



## CV20 Control Valve

The CV20 is a rugged, compact, freezable dump valve. The body can be installed so that the valve cage and plug are submerged into the process media giving the valve its freezable characteristic. Typical installations include separators, scrubbers, and other production vessels.

The CV20's hammer union makes maintenance easy by allowing the topworks to be removed without taking the valve out of line.

Using the same trim set as the CV10 valve, the CV20 offers the versatility of multiple trim sizes and material options. A NACE option is also available for sour service.

## Specifications

### Connections:

1" Female NPT x 1" Female NPT,  
 2" Male NPT x 1" Female NPT

**Body Type:** Freezable Angle Body Design

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

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

**Pressure Rating:** 3000 psi

**Temperature Range:** -50° F to 200° F (-46° C to 93° C)

**Shutoff:** ANSI Class IV

**Actuator Sizes:** No. 35 (35 in<sup>2</sup> area), No. 70 (70 in<sup>2</sup> area)

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

### Materials:

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

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

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

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

**Stem:** 303 Stainless, 316 (Optional)

**Actuator Housing:** Carbon Steel

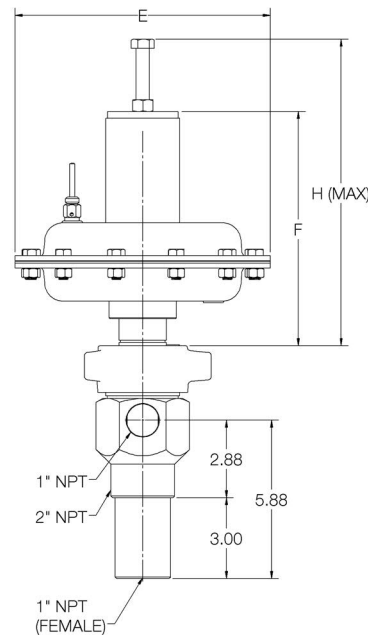
### Approximate Weight:

With #35 Actuator: 25 lbs.

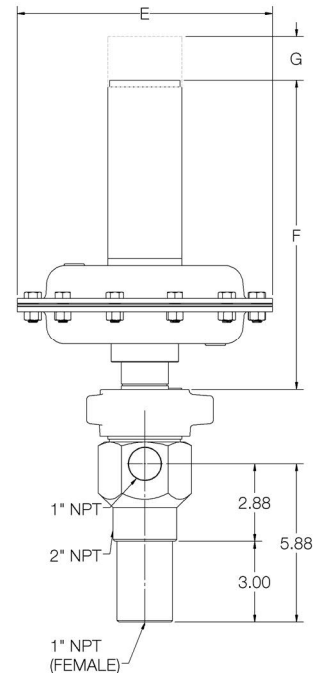
With #70 Actuator: 35 lbs.

## Dimensions

Reverse Acting



Direct Acting



## Cv Values

Cv Values at 100% Open		
Trim Size (in.)	Trim Type	
	Quick Open	Throttling
0.25	1.4	1.3
0.375	2.0	1.9
0.50	2.3	2.2

Actuator Assembly Dimensions (in.)						
Actuator Size	Direct Acting			Reverse Acting		
	E	F	G	E	F	H
No. 35, 3-15	9.50	11.51	5.50	9.50	8.76	10.91
No. 35, 6-30	9.50	13.13	7.00	9.50	10.63	11.91
No. 70, 3-15	12.50	13.10	7.00	12.50	10.63	13.24
No. 70, 6-30	12.50	16.42	10.00	12.50	12.38	15.00

# Shut-Off Pressures

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

Trim Size (in.)	Flow Direction	Signal to No. 35 Act. <sup>1</sup>		Signal to No. 70 Act. <sup>1</sup>		Flow Direction	Signal to No. 35 Act. <sup>1</sup>		Signal to No. 70 Act. <sup>1</sup>	
		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	3000	3000	3000	3000	Down	3000	3000	3000	3000
0.375		2700	3000	3000	3000		3000	3000	3000	3000
0.50		1370	2880	2540	3000		3000	3000	3000	3000

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

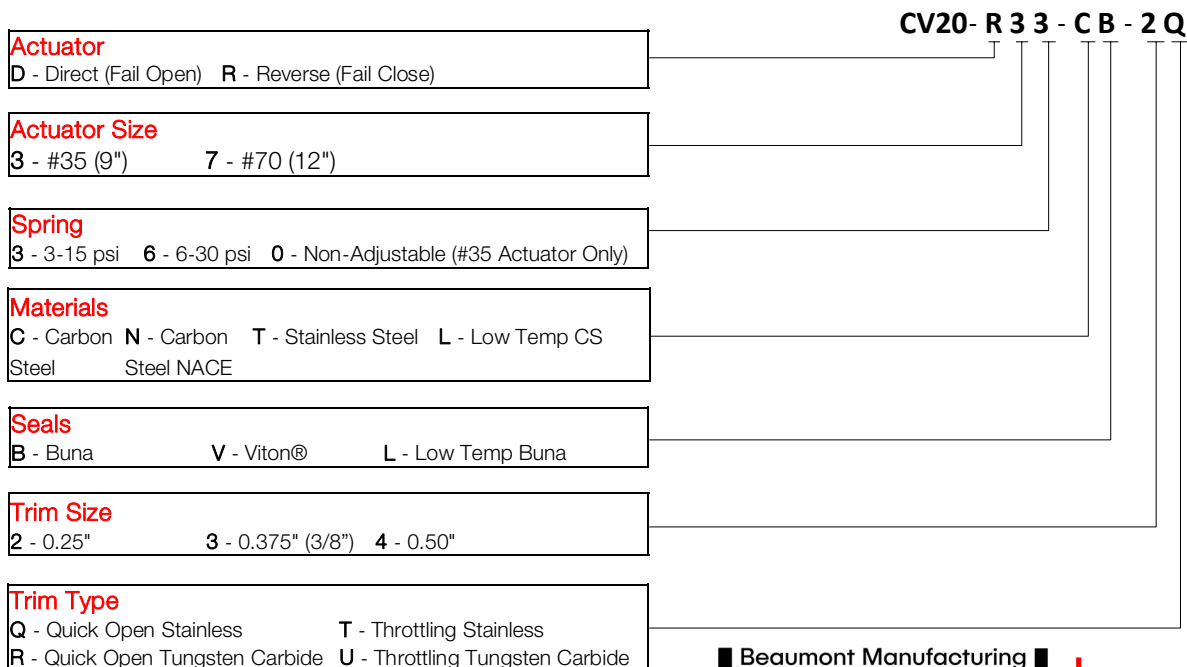
## Maximum Shut-Off Pressures For Reverse Acting (Fail Closed) Actuators

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	3000	3000	3000	3000	3000	3000	3000	3000
0.375		2050	3000	3000	3000	3000	3000	3000	3000
0.50		1100	1680	1830	2300	1650	3000	3000	3000
0.25	Down	3000	3000	3000	3000	3000	3000	3000	3000
0.375		3000	3000	3000	3000	3000	3000	3000	3000
0.50		3000	3000	3000	3000	3000	3000	3000	3000

## How to Order

Example Model No. **CV20-R33-CB-2Q**

CV20 Series Dump Valve, No. 35 Reverse Act, 3-15 Spring, Carbon Steel with Buna Seals, 0.25" Quick Open SST Trim



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