



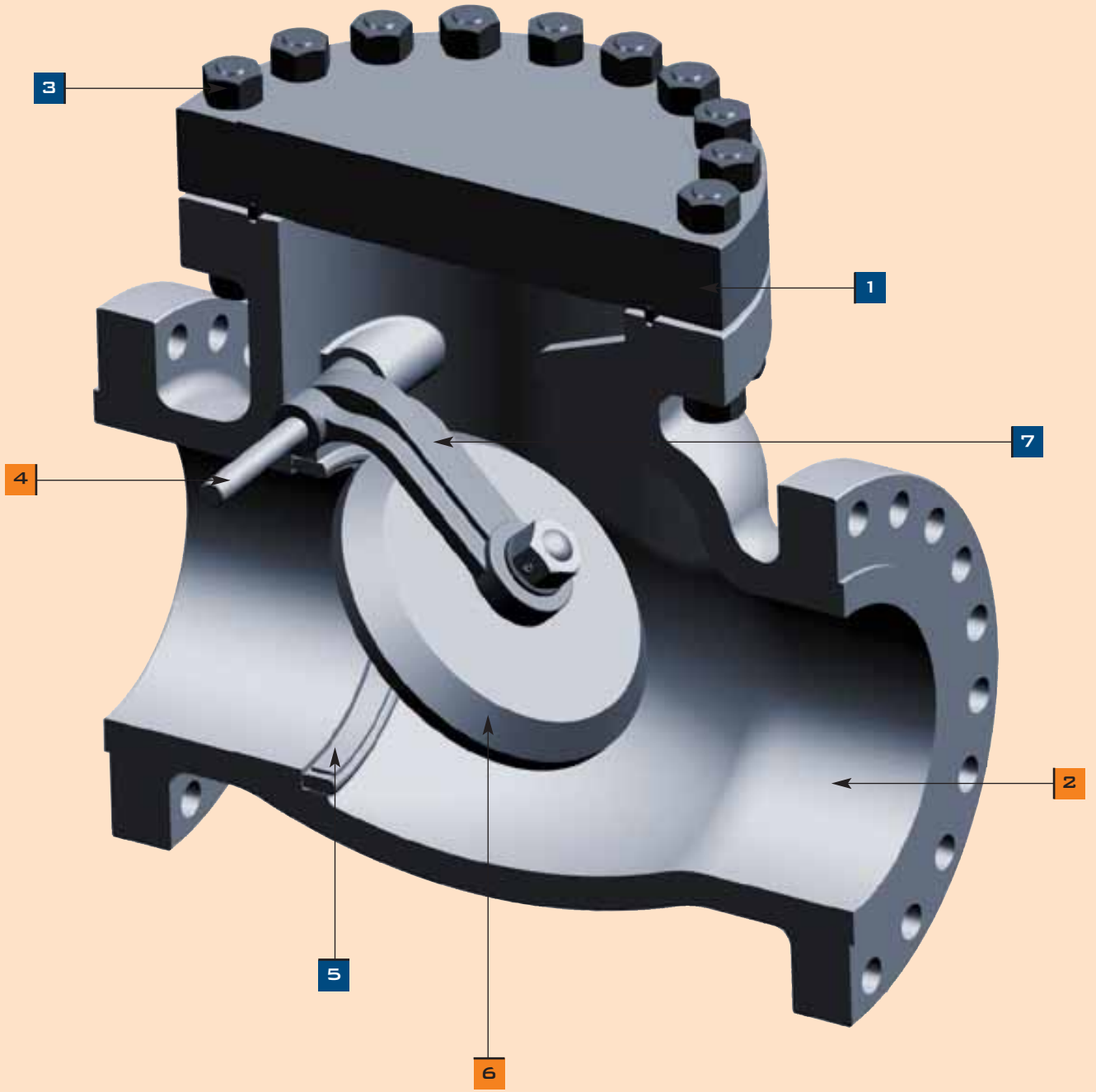
Swing Check Valves



ORION S.p.A. via Caboto, 8 • 34148 Trieste • Italy • tel. +39 040813204 • fax +39 040811203
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ORION

Swing Check Valves



CAST STEEL, SWING TYPE DISC, RENEWABLE BODY SEAT RING, BOLTED BODY-TO-COVER CONNECTION.

- 1 COVER.** The cover is in cast or forged steel. The connection sealing surfaces are raised face or ring joint to suit the valve rating.
- 2 BODY.** The body is in cast steel, carefully designed so as to keep pressure drops to a minimum. A wide opening on the top of the body permits easy inspection and maintenance. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant API and ASME standards. The body-to-cover flange is circular. The sealing surface for connection to the cover is recessed in the 150 and 300 lb Class and ring joint in the higher class. The body is threaded for a renewable seat and an integral over-travel stop for the disc is incorporated. Two threaded bosses are incorporated to ensure correct alignment of the hinge pin.
- 3 COVER BOLTING.** Cover studs and nuts are manufactured from alloy steel to the relevant ASTM standard.
- 4 HINGE PIN.** The hinge pin is part of the trim, in forged stainless steel and is machined from ground bar. The hinge pin is centred in the body with two threaded NPT plugs. The pin can be easily removed for maintenance of the valve.
- 5 SEAT RING.** The ring is in forged stainless steel and is part of the trim. Its outer diameter is threaded and its bore is notched to easy installation and dismantling. Special attention is given to the seating surface which is ground and lapped, for a perfectly tight seal. Welded-in seat ring may be supplied upon request.
- 6 DISC.** The disc is part of the trim and is in forged stainless steel in diameters up to 12" and in cast steel for larger diameters. On the back face there is a threaded spigot for attachment to the hinge arm by a nut and split pin. The seating surface is ground and lapped.
- 7 HINGE.** The hinge is in forged steel for small diameters and in cast steel for valves from 14" upwards.

Class ANSI 150 [PN 20]

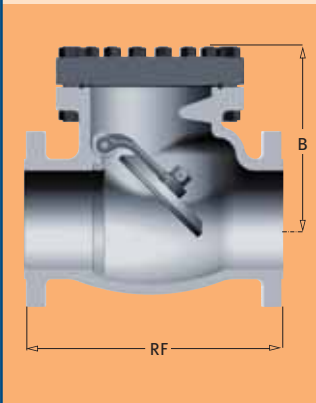
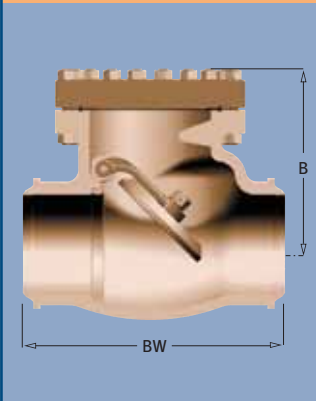


FIGURE NUMBERS
CLASS ANSI 150 – ALL SIZES
 RT 150 RFRAISED FACE
 RT 150 BWWELDING ENDS

SIZE	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"
RF-BW	203,2	215,9	241,3	292,1	355,6	495,3	622,3	698,5	787,4	863,6	977,9	977,9	1.066,8
B	166,0	172,0	190,0	205,0	262,0	310,0	355,0	405,0	445,0	411,0	515,0	500,0	548,0

SIZE	24"	26"	28"	30"	34"	36"	42"	48"	50"	54"	60"	66"
RF-BW	1.295,4	1.295,4	1.447,8	1.524,0	1.651,0	1.955,8	2.082,8	1.955,8	2.359,5	2.536,6	2.802,4	3.068,1
B	630,0	630,0	677,0	840,0	1.000,0	980,0	950,0	1.050,0	1.179,4	1.263,3	1.389,3	1.515,2



Class ANSI 300 [PN 50]

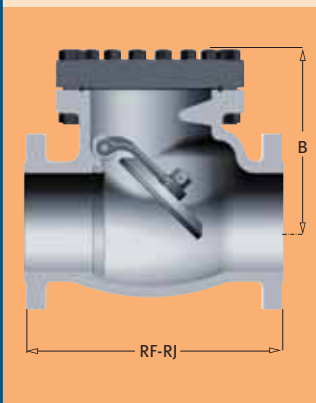
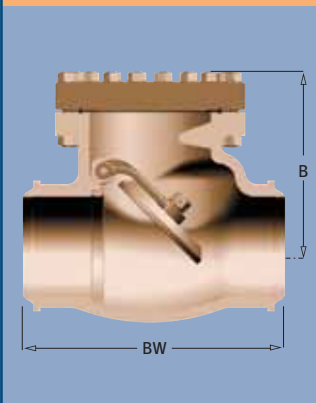


FIGURE NUMBERS
CLASS ANSI 300 – ALL SIZES
 RT 300 RFRAISED FACE
 RT 300 BWWELDING ENDS
 RT 300 RJRING JOINT

SIZE	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"
RF-BW	266,7	292,1	317,5	355,6	444,5	533,4	622,3	711,2	838,2	863,6	977,4	1.016,0	1.117,6
RJ	282,6	308,0	13,9	371,5	460,4	549,3	638,2	727,1	854,1	879,5	993,8	1.035,1	1.139,8
B	170,0	189,0	215,0	240,0	300,0	308,0	405,0	450,0	480,0	570,0	526,0	640,0	740,0

SIZE	24"	26"	30"	36"	42"	48"	50"	54"	60"
RF-BW	1.346,2	1.346,2	1.593,9	2.082,8	2.197,7	2.492,6	2.590,9	2.787,5	3.082,5
RJ	1.368,5	-	-	-	-	-	-	-	-
B	663,0	736,0	822,0	1.005,0	1.136,6	1.278,1	1.325,3	1.419,6	1.561,2



N.B. All dimensions are given in millimeters.

Class ANSI 400 [PN 68]

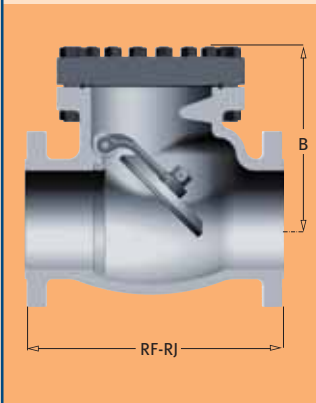


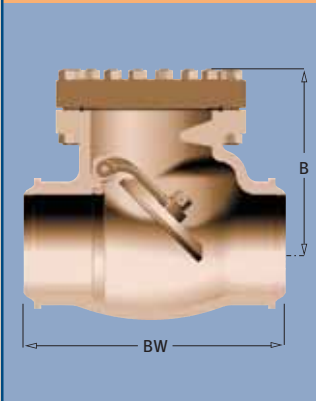
FIGURE NUMBERS

CLASS ANSI 400 – ALL SIZES

RT 400 RFRAISED FACE
 RT 400 BWWELDING ENDS
 RT 400 RJRING JOINT

SIZE	2"	2 ^{1/2} "	3"	4"	6"	8"	10"	12"
RF-BW	292,1	330,2	355,6	406,4	495,3	596,9	673,1	762,0
RJ	295,3	333,4	358,8	409,6	498,5	600,1	676,3	765,2
B	200,0	215,0	235,0	235,0	315,0	380,0	440,0	450,0

SIZE	16"	18"	20"	26"	28"	36"	42"
RF-BW	901,7	1.016,0	1.054,0	1.397,0	1.600,0	2.083,0	2.184,0
RJ	904,9	1.019,0	1.061,0	1.410,0	1.613,0	–	–
B	645,0	690,0	830,0	815,0	845,0	1.205,0	1.310,0



Class ANSI 600 [PN 100]

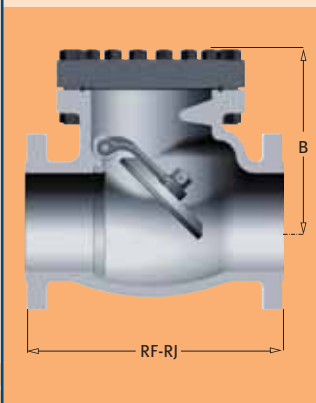


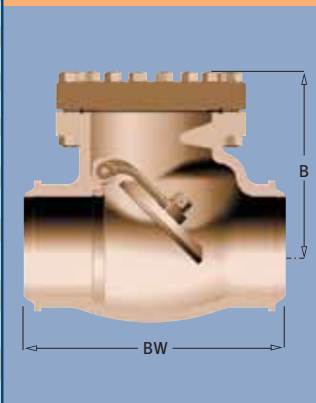
FIGURE NUMBERS

CLASS ANSI 600 – ALL SIZES

RT 600 RFRAISED FACE
 RT 600 BWWELDING ENDS
 RT 600 RJRING JOINT

SIZE	2"	2 ^{1/2} "	3"	4"	5"	6"	8"	10"	12"	14"	16"
RF-BW	292,1	330,2	355,6	431,8	508,0	558,8	660,4	787,4	838,2	889,0	990,6
RJ	295,3	333,4	358,8	435,0	511,0	562,0	663,6	790,6	841,4	892,2	993,8
B	200,0	215,0	235,0	227,0	295,0	300,0	357,0	433,0	456,0	595,0	552,0

SIZE	18"	20"	24"	36"	40"	46"	50"	54"	60"
RF-BW	1.092,2	1.193,8	1.397,0	2.082,8	2.286,0	2.540,0	2.755,7	2.958,7	3.263,2
RJ	1.095,4	1.200,2	1.406,4	2.098,6					
B	720,0	663,0	870,0	1.235,0	1.124,0	1.260,0	1.462,1	1.565,7	1.721,2

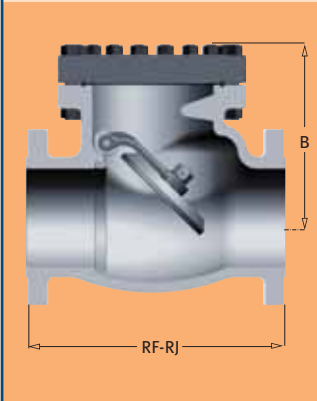


Class ANSI 900 [PN 150]

FIGURE NUMBERS

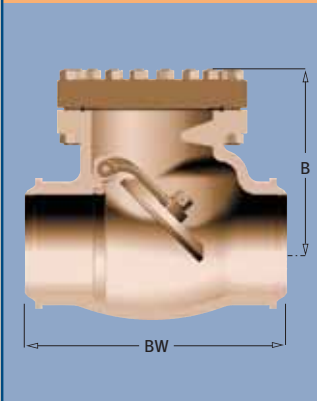
CLASS ANSI 900 – ALL SIZES

RT 900 RFRAISED FACE
 RT 900 BWWELDING ENDS
 RT 900 RJRING JOINT



SIZE	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
RF-BW	368,3	419,1	381,0	457,2	558,8	609,6	736,6	838,2	965,2	1.028,7	1.130,3
RJ	371,5	422,3	384,2	460,4	562,0	612,8	739,8	841,4	968,4	1.038,2	1.139,8
B	255,0	285,0	250,0	310,0	365,0	344,0	418,0	545,0	640,0	680,0	730,0

SIZE	18"	20"	24"	30"	36"	40"	42"	46"	48"
RF-BW	1.320,8	1.549,4	1.930,4	2.232,8	2.451,2	2.560,3	2.778,6	2.887,8	
RJ	1.333,5	1.568,5	1.952,6						
B	928,0	1.100,0	1.300,0	1.532,5	1.685,7	1.762,3	1.915,4	1.992,0	

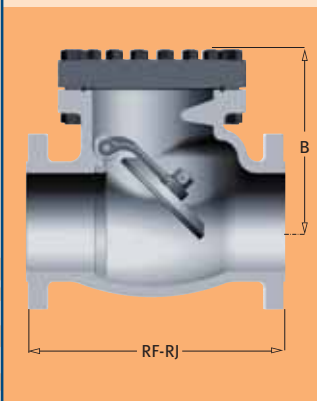


Class ANSI 1500 [PN 250]

FIGURE NUMBERS

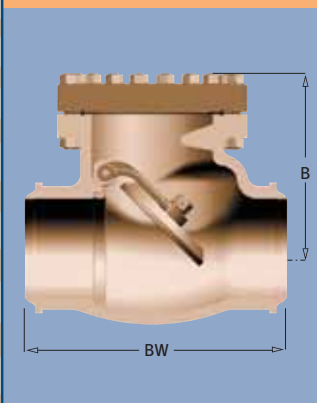
CLASS ANSI 1500 – ALL SIZES

RT 1500 RFRAISED FACE
 RT 1500 BWWELDING ENDS
 RT 1500 RJRING JOINT



SIZE	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"
RF-BW	368,3	419,1	469,9	546,1	673,1	704,9	831,9	990,6	1.130,3
RJ	371,5	422,3	473,1	549,3	676,3	711,2	841,4	1.000,1	1.146,2
B	255,0	285,0	355,0	350,0	460,0	445,0	570,0	675,0	730,0

SIZE	14"	16"	18"	20"	24"	30"	36"	42"
RF-BW	1.257,3	1.384,3	1.536,7	1.663,7	1.943,1	2.378,1	2.800,0	3.222,0
RJ	1.276,4	1.406,5	1.558,9	1.685,9	1.971,7			
B	790,0	852,0	1.030,0	1.115,0	1.130,0	1.476,2	1.729,4	1.982,6



N.B. All dimensions are given in millimeters.

Class ANSI 2500 [PN 420]

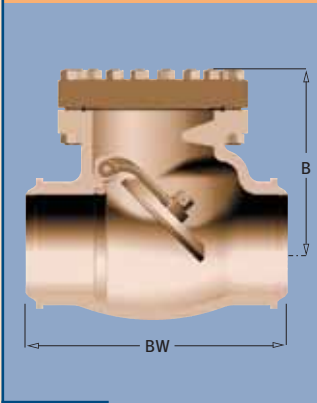
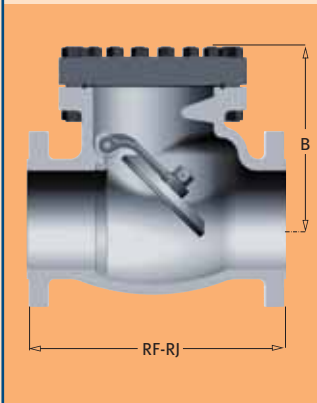
FIGURE NUMBERS

CLASS ANSI 2500 – ALL SIZES

RT 2500 RF . . .RAISED FACE

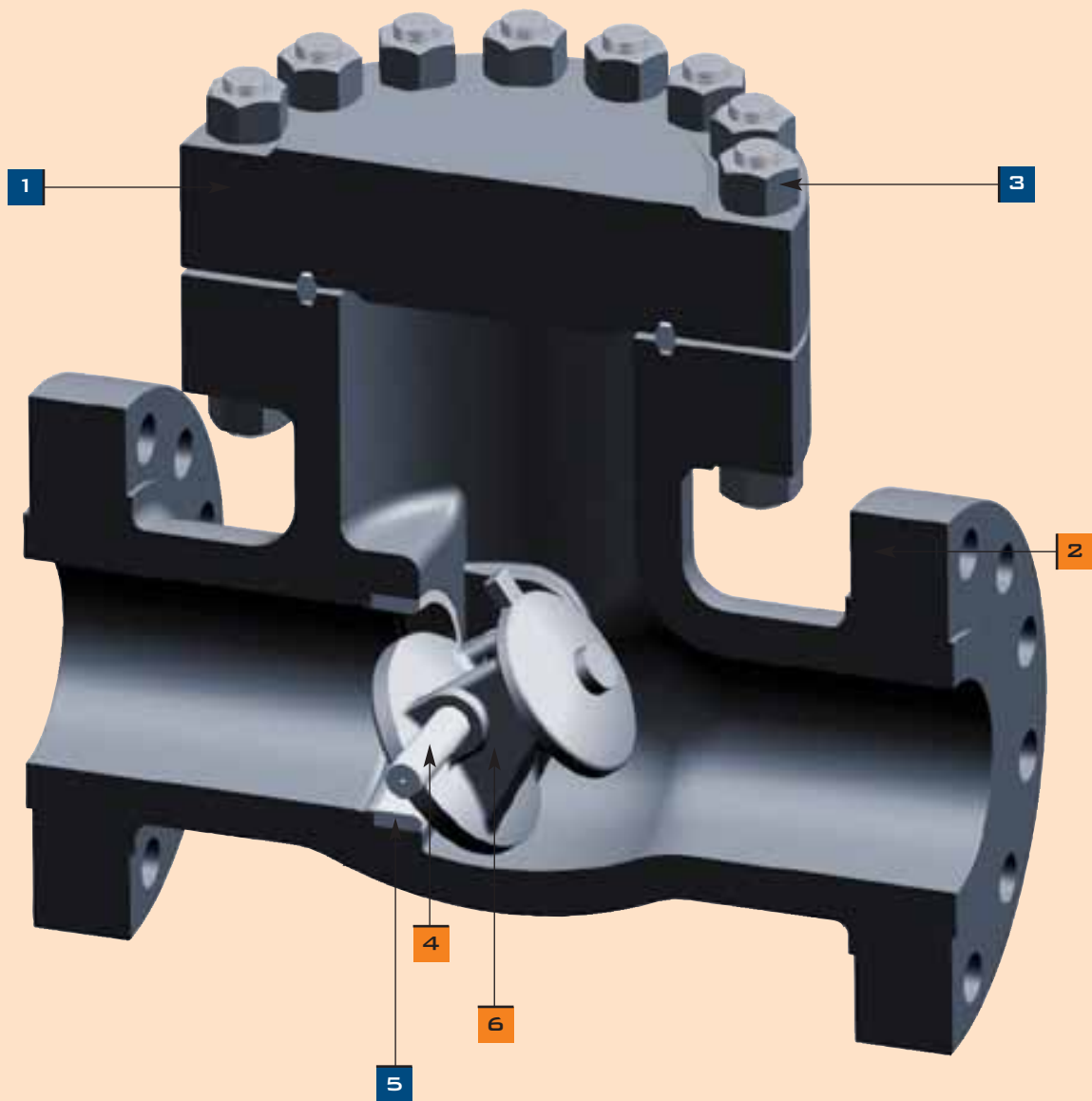
RT 2500 BW . . .WELDING ENDS

RT 2500 RJRING JOINT



SIZE	2"	2 ^{1/2} "	3"	4"	6"	8"	10"	12"	16"	18"	20"	24"
RF-BW	450,9	577,9	673,1	914,4	1.022,4	1.270,0	1.422,0	1.825,9	2.018,5	2.211,1	2.596,2	
RJ	454,0	584,2	682,6	927,1	1.038,2	1.292,0	1.445,0					
B	347,0	400,0	450,0	600,0	685,0	812,2	929,2	1.163,1	1.280,1	1.397,0	1.631,0	

Tilting Disc Check Valve - Top Entry



CAST STEEL, BALANCED DISC, RENEWABLE SEAT RING, BOLTED BODY-TO-COVER CONNECTION.

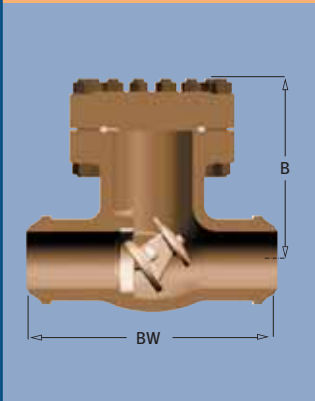
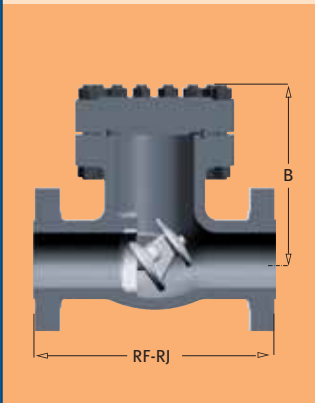
- 1 COVER.** The cover is in cast or forged steel. The connection sealing surfaces are raised face or ring joint to suit the valve rating.
- 2 BODY.** The body is in cast steel, carefully designed so as to keep pressure drops to a minimum. A wide opening on the top of the body permits easy inspection and maintenance. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant API and ASME standards. The body-to-cover flange is circular. The sealing surface for connection to the cover is ring joint type. The body is threaded for a renewable seat. Two threaded bosses are incorporated to ensure correct alignment of the hinge pin.
- 3 COVER BOLTING.** Cover studs and nuts are manufactured from alloy steel to the relevant ASTM standard.
- 4 DISC PINS.** The disc pins are parts of the trim, in forged stainless steel and are machined from ground bar. The disc pins are centred in position with two flanges and can be easily removed for maintenance of the valve.
- 5 SEAT RING.** The ring is in forged stainless steel and is part of the trim. Its outer diameter is threaded and its bore is notched to easy installation and dismantling. Special attention is given to the seating surface which is ground and lapped, for a perfectly tight seal. Welded-in seat ring may be supplied upon request.
- 6 DISC.** The disc is part of the trim and is in cast steel. An integral over-travel stop is incorporated in the disc. The seating surface is ground and lapped.

Class ANSI 600 [PN 100]

FIGURE NUMBERS

CLASS ANSI 600 – ALL SIZES

TR 600 RFRAISED FACE
 TR 600 BWWELDING ENDS
 TR 600 RJRING JOINT



SIZE	2"	3"	4"	6"	8"	10"	12"	14"
RF-BW	292,1	355,6	431,8	558,8	660,4	787,4	838,2	889,0
RJ	295,3	358,8	435,0	562,0	663,6	790,6	841,4	892,2
B	135,0	160,0	200,0	270,0	360,0	380,0	455,0	520,0

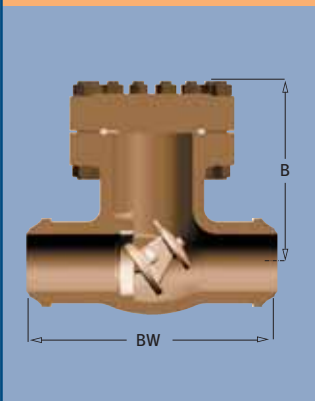
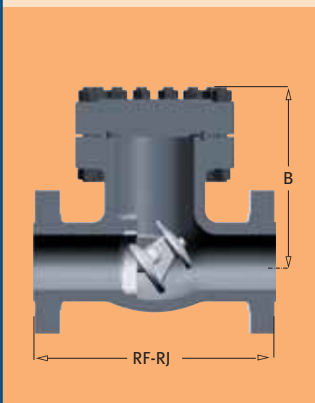
SIZE	16"	20"
RF-BW	990,6	1.194,0
RJ	993,8	-
B	590,0	660,0

Class ANSI 900 [PN 150]

FIGURE NUMBERS

CLASS ANSI 900 – ALL SIZES

TR 900 RFRAISED FACE
 TR 900 BWWELDING ENDS
 TR 900 RJRING JOINT



SIZE	2"	3"	4"	6"	8"	10"	12"	14"
RF-BW	368,3	381,0	457,2	609,6	736,6	838,2	965,2	1.029,0
RJ	371,5	384,2	460,4	612,8	739,8	841,4	968,4	1.038,0
B	145,0	170,0	219,0	298,0	375,0	410,0	480,0	550,0

SIZE	16"	20"
RF-BW	1.130,0	1.333,5
RJ	1.140,0	1.334,0
B	608,0	760,0

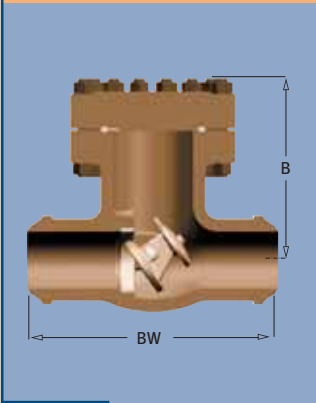
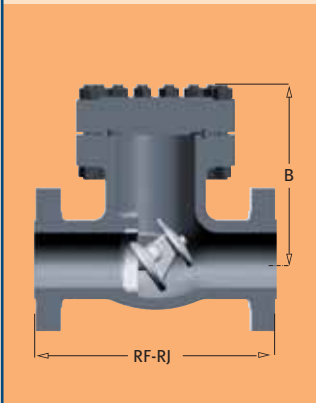
N.B. All dimensions are given in millimeters.

Class ANSI 1500 [PN 250]

FIGURE NUMBERS

CLASS ANSI 1500 – ALL SIZES

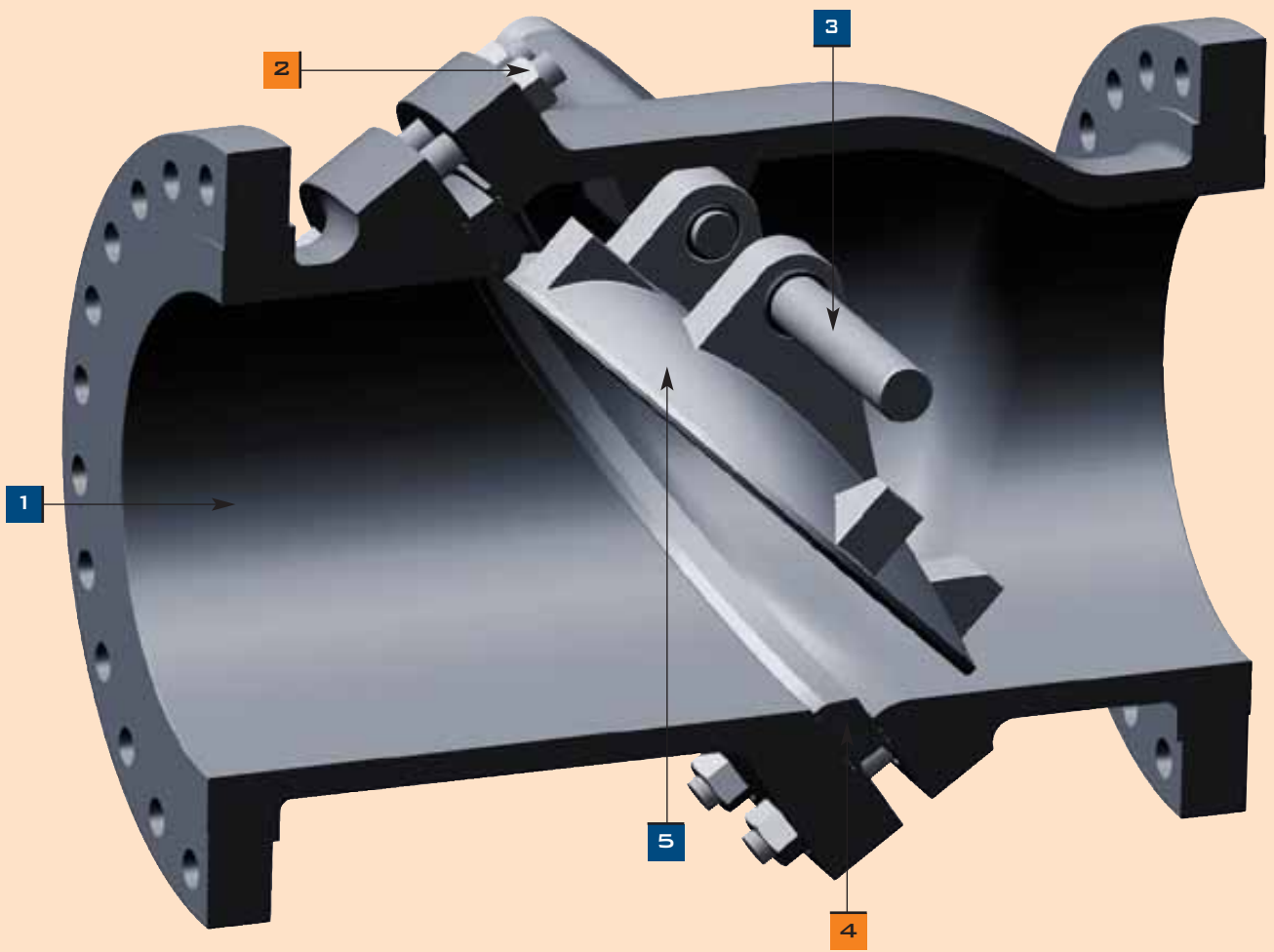
- TR 1500 RF . . .RAISED FACE
- TR 1500 BW . . .WELDING ENDS
- TR 1500 RJ . . .RING JOINT



SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF-BW	368,3	469,9	546,1	704,9	831,9	990,6	1.130,0	1.257,0	1.384,0
RJ	371,5	473,1	549,3	711,2	841,4	1.000,0	1.146,0	1276,4*	1.407,0
B	145,0	175,0	224,0	317,0	398,0	430,0	500,0	610,0	720,0

* SHORT PATTERN

Tilting Disc Check Valve - Split Body

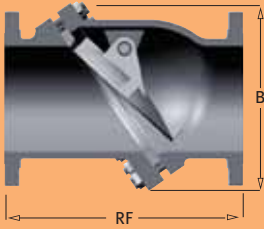


CAST STEEL, TWO PIECES BODY, RENEWABLE SEAT RING, BALANCED DISC. THIS TYPE IS RECOMMENDED WHEN IT IS DESIRABLE TO OPERATE CHECK VALVES AT LOW DIFFERENTIAL PRESSURE OR WHEN IT IS NECESSARY TO REDUCE PRESSURE DROP AND ELIMINATE PROBLEM OF SLAMMING AND WEAR OF MOVING PARTS.

- 1 BODY.** The body is in cast steel, carefully designed so as to keep pressure drops to a minimum. It is made in two sections bolted together. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant API and ASME standards. Two threaded bosses are incorporated in the bonnet to ensure correct alignment of the disc.
- 2 BODY BOLTING.** Body studs and nuts are manufactured from alloy steel to the relevant ASTM standard.
- 3 DISC PINS.** The disc pins are parts of the trim, in forged stainless steel and are machined from ground bar. The two disc pins are centred in the body with two flanges and can be easily removed for maintenance of the valve.
- 4 SEAT RING.** The ring is in forged stainless steel and is part of the trim. Special attention is given to the seating surface which is ground and lapped, for a perfectly tight seal.
- 5 DISC.** The disc is part of the trim and is in cast steel. The seating surface is ground and lapped.

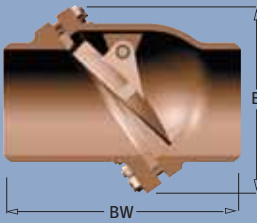
Class ANSI 150 [PN 20]

FIGURE NUMBERS
CLASS ANSI 150 – ALL SIZES
 TT 150 RFRAISED FACE
 TT 150 BWWELDING ENDS



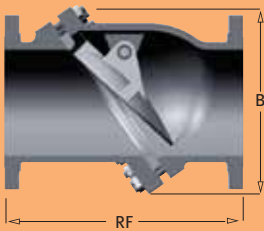
SIZE	2"	2 ^{1/2} "	3"	4"	5"	6"	8"	10"	12"
RF-BW	203,2	215,9	241,3	292,1	330,2	355,6	495,3	622,3	698,5
B	177,0	200,0	208,0	247,0	280,0	314,0	390,0	484,0	586,0

SIZE	14"	16"	18"	20"	24"	28"	30"	32"
RF-BW	787,4	863,6	977,9	977,9	1.050,0	1.257,0	1.257,0	1.524,0
B	702,0	750,0	800,0	880,0	930,0	1.107,0	1.107,0	1.124,0



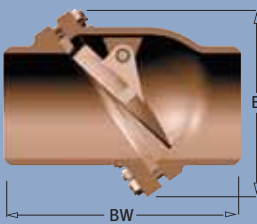
Class ANSI 300 [PN 50]

FIGURE NUMBERS
CLASS ANSI 300 – ALL SIZES
 TT 300 RFRAISED FACE
 TT 300 BWWELDING ENDS
 TT 300 RJRING JOINT



SIZE	2"	2 ^{1/2} "	3"	4"	5"	6"	8"	10"
RF-BW	266,7	292,1	317,5	355,6	400,1	444,5	533,4	622,3
RJ	282,6	308,0	333,4	371,5	415,9	460,4	549,3	638,2
B	183,0	210,0	243,0	286,0	290,0	326,0	444,0	480,0

SIZE	12"	14"	16"	18"	20"	24"	30"	36"
RF-BW	711,2	838,2	920,8	977,9	1.016,0	1.260,0	1.594,0	2.083,0
RJ	727,1	854,1	935,8	965,8	999,0	1.282,0	1.619,3	
B	546,0	651,0	780,0	780,0	870,0	1.041,0	1.302,0	1.562,0



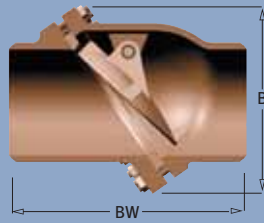
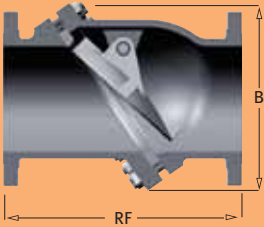
N.B. All dimensions are given in millimeters.

Class ANSI 400 [PN 68]

FIGURE NUMBERS

CLASS ANSI 400 – ALL SIZES

TT 400 RFRAISED FACE
 TT 400 BWWELDING ENDS
 TT 400 RJRING JOINT



SIZE	2"	2 1/2"	3"	4"	5"	6"	8"	10"
RF-BW	292,1	330,2	355,6	406,4	457,2	495,3	596,9	673,1
RJ	295,3	333,4	358,8	409,6	460,4	498,5	600,1	676,3
B	205,0	215,0	267,0	315,0	360,0	394,0	460,0	560,0

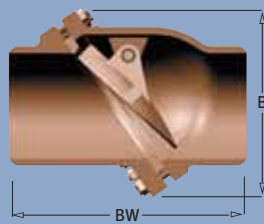
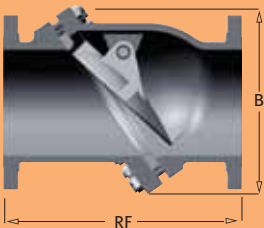
SIZE	12"	14"	16"	18"	20"	24"
RF-BW	762,0	889,0	901,7	1.016,0	1.054,0	1.397,0
RJ	765,2	892,2	904,9	1.019,0	1.060,0	1.407,0
B	620,0	750,0	800,0	910,0	980,0	1.100,0

Class ANSI 600 [PN 100]

FIGURE NUMBERS

CLASS ANSI 600 – ALL SIZES

TT 600 RFRAISED FACE
 TT 600 BWWELDING ENDS
 TT 600 RJRING JOINT



SIZE	2"	2 1/2"	3"	4"	5"	6"	8"	10"
RF-BW	292,1	330,2	355,6	431,8	508,0	558,8	660,4	787,4
RJ	295,3	333,4	358,8	435,0	511,2	562,0	663,6	790,6
B	205,0	215,0	267,0	315,0	400,0	418,0	470,0	571,0

SIZE	12"	14"	16"	18"	20"	24"
RF-BW	838,2	889,0	990,6	1.092,0	1.194,0	1.397,0
RJ	841,4	892,2	993,8	1.095,0	1.200,0	1.406,0
B	647,0	800,0	900,0	980,0	1.080,0	1.150,0

