

Freezeless Control Dump Valves

CV20 Models

The CV20 control valve 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 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 (CV20)
- 2" male 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 in² area), No. 70 (70 in² area)

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

Materials:

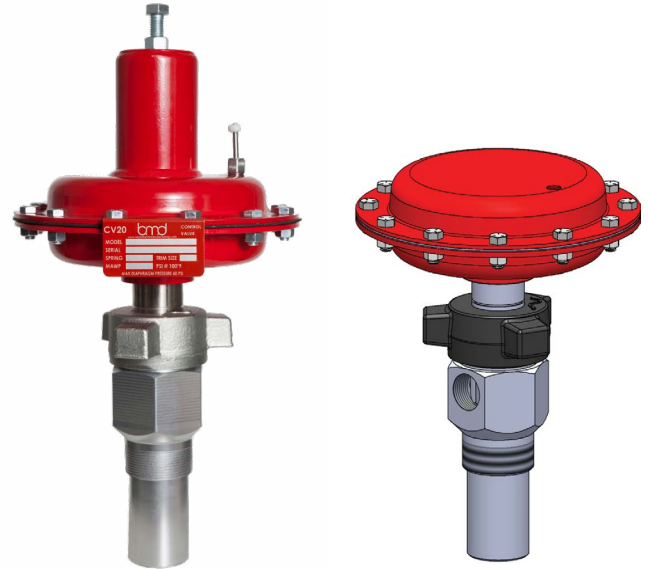
- Body:** A105 steel, A350 LF2 (low-temp option)
- Packing Plug:** 304 stainless steel
- Hammer Nut:** A105 steel, A350 LF2 (low-temp option)
- Trim:** 17/4 stainless, carbide (optional)
- Stem:** 303 stainless, 316 (optional)
- Actuator Housing:** Carbon steel

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

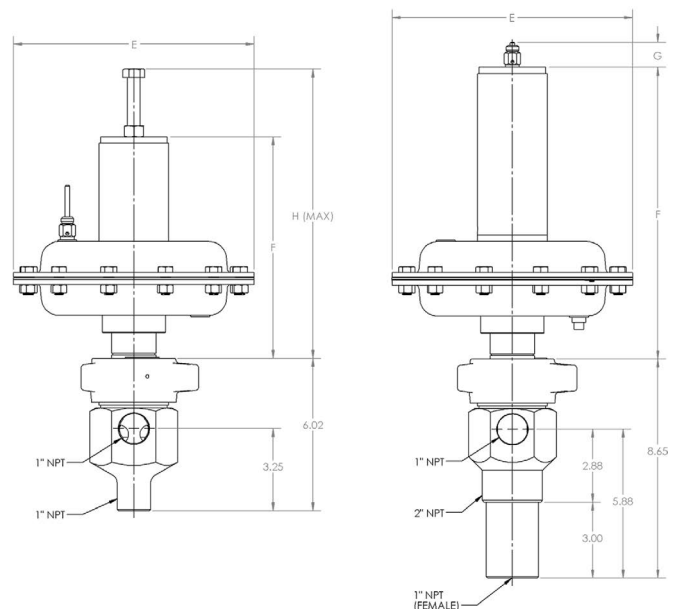
CV20 Non-Adjustable

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Dimensions

CV20N Reverse Acting

CV20 Direct Acting



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

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

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

Maximum Shut-Off Pressures For Reverse-Acting (fail-closed) Actuator

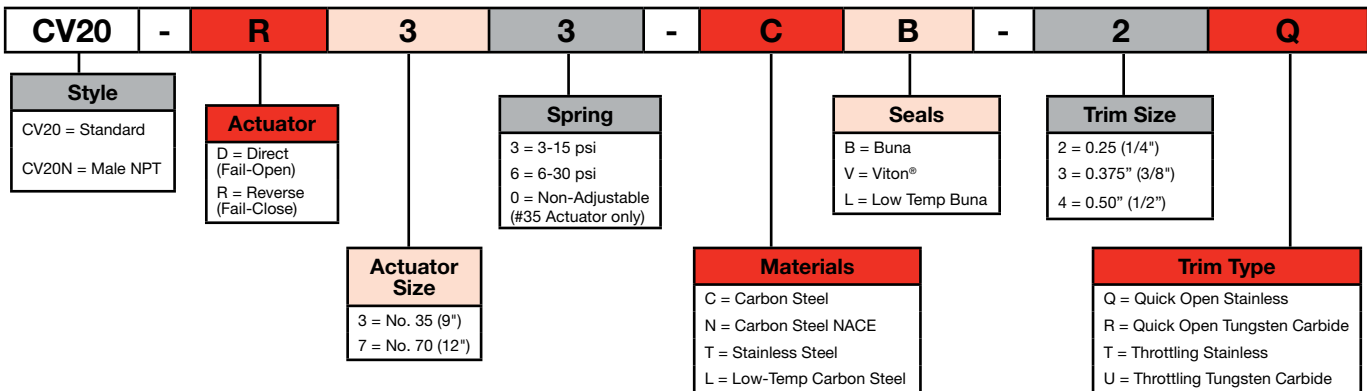
Trim Size (in.)	Flow Direction	Signal to No. 35 Actuator				Signal to No. 70 Actuator			
		3-15 Spring		6-30 Spring		3-15 Spring		6-30 Spring	
		3-15 psig	0-20 psig	6-30 psig	0-35 psig	3-15 psig	0-20 psig	6-30 psig	0-35 psig
0.25	Up	3800	4000	4000	4000	4000	4000	4000	4000
0.375		2050	3280	3410	4000	3210	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

Options are listed below. All configurations may not be available. Call your sales representative or FW Murphy for more information. Repair kits are available.

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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