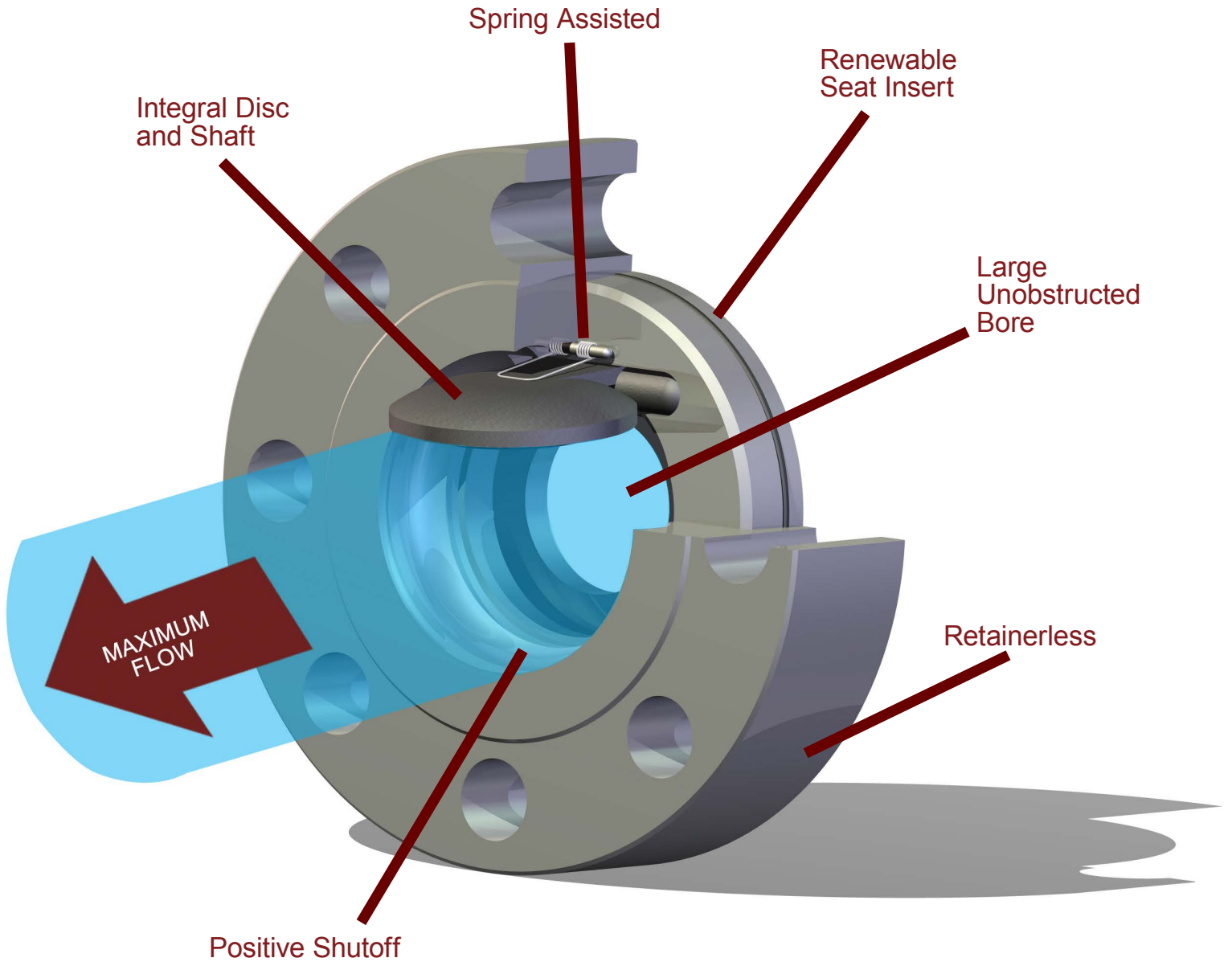




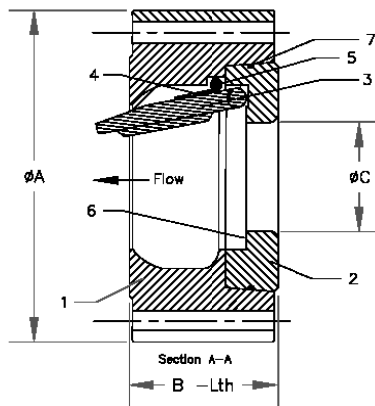
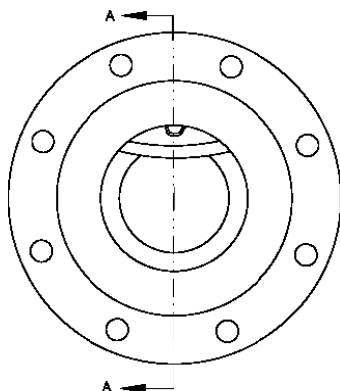
PRECISION ENGINEERED CHECK VALVES

THE PROOF IS IN THE DETAILS





HIGH PERFORMANCE
HIGH FLOW
LARGE UNOBSTRUCTED
FLOW PATH
RUGGED, HIGH INTEGRITY
CONSTRUCTION



PARTS LIST

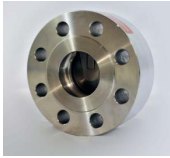
ITEM	PART NAME
1	BODY
2	SEAT INSERT
3	FLAPPER
4	SPRING
5	SPRING PIN
6	SEAT SEAL
7	INSERT RING

Series F/L Installation Dimensions
per API Standard 594

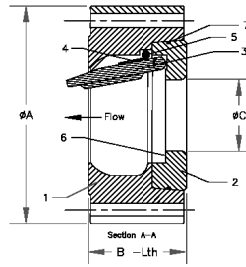
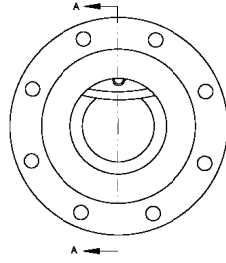
SIZE	ASME CLASS	A-Dia		B-LTH		C-Dia		Bolt Holes				Bolt Circle		Flange Face	WEIGHT	
		inch	mm	inch	mm	inch	mm	Qty	Diameter		inch	mm	lbs.		kg.	
									inch	mm				Thrds		
1" 25mm	150	4-1/4	108	1-7/8	48	7/8	22	4	5/8	16	1/2-13	3-1/8	79	RF/FF	6	3
	300-600	4-7/8	124	1-7/8	48	7/8	22	4	3/4	19	5/8-11	3-1/2	89	RF/RJ-16	8	4
	900-1500	5-7/8	149	1-7/8	48	7/8	22	4	1	25	7/8-9	4	102	RF/RJ-16	13	6
	2500	6-1/4	159	2-1/8	48	7/8	22	4	1	25	7/8-9	4-1/4	108	RF/RJ-18	18	8
1-1/2" 40mm	150	5	127	2-3/8	60	1-5/16	33	4	5/8	16	1/2-13	3-7/8	98	RF/FF	12	5
	300-600	6-1/8	156	2-3/8	60	1-5/16	33	4	7/8	22	3/4-10	4-1/2	114	RF/RJ-20	18	8
	900-1500	7	178	2-3/8	60	1-5/16	33	4	1-1/8	29	1-8	4-7/8	124	RF/RJ-20	22	10
	2500	8	203	2-3/4	70	1-5/16	33	4	1-1/4	32	1-1/8-8	5-3/4	146	RF/RJ-23	38	17
2" 50mm	150	6	152	2-3/8	60	1-3/4	44	4	3/4	19	5/8-11	4-3/4	121	RF/FF	16	7
	300-600	6-1/2	165	2-3/8	60	1-3/4	44	8	3/4	19	5/8-11	5	127	RF/RJ-23	18	8
	900-1500	8-1/2	216	2-3/4	70	1-3/4	44	8	1	25	7/8-9	6-1/2	165	RF/RJ-24	35	16
	2500	9-1/4	235	2-3/4	70	1-3/4	44	8	1-1/8	29	1-8	6-3/4	171	RF/RJ-26	45	20
2-1/2" 65mm	150	7	178	2-5/8	67	1-7/8	48	4	3/4	19	5/8-11	5-1/2	140	RF/FF	24	11
	300-600	7-1/2	191	2-5/8	67	1-7/8	48	8	7/8	22	3/4-10	5-7/8	149	RF/RJ-26	26	12
	900-1500	9-5/8	244	3-1/4	83	1-7/8	48	8	1-1/8	29	1-8	7-1/2	191	RF/RJ-27	61	28
	2500	10-1/2	267	3-1/4	83	1-7/8	48	8	1-1/4	32	1-1/8-8	7-3/4	197	RF/RJ-28	73	33
3" 65mm	150	7-1/2	191	2-7/8	73	2-11/16	68	4	3/4	19	5/8-11	6	152	RF/FF	28	13
	300-600	8-1/4	210	2-7/8	73	2-11/16	68	8	7/8	22	3/4-10	6-5/8	168	RF/RJ-31	35	16
	900	9-1/2	241	3-1/4	83	2-11/16	68	8	1	25	7/8-9	7-1/2	191	RF/RJ-31	53	24
	1500	10-1/2	267	3-1/4	83	2-11/16	68	8	1-1/4	32	1-1/8-8	8	203	RF/RJ-35	61	28
	2500	12	305	3-3/8	86	2-11/16	68	8	1-3/8	35	1-1/4-8	9	229	RF/RJ-32	92	42

Dimensions shown are for installation between ASME B16.5, ASME B16.47 Series A or MSS SP-44 flanges. HY-GRADE check valves are also available in ASME B16.47 Series B or DIN sizes. Double flanged wafer check valves are offered in certain sizes. Consult HY-GRADE for availability.

SERIES F/L LUG WAFER PATTERN CHECK VALVE



Series F/L Installation Dimensions
per API Standard 594, continued



PARTS LIST

ITEM	PART NAME
1	BODY
2	SEAT INSERT
3	FLAPPER
4	SPRING
5	SPRING PIN
6	SEAT SEAL
7	INSERT RING

SIZE	ASME CLASS	A-Dia		B-LTH		C-Dia		Bolt Holes				Bolt Circle		Flange Face	WEIGHT	
		inch	mm	inch	mm	inch	mm	Qty	Diameter			inch	mm		lbs.	kg.
									inch	mm	Thrds					
4" 100mm	150	9	229	2-7/8	73	3-3/8	86	8	3/4	19	5/8-11	7-1/2	191	RF/FF	39	18
	300	10	254	2-7/8	73	3-3/8	86	8	7/8	22	3/4-10	7-7/8	200	RF/FF	52	24
	600	10-3/4	273	3-1/8	79	3-3/8	86	8	1	25	7/8-9	8-1/2	216	RF/RJ-37	65	30
	900	11-1/2	292	4	102	3-3/8	86	8	1-1/4	32	1-1/8-8	9-1/4	235	RF/RJ-37	91	41
	1500	12-1/4	311	4	102	3-3/8	86	8	1-3/8	35	1-1/4-8	9-1/2	241	RF/RJ-39	115	52
	2500	14	356	4-1/8	105	3-3/8	86	8	1-5/8	41	1-1/2-8	10-3/4	273	RF/RJ-38	170	77
6" 150mm	150	11	279	3-7/8	98	4-3/4	121	8	7/8	22	3/4-10	9-1/2	241	RF/FF	73	33
	300	12-1/2	318	3-7/8	98	4-3/4	121	12	7/8	22	3/4-10	10-5/8	270	RF/FF	103	47
	600	14	356	5-3/8	137	4-3/4	121	12	1-1/8	29	1-8	11-1/2	292	RF/RJ-45	182	83
	900	15	381	6-1/4	159	4-3/4	121	12	1-1/4	32	1-1/8-8	12-1/2	318	RF/RJ-45	247	112
	1500	15-1/2	394	6-1/4	159	4-3/4	121	12	1-1/2	38	1-3/8-8	12-1/2	318	RF/RJ-46	255	116
	2500	19	482	6-1/4	159	4-3/4	121	8	2-1/8	54	2-8	14-1/2	368	RF/RJ-47	453	205
8" 200mm	150	13-1/2	343	5	127	6-3/4	171	8	7/8	22	3/4-10	11-3/4	298	RF/FF	138	63
	300	15	381	5	127	6-3/4	171	12	1	25	7/8-9	13	330	RF/FF	190	86
	600	16-1/2	419	6-1/2	165	6-3/4	171	12	1-1/4	32	1-1/8-8	13-3/4	349	RF/RJ-49	286	130
	900	18-1/2	470	8-1/8	206	6-3/4	171	12	1-1/2	38	1-3/8-8	15-1/2	394	RF/RJ-49	465	211
	1500	19	483	8-1/8	206	6-3/4	171	12	1-3/4	44	1-5/8-8	15-1/2	394	RF/RJ-50	487	221
	2500	21-3/4	552	8-1/8	206	6-3/4	171	12	2-1/8	54	2-8	17-1/4	438	RF/RJ-51	622	282
10" 250mm	150	16	406	5-3/4	146	8	203	12	1	25	7/8-9	14-1/4	362	RF/FF	205	93
	300	17-1/2	445	5-3/4	146	8	203	16	1-1/8	29	1-8	15-1/4	387	RF/FF	260	118
	600	20	508	8-3/8	213	8	203	16	1-3/8	35	1-1/4-8	17	432	RF/RJ-53	560	255
	900	21-1/2	546	9-1/2	241	7-7/8	200	16	1-1/2	38	1-3/8-8	18-1/2	470	RF/RJ-53	705	320
	1500	23	584	9-3/4	248	7-3/4	197	12	2	51	1-7/8-8	19	483	RF/RJ-54	944	429
	2500	26-1/2	673	10	254	7-3/4	197	12	2-5/8	67	2-1/2-8	21-1/4	540	RF/RJ-55	1342	610
12" 300mm	150	19	483	7-1/8	181	9-7/8	251	12	1	25	7/8-9	17	432	RF/FF	335	152
	300	20-1/2	521	7-1/8	181	9-7/8	251	16	1-1/4	32	1-1/8-8	17-3/4	451	RF/FF	440	220
	600	22	559	9	229	9-7/8	251	20	1-3/8	35	1-1/4-8	19-1/4	489	RF/RJ-57	693	314
	900	24	610	11-1/2	292	9-3/4	248	20	1-1/2	38	1-3/8-8	21	533	RF/RJ-57	1022	464
	1500	26-1/2	673	12	305	9-1/2	241	16	2-1/8	54	2-8	22-1/2	572	RF/RJ-58	1596	725
	2500	30	762	12	305	9-1/2	241	12	2-7/8	73	2-3/4-8	24-3/8	619	RF/RJ-60	2123	965
14" 350mm	150	21	533	7-1/4	184	11-1/2	292	12	1-1/8	29	1-8	18-3/4	476	RF/FF	413	187
	300	23	584	8-3/4	222	11-1/2	292	20	1-1/4	32	1-1/8-8	20-1/4	514	RF/FF	635	288
	600	23-3/4	603	10-3/4	273	11-1/4	286	20	1-1/2	38	1-3/8-8	20-3/4	527	RF/RJ-61	996	453
	900	25-1/4	641	14	356	11-1/4	286	20	1-5/8	41	1-1/2-8	22	559	RF/RJ-62	1524	693
	1500	29-1/2	749	14	356	11	279	16	2-3/8	60	2-1/4-8	25	635	RF/RJ-63	2247	1021

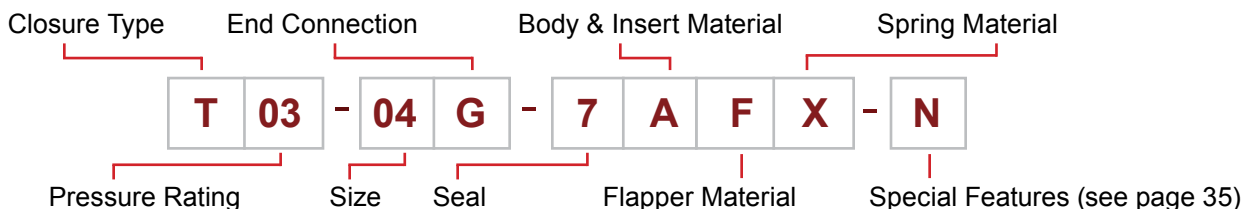
Dimensions shown are for installation between ASME B16.5, ASME B16.47 Series A or MSS SP-44 flanges. HY-GRADE check valves are also available in ASME B16.47 Series B or DIN sizes

Series F/L Installation Dimensions
per API Standard 594, continued

SIZE	ASME CLASS	A-Dia		B-LTH		C-Dia		Bolt Holes				Bolt Circle		Flange Face	WEIGHT	
		inch	mm	inch	mm	inch	mm	Qty	Diameter			inch	mm		lbs.	kg.
									inch	mm	Thrds					
16" 400mm	150	23-1/2	597	7-1/2	191	13	330	16	1-1/8	29	1-8	21-1/4	540	RF/FF	573	260
	300	25-1/2	648	9-1/8	232	13	330	20	1-3/8	35	1-1/4-8	22-1/2	572	RF/FF	833	378
	600	27	686	12	305	13	330	20	1-5/8	41	1-1/2-8	23-3/4	603	RF/RJ-65	1246	566
	900	27-3/4	705	15-1/8	384	12-3/4	324	20	1-3/4	44	1-5/8-8	24-1/4	616	RF/RJ-66	1615	733
	1500	32-1/2	826	15-1/8	384	12-3/4	324	16	2-5/8	67	2-1/2-8	27-3/4	705	RF/RJ-67	2411	1094
18" 450mm	150	25	635	8	203	14-1/2	368	16	1-1/4	32	1-1/8-8	22-3/4	578	RF/FF	671	305
	300	28	711	10-3/8	264	14-1/2	368	24	1-3/8	35	1-1/4-8	24-3/4	629	RF/FF	1279	581
	600	29-1/4	743	14-1/4	362	14-1/2	368	20	1-3/4	44	1-5/8-8	25-3/4	654	RF/RJ-69	1717	779
	900	31	787	17-3/4	451	14	356	20	2	51	1-7/8-8	27	686	RF/RJ-70	2884	1311
	1500	36	914	18-7/16	468	14	356	16	2-7/8	73	2-3/4-8	30-1/2	775	RF/RJ-71	4385	1993
20" 500mm	150	27-1/2	699	8-5/8	219	15-3/4	400	20	1-1/4	32	1-1/8-8	25	635	RF/FF	889	404
	300	30-1/2	775	11-1/2	292	15-1/2	394	24	1-3/8	35	1-1/4-8	27	686	RF/FF	1710	777
	600	32	813	14-1/2	368	15-1/2	394	24	1-3/4	44	1-5/8-8	28-1/2	724	RF/RJ-73	2437	1108
	900	33-3/4	857	17-3/4	451	15	381	20	2-1/8	54	2-8	29-1/2	749	RF/RJ-74	3400	1545
	1500	38-3/4	984	21	533	15	381	16	3-1/8	79	3-8	32-3/4	832	RF/RJ-75	6098	2772
24" 600mm	150	32	813	8-3/4	222	19-1/2	495	20	1-3/8	35	1-1/4-8	29-1/2	749	RF/FF	1123	510
	300	36	914	12-1/2	318	19-1/2	495	24	1-5/8	41	1-1/2-8	32	813	RF/FF	2417	1099
	600	37	940	17-1/4	438	19-1/2	495	24	2	51	1-7/8-8	33	838	RF/RJ-77	3615	1643
	900	41	1041	19-1/2	495	19	483	20	2-5/8	67	2-1/2-8	35-1/2	902	RF/RJ-78	5440	2473
26" 650mm	150	34-1/4	870	14	356	20-1/2	521	24	1-3/8	35	1-1/4-8	31-3/4	806	RF/FF	2270	1032
	300	38-1/4	972	14	356	20-1/2	521	28	1-3/4	44	1-5/8-8	34-1/2	876	RF/RJ-93	3030	1377
	600	40	1016	18	457	20	508	28	2	51	1-7/8-8	36	914	RF/RJ-93	4480	2036
28" 700mm	150	36-1/2	927	15	381	21-1/2	546	28	1-3/8	35	1-1/4-8	34	864	RF/FF	2720	1236
	300	40-3/4	1035	15	381	21	533	28	1-3/4	44	1-5/8-8	37	940	RF/RJ-94	3790	1723
	600	42-1/4	1073	19	483	20	508	28	2-1/8	54	2-8	38	965	RF/RJ-94	5273	2397
30" 750mm	150	38-3/4	984	12	305	22	559	28	1-3/8	35	1-1/4-8	36	914	RF/FF	2395	1089
	300	43	1092	14-1/2	368	22	559	28	1-7/8	48	1-1/2-8	39-1/4	997	RF/RJ-95	3747	1703
	600	44-1/2	1130	19-7/8	505	22	559	28	2-1/8	54	2-1/4-8	40-1/4	1022	RF/RJ-95	5780	2627
32" 800mm	150	41-3/4	1060	14	356	25	635	28	1-5/8	41	1-1/2-8	38-1/2	978	RF/FF	3137	1426
	300	45-1/4	1149	16	406	24	610	28	2	51	1-7/8-8	41-1/2	1054	RF/RJ-96	4720	2145
	600	47	1194	21	533	23	584	28	2-3/8	60	2-1/4-8	42-1/2	1080	RF/RJ-96	7070	3214
36" 900mm	150	46	1168	14-1/2	368	26-1/2	673	32	1-5/8	41	1-1/2-8	42-3/4	1086	RF/FF	3575	1625
	300	50	1270	19	483	26-1/2	673	32	2-1/8	54	2-8	46	1186	RF/RJ-98	6320	2873
40" 950mm	150	50-3/4	1289	16	406	30-1/2	775	36	1-5/8	41	1-1/2-8	47-1/4	1200	RF/FF	4860	2209
42" 1050mm	150	53	1346	17	432	32	813	36	1-5/8	41	1-1/2-8	49-1/2	1257	RF/FF	5599	2545

Dimensions shown are for installation between ASME B16.5, ASME B16.47 Series A or MSS SP-44 flanges. HY-GRADE check valves are also available in ASME B16.47 Series B or DIN sizes

Metallic Check Valves – Series T, F, L, D, H and FF



Codes for Valve Type	
Code	Valve Type
T	Wafer Single Disc
F	Lug wafer with Thru Holes Single Disc
L	Lug wafer with Threaded Holes Single Disc
D	Wafer Dual Disc
FD	Lug wafer with Thru Holes Dual Disc
LD	Lug wafer with Threaded Holes Dual Disc
X	Swing Check - ANSI B16.10 end-to-end
H	Buttweld, Hub, Flanged
FF	Full Bore/Full Opening
Modifiers	
S*	Severe Service Option
A*	Tilt Seat Option
E*	Extended face-to-face Option

Codes for ANSI/API Pressure Rating	
Code	Rating
01	Class 150
03	Class 300
06	Class 600
09	Class 900
15	Class 1500
25	Class 2500
30	3,000 API 6A
50	5,000 API 6A
10	10,000 API 6A
15	15,000 API 6A

Size Code	
Code	Size
01 to 48	1" to 48"
Code for End Connection	
Code	End Connection Type
G	Raised Face (serrated)
F	Flat Face
R	Ring Joint or BX groove
H	Hub Ends
B	Buttwelding ends
O	per customer requirement

*Examples of Modifiers for Valve Types

- ST** = Severe Service Wafer
- SX** = Severe Service Swing Check - ANSI B16.10 end-to-end
- AF** = Tilt Seat Lug with Thru Holes
- EL** = Extended face-to-face with Threaded Holes
- AET** = Tilt Seat, Extended face-to-face Wafer

Codes for Seal Materials			
Code	Material	Temperature Range**	
		°C	°F
1	Buna-N	-51 to 107	-60 to 225
2	Neoprene	-40 to 107	-40 to 225
3	Butyl	-54 to 163	-65 to 325
4	Kalrez®	-29 to 316	-20 to 600
5	Chemraz®	-29 to 232	-20 to 450
6	AFLAS®	-40 to 218	-40 to 425
7	Viton®	-29 to 204	-20 to 400
8	Teflon®	-157 to 232	-250 to 450
9	EPDM	-54 to 149	-65 to 300
10	Metal-to-Metal	extreme	extreme
11	13% Chrome (410 S.S.) seating surfaces	extreme	extreme
12	316 S.S. seat insert	extreme	extreme
13	Stellite® seat overlay on disc and seat insert	extreme	extreme
14	Stellite® seat overlay on disc only	extreme	extreme
15	Stellite® seat overlay on seat insert only	extreme	extreme
16	FKM 58/90	-27 to 210	-17 to 410
0	As specified by customer		

** Temperatures are for general guidance and may vary per application

Codes for Body, Seat Insert, and Disc Material

Code	Material	ASME B16.34 Group	ASTM Specifications			
			Forgings	Round Bar	Plate	Investment or Centrifugal Castings
A	Carbon Steel	1.1	A105	A105	A516 Gr. 70	
B	Bronze (Navy)					B148 / B271 C92200
C	Nickel-Aluminum Bronze			B150 C63200		B148 / B271 C95800
D	Low Temp. Steel (-50°F)	1.1	A350 Gr. LF 2	A350 Gr. LF 2	A516 Gr. 70	
E	Low Temp. Steel (-150°F)	1.1	A350 Gr. LF 3	A350 Gr. LF 3		
F	316 Stainless Steel	2.2	A182-F316	A182-F316 / A479 316	A240 316	A351 Gr. CF8M
G	5% Cr Steel	1.13	A182-F5a	A182-F5a		
H	Alloy C276	3.8	B462 N10276 / B564 N10276	B462 N10276 / B574 N10276	B575 N10276	A494 Gr. CW12MW
I	Inconel® 625	3.8	B564 N06625	B446 N06625	B443 N06625	A494 Gr. CW6MC
J	317 Stainless Steel	2.2	A182-F317	A182-F317	A240 317	A351 Gr. CG8M
K	347H Stainless Steel	2.5	A182-F347	A182-F347 / A479-F347	A240 347	A351 Gr. CF8C
L	410 Stainless Steel		A182-F6a	A182-F6a	A240 410	A217 Gr. CA15
M	Monel®	3.4	B564 N04400	B164 N04400	B127 N04400	A494 Gr. M-35-2
N	Super Duplex Stainless Steel	2.8	A182-F55	A182-F55 / A479 S32760	A240 S32760	A995 Gr. CD3MWCuN (6A)
P	6% Moly S.S. (type 254 SMO®)	2.8	A182-F44	A182-F44 / A479 S31254	A240 S31254	A351 Gr. CK3MCuN
R	Incoloy® 825	3.8	B564 N08825	B425 N08825	B424 N08825	
S	Nickel	3.2	B564 N02200	B160 N02200	B162 N02200	
T	Titanium Grade 2		B381 F2	B348 Gr. 2	B265 Gr. 2	
U	Duplex Stainless Steel	2.8	A182-F51	A182-F51 / A479 S31803	A240 S31803	A351-CD3MN
W	API 60K Low Alloy Steel		A694 Gr. F65			
X	9% Cr - 1% Mo Steel	1.14	A182-F9	A182-F9		
Y	Alloy 20	3.1	B462 N08020	B462 N08020 / B473 N08020	B463 N08020	A351 Gr. CN7M
Z	Zirconium		B493 R60702	B550 R60702	B551 R60702	
O	As specified by customer		Contact HY-Grade for materials not shown above.			

Due to continuous product improvement, HY-GRADE VALVE, Inc. reserves the right to change designs, materials or specifications without prior notice.

Codes for Spring Material

Code	Description	Max Temperature**	
		°C	°F
I	Inconel 600	327	620
X	Inconel X750 (standard)	537	1000
E	Elgiloy	327	620
H	Alloy C276	427	800
M	Monel K500	232	450
T	Titanium	288	550
S	316 Stainless Steel	249	480
O	Per customer specifications		

** Temperatures are for general guidance and may vary per application

Codes for Special Features	
	Description
N	Material per NACE MR01-75 / ISO 15156
1	1/8"-27 NPTF tapped gage port
2	1/4"-18 NPTF tapped gage port
3	1/2"-14 NPTF tapped gage port
4	1/4"-18 NPTF tapped drain
5	1/2"-14 NPTF tapped drain
6	3/4"-14 NPTF tapped drain
SP	Special Trim or Design as specified by the customer
O ₂	Cleaned for Oxygen service

MODEL NUMBER EXAMPLES

T03-04G-7AFX	=	Series T Wafer check valve, 4" (100mm), Class 300, Raised Face Ends, Viton® seal, Carbon Steel Body & Seat Insert, 316 S.S. Flapper, Inconel® X750 Spring.
T01-08G-10FFX	=	Series T Wafer, 8" (200mm), Class 150, Raised Face ends, Metal seal, 316 S.S. Body & Seat Insert, 316 S.S. Flapper, Inconel® X750 Spring.
F09-16R-8AFE-N	=	Series F Lug Wafer check valve with thru holes, 16" (400mm), Class 900, RTJ ends, Teflon® seal, Carbon Steel Body & Seat Insert, 316 S.S. Flapper, Elgiloy Spring, NACE MR01-75 certification.
ST03-06G-10FN	=	Severe Service - Series T Wafer check valve, 6" (150mm), Class 300, Raised Face ends, 316 S.S. Body & Seat Insert, Duplex S.S. Flapper.
X15-02G-15ALX	=	Series X Swing Check with ANSI B16.10 face-to-face, 2" (50mm), Class 1500, Raised Face Ends, Stellite® seat overlay on seat insert, Carbon Steel Body & Seat Insert, type 410 S.S. Flapper, Inconel® X750 Spring
H15-14B-14GLX	=	Series H check valve with Buttwelding ends, 14" (350mm), Class 1500, Stellite® seat overlay on flapper, 5% Cr Body & Seat Insert, 410 S.S. Flapper, Inconel® X750 Spring.
AET09-10R-10AF	=	Series T Wafer check valve with Tilt Seat and Extended body, 10" (250mm), Class 900, RTJ ends, Metal seal, Carbon Steel Body & Seat Insert, 316 S.S. Flapper.
D03-36G-10AFX	=	Series D High Performance Dual Plate Wafer check valve, 36"(900mm), Class 300, Raised Face ends, Metal Seal, Carbon Steel Body & Seat Insert, 316 S.S. Flapper, Inconel® X750 Spring.

CALCULATED CRACKING PRESSURE

SIZE	SPRING ASSISTED		NON-SPRING ASSISTED	
	HORIZONTAL FLOW	VERTICAL UP FLOW	HORIZONTAL FLOW	VERTICAL UP FLOW
1"	0.67	0.78	0.01	0.12
1-1/2"	0.28	0.39	0.01	0.11
2"	0.32	0.43	0.01	0.12
2-1/2"	0.52	0.64	0.01	0.13
3"	0.21	0.31	0.01	0.11
4"	0.17	0.31	0.01	0.13
6"	0.25	0.43	0.02	0.18
8"	0.12	0.31	0.02	0.18
10"	0.16	0.38	0.02	0.22
12"	0.21	0.43	0.02	0.22
14"	0.19	0.41	0.02	0.21
16"	0.15	0.49	0.02	0.34
18"	0.12	0.34	0.02	0.22
20"	0.08	0.37	0.02	0.29
24"	0.06	0.31	0.02	0.24
30"	0.06	0.28	0.02	0.23
36"	0.06	0.29	0.02	0.24

1 PSI = 27.72" water = 0.069 bar

