GEKO
CONTROL-VALVES



GEKO Valves

GKV522 SERIES

Dual Plate Check Valves

GEKO VALVES

GEKO VALVES
GKV522 SERIES
Dual Plate Check Valve



SPECIFICATIONS

PRODUCT CHARACTERISTICS

- GKV522 Dual plate check valve is a general purpose and one way flow valves that is stronger, lighter and more reliable than conventional swing check valves.
- Due to lighter in weight and short face-to-face dimension , it's very easy to be maintained between flanges.
- Inner parts assembled by two semicircular springs and plates, which pinned to the body. Normally close by spring action and open by fluid pressure. Due to very quick reaction of spring cycle, it could protect piping from water hammer.

- Size : 40mm-1200mm(1.5"~48")
- PRESSURE TESTING AS ACCORDING TO ISO 5208
- Seat testing : 11bar (160psi.)
- Body testing : 15bar (220psi.)
- ANSI CLASS 150LB/ PN10
- END CONNECTIONS:
  BS 10 TABLE "E". ANSI 150LB ,ISO-PN. JIS 10K
  (Other flange connection please contacts with Value Valves Co., Ltd.)
  *Technical information is only for reference.
  Geko Valves&Controls reserves the right to change without previous notice.

Comparison of the shape with conventional swing check valve



DUAL PLATE CHECK VALVES

- Small and Light
- Quick Vertical and Horizontal
- Bubble tight



SWING CHECK VALVE

- Large and Heavy
- Slow reaction
- Horizontal installation
- Leakage allowable

PRECAUTIONS IN PIPING



Fig.1

*Lay pipes so that the cast direction of wafer Check body corresponds with the flow direction. (Fig.1)



Fig.2

*It can be installed in vertical piping.
*In horizontal piping, set the rib of wafer Check vertically.(Fig.2)

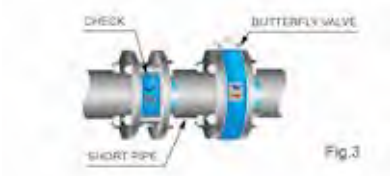


Fig.3

*Use an extension tube between wafer Check and the butterfly valve. Never connect wafer Check to the valve directly.(Fig.3)



Fig.4

*Avoid entering the end of a tube or gasket within the operating area of a radius of the wafer Check plate.(Fig.4)



Fig.5

*Never mount a reducer just in front of or behind wafer Check. Leave a space of 5 times the valve diameter(5D) or more.(Fig.5)



Fig.6

*When installing wafer Check near an elbow, leave a space as large as possible between an elbow and wafer Check and be sure that the plate is stressed evenly .(Fig.6)

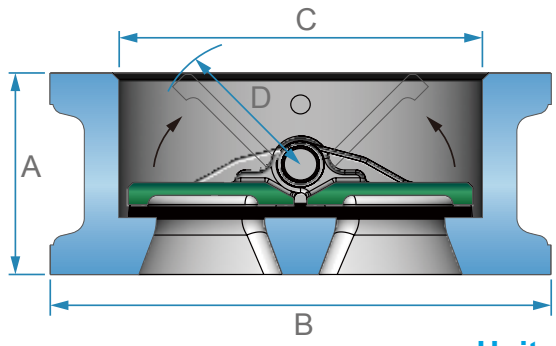


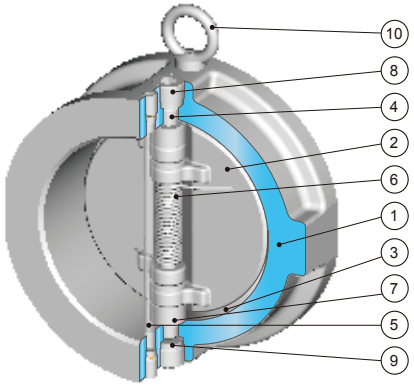
Fig.7

*When installing wafer Check at a pump outlet, leave a space of at least 6 times the valve diameter (6D) and be sure that the plate is evenly stressed by fluid.(Fig.7)

*Consult us when flow velocity of liquid exceed 3m/sec.
*Seat leakage may occur when pressure difference is 0.02Mpa(0.2kgf/cm^{2}G) or below.

DIMENSIONS





Unit : mm

mm	inch	A	B	C	D	WEIGHT(kg)
40	1.5	43	96	60	25	1.5
50	2	43	98	66	29	1.6
65	2.5	46	110	80	36	1.9
80	3	64	128	100	44	2.7
100	4	64	156	112	53	4.2
125	5	70	187	135	65	6.8
150	6	76	213	160	77	10.7
200	8	89	267	210	102	17.2
250	10	114	328	260	127	28.7
300	12	114	375	310	152	33.0
350	14	127	415	360	170	71.0
400	16	140	482	410	220	99.0
450	18	152	530	460	225	118
500	20	152	580	510	250	180
550	22	219	660	559	264	228
600	24	222	718	610	292	549
650	26	279	772	660	312	579
700	28	321	832	711	337	580
750	30	330	883	762	365	700
800	32	356	940	813	397	800
900	36	387	1048	914	440	1000
1000	40	419	1162	1016	495	1065
1050	42	432	1219	1067	527	1260
1200	48	524	1384	1219	603	2055

*Other dimensions please consult with Geko Valves.





GKV522 SERIES

PARTS AND MATERIALS

No.	NAME	MATERIALS	SPECIFICATION		REMARKS
			JIS	ASTM	
1	BODY	CAST IRON	FC200	A126 ClassB	
		DUCTILE IRON	FCD400	A536-65-45-12	
2	PLATE	BRONZE	ALBC2	C95400	
		STAINLESS STEEL	SCS13A	A351CF8	
			SCS14A	A351CF8M	
3	SEAT	NBR(NITRILE)			-10°C~80°C(14°F~176°F)
		EPDM			-20°C~120°C(-4°F~248°F)
4	HINGE PIN	STAINLESS STEEL	SUS304	A182F304	
5	STOP PIN	STAINLESS STEEL	SUS304	A182F304	
6	SPRING	STAINLESS STEEL	SUS304	A182F304	14"~24"
			SUS316	A182F316	1.5"~12"
7	BUSHING	TEFLON			
8	SET BOLT	STEEL	SCM3		
9	PACKING	NBR(NITRILE)			
10	EYE BOLT	FORGING STEEL	SF40A		FOR 5" AND LARGER



*Each materials can provide on different process of customer's requirements.

GEKO VALVES

CV FLOW COFFICIENT

mm	inch	Cv	mmAq
50	2	55	300
65	2.5	85	300
80	3	145	250
100	4	290	200
125	5	460	150
150	6	800	150
200	8	1550	140
250	10	2800	140
300	12	4100	130

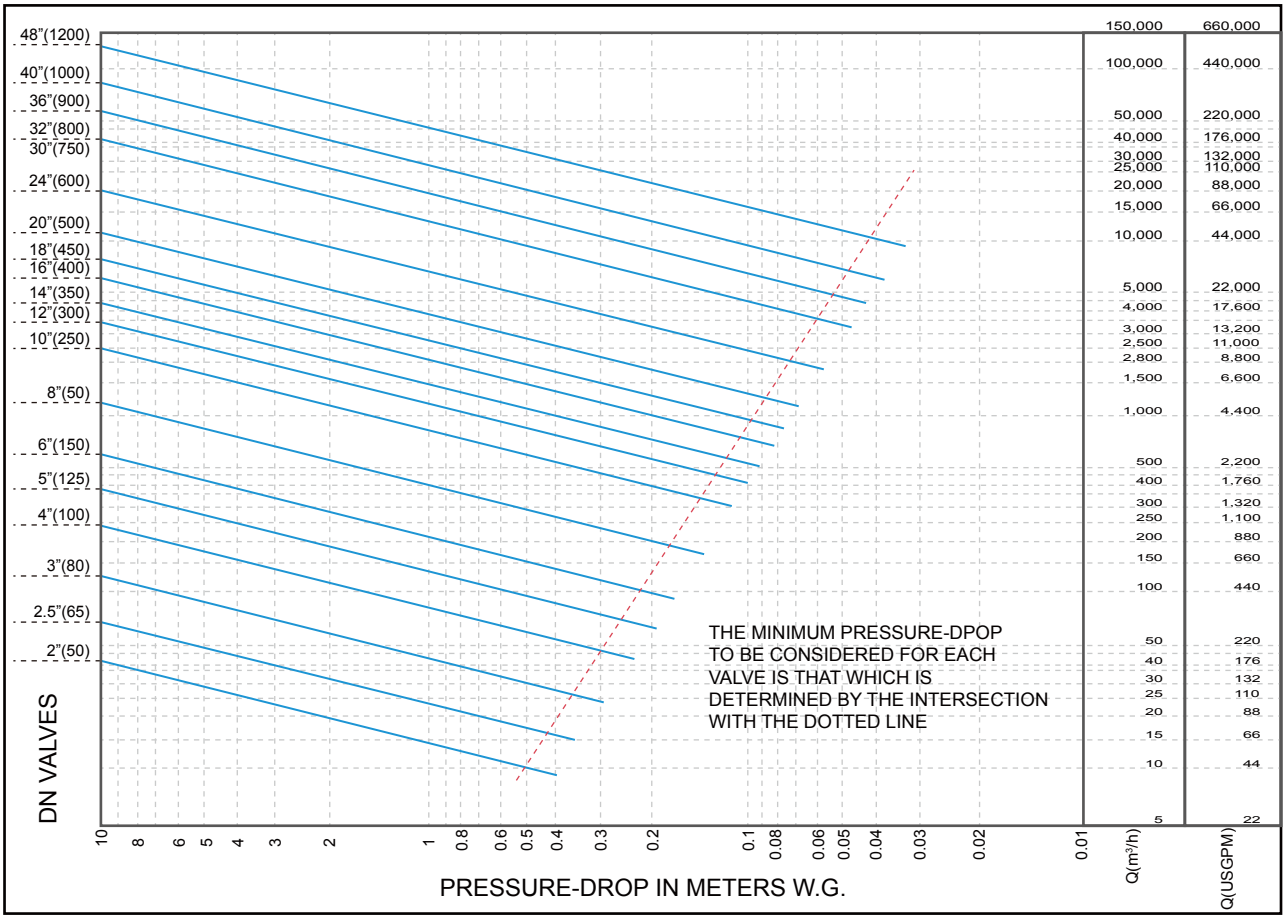
mm	inch	Cv	mmAq
350	14	5350	130
400	16	8250	100
450	18	10550	70
500	20	14500	70
600	24	24000	60
800	32	48000	50
900	36	63000	40
1050	42	91000	35
1200	48	125000	30

$$Q = C_V \sqrt{\frac{\triangle P}{G_L}}$$

Q=Flow in gpm
(U.S. gallons per minute)
△ p=pressure drop through the valve (psi)
G_L= specific gravity
(for water at 15.6℃ (60 ℉) =1)

Note:
1.The pressure-drop corresponding to the spring action, is refered to the normal torque type.
2.Cv=The number of U.S. Gallons/minute that will result in 1 psi pressure lose across the valve at temp of 15.6℃ (60 ℉).
3.Cv=1.17Kv
4.Where the Kv value denotes the rate in m^3/Hr for water at 25℃ (77 ℉) flowing under pressure differential 1 Kg/cm^2.

PRESSURE DROP-FLOW RATE



In water rubber check valves (Graph for water in normal conditions)

GEKO VALVES

GKV522 SERIES

Dual Plate Check Valves



SPECIFICATIONS







Model No.	GKV522A	GKV522B	GKV522C
End Connection	Wafer type	Lugged type	Flanged type
Size	1.5"-60" (40mm-1500mm)	1.5"-36" (40mm-900mm)	
Pressure Rating	CL 125, CL 150, CL 300, CL 600		
	PN10, PN16, PN20, PN25, PN40, PN50		
	5K, 10K, 20K		
End Facing	FF/RF/RTJ	FF/RF	

Remark : Retainerless Design upon request.



DESIGN STANDARDS

End Connection: Wafer type, Lugged type, Flanged type
Thickness: API 594, Maker Standard.
Design: API 594, Maker Standard.
Face to Face: API 594, API 6D, ISO 5752, EN 558-1
Marking: MSS-SP 44
Flanged Face Standard: MSS-SP 6, ASME B16.1, ASME B16.5, ISO 468
Inspection Standard: API 598, ISO 5208.
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GEKO VALVES

CRACKING PRESSURE

Size	mm	S.L.(Mpa) system	Metric(kg/cm^2) System
1 1/2"	40	$6.286*10^{-3}$	$61.60*10^{-3}$
2"	50	$6.286*10^{-3}$	$61.60*10^{-3}$
2 1/2"	65	$5.319*10^{-3}$	$52.42*10^{-3}$
3"	75	$6.122*10^{-3}$	$60.00*10^{-3}$
4"	100	$3.204*10^{-3}$	$31.40*10^{-3}$
5"	125	$2.617*10^{-3}$	$25.65*10^{-3}$
6"	150	$1.628*10^{-3}$	$15.95*10^{-3}$
8"	200	$2.470*10^{-3}$	$24.21*10^{-3}$
10"	250	$1.656*10^{-3}$	$16.23*10^{-3}$
12"	300	$2.206*10^{-3}$	$21.62*10^{-3}$
14"	350	$1.423*10^{-3}$	$13.95*10^{-3}$
16"	400	$1.094*10^{-3}$	$10.72*10^{-3}$
18"	450	$0.690*10^{-3}$	$6.76*10^{-3}$
20"	500	$0.846*10^{-3}$	$8.29*10^{-3}$

Size	mm	S.L.(Mpa) system	Metric(kg/cm^2) System
22"	550	$0.754*10^{-3}$	$7.39*10^{-3}$
24"	600	$0.664*10^{-3}$	$6.51*10^{-3}$
26"	650	$0.809*10^{-3}$	$7.93*10^{-3}$
28"	700	$0.668*10^{-3}$	$6.55*10^{-3}$
30"	750	$0.571*10^{-3}$	$5.60*10^{-3}$
32"	800	$0.797*10^{-3}$	$7.81*10^{-3}$
36"	900	$0.619*10^{-3}$	$6.07*10^{-3}$
40"	1000	$0.707*10^{-3}$	$6.93*10^{-3}$
42"	1050	$0.750*10^{-3}$	$7.35*10^{-3}$
44"	1100	$0.796*10^{-3}$	$7.80*10^{-3}$
48"	1200	$0.610*10^{-3}$	$5.98*10^{-3}$
54"	1350	$0.617*10^{-3}$	$6.05*10^{-3}$
60"	1500	$0.596*10^{-3}$	$5.84*10^{-3}$

*Please consult with Geko Valves for information out of this table.

TEST STANDARDS

API 598

MATERIAL	SHELL TEST (BAR)				CLOSURE TEST (BAR)				REMARKS
	ANSI 125	ANSI 150	ANSI 300	ANSI 600	ANSI 125	ANSI 150	ANSI 300	ANSI 600	TEST FLUID
CAST IRON 2" ~ 12"	25	--	--	--	14	--	--	--	WATER
CAST IRON 14" ~ 48"	19	--	--	--	11	--	--	--	
DUCTILE IRON	--	26	66	--	--	17	44	--	
STEEL	--	31.6	79.1	158.2	--	22	58	116	

ISO 5208

	PRESSURE RATING						REMARKS
	PN10	PN16	PN20	PN25	PN40	PN50	TEST FLUID
SHELL TEST (BAR)	15	24	30	37.5	60	75	WATER
CLOSURE TEST (BAR)	11	18	22	27.5	44	55	



CV,KV Values

CV&KV VALUE(CV=1.17*KV)

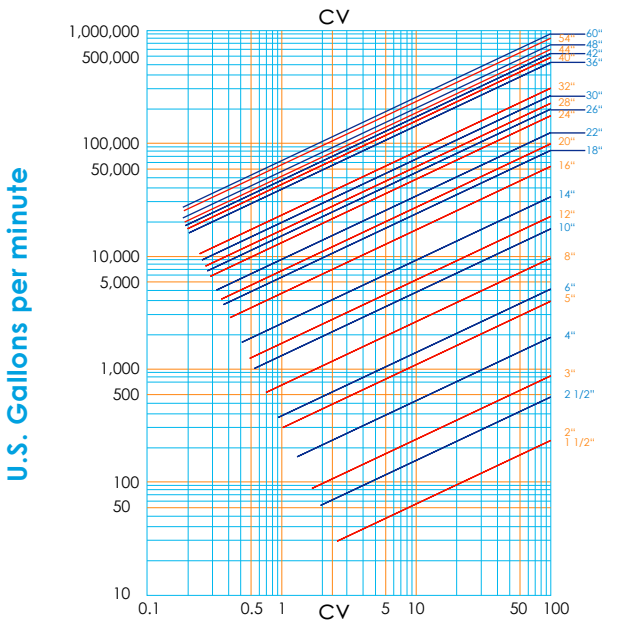
INCH	mm	CV	KV
1-1/2"	40	54.5	46.6
2"	50	54.5	46.6
2-1/2"	65	84.6	72.3
3"	80	137.5	117.5
4"	100	283.1	242.0
5"	125	491.3	419.9
6"	150	812.1	694.1
8"	200	1499.5	1281.6
10"	250	2587.3	2211.4
12"	300	4214.8	3602.3
14"	350	5547.3	4841.3
16"	400	7549.7	6452.7

INCH	mm	CV	KV
18"	450	10548.7	9016.0
20"	500	13325.6	11390.0
24"	600	21500.0	18376.0
26"	650	26400.0	22564.0
28"	700	29900.0	25555.0
30"	750	38400.0	32821.0
32"	800	46500.0	39744.0
36"	900	62000.0	52992.0
40"	1000	84500.0	72222.0
42"	1050	91300.0	78034.0
48"	1200	145100.0	124017.0

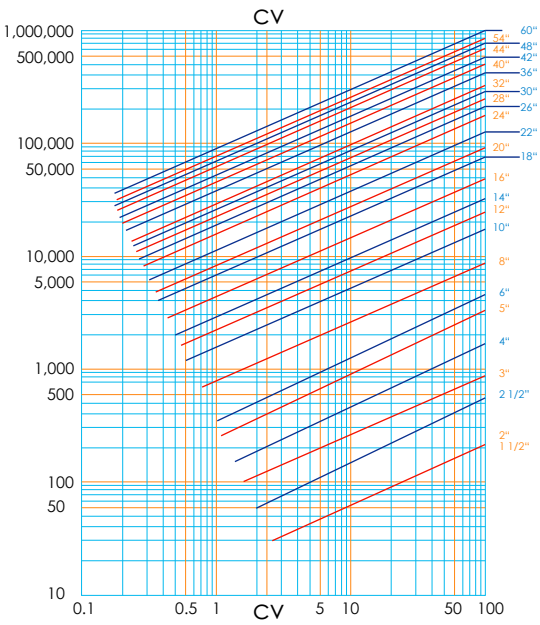
*Please consult with Geko Valves for CV value out of this table.

Head Loss Curves

Rating: 150LB/300LB



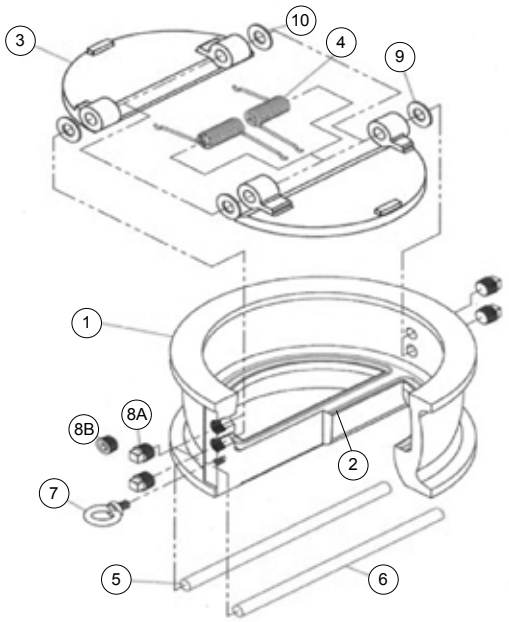
Rating: 150LB/300LB



Head Loss in Feet of Water

*When water at normal temperature

PARTS

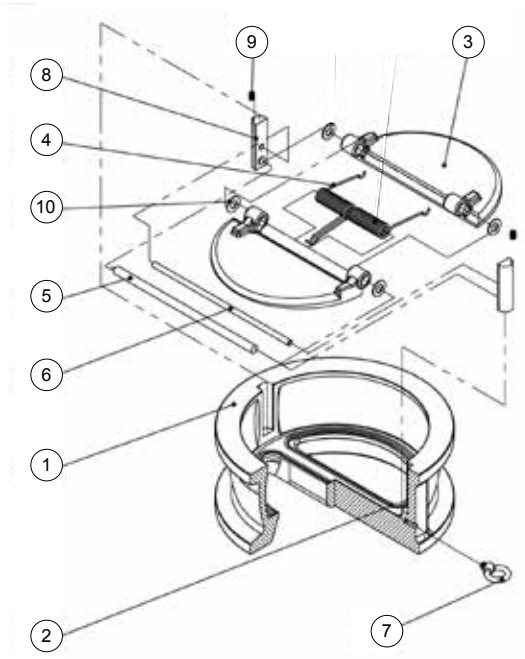


Wafer Type

NO.	PART NAME	Q'TY	REMARK
1	BODY	1	
2	SEAT	1	
3	PLATE	2	
4	*SPRING	1	1 1/2"~5"
		2	6"~22"
		4	24" and Larger Size
5	HINGE PIN	1	
6	STOP IN	1	
7	EYE-BOLT	1	6"~22"
		2	24" and Larger Size
8A	RETAINER	4	A182
8B		4	A105
9	BODY BEARING	2	
10	PLATE BEARING	2	

*Low torque spring upon request.

PARTS



Retainerless Type

NO.	PART NAME	Q'TY	REMARK
1	BODY	1	
2	SEAT	1	
3	PLATE	2	
4	*SPRING	1	1 1/2"~5"
		2	6"~22"
		4	24" and Larger Size
5	HINGE PIN	1	
6	STOP IN	1	
7	EYE-BOLT	1	6"~22"
		2	24" and Larger Size
8	CARRIER	2	
9	RETAINER SCREW	2	
10	BEARING	4	

*Low torque spring upon request.

MATERIALS

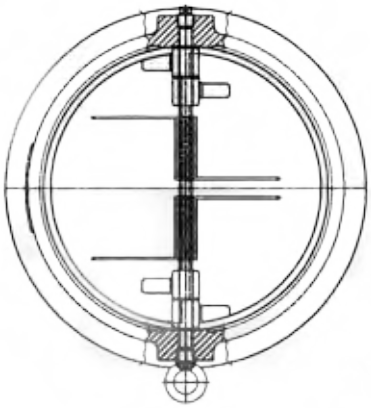
No.	NAME	MATERIAL	REMARK
1	Body	A126 CLASS B	
		A536 65-45-12	
		A216 WCB	
		A351 CF8	
		A351 CF8M	
		A351 CF3M	
2	Soft Seat	NBR	0°C~80°C(32°F~176°F)
		EPDM	-20°C~120°C(-4°F~248°F)
		Neoprene(C.R.)	-30°C~120°C(-22°F~248°F)
		Sillicone	-30°C~80°C(-22°F~176°F)
		VITON	-30°C~200°C(-22°F~392°F)
	Metal Seat (Same as Body)	Same as Body	-
		13% Cr Overlay	-25°C~530°C(-13°F~986°F)
		SUS 304 Overlay	-260°C~810°C(-436°F~1490°F)
		SUS 316 Overlay	-260°C~810°C(-436°F~1490°F)
		Stellite36 Overlay	-260°C~810°C(-436°F~1490°F)
3	Plate	A216 WCB	
		A351 CF8	
		A351 CF8M	
		A351 CF3M	
		B148 C95800	
4	SPRING	SUS 316	
		INCONEL X750	
5	PIN	SUS 410	
		SUS 304	
		SUS 316	
		F51	

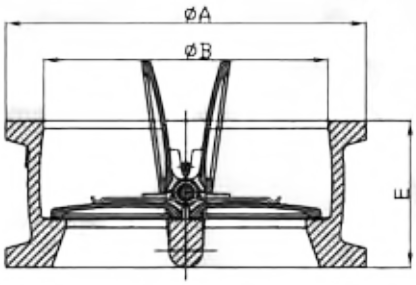
TYPE	FACE to FACE
WAFER TYPE	API-594
LUG TYPE	EN558-1 Serial 50
DOUBLE FLANGE	EN558-1 Serial 16

PRESSURE RATING		END CONNECTION	
		Flange Surface	Flange Finish
125LB	PN 10	Flat Face	F.F.(63 AARH)
150LB	PN 16	Raised Face	R.F.(125-250 AARH)
300LB	PN 20	Ring Type Joint	-
600LB	PN 25		
	PN 40		
	PN 50		

DIMENSIONS







Cast & Ductile Iron Materials

Installation Dimensions:

Model : DUAL PLATE WAFER TYPE CHECK VALVE
Design: API 594
Face To Face: API 594/ API 6D
Inspection: API 598/ ASME B16.34

Size		Pressure Rating	ΦA (mm)	ΦB (mm)	ΦE (mm)
inch	mm				
1 1/2	40	125 LB	86	60	43
		PN 10	86		
		PN 16	86		
2	50	125 LB	105	60	54
		PN 10	105		
		PN 16	105		
2 1/2	65	125 LB	124	73	54
		PN 10	124		
		PN 16	124		
3	80	125 LB	137	89	57
		PN 10	137		
		PN 16	137		
4	100	125 LB	175	114	64
		PN 10	156		
		PN 16	156		
5	125	125 LB	197	141	70
		PN 10	187		
		PN 16	187		
6	150	125 LB	222	168	76
		PN 10	217		
		PN 16	217		
8	200	125 LB	279	219	95
		PN 10	267		
		PN 16	267		
10	250	125 LB	340	274	108
		PN 10	330		
		PN 16	330		
12	300	125 LB	410	324	143
		PN 10	375		
		PN 16	375		
14	350	125 LB	451	356	184
		PN 10	438		
		PN 16	438		
16	400	125 LB	514	406	191
		PN 10	483		
		PN 16	495		
18	450	125 LB	549	457	203
		PN 10	538		
		PN 16	545		
20	500	125 LB	606	508	213
		PN 10	592		
		PN 16	617		
22	550	125 LB	660	559	219
24	600	125 LB	718	610	222
		PN 10	695		
		PN 16	731		

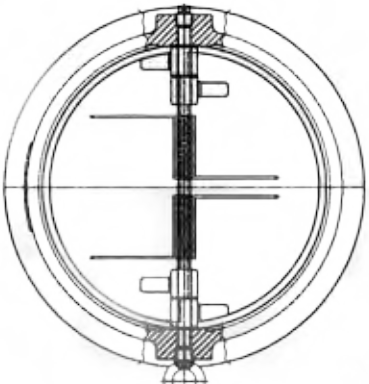
DIMENSIONS

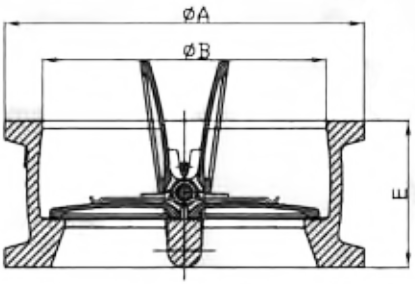
Carbon Steel & Stainless Steel Materials
Installation Dimensions

Model : DUAL PLATE WAFER TYPE CHECK VALVE
Design : API 594
Face To Face : API 594
Inspection : API 598/ ISO 5208

Size		Pressure	A	B	E
inch	mm	Rating	(mm)	(mm)	(mm)
1 1/2	40	150	86	60	43
		300	95		60
		600	95		60
2	50	150	105	60	60
		300	111		60
		600	111		60
2 1/2	65	150	124	73	67
		300	130		67
		600	130		67
3	80	150	137	89	73
		300	149		73
		600	149		73
4	100	150	175	114	73
		300	181		73
		600	194		79
5	125	150	197	141	86
		300	216		86
		600	238		105
6	150	150	222	168	98
		300	251		98
		600	267		136
8	200	150	279	219	127
		300	308		127
		600	321		165
10	250	150	340	274	146
		300	362		146
		600	400		213
12	300	150	410	324	181
		300	422		181
		600	457		229
14	350	150	451	356	184
		300	486		222
		600	492		273
16	400	150	514	406	191
		300	540		232
		600	565		305
18	450	150	549	457	203
		300	597		264
		600	613		362
20	500	150	606	508	219
		300	654		292
		600	683		368
22	550	150	660	559	219
24	600	150	718	610	222
		300	775		318
		600	791		438









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A full listing of our worldwide sales and service network is avallable on our website.

GEKO
CONTROL-VALVES

Specifications are subject to change without notice. It is the responsibility of the product user to determine the suitability of this product for a specifc application.