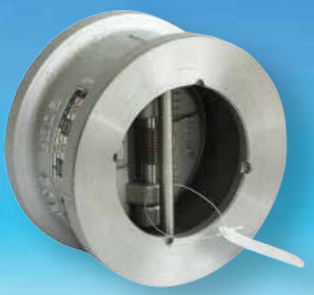
CAMTECH MANUFACTURING FZCO

CAST STEEL VALVES
Gate, Globe, Check Valve



CAMTECH

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Quality Accreditations

All major certifications and approvals

- API Q1
- API 600
- API 6D
- API 6A
- ISO 9001
- ISO 14001
- ISO 45001
- PED - CE marking
- ATEX
- SIL

CAMTECH MANUFACTURING FZCO is the first and only API accredited valve manufacturing company among UAE, Middle East and GCC, engaged in this business since 1999 for manufacturing mainly Ball Valves, Gate, Globe, Check valves, Butterfly valves, Plug valves, Pig valves & Choke valves in metallurgy such as carbon steel, Stainless steel, Duplex and Super duplex steel, for size range from ½" to 56" and class rating from 150 to 2500.

Camtech Manufacturing has also considered the needs of our valued customer for supporting them for the maintenance and refurbishment of the valves, with a separate dedicated team, this service is made available on-site as well as in-house.

Over the recent years there is a dramatic increase in facilities handling H2S bearing hydrocarbons. Hence parameters like Hydrogen sulfide concentration, Total system pressure, application temperature, existence of elemental sulfur and chloride content have a bearing on appropriate material selection in this severe environment. Hence all CAMTECH valves are manufactured in strict compliance with NACE MR0175/ISO 15156 to meet customer requirement.

Our central geographical location along with the long term association with major forge masters and foundries locally as well as overseas and with qualified and experienced staff , we are proud to say that our commitment are always achieved on time and every time.

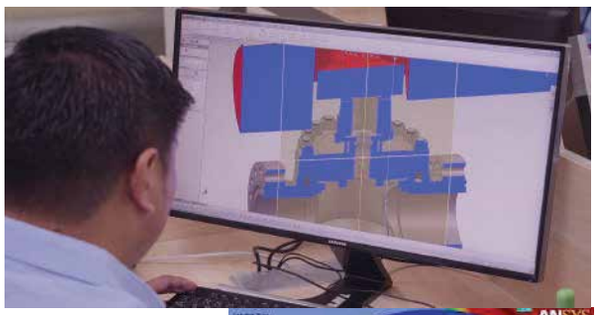
CAMTECH VALUES

At Camtech, we believe that our organization is a living entity which is held together by the values we practice and promote through the entire organizational setup and our customer base. Our values define Camtech character and success :

- Zeal to excel and zest for change.
- Integrity and fairness in all dealings.
- Respect dignity of self and potential of individuals.
- Strict adherence to commitments.
- Ensure instant response and reliable follow up.
- Foster learning, creativity and team work.
- Loyalty and pride to the company and its goodwill.

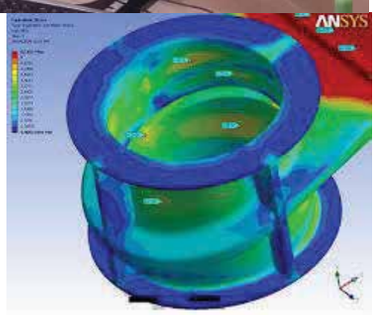
Camtech Cast Steel Gate, Globe, Swing Check and Dual Plate Check Valves are manufactured to the latest international design using advanced techniques and stringent quality control checks. These valves have established themselves the world over for their quality, reliability and long service. These valves are supplied to major international clients including oil refining companies, fertilizers, power sectors, and EPC contractors.

CAMTECH ENGINEERING



CAMTECH MANUFACTURING products are manufactured with strict compliance to the most recognized international standards all over the world, such as API, ANSI, ASME, ASTM, MSS, NACE, BSI, EN, DIN and many others. Our Engineering team is always studying the new updates of these standards to incorporate any changes that may affect the design, regulations or performance of our products.

Our team is equipped with the required infrastructure to arrive at an optimum product design to meet all our customer requirements.



Design is made using the most advanced technology and equipment, using finite elements and CAD system programs to ensure the proper assembly and performance of products according to valve market current needs.

Camtech Manufacturing, we monitor the performance of our products at customer sites, and we give due considerations to the feedback from the customer for constant improvements and upgradation.

CAMTECH QUALITY COMMITMENT

Camtech Manufacturing FZCO is API (6D, 6A, 600 and Q1) accredited and an ISO 9001, ISO 14001 & ISO 45001 certified company with CE marking and ATEX certification for all products. Our continuous and stringent quality consistency is achieved through rigorous quality control processes and latest testing equipments for Fugitive emission test, Fire safe test, Positive Material Identification, Cryogenic test, Hydro test, Pneumatic test, High pressure gas test.

All the valves are tested as per API 598 and other relevant testing standards. Special care and quality check is also done during packaging to ensure the product is not damaged during shipment, transport and storage.

Positive Material Identification

Magnetic Particle Inspection

Hydro & Pneumatic Pressure testing

Dye Penetrant Testing

Ultrasonic Testing Machine

Painting DFT testing

Fugitive Emission Testing

Hardness Testing

Radiography Film Viewer

Fire Safe Testing

Cryogenic Testing facility

High Pressure Gas testing

GATE VALVE – BOLTED BONNET

Camtech Gate valves are heavy duty, outside screw and yoke type, bolted bonnet, rising stem and non-rising handwheel type. The straight through bore design assures minimum turbulence, erosion and resistance to flow. These valves are handwheel operated and gear operated depending upon the size.

Design Standard	API 600 / ASME B16.34
Testing Standard	API 598
Face to Face	ASME B16.10
Pressure – Temperature chart	ASME B16.34
Flanged End (up to 24")	ASME B16.5
Flanged End (24" & Above)	ASME B16.47 Series A & B
Butt-weld End	ASME B16.25

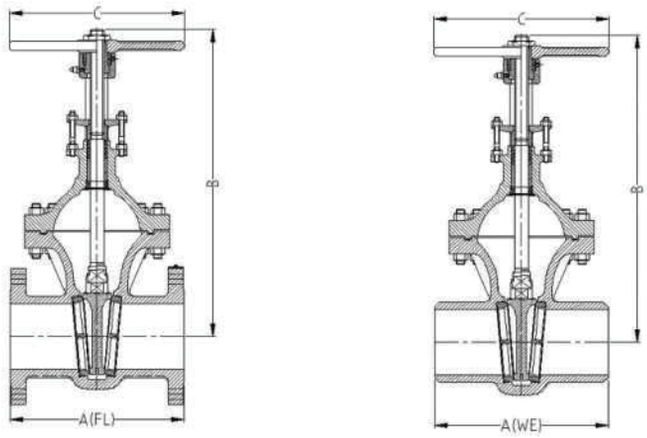
Size Range

Pressure Class	Size Range	Operator
Class 150	2" to 12"	Handwheel
	14" to 56"	Gear Operated
Class 300	2" to 10"	Handwheel
	12" to 48"	Gear Operated
Class 600	2" to 6"	Handwheel
	8" to 48"	Gear Operated
Class 900	2" to 6"	Handwheel
	8" to 24"	Gear Operated
Class 1500	2" to 4"	Handwheel
	6" to 24"	Gear Operated
Class 2500	2" to 3"	Handwheel
	4" to 12"	Gear Operated

Size Range

- Cast body precisely machined with integral flanges.
- Cast bonnet with integral yoke up to size 10".
- One piece flexible wedge is standard, solid wedge shall be provided on request.
- Rising stem with precision ACME single or double thread for quick operation. Surface finish suitable to seal properly to obtain low fugitive emissions.
- Stem packing is designed for optimum control of fugitive emissions leakage to the atmosphere and is assured by the polished finish stem sealing area, the reduced diametrical clearances and the stem straightness control. Live loading on packing available on request.
- Backseat, either threaded or welded designed to relieve back pressure on the stem packing when fully seated. This facilitates the replacement of packing under line pressure. Hard faced backseat can be provided for severe service on request.
- Stem-Gate connection is designed so that under severe applied loads (stuck gate), the stem will fail outside of the stuffing box pressure boundary.
- Seat rings are seal welded to provide a bubble tight joint.
- Spiral wounded gasket body-bonnet joint.
- Two piece gland & gland flange arrangement for reduced stem wear.
- By-Pass, lantern rings, special connections are as optional.
- NACE Service either MR-01-75 or MR-01-03 as required.

GATE VALVE – BOLTED BONNET



SIZE		ASME CLASS 150					ASME CLASS 300					ASME CLASS 600				
mm	Inch	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT
50	2	178	216	320	180	20	216	216	320	180	25	292	292	365	180	30
80	3	203	283	380	230	35	283	283	380	230	40	356	356	490	230	60
100	4	229	305	450	250	45	305	305	450	250	70	432	432	570	350	100
150	6	267	403	615	350	80	403	403	715	400	150	559	559	720	400	205
200	8	292	419	790	400	120	419	419	860	470	220	660	660	900	BGO	400
250	10	330	457	935	470	195	457	457	1010	470	300	788	788	1250	BGO	650
300	12	356	502	1060	470	280	502	502	1115	BGO	425	838	838	1580	BGO	860
350	14	381	572	1210	BGO	410	762	762	1235	BGO	735	889	889	1870	BGO	1300
400	16	407	610	1340	BGO	525	838	838	1390	BGO	1070	991	991	1940	BGO	1610
450	18	432	660	1520	BGO	640	914	914	2465	BGO	1255	1092	1092	2120	BGO	2220
500	20	457	711	1660	BGO	765	991	991	2665	BGO	1675	1194	1194	2220	BGO	2450
600	24	508	813	2010	BGO	1180	1143	1143	2895	BGO	2350	1397	1397	2715	BGO	3920
650	26	559	559	2840	BGO	1500	1245	1245	3150	BGO	2940	1448	1448	2960	BGO	4600
700	28	610	610	3120	BGO	1800	1346	1346	3295	BGO	3380	1549	1549	3260	BGO	5400
750	30	610	610	3450	BGO	2100	1397	1397	3530	BGO	4010	1651	1651	3550	BGO	6200
800	32	660	660	3480	BGO	2350	1524	1524	3790	BGO	4500	1778	1778	3720	BGO	7100
850	34	711	711	3890	BGO	2810	1626	1626	3990	BGO	5850	1930	1930	3865	BGO	7900
900	36	711	711	4010	BGO	3200	1727	1727	4220	BGO	6730	2083	2083	3995	BGO	8900
950	38	762	762	4190	BGO	3625	1930	1930	4390	BGO	7765	2185	2185	4245	BGO	10430
1000	40	762	762	4365	BGO	4050	1930	1930	4560	BGO	8800	2286	2286	4495	BGO	11960
1050	42	787	787	4810	BGO	4600	1981	1981	4690	BGO	9850	2438	2438	4750	BGO	13450
1200	48	864	864	5065	BGO	6100	2235	2235	5220	BGO	12150	2540	2540	4980	BGO	17450
1300	52	1016	1016	5180	BGO	8260	-	-	-	-	-	-	-	-	-	-
1400	56	1110	1110	5290	BGO	9150	-	-	-	-	-	-	-	-	-	-

SIZE		ASME CLASS 900					ASME CLASS 1500					ASME CLASS 2500				
mm	Inch	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT
50	2	368	368	580	350	75	368	368	580	350	75	451	451	580	400	165
80	3	381	381	660	400	130	470	470	745	400	180	578	578	720	400	275
100	4	458	458	795	500	215	546	546	790	500	280	673	673	855	BGO	415
150	6	610	610	890	600	395	705	705	920	BGO	570	914	914	1120	BGO	950
200	8	737	737	980	BGO	645	832	832	1025	BGO	1080	1022	1022	1280	BGO	1650
250	10	838	838	1095	BGO	1050	991	991	1380	BGO	1680	1270	1270	1550	BGO	2950
300	12	965	965	1350	BGO	1410	1130	1130	1510	BGO	2520	1422	1422	1680	BGO	3580
350	14	1029	1029	1710	BGO	1790	1257	1257	1840	BGO	3250	-	-	-	-	-
400	16	1130	1130	1890	BGO	2180	1384	1384	1980	BGO	3860	-	-	-	-	-
450	18	1219	1219	2160	BGO	3250	1537	1537	2110	BGO	5125	-	-	-	-	-
500	20	1321	1321	2330	BGO	3590	1664	1664	2380	BGO	6525	-	-	-	-	-
600	24	1550	1550	2865	BGO	5810	1943	1943	2650	BGO	9850	-	-	-	-	-

■ Above dimensions are in mm. ■ WT-Weights in Kg are relevant to flanged end valves. ■ Dimension B & weights are subject to change without notice. ■ For dimensions and weights for other sizes, consult the factory. ■ Some dimensions standard do not exist, these dimensions are manufacturer standard.■ Accessories like Limit switch, etc, can be provided on request. ■ Valves can be supplied with Pneumatic, Hydraulic, or electric actuators. ■ BGO – Bevel Gear Operated.

GLOBE VALVE – BOLTED BONNET

Camtech Globe valves are heavy duty, outside screw and yoke type, bolted bonnet, rising stem and rising handwheel type. These valves are highly efficient for service requiring frequent operation and throttling. These valves are handwheel operated and gear operated depending upon the size. Globe valves are generally considered for moderate control and regulation of fluid.

Design Standard	BS 1873 / ASME B16.34
Testing Standard	EN 12266-1 / API 598
Face to Face	ASME B16.10
Pressure – Temperature chart	ASME B16.34
Flanged End (up to 24")	ASME B16.5
Butt-weld End	ASME B16.25

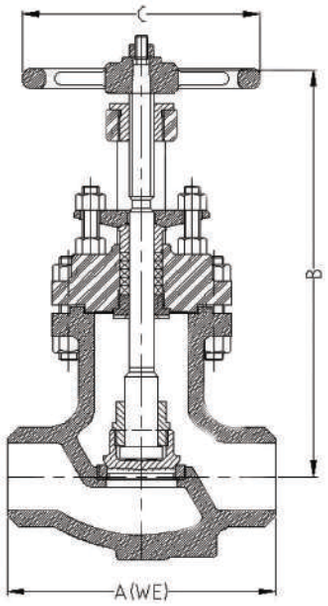
Size Range

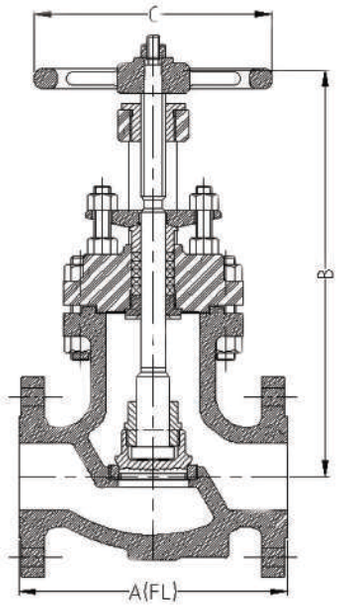
Pressure Class	Size Range	Operator
Class 150	2" to 10"	Handwheel
	12" to 36"	Gear Operated
Class 300	2" to 8"	Handwheel
	10" to 36"	Gear Operated
Class 600	2" to 6"	Handwheel
	8" to 24"	Gear Operated
Class 900	2" to 6"	Handwheel
	8" to 12"	Gear Operated
Class 1500	2" to 4"	Handwheel
	6" to 12"	Gear Operated
Class 2500	2"	Handwheel
	3" to 12"	Gear Operated

Design Features

- Cast body precisely machined with integral flanges.
- Cast bonnet with integral yoke for better alignment and fewer parts.
- Disc is ground and lapped for better finish and sealing. The disc is integrally guided to assure true alignment between disc and valve body. The loose disc allows for proper sealing without damage.
- Rising stem with precision ACME single or double thread for quick operation. Surface finish suitable to seal properly to obtain low fugitive emissions.
- Stem Packing is designed for optimum control of fugitive emissions leakage to the atmosphere and is assured by the polished finish stem sealing area, the reduced diametrical clearances and the stem straightness control. Live loading on packing available on request.
- Backseat, either threaded or welded designed to relieve back pressure on the stem packing when fully seated. This facilitates the replacement of packing under line pressure. Hard faced backseat can be provided for severe service on request.
- Seat rings are seal welded to provide a bubble tight joint. Hard faced seat rings can be provided for sever service depending upon customer requirement. For pressure class 600 and higher hard facing is standard.
- Spiral wounded gasket body-bonnet joint.
- Two piece gland & gland flange arrangement for reduced stem wear and for self-alignment.
- By-Pass, Lantern rings, special connections are as optional.
- NACE Service either MR-01-75 or MR-01-03 as required.
- As cast flow direction mark on the body for proper installation on site.
- Impactor handwheel can also be supplied on request.

GLOBE VALVE – BOLTED BONNET





SIZE		ASME CLASS 150					ASME CLASS 300					ASME CLASS 600				
mm	Inch	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT
50	2	203	203	330	180	18	267	267	380	200	30	292	292	430	250	35
80	3	242	242	380	200	32	318	318	450	200	55	256	256	530	300	65
100	4	292	292	425	300	60	356	356	550	300	90	432	432	575	400	135
150	6	407	407	510	400	105	445	445	660	400	130	559	559	815	500	235
200	8	496	496	635	500	190	559	559	920	500	290	660	660	1090	BGO	490
250	10	623	623	885	550	290	623	623	1150	BGO	420	787	787	1450	BGO	750
300	12	699	699	1225	BGO	430	711	711	1200	BGO	620	838	838	1720	BGO	980
350	14	788	788	1315	BGO	660	825	825	1450	BGO	860	889	889	1890	BGO	1420
400	16	915	915	1440	BGO	820	953	953	1480	BGO	1140	991	991	1980	BGO	1610
450	18	940	940	1550	BGO	1060	978	978	1530	BGO	1265	1092	1092	2010	BGO	1860
500	20	978	978	1680	BGO	1280	1016	1016	1810	BGO	1425	1194	1194	2100	BGO	1990
600	24	1296	1296	1780	BGO	1750	1346	1346	1920	BGO	2650	1397	1397	2250	BGO	2200
900	36	1956	1956	2035	BGO	2520	2083	2083	2490	BGO	3445	-	-	-	-	-

SIZE		ASME CLASS 900					ASME CLASS 1500					ASME CLASS 2500				
mm	Inch	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT	A (FL)	A (WE)	B	C	WT
50	2	368	368	530	300	95	368	368	530	300	95	451	279	530	250	110
80	3	381	381	580	400	125	470	470	695	400	185	578	368	700	BGO	215
100	4	457	457	740	500	195	546	546	740	500	250	673	457	755	BGO	275
150	6	610	610	1050	600	445	705	705	1230	BGO	590	914	610	895	BGO	610
200	8	737	737	1460	BGO	890	832	832	1640	BGO	1155	1022	792	970	BGO	1190
250	10	838	838	1640	BGO	1390	991	991	1695	BGO	1710	1270	914	1090	BGO	1765
300	12	965	965	1750	BGO	2120	1130	1130	1935	BGO	2540	1422	1041	1210	BGO	2600

■ Above dimensions are in mm. ■ WT-Weights in Kg are relevant to flanged end valves. ■ Dimension B & weights are subject to change without notice. ■ For dimensions and weights for other sizes, consult the factory. ■ Some dimensions standard do not exist, these dimensions are manufacturer standard.■ Accessories like Limit switch, etc, can be provided on request. ■ Valves can be supplied with Pneumatic, Hydraulic, or electric actuators. ■ BGO – Bevel Gear Operated.

SWING CHECK VALVE – BOLTED COVER

Camtech Swing Check Valves are heavy duty, bolted cover, renewable seat ring, internally body mounted disc arrangement. These valves are unidirectional valves and restrict flow from opposite direction. These valves are best suited for moderate velocity conditions. Swing check valves are normally designed for horizontal flow condition, but can also be installed in vertical pipeline, but in vertical pipeline, the flow shall be in upwards direction and under the disc.

Design Standard	BS 1868 / ASME B16.34
Testing Standard	EN 12266-1 / API 598
Face to Face	ASME B16.10
Pressure – Temperature chart	ASME B16.34
Flanged End (up to 24")	ASME B16.5
Flanged End (24" & above)	ASME B16.47 Series A & B
Butt-weld End	ASME B16.25

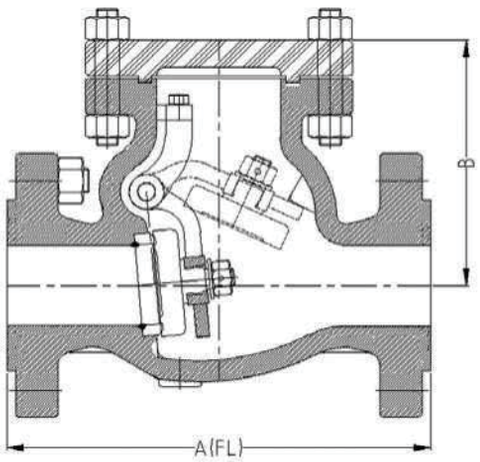
Size Range

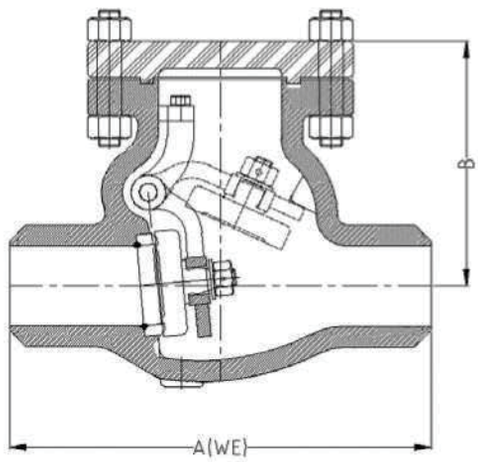
Pressure Class	Size Range
Class 150	2" to 48"
Class 300	2" to 42"
Class 600	2" to 42"
Class 900	2" to 24"
Class 1500	2" to 24"
Class 2500	2" to 12"

Design Features

- Cast body precisely machined with integral flanges and reinforcement to reduce stresses.
- Cast cover provides easy access to the disc and hinge without removing the valve from the pipeline in case of maintenance.
- Disc is ground and lapped for better finish and sealing. The disc is free to rotate 360^0 in the hinge to accommodate for the seat wear. Differential hardness of 50 BHN is maintained between the disc and the seat ring.
- Seat rings are hard faced and machined to minimize wear. Seat rings are seal welded to the body to reduce the leakage. Integral seat rings can be provided for austenitic stainless steel valves.
- Hinge pin is precisely machined and mounted on the body internally.
- Hinge is pivoted to the hinge pin inside the body.
- Disc nut secures the disc to the hinge. It allows the disc to rotate about its axis and assist in tight shut off.
- Spiral wounded gasket body-bonnet joint.
- NACE Service either MR-01-75 or MR-01-03 as required.
- As cast flow direction mark on the body for proper installation on site.
- Swing check valves can also be provided with Dashpot and counter weight arrangement on request.

SWING CHECK VALVE – BOLTED COVER





SIZE		ASME CLASS 150				ASME CLASS 300				ASME CLASS 600			
mm	Inch	A (FL)	A (WE)	B	WT	A (FL)	A (WE)	B	WT	A (FL)	A (WE)	B	WT
50	2	203	203	140	15	267	267	140	20	292	292	205	30
80	3	242	242	185	25	318	318	195	40	356	356	245	55
100	4	292	292	205	45	356	356	230	60	432	432	285	95
150	6	356	356	265	75	445	445	295	115	559	559	325	205
200	8	496	496	305	125	533	533	350	215	660	660	425	390
250	10	623	623	360	205	623	623	415	330	787	787	485	585
300	12	699	699	445	305	711	711	495	480	838	838	510	790
350	14	788	788	505	365	838	838	565	650	889	889	615	995
400	16	864	864	540	530	864	864	565	685	991	991	665	1380
450	18	978	978	565	625	978	978	610	980	1092	1092	655	1780
500	20	978	978	945	790	1016	1016	690	1285	1194	1194	850	2350
600	24	1295	1295	730	1240	1346	1346	750	2050	1397	1397	955	3650
650	26	1295	1295	755	1750	1346	1346	820	2320	1448	1448	1050	4270
700	28	1448	1448	770	1920	1499	1499	980	3450	1600	1600	1115	4950
750	30	1524	1524	870	2675	1594	1594	995	3580	1651	1651	1090	5280
800	32	1676	1676	895	2980	1787	1787	1030	4210	1787	1787	1190	6425
900	36	1956	1956	950	4100	2083	2083	1120	6050	-	-	-	-
1200	48	2345	2345	1200	5805	1594	-	-	-	-	-	-	-

SIZE		ASME CLASS 900				ASME CLASS 1500				ASME CLASS 2500			
mm	Inch	A (FL)	A (WE)	B	WT	A (FL)	A (WE)	B	WT	A (FL)	A (WE)	B	WT
50	2	368	368	245	75	368	368	245	75	451	451	285	130
80	3	381	381	265	90	470	470	315	140	578	578	360	250
100	4	457	457	320	160	546	546	350	230	673	673	420	380
150	6	610	610	410	320	705	705	515	565	914	914	605	1080
200	8	737	737	490	580	832	832	580	890	1022	1022	730	1850
250	10	838	838	545	790	991	991	665	1525	1270	1270	880	2850
300	12	965	965	615	1160	1130	1130	780	2230	1422	1422	930	3950
350	14	1029	1029	635	1580	1257	1257	840	3200	-	-	-	-
400	16	1130	1030	660	1760	1384	1384	880	3700	-	-	-	-
450	18	1219	1219	685	2350	1537	1537	910	5280	-	-	-	-
500	20	1321	1321	720	2560	1664	1664	830	6850	-	-	-	-
600	24	1549	1549	930	5100	1943	1943	1020	9850	-	-	-	-

■ Above dimensions are in mm. ■ WT-Weights in Kg and are relevant to flanged end valves.■ Dimension B & weights are subject to change without notice. ■ For dimensions and weights for other sizes, consult the factory. ■ Some dimensions standard do not exist, these dimensions are manufacturer standard. ■ Accessories like Dashpot arrangement, Damper can be provided on request.

DUAL PLATE CHECK VALVE

Camtech Dual Plate Check Valve is retainerless design with intrinsically fire safe by design. Dual plate design minimize valve cracking pressure and reduces valve pressure drop. Spring loaded plates assist valve closing to ensure tight seal and minimize slamming. These valves are unidirectional valves and restrict flow from opposite direction. These valves are best suited for moderate velocity conditions. These are normally designed for horizontal flow condition, but can also be installed in vertical pipeline, but in vertical pipeline, the flow shall be in upwards direction and under the disc.

Design Standard	API 594 / ASME B16.34
Testing Standard	EN 12266-1 / API 598
Face to Face	API 594
Pressure – Temperature chart	ASME B16.34
Flanged End (up to 24")	ASME B16.5
Flanged End (24" & above)	ASME B16.47 Series A & B

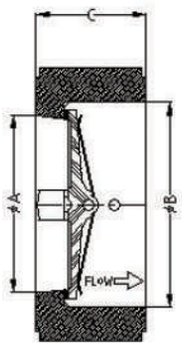
Size Range

Pressure Class	Size Range
Class 150	2" to 42"
Class 300	2" to 42"
Class 600	2" to 42"
Class 900	2" to 24"
Class 1500	2" to 12"
Class 2500	2" to 12"

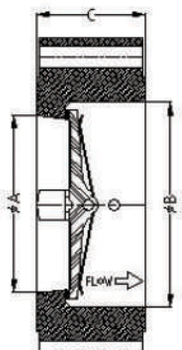
Design Features

- Cast body precisely machined with no threaded holes and crevice, hence reduce crevice / thread corrosion and carefully designed to minimize pressure drop.
- Stellited lapped seats for increased seat life and better performance.
- High performance spring design.
- Shock bumpers prevent slamming with springs and pins.
- Hinge pin is part of the trim, in forged stainless steel and machined from ground bar. The hinge pin is held in position in the body with two supports. These pins can be easily removed for valve maintenance.
- Stop pins is part of the trim, in forged stainless steel and machined from ground bar. It helps to stop the disc from slamming and retains the spring thrust.
- Serrated finish 125 – 250 AARH or RTJ as per requirement.
- Innovative pin design to eliminate the disc drag on the body seat, which increases the seat life.
- Independent disc springs for equal closing rate of each disc.
- Discs open 85° to ensure positive closing.
- NACE Service either MR-01-75 or MR-01-03 as required.
- As cast flow direction mark on the body for proper installation on site.

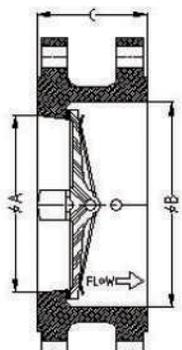
DUAL PLATE CHECK VALVE



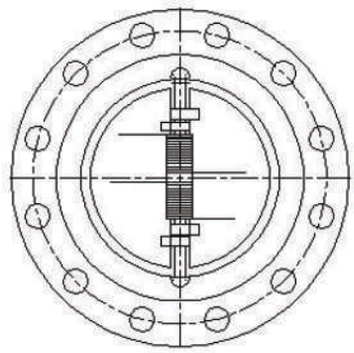
WAFER



LUG



FLANGED



SIZE		ASME CLASS 150						ASME CLASS 300					
mm	Inch	ØA	ØB	C	Weight (Kg)			ØA	ØB	C	Weight (Kg)		
					Wafer	Lugged	Flanged				Wafer	Lugged	Flanged
50	2	50	60	60	4	8	-	50	60	60	4	8	-
80	3	76	90	73	6	14	-	76	90	73	6	16	-
100	4	100	114	73	8	20	-	100	114	73	8	23	-
150	6	150	168	98	18	35	-	150	168	98	18	38	-
200	8	200	215	127	28	65	100	200	215	127	32	68	-
250	10	250	265	146	50	105	115	250	265	146	60	110	-
300	12	300	315	181	80	110	130	300	315	181	110	115	165
350	14	350	365	184	95	125	150	350	365	222	170	195	225
400	16	400	415	191	105	160	185	400	415	232	204	260	315
450	18	450	470	203	145	180	220	450	470	264	280	350	425
500	20	500	520	219	185	240	280	500	520	292	395	435	510
600	24	600	620	222	280	330	380	600	620	318	540	680	795
750	30	750	765	305	425	610	790	750	765	368	630	830	1150
900	36	1956	1956	950	4130	2083	2083	1120	5450	2083	2083	1280	8500

SIZE		ASME CLASS 600						ASME CLASS 900					
mm	Inch	ØA	ØB	C	Weight (Kg)			ØA	ØB	C	Weight (Kg)		
					Wafer	Lugged	Flanged				Wafer	Lugged	Flanged
50	2	50	60	60	4	8	-	50	60	70	9	20	-
80	3	76	90	73	6	14	-	76	90	83	12	30	-
100	4	100	114	79	12	35	-	100	114	102	25	50	-
150	6	150	168	136	35	85	-	150	168	159	55	125	-
200	8	200	215	165	80	135	-	200	215	206	135	230	-
250	10	250	265	213	120	240	-	250	265	241	205	340	-
300	12	300	315	229	175	230	290	300	315	292	300	380	410
350	14	350	365	273	200	295	390	350	365	356	405	495	560
400	16	400	415	305	330	390	465	400	415	384	540	610	650
450	18	450	470	362	410	495	620	450	470	451	620	755	845
500	20	500	520	368	560	655	790	500	520	451	645	1145	1245
600	24	600	620	438	830	1035	1220	600	620	495	1140	1310	1450

SIZE		ASME CLASS 1500						ASME CLASS 2500					
mm	Inch	ØA	ØB	C	Weight (Kg)			ØA	ØB	C	Weight (Kg)		
					Wafer	Lugged	Flanged				Wafer	Lugged	Flanged
50	2	50	60	70	10	18	-	40	50	70	15	20	-
80	3	76	90	83	15	32	-	68	80	86	20	42	-
100	4	100	114	102	22	55	-	90	100	105	30	75	-
150	6	150	168	159	55	120	-	140	155	159	80	185	-
200	8	200	215	206	120	230	-	185	200	206	140	390	-
250	10	250	265	248	220	350	-	230	245	254	260	480	-
300	12	300	315	305	395	485	-	280	300	305	415	590	-

■Above dimensions are in mm. ■Dimension ØA, ØB & weights are subject to change without notice. ■For dimensions and weights for other sizes, consult the factory. ■Sizes where weight is not mentioned, these sizes flanged design are not available.

TECHNICAL INFORMATIONS

CRYOGENIC VALVE

Cryogenic valves are specially designed for gas treatment processes and storage and transportation of liquefied gasses such as LNG, liquid nitrogen, Oxygen,. Etc. these valves are required to be operated to give assured leakage rates.

Camtech manufacturing offers the cryogenic industry the most complete and technically advanced cryogenic valves : Ball valve, Butterfly valve, Gate, Globe and Switch check.

All valves, except check valves are supplied with extended bonnet with a sufficient gas column length, usually specified by the user, to keep the stem packing away from the cold fluid, to avoid the frosting of the stem packing and ensure functional integrity. These valves are suitable to use at temperature -50^{0}C down to -196^{0}C. 12" gas column is a standard feature for these valves. Extended bonnet as per MESC SPE 77/200 & SPE 77/209 can also be given. The main pressure containing components are treated with liquid nitrogen to stabilize dimensions and eliminate the stress caused by metal microstructure changes.

Camtech valves are inspected and tested In-house in accordance with BS 6364 to certify sealing performance in cryogenic conditions, when required by the customer. Material offered for these valves are body: LCB, CF8, CF8M, CD4MCu, CN7M, H-B, H-C, etc. with stellited trims.

Design Standard	BS 6364
Testing Standard	BS 6364
Face to Face	ASME B16.10
Pressure – Temperature chart	ASME B16.34
Flanged End (up to 24")	ASME B16.5
Flanged End (26" & above)	ASME B16.47 Series A & B

LOW EMISSION SERVICE VALVE (FUGITIVE EMISSION CONTROL)

The industrialized nations of the world have all placed increased emphasis on the control of VOC "volatile organic compound" being emitted to the atmosphere. The new law required the plant handling the toxic gas to periodically monitor the leakage level not exceeding 100 ppm and is expected that such restrictions will be more stringent in all countries.

Camtech manufacturing, with several testing have designed, engineered and manufactured low emission valves to meet the 50 ppm maximum emission level.

Our Gate & Globe valves are meeting the qualification procedure and requirement for fugitive emission service valves as mentioned in ISO 15848. The major design considerations for having achieved this performances are as below,

- Gland packing system with 02 top and bottom carbon filament braided graphite rings and in-between flexible graphite rings along with a carbon bush.
- Interface clearance – Small diametrical clearance between the vital parts such as stem to packing and packing to stuffing box.
- Stem and stuffing box finish – 6 to 32 RMS finish is provided on the stem with precision controlled straightness and roundness. The stuffing box is machined to 32 to 63 RMS finish with controlled concentricity.
- Bonnet gasket – spiral wound flexible graphite filler with stainless steel hoop is provided.
- Live loading and a lantern ring with a leak-off plug are also provided on request from the customer.

Stainless Steel Name plate is affixed on the body flange indicating "LOW EMISSION"

TECHNICAL INFORMATIONS

SHEEL MATERIAL

Materials	ASTM Reference	Recommended Temperature Limits		Applications
		°C	°F	
WCB	ASTM A216 WCB	-29 to 425	-20 to 800	Steam, water oil, oil vapour, gas and general service
WC6	ASTM A217 WC6	-29 to 593	-20 to 1100	Steam, water oil, oil vapour, gas and general service and high temperature applications.
WC9	ASTM A217 WC6	-29 to 593	-20 to 1100	
LCB	ASTM A352LCB	- 46 to 350	- 50 to 650	Low Temperature Applications
LCC	ASTM A352LCC	- 46 to 350	- 50 to 650	
CF8M	ASTM A351CF8M	-196 to 537	-320 to 1000	High and low temperature corrosion resistance Cryogenic service is also available upon request
CF8	ASTM A351CF8	-196 to 537	-320 to 1000	
CF3M	ASTM A351CF3M	-196 to 537	-320 to 1000	
CF3	ASTM A351CF3	-196 to 537	-320 to 1000	

Other materials like WCC, LCB, LCC, LC3, C5, C12, CF8C, CF10, CN7M, Duplex, super duplex steels, Hastalloy, Inconel are made available.

TRIM COMBINATIONS

Trim No	Nominal trim	Trim Material	Stem Material	Temperature
1.	F6 / F6	a) ASTM A182 F6 / 13% Cr Steel b) 13% Cr Deposit	13% Cr (F6a)	1100ºF
2.	304 / 304	a) ASTM A182 F304 or A351 CF8 b) 304 Deposit	SS 304	1200ºF
5.	HF / HF	Co-Cr A (Stellite 6) Deposit	13% Cr (F6a)	1200ºF
8.	F6 / HF	Trim No. 1 + Trim No. 5	13% Cr (F6a)	1100ºF
9.	Monel / Monel	a) Monel Deposit b) ASTM B164	Monel	450ºF
10.	316 / 316	a) ASTM A182 F316 or A351 CF8M b) 316 Deposit	SS 316	850ºF
11	Monel / HF	Trim No. 5 + Trim No. 9	Monel	450ºF
12	316 / HF	Trim No. 5 + Trim No. 10	SS 316	850ºF

Note –
The above trims are as per API 600, which are our standard. Other combinations are also available on request.
Trim parts as defined in API 600 is
Ball valve, Butterfly valve, Gate, Globe and Switch check.

NACE SERVICE VALVES

Valve operating in sour environment have prematurely failed as a result of a corrosion process known as sulfide stress cracking (SSC). SSC is a hydrogen embrittlement phenomenon that occurs in high strength steels and in the heat affected zone (HAZ) of steel weldments. It occurs as an unexpected brittle failure in material when subjected to stresses that are even less than their yield strength.

The National Association of Corrosion Engineers (NACE) establishes standards for materials resistant to Sulfide Stress Cracking (SSC) to be used in hydrogen sulfide (H2S) bearing hydrocarbon service. For serving sour gas or other hydrocarbon fluids, Camtech cast steel valves can be provided with materials specially heat treated and controlled hardness in compliance to NACE MR0175 / MR0103.

The customer can select valves made of alloy/carbon steel material with controlled hardness and/or a stainless steel material depending on the severity of the fluid. Valves having a body/bonnet with a controlled hardness of Rc 22 and studs/nuts of B7M/2HM can be combined with a customer selected trim and manufactured to meet NACE MR0175 requirements.

TECHNICAL INFORMATIONS

TYPE OF OPERATIONS

Camtech valves can be supplied with manual handwheel/ gear operation, chain wheel, as well as electric, pneumatic andhydraulic actuators.

Valves can also be supplied with a bypass, drain or vent connection, stem extension, position indicators, floor stand mounting as well as a lever and weight system for swing check valves.

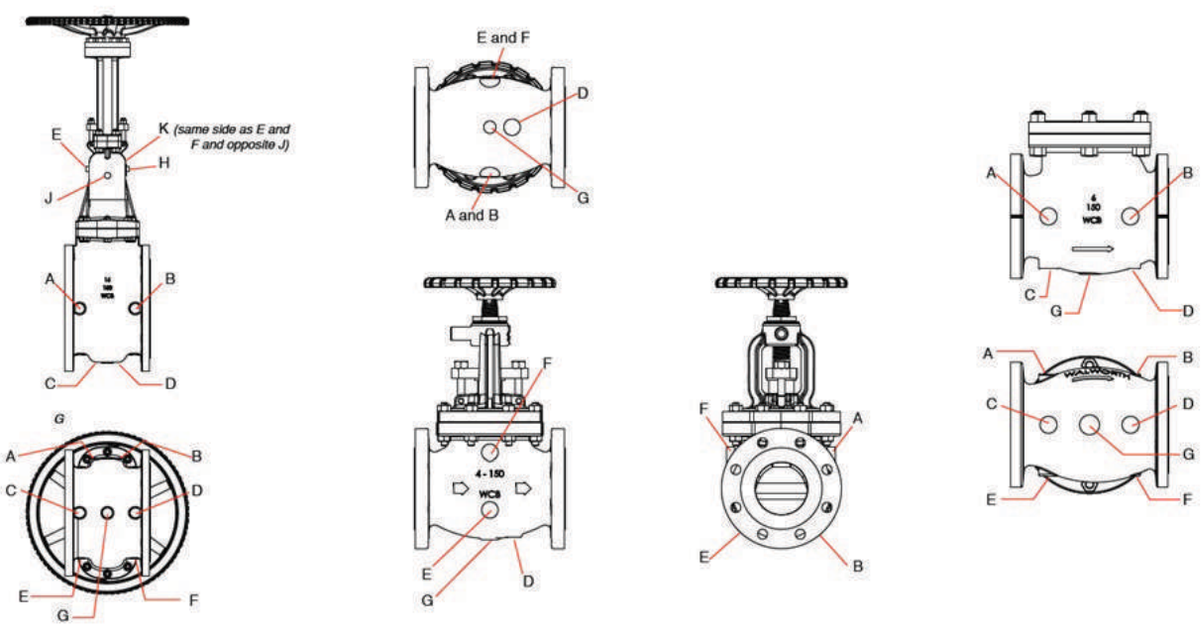
Gear Box

Chain Wheel

Electric Actuator

Pneumatic Actuator

Damper

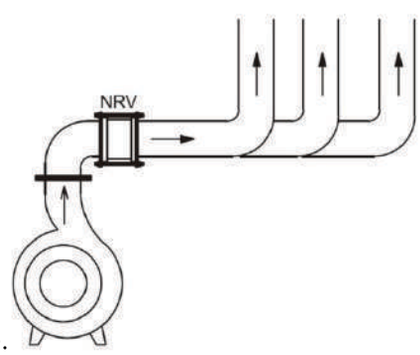


Bosses and drain connection positions in accordance with MSS-SP-45 & ASME B16.34 Standards

CHECK VALVE APPLICATIONS

The Check Valve provides high integrity first-line defense in the event of unwanted reverse flow and operates in advance of, or in conjunction with safety devices. It is immediately responsive and fast acting in its closure, thereby maximizing protection to prevent or minimize the adverse effect of any backflow. The main applications of check valves are,

- Production flow lines.
- Gas export facility.
- Refinery – Gas pumps.
- LNG Storage.
- Heat Exchangers.
- Product tank farm.
- Well head injection lines for oil rigs and platform.
- Chemical storage-discharge side of the pump.



Camtech reserves the right to change this information without notice.

CUSTOMER REFERENCE

CAM-CSV-00 (2023)

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