

## CV20 Control Valve

The CV20 is a rugged, compact, freezeless dump valve. The body can be installed so that the valve cage and plug are submerged into the process media giving the valve its freezeless 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:

2" Male NPT x 1" Female NPT (CV20)

1" Female NPT x 1" Female NPT (CV20)

1" Male NPT x 1" Female NPT (CV20N)

**Body Type:** Freezeless Angle Body Design

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

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

**Pressure Rating:** 3000 psi (CV20), 1480 psi (CV20N)

**Temperature Range:**

-20° F to 200° F (-29° C to 93° C) Standard

-50° F to 200° F (-46° C to 93° C) Low Temp

**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:** 304 Stainless Steel

**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. (CV20), 23.5 lbs. (CV20N)

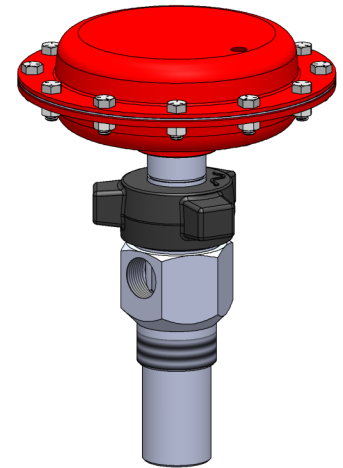
With #70 Actuator: 35 lbs. (CV20), 33.5 lbs. (CV20N)

## 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



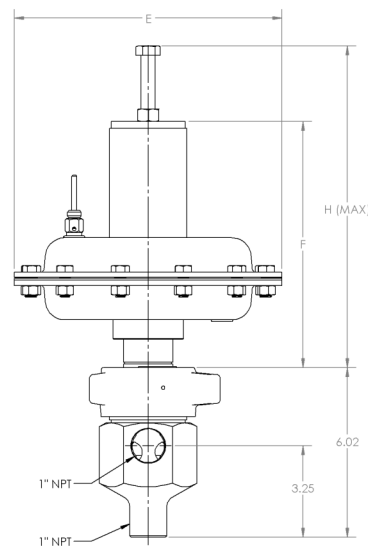
CV20 Reverse Acting



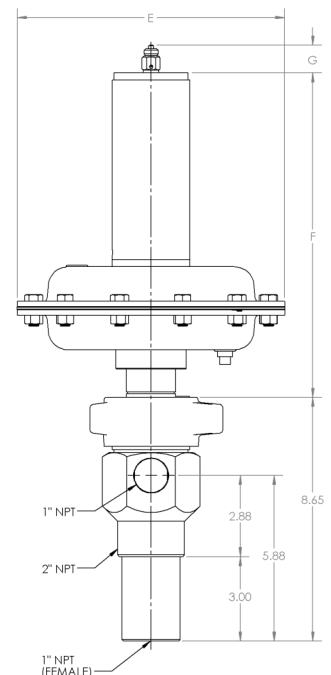
CV20 Non-Adjustable

## Dimensions

CV20N Reverse Acting



CV20 Direct Acting



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		Signal to No. 70		Flow Direction	Signal to No. 35		Signal to No. 70	
		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

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	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
0.25	Down	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

## 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

<b>Style</b> CV20 - Standard Body    CV20N - 1" Male NPT Body
<b>Actuator</b> D - Direct (Fail Open)    R - Reverse (Fail Close)
<b>Actuator Size</b> 3 - #35 (9")    7 - #70 (12")
<b>Spring</b> 3 - 3-15 psi    6 - 6-30 psi    0 - Non-Adjustable (#35 Actuator Only)
<b>Materials</b> C - Carbon    N - Carbon Steel    T - Stainless Steel    L - Low Temp CS Steel    NACE
<b>Seals</b> B - Buna    V - Viton®    L - Low Temp Buna
<b>Trim Size</b> 2 - 0.25"    3 - 0.375" (3/8")    4 - 0.50"
<b>Trim Type</b> Q - Quick Open Stainless    T - Throttling Stainless R - Quick Open Tungsten Carbide    U - Throttling Tungsten Carbide

CV20- R 3 3 - C B - 2 Q

Repair Kits Available

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04/2022