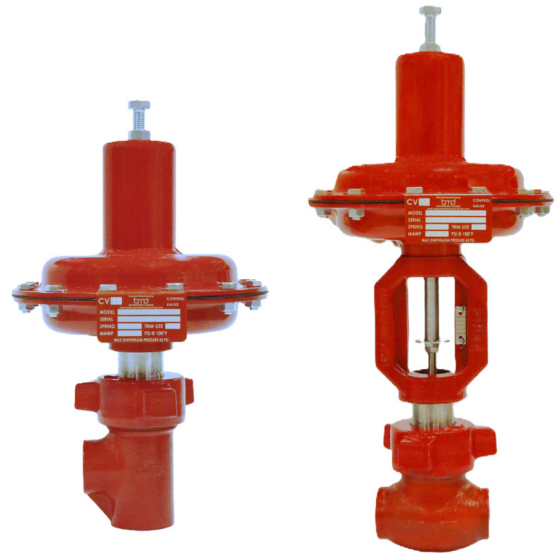


## CV10S and CV15S Control Valves

The CV10S/CV15S are compact, cage-guided valves also known as a dump valve. 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 CV10S is a close coupled design and the CV15S is an open yoke design.

The CV10S/CV15S'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 CV10S/CV15S are available in a variety of material options and different trim sizes. A NACE option is also available for sour service.



**CV10S**

**CV15S**

## Specifications

**Sizes:** 1"

**Connections:** Female NPT

**Body Type:** Globe, Angle

**Trim Characteristic:** Quick Open, Modified % (Throttling)

**Trim Size:** 0.25", 0.375" (3/8"), 0.50", 0.75" and 1.00"

**Pressure Rating:** 4000 psi (-50°F to 200°F), 3755 psi at 400° F

**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<sup>2</sup> area), Non-Adjustable

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

**Materials:**

**Body:** LCC

**Packing Plug:** Nickel Plated, A105 Steel

A350 LF2 (Low Temp Option)

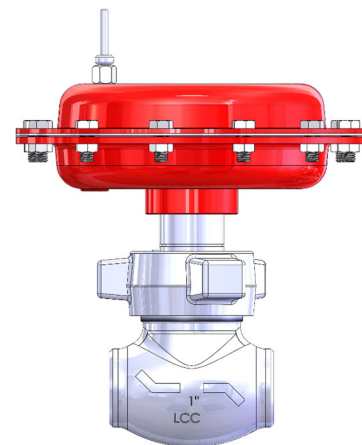
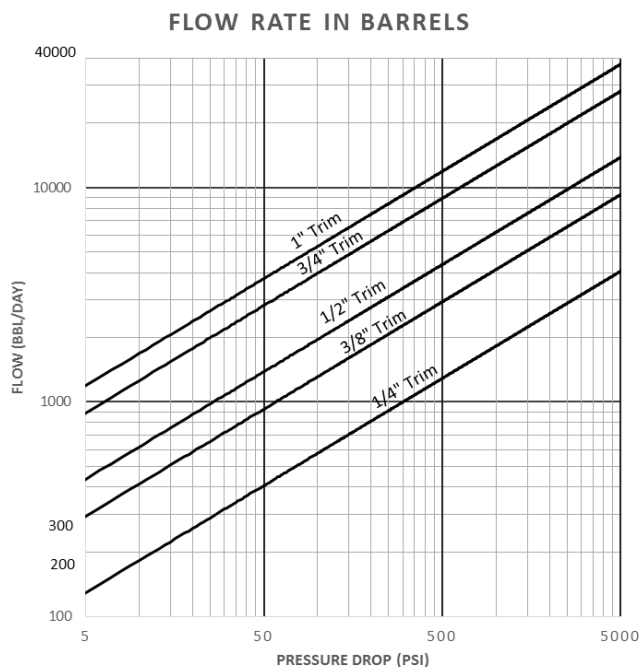
**Hammer Nut:** A105 Steel, A350 LF2 (Low Temp Option)

**Trim:** 17-4 Stainless, Carbide (Optional)

**Actuator Housing:** Carbon Steel

**Yoke:** A395 Ductile Iron

## Flow Rates



**CV10S with  
Non-Adjustable Housing**

# 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	1.10	1.20	1.32	1.40	1.64	1.68	1.92
	0.375	0.311	0.621	0.942	1.28	1.64	2.07	2.51	2.93	3.35	3.70	4.23	3.82	4.34
	0.50	0.502	1.05	1.59	2.09	2.61	3.14	3.72	4.27	4.96	5.62	6.61	5.70	6.72
	0.75	0.882	1.760	2.760	3.82	4.93	6.17	7.49	8.85	10.00	11.00	15.10	11.60	15.20
	1.00	1.01	2.02	3.44	5.07	6.78	8.42	10.3	12.4	14.3	15.4	20.8	15.5	20.9

## Shut-Off Pressures

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

Trim Size (in.)	Flow Direction	Signal to No. 35 Actuator			
		3 - 15 Spring		6 - 30 Spring	
		3-15 psig	0-20 psig	6-30 psig	0-35 psig
0.25	Up	3800	4000	4000	4000
0.375		2050	3280	3410	4000
0.50		1100	1680	1830	2300
0.75		320	560	690	950
1.00		110	220	320	490
0.25	Down	4000	4000	4000	4000
0.375		4000	4000	4000	4000
0.50		3350	4000	4000	4000
0.75		1580	2300	2530	3270
1.00		770	1100	1240	1680

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

Trim Size (in.)	Flow Direction	Signal to No. 35 Act. <sup>1</sup>		Flow Direction	Signal to No. 35 Act. <sup>1</sup>	
		3-15 Spring	6-30 Spring		3-15 Spring	6-30 Spring
0.25	Up	4000	4000	Down	4000	4000
0.375		2700	4000		4000	4000
0.50		1370	2880		3800	4000
0.75		410	1080		1750	1940
1.00		140	520		860	940

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

### Maximum Shut-Off Pressures for Non-Adjustable Actuators

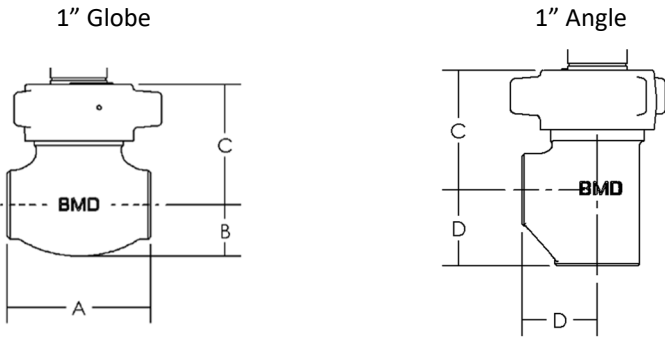
Trim Size (in.)	Flow Direction	Signal to No. 35 Act. <sup>2</sup>		Flow Direction	Signal to No. 35 Act. <sup>2</sup>	
		Reverse Acting	Direct Acting <sup>1</sup>		Reverse Acting	Direct Acting <sup>1</sup>
0.25	Up	4000	4000	Down	4000	4000
0.375		2700	4000		4000	4000
0.50		1800	2880		2500	2600
0.75		600	1000		1250	750
1.00		120	500		720	400

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

2. 25 psi minimum supply required.

# Dimensions

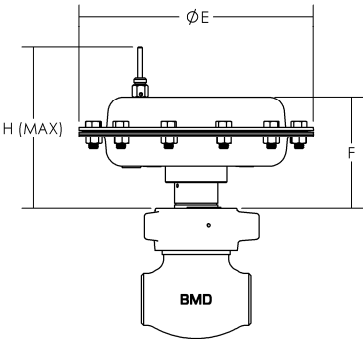
End Connection	Body Dimension				
	1" Globe Body			1" Angle Body	
	A	B	C	C	D
NPT	4.44	1.59	3.70	3.51	2.22



Actuator Size	CV10S/CV15S Actuator Dimensions (in.)								
	Direct				Reverse				
	E	F (CV10)	F (CV15)	G <sup>1</sup>	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
Non-Adjustable	9.50	4.55	10.18	-	9.50	4.55	10.18	7.30	12.90

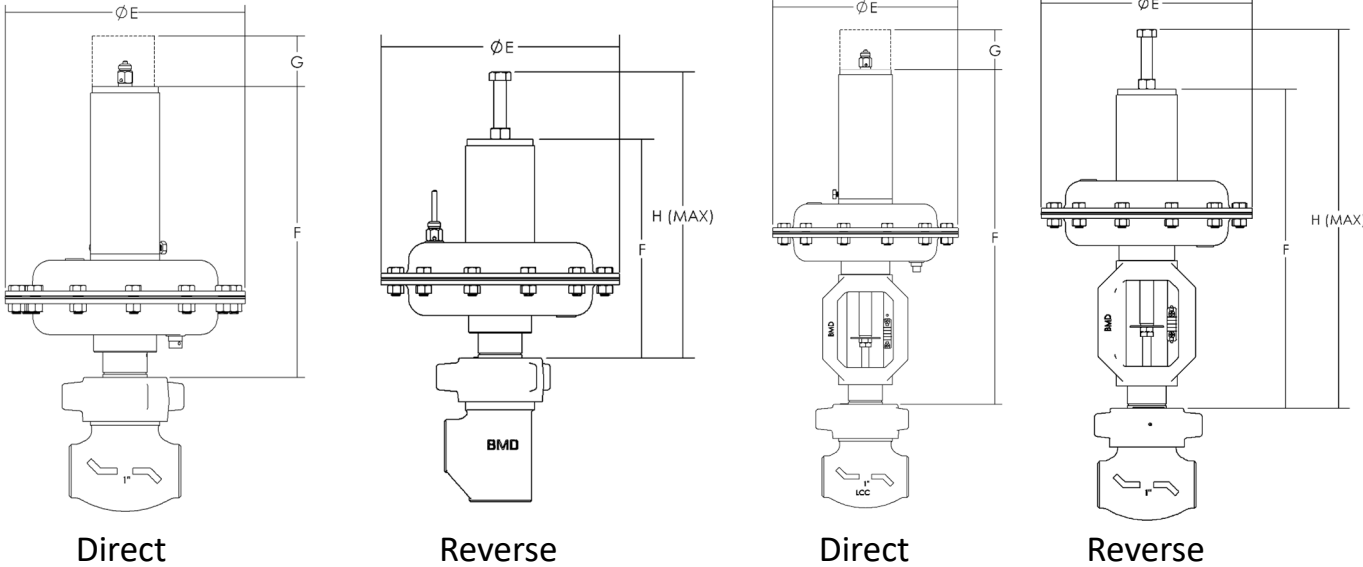
1. Height required to remove spring cover.

## Non-Adjustable Reverse



CV10S

CV15S



# Weights

End Connection	Valve Weights with No. 35 Actuator			
	1" Globe		1" Angle	
	lbs	kg	lbs	kg
NPT	24	10.8	24	10.8

End Connection	Valve Weights with Non-Adjustable Actuator			
	1" Globe		1" Angle	
	lbs	kg	lbs	kg
NPT	23	10.4	22	9.9

## How to Order

Example Model No. **CV10S-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

**Body Size**  
 1 - 1" Globe      2 - 1" Angle

**Connection**  
 N - NPT (female)

**Class**  
 50 - NPT (4000psi)

**Actuator**  
 D - Direct (Fail Open)      R - Reverse (Fail Close)

**Actuator Size**  
 3 - #35 (9")

**Spring**  
 3 - 3-15 psi      6 - 6-30 psi      0 - Non-Adjustable

**Materials**  
 C - Carbon Steel    N - Carbon Steel NACE    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"  
 3 - 0.375" (3/8")      6 - 0.75"

**Trim Type**  
 Q - Quick Open Stainless      T - Throttling Stainless  
 R - Quick Open Tungsten Carbide      U - Throttling Tungsten Carbide

**Style**  
 CV10S - Close Coupled      CV15S - Open Yoke

CV10S-1 N 50 R 3 3 - C B - 2 Q

Repair Kits Available

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