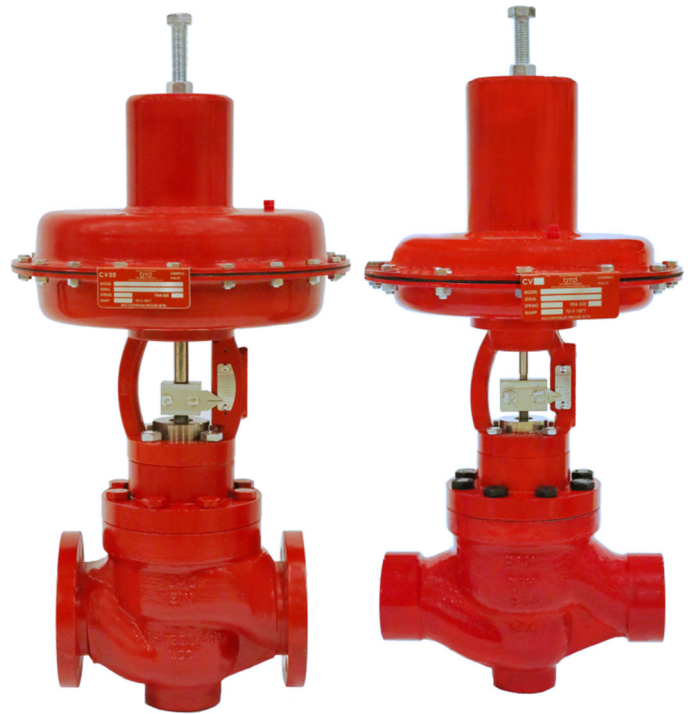


CV30 Control Valve

The CV30 is a reliable, full port control valve in a compact package featuring balanced plug control trim for excellent throttling or on/off control of fluids. The adjustable top works are designed to save space while leaving enough room to mount a controller. The soft seat design achieves repeatable bubble tight shut-off while remaining out of the flow path. The CV30 is ideally suited for a wide range of applications such as pressure control, level control or flow control.

The CV30 is available in a variety of material options and trim sizes. A NACE option is available for sour service. The CV30 can also be ordered with a metal to metal seat.

The CV30 is now available with the Hercules Actuator for increased shut-offs with unbalanced trim.



Specifications

Sizes: 2", 3", 4" and 6"

Connections: Female NPT (2" Only), Flanged

Body Type: Globe

Trim Characteristic: Modified % (Throttling)

Trim Size: Full Port and Reduced Port (1 Size Down)

Seat Types: Soft Seat with Metal to Metal Backup or Metal to Metal Hard Seat

Pressure Rating: See Table

Temperature Range: -50° F to 300° F (-46° C to 149° C)

Shutoff: ANSI Class IV Metal Seat,
ANSI Class VI Soft Seat

Actuator Sizes:

2" CV30 - #70 (70 in² area)

3", 4", and 6" CV30 - #120 (120 in² area)

3", 4", and 6" CV30 - #260 (260 in² area) Hercules Actuator

Actuator Spring Ranges: 3-15 psi, 6-30 psi

Actuator Action: Reverse (Fail Close) & Direct (Fail open)

Stem Travel:

2" CV30 - 1.00in

3" CV30 - 1.42in

4" CV30 - 1.76in

6" CV30 - 2.50in

Materials:

Body: WCC Steel, LCC (Low Temp Option)

Packing Plug: A105 Steel with Nickel Plating, A350 LF2 with Nickel Plating (Low Temp Option)

Plug Ring: D2 Tool Steel (Standard), 316 Stainless (Optional), Carbide (Optional)

Plug Tip, Seat Ring: D2 Tool Steel, 316 Stainless (Optional)

Seat: Polyurethane, Low Temp HNBR (Optional)

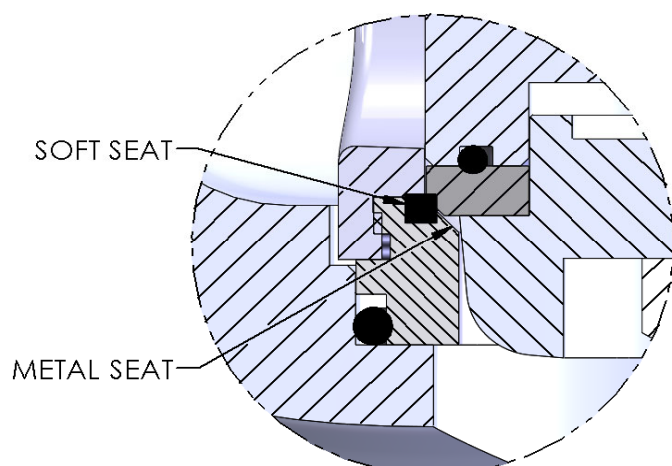
Cage, Plug, and Stem: 316 Stainless

Actuator Housing: Carbon Steel

Yoke: A395 Ductile Iron

Bolting: A193 B7

Seat Detail



Cv Values

Body Size (in.)	Trim Size (in.)	Valve Opening (% Travel)									
		10	20	30	40	50	60	70	80	90	100
2	1.5	0.8	3.6	6.6	9.2	16.5	23.5	26.2	27.4	29.3	29.8
	2.0	0.8	3.5	8.4	16.6	25.5	31.5	36.0	41.1	46.0	47.7
3	2.0	6.9	8.8	9.7	11.0	18.6	33.9	42.5	49.1	50.0	50.1
	3.0	4.4	6.0	11.7	33.1	37.3	68.0	76.5	99.3	108.0	117.9
4	3.0	4.2	10.3	17.0	22.4	27.3	44.6	70.3	89.3	106.0	111.3
	4.0	10.3	14.1	16.4	29.9	64.7	97.9	104.4	120.6	145.4	155.0
6	4.0	11.8	22.4	33	75.2	124.2	159.4	189	218.8	224.6	229.2
	6.0	21.6	44.0	93.0	183.0	262.4	292.0	317.4	348.2	378.6	390.6

Materials

Component	Standard	NACE Compliant	Low Temp	Low Temp NACE
Body	ASTM A216 WCB	ASTM A216 WCB	ASTM A352 LCC	ASTM A352 LCC
Actuator	ASTM A395	ASTM A395	ASTM A395	ASTM A395
Bonnet	ASTM A105	ASTM A105	ASTM A350 LF2	ASTM A350 LF2
Packing Plug	ASTM A105	ASTM A105	ASTM A350 LF2	ASTM A350 LF2
Stem	316 Stainless	316 Stainless	316 Stainless	316 Stainless
Cage	316 Stainless	316 Stainless	316 Stainless	316 Stainless
Plug	316 Stainless	316 Stainless	316 Stainless	316 Stainless
Seat Ring	ASTM A681 D2	316 Stainless	ASTM A681 D2	316 Stainless
Plug Ring	ASTM A681 D2	316 Stainless	ASTM A681 D2	316 Stainless
Seat Tip	ASTM A681 D2	316 Stainless	ASTM A681 D2	316 Stainless
Packing Spring	17-7PH Stainless	Inconel X-750	17-7PH Stainless	Inconel X-750
Diaphragm	Buna	Buna	Buna	Buna
Packing	Super Red	Super Red	Super Red	Super Red
O-Rings	Buna	Viton	Low Temp HNBR	Low Temp HNBR
Soft Seat Insert	Polyurethane	HNBR	Low Temp HNBR	Low Temp HNBR

Service Recommendations

Plug Ring Material	Service	Do Not Use In
D2 Tool Steel	Abrasive Service	Sour Service, CO ₂ , Steam
316 Stainless	Corrosive Service, NACE, Steam	Abrasive/Erosive Service
Tungsten Carbide	Corrosive Service, Abrasive, NACE	

CV30 Unbalanced Shut off Pressures

CV30 Unbalanced Metal to Metal Seat Shut Off Pressures (psi)											
Trim Size (in.)	Flow Direction	Signal to No. 70 Actuator		Signal to No. 70 Actuator		Signal to No. 120 Actuator		Signal to No. 120 Actuator		Signal to No. 260 Actuator	
		3 - 15 Spring		6 - 30 Spring		3 - 15 Spring		6 - 30 Spring		6 - 30 Spring	
		15 psi	25 psi	30 psi	40 psi	15 psi	25 psi	30 psi	40 psi	30 psi	40 psi
2	Under Seat		186	65	254						
3						5	137	23	155	485	771
4							44	7	77	249	399
6							16		25	59	122
2	Over Seat	70	268	367	565						
3						50	184	68	203	585	875
4						7	77		64	268	419
6							15			80	144

Pressure Ratings

Body Size	2" NPT	150# Flange	300# Flange	600# Flange	900# Flange	1500# Flange
2 Inch	3900 PSI	285 PSI	740 PSI	1480 PSI	2220 PSI	3750 PSI
3 Inch	-	285 PSI	740 PSI	1480 PSI	2220 PSI	-
4 Inch	-	285 PSI	740 PSI	1480 PSI	2220 PSI	-
6 Inch	-	285 PSI	740 PSI	1480 PSI	-	-

Dimensions & Weights

End Connection	Body Dimensions (in.)											
	2" Globe Body			3" Globe Body			4" Globe Body			6" Globe Body		
	A	B	C	A	B	C	A	B	C	A	B	C
NPT	11.25	3.50	6.05	-	-	-	-	-	-	-	-	-
150 RF	10.00	3.50	6.05	11.75	4.50	7.45	13.88	5.62	6.18	17.75	7.60	11.46
300 RF	10.50	3.50	6.05	12.50	4.50	7.45	14.50	5.62	6.18	18.62	7.60	11.46
600 RF	11.25	3.50	6.05	13.25	4.50	7.45	15.50	5.62	6.18	20.00	7.60	11.46
600 RTJ	11.38	3.50	6.05	13.38	4.50	7.45	15.63	5.62	6.18	20.13	7.73	11.59
900 RF	13.38*/14.75	3.50	3.50	15.50	4.50	7.45	17.00	6.00	6.18	-	-	-
900 RTJ	13.51/14.88	3.63	3.63	15.63	4.63	7.58	17.13	6.13	6.31	-	-	-
1500 RF	13.38*/14.75	3.50	3.50	-	-	-	-	-	-	-	-	-
1500 RTJ	13.51/14.88	3.63	3.63	-	-	-	-	-	-	-	-	-

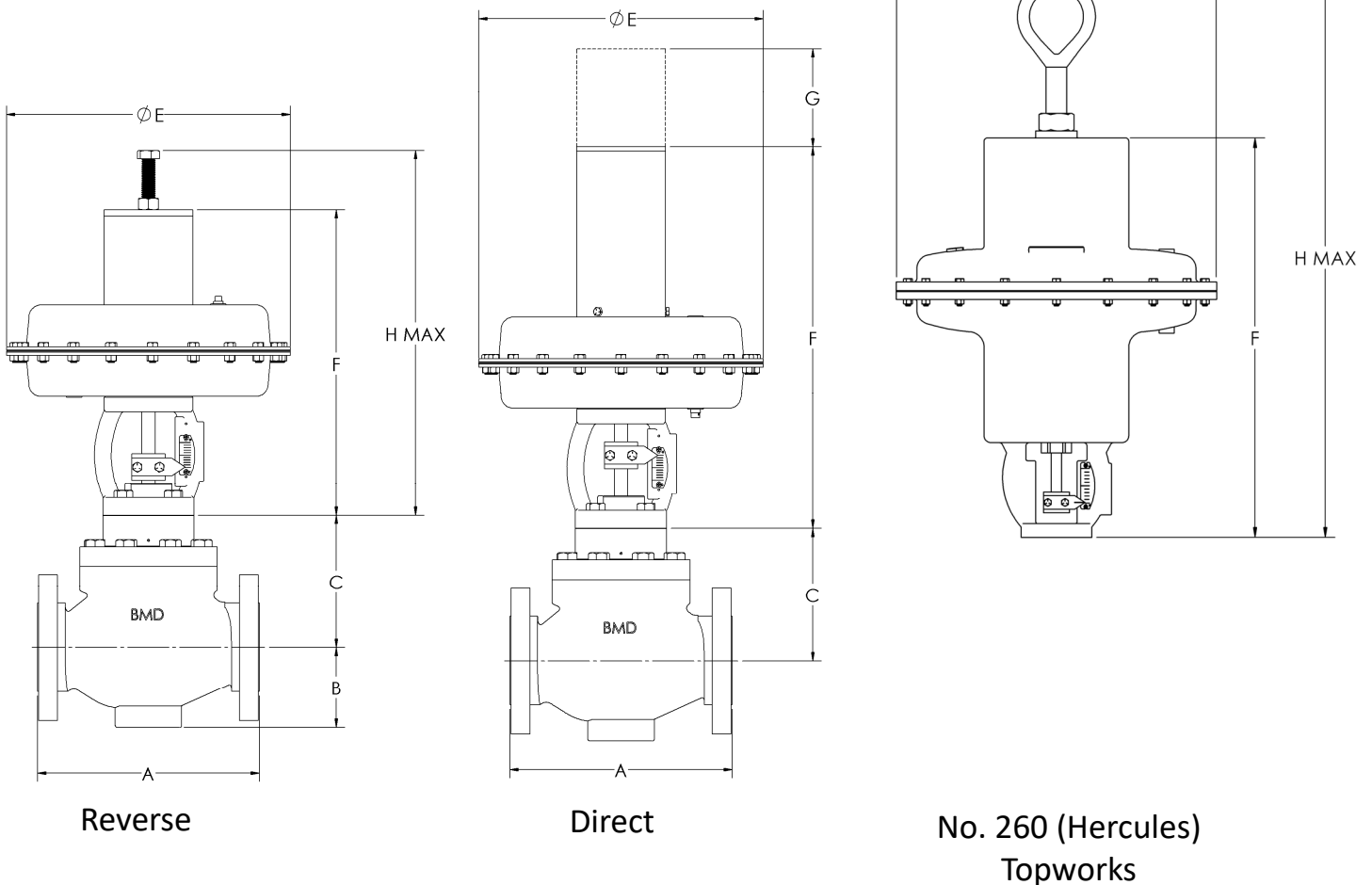
*Short Pattern Body Dimension

Actuator Size	Actuator Dimensions (in.)					
	Direct			Reverse		
	E	F	G	E	F	H
No. 70, 3-15	12.50	17.1	8.00	12.50	14.77	17.45
No. 70, 6-30	12.50	20.06	8.00	12.50	16.37	19.45
No. 120	16.00	21.54	8.90	16.00	17.30	20.67
No. 260 (Hercules)	23.25	29.00	-	16.00	29.00	36.16

G = Clearance needed for spring cover removal.

End Connection	Valve Weights							
	2" Globe		3" Globe		4" Globe		6" Globe	
	lbs	kg	lbs	kg	lbs	kg	lbs	kg
NPT	90	41	-	-	-	-	-	-
ANSI 150	95	43	184	84	272	123	450	204
ANSI 300	98	45	194	88	290	132	481	218
ANSI 600	103	47	200	91	312	142	558	253
ANSI 900	130	59	224	101	336	152	-	-
ANSI 1500	130	59	-	-	-	-	-	-

*Hercules Topworks option adds 371 pounds to valve weight



How to Order

Example Model No. **CV30-2N50R73-1CB-1F**

CV30 Series Control Valve, 2" Globe Body, Threaded Ends, No. 70 Reverse Acting Actuator, 3-15 Spring, Standard Service, Carbon Steel with Buna Seals, Tool Steel Seat with Polyurethane Insert, Full Port, Balanced Trim

Body Size				CV30 - 2 N 50 R 7 3 - 1 C B - 1 F									
2 - 2" Globe	3 - 3" Globe	4 - 4" Globe	6 - 6" Globe										
Connection													
N - NPT (2" Valve Only)		F - RFF	J - RTJ										
Class													
50 - NPT	30 - 300	90 - 900	94 - 900 ¹										
10 - 150	60 - 600	15 - 1500 ²											
Actuator													
D - Direct (Fail Open)		R - Reverse (Fail Close)											
Actuator Size													
2 - #120 (3", 4", 6" Bodies)		4 - #260 (3", 4", 6" Bodies)											
7 - #70 (2" Body Only)													
Spring													
3 - 3-15 psi		6 - 6-30 psi ³											
Service													
1 - Standard (1, 3, and 5 only)		2 - NACE (Trim Options 2, 4, and 5 only)											
Body Material													
C - Carbon Steel		L - Low Temp Carbon Steel											
Seals													
B - Buna		V - Viton®	L - Low Temp HNBR										
A - Aflas (Amine Service)		H - Kalrez (High Temp)											
Trim (Plug Ring/Plug Tip/Seat Ring/Seat)													
1 - D2/D2/D2/Polyurethane Seat		2 - 316 SST/316 SST/316 SST/Low Temp HNBR Seat											
3 - Carbide/D2/D2/Polyurethane Seat		4 - Carbide/316 SST/316 SST/Low Temp HNBR Seat											
5 - 316 SST Solid Plug/316 SST Metal Seat													
Port Characteristic													
F - Full Port		R - Reduced Port											
Plug Type													
Blank - Balanced Trim		U - Unbalanced Trim											

-Repair kits available

-To order a short body with 13.38 Face to Face specify 90

-To order a long body with 14.75 Face to Face specify 94

¹ 2" - 900 flanged valve is available in a short or long body

² #1500 flanges only available with 2" body size

³ 6-30 PSI spring is a required option for Hercules

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