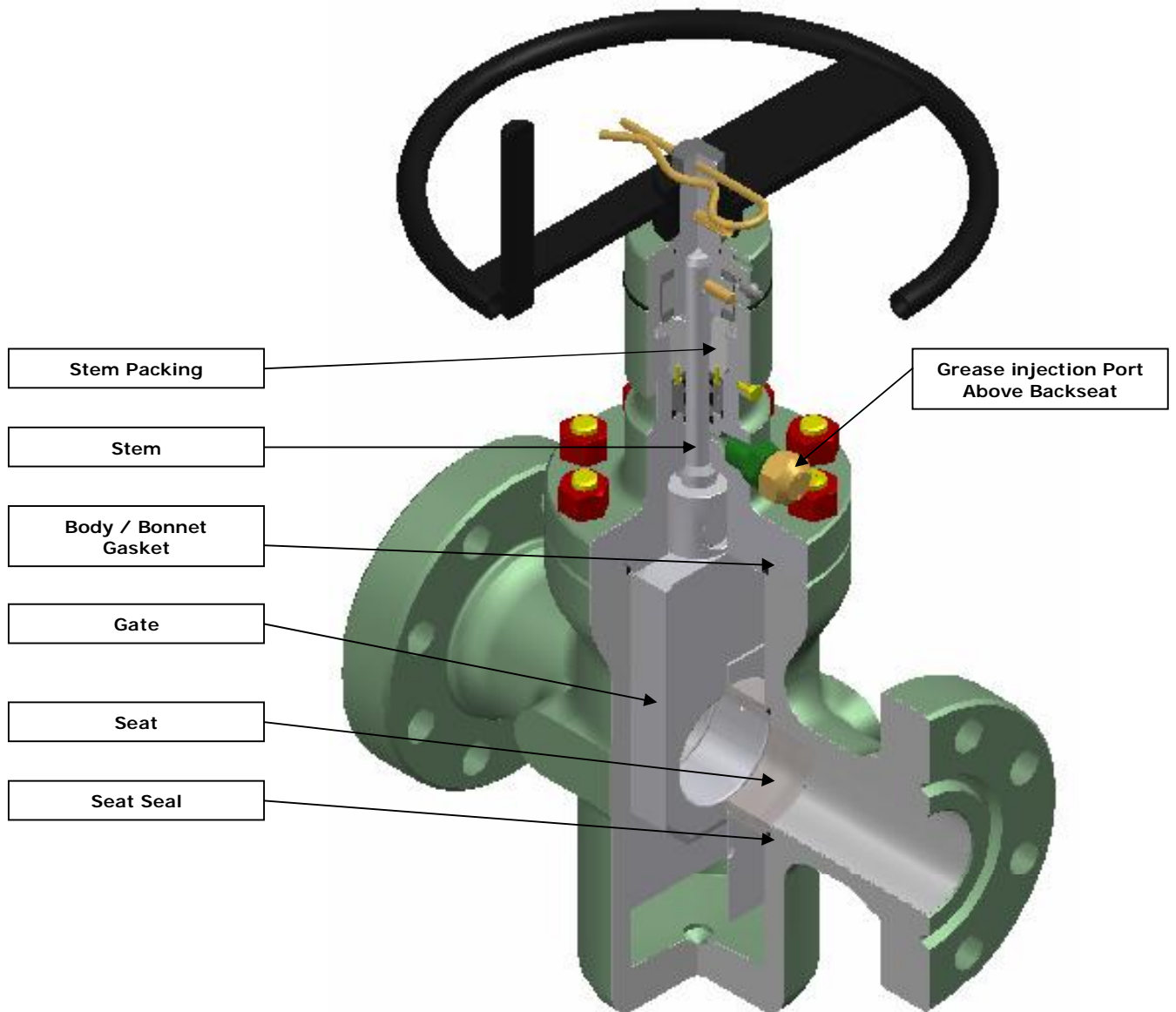




SLAB GATE VALVES API 6A

**Through Conduit
Slab Gate Valve
BGA type**



SLAB GATE VALVES
BGA type



TECHNICAL DESCRIPTION

Description:

ON/OFF service valve, through-conduit, forged Bodies, slab gate, floating seal.
Non Rising stem, bolted bonnet constructions, floating seats.

BGA valves features single spring-loaded, pressure energize, elastomeric seal or non elastomeric lip seals; these seals assist in low pressure sealing and protect against contaminants.

Valve can be supplied with BREDA hydraulic or pneumatic actuators type BHA / BHS or BPA

Standard Construction :

According to API 6A

Metal to Metal seat design

Metal to Metal body bonnet design

Stem Backseat, to allow stem seals replacement under pressure

Fire safe design

Standard features:

Bi-directional design

Grease injection fitting on downstream side of the stem backseat for safety

Remarks:

On request, Breda Energia S.p.a. will supply various solutions not listed in this catalogue as pup piece connections, reduction ports, etc., moreover years experience in products for distribution oil & gas allow Breda Energia S.p.a. to build products on special client specifications.



Product Range

Service	Pressure Range API 6A (Psi)		
	API 2000	API 3000	API 5000
Standard Range (Inch)	1.13/16 up to 7.1/16	2.1/16 up to 9	2.1/16 up to 9

Material requirements

Service Conditions	Trim	Body and Bonnet Materials	Stem Materials	Gate Materials	Seat Materials
API 6A Classification					
General Service	AA	Alloy Steel	Alloy Steel	Alloy Steel / Hard Facing	Alloy Steel / Hard Facing
General Service	BB	Alloy Steel	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
General Service	CC	Stainless Steel 13% Cr.	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	DD	Alloy Steel	Alloy Steel	Alloy Steel / Hard Facing	Alloy Steel / Hard Facing
Sour Service	EE	Alloy Steel	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	FF	Stainless Steel 13% Cr.	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	HH	Alloy Steel clad *	Inconel 718	Inconel 718 / Hard Facing	Inconel 718 / Hard Facing

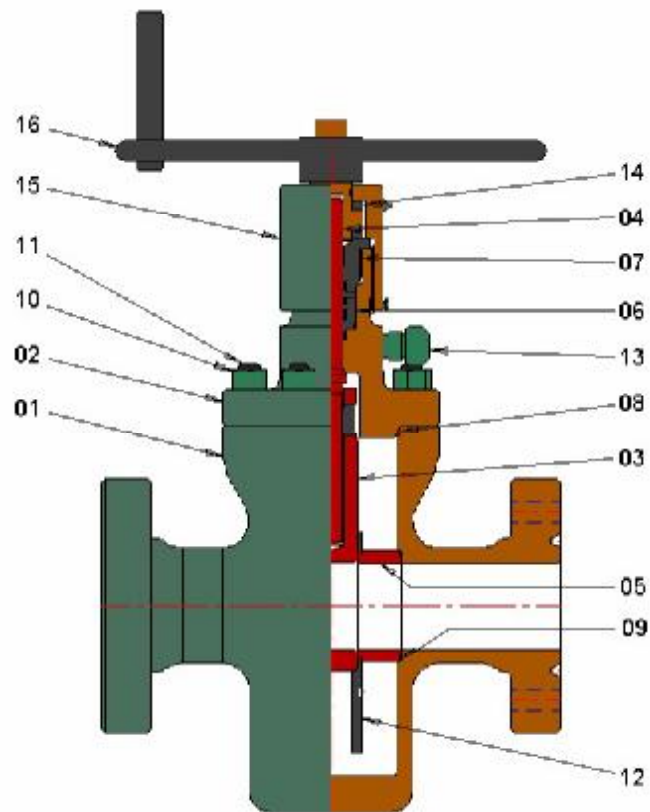
* Clad with Inconel 625

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts



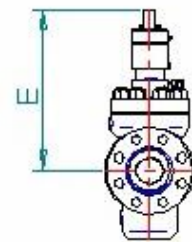
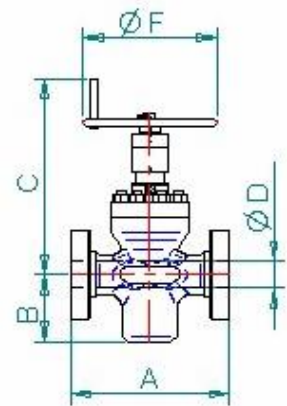
Part N°	Description	Recommended Spare Parts
01	Body	n.a.
02	Bonnet	n.a.
03	Gate	n.a.
04	Stem	n.a.
05	Seat	n.a.
06	Stem Packing	Yes
07	Paking Nut	n.a.
08	Body/Bonnet Gasket	Yes
09	Seat O-Ring	Yes
10	Body stud nuts	n.a.
11	Body studs	n.a.
12	Gate guide	n.a.
13	Grease Fitting Port	n.a.
14	Thrust Bearing	n.a.
15	Upper Bonnet	n.a.
16	Handwheel	n.a.



Overall Dimensions

W.P. API 2000 (Psi)								
Nominal Size (inch)	D	A		B	C	E	F	Weight (Kg.)
		RJ	Thrd.					
2.1/16	52.5	295	229	145	541	438	250	59
2.9/16	65.5	333	-	166	561	458	300	79
3.1/8	81.5	359	280	196	575	472	350	88
4.1/16	103.5	435	-	244	633	530	400	156
5.1/8	130	562	-	279	676	573	500	327
7.1/16x6.3/8	162	562	-	334	810	703	500	530
7.1/16	181	664	-	373	948	842	500	650
W.P. API 3000 (Psi)								
Nominal Size (inch)	D	A		B	C	E	F	Weight (Kg.)
		RJ	Thrd.					
2.1/16	52.5	371	229	137	541	438	350	82
2.9/16	65.5	423	-	162	561	458	400	108
3.1/8	81.5	435	280	196	575	472	400	107
4.1/16	103.5	511	-	244	633	530	500	204
5.1/8	130	613	-	279	676	573	500	327
7.1/16x6.3/8	162	613	-	334	911	805	500	610
7.1/16	181	664	-	373	948	842	500	690
9	229	841	-	473	1044	938	500	1150
W.P. API 5000 (Psi)								
Nominal Size (inch)	D	A		B	C	E	F	Weight (Kg.)
		RJ	Thrd.					
2.1/16	52.5	371	229	137	541	438	350	82
2.9/16	65.5	423	-	162	561	458	400	108
3.1/8	81.5	473	-	203	591	483	400	146
4.1/16	103.5	549	-	250	643	540	500	245
5.1/8	130	727	-	289	861	755	500	588
7.1/16x6.3/8	162	737	-	344	926	820	500	771
7.1/16	181	813	-	380	955	849	500	925
9	229	1041	-	483	120	1097	500	1950

Note :
 - Dimensions in mm.
 - Dimensions and weights are subject to change without notice

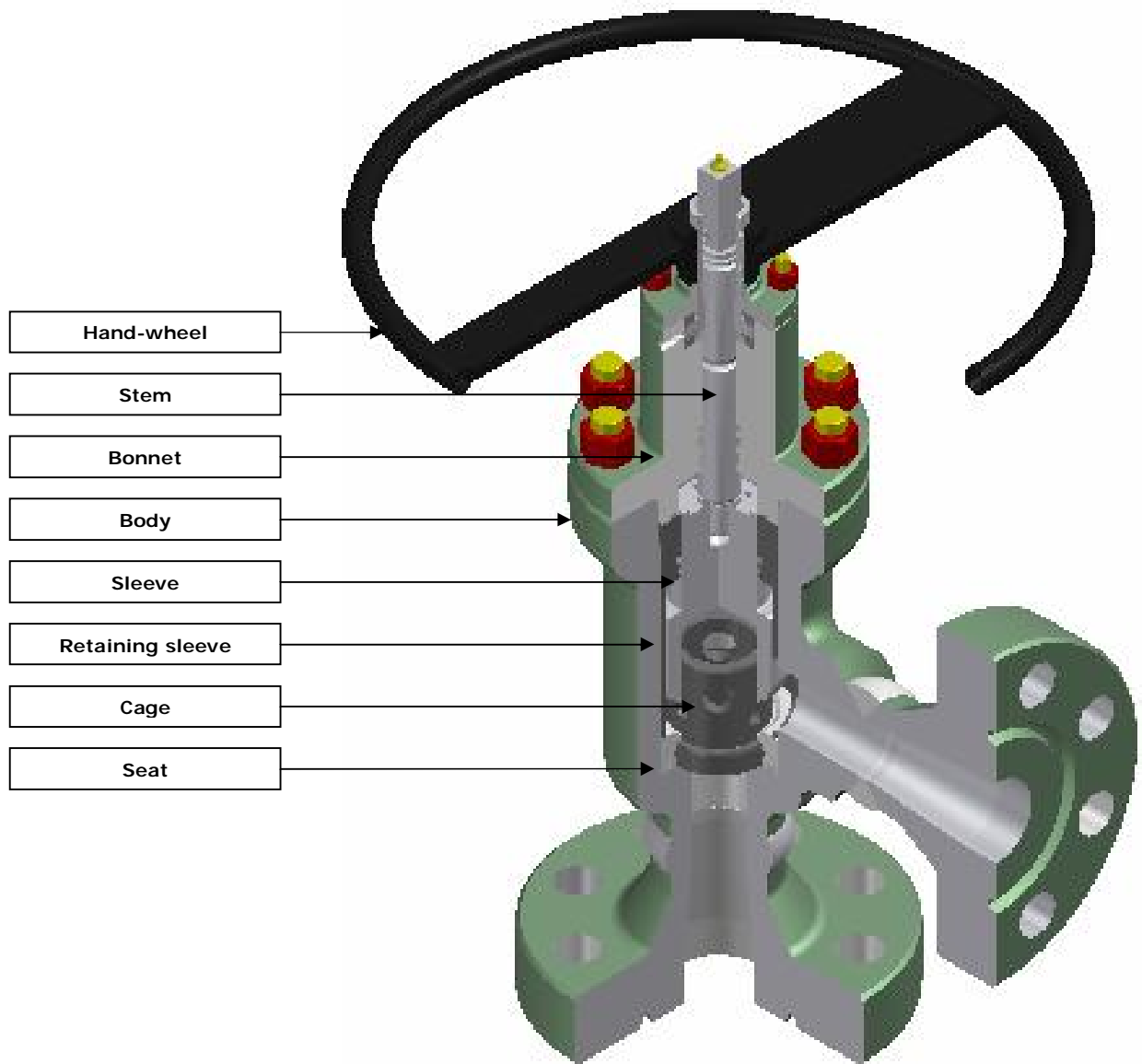




CHOKES

API 6A

**Cage Control Choke
Type BCC**



**Cage Control Choke
Type BCC**



TECHNICAL DESCRIPTION

Description:

The BREDA ENERGIA Cage Control Choke type BCC is designed to provide precise flow control throughout its entire operating range. This choke has a cage and an external sleeve trim and is suitable for single or multiphase liquid and gas service.

Typical applications include Christmas trees, manifold, water injection and gas lift. The standard flow characteristic is equal percentage, but upon request can be supplied also the linear characteristic. These valves can be easily converted from manual to actuated valves using an adapter flange and BREDA ENERGIA stepping actuator.

Design Code :

API 6A / ISO 10423

Standard features:

The Cage with external sleeve design configuration directs flow through various sized ports opposite one another, forcing the flow to impinge upon itself within the nozzle, thus dissipating the fluid energy onto itself. With this design the turbulence and jetting are dissipated before flow enters the outlet, thus eliminating the typical problem of wear in the choke outlet. The Cage is the hardest component of the valve and typically is made from various grades of tungsten carbide. However, for less severe applications, other materials are available.

Option features:

Multistage Trim
Metal to Metal Bonnet Seal
Stem Locking Assembly

Remarks:

On request, Breda Energia will issue various technical solutions not listed in this catalogue. Years of experience in products for distribution of oil & gas allow Breda Energia to supply products on special client specifications.



- API 6A -

Product Range

Service	Pressure Range API 6A (Psi)		
Standard Range (Inch)	API 2000 -3000 - 5000	API 10000	API 15000
	1.13/16 up to 7.1/16	1.13/16 up to 7.1/16	1.13/16 up to 5.1/8

CAGE Size	1/2	3/4	1	1.1/2	2	2.1/2	3	4	6
Cv	5	10	18	33	60	100	160	293	620

Material requirements

Service Conditions	Trim	Minimum material requirements	
API 6A Classification		Body, bonnet end and outlet connections	Pressure-controlling parts, stems and mandrel hangers
General Service	AA	Carbon or low-alloy steel	Carbon or low-alloy steel
General Service	BB	Carbon or low-alloy steel	Stainless Steel
General Service	CC	Stainless Steel	Stainless Steel
Sour Service ^a	DD	Carbon or low-alloy steel ^b	Carbon or low-alloy steel ^b
Sour Service ^a	EE	Carbon or low-alloy steel ^b	Stainless Steel ^b
Sour Service ^a	FF	Stainless Steel ^b	Stainless Steel ^b
Sour Service ^a	HH	CRAs ^b	CRAs ^b

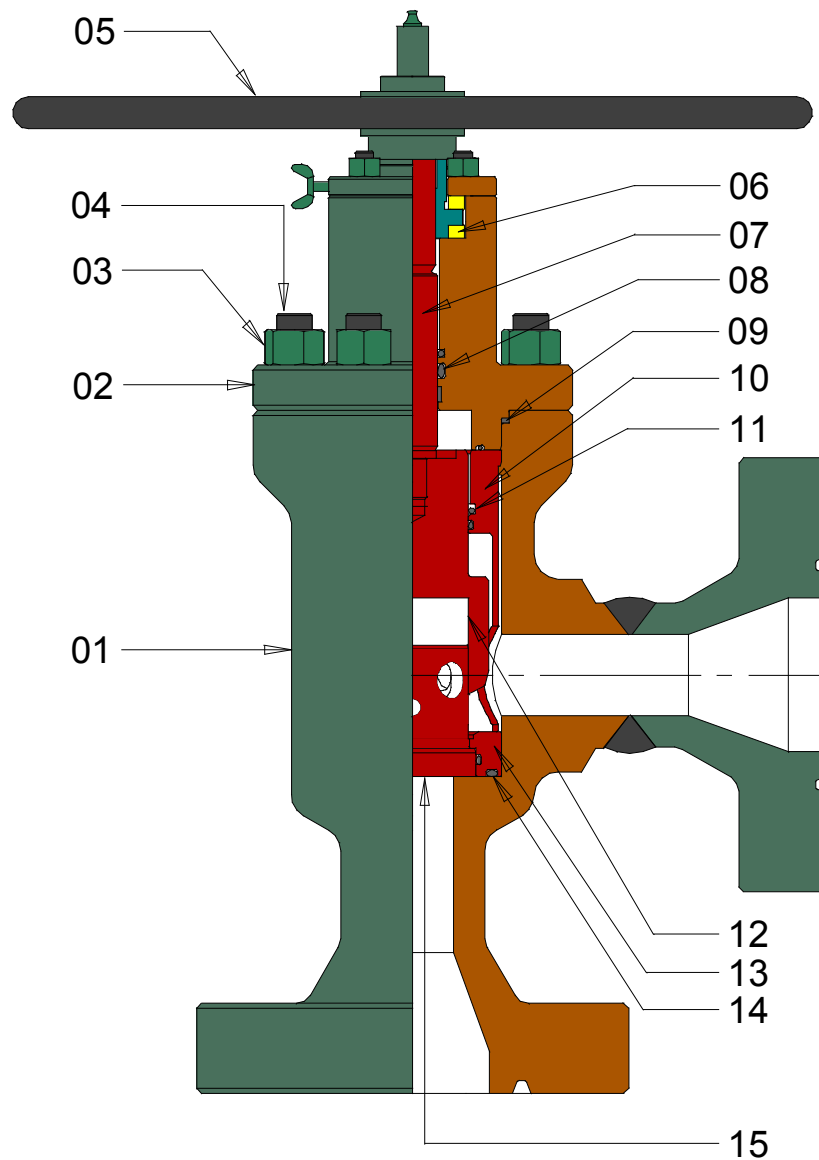
^a As defined by NACE MR 0175; ^b In compliance with NACE MR 0175.

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts



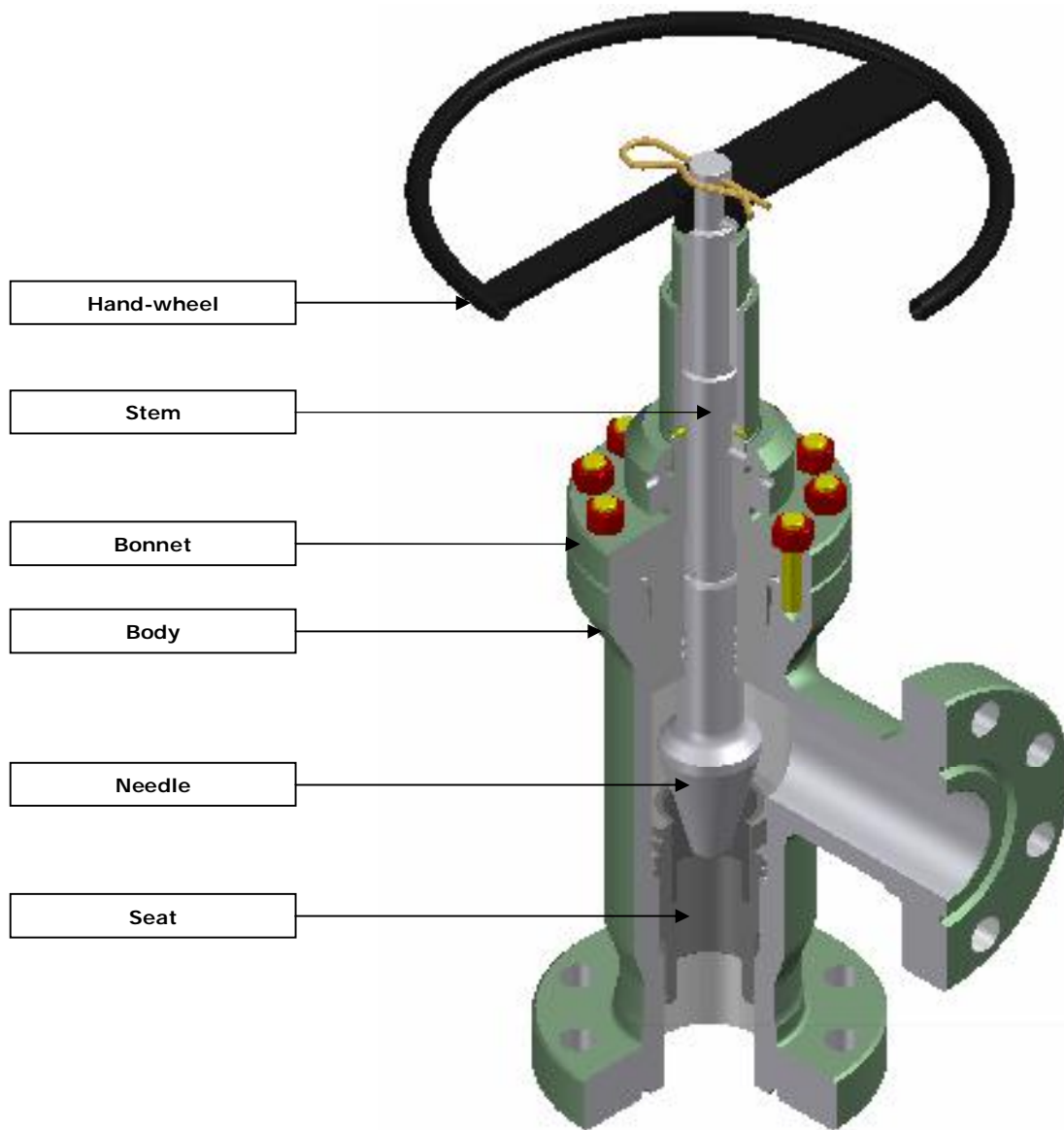
Part N°	Description	Recommended Spare Parts	Part N°	Description	Recommended Spare Parts
01	Body	n.a.	09	Body/bonnet gasket	Yes
02	Bonnet	n.a.	10	Retaining Sleeve	Yes
03	Body Stud Nuts	n.a.	11	Sleeve gasket	Yes
04	Body Studs	n.a.	12	Sleeve	Yes
05	Hand-wheel	n.a.	13	Seat	Yes
06	Thrust Bearing	n.a.	14	Seat gaskets	Yes
07	Stem	n.a.	15	Cage	Yes
08	Stem gasket	Yes			



CHOKES

API 6A

Needle Chokes



**Adjustable Needle Chokes
Type BCN**



TECHNICAL DESCRIPTION

Description:

The Breda ENERZIA Adjustable Choke type BCN is designed for high performance in critical applications such as gas well high pressure drops, abrasive flow and corrosive conditions. The choke has an externally controlled variable-area orifice coupled with an orifice-area indicating mechanism. Typical application include wellheads and well testing, manifolds, heaters, critical service.

Design Code:

API 6A / ISO 10423

Remarks:

On request, Breda Energia will issue various technical solutions not listed in this catalogue. Years of experience in products for distribution of oil & gas allow Breda Energia to supply products on special client specifications.



- API 6A - Product Range

Service	Pressure Range API 6A (Psi)		
Standard Range (Inch)	API 2000 - 3000 - 5000	API 10000	API 15000
	1.13/16 up to 7.1/16	1.13/16 up to 7.1/16	1.13/16 up to 5.1/8
	ORIFICE Size		
	1", 2", 3", 4", 6"		

Material requirements

Service Conditions	Trim	Minimum material requirements	
API 6A Classification		Body, bonnet end and outlet connections	Pressure-controlling parts, stems and mandrel hangers
General Service	AA	Carbon or low-alloy steel	Carbon or low-alloy steel
General Service	BB	Carbon or low-alloy steel	Stainless Steel
General Service	CC	Stainless Steel	Stainless Steel
Sour Service ^a	DD	Carbon or low-alloy steel ^b	Carbon or low-alloy steel ^b
Sour Service ^a	EE	Carbon or low-alloy steel ^b	Stainless Steel ^b
Sour Service ^a	FF	Stainless Steel ^b	Stainless Steel ^b
Sour Service ^a	HH	CRA's ^b	CRA's ^b

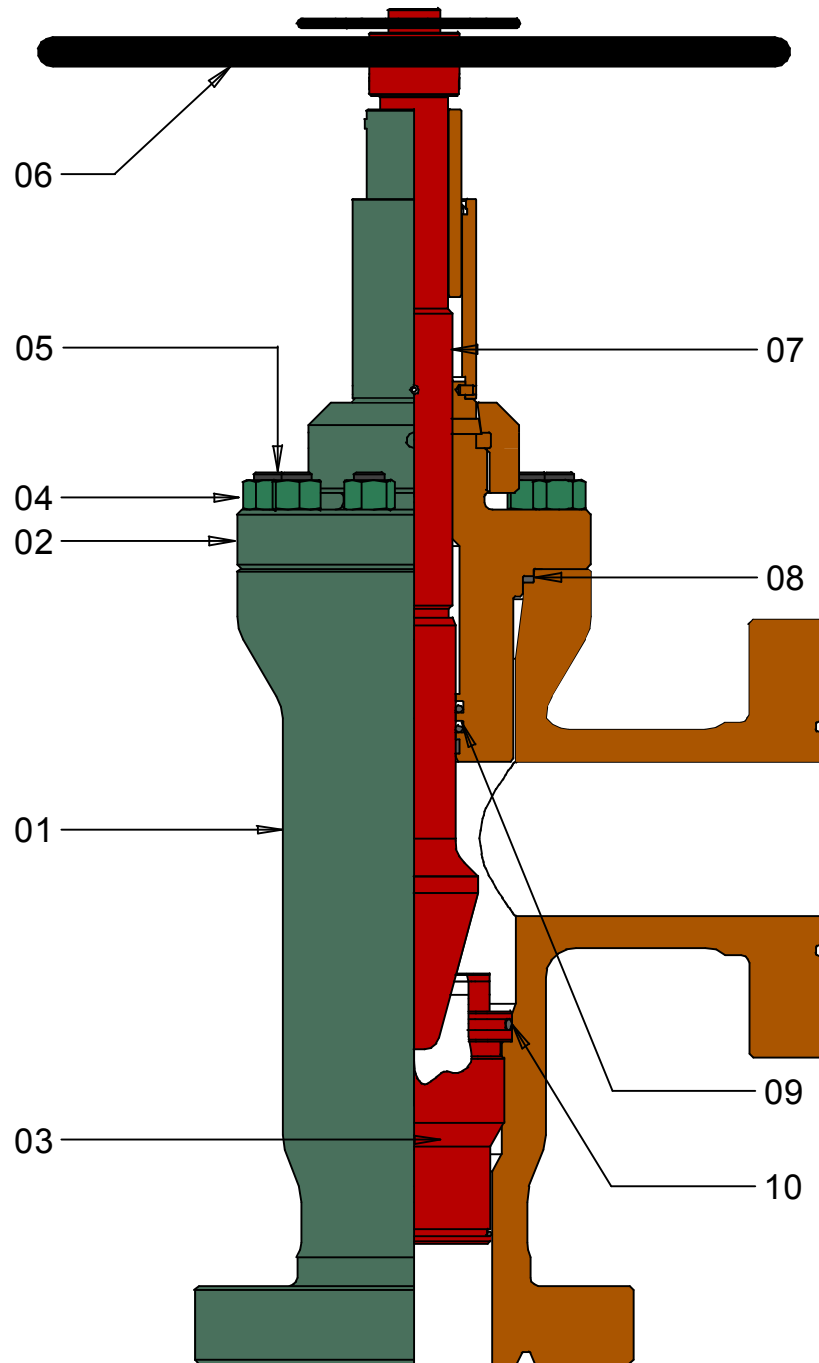
^a As defined by NACE MR 0175; ^b In compliance with NACE MR 0175.

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts



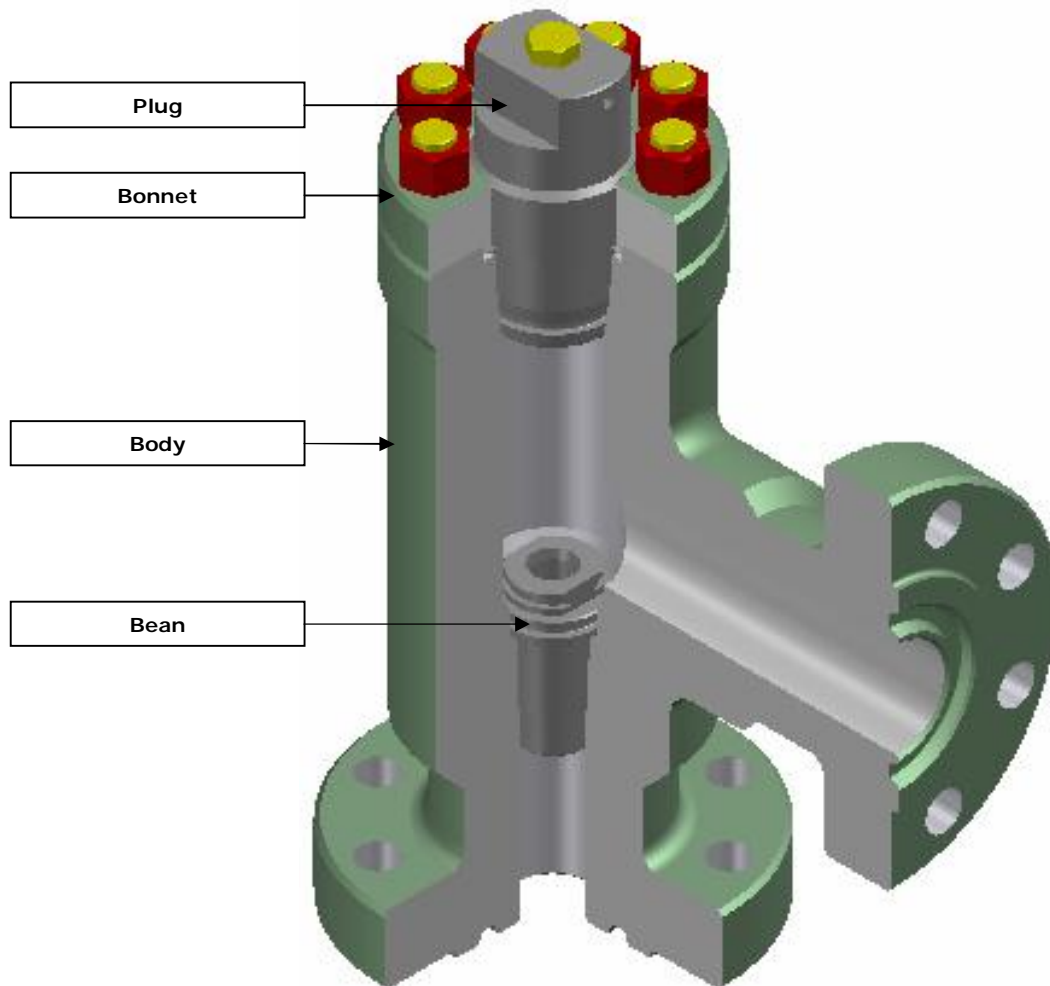
Part N°	Description	Recommended Spare Parts	Part N°	Description	Recommended Spare Parts
01	Body	n.a.	06	Hand-wheel	n.a.
02	Bonnet	n.a.	07	Stem+ Needle	n.a.
03	Seat	Yes	08	Body Bonnet gasket	Yes
04	Body Stud Nuts	n.a.	09	Stem gasket	Yes
05	Body Studs	n.a.	10	Seat gasket	Yes



CHOKES

API 6A

Positive Chokes



**Positive Choke
Type BCP**



TECHNICAL DESCRIPTION

Description:

The BREDA ENERGIA Positive Choke type BCP is designed for maximum performance under critical condition. Positive chokes accommodate replaceable parts having fixed orifice dimensions (flow beans). Typical application includes wellheads and well testing, manifolds process facilities and other demanding services.

Design Code:

API 6A / ISO 10423.

Option features:

Conversion to needle valve (adjustable choke).

Remarks:

On request, Breda Energia will issue various technical solutions not listed in this catalogue. Years of experience in products for distribution of oil & gas allow Breda Energia to supply products on special client specifications.



- API 6A - Product Range

Service	Pressure Range API 6A (Psi)		
Standard Range (Inch)	API 2000 - 3000 - 5000	API 10000	API 15000
	1.13/16 up to 7.1/16	1.13/16 up to 7.1/16	1.13/16 up to 5.1/8
	BEAN Size		
	1/8", 3/8", 5/8", 7/8", 1", 1.1/4", 1.1/2", 2", 3"		

Material requirements

Service Conditions	Trim	Minimum material requirements	
API 6A Classification		Body, bonnet end and outlet connections	Pressure-controlling parts, stems and mandrel hangers
General Service	AA	Carbon or low-alloy steel	Carbon or low-alloy steel
General Service	BB	Carbon or low-alloy steel	Stainless Steel
General Service	CC	Stainless Steel	Stainless Steel
Sour Service ^a	DD	Carbon or low-alloy steel ^b	Carbon or low-alloy steel ^b
Sour Service ^a	EE	Carbon or low-alloy steel ^b	Stainless Steel ^b
Sour Service ^a	FF	Stainless Steel ^b	Stainless Steel ^b
Sour Service ^a	HH	CRAs ^b	CRAs ^b

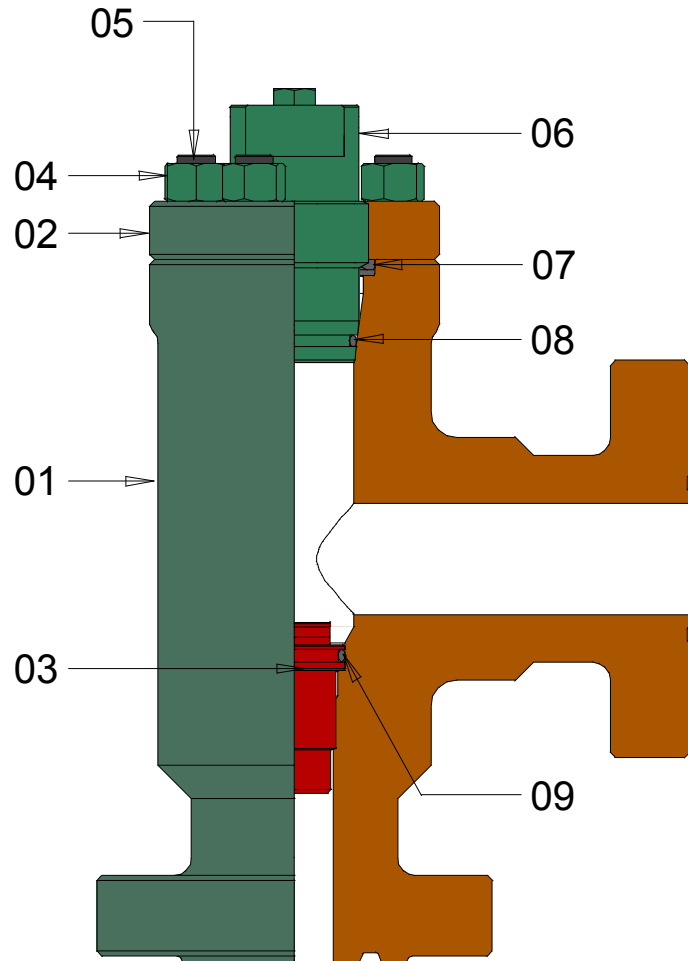
^a As defined by NACE MR 0175; ^b In compliance with NACE MR 0175.

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts

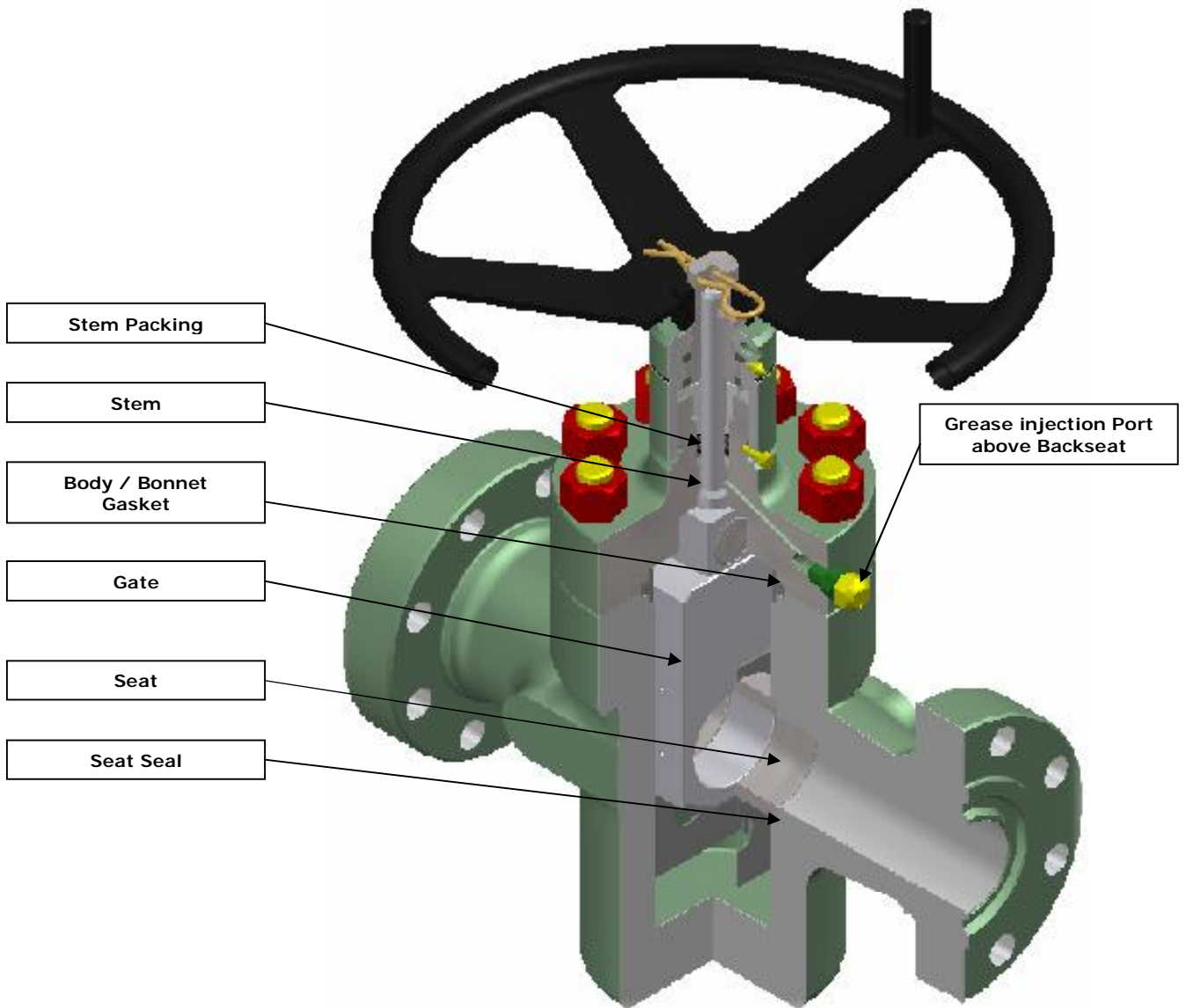


Part N°	Description	Recommended Spare Parts
01	Body	n.a.
02	Bonnet	n.a.
03	Bean	Yes
04	Body Studs Nuts	n.a.
05	Body Studs	n.a.
06	Plug	n.a.
07	Body Plug Metal to metal gasket	Yes
08	Body plug o-ring	Yes
09	Body bean gasket	Yes



SLAB GATE VALVES API 6A

**Through Conduit
Slab Gate Valve
SDS type**



SLAB GATE VALVES
SDS type



TECHNICAL DESCRIPTION

Description:

ON/OFF service valve, through-conduit, forged Bodies, slab gate, floating seats. Non Rising stem, bolted bonnet constructions, self relieving seats. SDS valves features dual spring-loaded, pressure energize, non elastomeric lip seals; these seals assist in low pressure sealing and protect against contaminants.

Valve can be supplied with BREDA hydraulic or pneumatic actuators type BHA or BPA

Standard Construction :

According to API 6A

Metal to Metal seat design

Metal to Metal body bonnet design

Stem Back Seat, to allow stem seals replacement under pressure

Fire safe design

Standard features:

Bi-directional design

Grease injection fitting on downstream side of the stem backseat for safety

Remarks:

On request, Breda Energia S.p.a. will supply various solutions not listed in this catalogue as pup piece connections, reduction ports, etc., moreover years experience in products for distribution oil & gas allow Breda Energia S.p.a. to build products on special client specifications.



Product Range

Service	Pressure Range API 6A (Psi)		
	API 10000	API 15000	API 20000
Standard Range (Inch)	1.13/16 up to 7.1/16	1.13/16 up to 5.1/8	1.13/16 up to 3.1/16

Material requirements

Service Conditions	Trim	Body and Bonnet Materials	Stem Materials	Gate Materials	Seat Materials
API 6A Classification					
General Service	AA	Alloy Steel	Alloy Steel	Alloy Steel / Hard Facing	Alloy Steel / Hard Facing
General Service	BB	Alloy Steel	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
General Service	CC	Stainless Steel 13% Cr.	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	DD	Alloy Steel	Alloy Steel	Alloy Steel / Hard Facing	Alloy Steel / Hard Facing
Sour Service	EE	Alloy Steel	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	FF	Stainless Steel 13% Cr.	AISI 410	AISI 410 / Hard Facing	AISI 410 / Hard Facing
Sour Service	HH	Alloy Steel clad *	Inconel 718	Inconel 718 / Hard Facing	Inconel 718 / Hard Facing

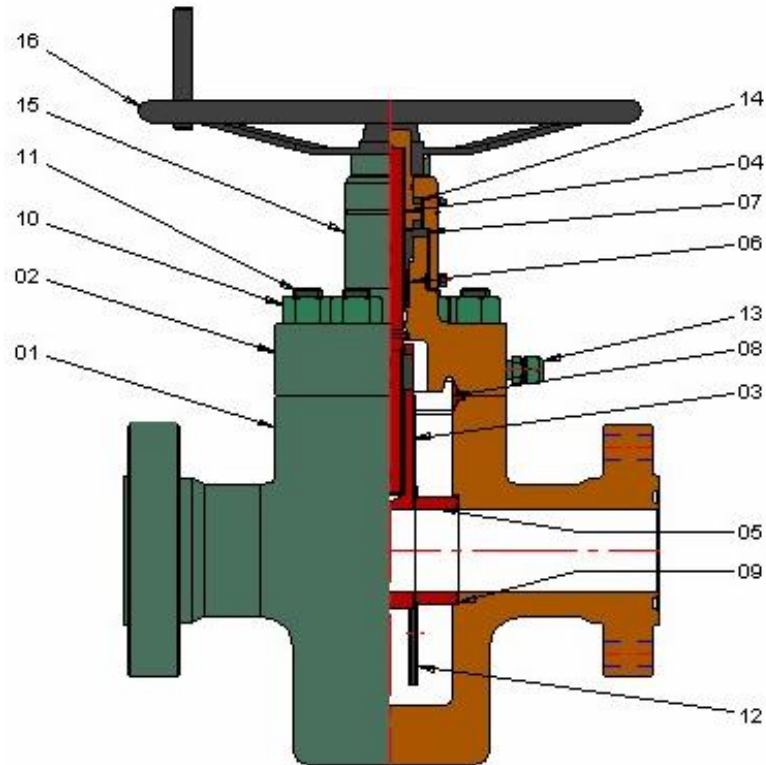
* Clad with Inconel 625

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts

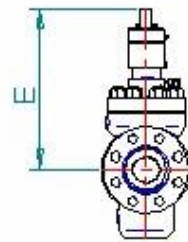
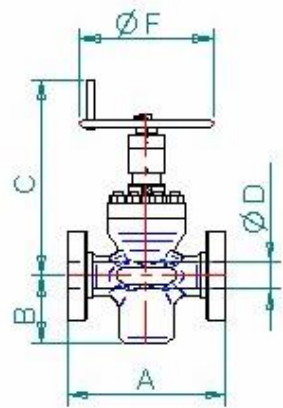


Part N°	Description	Recommended Spare Parts
01	Body	n.a.
02	Bonnet	n.a.
03	Gate	n.a.
04	Stem	n.a.
05	Seat	n.a.
06	Stem Packing	Yes
07	Packing Nut	n.a.
08	Body/Bonnet Gasket	Yes
09	Seat Gasket	Yes
10	Body stud nuts	n.a.
11	Body studs	n.a.
12	Gate guide	n.a.
13	Grease Fitting Port	n.a.
14	Thrust Bearing	n.a.
15	Upper Bonnet	n.a.
16	Handwheel	n.a.



Overall Dimensions

W.P. API 10000 (Psi)							
Nominal Size	D	A	B	C	E	F	Weight
(inch)							(kg.)
1.13/16	46	464	135	508	354	400	92
2.1/16	52.5	521	155	526	372	500	113
2.9/16	65	565	170	574	419	500	168
3.1/16	78	619	220	634	481	500	353
4.1/16	103.5	670	271	680	527	600	350
5.1/8	130	737	321	943	837	500	950
7.1/16x6.3/8	162	889	407	1167	1057	500	1200
7.1/16	179.5	889	463	1167	1057	800	1500
9	229	1041	513	1347	1172	800	2600
W.P. API 15000 (Psi)							
Nominal Size	D	A	B	C	E	F	Weight
(inch)							(kg.)
1.13/16	46	457	135	508	354	400	102
2.1/16	52.5	483	160	556	402	450	160
2.9/16	65	533	188	618	465	500	237
3.1/16	78	599	226	666	513	550	352
4.1/16	103.5	737	284	1001	895	500	895
5.1/8	130.5	889	335	1020	915	450	1460
Note : - Dimensions in mm. - Dimensions and weights are subject to change without notice							

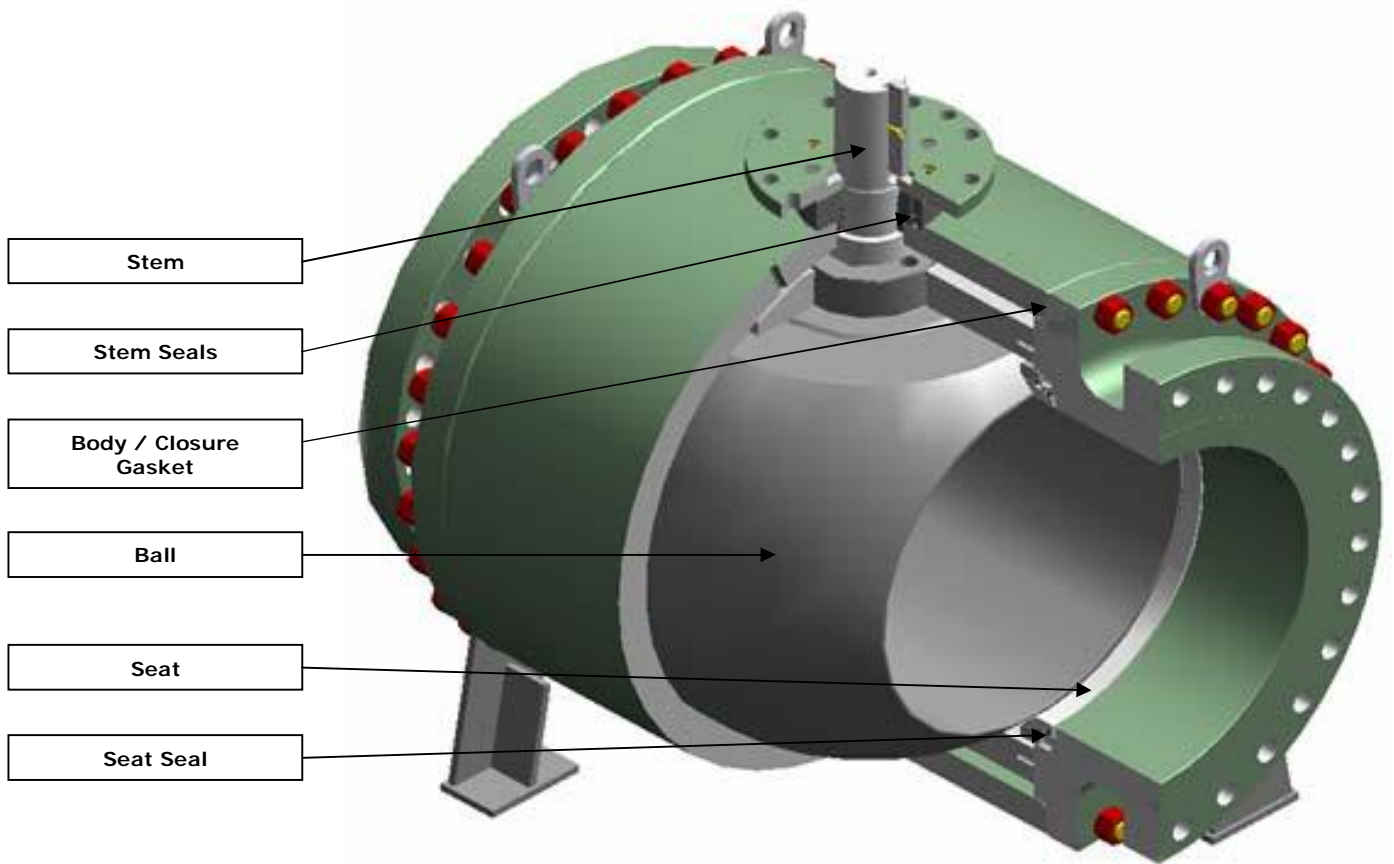




TRUNNION MOUNTED BALL VALVES

**API 6D
&
API 6A**

**Side_Entry Ball Valve
SE type**



Side_Entry Ball Valve
SE type



TECHNICAL DESCRIPTION

Description:

ON/OFF service valve, Trunnion mounted-supported,
Side-Entry (Split-body) two or three pieces bolted constructions,
floating seats energized by springs, Full or Reduced bore,
Bi-Directional.

Standard Construction :

According to API 6A & API 6D
Double Block & Bleed design

Standard features:

Primary Soft seats & Secondary Metal seats design
Self relieving seats
Emergency Sealant Grease injection on stem
Emergency Sealant Grease injection on seats (on 6" & larger)
Fire safe design according to API 6FA – API 607 – BS 6755 Part.2
Double Body seals & Triple stem seals
Antistatic device
Anti-blowout stem

Option features:

Double piston effect design
Metal to Metal design
Overlay on wet parts design
Stem extension for buried installation design

Remarks:

On request, Breda Energia S.p.a. will supply various solutions not listed in this catalogue as pup piece connections, reduction ports, etc., moreover years experience in products for distribution oil & gas allow Breda Energia S.p.a. to build products on special client specifications.



- API 6D -

Product Range

Service	Pressure Range API 6D					
Standard Range (Inch)	ANSI 150 (19 bar)	ANSI 300 (50 bar)	ANSI 600 (99 bar)	ANSI 900 (149 bar)	ANSI 1500 (248 bar)	ANSI 2500 (414 bar)
	2 up to 60			2 up to 48	2 up to 30	2 up to 20

Material requirements

Service Conditions	Body and Closure Materials	Trim Materials Stem-Ball-Seat	Material selection general list
General & Sour Service	Carbon Steel	Carbon Steel	<ul style="list-style-type: none"> - Carbon Steel - Low temperature Carbon Steel - Low Alloy Steel - Martensitic Stainless Steel - Austenitic Stainless Steel - Duplex Stainless Steel - Nickel Alloys
General & Sour Service	Carbon Steel	Stainless Steel	
General & Sour Service	Stainless Steel	Stainless Steel	
Materials selection will be performed in accordance with Client data sheet / Specification			

Temperature ratings

Temperature Classification	Operating Range	
	°C from min. up to Max.	
	min.	Max.
Standard	-29	121
Low temperature	-46	121
Cryogenic	-196	121
High Temperature	-29	350



- API 6A - Product Range

Service	Pressure Range API 6A (Psi)		
Standard Range (Inch)	API 2000	API 3000	API 5000
	1.13/16 up to 7.1/16	2.1/16 up to 9	2.1/16 up to 9
	Pressure Range API 6A (Psi)		
	API 10000	API 15000	API 20000
	1.13/16 up to 7.1/16	1.13/16 up to 5.1/8	1.13/16 up to 3.1/16

Material requirements

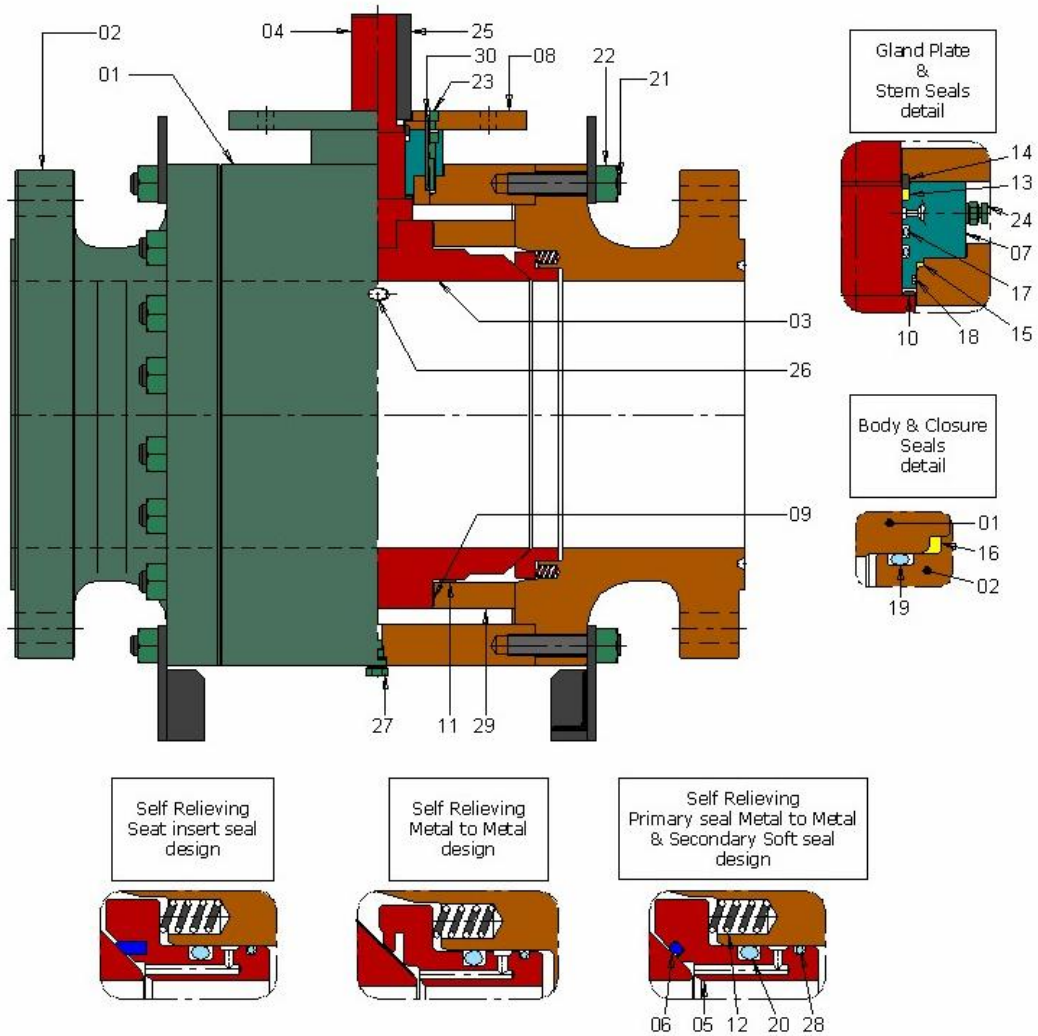
Service Conditions	Trim	Body and Closure Materials	Stem Materials	Ball Materials	Seat Materials
API 6A Classification					
General Service	AA	Alloy Steel	Alloy Steel	Alloy Steel	Alloy Steel
General Service	BB	Alloy Steel	AISI 410	AISI 410	AISI 410
General Service	CC	Stainless Steel 13% Cr.	AISI 410	AISI 410	AISI 410
Sour Service	DD	Alloy Steel	Alloy Steel	Alloy Steel	Alloy Steel
Sour Service	EE	Alloy Steel	AISI 410	AISI 410	AISI 410
Sour Service	FF	Stainless Steel 13% Cr.	AISI 410	AISI 410	AISI 410
Sour Service	HH	Alloy Steel clad *	Inconel 718	Inconel 718	Inconel 718
* Clad with Inconel 625					

Temperature ratings

Temperature Classification	Operating Range			
	°F from min. up to Max.		°C from min. up to Max.	
	min.	Max.	min.	Max.
K	-75	180	-60	82
L	-50	180	-46	82
P	-20	180	-29	82
R	Room temperature		Room temperature	
S	0	150	-18	66
T	0	180	-18	82
U	0	250	-18	121
V	35	250	2	121



Part List & Spare Parts



Part N°	Description	Recommended Spare Parts	Part N°	Description	Recommended Spare Parts
01	Body	n.a.	16	Body Fire Safe Gasket	Yes
02	Closure	n.a.	17	Stem O-Ring	Yes
03	Ball	n.a.	18	Glande Plate O-Ring	Yes
04	Stem	n.a.	19	Body O-Ring	Yes
05	Seat Ring	n.a.	20	Seat O-Ring	Yes
06	Seat Seal	Yes	21	Body Studs	n.a.
07	Gland Plate	n.a.	22	Body Stud Nuts	n.a.
08	Adapter Plate	n.a.	23	Capscrew	n.a.
09	Bearing	n.a.	24	Stem Grease Fitting	n.a.
10	Upper thrust washer	n.a.	25	Stem Key	n.a.
11	Lower thrust washer	n.a.	26	Vent (Bleeder Fitting)	n.a.
12	Seat Spring	n.a.	27	Drain Plug	n.a.
13	Stem Packing Fire Safe	Yes	28	Grease Sealing	Yes
14	Stem Packing Ring	n.a.	29	Bearing Retainer	n.a.
15	Gland Plate Fire Safe Gasket	Yes	30	Pins	n.a.



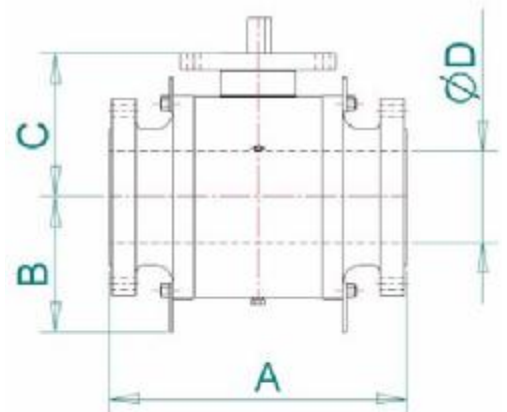
- API 6D -

Overall Dimensions

ASME 150							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	51	178	190	216	98	160	28
3	76	203	216	283	125	190	60
4	102	229	241	305	165	225	95
6	153	394	406	458	248	230	180
8	203	458	470	521	295	275	353
10	254	534	546	559	330	295	500
12	305	610	622	635	370	340	705
14	337	686	698.5	762	420	375	864
16	387	762	775	839	460	415	1023
18	438	864	876	914	500	460	1445
20	489	915	927	991	540	490	1920
22	540	991	-	1093	590	535	2350
24	591	1067	1079	1143	640	575	2805
26	635	1143	-	1245	660	620	3523
28	686	1245	-	1347	745	660	4046
30	736	1295	-	1397	760	695	4820
32	781	1372	-	1524	780	735	5489
34	832	1473	-	1626	820	785	6705
36	876	1524	-	1728	890	820	7615
40	978	1753	-	1956	990	905	10275
42	1022	1855	-	2083	1150	970	12114
48	1168	2134	-	2134	1180	1125	18365
56	1361	2300	-	2300	1230	1225	32300
60	1464	2400	-	2400	1350	1310	35900

Note :

- Dimensions in mm.
- Dimensions and weights are subject to change without notice





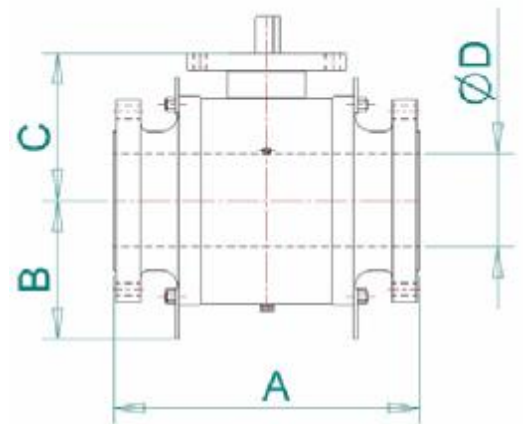
- API 6D -

Overall Dimensions

ASME 300							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	51	216	232	216	98	160	31
3	76	283	298	283	125	190	68
4	102	305	321	305	165	225	110
6	153	404	419	458	248	230	221
8	203	502	517	521	295	275	375
10	254	569	584	559	330	295	534
12	305	648	664	635	370	342	762
14	337	762	779	762	420	373	898
16	387	839	854	839	460	414	1296
18	438	914	930	914	500	475	1705
20	489	991	1010	991	540	535	2080
22	540	1093	1115	1093	590	568	2610
24	591	1143	1165	1143	640	615	3080
26	635	1245	1270	1245	660	622	3875
28	686	1347	1372	1347	745	658	4569
30	736	1397	1422	1397	760	710	5580
32	782	1524	1552	1524	780	736	6239
34	832	1626	1654	1626	820	765	7365
36	876	1728	1756	1728	890	800	8420
40	978	1956	-	1956	990	896	11000
42	1022	2083	-	2083	1150	969	12955
48	1168	2170	-	2170	1180	1085	19000
56	1361	2350	-	2350	1230	1230	35000

Note :

- Dimensions in mm.
- Dimensions and weights are subject to change without notice



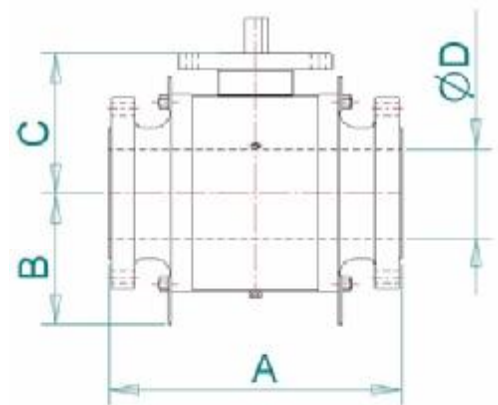


- API 6D -

Overall Dimensions

ASME 600							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	51	292	295	292	98	160	36
3	76	356	359	356	125	190	75
4	102	432	435	432	165	225	135
6	153	559	562	559	250	230	240
8	203	660	664	660	290	267	430
10	254	787	791	787	330	305	660
12	305	838	841	838	372	348	905
14	337	889	892	889	423	373	1358
16	387	991	994	991	463	413	1623
18	438	1092	1095	1092	500	460	2085
20	489	1194	1200	1194	540	500	2580
22	540	1296	1305	1296	590	549	3300
24	591	1397	1406	1397	640	600	4800
26	635	1448	1461	1448	660	622	5100
28	686	1550	1562	1550	745	673	6057
30	736	1651	1664	1651	760	753	6695
32	781	1778	1794	1778	782	760	7570
34	832	1930	1946	1930	820	784	8450
36	876	2083	2098	2083	890	821	10020
40	978	1900	1900	1900	990	953	13600
42	1022	2100	2100	2100	1058	1011	18805
48	1168	2240	2240	2240	1178	1128	24185
56	1361	2580	2580	2280	1310	1300	36300

Note :
 - Dimensions in mm.
 - Dimensions and weights are subject to change without notice

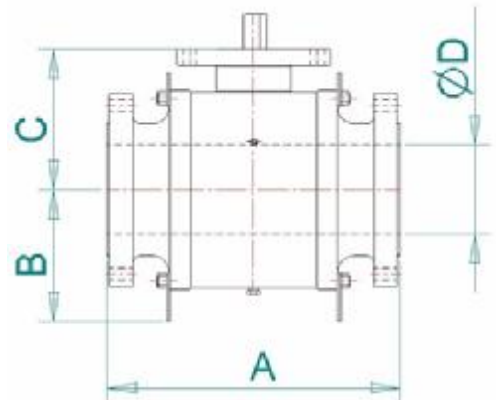




- API 6D -

Overall Dimensions

ASME 900							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	51	368	371	368	108	-	51
3	76	381	384	381	135	-	90
4	102	457	460	457	160	245	161
6	153	610	613	610	265	235	389
8	203	737	740	737	299.5	272	567
10	254	839	842	839	344	316	849
12	305	965	968	965	388	361	1170
14	324	1029	1038	1029	430	390	1620
16	375	1131	1140	1131	472.5	428	2020
18	425	1219	1232	1219	520	490	2815
20	473	1321	1334	1321	565	535	3480
24	572	1549	1568	1549	655	630	5552
26	619	1651	1674	1651	584	667	7169
28	667	1753	1775	1753	705	709	T.B.A.
30	667	1880	1902	1880	770	755	
32	762	1850	1872	1850	820	811	
34	810	2159	2188	2159	860	847	
36	857	2286	2315	2286	880	883	
42	1003	2600	2600	2600	1100	1070	32000
Note : - Dimensions in mm. - Dimensions and weights are subject to change without notice - T.B.A. : to be advise							





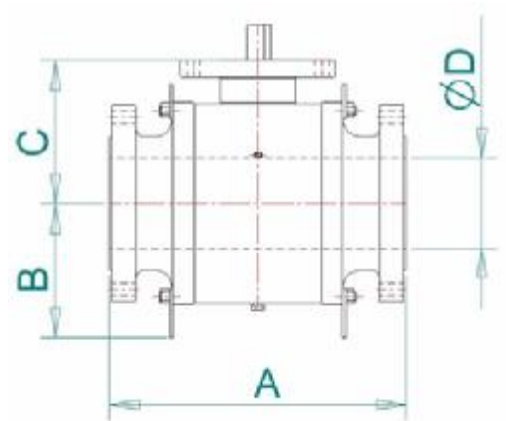
- API 6D -

Overall Dimensions

ASME 1500							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	51	368	371	368	108	180	59
3	76	470	473	470	135	210	106
4	102	546	549	546	180	245	195
6	146	705	711	705	298	268.5	550
8	194	832	841	832	347	318	925
10	241	991	1000	991	412	381	1640
12	289	1130	1146	1130	451.5	423.5	2470
14	317.5	1257	1276	1257	505	482.5	3170
16	362	1384	1407	1384	565	543.5	4480
18	407	1537	1559	1537	630	600	6720
20	457	1664	1686	1664	700	680	9760
24	534	2043	2071	2043	815	800	15270
28	620	2210	T.B.A.	2210	915	900	T.B.A.
30	667	2350		2350	1000	1050	

Note :

- Dimensions in mm.
- Dimensions and weights are subject to change without notice
- T.B.A. : to be advise





- API 6D -

Overall Dimensions

ASME 2500							
Nominal Size (inch)	D	A			B	C	Weight (Kg.)
		RF	RTJ	WE			
2	44.5	451	454	451	118	200	90
3	63	578	584	578	152	180	220
4	89	673	683	673	178	207	320
6	134	914	927	914	242	263	690
8	181	1022	1038	1022	388	365	1435
10	225	1270	1292	1270	473	461	2220
12	267	1422	1445	1422	580	595	3350

Note :
 - Dimensions in mm.
 - Dimensions and weights are subject to change without notice

