

**CATALOGUE 2012 - PART 3  
STEAM, HOT AIR & HOT OIL**

**BUTTERFLY DAMPER VALVES CLASS I,II,III  
WAFER AND FLANGED – ISO 5720**

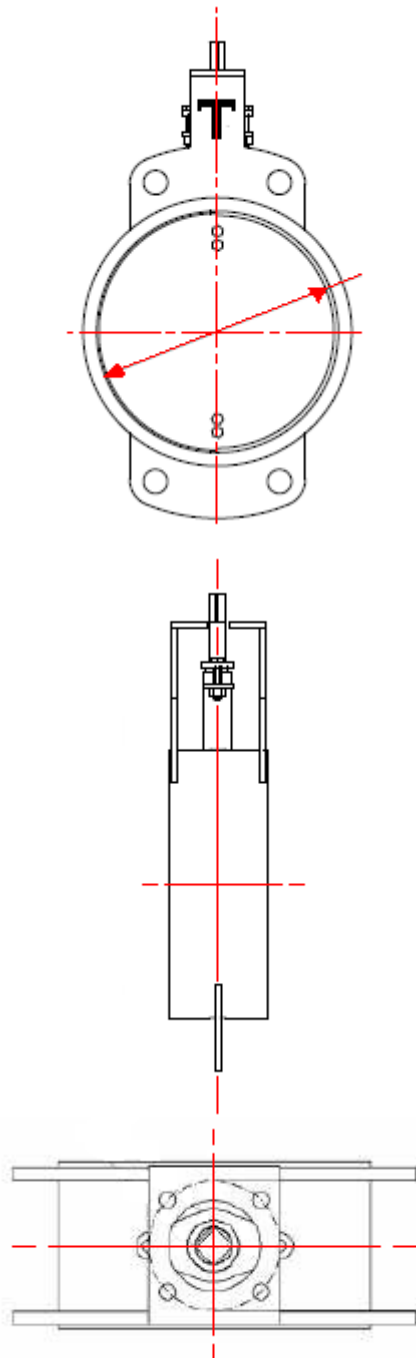
**BELLOW SEAL VALVES - ASME  
FORGED & CAST STEEL- MSS SP-117**

**BELLOW SEAL VALVES - DIN  
CAST IRON & CAST STEEL**

**TRIPLE OFFSET BUTTERFLY VALVES  
CAST STEEL – ASME B 16.34**

**HIGH PERFORMANCE BUTTERFLY VALVES  
CAST STEEL – API 609 CATEGORY B**

**BUTTERFLY DAMPER VALVES CLASS III  
WAFFER AND FLANGED – ISO 5720**



Thickness Class I, II, III,  
according to EN 1349 and  
ANSI B16.104

Metal to metal seat

Intrinsically Fire-safe

Perfect secondary seat

Max Pressure 2 BAR

Standard series from ND 50 to  
ND 1000, other diameter on  
special request

For warm air and smoke from  
300°C up to 1000°C in function  
of the model

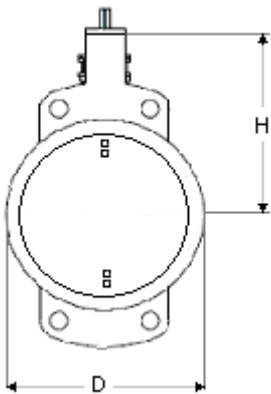
Face to face in according to EN  
558-1 serie 16/20  
ISO 5720 short

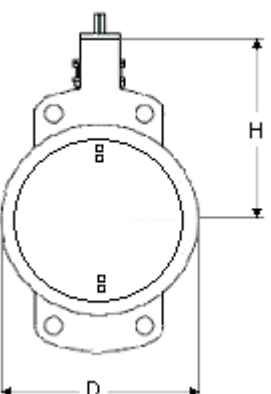
Connections for flanges  
EN1092-1  
PN 6-10-16 and  
ANSI B16.5 class 150

Special face to face and special  
flanges connections on request

Certificates: EN 10204 – CE  
(where applicable)

Top mounting in according to  
ISO 5211

		<b>Fig. 3100 – Damper Butterfly Valves</b>									
		<b>Wafer or Flanged body style</b>									
Ø		50	65	80	100	125	150	200	250	300	
End to End	A mm.	64	64	64	64	70	70	89	114	114	
Height from the center	H mm.	120	130	155	163	195	214	268	277	290	
Dia. of ext. Body PN 10	D mm.	109	129	0.00	164	195	220	275	330	380	
Top flange	ISO 5211	F05	F05	F05	F05	F05	F05	F05	F07	F07	
Shaft		11x11	11x11	11x11	11x11	11x11	11x11	11x11	14x14	14x14	

		<b>Fig. 3200 – Damper Butterfly Valves</b>								
		<b>Wafer or Flanged body style</b>								
Ø		350	400	450	500	600	700	800	900	1000
End to End	A mm.	127	140	152	152	154	165	190	203	216
Height from the center	H mm.	315	360	385	410	485	535	605	675	730
Dia. of ext. Body PN10	D mm.	440	490	540	595	696	810	916	1016	1025
Top flange	ISO 5211	F10	F10	F10	F10	F10	F12	F12	F14	F14
Shaft		17x17	17x17	22x22	22x22	22x22	27x27	27x27	36x36	36x36

<b>Body &amp; disc</b>	
Carbon steel	FE 430B
Stainless steel	AISI 304
Stainless steel	AISI 310
Stainless steel	AISI 316
Other materials on request	

<b>Packing</b>
Grafite
PTFE

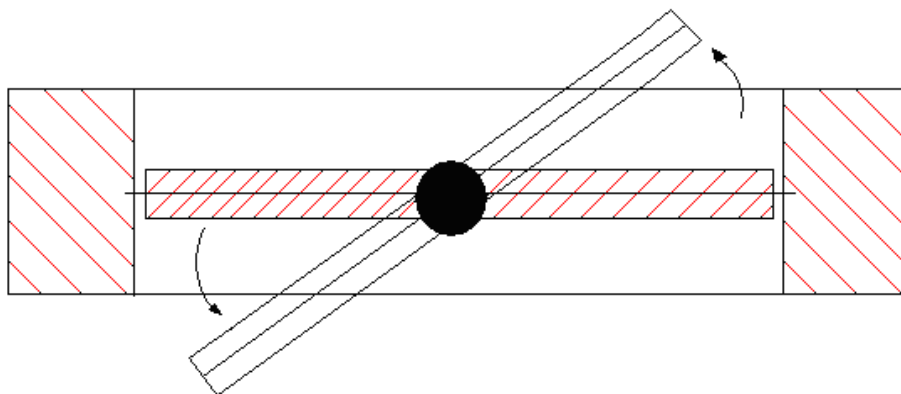
**Applications:**

- Chemical Industry
- Recovery dissolvents
- Furnaces
- Systems of conditioning
- Industry of the glass
- Ecological Plant
- Heat and power installation
- Process burnes

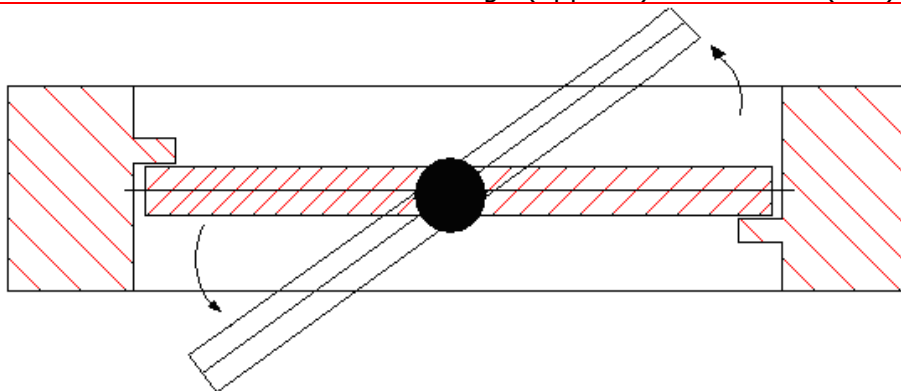
**BUTTERFLY VALVES DAMPER CLASS I,II,III FACE TO FACE ISO 5720**

### DAMPER BUTTERFLY VALVE SEAT DESIGN

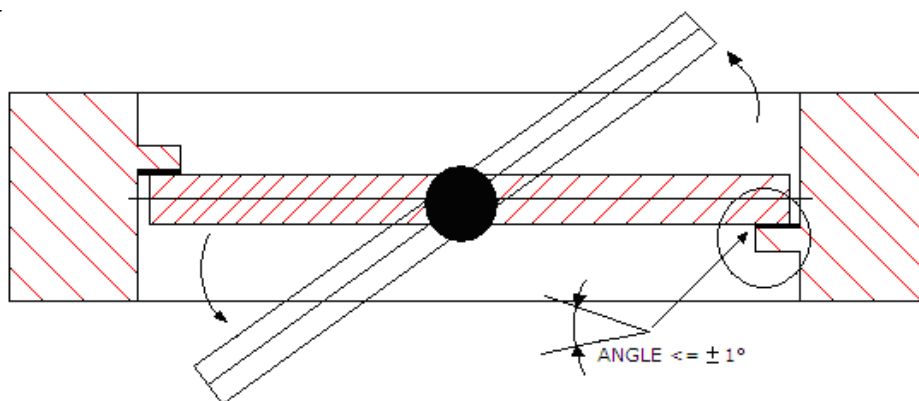
CLASS I ANSI B16.104 - Leakage (approx.) 3-4% KV (90°)



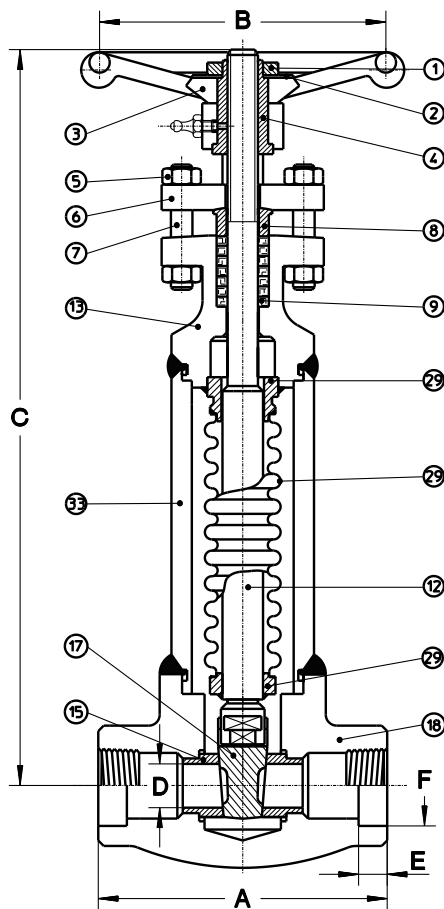
CLASS II ANSI B16.104 - Leakage (approx.)  $\leq 1\%$  KV (90°)



CLASS III ANSI B16.104 - Leakage (approx.)  $< 0,1\%$  KV (90°) - 99%

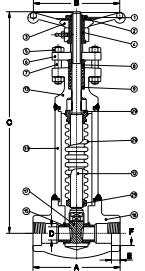


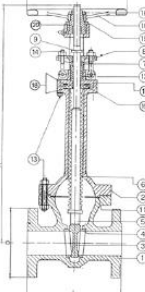
**BELLOW SEAL, GATE & GLOBE VALVES  
FORGED & CAST STEEL – MSS SP-117**

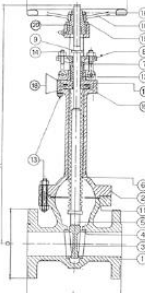


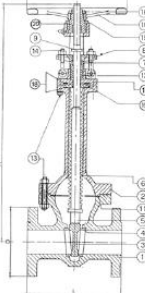
No.	Part.
1	Wheelnut
2	Nameplate
3	Handwheel
4	Yoke nut
5	Gland Nut
6	Gland flange
7	Gland stud
8	Gland
9	Packing
12	Stem
13	Bonnet
15	Seat
17	Wedge
18	Body
29	Bellows
33	Extension

Minimum Cycle Life for Bellows up to class 800, according to MSS SP-117, :  
 $\varnothing \leq 4'' = 2.000$  for gate valves, 5.000 for globe valves.  
 $\varnothing \geq 4'' = 1.000$  for gate valves, 2.000 for globe valves.

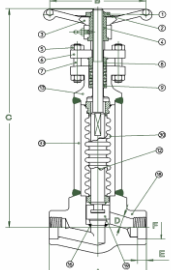
	<b>Fig. 1305 – Bellow Seal Gate Valve Class 800 WB RB OS&amp;Y</b> Threaded (ASME B 1.20.1 NPT) or Socket Weld (ASME B 16.11) Ends					
	Ø	1/2	3/4	1	1.1/2	2
A mm.	80	90	110	127	127	
C mm.	262	296	353	470	531	
D mm.	9.6	14	18	30	37	
Kg.	2.2	3	4.2	9	14.8	

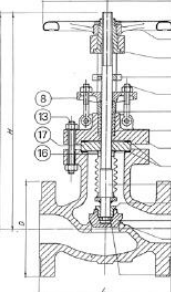
	<b>Fig. 1310 – Bellow Seal Gate Valve Class 150 BB OS&amp;Y</b> Flanged Ends (ASME B 16.5) RF							
	Ø	2	3	4	6	8	10	12
L mm.	178	203	229	267	292	330	356	
H mm.	575	835	995	1.385	1.795	2.200	2.620	
V mm.	200	225	250	300	350	400	450	
Kg.	25	60	80	132	210	280	355	

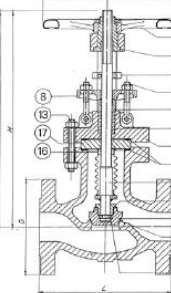
	<b>Fig. 1315 – Bellow Seal Gate Valve Class 300 BB OS&amp;Y</b> Flanged Ends (ASME B 16.5) RF							
	Ø	2	3	4	6	8	10	12
L mm.	216	283	305	403	419	457	502	
H mm.	595	875	1.050	1.600	1.890	2.260	2.725	
V mm.	200	225	250	350	400	450	500	
Kg.	48	70	92	178	315	440	582	

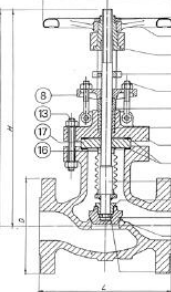
	<b>Fig. 1320 – Bellow Seal Gate Valve Class 600 BB OS&amp;Y</b> Flanged Ends (ASME B 16.5) RF							
	Ø	2	3	4	6	8	10	12
L mm.	292	356	432	559	660	787	838	
H mm.	610	890	1.080	1.535	1.820	2.010	2.380	
V mm.	200	250	300	450	500	600	720	
Kg.	62	90	170	335	570	688	1.220	

**BELLOW SEAL, GATE & GLOBE VALVES - FORGED & CAST STEEL - MSS SP-117**

	<b>Fig. 1325 – Bellow Seal Globe Valve Class 800 WB RB OS&amp;Y</b>				
	Threaded (ASME B 1.20.1 NPT) or Socket Weld (ASME B 16.11) Ends				
Ø	1/2	3/4	1	1.1/2	2
A mm.	80	90	110	155	-
C mm.	243	275	315	430	-
D mm.	9	13	17.5	29.5	-
Kg.	5.1	6.4	8.5	19.0	-

	<b>Fig. 1330 – Bellow Seal Globe Valve Class 150 BB OS&amp;Y</b>						
	Flanged Ends (ASME B 16.5) RF						
Ø	2	3	4	6	8	10	12
L mm.	203	241	292	406	495	622	699
H mm.	431	520	540	575	825	915	1.090
V mm.	200	225	250	300	400	450	500
Kg.	38	61	85	132	178	275	384

	<b>Fig. 1335 – Bellow Seal Globe Valve Class 300 BB OS&amp;Y</b>						
	Flanged Ends (ASME B 16.5) RF						
Ø	2	3	4	6	8	10	12
L mm.	267	318	356	445	559	622	711
H mm.	436	520	545	575	840	930	1.105
V mm.	225	300	400	500	600	720	800
Kg.	40	65	95	182	243	370	486

	<b>Fig. 1340 – Bellow Seal Globe Valve Class 600 BB OS&amp;Y</b>				
	Flanged Ends (ASME B 16.5) RF				
Ø	2	3	4	6	8
L mm.	292	356	432	559	660
H mm.	450	580	650	780	950
V mm.	250	400	500	600	720
Kg.	45	88	134	260	480

**BELLOW SEAL, GATE & GLOBE VALVES - FORGED & CAST STEEL - MSS SP-1.17**

**DIN BELLOW SEAL GLOBE VALVES  
CAST IRON, DUCTILE IRON & CAST STEEL**

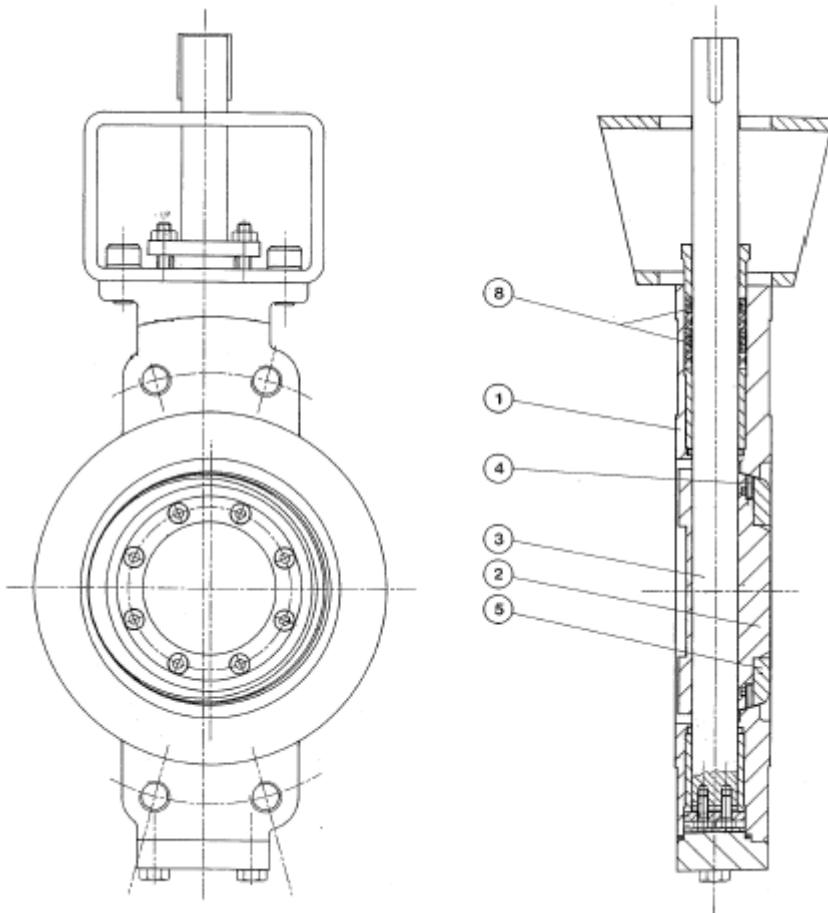
	No.	Part-
	6	Gland flange
	8	Gland
	9	Packing
	12	Stem
	13	Bonnet
	14	Gasket
	16	Integral seat
	18	Body
	30	Bellow
58	Gasket	

	<b>Fig. 3305 – Bellow Seal Globe Valve Class PN 16</b>												
	Flanged Ends RF												
	<b>DN</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>
	L mm.	130	150	160	180	200	230	290	310	350	400	480	600
	H mm.	200	200	210	210	225	230	260	275	345	393	420	535
Kg.	8	9	11	14	16	21	32	41	54	79	107	203	

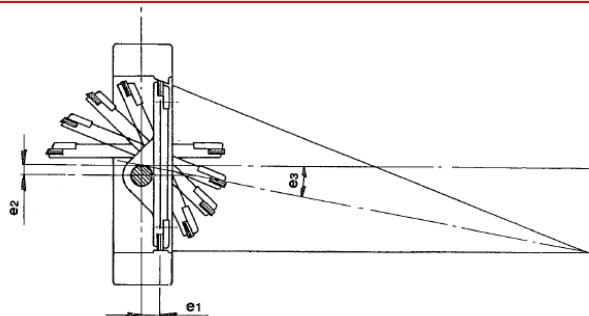
	<b>Fig. 3310 – Bellow Seal Globe Valve Class PN 40</b>										
	Flanged Ends RF										
	<b>DN</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>350</b>	<b>400</b>
	L mm.	290	310	350	400	480	600	730	850	980	1100
	H mm.	390	400	430	490	630	710	840	940	1090	1120
Kg.	27	33	47	62	420	200	325	440	670	900	



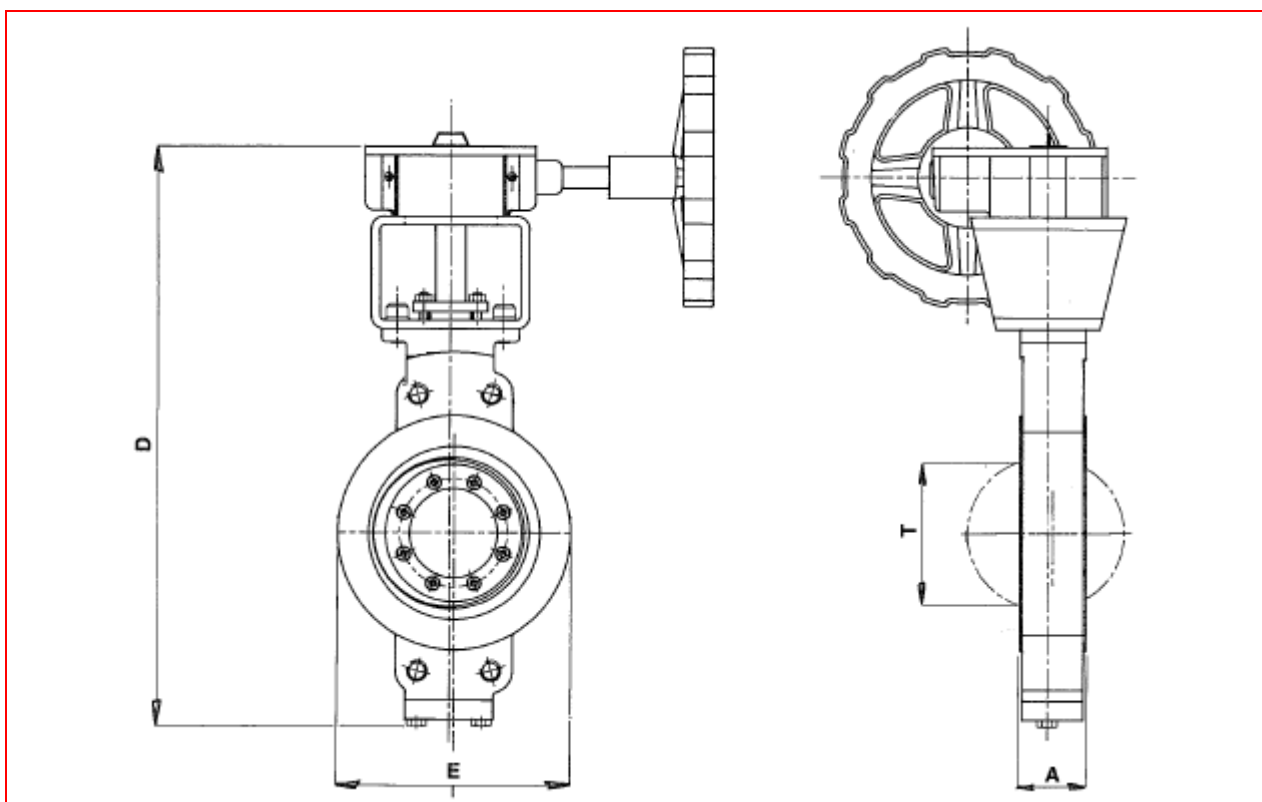
**TRIPLE OFFSET BUTTERFLY VALVES  
CAST STEEL – ASME B 16.34**



No.	Part.
1	Body
2	Disc
3	Stem
4	Lamellar Seal Ring
5	Retainer Seal Ring
8	Packing



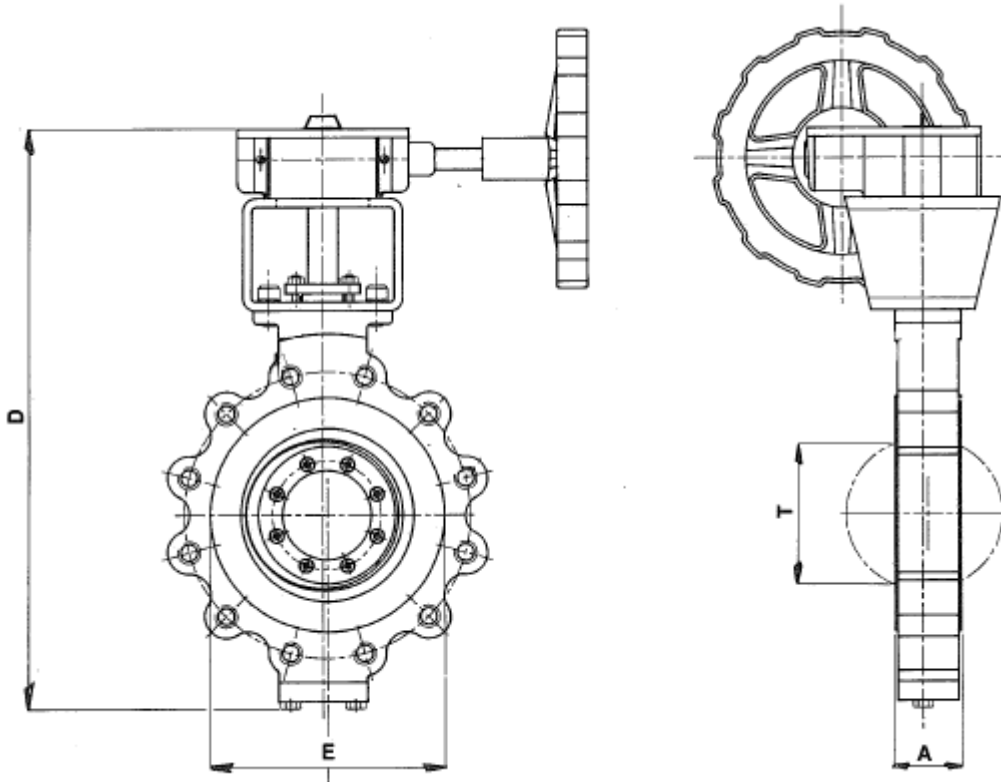
**Triple Offset Design**



**Triple Offset Butterfly Valve - Wafer Type (ASME B 16.5) RF**

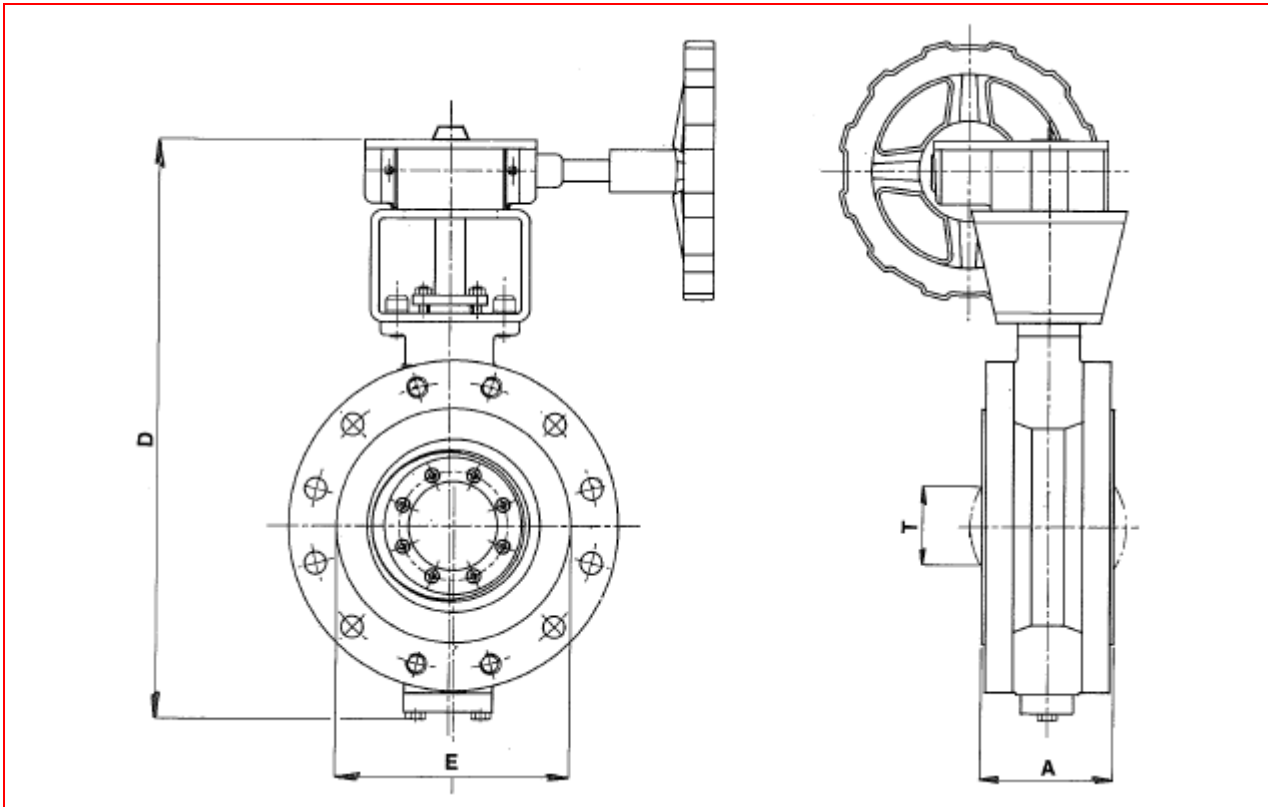
	Ø	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1510</b> <b>Class 150</b>	A (mm.)	48	54	57	64	71	81	92	102	114	127	154
	D (mm.)	451	471	568	641	710	789	902	1008	1073	1177	1338
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	61	82	134	180	226	276	310	352	404	448	538
	Kg.	21	34	36	52	73	96	129	164	213	277	433
<b>Fig. 1520</b> <b>Class 300</b>	A (mm.)	48	54	60,5	73	83	92	117	133	149	159	181
	D (mm.)	451	471	591	664	791	896	1014	1080	1218	1318	1440
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	61	82	132	174	224	272	292	336	374	430	524
	Kg.	21	31	50	69	120	147	204	291	412	459	661
<b>Fig. 1530</b> <b>Class 600</b>	A (mm.)	54	64	78	102	117	140	---	---	---	---	---
	D (mm.)	580	661	784	909	1015	1143	---	---	---	---	---
	E (mm.)	127	157	216	270	324	381	---	---	---	---	---
	T (mm.)	58	76,5	125	164	214	258	---	---	---	---	---
	Kg.	30	45	68	140	210	291	---	---	---	---	---

**TRIPLE OFFSET BUTTERFLY VALVES - CAST STEEL - ASME B 16.34**



**Triple Offset Butterfly Valve - Lug Type (ASME B 16.5) RF**

	Ø	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1540</b> <b>Class 150</b>	A (mm.)	48	54	57	64	71	81	92	102	114	127	154
	D (mm.)	451	471	568	641	710	789	902	1008	1073	1177	1338
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	61	82	134	180	226	276	310	352	404	448	538
	Kg.	25	32	38	56	80	113	144	194	243	317	488
<b>Fig. 1550</b> <b>Class 300</b>	A (mm.)	48	54	60,5	73	83	92	117	133	149	159	181
	D (mm.)	451	471	591	664	791	896	1014	1080	1218	1318	1440
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	61	82	132	174	224	272	292	336	374	430	524
	Kg.	26	34	57	86	150	172	289	396	557	639	936
<b>Fig. 1560</b> <b>Class 600</b>	A (mm.)	54	64	78	102	117	140	---	---	---	---	---
	D (mm.)	580	661	784	909	1015	1143	---	---	---	---	---
	E (mm.)	127	157	216	270	324	381	---	---	---	---	---
	T (mm.)	58	76,5	125	164	214	258	---	---	---	---	---
	Kg.	34	50	91	165	237	362	---	---	---	---	---



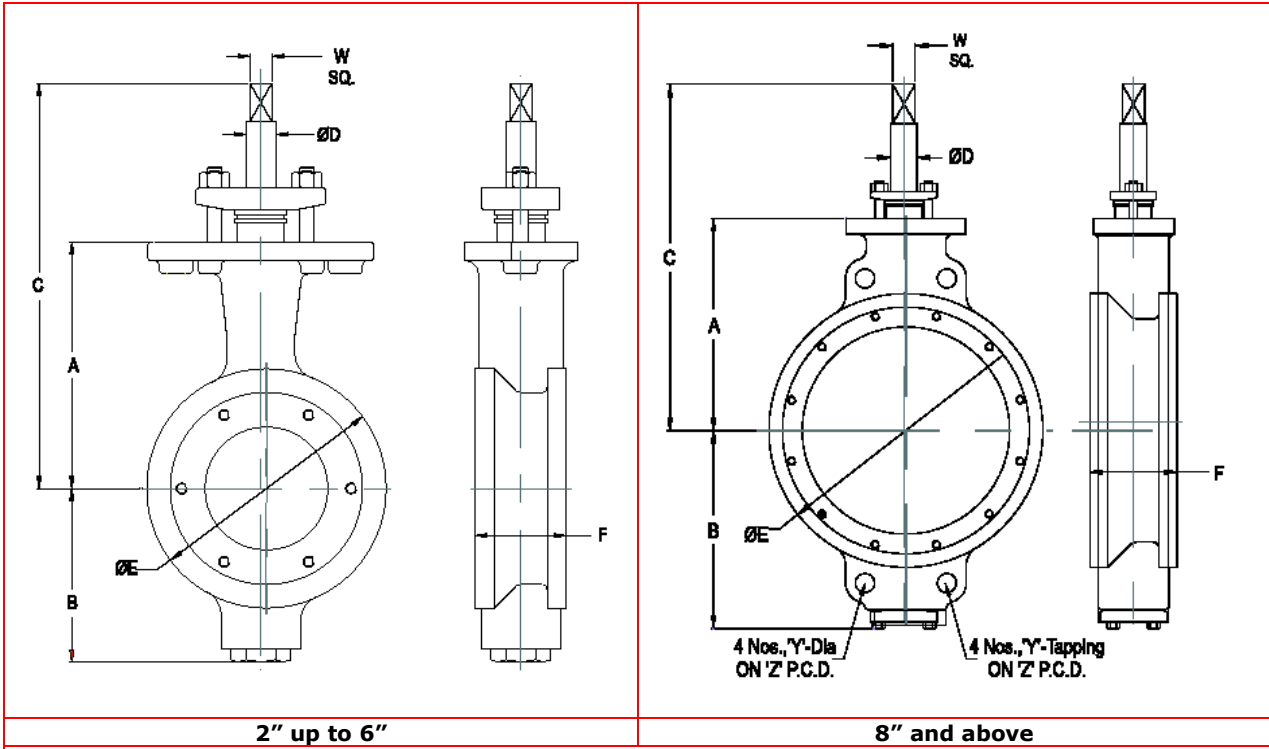
**Triple Offset Butterfly Valve - Flanged Type (ASME B 16.5) RF**

	Ø	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1570</b> <b>Class 150</b>	A (mm.)	114	127	140	152	165	178	190	216	222	229	267
	D (mm.)	451	471	568	641	710	789	902	1008	1073	1177	1338
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	---	---	---	105	159	215	249	284	346	396	479
	Kg.	26	39	47	72	106	144	192	236	299	344	560
<b>Fig. 1580</b> <b>Class 300</b>	A (mm.)	114	127	140	152	165	178	190	216	222	229	267
	D (mm.)	451	471	591	664	791	896	1014	1080	1218	1318	1440
	E (mm.)	127	157	216	270	324	381	413	470	533	584	692
	T (mm.)	---	---	---	105	159	215	249	284	346	396	479
	Kg.	33	45	68	113	191	230	317	409	546	593	915
<b>Fig. 1590</b> <b>Class 600</b>	A (mm.)	180	190	210	230	250	300	---	---	---	---	---
	D (mm.)	580	661	784	909	1015	1143	---	---	---	---	---
	E (mm.)	127	157	216	270	324	381	---	---	---	---	---
	T (mm.)	---	---	---	---	---	78	---	---	---	---	---
	Kg.	44	65	119	200	294	403	---	---	---	---	---

**TRIPLE OFFSET BUTTERFLY VALVES - CAST STEEL - ASME B 16.34**

**HIGH PERFORMANCE BUTTERFLY VALVES  
CAST STEEL – API 609 CATEGORY B**

		N.	Part.
	<p><b>Double Offset Design</b></p> <p>High Performance Butterfly Valves are available in Wafer &amp; Lug design conforming to API 609 standard. The Disc construction is Double Offset providing excellent controllability, bubble tight shut off, greater seat life and smooth operation. Valves are specially designed for applications in Chemical, Petroleum, Hydro Carbon Processing, Pulp &amp; Paper industries. Well supported shaft with heavy duty bearings ensure perfect alignment of seat and disc for smooth and trouble free operations. Valves have been rigorously tested to ensure industry performance requirements.</p>	1	Body
		2	End cover
		3	Disc
		4	Shaft
		5	Disc
		6	Seat ring
		7	Retainer screw
		8	Body gasket
		9	Seat retainer
		10	Guide bush
		11	Gland packing
		12	Gland bush
		13	Gland stud
		14	Gland flange
		15	End cover bolts
<p><b>Flexible Metal</b></p>	<p><b>Fire Safe Design</b></p>		



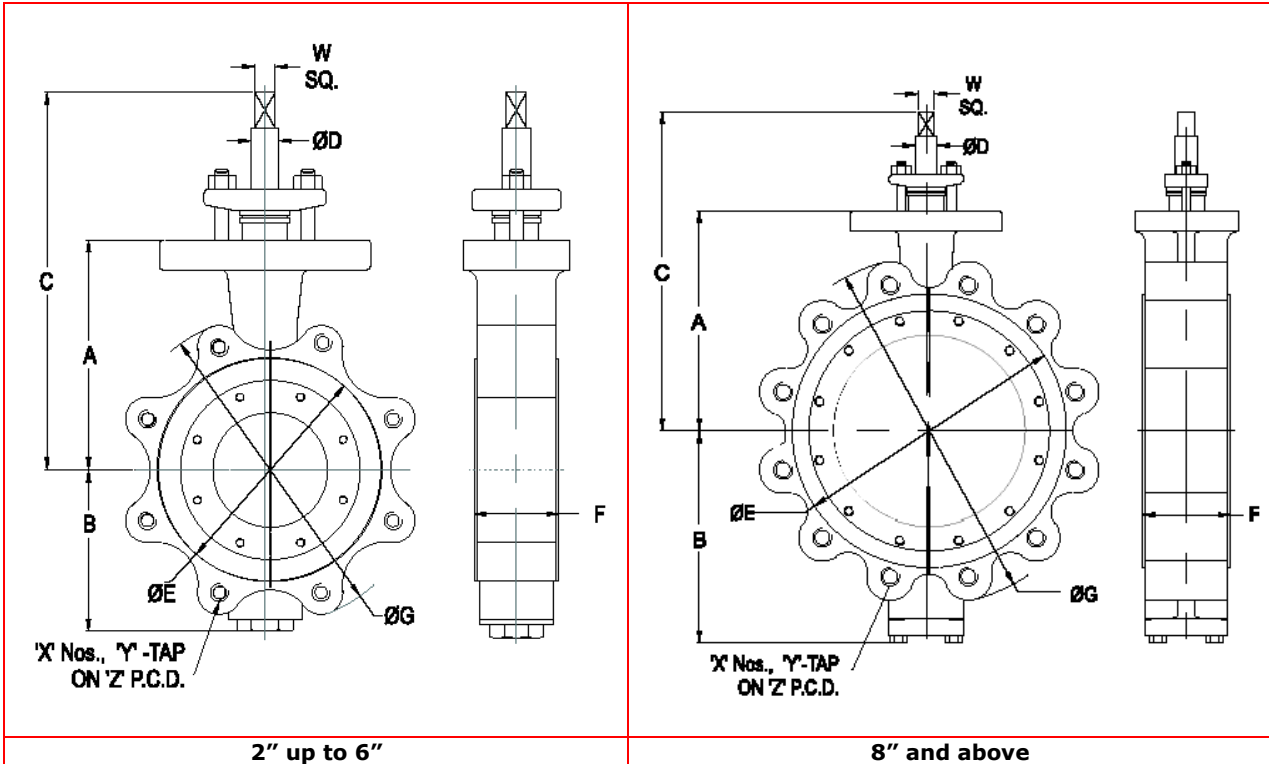
2" up to 6"

8" and above

**High Performance Butterfly Valve - Wafer Type (ASME B 16.5) RF**

	Ø	2	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1605</b> <b>Class 150</b>	A (mm.)	100	131	133	187	217	250	310	320	340	275	406	510
	B (mm.)	70	92	117	147	210	240	285	300	345	380	400	460
	C (mm.)	166	215	233	272	357	388	457	473	493	546	605	760
	ØD (mm.)	11.5	14.0	14.0	20.0	20.0	26.0	33.0	38.0	43.0	48.0	58.0	68.0
	F (mm.)	43	48	54	57	64	71	81	92	102	114	127	154
	W SQ. (mm.)	8.5	11.5	11.5	14.5	14.5	19.0	24.0	30.0	30.0	30.0	38.0	38.0
	Kg.	7	9	11	18	25	51	68	110	137	151	207	280
<b>Fig. 1610</b> <b>Class 300</b>	A (mm.)	100	131	153	157	217	250	310	335	365	400	425	510
	B (mm.)	70	92	117	272	225	250	310	335	365	400	425	510
	C (mm.)	166	215	237	267	357	395	465	530	545	590	675	760
	ØD (mm.)	13.0	16.0	16.0	22.0	28.0	35.0	45.0	50.0	60.0	70.0	80.0	100.0
	F (mm.)	43	48	54	59	73	83	92	117	133	149	159	181
	W SQ. (mm.)	8.5	11.5	11.5	16.0	20.0	25.0	32.0	35.0	42.0	49.5	57.0	71.0
	Kg.	9	9	11	21	36	44	98	125	178	208	239	435

**HIGH PERFORMANCE BUTTERFLY VALVES - CAST STEEL - API 609 CATEGORY B**



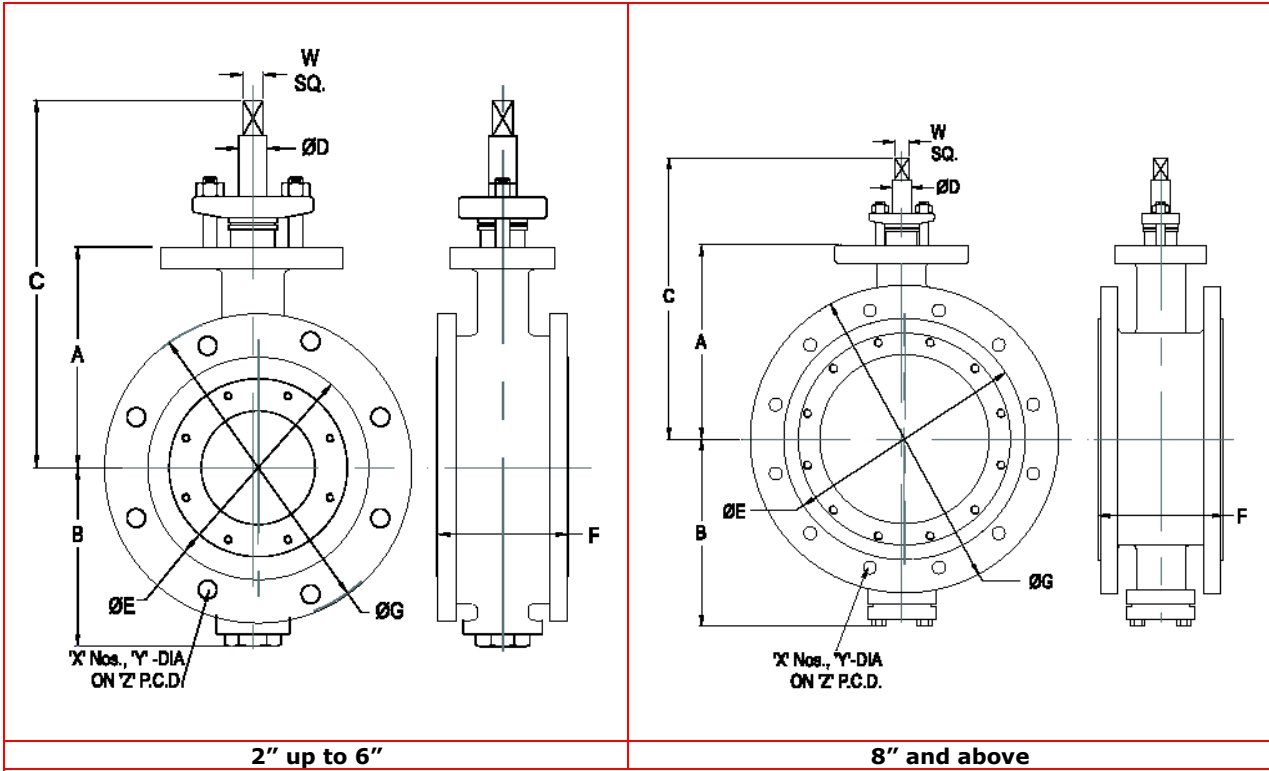
2" up to 6"

8" and above

**High Performance Butterfly Valve - Lug Type (ASME B 16.5) RF**

	Ø	2	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1615</b> <b>Class 150</b>	A (mm.)	100	131	133	187	217	250	310	320	340	275	406	510
	B (mm.)	70	92	117	147	210	240	285	300	345	380	400	460
	C (mm.)	166	215	233	272	357	388	457	473	493	546	605	760
	ØD (mm.)	11.5	14.0	14.0	20.0	20.0	26.0	33.0	38.0	43.0	48.0	58.0	68.0
	F (mm.)	43	48	54	57	64	71	81	92	102	114	127	154
	W SQ. (mm.)	8.5	11.5	11.5	14.5	14.5	19.0	24.0	30.0	30.0	30.0	38.0	38.0
	Kg.	8	12	18	24	37	72	92	165	219	286	345	527
<b>Fig. 1620</b> <b>Class 300</b>	A (mm.)	100	131	153	157	217	250	310	335	365	400	425	510
	B (mm.)	70	92	117	267	225	250	310	335	365	400	425	510
	C (mm.)	166	215	237	272	357	395	465	530	545	590	675	760
	ØD (mm.)	13.0	16.0	16.0	22.0	28.0	35.0	45.0	50.0	60.0	70.0	80.0	100.0
	F (mm.)	43	48	54	59	73	83	92	117	133	149	159	181
	W SQ. (mm.)	8.5	11.5	11.5	16.0	20.0	25.0	32.0	35.0	42.0	49.5	57.0	71.0
	Kg.	9	12	17	34	60	90	124	218	330	419	458	655

**HIGH PERFORMANCE BUTTERFLY VALVES - CAST STEEL - API 609 CATEGORY B**



**High Performance Butterfly Valve – Double Flanged Type (ASME B 16.5) RF**

	Ø	2	3	4	6	8	10	12	14	16	18	20	24
<b>Fig. 1615</b> <b>Class 150</b>	A (mm.)	100	131	133	187	217	250	310	320	340	275	406	510
	B (mm.)	70	92	117	147	210	240	285	300	345	380	400	460
	C (mm.)	166	215	233	272	357	388	457	473	493	546	605	760
	ØD (mm.)	11.5	14.0	14.0	20.0	20.0	26.0	33.0	38.0	43.0	48.0	58.0	68.0
	F (mm.)	108	114	127	140	152	165	178	190	216	222	229	267
	W SQ. (mm.)	8.5	11.5	11.5	14.5	14.5	19.0	24.0	30.0	30.0	30.0	38.0	38.0
	Kg.	8	12	18	24	37	72	92	165	219	286	345	527
<b>Fig. 1620</b> <b>Class 300</b>	A (mm.)	100	131	153	157	217	250	310	335	365	400	425	510
	B (mm.)	70	92	117	267	225	250	310	335	365	400	425	510
	C (mm.)	166	215	237	272	357	395	465	530	545	590	675	760
	ØD (mm.)	13.0	16.0	16.0	22.0	28.0	35.0	45.0	50.0	60.0	70.0	80.0	100.0
	F (mm.)	150	180	190	210	230	250	270	290	310	330	350	390
	W SQ. (mm.)	8.5	11.5	11.5	16.0	20.0	25.0	32.0	35.0	42.0	49.5	57.0	71.0
	Kg.	9	12	17	34	60	90	124	218	330	419	458	655

**HIGH PERFORMANCE BUTTERFLY VALVES – CAST STEEL – API 609 CATEGORY B**