2050	3280	3410	4000	3210	4000	4000	4000
0.5		1100	1680	1830	2300	1650	3190	4000	4000
0.75		320	560	690	950	530	940	2020	2800
1		110	220	320	490	230	420	960	1460
1.25		70	140	200	310	150	270	610	930
0.25	Down	4000	4000	4000	4000	4000	4000	4000	4000
0.375		4000	4000	4000	4000	4000	4000	4000	4000
0.5		3350	4000	4000	4000	4000	4000	4000	4000
0.75		1580	2300	2530	3270	2080	2800	3780	4000
1		770	1100	1240	1680	970	1460	2510	2950
1.25		490	700	790	1080	620	930	1610	1890
1.5		340	490	550	750	430	650	1120	1310

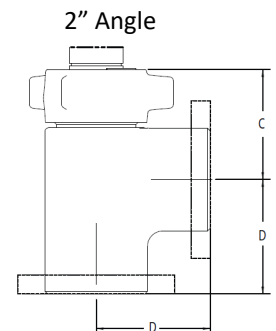
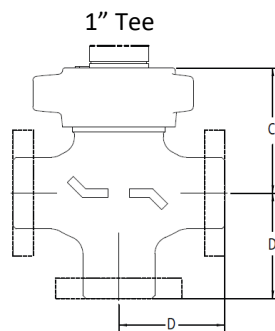
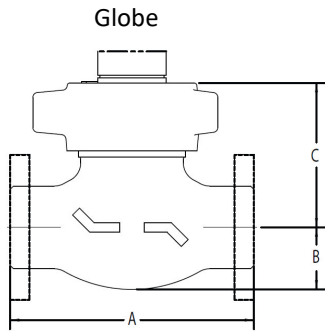
Maximum Shut-Off Pressures for Direct Acting (Fail Open) Actuators

Trim Size (in.)	Flow Direction	Signal to No. 35 Act. ¹		Signal to No. 70 Act. ¹		Flow Direction	Signal to No. 35 Act. ¹		Signal to No. 70 Act. ¹	
		3-15 Spring	6-30 Spring	3-15 Spring	6-30 Spring		3-15 Spring	6-30 Spring	3-15 Spring	6-30 Spring
0.25	Up	4000	4000	4000	4000	Down	4000	4000	4000	4000
0.375		2700	4000	4000	4000		4000	4000	4000	4000
0.50		1370	2880	2540	4000		3800	4000	4000	4000
0.75		410	1080	730	2020		1750	1940	4000	4000
1.00		140	520	230	960		860	940	1840	2790
1.25		90	330	150	610		550	600	1180	1790

1. Controller supply must have at least 5 psi beyond the signal pressure required.

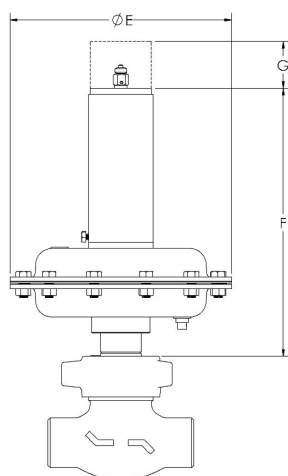
Dimensions & Weights

End Connection	Body Dimension									
	1" Globe Body			2" Globe Body			1" Tee Body		2" Angle Body	
	A	B	C	A	B	C	C	D	C	D
NPT	6.25	1.56	3.71	7.50	1.69	3.71	3.71	3.13	3.60	3.75
150RFF	7.25	1.56	3.71	10.00	1.69	3.71	3.71	3.63	3.60	5.00
300RFF	7.75	1.56	3.71	10.50	1.69	3.71	3.71	3.88	3.60	5.25
600RFF	8.25	1.56	3.71	11.25	1.69	3.71	3.71	4.13	3.60	5.63
600 RTJ	8.25	1.56	3.71	11.38	1.69	3.71	3.71	4.13	3.60	5.69
900/1500 RFF	9.38	1.56	3.71	12.88	1.69	3.71	3.71	4.69	3.60	6.44
900 /1500 RTJ	9.38	1.56	3.71	13.00	1.69	3.71	3.71	4.69	3.60	6.50

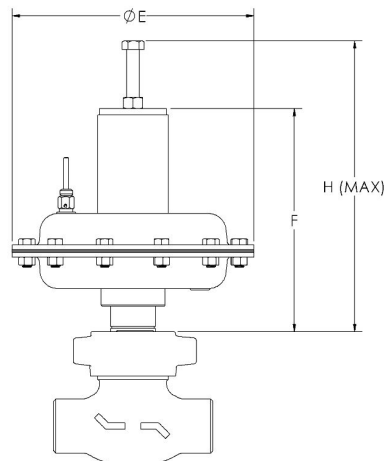


Actuator Size	CV10/CV15 Actuator Dimensions (in.)									
	Direct					Reverse				
	E	F (CV10)	F (CV15)	G		E	F (CV10)	F (CV15)	H (CV10)	H (CV15)
No. 35, 3-15	9.50	11.51	17.14	5.50		9.50	8.76	14.39	10.91	16.54
No. 35, 6-30	9.50	13.13	18.76	7.00		9.50	10.63	16.26	11.91	17.54
No. 70, 3-15	12.50	13.10	18.73	7.00		12.50	10.63	16.26	13.24	18.87
No. 70, 6-30	12.50	16.42	22.05	10.00		12.50	12.38	18.01	15.00	20.63

CV10

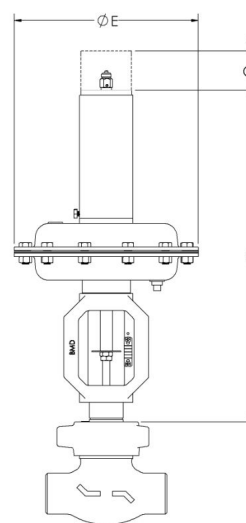


Direct

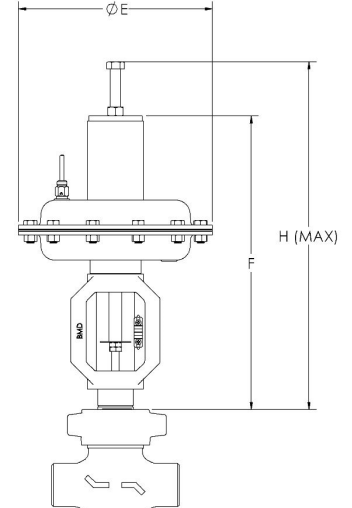


Reverse

CV15



Direct



Reverse

End Connection	Valve Weights with No. 35 Actuator							
	1" Globe		1" Tee		2" Globe		2" Angle	
	lbs	kg	lbs	kg	lbs	kg	lbs	kg
NPT	25	11.3	28	12.7	*32	14.5*	32	14.5
ANSI 150	30	13.6	34	15.4	42	19.1	42	19.1
ANSI 300	33	15.0	37	16.8	46	20.9	46	20.9
ANSI 600	35	15.9	39	17.7	48	21.8	48	21.8
ANSI 900/1500	42	19.1	47	21.3	76	34.5	76	34.5

*2" 6000 psi globe body adds 10.5lbs/4.7kg to valve weight

How to Order

Example Model No. **CV10-1N50R33-CB-2Q**

CV10 Series Dump Valve, 1" Globe Body, Threaded Ends, No. 35 Reverse Act, 3-15 Spring, Carbon Steel with Buna Seals, 0.25" Quick Open SST Trim

Style	
CV10 - Close Coupled	CV15 - Open Yoke
CV10F ³	CV15F ³

Body Size			
1 - 1" Globe	3 - 1" Tee	5 - 2" Sand Body	
2 - 2" Globe	4 - 2" Angle		
Connection			
N - NPT (female)	B - Butt weld	W - Socket Weld	
F - RFF	J - RTJ		
Class			
50 - NPT (4000psi)	55 - NPT (6000psi) ⁴	10 - 150	
30 - 300	60 - 600	90 - 900	
15 - 1500	40 - Shd 40 (Butt weld)	80 - Shd 80 (Butt weld)	
16 - Shd 160 (Butt weld)			
Actuator			
D - Direct (Fail Open)	R - Reverse (Fail Close)		
Actuator Size			
3 - #35 (9")	7 - #70 (12")		
Spring			
3 - 3-15 psi	6 - 6-30 psi	0 - Non-Adjustable (#35 Actuator Only)	
Materials			
C - Carbon Steel	N - Carbon Steel NACE	T - Stainless	L - Low Temp Carbon Steel
Seals			
B - Buna	V - Viton®	L - Low Temp Buna	
Trim Size			
2 - 0.25"	4 - 0.50"	8 - 1.00"	12 - 1.50" ^{1, 2}
3 - 0.375" (3/8")	6 - 0.75"	10 - 1.25"	
Trim Type			
Q - Quick Open Stainless	T - Throttling Stainless		
R - Quick Open Tungsten Carbide	U - Throttling Tungsten Carbide		
Tapped Body			
Blank - Standard Body	T - 1/4" NPT Tapped Body		

CV10-1 N 50 R 3 3 - C B - 2 Q -

Repair Kits Available

¹ 1.5" Trim limited to only 300 PSI

² Only available with CV10F or CV15F Valve

³ High Flow valve only available with 1.50" Port

⁴ Available in 2" globe body only

Beaumont Manufacturing

 and Distribution Company
www.beaumontmanufacturing.com

Phone: 409-225-5863

Fax: 409-242-1005

850 Fannin St.

Beaumont, Texas 77701