



ORION STEEL VALVES

API 6A

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Pressure ratings

MPa	13.8	20.7	34.5	69.0	103.5	138.0
psi	2000	3000	5000	10000	150000	20000

Temperature ratings

Temperature Classification	Operating Range			
	°C		°F	
	MIN	MAX	MIN	MAX
K	-60	82	-75	180
L	-46	82	-50	180
N	-29	60	-50	140
P	-18	82	-20	180
S	-18	60	0	140
T	-18	82	0	180
U	-18	121	0	250
V	2	121	35	250

Material applications for bodies, bonnets and end and outlet connections

Part	Material designations for pressure ratings					
	13.8 MPa (2000 psi)	20.7 MPa (3000 psi)	34.5 MPa (5000 psi)	69.0 MPa (10000 psi)	103.5 MPa (15000 psi)	138.0 MPa (20000 psi)
Body, bonnet	36K,45K 60K, 75K	36K,45K 60K, 75K	36K,45K 60K, 75K	36K,45K 60K, 75K	45K 60K, 75K	60K, 75K
Integral end connection						
Flanged	60K, 75K	60K, 75K	60K, 75K	60K, 75K	75 K	75 K
Threaded	60K, 75K	60K, 75K	60K, 75K			
Loose connectors						
Welding neck	45 K	45 K	45 K	60K, 75K	75 K	75 K
Blind	60K, 75K	60K, 75K	60K, 75K	60K, 75K	75 K	75 K
Threaded	60K, 75K	60K, 75K	60K, 75K	NA	NA	NA

Material property requirements for bodies, bonnets and end and outlet connections

Material designation	0,2 % offset yield in Strength min		Tensile strength min		Elongation min 50 mm (2 in)	Reduction un area min
	MPa	psi	MPa	psi	%	%
36 K	248	36000	483	70000	21	No req
45 K	310	45000	483	70000	19	32
60 K	414	60000	586	85000	18	35
75 K	517	75000	655	95000	17	35

Material requirements

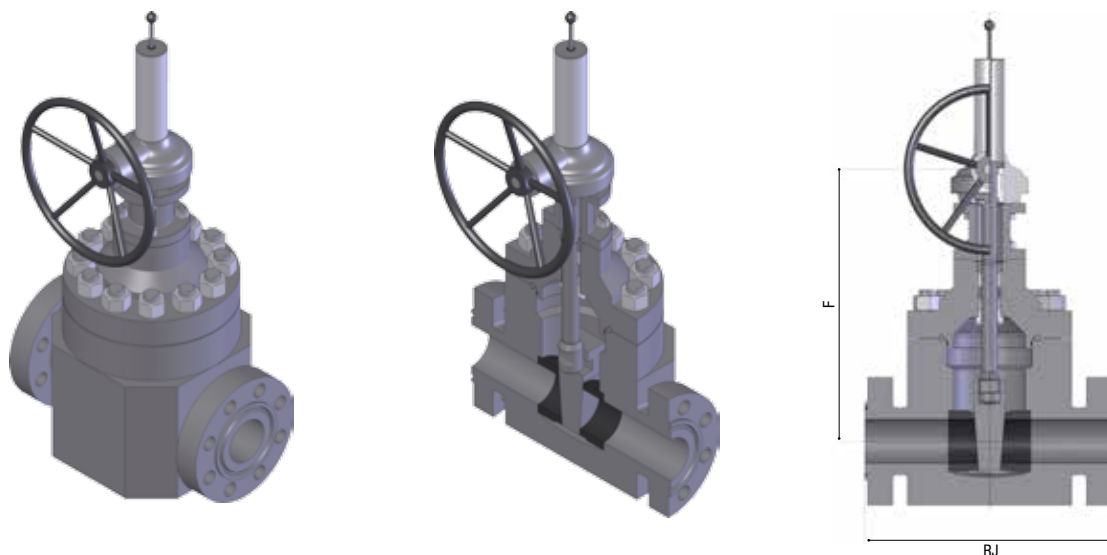
Material class		Minimum material requirements	
		Body, bonnet, end and outlet connections	Pressure-controlling parts, stems and mandrel hangers
AA	General service	Carbon or low-alloy steel	Carbon or low-alloy steel
BB	General service	Carbon or low-alloy steel	Stainless steel
CC	General service	Stainless steel	Stainless steel
DD	Sour service ^a	Carbon or low-alloy steel ^b	Carbon or low-alloy steel ^b
EE	Sour service ^a	Carbon or low-alloy steel ^b	Stainless steel ^b
FF	Sour service ^a	Stainless steel ^b	Stainless steel ^b
HH	Sour service ^a	CRA ^c	CRA ^c

^a as defined by ISO 15156 - NACE MR 0175 / ^b in accordance with ISO 15156 - NACE MR 0175 / ^c corrosion resistant alloy

Body and trim material examples

Material Class	Body* and bonnet	Trim
AA	A 487 GR 4C	Low alloy + N
AA	AISI 4130	AISI 4135 +N/ STL6/ WC
BB	A 487 GR 4C	A 564 GR 630 + N
BB	AISI 4130	AISI 410 stainless steel + STL6/ WC
BB	A 487 GR 4C	A 240 GR F55
BB	A 487 GR 4C	A 240 GR F53
BB	A 217 GR C5	AISI 410 stainless steel + STL6/ WC
CC	A 217 GR CA15	A 564 GR 630 + N
CC	AISI 410 stainless steel	AISI 410 stainless steel + STL6/ WC
DD	A 487 GR 4C	Low alloy +N
DD	AISI 4130	AISI 4135 +N/ STL6/ WC
EE	A 487 GR 4C	A 564 GR 630 + N
EE	AISI 4130	AISI 410 stainless steel + STL6/ WC
EE	A 487 GR 4C	A 240 GR F55
EE	A 487 GR 4C	A 240 GR F53
FF	A 217 GR CA15	A 564 GR 630 + N
FF	AISI 410 stainless steel	AISI 410 stainless steel + STL6/ WC
HH	A 351 GR CF8M	A 564 GR 630 + WC
HH	A182 GR F316	A 564 GR 630 + WC
HH	INCONEL 625	INCONEL 625 + WC

N: nitrided; STL6: Stellite 6; WC: tungsten carbide / *Body can be manufactured with welded on flanges / Other materials are available upon request.



WEDGE GATE VALVES API 6A 10000

VW 10000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16	5" 1/8	7" 1/16
RJ	464	521	565	619	670	737	889
F	438	441	460	459	532	610	751

WEDGE GATE VALVES API 6A 15000

VW 15000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16
RJ	457	483	533	589	737
F	440	453	473	498	553

WEDGE GATE VALVES API 6A 20000

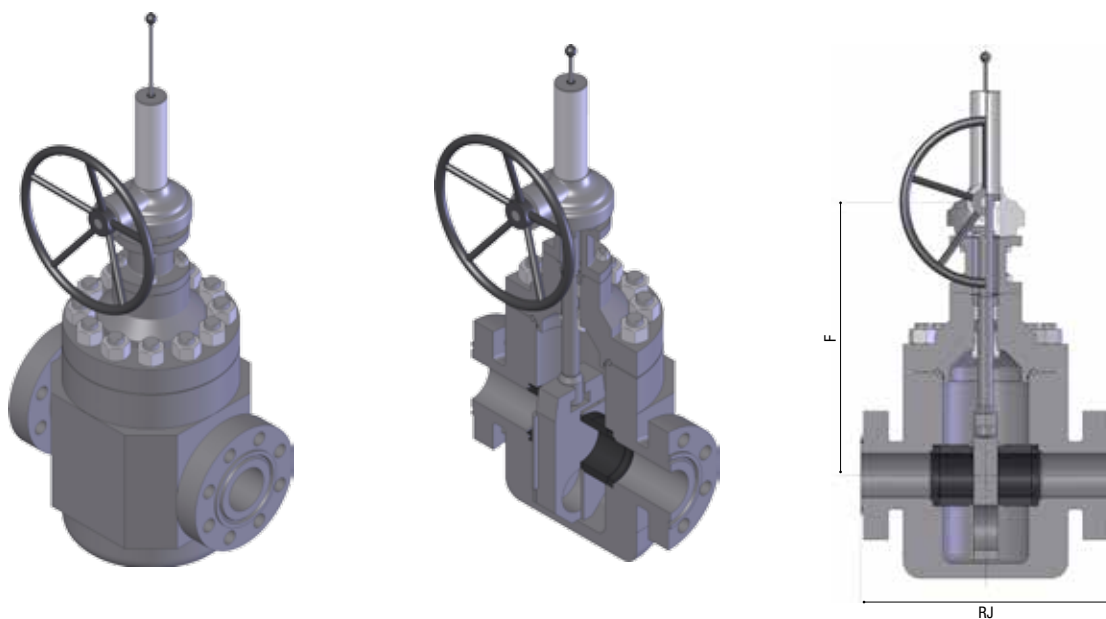
VW 20000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16
RJ	533	584	673	775
F	591	618	670	725

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.



SINGLE DISC VALVES API 6A 10000

FW 10000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16	5" 1/8	7" 1/16
RJ	464	521	565	619	670	737	889
F	574	586	609	672	763	862	985

SINGLE DISC VALVES API 6A 15000

FW 15000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16
RJ	457	483	533	589	737
F	598	612	662	721	823

SINGLE DISC VALVES API 6A 20000

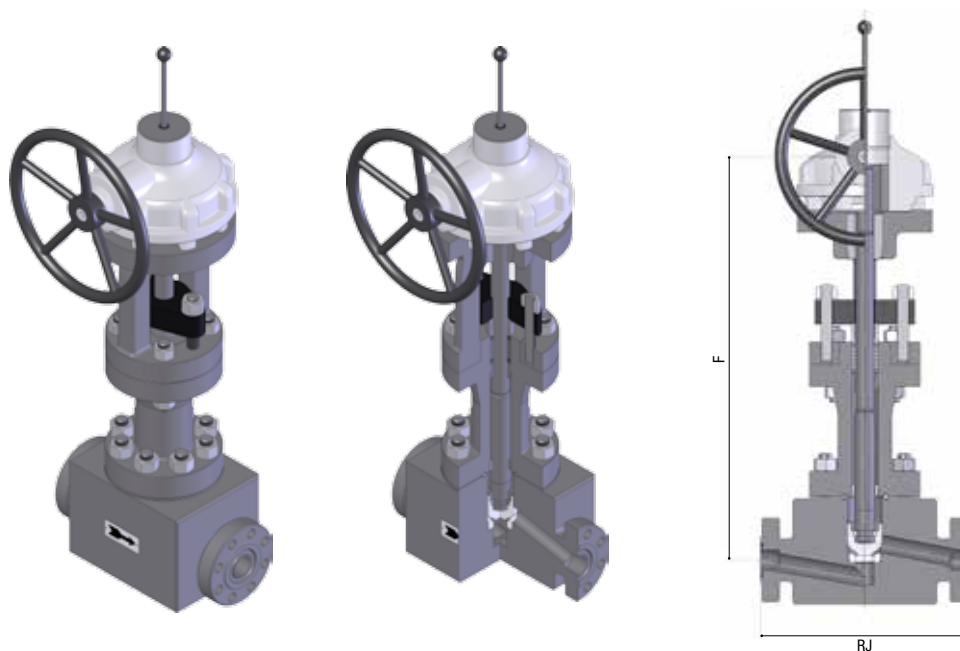
FW 20000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16
RJ	533	584	673	775
F	652	680	720	780

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.



GLOBE VALVES API 6A 10000

GW 10000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16	5" 1/8	7" 1/16
RJ	464	521	565	619	670	737	889
F	418	422	448	471	544	622	766

GLOBE VALVES API 6A 15000

GW 15000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16
RJ	457	483	533	589	737
F	421	451	512	572	639

GLOBE VALVES API 6A 20000

GW 20000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16
RJ	533	584	673	775
F	552	570	624	678

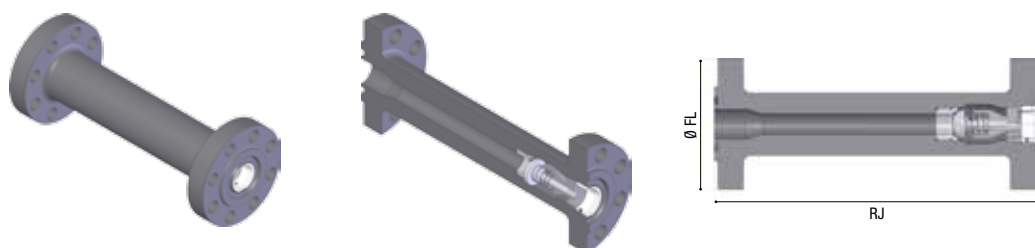
*API 6A Globe Valves are available in standard configuration or extended bonnet as well.

The above pictures represent extended bonnet version for cryogenic service.

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.



AXIAL VALVES API 6A 10000

RB 10000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16	5" 1/8	7" 1/16
RJ	464	521	565	619	670	737	889
Ø FL	185	200	230	270	315	360	480

AXIAL VALVES API 6A 15000

RB 15000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16
RJ	457	483	533	589	737
F	210	220	255	290	360

AXIAL VALVES API 6A 20000

RB 20000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16
RJ	533	584	673	775
F	255	285	325	355

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.



CHECK VALVES API 6A 10000

RW 10000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16	5" 1/8	7" 1/16
RJ	464	521	565	619	670	737	889
B	107	115	131	146	176	208	266

CHECK VALVES API 6A 15000

RW 15000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16	4" 1/16
RJ	457	483	533	589	737
B	121	127	144	158	203

CHECK VALVES API 6A 20000

RW 20000: RJ - RING JOINT

SIZE	1" 13/16	2" 1/16	2" 9/16	3" 1/16
RJ	533	584	673	775
B	145	165	184	195

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.

