



ORION STEEL VALVES

Compact Expanding Gate

API 6D

Double Disc Parallel Slide

API 600



PARALLEL SLIDE

COMPACT EXPANDING GATE API 6D - DOUBLE DISC PARALLEL SLIDE API 600 - p. 155

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100) • 900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

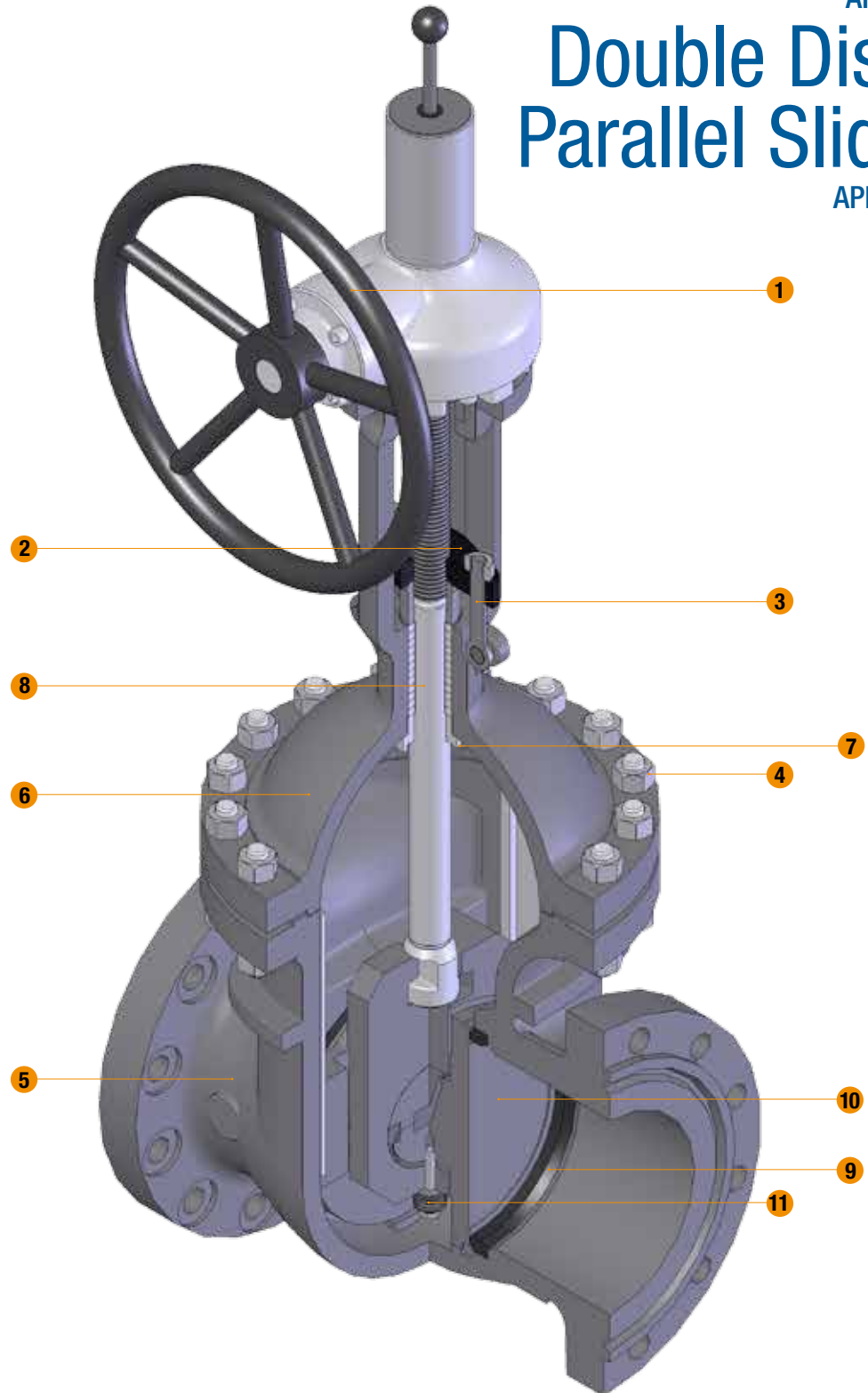
ORION STEEL VALVES

Compact Expanding Gate

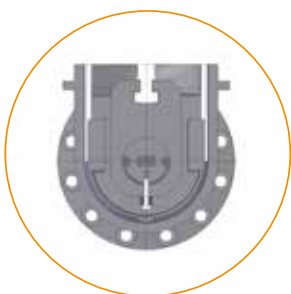
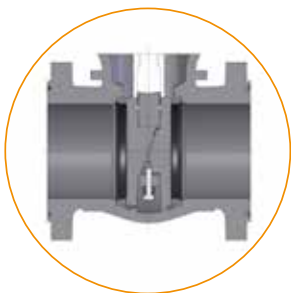
API 6D

Double Disc Parallel Slide

API 600

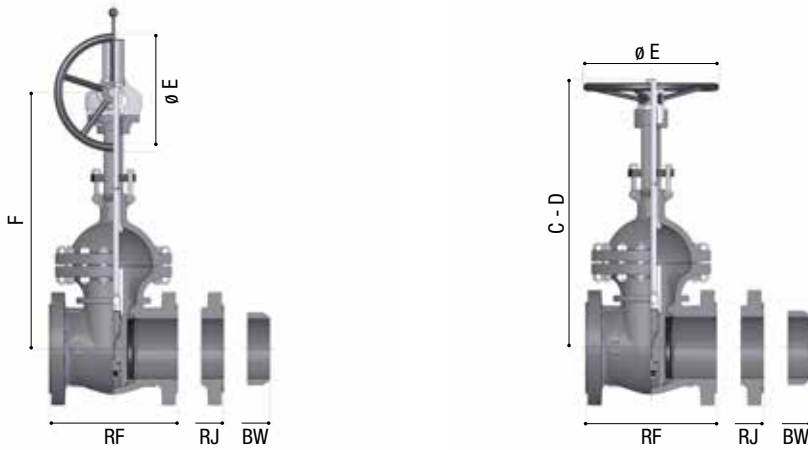


DOUBLE DISC EXPANDING FEATURES



STEEL, OUTSIDE SCREW AND YOKE, RISING STEM, NON-RISING HANDWHEEL, RENEWABLE SEATS, REMOVABLE YOKE SLEEVE, GLAND REPACKING UNDER PRESSURE.

- | | |
|-------------------------------|--|
| 1 HANDWHEEL | The spoked handwheel is fabricated from steel pipe. The hub is coupled to the yoke sleeve by means of a key. Larger valves are equipped with a bevel or spur gear gearbox unit. |
| 2 GLAND AND FLANGE | They are in forged steel and are supplied in two pieces, self aligning design in order to allow the gland to slide parallel to the stem even if the eyebolts are unevenly tightened. |
| 3 GLAND BOLTS AND NUTS | The forged steel gland bolts are of the eyebolt type which can be swung outward for ease of gland repacking. They are fixed to the bonnet by hinge pins. |
| 4 BONNET BOLTING | Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard. The body to bonnet connection is designed according to ASME VIII DIV 1 standard |
| 5 BODY | The body is in carbon, stainless steel or in CRA materials. The basic dimension, i.e. wall thickness, face to face and flanges comply with the relevant API and ASME standards. Body-to-bonnet flange is circular, except for Class 150 where it is oval. The body-to-bonnet joint are flat face for Class 150 valves, male-and-female on Class 300 and RJ on Class 600 and above. The body is basically supplied with renewable seats. Bosses are provided for drain taps or by-pass piping. The internal surfaces in contact with the fluid can be fully lined or clad for improved corrosion or erosion resistance. Body "C" shaped guides are welded inside the body to drive the discs assembly during the travel action. |
| 6 BONNET | As the body, the bonnet is in carbon or stainless steel and is available in many other CRA. It is machined to accept yoke sleeve and incorporates a stuffing box sized in accordance with API standards. Lifting lugs can be provided integrally cast on the bonnet surface. |
| 7 BONNET BUSHING | The bonnet bushing or backseat is in forged stainless and forms part of the trim. Special attention is given to its machining. |
| 8 STEM | The stem is part of the trim and is available in a wide range of material in accordance to API 600 or customer's requirements. The stem is provided with a T-shaped head. A ground backseat is provided to ensure a perfectly tight seal to the stuffing box when the valve is fully open. The thread is trapezoidal ACME type. All the stem sizes comply with the API 600 standard. |
| 9 SEAT RINGS | The rings are part of the trim of the valve. Welded-in seat rings are supplied as a standard. The two seating surfaces in the closed position provide a seal against pressure from both ends of the valve. They can be externally threaded and internally notched for easy installation and dismantling. Special attention is given to the seating surfaces which are ground and lapped for a tight seal. |
| 10 PARALLEL DISCS | The wedge effect between the two discs converts downward stem force into axial force and forces the parallel discs firmly against the valve seats, providing a seal against pressure at both ends of the valve. The central yoke ring forces one of the two discs during seating action and transmits the stem action to the disc assembly. It also keeps the discs aligned together during the travel. |
| 11 BELLEVILLE SPRINGS | Belleville springs packing ensures rapid unseating during opening operation. |
| REMARKS | A lantern ring is supplied upon request, in this case the stuffing box shall be drilled, tapped and fitted with an 1/4" NPT plug or grease fitting. |
| SAFETY RELIEF | Double Block and Bleed valves are capable to hold the pressure in both direction and having the body bled to atmosphere, but can as well trap the pressure inside the body cavity, with problems during opening or dangerous pressure build up. ORION strongly suggest to provide an automatic pressure relief system, internally (disc hole) or externally (pipe and check valve to the upstream), in order to avoid such occurrence. If no harmful/polluting fluid is interested, a normal automatic relief valve can be used to vent cavity to atmosphere. |
| INSTALLATION REMARKS | Valves are best fit for vertical stem / horizontal flow installation. Special cases can be evaluated and developed on request. |



Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 150 - ALL SIZES

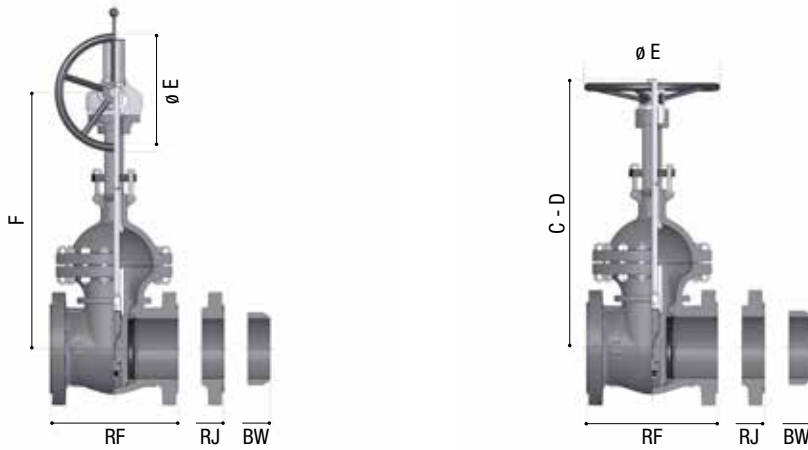
DD 150: RF - RAISED FACE • BW - WELDING ENDS

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF	178	203	229	267	292	330	356	381	406
BW	216	282	305	403	419	457	502	572	610
C-closed	357	445	556	712	862	1.020	1.178	1.318	1440
D-open	417	530	671	877	1.082	1.290	1.498	1.676	1850
E	204	254	305	356	406	457	502	610	610
F	/	/	/	/	/	/	/	/	/
Approximate WEIGHT (Kg)									
FLANGED	18	32	52	85	157	230	302	548	794
BW	14	27	40	73	140	208	275	463	651

SIZE	18"	20"	22"	24"	26"	28"	30"	32"	34"
RF	432	457	483	508	559	610	610	660	711
BW	660	711	762	813	864	914	914	965	1.016
C-closed	1.608	1.768	1940	2.064	2.220	2.375	2.518	2.620	2.690
D-open	2.069	2.271	2.492	2.680	2.876	3.092	3.281	3.435	3.555
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	1.779	1.868	1.957	2.046	2.135	2.312	2.488	2.606	2.701
Approximate WEIGHT (Kg)									
FLANGED	1.040	1.286	1.531	1.777	2.023	2.269	2.515	3.668	4.821
BW	838	1.026	1.214	1.402	1.589	1.777	1.965	2.866	3.766

SIZE	36"	38"	40"	42"	44"	46"	48"	50"	52"
RF	711	762	762	787	826	864	864	940	1.016
BW	1.016	1.067	1.067	1.067	/	/	/	/	/
C-closed	2.970	3.228	3.228	3.372	3.558	3.630	3.702	3.915	4.127
D-open	3.876	4.228	4.228	4.415	4.685	4.799	4.912	5.188	5.462
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	2.878	3.054	3.229	3.402	3.574	3.747	3.773	3.916	4.059
Approximate WEIGHT (Kg)									
FLANGED	5.974	7.127	8.280	9.433	10.586	11.739	12.892	/	/
BW	4.667	5.568	6.469	7.370	8.270	9.171	10.072	10.973	11.873

SIZE	54"	56"	58"	60"	66"
RF	1.067	1.110	1.140	1.168	1.270
BW	/	/	/	/	/
C-closed	4.305	4.305	4.550	4.691	5.156
D-open	5.693	5.693	5.980	6.196	6.823
E	BG	BG	BG	BG	BG
F	4.203	4.346	4.489	4.632	5.057
Approximate WEIGHT (Kg)					
FLANGED	/	/	/	/	/
BW	12.774	13.675	14.576	15.477	18.179



Class ASME 300 (PN 50)

FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

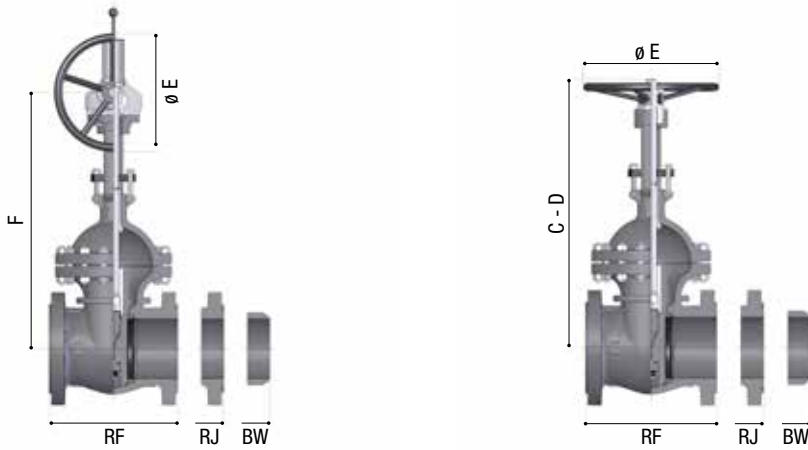
DD 300: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF - BW	216	282	305	403	419	457	502	762	838
RJ	232	298	321	419	435	473	518	778	854
C-closed	370	445	556	712	890	1.069	1.245	1.325	1.480
D-open	430	530	671	877	1.110	1.339	1.580	1.685	1.890
E	204	254	305	406	457	457	BG	BG	BG
F	/	/	/	/	/	/	1.102	1.288	1.474
Approximate WEIGHT (Kg)									
FLANGED	26	49	80	130	246	351	462	838	1.214
BW	22	38	62	102	192	275	361	655	949

SIZE	18"	20"	22"	24"	26"	28"	30"	32"	34"
RF - BW	914	991	1.092	1.143	1.245	1.346	1.397	1.524	1.626
RJ	930	1.010	1.114	1.165	1.270	1.371	1.422	1.552	1.654
C-closed	1.620	1.796	1.948	2.122	2.430	2.430	2.596	2.705	2.868
D-open	2.069	2.287	2.500	2.729	3.146	3.146	3.355	3.515	3.730
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	1.660	1.793	1.925	2.091	2.256	2.441	2.569	2.705	2.840
Approximate WEIGHT (Kg)									
FLANGED	1.591	1.760	2.343	2.719	3.096	3.472	3.850	5.612	7.376
BW	1.243	1.375	1.831	2.124	2.418	2.712	3.320	4.384	5.763

SIZE	36"	38"	40"	42"	44"	46"	48"	50"	52"
RF - BW	1.727	1.829	1.930	1.981	2.066	2.151	2.235	2.285	2.335
RJ	1.755	/	/	/	/	/	/	/	/
C-closed	2.970	3.113	3.550	3.468	3.594	3.732	3.870	4.023	4.176
D-open	3.885	4.064	4.551	4.525	4.723	4.900	5.100	5.298	5.500
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	2.995	3.150	3.304	3.459	3.616	3.773	3.930	4.087	4.244
Approximate WEIGHT (Kg)									
FLANGED	9.140	10.904	12.668	14.432	16.197	17.961	/	/	/
BW	7.141	85.19	9.897	11.275	12.654	14.032	15.410	16.788	18.166

SIZE	54"	56"	58"	60"
RF - BW	2.387	2.438	2.488	2.540
RJ	/	/	/	/
C-closed	4.330	4.503	4.650	4.810
D-open	5.700	5.928	6.122	6.330
E	BG	BG	BG	BG
F	4.401	4.558	4.715	4.872
Approximate WEIGHT (Kg)				
FLANGED	/	/	/	/
BW	19.545	20.923	22.301	23.679



Class ASME 600 (PN 100)

FIGURE NUMBERS - CLASS ASME 600 - ALL SIZES

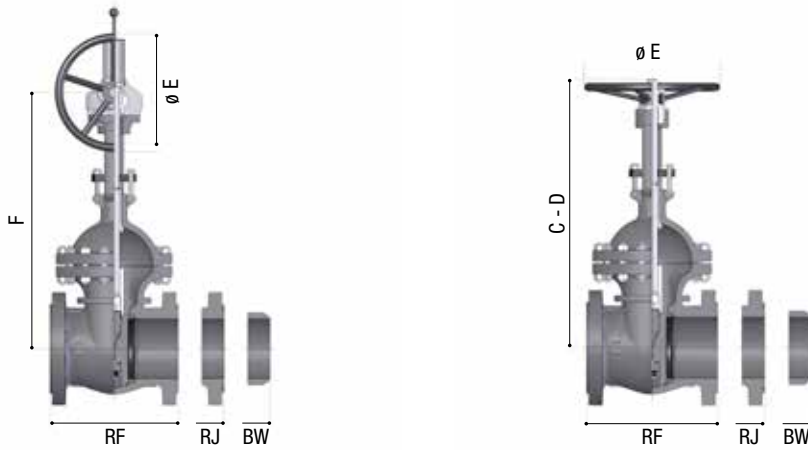
DD 600: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF - BW	292	356	432	559	660	787	838	889	991
RJ	295	359	435	562	663	790	841	892	994
C-closed	371	515	600	840	925	1.120	1.318	1.429	1.588
D-open	431	620	720	1.003	1.138	1.400	1.644	1.781	1.998
E	204	305	356	502	BG	BG	BG	BG	BG
F	/	/	/	/	918	1.073	1.227	1.382	1.547
Approximate WEIGHT (Kg)									
FLANGED	41	87	142	231	440	625	822	1.492	2.162
BW	37	79	129	210	400	569	748	1.356	1.965

SIZE	18"	20"	22"	24"	26"	28"	30"	32"	34"
RF - BW	1.092	1.194	1.295	1.397	1.448	1.549	1.651	1.778	1.930
RJ	1.095	1.200	1.305	1.407	1.461	1.562	1.664	1.794	1.946
C-closed	1.700	1.775	1.960	2.183	2.380	2.472	2.698	2.855	3.012
D-open	2.138	2.253	2.495	2.771	3.026	3.144	3.478	3.668	3.870
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	1.690	1.766	1.954	2.141	2.294	2.447	2.600	2.753	2.906
Approximate WEIGHT (Kg)									
FLANGED	2.831	3.000	4.171	4.115	5.147	6.180	8.295	9.989	13.130
BW	2.574	2.727	3.792	3.741	4.679	5.618	7.545	9.081	11.936

SIZE	36"	38"	40"	42"	44"	46"	48"	50"	52"
RF - BW	2.082	2.185	2.286	2.438	2.438	2.489	2.540	2.540	2.805
RJ	2.099	/	/	/	/	/	/	/	/
C-closed	3.168	3.342	3.516	3.690	3.655	3.903	4.100	4.174	4.443
D-open	4.078	4.298	4.493	4.720	4.724	5.042	5.280	5.414	5.723
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	3.058	3.211	3.364	3.517	3.670	3.915	3.976	4.248	4.388
Approximate WEIGHT (Kg)									
FLANGED	16.270	19.410	22.550	2.5690	28.830	31.970	35.110	/	/
BW	14.791	17.645	20.500	23.354	26.209	29.064	31.918	34.773	37.627

SIZE	54"	56"	58"	60"
RF - BW	2.905	2.692	2.743	3.203
RJ	/	/	/	/
C-closed	4.604	4.764	4.751	5.084
D-open	5.932	6.140	6.187	6.558
E	BG	BG	BG	BG
F	4.529	4.671	4.809	4.949
Approximate WEIGHT (Kg)				
FLANGED	/	/	/	/
BW	40.482	43.337	46.191	49.046



Class ASME 900 (PN 150)

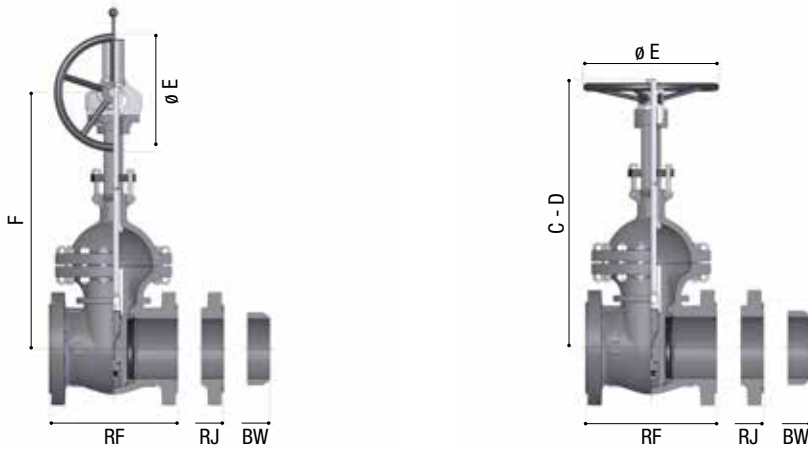
FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

DD 900: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF - BW	368	381	457	610	737	838	965	1.029	1.130
RJ	371	384	460	613	740	841	968	1.039	1.140
C-closed	505	530	655	875	1.070	1.180	1.305	1.400	1.518
D-open	575	618	780	1.040	1.305	1.440	1.607	1.746	1.901
E	305	356	406	BG	BG	BG	BG	BG	BG
F	/	/	/	840	969	1.099	1.228	1.358	1.487
Approximate WEIGHT (Kg)									
FLANGED	56	108	176	362	611	869	1.290	1.672	3.005
BW	51	98	160	329	555	790	1.173	1.520	2.732

SIZE	18"	20"	24"	26"	28"	30"	32"	34"	36"
RF - BW	1.219	1.321	1.549	1.676	1.803	1.930	1.981	2.032	2.083
RJ	1.232	1.334	1.568	/	/	/	/	/	/
C-closed	1.730	1.896	2.260	2.423	2.587	2.750	2.917	3.084	3.250
D-open	2.160	2.370	2.830	3.041	3.249	3.455	3.674	3.885	4.200
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	1.780	1.923	2.279	2.456	2.634	2.812	3.004	3.197	3.389
Approximate WEIGHT (Kg)									
FLANGED	3.936	4.170	5.797	5.720	7.154	8.590	/	/	/
BW	3.578	3.791	5.270	5.200	6.504	7.809	10.482	12.623	16.591

SIZE	38"	40"	42"	44"	46"	48"	50"	52"
RF - BW	2.232	2.380	2.485	2.589	2.695	2.799	2.904	3.009
RJ	/	/	/	/	/	/	/	/
C-closed	3.389	3.528	3.687	3.847	4.007	4.166	4.326	4.485
D-open	4.353	4.506	4.714	4.982	5.165	5.337	5.569	5.752
E	BG	BG	BG	BG	BG	BG	BG	BG
F	3.581	3.774	3.966	4.158	4.351	4.543	4.735	4.928
Approximate WEIGHT (Kg)								
FLANGED	/	/	/	/	/	/	/	/
BW	20.559	24.527	28.495	32.463	36.431	40.398	44.366	48.334



Class ASME 1500 (PN 250)

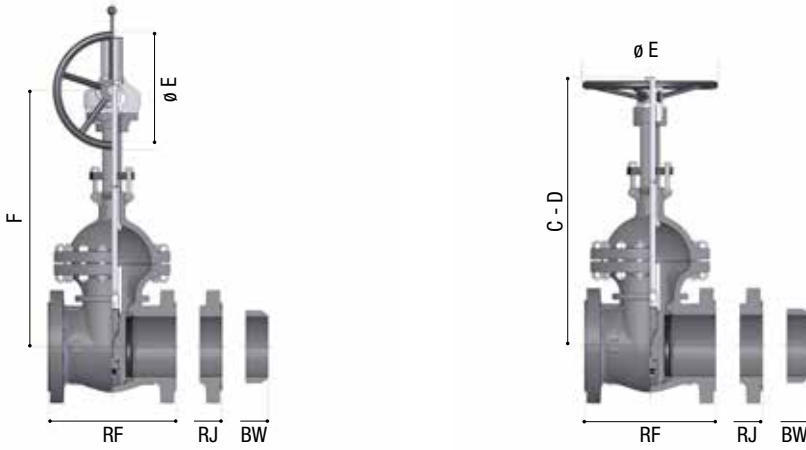
FIGURE NUMBERS - CLASS ASME 1500 - ALL SIZES

DD 1500: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF - BW	368	470	546	705	832	991	1.130	1.257	1.384
RJ	371	473	549	711	842	1.001	1.146	1.276	1.406
C-closed	505	557	715	915	1.065	1.270	1.318	1.450	1.565
D-open	575	636	845	1.085	1.263	1.515	1.604	1.760	1.925
E	305	406	457	BG	BG	BG	BG	BG	BG
F	/	/	/	1.010	1.121	1.232	1.343	1.454	1.565
Approximate WEIGHT (Kg)									
FLANGED	87	169	275	565	953	1.702	2.012	2.608	4.688
BW	79	154	250	513	867	1.547	1.829	2.371	4.261

SIZE	18"	20"	24"	26"	28"	30"	32"	34"	36"
RF - BW	1.537	1.664	1.943	2.090	2.237	2.383	2.525	2.666	2.808
RJ	1.559	1.686	1.971	/	/	/	/	/	/
C-closed	1.760	2.075	2.330	2.533	2.736	2.940	2.964	3.126	3.289
D-open	2.158	2.540	2.860	3.108	3.360	3.605	3.662	3.866	4.070
E	BG	BG	BG	BG	BG	BG	BG	BG	BG
F	1.877	2.079	2.484	2.686	2.889	3.091	32.93	3.496	3.698
Approximate WEIGHT (Kg)									
FLANGED	6.140	6.505	9.044	8.923	11.161	/	/	/	/
BW	5.582	5.914	8.222	8.112	10.146	12.182	16.352	19.692	25.882

SIZE	38"	40"	42"
RF - BW	2.950	3.091	3.233
RJ	/	/	/
C-closed	3.452	3.614	3.776
D-open	4.274	4.478	4.682
E	BG	BG	BG
F	3.900	4.103	4.305
Approximate WEIGHT (Kg)			
FLANGED	/	/	/
BW	32.072	38.262	44.452



Class ASME 2500 (PN 420)

FIGURE NUMBERS - CLASS ASME 2500 - ALL SIZES

DD 2500: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
RF - BW	451	578	673	914	1.022	1.270	1.422	1.637	1.756
RJ	454	584	683	927	1.038	1.292	1.444	/	/
C-closed	504	620	716	1.070	1.386	1.502	1.639	1.983	2.227
D-open	568	700	816	1.215	1.556	1.717	1.889	2.272	2.554
E	300	400	450	BG	BG	BG	BG	BG	BG
F	/	/	/	1.109	1.291	1.473	1.625	1.753	1.880
Approximate WEIGHT (Kg)									
FLANGED	138	270	434	892	1.506	2.689	3.180	/	/
BW	125	245	394	811	1.369	2.445	2.891	3.746	6.733

SIZE	18"	20"	24"	26"
RF - BW	2.024	2.218	2.606	2.800
RJ	/	/	/	/
C-closed	2.471	2.715	3.204	3.448
D-open	2.836	3.118	3.682	3.964
E	BG	BG	BG	BG
F	2.008	2.135	2.390	2.518
Approximate WEIGHT (Kg)				
FLANGED	/	/	/	/
BW	8.819	9.344	12.990	12.817

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

