



# VALSTAR VALVE



The triple offset - metal  
Seated high-performance  
butterfly valve

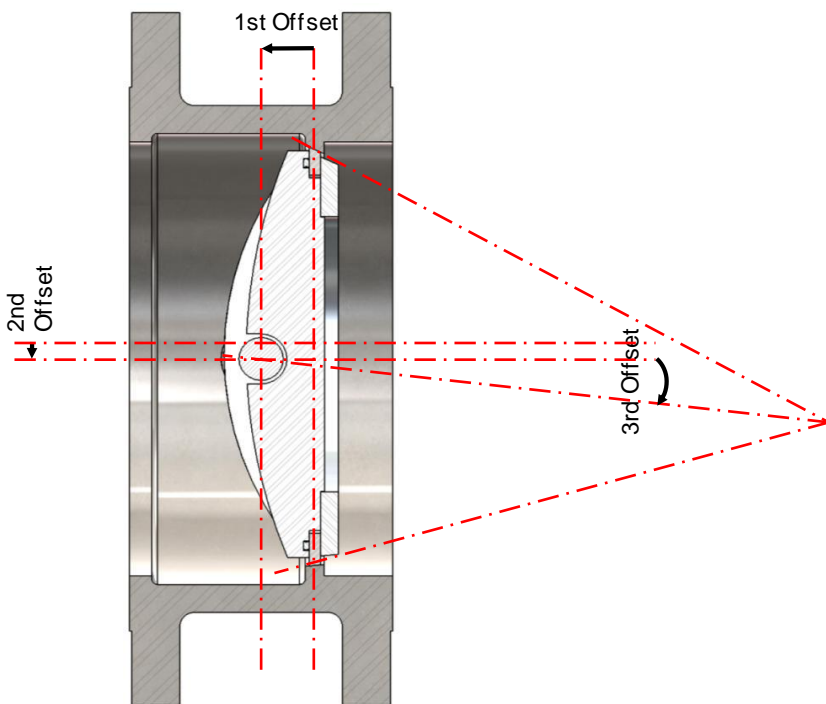
 **DAHER**

[www.cv3000.com](http://www.cv3000.com)

# VALSTAR VALVE

## KEY INFORMATION

- High performance levels in Control or On/Off service
  - Specific shape of disc
  - Low differential pressure construction
- Triple Offset design
  - No friction during opening and closing
- Metal / metal sealing
  - Improved service life
  - Good resistance to erosion
- Bi-directional design
- Available with any kind or brand of actuator
- Compatible with most fluids due to optimal selection of construction materials
- Anti blow-out construction
  - One-piece shaft assembled by pins
- Compliant with Fire Safe and/or NACE requirements



## THE TRIPLE OFFSET DESIGN

VERDELET was one of the first butterfly valve manufacturers to propose the triple offset design in its butterfly valves.

### 1<sup>st</sup> Offset:

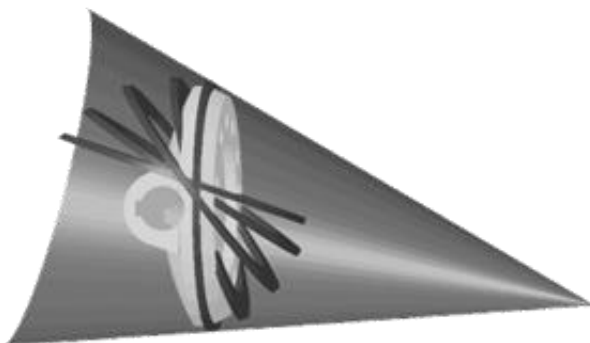
The shaft of the valve is behind the disc, which provides a continuous sealing area all around the disc.

### 2<sup>nd</sup> Offset:

The shaft of the valve is located under the nominal centreline of the pipe. This offset allows the valve gasket to use in-plane rotation and be moved away from the valve seat. By avoiding friction between the gasket and the seat, it also allows the necessary opening and closing torques to be reduced.

### 3<sup>rd</sup> Offset:

The axis of the conical sealing area is inclined in relation to the nominal centreline of the pipe, which has the effect of preventing any more friction between the valve gasket and its seat throughout the travel of the disc.



The combination of the 3 offsets gives the valve very high performance levels in terms of tightness, very low operating torques and very smooth running on the 90° travel of the disc.

# VALSTAR VALVE

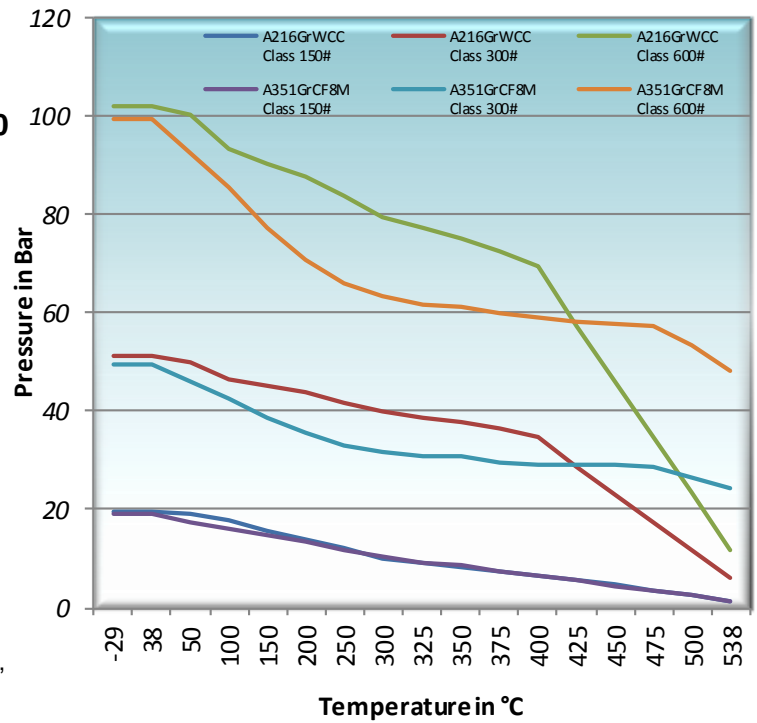
## PRODUCT INFORMATION

- From **DN3" (150mm) to DN80" (2000mm)** and more
- From **150# to 2500#** as per ASME B16.34 - From **PN10 to PN420** as per EN12516
- Working temperature from **-196°C to +650°C**
- Available in all body constructions (Wafer, Lug, Double Flanged, Butt Weld & **Steam Jacket**)
- Face finish Type A-B, RF, FF, RTJ, Form C, R13...
- Standard constructions in carbon steel (A216GrWCC) and stainless steel (A351 GrCF8M) or equivalent materials as per PED requirements

Other grades and other materials available on request (Alloy steel, Aluminium-Bronze, Duplex, Super Duplex, Inconel®, Monel®, Uranus, Titanium...)

Chemical or Electrolytic treatments also available

Pressure / Temperature ratio (As per ASME B16.34)\*



\* Other materials and temperatures on request  
Also available for PED-compliant materials



## CODES & STANDARDS

Quality Assurance	ISO 9001 - 2008
Design and Construction	PED 97/23/EC module H, ASME/ANSI B16.34, API609, CODAP 2005, ISO5211
Connection	ASME B16.5 – ASME B16.47 series A or B ISO / NF EN 29283 – DIN, AWWA C207D – C207E
Face-to-Face dimensions	ISO5752, API609
Testing	API598, ISO5208 / GOST FCI70.2 / ANSI B16.104
Fire Safe	API6FA - API607
NACE Construction	NACE MR1075

\* Other construction codes available on request

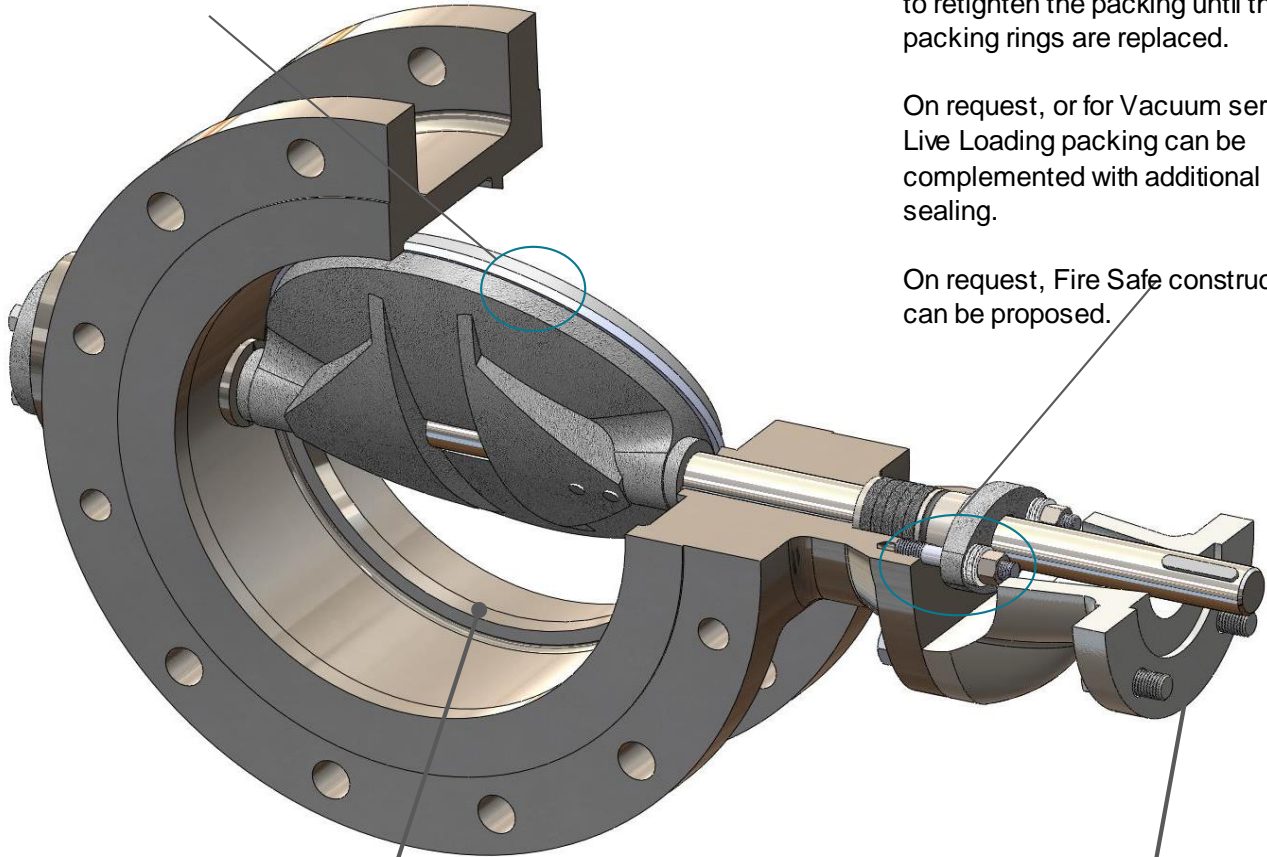
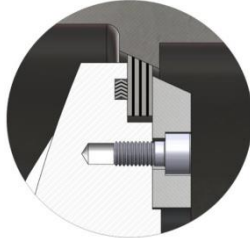


## DESIGN FEATURES

### ZERO LEAKAGE & BI-DIRECTIONAL DESIGN

The VALSTAR Valve offers two possibilities for the execution of the sealing gasket:

- A one-piece metal gasket for a longer service life or,
- A lamellar metal/graphite gasket reinforced with a spiral-wound gasket for "Zero" Leakage tightness performance or bi-directional service. The damping effect of the spiral-wound gasket allows the gasket to find its optimal place for a high degree of tightness and provides a constant operating pressure in both directions even under high-pressure operation.

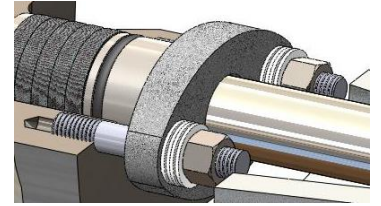


### INTEGRAL SEAT MACHINED IN THE BODY

Based on process conditions, VERDELET performs an overlay on it with stainless steel for Carbon steel bodies or Stellite, Inconel@...

No maintenance required on the valve seat.

### LIVE LOADING PACKING



Live Loading packing is a special type of valve packing which, thanks to the addition of Belleville washers, offers better shaft tightness for toxic or corrosive fluids. Moreover, the constant pressure provided by Belleville washers removes the need to retighten the packing until the packing rings are replaced.

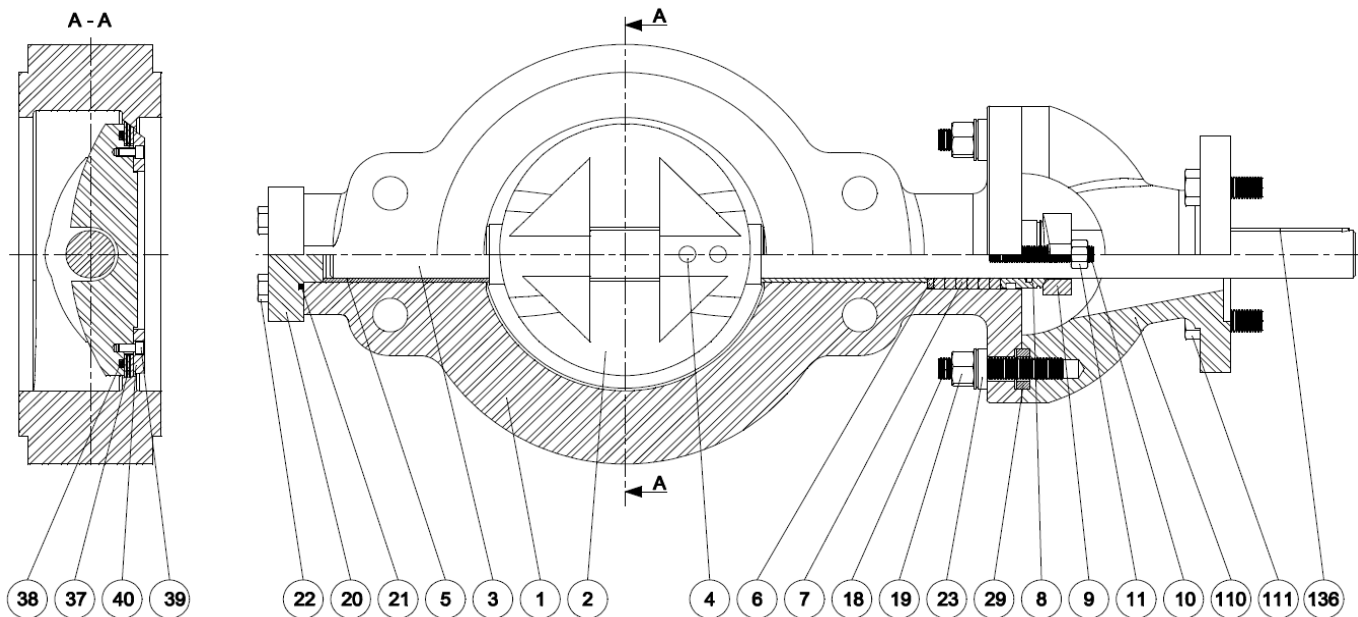
On request, or for Vacuum service, Live Loading packing can be complemented with additional rubber sealing.

On request, Fire Safe construction can be proposed.

### EXTENSION

All VALSTAR valves are equipped with a standard extension offering access to the packing for retightening or replacement. This standard extension also prevents the actuator from heating in operations up to 400°C.

## BASIC MATERIAL CONSTRUCTION (OTHER MATERIALS ON REQUEST)



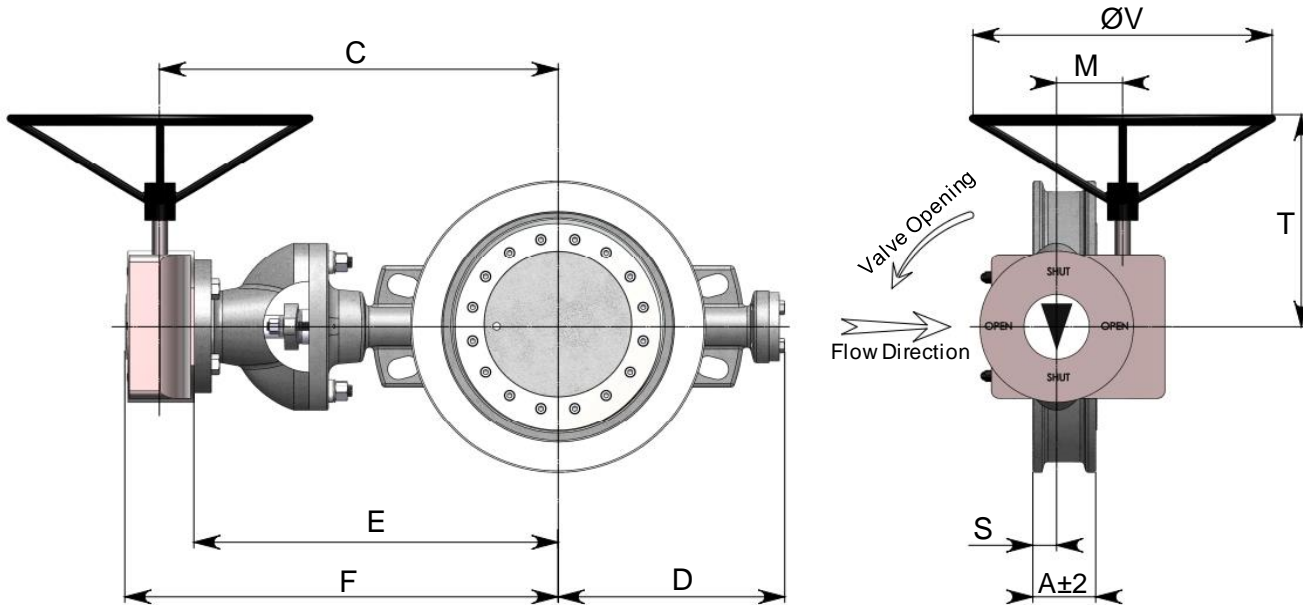
Item	Designation	Quantity	Material for Standard construction in Carbon Steel	Material for Standard construction in Stainless Steel
1	Body	1	ASTM A216 Gr. WCC or equivalent material as per PED requirements	ASTM A351 Gr. CF8M or equivalent material as per PED requirements
	Integral Seat		AISI309 LSI Overlay or Solid Stellite Gr.21 Hard facing	ASTM A351 Gr. CF8M or Solid Stellite Gr.21 Hard facing
2	Disc	1	ASTM A216 Gr. WCC or Hardened AISI420 as an optional	ASTM A351 Gr. CF8M
3	Shaft	1	Hardened 17-4Ph	Hardened 17-4Ph
4	● Pin	2	Hardened 17-4Ph	Hardened 17-4Ph
5	● Bearing	2	PTFE Glass filled or Hardened AISI440C or Solid Stellite Gr.6	PTFE Glass filled or Hardened AISI440C or Solid Stellite Gr.6
6	Packing Washer	1	AISI 304L	AISI 304L
7	○ ● Packing Rings	Variable	PTFE or Graphite	PTFE or Graphite
8	Packing Gland	1	AISI 304L	AISI 304L
9	Packing Flange	1	1.4404 Stainless steel	1.4404 Stainless steel
10	Stud	2	ASTM A193 Gr.B8M	ASTM A193 Gr.B8M
11	Nut	2	ASTM A194 Gr.8M	ASTM A194 Gr.8M
18	Stud	2	ASTM A193 Gr.B8M	ASTM A193 Gr.B8M
19	Nut	2	ASTM A194 Gr.8M	ASTM A194 Gr.8M
20	Cover	1	1.4404 Stainless steel	1.4404 Stainless steel
21	● Gasket	1	Graphite	Graphite
22	Screw	4	ASTM A193 Gr.B8M	ASTM A193 Gr.B8M
23	Washer	2	AISI 304L	AISI 304L
29	Centre Ring	2	Carbon Steel	Carbon Steel
37	● Seal	1	Duplex or Duplex / Graphite	Inconel® or Inconel® / Graphite
38	● Spiral-wound gasket	1	AISI316 / Graphite	AISI316 / Graphite
39	Screw	Variable	ASTM A193 Gr.B7	ASTM A193 Gr.B8M
40	Counter Flange	1	P265GH	AISI 316L
110	Extension	1	ASTM A216 Gr. WCC	ASTM A216 Gr. WCC
111	Screw	Variable	Class 10-9 (Carbon steel)	A4-70 (Stainless steel)
136	Key	Variable	CK45 (Carbon steel)	CK45 (Carbon steel)

- Other materials on request.

- The materials listed are for information only and can be changed to comply with NACE MR01-75 requirements or any other process conditions.

- Recommended spare parts for commissioning
- Recommended spare parts for maintenance operations every 2 years

## GENERAL OVERALL DIMENSIONS – WAFER TYPE



### VALSTAR VALVE CLASS 150# - PN10-16-20

Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
3	80	48	23	143	295	325	358	52	184	160	14	5
4	100	54	24	168	320	350	383	52	184	160	16	5
6	150	57	26	190	340	370	403	52	184	160	25	5
8	200	64	29	213	365	406	453	71	297	400	34	11
10	250	71	28	255	440	488	539	105	346	500	52	26
12	300	81	31	296	475	523	574	105	346	500	75	26
14	350	92	39	326	500	563	626	211	475	500	110	49
16	400	102	41	364	560	623	686	211	475	500	164	49
18	450	114	48	387	585	648	711	211	475	500	199	49
20	500	127	55	427	670	750	829	357	586	500	277	104
24	600	154	70	475	720	800	879	357	586	500	447	104
28	700	165	72	525	775	855	934	357	586	500	573	104
32	800	190	90	604	895	975	1054	357	586	500	888	104
36	900	203	102	635	950	1043	1136	431	629	800	1073	232
40	1000	216	90	699	990	1083	1176	431	629	800	1204	232

### VALSTAR VALVE CLASS 300# - PN25-40-50

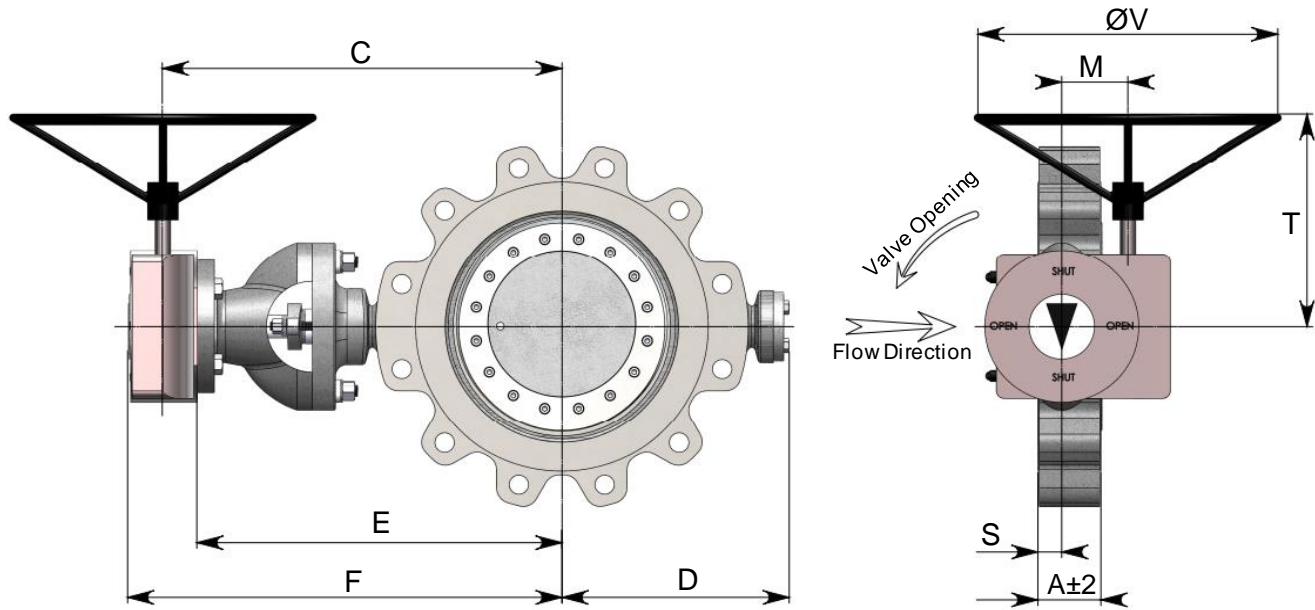
Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
3	80	48	23	143	295	325	358	52	184	160	14	5
4	100	54	24	168	320	350	383	52	184	160	16	5
6	150	59	26	203	355	396	443	71	297	400	27	11
8	200	73	33	240	425	473	524	105	346	500	50	26
10	250	83	37	277	457	520	583	211	475	500	97	49
12	300	92	44	309	507	570	633	211	475	500	139	49
14	350	117	59	330	585	665	744	357	586	500	214	104
16	400	133	67	375	630	710	789	357	586	500	290	104
18	450	149	75	410	660	740	819	357	586	500	335	104
20	500	159	80	443	700	780	859	357	586	500	374	104
24	600	181	85	496	750	843	936	431	629	800	561	232

### VALSTAR VALVE CLASS 600# - PN64-100

Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
4	100	64	32	227	322	363	410	71	297	400	26	11
6	150	78	39	288	395	443	494	105	346	500	59	26
8	200	102	51	264	435	498	561	211	475	500	91	49
10	250	117	57	323	560	640	719	357	586	500	181	104
12	300	140	70	354	557	637	716	357	586	500	306	104
14	350	155	78	383	615	695	774	357	586	500	322	232
16	400	173	87	414	650	743	836	431	629	800	358	232
18	450	186	93	462	753	846	939	431	629	800	534	232
20	500	194	97	503	806	899	992	431	629	800	664	232
24	600	218	109	572	875	1045	1189	160	763	1200	915	225

- Larger sizes and ratings on request.

## GENERAL OVERALL DIMENSIONS – LUG TYPE



### VALSTAR VALVE CLASS 150# - PN10-16-20

Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
3	80	48	23	143	295	325	358	52	184	160	23	5
4	100	54	24	168	320	350	383	52	184	160	29	5
6	150	57	26	190	340	370	403	52	184	160	39	5
8	200	64	29	213	365	406	453	71	297	400	59	11
10	250	71	28	255	440	488	539	105	346	500	84	26
12	300	81	31	296	475	523	574	105	346	500	127	26
14	350	92	39	326	500	563	626	211	475	500	183	49
16	400	102	41	364	560	623	686	211	475	500	258	49
18	450	114	48	387	585	648	711	211	475	500	319	49
20	500	127	55	427	670	750	829	357	586	500	438	104
24	600	154	70	475	720	800	879	357	586	500	730	104
28	700	165	72	525	775	855	934	357	586	500	814	104
32	800	190	90	604	895	975	1054	357	586	500	1295	104
36	900	203	102	635	950	1043	1136	431	629	800	1574	232
40	1000	216	90	699	990	1083	1176	431	629	800	1687	232

### VALSTAR VALVE CLASS 300# - PN25-40-50

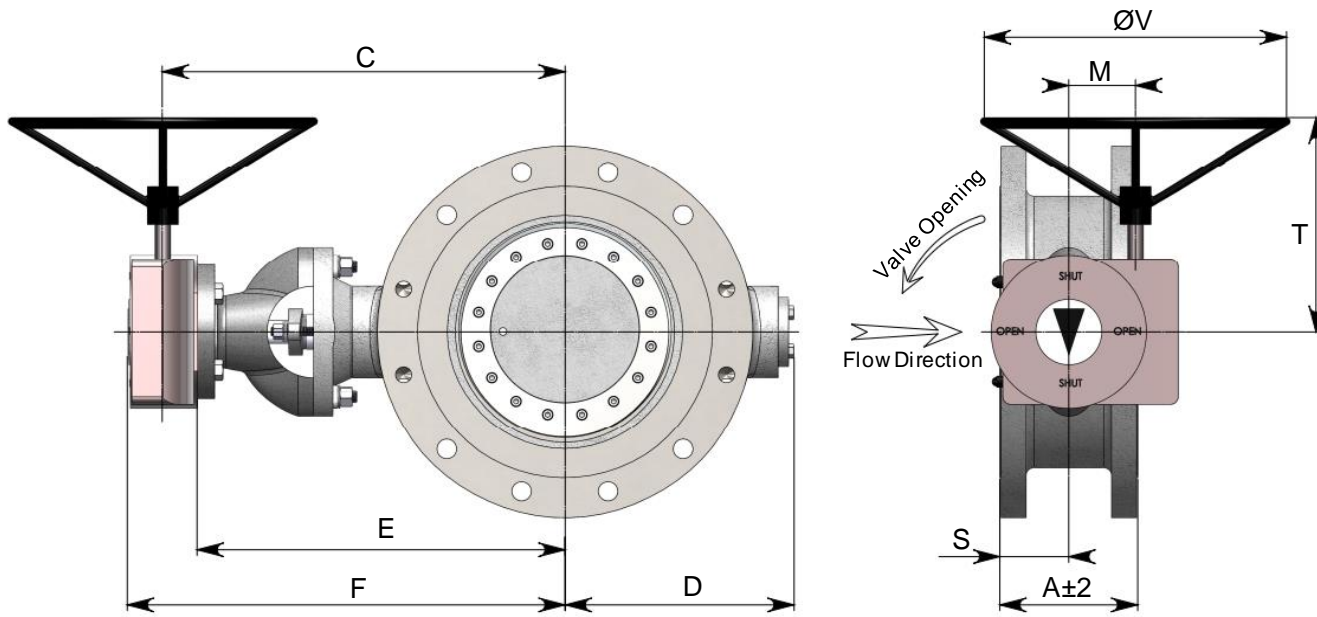
Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
3	80	48	23	143	295	325	358	52	184	160	23	5
4	100	54	24	168	320	350	383	52	184	160	29	5
6	150	59	26	203	355	396	443	71	297	400	48	11
8	200	73	33	240	425	473	524	105	346	500	86	26
10	250	83	37	277	457	520	583	211	475	500	127	49
12	300	92	44	309	507	570	633	211	475	500	243	49
14	350	117	59	330	585	665	744	357	586	500	301	104
16	400	133	67	375	630	710	789	357	586	500	405	104
18	450	149	75	410	660	740	819	357	586	500	562	104
20	500	159	80	443	700	780	859	357	586	500	601	104
24	600	181	85	496	750	843	936	431	629	800	912	232

### VALSTAR VALVE CLASS 600# - PN64-100

Valve Size		Dimensions in mm									Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox
4	100	64	32	227	322	363	410	71	297	400	37	11
6	150	78	39	288	395	443	494	105	346	500	86	26
8	200	102	51	264	435	498	561	211	475	500	109	49
10	250	117	57	323	560	640	719	357	586	500	245	104
12	300	140	70	354	557	637	716	357	586	500	329	104
14	350	155	78	383	615	695	774	357	586	500	367	232
16	400	173	87	414	650	743	836	431	629	800	495	232
18	450	186	93	462	753	846	939	431	629	800	729	232
20	500	194	97	503	806	899	992	431	629	800	915	232
24	600	218	109	572	875	1045	1189	160	763	1200	1263	225

- Larger sizes and ratings on request.

## GENERAL OVERALL DIMENSIONS – DOUBLE-FLANGED TYPE



### VALSTAR VALVE CLASS 150# - PN10-16-20

Valve Size		Dimensions in mm											Weight in Kg		
In	mm	A±2 Short Pattern	S Short Pattern	A±2 Long Pattern	S Long Pattern	D	E	C	F	M	T	ØV	Valve Short Pattern	Valve Long Pattern	Gearbox
3	80	114	57	180	325	143	295	325	358	52	184	160	30	36	5
4	100	127	64	190	350	168	320	350	383	52	184	160	49	53	5
6	150	140	70	210	370	190	340	370	403	52	184	160	63	76	5
8	200	152	76	230	406	213	365	406	453	71	297	400	66	79	11
10	250	165	83	250	488	255	440	488	539	105	346	500	102	121	26
12	300	178	89	270	523	296	475	523	574	105	346	500	155	170	26
14	350	190	95	290	563	326	500	563	626	211	475	500	192	228	49
16	400	216	108	310	623	364	560	623	686	211	475	500	274	321	49
18	450	222	111	330	648	387	585	648	711	211	475	500	343	404	49
20	500	229	115	350	750	427	670	750	829	357	586	500	452	528	104
24	600	267	134	390	800	475	720	800	879	357	586	500	617	719	104
28	700	292	146	430	855	525	775	855	934	357	586	500	914	1053	104
32	800	318	159	470	975	604	895	975	1054	357	586	500	1234	1405	104
36	900	330	165	510	1043	635	950	1043	1136	431	629	800	1325	1863	232
40	1000	410	205	550	1083	699	990	1083	1176	431	629	800	1894	2182	232

### VALSTAR VALVE CLASS 300# - PN25-40-50

Valve Size		Dimensions in mm											Weight in Kg		
In	mm	A±2 Short Pattern	S Short Pattern	A±2 Long Pattern	S Long Pattern	D	E	C	F	M	T	ØV	Valve Short Pattern	Valve Long Pattern	Gearbox
3	80	114	57	180	90	143	295	325	358	52	184	160	30	36	5
4	100	127	64	190	95	168	320	350	383	52	184	160	49	53	5
6	150	140	70	210	105	203	355	396	443	71	297	400	63	77	11
8	200	152	76	230	115	240	425	473	524	105	346	500	107	128	26
10	250	165	83	250	125	277	457	520	583	211	475	500	165	198	49
12	300	178	89	270	135	309	507	570	633	211	475	500	235	266	49
14	350	190	95	290	145	330	585	665	744	357	586	500	314	369	104
16	400	216	108	310	155	375	630	710	789	357	586	500	413	485	104
18	450	222	111	330	165	410	660	740	819	357	586	500	532	605	104
20	500	229	115	350	175	443	700	780	859	357	586	500	599	711	104
24	600	267	134	390	195	496	750	843	936	431	629	800	929	1102	232

### VALSTAR VALVE CLASS 600# - PN64-100

Valve Size		Dimensions in mm											Weight in Kg	
In	mm	A±2	S	D	E	C	F	M	T	ØV	Valve	Gearbox		
4	100	229	115	227	322	363	410	71	297	400	58	11		
6	150	267	134	288	395	443	494	105	346	500	136	26		
8	200	292	146	264	435	498	561	211	475	500	206	49		
10	250	330	165	323	560	640	719	357	586	500	458	104		
12	300	356	178	354	557	637	716	357	586	500	478	104		
14	350	381	191	383	615	695	774	357	586	500	803	232		
16	400	406	203	414	650	743	836	431	629	800	691	232		
18	450	432	216	462	753	846	939	431	629	800	990	232		
20	500	457	229	503	806	899	992	431	629	800	1244	232		
24	600	508	254	572	875	1045	1189	160	763	1200	1716	225		

- Larger sizes and ratings on request.



## POSSIBLE ORIENTATIONS FOR ACTUATION

