



CHECK VALVE ♦ WAFER TYPE ♦ DUAL DISC

ASME CLASS 150 ♦ DUCTILE IRON BODY

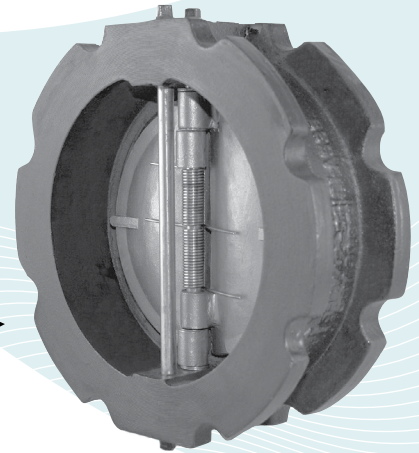
MODEL: CV 41-DI

Body: Ductile Iron

Seats: Buna, Viton & EPDM

Discs: Stainless Steel & Aluminum Bronze

SIZES 2" ~ 6" PROVIDE
DUAL PRESSURE SERVICE
ASME CLASS 150/300
(Scalloped Design)



Sizes 2" ~ 12"

FEATURES

SIZES: 2" ~ 24"

LARGER SIZES AVAILABLE UPON REQUEST

◆ COST EFFICIENT DESIGN

LOW WEIGHT AND SHORT LAYING LENGTH PRODUCE SAVINGS IN INITIAL COST, SPACE REQUIREMENTS, AND INSTALLATION WHEN COMPARED TO FULL-BODY, SWING-TYPE CHECK VALVES.

◆ MINIMAL HEAD LOSS

CONTOUR OF BODY PROVIDES A SHORT AND STRAIGHT FLOW PATH THAT GENERATES VERY LITTLE TURBULENCE. ADDITIONALLY, THE SPRING-LOADED DISCS ARE DESIGNED WITH VERY LOW CRACKING PRESSURE WHICH REDUCES THE AMOUNT OF ENERGY REQUIRED TO OPEN THE VALVE.

◆ QUICK CLOSURE TO REDUCE WATER HAMMER

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

◆ DUCTILE IRON BODY

DUCTILE IRON BODY MAINTAINS THE ANTI-CORROSIVE PROPERTIES OF CAST IRON WHILE ACHIEVING A YIELD STRENGTH COMPARABLE TO CARBON STEEL. DUCTILE IRON ALSO OFFERS HIGHER PRESSURE/TEMPERATURE RATINGS THAN CAST IRON.

◆ RESILIENT SOFT SEATS

RESILIENT SOFT SEATS (EPDM, VITON OR BUNA) ENSURE A BUBBLE TIGHT SEAL THAT MEETS OR EXCEEDS API 598 TEST REQUIREMENTS.

◆ VERSATILE DESIGN

SIZES 2" THROUGH 6" ARE DESIGNED TO FIT BOLT CIRCLE PATTERNS FOR BOTH CAST IRON ASME CLASSES 125/300 AND DUCTILE IRON ASME CLASSES 150/300.

TECHNICAL

PRESSURE/TEMPERATURE RATING
DI - ASTM A536 - CLASS 150 - 2" ~ 24"

WOG (Non-shock): 250 PSI @ 100 °F

PRESSURE/TEMPERATURE RATING
DI - ASTM A536 - CLASS 300 - 2" ~ 6" only

WOG (Non-shock): 640 PSI @ 100 °F

SEAT MATERIAL
TEMPERATURE RANGE

EPDM: -20 ~ 300 °F
BUNA-N: -20 ~ 250 °F
VITON: -40 ~ 400 °F

SPRING MATERIAL
MAXIMUM TEMPERATURE

Series 300 Stainless Steel: 450 °F

1. The above listed temperatures are theoretical and may vary during actual operating conditions.
2. Max and min temperatures are for reference only. Prolonged use at these temperatures is not recommended for optimal service life.

APPLICATIONS

BUNA-N PROPERTIES: MOST WIDELY USED ELASTOMER. GOOD FOR MOST PETROLEUM OILS AND FLUIDS, SILICONE GREASES AND OILS, AND COLD WATER. EXCELLENT COMPRESSION SET, TEAR, AND ABRASION RESISTANCE. POOR WEATHER RESISTANCE AND MODERATE HEAT RESISTANCE. NOT RECOMMENDED FOR SEVERE OZONE-RESISTANT APPLICATIONS.

VITON PROPERTIES: OFFERS A BROAD RANGE OF CHEMICAL RESISTANCE AND EXCELLENT HEAT RESISTANCE. GOOD MECHANICAL PROPERTIES AND COMPRESSION SET RESISTANCE. OFTEN USED IN APPLICATIONS WHERE NOTHING ELSE WILL WORK. FAIR LOW TEMPERATURE RESISTANCE AND LIMITED HOT-WATER RESISTANCE AND SHRINKAGE.

EPDM PROPERTIES: PROBABLY THE MOST WATER RESISTANT RUBBER AVAILABLE. IT HAS GOOD RESISTANCE TO MILD ACIDS, ALKALIS, SILICONE OILS/GREASES, KETONES, ALCOHOLS AND OTHER POLAR SOLVENTS. IT IS NOT RECOMMENDED FOR USE WITH PETROLEUM OILS, DI-ESTER LUBRICANTS, MINERAL OILS, NON-POLAR SOLVENTS OR AROMATIC FUELS.

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.

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CHECK VALVE • WAFER TYPE • DUAL DISC

MODEL: CV 41-DI (Ductile Iron Body)

Buna-N, Viton, or EPDM Seats

Stainless Steel or Bronze Discs

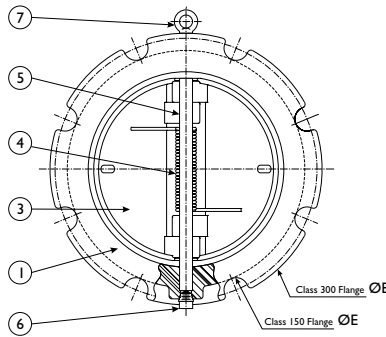
ASME

Class

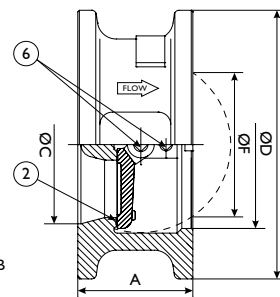
150

BILL OF MATERIALS ⁽¹⁾

No.	PART	CV 41-DI ⁽³⁾
1	Body	Ductile Iron ASTM A536
2	Seat	Buna-N, Viton, or EPDM
3	Disc	Aluminum Bronze or Series 300 Stainless Steel
4	Spring ⁽²⁾	Series 300 Stainless Steel
5	Shaft/Stop Pin	Series 300 Stainless Steel
6	NPT Plug	Commercial Steel
7	Eye Bolt ⁽⁴⁾	Commercial Steel



Outlet Side



Top View - Cutaway

CAD illustration is representative of sizes 2" through 6". Sizes 8" through 24" are not scalloped. Sizes 2" through 6" are designed for dual pressure service (ASME Class 150 and 300).

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. Ductile Iron bodies are epoxy painted.
4. Eye Bolt is available on larger sizes only.



Sizes 2" ~ 12"

Ductile Iron Application Notes:

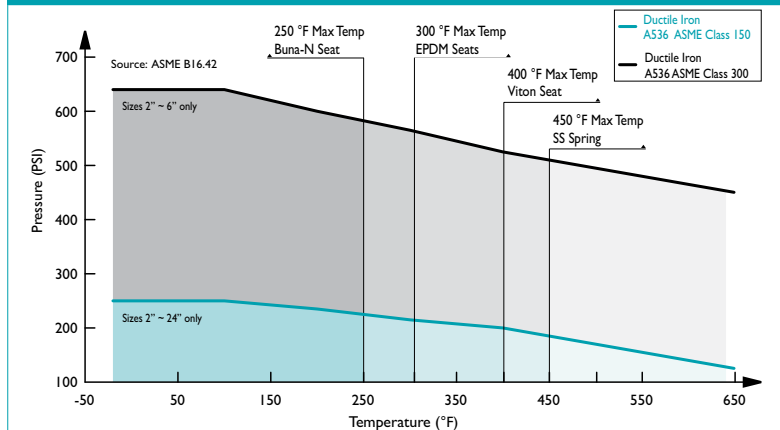
Ductile Iron maintains the anti-corrosive properties of Cast Iron while achieving a yield strength comparable to Carbon Steel. Ductile Iron also offers higher pressure/temperature ratings than Cast Iron. For example, Ductile Iron check valves (class 300 - sizes 2" ~ 24") are rated at 640 psi WOG. By comparison, Cast Iron check valves (class 250 - sizes 2" ~ 12") are rated at 500 psi WOG and (sizes 14" ~ 24") are only rated at 300 psi WOG. Ductile Iron ASME Classes 150 and 300 have the same bolting pattern as Cast Iron ASME Classes 125 and 250 respectively.

DIMENSIONS AND PERFORMANCE DATA ⁽¹⁾

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 ⁽²⁾	in	2.12	2.12	2.25	2.50	2.75	3.00	3.75	4.25	5.62	7.25	7.50	8.00	8.37	8.75
	mm	54	54	58	64	70	77	96	108	143	185	191	204	213	223
ØB DIMENSION OUTLET OUTSIDE DIAMETER	in	4.37	5.12	5.75	7.12	8.50	9.87	11.00	13.37	16.12	17.75	20.25	21.62	23.87	28.25
	mm	111	131	146	181	216	251	280	340	410	451	515	550	607	718
ØC DIMENSION INLET INSIDE DIAMETER	in	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	24.00
	mm	51	64	77	102	127	153	204	254	305	356	407	458	508	610
ØD DIMENSION OUTLET INSIDE DIAMETER	in	2.62	3.12	3.87	4.75	6.00	7.00	9.00	11.00	13.25	14.25	16.25	18.12	20.12	24.00
	mm	67	80	98	121	152	178	229	280	337	362	413	461	512	610
ØE DIMENSION ⁽⁴⁾ INTERNAL SCALLOP DIAMETER	in	4.06	4.80	5.31	6.81	7.65	8.62	NA	NA	NA	NA	NA	NA	NA	NA
	mm	103	122	135	173	173	219	NA	NA	NA	NA	NA	NA	NA	NA
ØF DIMENSION MINIMUM BORE DIAMETER	in	0	1.26	2.36	3.425	4.567	5.315	7.48	9.45	11.26	11.26	13.70	15.63	17.638	21.97
	mm	0	32	60	87	116	135	190	240	286	286	348	397	448	558
ASSEMBLED WEIGHT	lb	4.0	5.0	7.0	14.0	18.0	26.5	43.0	70.0	108.0	175.0	200.0	258.0	345.0	460.0
	kg	1.8	2.3	3.2	6.3	8.2	12.0	19.5	31.7	48.9	79.4	90.7	117.0	156.5	208.7
Flow Coefficient	C _v	62	110	175	350	550	850	1500	2400	3700	5400	8250	10400	14200	23000
Cracking Pressure ⁽³⁾	psi	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25	≤ .25

1. Dimensions and weights are for reference only. When required, request certified drawings.
2. Face to face values have a tolerance of ±0.06 in (±2.0 mm) for sizes 10" and lower and a tolerance of ±0.12 in (±3.0 mm) for sizes 12" and larger.
3. Cracking pressure is for horizontal installations only. For vertical installations, please consult factory.
4. Scallops to provide clearance for class 150 bolting.

PRESSURE - TEMPERATURE RATINGS ⁽¹⁾



1. The above chart displays the pressure-temperature ratings for the valve's body material per ASME B16.42-1998. Max temperature limits have been added for seat and spring materials. Sizes 2" through 6" are dual pressure rated for both ASME Class 150 and 300.

As †Titan 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. †TITAN is a registered trademark of Titan Flow Control Incorporated.

REFERENCED STANDARDS & CODES

CODE	DESCRIPTION
ASME/API 594	Valve Design and Manufacture
ASME/ASME 16.5	Flange Dimensions
ASME/ASME B16.34	Valves - Flanged, Threaded, and Welding End
ASME/ASME B16.42	Ductile Iron Pipe Flanges and Flanged Fittings
API 598	Valve Inspection and Pressure Test
FM APPROVALS CLASS 1230	Anti-Water Hammer Check Valves (2" ~ 12")

PRESSURE / TEMPERATURE RATING - ASTM A536

Body Material	Class 150 (2" ~ 24")	Class 300 (2" ~ 6")
WOG (Non-shock):	250 PSI @ 100 °F	640 PSI @ 100 °F

SEAT AND SPRING TEMPERATURE RATING

Seat Material	Range	Spring Material	Max
EPDM:	-30 ~ 300 °F	Series 300 Stainless Steel:	450 °F
BUNA-N:	-20 ~ 250 °F		
VITON:	-40 ~ 400 °F		

1. Max and min temperatures are for reference only. Prolonged use at these temperatures is not recommended for optimal service life.