



# API 6D SWING CHECK VALVE

*CVA Series*

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## CVA Series



### SPECIFICATIONS

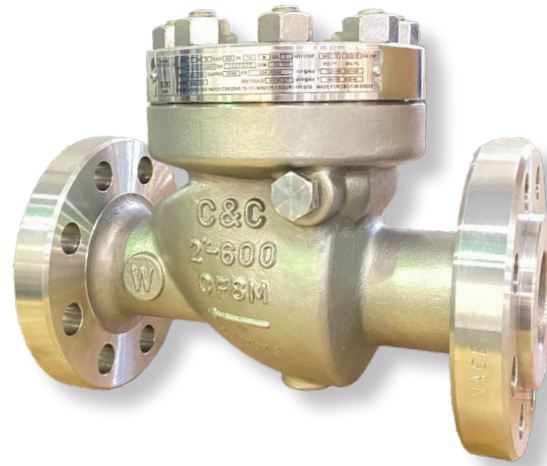
- API 6D Monogrammed
- ASME CL 150/300/600, Sizes 2" – 24"
- ASME CL 900, Sizes 2" – 12"
- ASME CL 1500, Sizes 2" – 8"
- ASME CL 2500, Sizes 2" – 3"
- Material options include Carbon Steel, Low Temp Carbon Steel, and Stainless Steel

### BENEFITS

- O-ring cover seal for easier in-line repair (RTJ gasket in CL 2500)
- Full opening - Piggable (lock open option required)
- Suitable for horizontal or vertical applications
  - For vertical installations, only install the arrow mark on the body pointing in an upward direction
- In-line repairable for ease of maintenance
- 316 stainless steel clapper material is standard
- Oval shaped disc to shaft connection for better leverage to make a proper seal and more durability after extended use

### STANDARDS

- Design/Materials: API 6D, ASME B16.34, NACE MR 0175/ISO 15156
- Pressure-Temperature: ASME B16.34
- Testing & Inspection: API 598/API 6D, CSA Z245.15-17
- End to End: ASME B16.10
- Flanged End: ASME B16.5
- Fire Safe Design: API 6FD



## HOW TO ORDER GUIDE

### EXAMPLE:

A 4" Class 600, API 6D Swing Check Valve with Raised Face Flanged End Connections, Carbon Steel Body and Cover, Stainless Steel Clapper and Viton 90 durometer seals is written as CVA-040-31-ACBV-1 (suffix may vary based on availability)

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>
<b>CVA</b>	<b>040</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>C</b>	<b>B</b>	<b>V</b>	internal reference only

A	Valve Type
CVA	API 6D Swing Check Valve

B	Size	
	Inches	DN
020	2"	50
030	3"	80
040	4"	100
060	6"	150
080	8"	200
100	10"	250
120	12"	300
160	16"	400
200	20"	500
240	24"	600

C	Pressure Class
1	Class 150
2	Class 300
3	Class 600
4	Class 900
5	Class 1500
6	Class 2500

D	End Connection
1	Raised Face Flange
2	Ring Type Joint Flange
3	Buttweld

E	Body Material	
A	Carbon Steel	ASTM A216 WCB
K	Low Temp Carbon Steel	ASTM A352 LCC
S	Stainless Steel	ASTM A351 CF8M

F	Cover Material	
C	Carbon Steel	ASTM A105
K	Low Temp Carbon Steel	ASTM A350 LF2
S	Stainless Steel	ASTM A182 F316

G	Clapper Material	
B	Stainless Steel	ASTM A351 CF8M <sup>1</sup>

H	Seal Material <sup>4</sup>	
H	LT HNBR 90	
V	Viton®90 (use "V" for CL2500. Metal seated with RTJ gasket)	

I	Internal Reference
Suffix may vary based on availability	

<sup>1</sup> Clapper material on sizes 2" - 12" is full stainless steel. Clapper material on sizes 16" - 24" is carbon steel with 316SS overlay.

<sup>2</sup> Consult CNC Flow Control for a full list of material options per valve size and pressure class, as components may vary according to design.

<sup>3</sup> Viton® is a registered trademark of The Chemours Company.

<sup>4</sup> For CL 2500 orders, use "V" for the Seal Material field. No elastomeric seals are used. Valves are metal seated with an RTJ gasket at the body/cover joint.

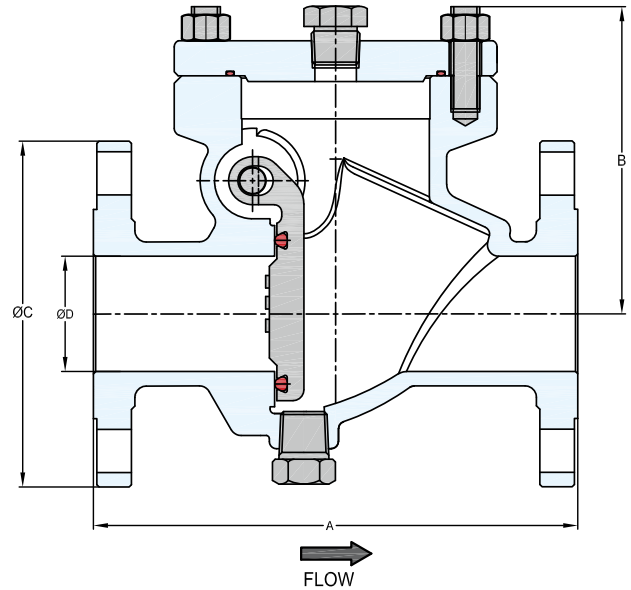
# WEIGHTS & DIMENSIONS



CLASS	NOMINAL SIZE	DIMENSIONS (IN)				FLOW COEFFICIENT (CV)	APPROX. WEIGHT (LB)
		A	B	ØC	ØD		
150	2"	8.0	5.5	6.0	2.0	101	32
	3"	9.5	7.5	7.5	3.0	226	60
	4"	11.5	7.9	9.0	4.0	389	92
	6"	14.0	11.8	11.0	6.0	823	150
	8"	19.5	14.0	13.5	8.0	1,384	327
	10"	24.5	14.2	16.0	10.0	2,083	352
	12"	27.5	16.0	19.0	12.0	2,933	558
	16"	34.0	20.5	23.5	15.3	8,686	1,375
	20"	38.5	24.6	27.5	19.3	14,405	2,525
24"	51.0	27.3	32.0	23.3	21,013	4,058	
300	2"	10.5	5.8	6.5	2.0	101	42
	3"	12.5	7.4	8.3	3.0	226	83
	4"	14.0	8.3	10.0	4.0	389	133
	6"	17.5	12.4	12.5	6.0	823	216
	8"	21.0	14.9	15.0	8.0	1,384	363
	10"	24.5	15.4	17.5	10.0	2,083	525
	12"	28.0	17.0	20.5	12.0	2,933	847
	16"	34.0	21.0	25.5	15.3	8,686	1,750
	20"	40.0	24.7	30.5	19.3	14,405	3,042
24"	53.0	27.4	36.0	23.3	21,013	4,872	
600	2"	11.5	6.3	6.5	2.0	101	56
	3"	14.0	7.8	8.3	3.0	226	100
	4"	17.0	8.8	10.8	4.0	389	191
	6"	22.0	12.7	14.0	6.0	823	440
	8"	26.0	15.3	16.5	8.0	1,384	635
	10"	31.0	16.9	20.0	10.0	2,083	976
	12"	33.0	19.1	22.0	12.0	2,933	1,381
	16"	39.0	22.0	27.0	15.3	8,686	2,822
	20"	47.0	25.6	32.0	19.3	14,405	4,755
24"	55.0	28.3	37.0	23.3	21,013	7,286	
900	2"	14.5	8.9	8.5	2.0	101	108
	3"	15.0	10.5	9.5	3.0	226	195
	4"	18.0	13.1	11.5	4.0	389	304
	6"	24.0	17.6	15.0	6.0	823	687
	8"	29.0	19.8	18.5	7.9	1,662	1,210
	10"	33.0	17.1	21.5	10.1	3,933	1,025
1500	2"	14.5	11.9	8.5	2.0	94	123
	3"	18.5	13.6	10.5	3.0	213	226
	4"	21.5	16.4	12.3	4.0	377	465
	6"	27.8	20.2	15.5	5.7	734	1,220
	8"	32.8	26.8	19.1	7.6	1,506	2,393
2500	2"	17.9*	12.6	9.3	1.6	42	320
	3"	23.0*	18.3	12.0	2.5	109	772

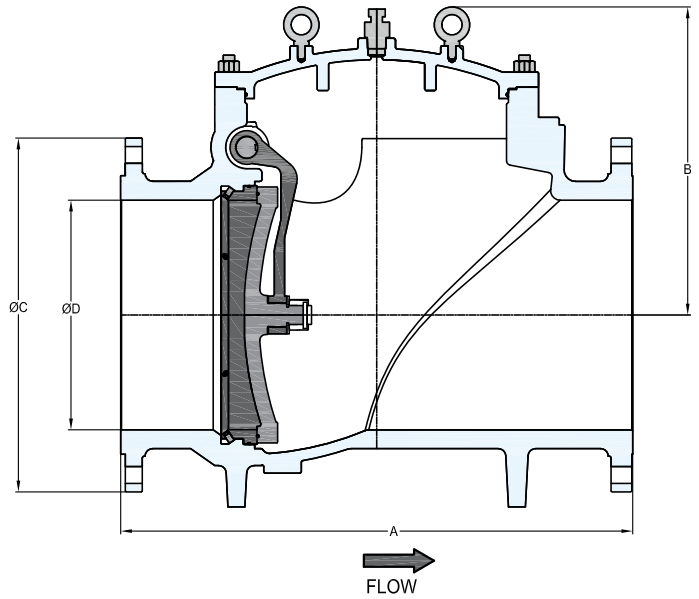
\* For Class 2500, end to end dimension (A) is applicable to RTJ end flanges.  
 \*\* Weights are estimates and may vary slightly.

## 2" - 12" VALVE DESIGN



\*CL 2500 valves are metal seated with an RTJ gasket at the body/cover joint.

## 16" - 24" VALVE DESIGN

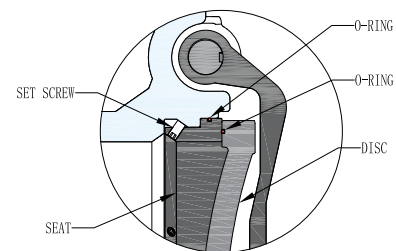


# TEMPERATURE LIMITS

MATERIAL TEMPERATURE LIMITS						
	MATERIAL	SPECIFICATION	FAHRENHEIT (°F)		CELSIUS (°C)	
			MIN.	MAX.	MIN.	MAX.
BODY	Carbon Steel	ASTM A216 WCB	-20	800	-29	427
	Low Temp Carbon Steel	ASTM A352 LCC	-50	650	-46	343
	Stainless Steel	ASTM A351 CF8M	-425	1500	-254	816
SEAL	LT HNBR 90	LT HNBR 90	-50	302	-46	150
	Viton® GLT 90	Viton® GLT 90	-50	392	-46	200
	Viton® 90	Viton® 90	-4	400	-20	204

\* Low Temperature Carbon Steel and Stainless Steel valve configurations use low temperature seals.  
 \*\* Contact CNC Flow Control for information on repair kits.

## 16" - 24" SEAT DETAIL





# About Our Company



CNC Flow Control is headquartered in Houston, Texas with multiple other locations in the U.S. and Canada. Our company unifies several trusted valve and flow line brands that have been serving numerous industries in North America for nearly three decades. From long range projects to same-day delivery, our diverse team is dedicated to understanding customers' needs in order to ensure exceptional service and the best solutions. Our extensive product portfolio ranges from commodity products like hammer unions and needle valves, to highly engineered products like API 6D trunnion mounted ball valves.



Quality assurance is critical to CNC Flow Control's process and we hold multiple internationally recognized quality standards certifications and management system. We are dedicated to understanding our customers' needs to ensure exceptional service by offering an in-house engineering and product management team, an extremely large product portfolio and extensive inventory to support same day shipments.

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***Multiple other branch locations throughout the U.S. and Canada.***

**Website:** [www.cncflowcontrol.com](http://www.cncflowcontrol.com)



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