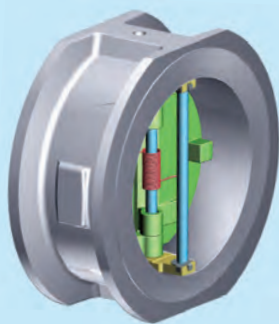


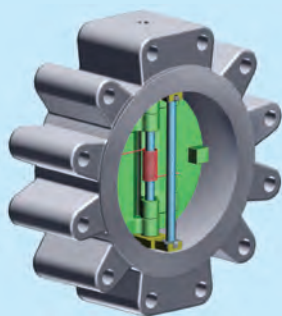
STANDARD MANUFACTURING PROGRAM



WAFER TYPE - PW

- Retainerless design is supplied as standard
- API 594 Face-to-face dimension
- To suit ANSI B16.5 flanges, NPS 2-24 (DN 50-600)
- To suit ANSI B16.47 Series A flanges, NPS 26 (DN 650) and larger

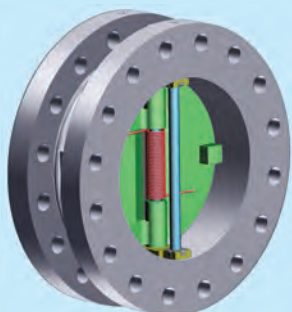
ASME CLASS					
150	300	600	900	1500	2500
NPS 2-60 DN 50-1500	NPS 2-60 DN 50-1500	NPS 2-60 DN 50-1500	NPS 2-48 DN 50-1200	NPS 2-24 DN 50-600	NPS 2-12 DN 50-300



SOLID LUG TYPE - PL, PM

- Retainerless design is supplied as standard
- API 594 Face-to-face dimension
- To suit ANSI B16.5 flanges, NPS 2-24 (DN 50-600)
- To suit ANSI B16.47 Series A flanges, NPS 26 (DN 650) and larger

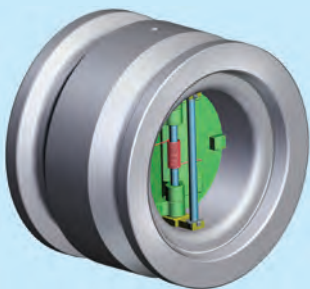
ASME CLASS					
150	300	600	900	1500	2500
NPS 2-10 DN 50-250	NPS 2-10 DN 50-250	NPS 2-10 DN 50-250	NPS 2-10 DN 50-250	NPS 2-24 DN 50-600	NPS 2-12 DN 50-300



DOUBLE FLANGED TYPE - PF, PG

- Retainerless design is supplied as standard
- API 594 Face-to-face dimension
- To suit ANSI B16.5 flanges, NPS 2-24 (DN 50-600)
- To suit ANSI B16.47 Series A Flanges, NPS 26 (DN 650) and larger

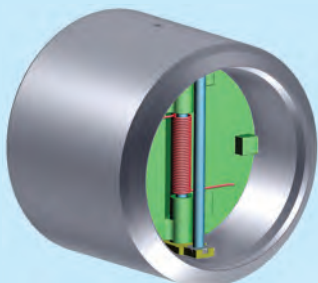
ASME CLASS			
150	300	600	900
NPS 12-60 DN 300-1500	NPS 12-60 DN 300-1500	NPS 12-60 DN 300-1500	NPS 12-48 DN 300-1200



HUB END TYPE - PH

- Retainerless design is supplied as standard
- To suit customer's specified hub-ended details

ASME CLASS			
600	900	1500	2500
NPS 2-24 DN 50-600	NPS 2-24 DN 50-600	NPS 2-24 DN 50-600	NPS 2-24 DN 50-600



BUTT WELD END TYPE - PZ

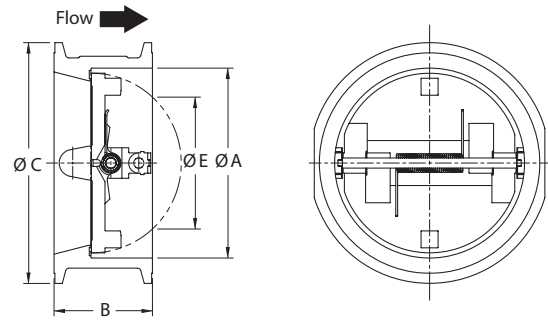
- Retainerless design is supplied as standard

ASME CLASS		
150	300	600
NPS 3-36 DN 80-900	NPS 3-36 DN 80-900	NPS 3-36 DN 80-900

For valve sizes, ASME Classes and designs not identified herein, please consult the Velan Marketing department.

INSTALLATION DIMENSIONS

WAFER TYPE - PW ANSI B16.5 / ANSI B16.47 SERIES A



Size		Pressure and Class		Dimensions								Approx. weight		Flange details				Eye bolt hole size
				Ø A		B		Ø C		Ø E				No.	Dia	Length RF ends	Length RTJ ends	
NPS	DN	Class	PN	in	mm	in	mm	in	mm	in	mm	lbs	kg					
2	50	150	20	2.41	61	2.38	60	4.13	105	0.00	0	6	3	4	5/8	5.75	6.50	-
2	50	300	50	2.41	61	2.38	60	4.38	111	0.00	0	7	3	8	5/8	6.00	7.00	-
2	50	600	100	2.41	61	2.38	60	4.38	111	0.00	0	7	3	8	5/8	6.50	7.00	-
2	50	900	150	2.41	61	2.75	70	5.63	143	0.00	0	12	5	8	7/8	8.50	8.75	-
2	50	1500	260	2.41	61	2.75	70	5.63	143	0.00	0	12	5	8	7/8	8.50	8.75	-
2	50	2500	420	2.41	61	2.75	70	5.75	146	0.00	0	13	6	8	1	9.75	10.00	-
2 1/2	65	150	20	2.88	73	2.63	67	4.88	124	1.25	32	10	5	4	5/8	6.25	7.00	-
2 1/2	65	300	50	2.88	73	2.63	67	5.13	130	1.24	31	10	5	8	3/4	6.75	7.75	-
2 1/2	65	600	100	2.88	73	2.63	67	5.13	130	1.24	31	10	5	8	3/4	7.25	7.75	-
3	80	150	20	3.51	89	2.88	73	5.38	137	2.00	51	12	5	4	5/8	6.75	7.25	-
3	80	300	50	3.51	89	2.88	73	5.88	149	1.98	50	14	6	8	3/4	7.25	8.25	-
3	80	600	100	3.51	89	2.88	73	5.88	149	1.94	49	14	6	8	3/4	7.75	8.25	-
3	80	900	150	3.51	89	3.25	83	6.63	168	2.18	55	23	10	8	7/8	8.50	9.00	-
3	80	1500	260	3.51	89	3.25	83	6.88	175	1.75	44	23	10	8	1 1/8	10.25	10.50	-
3	80	2500	420	3.51	89	3.38	86	7.75	197	2.48	63	27	12	8	1 1/4	12.00	12.50	3/8
4	100	150	20	4.50	114	2.88	73	6.88	175	3.37	85	18	8	8	5/8	6.75	7.25	-
4	100	300	50	4.50	114	2.88	73	7.13	181	3.37	85	18	8	8	3/4	7.50	8.50	-
4	100	600	100	4.50	114	3.13	79	7.63	194	3.39	86	24	11	8	7/8	8.75	9.25	-
4	100	900	150	4.50	114	4.00	102	8.13	206	3.30	84	37	17	8	1 1/8	10.25	10.75	3/8
4	100	1500	260	4.50	114	4.00	102	8.25	210	3.30	84	37	17	8	1 1/4	11.75	12.00	3/8
4	100	2500	420	4.50	114	4.13	105	9.25	235	3.25	83	48	22	8	1 1/2	14.25	14.75	3/8
5	125	150	20	5.56	141	3.38	86	7.75	197	3.71	94	24	11	8	3/4	7.50	8.00	-
5	125	300	50	5.56	141	3.38	86	8.50	216	4.42	112	25	11	8	3/4	8.25	9.25	3/8
6	150	150	20	6.63	168	3.88	98	8.75	222	5.62	143	31	14	8	3/4	8.00	8.75	1/2
6	150	300	50	6.63	168	3.88	98	9.88	251	5.55	141	40	18	12	3/4	9.00	9.75	1/2
6	150	600	100	6.63	168	5.38	137	10.50	267	5.03	128	62	28	12	1	12.00	12.75	1/2
6	150	900	150	6.63	168	6.25	159	11.38	289	4.52	115	105	48	12	1 1/8	13.25	13.75	1/2
6	150	1500	260	6.63	168	6.25	159	11.13	283	4.53	115	104	47	12	1 3/8	16.50	17.00	1/2
6	150	2500	420	6.63	168	6.25	159	12.50	318	4.88	124	144	65	8	2	20.00	20.75	1/2
8	200	150	20	8.63	219	5.00	127	11.00	279	7.63	194	57	26	8	3/4	9.50	10.00	1/2
8	200	300	50	8.63	219	5.00	127	12.13	308	7.35	187	71	32	12	7/8	10.75	11.50	1/2
8	200	600	100	8.63	219	6.50	165	12.63	321	6.71	170	108	49	12	1 1/8	14.25	14.75	1/2
8	200	900	150	8.63	219	8.13	206	14.13	359	5.60	142	207	94	12	1 3/8	16.50	17.00	1/2
8	200	1500	260	8.63	219	8.13	206	13.88	352	5.47	139	205	93	12	1 5/8	19.75	20.50	1/2
8	200	2500	420	8.63	219	8.13	206	15.25	387	6.75	171	283	128	12	2	23.25	24.25	1/2
10	250	150	20	10.75	273	5.75	146	13.38	340	9.00	229	98	44	12	7/8	10.50	11.25	1/2
10	250	300	50	10.75	273	5.75	146	14.25	362	9.51	242	115	52	16	1	12.25	13.00	1/2
10	250	600	100	10.75	273	8.38	213	15.75	400	8.27	210	205	93	16	1 1/4	17.00	17.50	3/4
10	250	900	150	10.75	273	9.50	241	17.13	435	7.44	189	287	130	16	1 3/8	18.50	18.75	3/4
10	250	1500	260	10.75	273	9.75	248	17.13	435	7.68	195	373	169	12	1 7/8	23.25	23.75	3/4
10	250	2500	420	10.75	273	10.00	254	18.75	476	9.12	232	548	249	12	2 1/2	29.25	30.50	3/4
12	300	150	20	12.75	324	7.13	181	16.13	410	11.15	283	176	80	12	7/8	12.25	12.75	1/2
12	300	300	50	12.75	324	7.13	181	16.63	422	11.15	283	175	79	16	1 1/8	14.25	15.00	1/2
12	300	600	100	12.75	324	9.00	229	18.00	457	9.91	252	275	125	20	1 1/4	17.75	18.25	3/4
12	300	900	150	12.75	324	11.50	292	19.63	498	7.39	188	450	204	20	1 3/8	21.00	21.50	3/4
12	300	1500	260	12.75	324	12.00	305	20.50	521	8.01	203	639	290	16	2	27.00	28.00	3/4
12	300	2500	420	12.75	324	12.00	305	21.63	549	10.83	275	925	420	12	2 3/4	33.25	34.75	3/4
14	350	150	20	14.00	356	7.25	184	17.75	451	12.12	308	190	86	12	1	12.75	13.25	3/4
14	350	300	50	14.00	356	8.75	222	19.13	486	12.14	308	271	123	20	1 1/8	16.00	17.00	3/4
14	350	600	100	14.00	356	10.75	273	19.38	492	9.72	247	397	180	20	1 3/8	20.25	20.75	3/4
14	350	900	150	14.00	356	14.00	356	20.50	521	7.21	183	648	294	20	1 1/2	24.00	24.50	3/4
14	350	1500	260	14.00	356	14.00	356	22.75	578	7.21	183	886	402	16	2 1/4	30.25	31.50	1

INSTALLATION DIMENSIONS

WAFER TYPE - PW ANSI B16.5 / ANSI B16.47 SERIES A

Size		Pressure and Class		Dimensions								Approx. weight		Flange details				Eye bolt hole size
				Ø A		B		Ø C		Ø E				No.	Dia	Length RF ends	Length RTJ ends	
NPS	DN	Class	PN	in	mm	in	mm	in	mm	in	mm	lbs	kg			Stud	Stud	
16	400	150	20	16.00	406	7.50	191	20.25	514	13.90	353	246	112	16	1	13.25	13.75	3/4
16	400	300	50	16.00	406	9.13	232	21.25	540	14.13	359	350	159	20	1 1/4	17.00	17.75	3/4
16	400	600	100	16.00	406	12.00	305	22.25	565	12.54	319	570	259	20	1 1/2	22.25	22.75	3/4
16	400	900	150	16.00	406	15.13	384	22.63	575	11.18	284	861	390	20	1 5/8	26.50	27.00	3/4
16	400	1500	260	16.00	406	15.13	384	25.25	641	12.50	318	1240	562	16	2 1/2	33.00	33.50	3/4
18	450	150	20	18.00	457	8.00	203	21.63	549	15.95	405	300	136	16	1 1/8	14.25	14.75	3/4
18	450	300	50	18.00	457	10.38	264	23.50	597	16.27	413	513	233	24	1 1/4	18.50	19.50	1
18	450	600	100	18.00	457	14.25	362	24.13	613	14.00	356	780	354	20	1 5/8	25.25	25.75	1
18	450	900	150	18.00	457	17.75	451	25.13	638	9.81	249	1190	540	20	1 7/8	30.50	31.00	1
18	450	1500	260	18.00	457	18.44	468	27.75	705	9.81	249	1774	805	16	2 3/4	38.00	39.50	1
20	500	150	20	20.00	508	8.63	219	23.88	606	17.78	452	380	172	20	1 1/8	15.25	15.75	3/4
20	500	300	50	20.00	508	11.50	292	25.75	654	17.81	452	651	295	24	1 1/4	20.00	21.00	1
20	500	600	100	20.00	508	14.50	368	26.88	683	16.77	426	1021	463	24	1 5/8	26.00	26.75	1
20	500	900	150	20.00	508	17.75	451	27.50	699	13.00	330	1480	671	20	2	31.00	31.50	1
20	500	1500	260	20.00	508	21.00	533	29.75	756	17.06	433	2600	1179	16	3	42.50	44.00	1
24	600	150	20	24.00	610	8.75	222	28.25	718	21.68	551	525	238	20	1 1/4	16.00	16.50	3/4
24	600	300	50	24.00	610	12.50	318	30.50	775	21.73	552	1050	476	24	1 1/2	22.00	23.25	1
24	600	600	100	24.00	610	17.25	438	31.13	791	19.88	505	1720	780	24	1 7/8	30.00	30.75	1
24	600	900	150	24.00	610	19.50	495	33.00	838	18.97	482	2270	1029	20	2 1/2	36.50	37.25	1
24	600	1500	260	24.00	610	22.00	559	35.50	902	18.62	473	3598	1632	16	3 1/2	46.50	48.50	1
26	650	150	20	26.00	660	14.00	356	30.50	775	21.96	558	1000	454	24	1 1/4	23.25	24.25	1
26	650	300	50	26.00	660	14.00	356	32.88	835	22.85	580	1250	567	28	1 5/8	25.00	26.00	1
26	650	600	100	26.00	660	18.00	457	34.13	867	22.47	571	2070	940	28	1 7/8	31.75	32.75	1
26	650	900	150	24.00	610	21.00	533	34.75	883	20.51	521	2700	1225	20	2 3/4	39.00	40.25	1
28	700	150	20	28.00	711	15.00	381	32.75	832	22.06	560	1200	544	28	1 1/4	24.50	25.50	1
28	700	300	50	28.00	711	15.00	381	35.38	899	24.41	620	1500	680	28	1 5/8	26.50	27.50	1
28	700	600	100	28.00	711	19.00	483	36.00	914	25.15	639	2472	1121	28	2	33.25	34.25	1
28	700	900	150	26.00	660	22.50	572	37.25	946	21.53	547	3300	1497	20	3	41.25	42.50	1
30	750	150	20	30.00	762	12.00	305	34.75	883	28.13	715	1100	499	28	1 1/4	21.75	22.75	1
30	750	300	50	30.00	762	14.50	368	37.50	953	27.98	711	1780	807	28	1 3/4	26.75	27.75	1
30	750	600	100	30.00	762	19.88	505	38.25	972	26.74	679	2890	1311	28	2	34.25	35.25	1
30	750	900	150	28.00	711	25.00	635	39.75	1010	22.75	578	4150	1882	20	3	44.25	45.75	1
32	800	150	20	32.00	813	14.00	356	37.00	940	29.25	743	1400	635	28	1 1/2	24.75	26.00	1
32	800	300	50	30.00	762	16.00	406	39.63	1006	27.28	693	2133	968	28	1 7/8	29.00	30.25	1
32	800	600	100	32.00	813	21.00	533	40.25	1022	27.92	709	3200	1452	28	2 1/4	36.25	37.25	1
32	800	900	150	30.00	762	26.00	660	42.25	1073	25.33	643	4900	2223	20	3 1/4	46.50	47.75	1
36	900	150	20	36.00	914	14.50	368	41.25	1048	33.40	848	1750	794	32	1 1/2	26.00	27.25	1
36	900	300	50	36.00	914	19.00	483	44.00	1118	31.97	812	2802	1271	32	2	32.75	33.75	1
36	900	600	100	36.00	914	25.00	635	44.50	1130	31.21	793	4720	2141	28	2 1/2	41.25	42.50	1
36	900	900	150	34.00	864	28.25	718	47.25	1200	31.47	799	6600	2994	20	3 1/2	50.25	51.75	1
40	1000	150	20	40.00	1016	17.00	432	45.75	1162	37.56	954	2600	1179	36	1 1/2	28.50	28.50	1 1/2
40	1000	300	50	36.00	914	21.50	546	43.88	1114	36.29	922	3400	1542	32	1 5/8	35.25	35.25	1 1/2
40	1000	600	100	36.00	914	26.00	660	45.50	1156	33.38	848	5200	2359	32	2 1/4	44.50	44.50	1 1/2
40	1000	900	150	34.00	864	30.00	762	49.25	1251	32.61	828	7800	3538	24	3 1/2	54.00	54.00	1 1/2
42	1050	150	20	42.00	1067	17.00	432	48.00	1219	39.20	996	2850	1293	36	1 1/2	29.00	29.00	1 1/2
42	1050	300	50	40.00	1016	22.38	568	45.88	1165	35.99	914	4200	1905	32	1 5/8	36.50	36.50	1 1/2
42	1050	600	100	38.00	965	27.63	702	48.00	1219	32.38	822	6170	2798	28	2 1/2	47.25	47.25	1 1/2
42	1050	900	150	36.00	914	31.00	787	51.25	1302	34.61	879	8700	3946	24	3 1/2	55.75	55.75	1 1/2
48	1200	150	20	48.00	1219	20.63	524	54.50	1384	43.06	1094	4400	1996	44	1 1/2	31.00	31.00	1 1/2
48	1200	300	50	44.00	1118	24.75	629	52.13	1324	43.68	1109	7350	3334	32	1 7/8	40.50	40.50	1 1/2
48	1200	600	100	42.00	1067	31.00	787	54.75	1391	42.25	1073	8600	3901	32	2 3/4	52.75	52.75	1 1/2
48	1200	900	150	42.00	1067	34.00	864	58.50	1486	41.67	1058	12500	5670	24	4	61.75	61.75	1 1/2
54	1350	150	20	54.00	1372	23.25	591	61.00	1549	50.44	1281	5500	2495	44	1 3/4	35.75	35.75	1 1/2
54	1350	300	50	50.00	1270	28.25	718	58.75	1492	48.65	1236	7300	3311	28	2 1/4	46.25	46.25	1 1/2
54	1350	600	100	48.00	1219	35.00	889	61.25	1556	48.34	1228	12100	5489	32	3	59.00	59.00	1 1/2
60	1500	150	20	60.00	1524	26.00	660	67.50	1715	55.68	1414	7200	3266	52	1 3/4	38.75	38.75	1 1/2
60	1500	300	50	56.00	1422	33.00	838	64.75	1645	48.00	1219	10000	4536	32	2 1/4	51.75	51.75	1 1/2
60	1500	600	100	54.00	1372	39.00	991	68.25	1734	45.00	1143	17000	7711	28	3 1/2	65.75	65.75	2