CV10 & CV15 CONTROL VALVE

Beaumont Manufacturing and Distribution Company

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 6000 psi option is available for 2" bodies.



CV10



CV15

SPECIFICATIONS

Sizes:
- 1"
- 2"

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

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

Trim Characteristic:
- Quick Open
- Modified % (Throttling)

Trim Size:
- 0.25"
- 0.375"
- 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 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 in^2 area)
- No. 70 (70 in^2 area)

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

MATERIALS

Body:
- WCC Steel
- LCC (Low Temp Option)

Packing Plug:
- SST

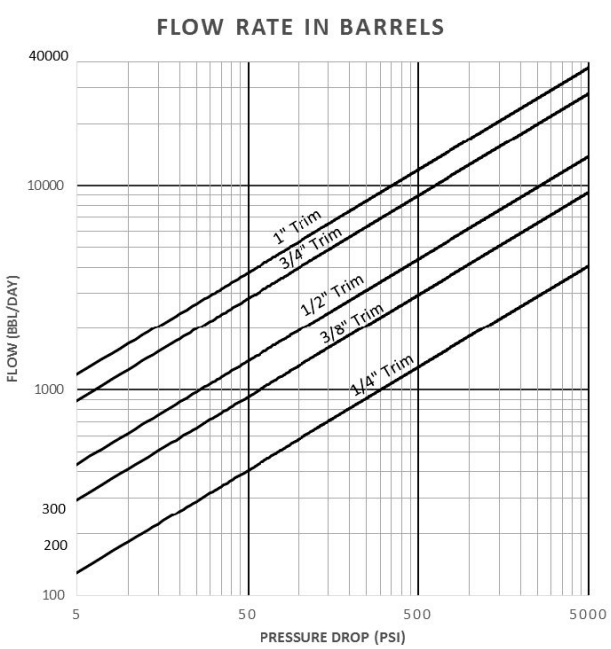
Hammer Nut:
- A105 Steel
- A350 LF2 (Low Temp Option)

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	0.285	0.506	0.657	0.767	0.875	0.989	1.10	1.20	1.320	1.40	--	1.68	--
	0.375	0.311	0.621	0.942	1.28	1.64	2.07	2.51	2.93	3.35	3.70	--	3.82	--
	0.50	0.502	1.05	1.59	2.09	2.61	3.14	3.72	4.27	4.96	5.62	--	5.70	--
	0.75	0.882	1.76	2.76	3.82	4.93	6.17	7.49	8.85	10	11	--	11.60	--
	1.00	1.01	2.02	3.44	5.07	6.78	8.42	10.3	12.4	14.3	15.4	--	15.50	--
	1.25	--	--	--	--	--	--	--	--	--	--	--	17.60	--
2 inch	0.25	0.284	0.506	0.657	0.77	0.88	0.99	1.10	1.20	1.32	1.40	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	3.70	4.35	3.82	4.47
	0.50	0.592	1.17	1.76	2.34	2.95	3.70	4.57	5.50	5.95	6.08	6.90	6.19	7
	0.75	0.882	1.81	2.98	4.11	5.74	7.03	8.49	10.10	11.50	12.90	15.20	13	15.80
	1.00	1.08	2.12	3.58	5.43	7.46	9.27	11.40	13.70	15.80	17.10	21.10	18	22
	1.25	--	--	--	--	--	--	--	--	--	--	--	24	26
	1.50	--	--	--	--	--	--	--	--	--	--	--	29	33

SHUT OFF PRESSURES

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

Flow Direction	Trim Size (in.)	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
Up	0.25	3800	4000	4000	4000	4000	4000	4000	4000
	0.375	2050	3280	3410	4000	3210	4000	4000	4000
	0.50	1100	1680	1830	2300	1650	3190	4000	4000
	0.75	320	560	690	950	530	940	2020	2800
	1.00	110	220	320	490	230	420	960	1460
	1.25	70	140	200	310	150	270	610	930
Down	0.25	4000	4000	4000	4000	4000	4000	4000	4000
	0.375	4000	4000	4000	4000	4000	4000	4000	4000
	0.50	3350	4000	4000	4000	4000	4000	4000	4000
	0.75	1580	2300	2530	3270	2080	2800	3780	4000
	1.00	770	1100	1240	1680	970	1460	2510	2950
	1.25	490	700	790	1080	620	930	1610	1890
	1.50	340	490	550	750	430	650	1120	1310

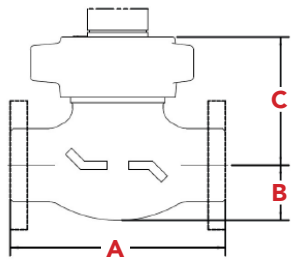
Maximum Shut-Off Pressures for Reverse Acting (Fail Open) Actuators

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

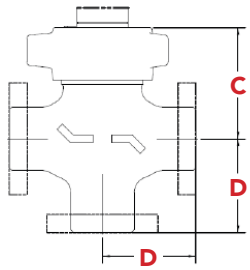
1. Controller supply must have at least 5 psi beyond the signal pressure required.

DIMENSIONS

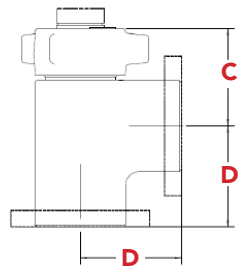
GLOBE



1" TEE

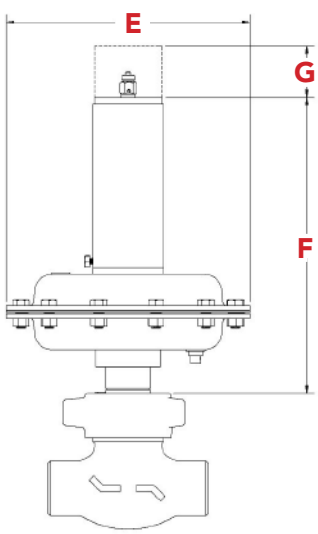


2" ANGLE

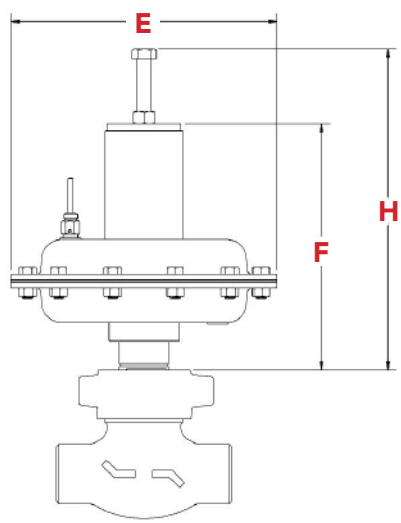


END CONNECTION	Body Dimension (in.)									
	1" Globe Body			2" Globe Body			1" Tee Body		2" Angle Body	
	A	B	C	A	B	C	C	D	C	D
NPT	6.25	1.56	3.71	7.50	1.69	3.71	3.71	3.13	3.60	3.75
150RFF	7.25	1.565	3.71	10.00	1.69	3.71	3.71	3.63	3.60	5.00
300RFF	7.75	1.56	3.71	10.50	1.69	3.71	3.71	3.88	3.60	5.25
600RFF	8.25	1.56	3.71	11.25	1.69	3.71	3.71	4.13	3.60	5.63
600RTJ	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

CV10

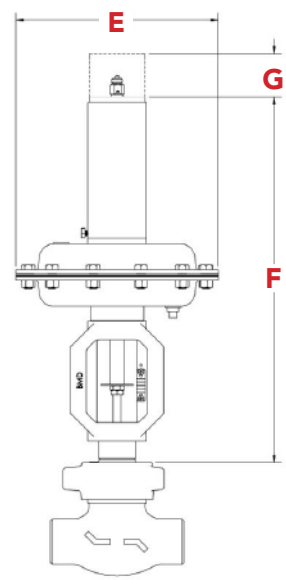


DIRECT

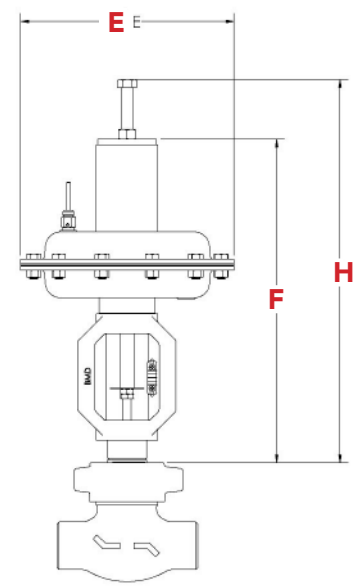


REVERSE

CV15



DIRECT



REVERSE

ACTUATOR SIZE	SPRING	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 Spring	9.50	11.51	17.14	5.50	9.50	8.76	14.39	10.91	16.54
No. 35	6-30 Spring	9.50	13.13	18.76	7.00	9.50	10.63	16.26	11.91	17.54
No. 70	3-15 Spring	12.50	13.10	18.73	7.00	12.50	10.63	16.26	13.24	18.87
No. 70	6-30 Spring	12.50	16.42	22.05	10.00	12.50	12.38	18.01	15.00	20.63

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

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

SERIES

STYLE

CV10 - Close Coupled
CV10F[3,4]
CV15- Open Yoke
CV15F[3,4]

BODY SIZE

1 - 1" Globe
2 - 2" Globe
3 - 1" Tee
4 - 2" Angle
5 - 2" Sand Body

CONNECTION

N - NPT (female)
F - RFF
B - Buttweld
J - RTJ
W - Socket Weld

CLASS

50 -NPT (4000 psi)
55 - NPT (6000 psi)[4]
10 - 150
30 - 300
60 - 600
90 - 900
15 - 1500
40 - Shd 40 (Buttweld)
80 - Shd 80 (Buttweld)
16 - Shd 160 (Buttweld)

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"
3 - 0.375" (⅜")
4 - 0.50"
6 - 0.75"
8 - 1.00"
10 - 1.25"
12 - 1.50"[1,2]

TRIM TYPE

Q - Quick Open Stainless
R - Quick Open Tungsten Carbide
T - Throttling Stainless
U -Throttling Tungsten Carbide

TAPPED BODY

BLANK - Standard Body
T - 1/4" NPT Tapped Body

Repair Kits Available *[1] 1.5" Trim limited to 300 PSI* *[2] Only available with CV10F or CV15F Valve*
[3] High Flow valve only available with 1.50" Port *[4] Available in 2" body only*

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11/2026

Beaumont Manufacturing and Distribution Company