CAST CARBON STEEL
CHECK VALVES BOLTED COVER
SWING 2″- 24″ I Class 150 - Class 1500

While not a valve in the traditional sense, check valves serve an important application—namely to prevent flow in one direction while allowing it in the other. A check valve is self-actuated and designed to prevent fluid from flowing back into the system (prevent reverse flow). Real-life applications include preventing backflow into an injection line or into a pump. The fluid flow opens the valve by forcing a disk or ball in one direction. When the flow stops, the disk or ball is seated and closes the valve. They can be installed in horizontal or vertical upward flow piping.

CAST CARBON STEEL

- SWING CHECK VALVES CLASS 150
- SWING CHECK VALVES CLASS 300
- SWING CHECK VALVES CLASS 600
- SWING CHECK VALVES CLASS 900
- SWING CHECK VALVES CLASS 1500

HIGHLIGHTS

Body and Cover

Bodies and covers are high quality cast and afterwards precisely machined, directing the attention to prevent stress concentration.

The design characteristic of check valves is the unobstructed passageway, with a full-opening when required.

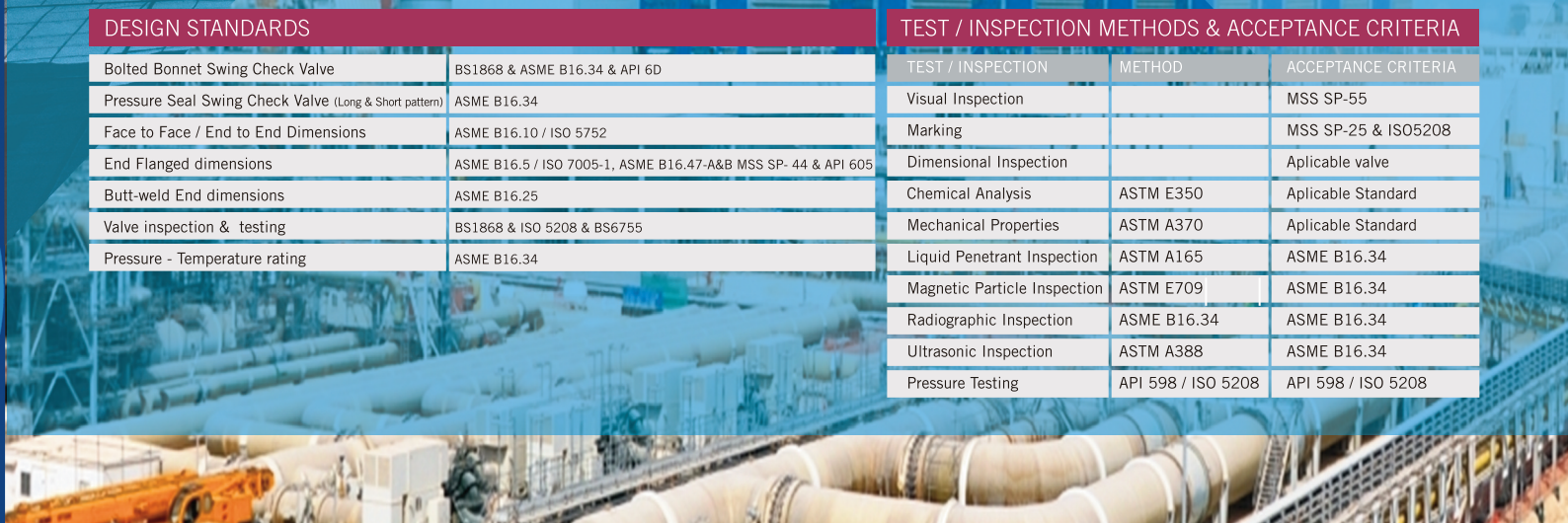
Body and Cover Gasket

The design of the body/cover gasket varies depending on the class of the valve.

Class 150 to 600 check valves consist of a male-female connection with a graphite or spiral wound gasket.

Class 900 and above check valves consist of a ring type joint.

In pressure seal designs the sealing is achieved through a gasket that takes advantage of the internal pressure of the line. The material most commonly used is high purity graphite being located between the body and the body retainer ring.



DESIGN STANDARDS

Bolted Bonnet Swing Check Valve	BS1868 & ASME B16.34 & API 6D
Pressure Seal Swing Check Valve (Long & Short pattern)	ASME B16.34
Face to Face / End to End Dimensions	ASME B16.10 / ISO 5752
End Flanged dimensions	ASME B16.5 / ISO 7005-1, ASME B16.47-A&B MSS SP- 44 & API 605
Butt-weld End dimensions	ASME B16.25
Valve inspection & testing	BS1868 & ISO 5208 & BS6755
Pressure - Temperature rating	ASME B16.34

TEST / INSPECTION METHODS & ACCEPTANCE CRITERIA

TEST / INSPECTION	METHOD	ACCEPTANCE CRITERIA
Visual Inspection		MSS SP-55
Marking		MSS SP-25 & ISO5208
Dimensional Inspection		Aplicable valve
Chemical Analysis	ASTM E350	Aplicable Standard
Mechanical Properties	ASTM A370	Aplicable Standard
Liquid Penetrant Inspection	ASTM A165	ASME B16.34
Magnetic Particle Inspection	ASTM E709	ASME B16.34
Radiographic Inspection	ASME B16.34	ASME B16.34
Ultrasonic Inspection	ASTM A388	ASME B16.34
Pressure Testing	API 598 / ISO 5208	API 598 / ISO 5208

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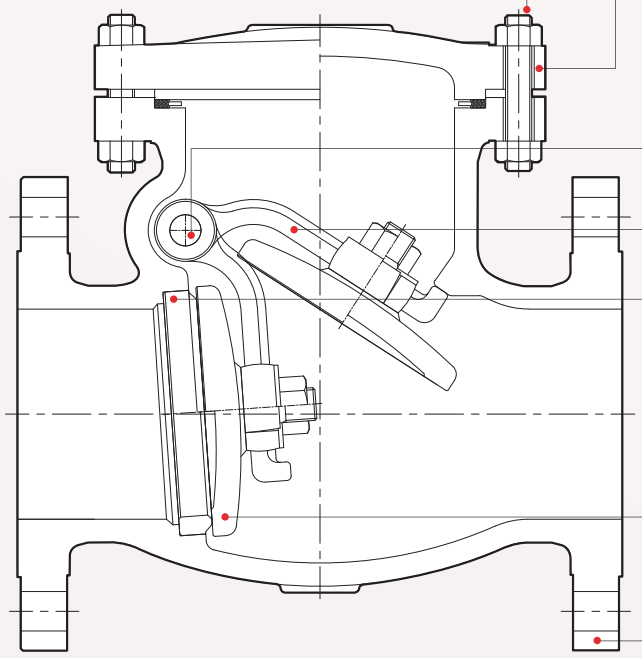
SWING CHECK VALVES BOLTED COVER



BOLTING

The body-cover bolting conforms with ANSI B 1.1
The nuts are manufactured to conform ANSI B 18.2.2

COVER

The cover material is identical to the body.
Depending on the valve size and pressure class, either a casting or a forging is used.

ROD PIN

The rod pin is inserted into the valve and held in position by plug.
The large size valves are provided with bolted flanges instead of plugs.

ARM

The arm material is identical to the body.
Hinge bushing is provided in the large valve sizes to minimize friction and eliminate seizing.

SEAT RING

The bottom seated type seat ring is screwed into body.
The seating surface is finished by lapping. The forged seat ring is heat-treated to deliver the best mechanical properties and required hardness.

DISC

The disc has a sufficient seating surface area, which is ground and lapped to a mirror finish.
It is of one-piece construction and is heat-treated to deliver the required mechanical properties and hardness.

BODY

The cast steel body is designed with a wall thickness, which is greater at any point than the minimum requirement provided by API Std. 600 or API 6D. Port and seat passage dimensions conform to ANSI 16.5 Pipe Fitting.
The welded-in type seat ring is standard to allow interchangeabillity.
The standard body-bonnet joint is male-female, and the flange is round for all valves.

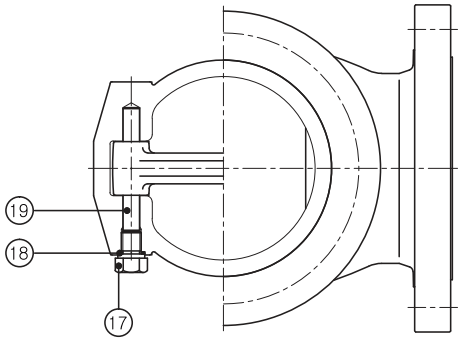
CAST STEEL

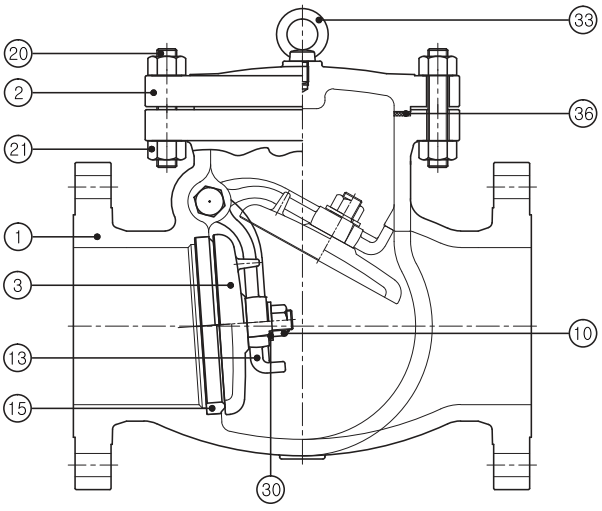
INDUSTRIAL VALVES
CAST CARBON STEEL

NO	NAME OF PART	ASTM SPECIFICATION				
		STANDARD	HIGH TEMP. SERVICE			LOW TEMP. SERVICE
1	BODY	A216-WCB	A217-WC6	A217-WC9	A217-C5	A352-LCB
2	COVER	A216-WCB	A217-WC6	A217-WC9	A217-C5	A352-LCB
3	DISC	A217-CA15/+STL	A217-WC6/+STL	A217-WC9/+STL	A217-C5/+STL	A352-LCB/+STL
10	DISC NUT	A194-8				
13	ARM	A216-WCB	A216-WC6	A216-WC9	A217-C5	A352-LCB
15	BODY SEAT RING	A106+STL	A182-F11+STL	A182-F22+STL	A182-F5+STL	A350-LF2+STL
17	PLUG BOLT	A307-B	A479-304	A479-304	A479-304	A479-304
18	PLUG GASKET	SOFT STEEL	A479-304	A479-304	A479-304	A479-304
19	ROD PIN	A479-410	A479-410	A479-410	A479-410	A479-304
20	COVER BOLT	A193-B7	A193-B16	A193-B16	A193-B16	A320-L7
21	COVER NUT	A194-2H	A194-4	A194-4	A194-4	A194-4L
30	PLAIN WASHER	A240-304				

* Note 1, In case of 12″ and larger size, we'll use trim material overlayed one on the same or equivalent material of the body.

NO	NAME OF PART	ASTM SPECIFICATION
33	EYE BOLT	A307-B
36	SPIRAL WOUND GASKET	GRAPHITE+304

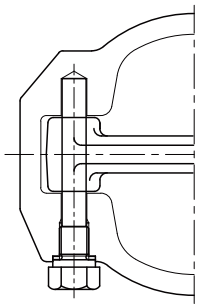


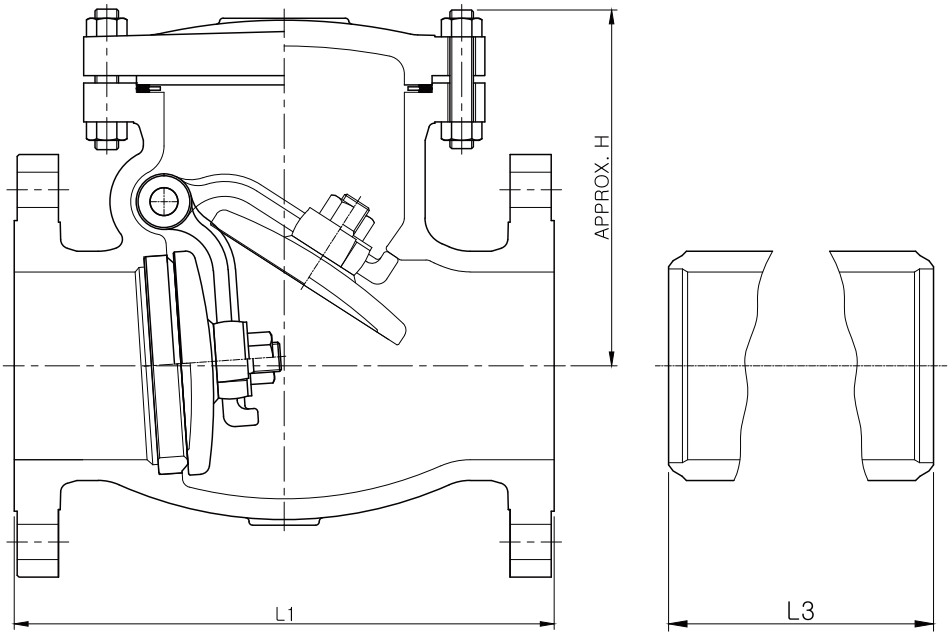


CAST STEEL

INDUSTRIAL VALVES
ASME CLASS 150

VALVE SIZE	inch	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
L1 & L3	inch	8,0	8,5	9,5	11,5	13,0	14,0	19,5	24,5	27,5	31,0	34,0	38,5	38,5	51,0
	mm	203	216	241	292	330	356	495	622	699	787	864	978	978	1295
H	inch	5,5	6,3	6,6	7,6	8,9	11,4	13,8	15,5	17,0	18,5	19,7	26,8	27,2	31,5
	mm	140	160	168	193	225	290	352	395	432	470	500	680	690	800
WEIGHT	LB	33,1	48,5	59,5	90,4	143,4	176,4	313,1	390,3	639,5	862,2	1016,5	1411,2	1719,9	3285,5
	kg	15	22	27	41	65	80	142	177	290	391	461	640	780	1490

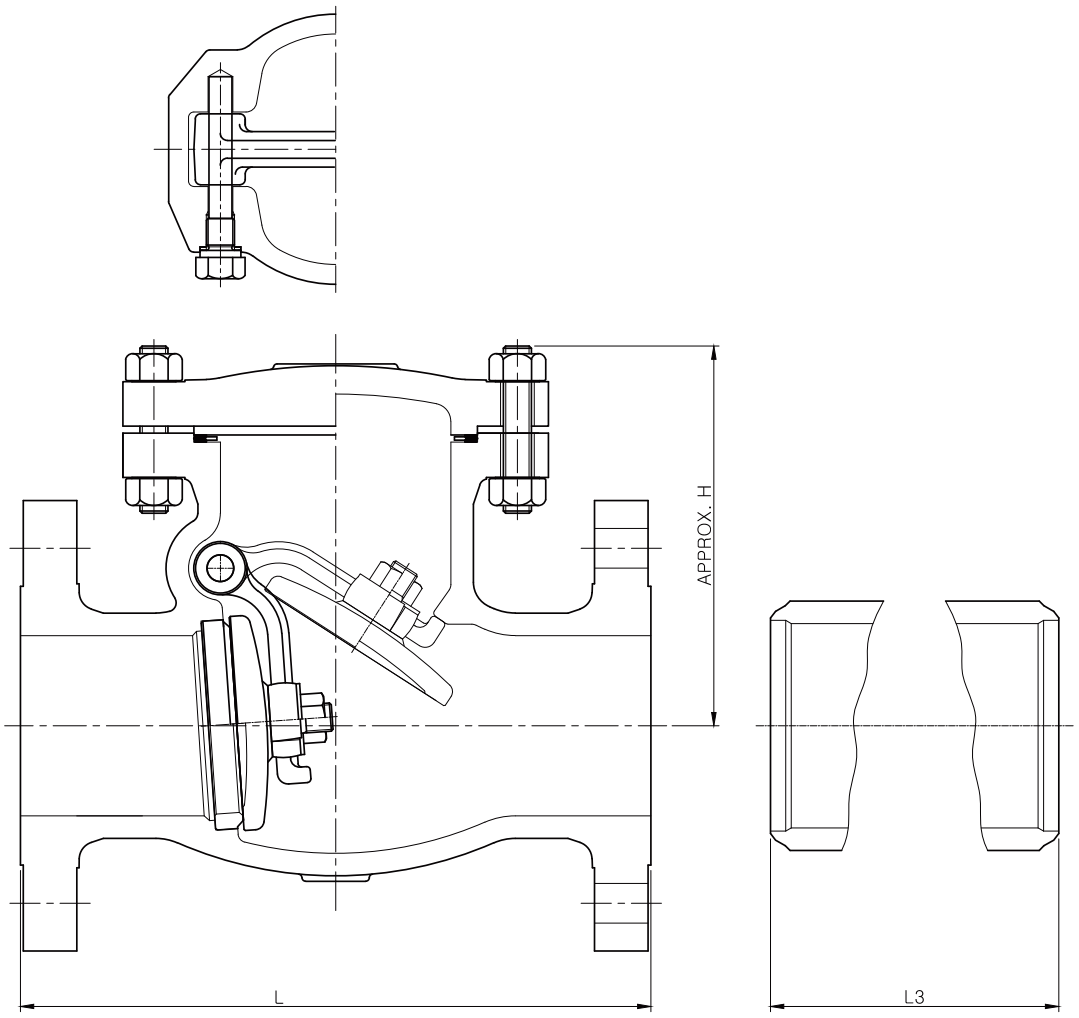




CAST STEEL

INDUSTRIAL VALVES
ASME CLASS 300

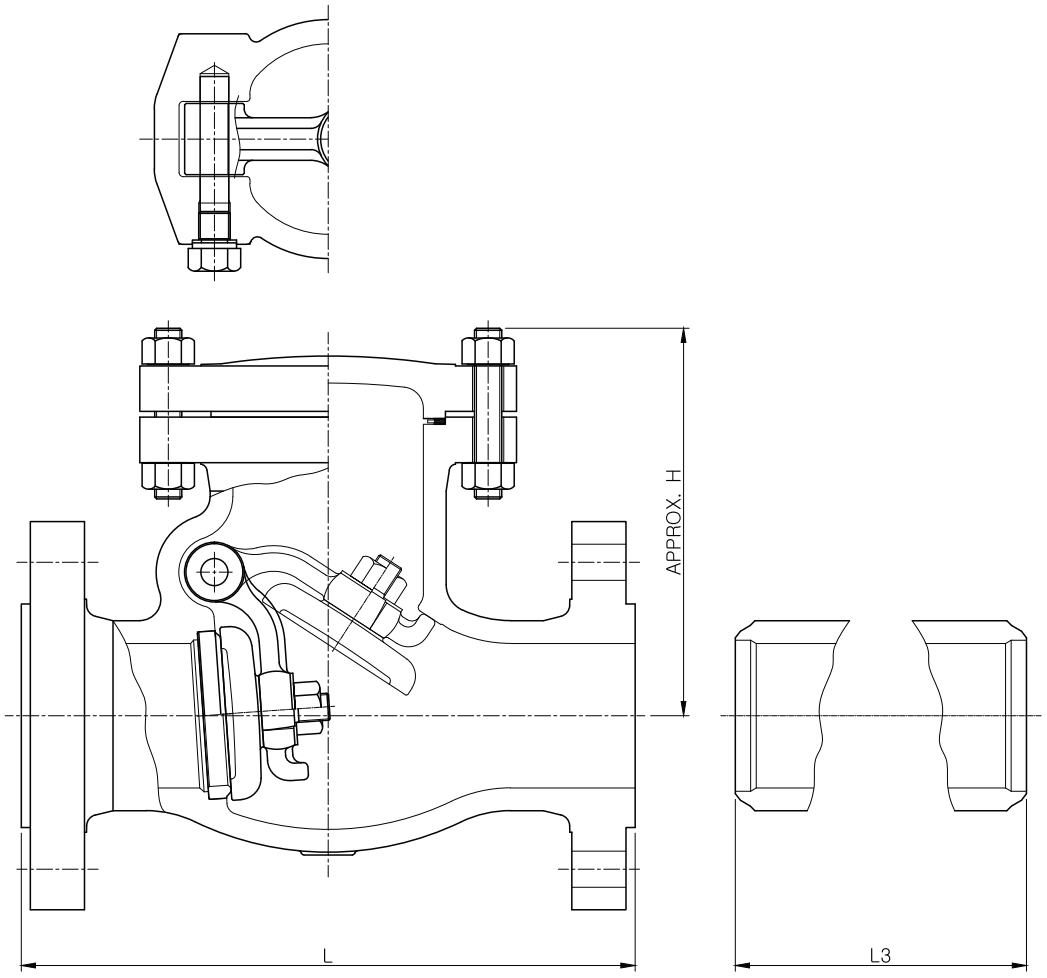
VALVE SIZE	inch	2	2 ½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L1 & L3	inch	10,5	11,5	12,5	14,0	15,75	17,5	21,0	24,5	28,0	33,0	34,0	38,5	40,0	53,0
	mm	267	292	318	356	400	444	533	622	711	838	864	978	1016	1346
H	inch	5,8	6,9	7,0	8,5	9,6	12,1	14,8	16,2	17,5	18,5	20,0	21,4	23,6	27,1
	mm	147	175	177	215	245	308	377	413	445	470	510	545	600	690
WEIGHT	LB	41,9	66,2	77,2	119,1	198,5	282,4	463,1	590,9	915	1503,8	1647,1	2756,3	3307,5	4917,2
	kg	19	30	35	54	90	128	210	268	415	682	747	1250	1500	2230



CAST STEEL

INDUSTRIAL VALVES
ASME CLASS 600

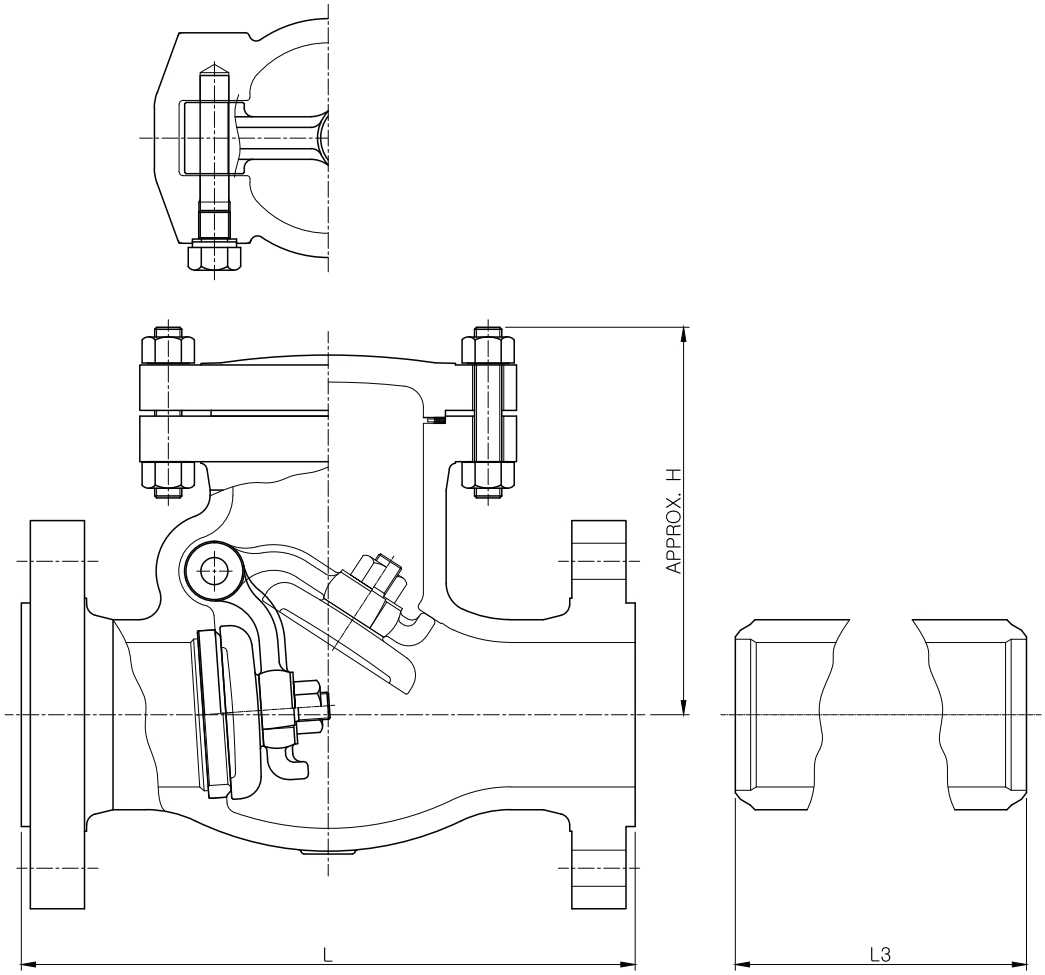
VALVE SIZE	inch	2	2 ½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L1 & L3	inch	11,5	13,0	14,0	17,0	20,0	22,0	26,0	31,0	33,0	35,0	39,0	4300	47,0	55,0
	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
H	inch	7,5	7,9	9,2	10,7	11,4	12,6	15,0	17,5	18,5	21,6	26,4	27,5	29,5	31,5
	mm	190	200	235	273	290	320	380	445	470	550	670	700	750	800
WEIGHT	LB	77,2	119,1	141,1	229,3	330,8	449,8	793,8	1367,1	1775,0	2306,4	2976,8	4454,1	5269,9	7717,5
	kg	35	54	64	104	150	204	204	620	805	1045	1350	2020	2390	3500



CAST STEEL

INDUSTRIAL VALVES
ASME CLASS 900

VALVE SIZE	inch	2	2 ½	3	4	5	6	8	10	12	14	16
	mm	50	65	80	100	125	150	200	250	300	350	400
L1 & L3	inch	14,5	16,5	15,0	18,0	22,0	24,0	29,0	31,0	38,0	40,5	44,5
	mm	368	419	381	457	559	610	737	838	965	1029	1130
H	inch	13,1	13,7	12,6	16,7	17,4	18,9	22,2	28,3	30,7	31,8	33,0
	mm	333	349	321	423	441	479	565	721	781	807	838
WEIGHT	LB	154,4	242,6	242,6	471,4	735,6	837,9	1375,9	2535,3	3197,3	3858,8	5336,1
	kg	70	110	110	214	320	380	624	1150	1450	1750	2420



CAST STEEL

INDUSTRIAL VALVES
ASME CLASS 1500

VALVE SIZE	inch	2	2 ½	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L1 & L3	inch	14,5	16,5	18,5	21,5	26,5	27,75	32,75	39,0	44,5	49,5
	mm	368	419	470	546	673	705	832	991	1130	1257
H	inch	13,1	13,7	15,3	16,5	18,9	23,1	26,8	29,8	39,7	40,8
	mm	333	349	389	419	479	587	680	756	1008	1035
WEIGHT	LB	154,4	242,6	374,9	661,5	1036,4	1532,5	2624,0	4079,3	7342,7	7938
	kg	70	110	170	300	470	695	1190	1850	3330	3600