

**TITAN**

TITAN FLOW CONTROL, INC.

**SILENT CHECK VALVE ♦ GLOBE TYPE ♦ CENTER GUIDED****ASME CLASS 300 ♦ DUCTILE IRON ♦ FLANGED ENDS RAISED FACE****MODEL: CV 52-DI**

Body: Ductile Iron

Trim: Stainless Steel &  
Aluminum Bronze**PATENTED  
DESIGN WITH INTEGRAL  
STRAIGHTENING  
VANES****FEATURES**

SIZE RANGE: 2" ~ 24"

LARGER SIZES AVAILABLE

♦ **DESIGNED FOR LONG SERVICE LIFE**

DUCTILE IRON BODY MAINTAINS THE ANTI-CORROSIVE PROPERTIES OF CAST IRON WHILE ACHIEVING A YIELD STRENGTH COMPARABLE TO CARBON STEEL. DUCTILE IRON CHECK VALVES ALSO OFFER HIGHER PRESSURE AND TEMPERATURE RATINGS WHEN COMPARED TO CAST IRON CHECK VALVES OF THE SAME CLASS.

♦ **MINIMAL HEAD LOSS**

HEAD LOSS IS MINIMIZED BY THE INTEGRAL STRAIGHTENING VANES THAT HELP CREATE LAMINAR FLOW. A LARGE CROSS-SECTIONAL AREA ALSO LESSENS PRESSURE DROP ACROSS THE CHECK VALVE. UNLIKE TYPICAL CONICAL SPRING CONSTRUCTIONS THAT RESTRICT FLOW, THE NEW CV 52 HAS A COMPRESSION SPRING COUPLED WITH A SMALL STEM GUIDE THAT ALLOWS FOR AN UNOBSTRUCTED FLOW PATH.

♦ **QUICK CLOSURE TO REDUCE WATER HAMMER**

SILENT SHUT-OFF IS ACHIEVED VIA THE FULLY AUTOMATIC, SPRING ASSISTED DISC THAT CLOSURES NEAR ZERO FLOW VELOCITY. THE LIGHTWEIGHT, CENTER GUIDED DISC DESIGN CREATES A POSITIVE SHUTOFF PRIOR TO FLOW REVERSAL AND HELPS TO KEEP SLAMMING AND SURGES TO A MINIMUM.

♦ **METAL-TO-METAL SEATS**

PRECISION MACHINED SEALING SURFACES ALLOW THE CV 52-DI TO MAINTAIN A TIGHT SEAL THAT MEETS OR EXCEEDS API 598 LEAKAGE REQUIREMENTS. RESILIENT SEATS ARE ALSO AVAILABLE TO PROVIDE BUBBLE TIGHT SEALS\*.

\* AVAILABLE BY SPECIAL ORDER

♦ **VERSATILE DESIGN**

THIS VALVE CAN BE INSTALLED IN ANY POSITION (HORIZONTAL OR VERTICAL WITH UPWARD FLOW)\*. CERTAIN SIZES ALLOW DIRECT MOUNTING OF A WAFER TYPE BUTTERFLY VALVE TO THE OUTLET END WITHOUT REQUIRING A SPACE FLANGE OR SPOOL PIECE.

\* VERTICAL FLOW - CONSULT FACTORY

**TECHNICAL**

<b>PRESSURE/TEMPERATURE RATING <sup>(1)</sup></b> DUCTILE IRON - ASTM A536 - CLASS 300
WOG (Non-Shock): 640 PSI @ 100 °F
<b>SEAT MATERIAL</b> TEMPERATURE RANGE
ALUMINUM BRONZE: -460 ~ 600 °F STAINLESS STEEL: -325 ~ 1500 °F
<b>SPRING MATERIAL</b> MAXIMUM TEMPERATURE
STAINLESS STEEL: 450 °F

*1. The above listed temperatures are theoretical and may vary during actual operating conditions.*

**APPLICATIONS**

**MARKETS:** OIL AND GAS PRODUCTION, GENERAL INDUSTRY, CHEMICAL, PETROCHEMICAL, POWER, FOOD AND BEVERAGE

**SERVICE:** PUMP DISCHARGE SERVICE IN MUNICIPAL WATER, IRRIGATION, AND INDUSTRIAL CLASS HVAC SYSTEMS. IT IS RECOMMENDED THAT A TITAN FCI STRAINER BE INSTALLED AHEAD OF THE PUMP TO ENSURE PROTECTION OF THE CHECK VALVE AND THE PUMP.

**PRECAUTIONS:** THIS VALVE IS INTENDED FOR LIQUID SERVICE THAT DOES NOT EXCEED 10 FT/SEC. IT IS DESIGNED FOR STEADY FLOW CONDITIONS AND IS NOT RECOMMENDED FOR USE IN RECIPROCATING PUMP, COMPRESSOR OR OTHER TYPE OF PHYSICAL/THERMAL SHOCK-LOAD APPLICATIONS. THIS VALVE IS NOT RECOMMENDED FOR STEAM SERVICE OR FLOW MEDIA THAT CONTAINS SOLIDS. IT SHOULD BE INSTALLED AT LEAST FIVE PIPE DIAMETERS DOWNSTREAM FROM ANY TURBULENCE PRODUCING COMPONENTS. FLOW STRAIGHTENERS MAY BE REQUIRED IN CERTAIN APPLICATIONS.

*The above data represents common market and service applications. No representation or guarantee, expressed or implied, is given due to the numerous variations of concentrations, temperatures and flow conditions that may occur during actual service.*

**TITAN FLOW CONTROL, INC.**  
**YOUR PIPELINE TO THE FUTURE!**

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**SILENT CHECK VALVE • GLOBE TYPE**

**CV 52-DI (Ductile Iron)**

**Flanged Ends Raised Face • Globe Style • Center Guided Disc**

**ASME  
Class  
250/300**

**BILL OF MATERIALS <sup>(1)</sup>**

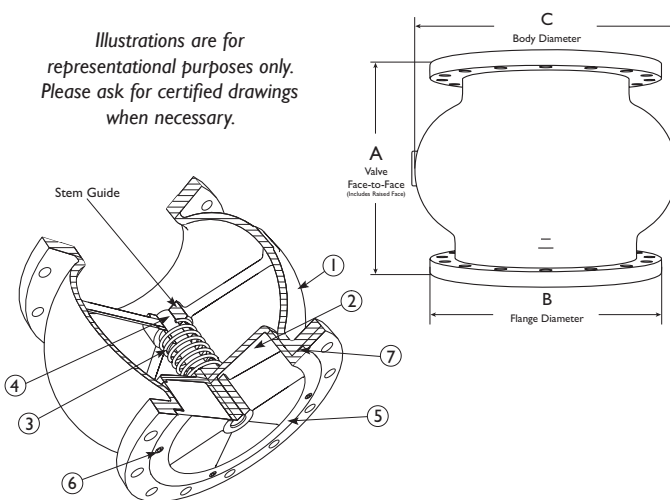
No.	PART	CV 52-DI-B	CV 52-DI-S
1	Body	Ductile Iron ASTM A536	Ductile Iron ASTM A536
2	Disc <sup>(2)</sup>	Aluminum Bronze ASTM B148	Stainless Steel Gr. CF8M Type 316 SS
3	Spring <sup>(2)</sup>	Series 300 Stainless Steel	Series 300 Stainless Steel
4	Bushing <sup>(2)</sup>	Bronze	Stainless Steel
5	Seat <sup>(2) (3)</sup>	Aluminum Bronze ASTM B148	Stainless Steel Gr. CF8M Type 316 SS
6	Cap Screw	Stainless Steel	Stainless Steel
7	Gasket <sup>(2)</sup>	Non - Asbestos Gasket	Non - Asbestos Gasket

1. Bill of Materials represents standard materials. Equivalent or better materials may be substituted at the manufacturer's discretion.
2. Denotes recommended spare parts.
3. Resilient Seats are available upon request. Please call for details.

**Additional Design & Technical Notes:**

- The CV 52-DI is designed to fit Cast Iron Class 250 and Ductile Iron Class 300 Flanges. The bolting pattern for Cast Iron Class 250 and Ductile Iron Class 300 are identical.
- All valve bodies are epoxy painted.

Illustrations are for representative purposes only. Please ask for certified drawings when necessary.

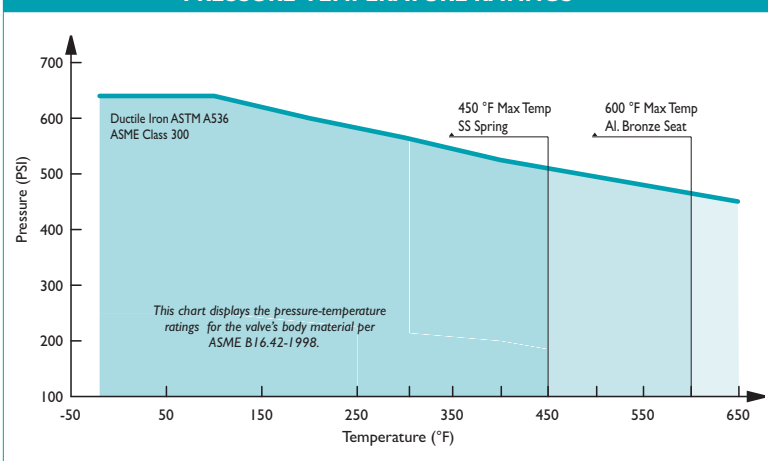


**DIMENSIONS AND PERFORMANCE DATA <sup>(1)</sup>**

SIZE	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A DIMENSION FACE TO FACE	in	6.75	7.625	8.25	9.125	10.0	11.375	14.0	17.0	20.875	23.375	25.625	24.125	25.625	26.0
	mm	172	194	210	232	254	289	356	432	531	594	651	613	651	661
ØB DIMENSION FLANGE DIAMETER	in	6.5	7.5	8.25	10.0	11.0	12.5	15.0	17.5	20.5	23.0	25.5	28.0	30.5	36.0
	mm	166	191	210	254	280	318	381	445	521	585	648	712	775	915
ØC DIMENSION BELLY DIAMETER	in	4.875	5.75	6.625	8.875	10.375	11.5	15.0	17.875	22.125	24.25	26.875	30.0	33.25	37.0
	mm	124	147	169	226	264	293	381	455	562	616	683	762	845	940
ASSEMBLED WEIGHT	lb	21	30	39	64	93	125	198	303	432	612	1000	1238	1775	2500
	kg	9.5	13.6	17.7	29.0	42.2	56.7	89.8	137.4	196.0	277.6	453.1	560.9	804.3	1132.8
Flow Coefficient	C <sub>v</sub>	65	105	150	265	410	600	1100	1800	2500	3100	4300	5000	6300	9800
Cracking Pressure <sup>(2)</sup>	psi	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5	≤ .5

1. Dimensions, weights, and flow coefficients are provided for reference only. When required, always request certified drawings.
2. Cracking pressure is for horizontal installations only. For vertical installations, please consult factory.

**PRESSURE-TEMPERATURE RATINGS <sup>(1)</sup>**



1. This chart displays the pressure-temperature ratings for the valve's body per ASME B16.42-1998. Max temperature limits have been added for seat and spring materials.

**ORDERING CODE**

Model Number	Description
CV52-DI-B	Ductile Iron Body, Aluminum Bronze Seat and Disc
CV52-DI-S	Ductile Iron Body, Stainless Steel Seat and Disc

**REFERENCED STANDARDS & CODES**

CODE	DESCRIPTION
ASME B16.42	Ductile Iron Pipe Flanges and Flanged Fittings
ASME B16.5	Pipe Flanges & Flanged Fittings
MSS SP-6	Standard Finishes for Connecting-end Flanges
MSS SP-25	Standard Marking System for Valves
MSS SP-55	Quality Standard for Valve Castings

**PRESSURE/TEMPERATURE RATING**

<b>Pressure Class</b>	<b>D.I. A536 CLASS 300</b>
WOG (Non-Shock)	640 PSI @ 100 °F <sup>(1)</sup>

1. Ductile Iron check valves offer higher pressure ratings than Cast Iron check valves. For example, Ductile Iron check valves (2" ~ 24") are rated at 640 PSI WOG. By comparison, Cast Iron check valves (2" ~ 12") are rated at 500 PSI WOG and (14" ~ 24") are only rated at 300 PSI WOG.

**TEMPERATURE RANGE SEAT**

SEAT	Temperature
Aluminum Bronze	-460 ~ 600 °F
Stainless Steel	-325 ~ 1500 °F

**MAX TEMPERATURE SPRING**

SPRING	Max Temperature
Stainless Steel	450 °F

The listed pressure and temperature ratings for the valve's body, seat, and spring are theoretical and may vary during actual operating conditions.

Titan FCI makes every effort to ensure the information presented on our literature accurately reflects exact product specifications. However, as product changes occur, there may be short-term differences between actual product specifications and the information contained within our literature. Titan FCI reserves the right to make design and specification changes to improve our products without prior notification. When required, request certified drawings.