



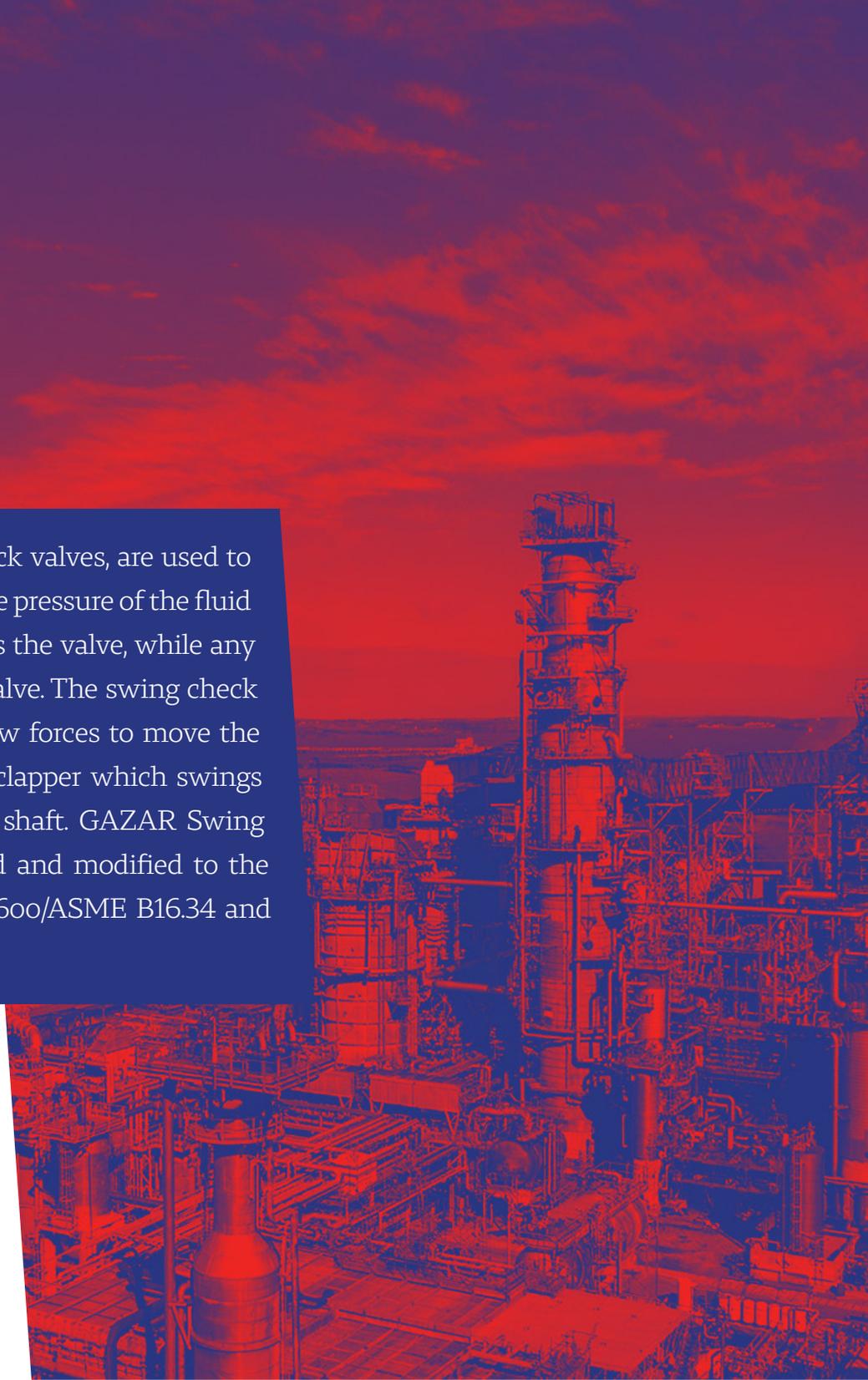
Swing & Wafer Check Valve



used to prevent back flow in the line /
for applications that require valves with
short takeout lengths

About Swing Check Valve

Swing check valves, like all check valves, are used to prevent back flow in the line. The pressure of the fluid passing through a system opens the valve, while any reversal of flow will close the valve. The swing check valve functions by allowing flow forces to move the closure element, it is a hinged clapper which swings or rotates around a supporting shaft. GAZAR Swing Check valves are manufactured and modified to the latest edition of API Standard 600/ASME B16.34 and tested to API Standard 598.





Acting design

Swing Check Valves are normally operated by the flow, if the flow stops and backs up, the valve will then be closed by the back-pressure.



Body

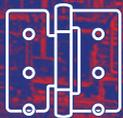
The body is full ported and spherical in form. The design utilizes large radiuses which allow for the stresses, flow resistance and turbulence to be kept to a minimum. Bosses are provided for optional drains.



Body-cover Joint

Standard body-cover joints of our swing check valves are machined as follows:

- **Pressure Class:** 150, 300, 600, 900 over.
- **Joint Design:** Male-and-Female, Ring Type Joint
- * Pressure Class 600 also available in Ring Type Joint.
- ** GAZAR can supply any style of gasket required by customer.



Hinge Assembly

The hinge arm pivots on the hinge pin which is located near the disc's center of gravity. Body penetration for the hinge pin is sealed with a soft steel gasket and flanged plug. The hinge arm is designed to withstand the shock load of quick closing to insure a longer life and continued shut-off. The hinge arm also has an integral disc stop that provides a positive stop in the open position.

Disc



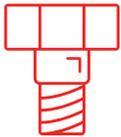
Each disc's seating surface is precision ground and mated to the seat ring for insurance of a positive shut off. The disc is secured to the hinge arm with the disc nut and pinned to prevent disengagement during service. We can provide either integral or overlaid seat facings at customer's request.

Seat Ring



Seat rings are designed to greatly reduce and/or prevent any turbulence and avoid damages due to corrosion. The seat rings are forged or rolled in one piece and then seal welded and overlaid, if required. After welding and all required heat treating, the seat ring faces are machined, thoroughly cleaned and inspected before leaving for assembly.

Bolts And Nuts



For normal service conditions, ASTM A194 Class 2H and ASTM A193 Grade B7 nuts and stud bolts are furnished. If specified for high temperature service conditions, ASTM A194 Class 4 and ASTM A193 Grade B16 nuts and stud bolts are furnished. Standard bolting furnished for our stainless steel valves consists of ASTM A194 Class 8 and ASTM A193 Grade B8 nuts and stud bolts. GAZAR can supply any bolting as requested by the customer.

End Connections



Our standard production covers valves with:

- Flange ends with Raised Face (RF), Flat Face (FF) or Ring Type Joint (RTJ) that conform to B16.5.
- Butt-welding ends (BW) that conform to B16.25.
- All face-to-face/end-to-end dimensions conform to B16.10.
- Other special end connections are supplied according to customer's requirements.

Accessories/optional Designs

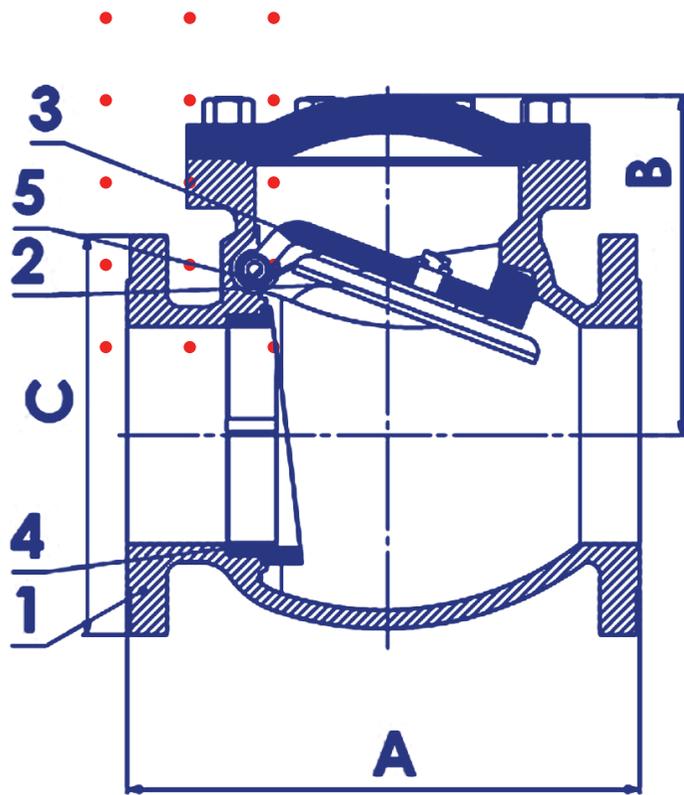


Counterweight features are available as an accessory. Piston, tilting disc or API6D designs are also available to meet the customers' requirements. Drains and bypasses are available as specified by the customer.

Item	Part Name	Standard TRIM (Source Service-NACE)	Low Temperature TRIM (Source Service-NACE)
1	Body	ASTM A216 Gr. WCB	ASTM A352 Gr.LCC
2	Cover	ASTM A105N/ASTM A216 Gr.WCB	ASTM A350 Gr.LF2 / ASTM A352 Gr.LCC
3	Clapper	ASTM A351 Gr.CF8M	ASTM A351 Gr.CF8M
4	Seat Ring	ASTM A182 Gr.F316	ASTM A182 Gr.F316
5	Clapper Pin	ASTM A182 Gr.F316	ASTM A182 Gr.F316
6	Clapper O-Ring	HNBR	HNBR
7	Cover Gasket	Spiral Wound Graphite+316SS	Spiral Wound Graphite+316SS
8	Stud	ASTM A193.Gr B7M	ASTM A320 Gr.L7M
9	Nut	ASTM A194 Gr.2HM	ASTM A194 Gr.L7M
10	Vent Plug	Carbon Steel	Carbon Steel
11	Hinge Pin Plug	Carbon Steel	Carbon Steel
12	Name Plate	SS 304	SS 304
13	Hinge Pin Washer	ASTM A276 Gr.420	ASTM A276 Gr.420
14	Eyebolt	Carbon Steel (2" and above for class 600-2500) (4" and above for class 150-300)	Carbon Steel (2" and above for class 600-2500) (4" and above for class 150-300)



• Gazar Swing Check Valve •



Specifications: Swing Check valve | Bolted Cover | Flanged Ends | Full Bore

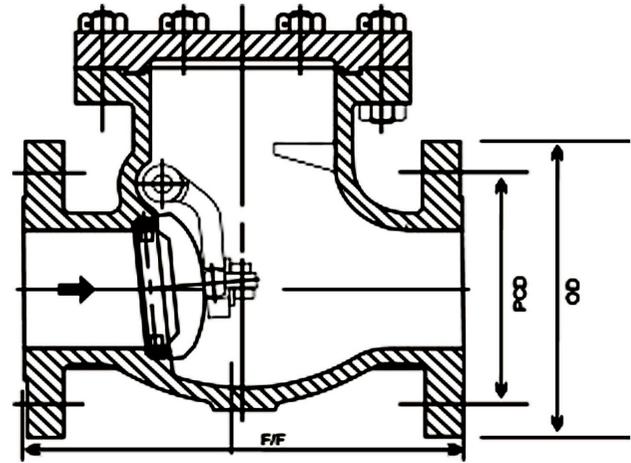
S T A N D A R D

Face to Face Dimension API 6D

End Flange Dimension ANSI B16.5

Basic Design API608 / API6D

Fire Safe Design API607



Part	Description	Material (General)	Material (NACE-MR0175)	Material (Stainless Steel)
1	Body	ASTM A216 Gr. WCB	ASTM A217 Gr. WC6	ASTM A351 Gr.CF8M
2	Disc	ASTM A216 Gr. WCB +A479 TP410	ASTM A216 Gr. WC6 +A479 TP410	ASTM A351 Gr.CF8M
3	Hinge	ASTM A216 Gr. WCC	ASTM A217 Gr. WC6	ASTM A351 Gr.CF8M
4	Seat Ring	Carbon Steel + ST. 6	Alloy Steel + ST. 6	-
5	Hinge Pin	ASTM A479 TP410	ASTM A479 TP410	ASTM A479 TP316

Size (inch)	Class 150						Class 300					
	A			B	C	Weight	A			B	C	Weight
	Flanged	Butt Weld	Ring Type Joint				Flanged	Butt Weld	Ring Type Joint			
2"	203	203	216	150	373	17	267	267	283	180	165.1	21
2½"	216	216	229	168	390	21	292	292	308	185	190.5	32
3"	241	241	254	180	421	29	318	318	333	210	209.5	43
4"	292	292	305	210	515	42	356	356	371	270	254	61
5"	330	330	-	230	538	69	400	400	-	345	279.4	84
6"	356	356	368	275	567	74	445	445	460	360	317.9	131
8"	495	495	508	340	626	108	533	533	549	370	381	213
10"	622	622	635	355	712	177	622	622	638	385	444.5	384
12"	699	699	711	410	482.6	282	711	711	727	440	520.7	449
14"	787	787	800	475	533.4	372	838	838	854	520	584.2	680
16"	864	864	876	552	596.9	570	864	864	879	554	647.7	840

Size (inch)	Class 600					
	A			B	C	Weight
	Flanged	Butt Weld	Ring Type Joint			
2"	292	292	295	197	165.1	36
2½"	330	330	333	207	190.5	49
3"	356	356	359	231	209.6	68
4"	432	432	435	281	273.1	111
5"	508	508	-	-	-	-
6"	559	559	562	362	355.6	230
8"	660	660	664	437	419.1	416
10"	787	787	791	490	508	673
12"	838	838	841	528	558.8	875
14"	889	889	892	572	603.3	944
16"	991	991	994	660	685.8	1220



About Dual Plate Check Valve

Dual Plate check valves have a solid thermoplastic body with a very thin “wafer” profile that makes them an ideal check valve for applications that require valves with short takeout lengths. Wafer check valves are used in applications where it is essential to ensure fluid flow passes in only one direction.





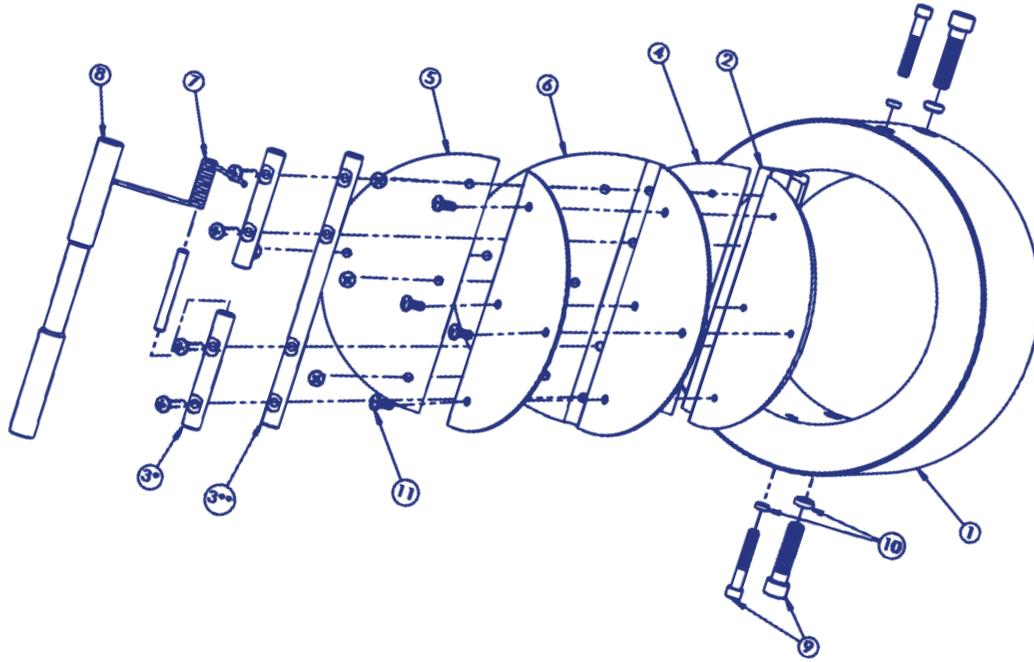
Acting design

Dual disc wafer check valves are the clear choice for many piping engineers because of their proven reliability, ease of installation and low ΔP . Now, they are available in a full port design that dramatically improves performance. They are ideal for application in vacuum pumps, compressed air and gas systems as well as in water systems where low head loss and elimination of water hammer are desirable.

Standards

- Design API 6D, ISO 14313, ASME B16.34
- Face to Face size ASME B16.10
- End Type ASME B16.5 & B16.47 & ISO 7005
- NACE MR0175
- Test and Inspection API 598
- Fire safe valve design. Design verification through tests and certificates according to API 6FA and ISO 10497 standards

The torsion spring is designed to maximize reliability and minimize pressure loss and quickly close the check valve at zero flow to prevent slamming and water hammer commonly associated with many Types of other check valves.

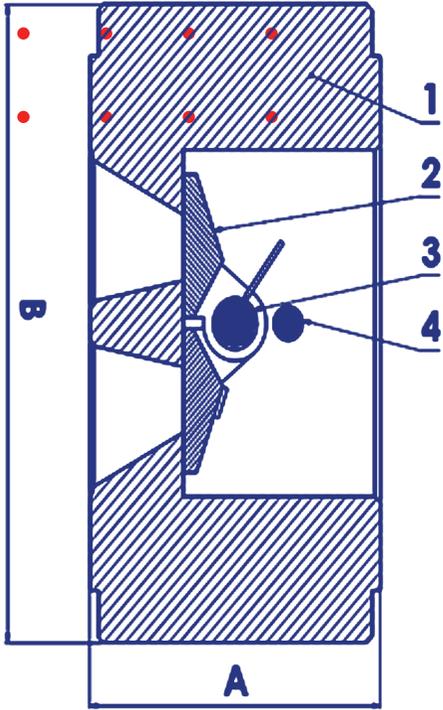


Part No	Part Description	Material
1	Wafer Body (Solid Body Style Shown)	"Cast Iron / Ductile Iron / Carbon Steel / SS304 / SS316 / Alu-Bronze"
2	Wing Support	-
3*	Spring Pin	Stainless Steel (SS304 / SS316)
3**	Wing Pin	-
4	Disc	"Ductile Iron / Carbon Steel / Bronze / SS304 / SS316 / Alu-Bronze"
5	Back-up Disc	-
6	Elastomer Seal	-
7	Spring Pin	Stainless Steel (SS304 / SS316)
8	Limiter	-
9	WS/LM Fastener	-
10	Sealing Washer	-
11	Sealing Washer	-



GAZAR Dual Plate Check Valve

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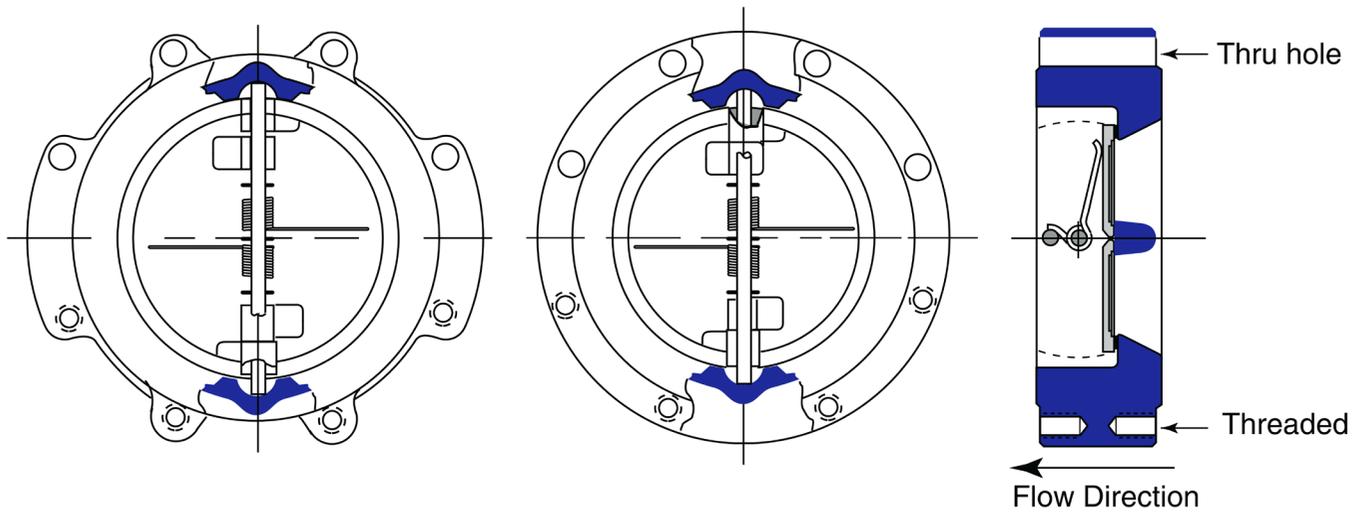


Specifications: Dual Plates | Wafer Type

S T A N D A R D

Face to Face Dimension	API 6D
End Flange Dimension	ANSI B16.5
Design	ANSI B16.34
Basic Design	API608 / API6D
Fire Safe Design	API607





Part	Description	Material (General)	Material (NACE-MR0175)	Material (Stainless Steel)
1	Body	ASTM A216 Gr. WCB	ASTM A217 Gr. WC6	ASTM A351 Gr.CF8M
2	Disc	ASTM A216 Gr. WCB +304 Seal Facing	ASTM A351 Gr.CF8M	ASTM A351 Gr.CF8M
3	Spring	Inconel	ASTM A479 TP316	ASTM A479 TP316
4	Shaft	ASTM A479 TP410	ASTM A479 TP304	ASTM A479 TP316
5	Seal Facing	ASTM A479 TP304	ASTM A479 TP316	-

Size (inch)	Class 150				Class 300				Class 600			
	A		B	Weight	A		B	Weight	A		B	Weight
	Long Pattern	Short Pattern			Long Pattern	Short Pattern			Long Pattern	Short Pattern		
2"	60	19	104	1.2	60	19	111	2	60	19	111	2.5
2½"	67	19	123	2.3	67	19	130	2.9	67	19	130	3.4
3"	73	19	136	3	73	19	149	5.5	73	19	149	6.3
4"	73	19	174	7	73	19	181	9.2	79	22	194	10
6"	98	19	222	15	98	22	251	20	137	29	267	22
8"	127	29	279	23	127	29	308	25	165	38	321	35
10"	146	29	340	30	146	38	362	32	213	57	430	41
12"	181	38	410	37	181	51	423	39	229	60	457	57
14"	184	44	451	49	222	51	486	52	273	67	492	72
16"	191	51	515	62	232	51	539	67	305	73	565	83
18"	203	60	550	78	264	76	596	82	362	83	613	100
20"	219	64	603	97	292	83	654	102	368	92	683	140
24"	222	-	717	125	318	-	775	135	438	-	790	350



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