

**Forged Ball valve, Floating ball, Trunnion ball, Soft seal, Metal Seal
1.0460, 1.4404
PN16-160, DN15-300**



**TA-Luft 2021 acc. to ISO 15848-1 CO3 t (-60°C 200°C).
ISO 15848-1 FE BH CO3 t (-60°C 200°C).**

Range of application:

In industrial facilities, oil and chemical industry and related manufacturing industries

Temperature range:

Max. working temperature :
-200°C to +800°C

Material [according DIN EN (DIN)]

Body: —1.0460
—1.4401,1.4404,1.4571
—Hastelloy
Ball: —1.4301,1.4401,1.4404,1.4571
—1.4301+Coating
—1.4401/1.4404/1.4571+Coating
—Hastelloy
Body Seal: PTFE /Graphite
Seat: —PTFE / RPTFE /TFM1600 / VX1
/ PEEK /PCTFE
—1.4301+Coating
—1.4401/1.4404/1.4571+Coating
—Hastelloy

Perform standard:

Design:split body with full bore round port , floating ball, Trunnion ball.
acc. DIN 3357 / DIN EN 1983 .

Design minimum wall thickness calculation acc. : EN12516-1 .

Face to face : DIN 558-1; Flange ends : DIN EN 1092-1.

Operating:with a two flat stem acc to the NAMUR-recommends.
90° -rotary switch

Actuator mounting: mounting flange acc. to DIN ISO 5211
for gear box , air- , electric-or hydraulic pattern actuator .

Fire test : API 607 & BS 6755 .

TA-Luft 2021 acc. to ISO 15848-1 CO3 t (-60°C 200°C).

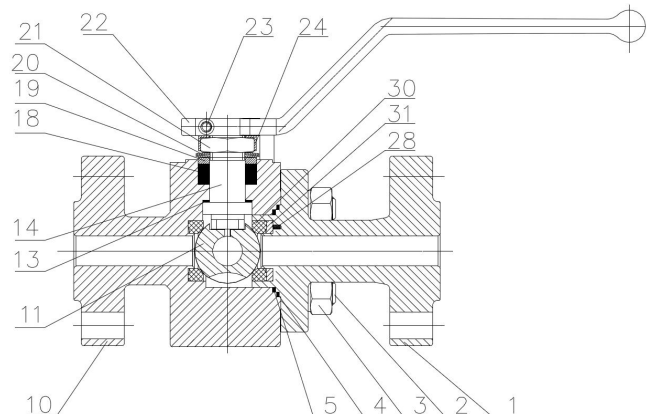
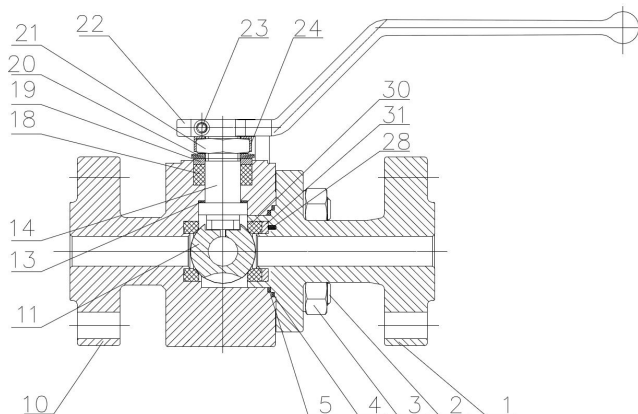
ISO 15848-1 FE BH CO3 t (-60°C 200°C).

Antistatic device acc.: BS 5351 .

Preloaded belleville spring design for stem sealing system,
offers the possibility of adjustment of the sealing.

Forged Ball valve, Flange, Floating ball, full bore, soft seat, PN16 to PN160, DN15-DN200

FIG.	Pressure	Material	RANGE
143.711	PN16	1.0460	DN15-DN200
145.711	PN40		
146.711	PN64		
147.711	PN100		
148.711	PN160		
233.711	PN16	1.4401	DN15-DN200
235.711	PN40		
236.711	PN64		
237.711	PN100		
238.711	PN160		
243.711	PN16	1.4404	DN15-DN200
245.711	PN40		
246.711	PN64		
247.711	PN100		
248.711	PN160		
183.711	PN16	1.4571	DN15-DN200
185.711	PN40		
186.711	PN64		
187.711	PN100		
188.711	PN160		
543.711	PN16	Hastelloy	DN15-DN200
545.711	PN40		
546.711	PN64		
547.711	PN100		
548.711	PN160		



DN15 - DN200 PTFE Packing

DN15 - DN200 Graphite Packing fire safe

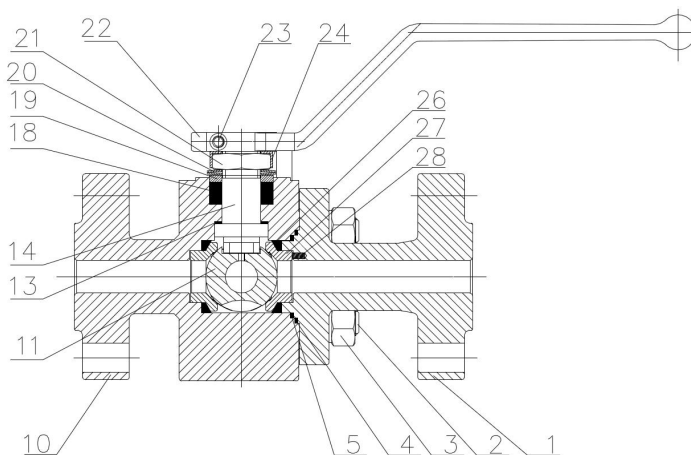
Ball valve with full bore and Flange. PN16 PN40 EN558-1 G1 , PN64 PN100 PN160 EN558-1 G2

Material list

NO.	Part	Material				
		FIG. 143.711/ 145.711/ 146.711/ 147.711/ 148.711	FIG. 233.711 /235.711/236.711 /237.711/238.711	FIG. 243.711 /245.711/246.711 /247.711/248.711	FIG. 183.711 /185.711/186.711 /187.711/188.711	FIG. 543.711 /545.711/546.711 /547.711/548.711
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	PTFE				
		Graphite				
5	Body seal	PTFE				
		Graphite				
10	Body	1.0460	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301	1.4401	1.4404	1.4571	Hastelloy
13	Gasket	PTFE				
		Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
18	Packing	PTFE				
		Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
21	Nut	A2	A4	A4	A4	A4
22	Lever	GGG40.3	1.4308	1.4308	1.4308	1.4308
23	Bolt	A2-70	A4-70	A4-70	A4-70	A4-70
24	Retaining ring	1.4301	1.4301	1.4301	1.4301	1.4301
28	Compression spring	INCONEL X-750				
30	Seat	PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE				
31	Seat retainer	1.4301	1.4401	1.4401	1.4401	Hastelloy

Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN15-DN200

FIG.	Pressure	Material	RANGE
143.713	PN16	1.0460	DN15-DN200
145.713	PN40		
146.713	PN64		
147.713	PN100		
148.713	PN160		
233.713	PN16	1.4401	DN15-DN200
235.713	PN40		
236.713	PN64		
237.713	PN100		
238.713	PN160		
243.713	PN16	1.4404	DN15-DN200
245.713	PN40		
246.713	PN64		
247.713	PN100		
248.713	PN160		
183.713	PN16	1.4571	DN15-DN200
185.713	PN40		
186.713	PN64		
187.713	PN100		
188.713	PN160		
543.713	PN16	Hastelloy	DN15-DN200
545.713	PN40		
546.713	PN64		
547.713	PN100		
548.713	PN160		



DN15 - DN200 Graphite Packing fire safe

Ball valve with full bore and Flange. PN16 PN40 EN558-1 G1 , PN64 PN100 PN160 EN558-1 G2

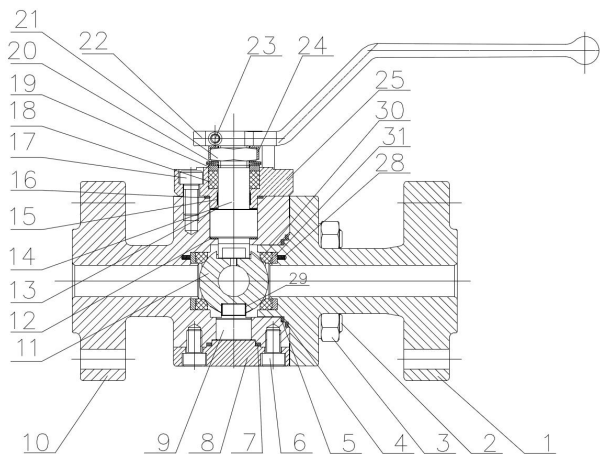
Material list

NO.	Part	Material				
		FIG. 143.713/ 145.713/ 146.713/ 147.713/ 148.713	FIG. 233.713 /235.713/236.713 /237.713/238.713	FIG. 243.713 /245.713/246.713 /247.713/248.713	FIG. 183.713 /185.713/186.713 /187.713/188.713	FIG. 543.713 /545.713/546.713 /547.713/548.713
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	Graphite				
5	Body seal	Graphite				
10	Body	1.4301	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
13	Gasket	Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
18	Packing	Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
21	Nut	A2	A4	A4	A4	A4
22	Lever	GGG40.3	1.4308	1.4308	1.4308	1.4308
23	Bolt	A2-70	A4-70	A4-70	A4-70	A4-70
24	Retaining ring	1.4301	1.4301	1.4301	1.4301	1.4301
26	Gasket	Graphite				
27	Seat	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
28	Compression spring	INCONEL X-750				

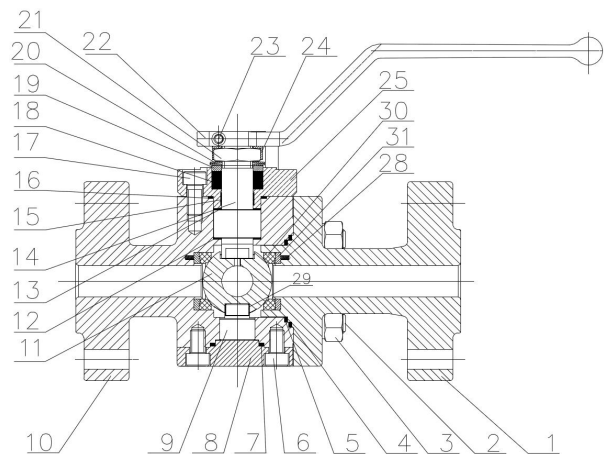
* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy

Forged Ball valve, Flange, Trunnion ball, full bore, soft seat, PN16 to PN160, DN15-DN50

FIG.	Pressure	Material	RANGE
146.721	PN64	1.0460	DN15-DN50
147.721	PN100		
148.721	PN160		
236.721	PN64	1.4401	DN15-DN50
237.721	PN100		
238.721	PN160		
246.721	PN64	1.4404	DN15-DN50
247.721	PN100		
248.721	PN160		
186.721	PN64	1.4571	DN15-DN50
187.721	PN100		
188.721	PN160		
546.721	PN64	Hastelloy	DN15-DN50
547.721	PN100		
548.721	PN160		



DN15 - DN50 PTFE Packing



DN15 - DN50 Graphite Packing fire safe

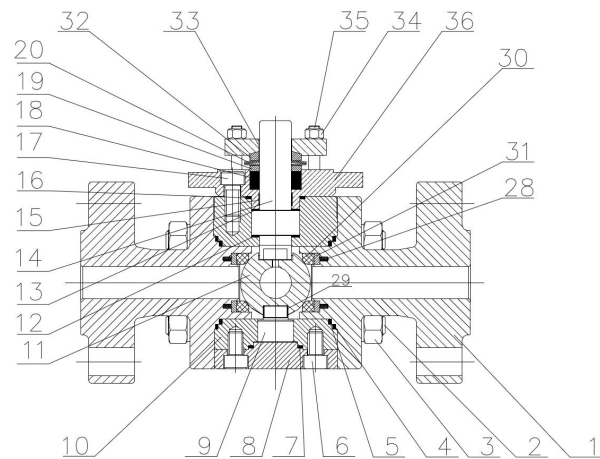
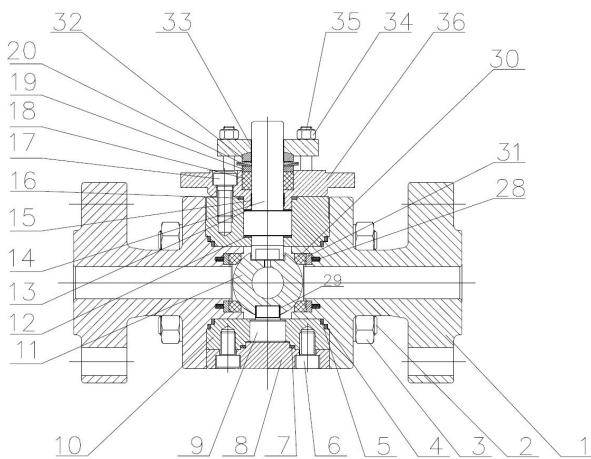
Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

Material list

NO.	Part	Material				
		FIG. 143.721/ 145.721/ 146.721/ 147.721/ 148.721	FIG. 233.721 /235.721/236.721 /237.721/238.721	FIG. 243.721 /245.721/246.721 /247.721/248.721	FIG. 183.721 /185.721/186.721 /187.721/188.721	FIG. 543.721 /545.721/546.721 /547.721/548.721
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	PTFE				
		Graphite				
5	Body seal	PTFE				
		Graphite				
6	Bolts	A2	A4-70	A4-70	A4-70	A4-70
7	Gasket	PTFE				
		Graphite				
8	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
9	Trunnion	1.4462	1.4462	1.4462	1.4462	Hastelloy
10	Body	1.0460	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301	1.4401	1.4404	1.4571	Hastelloy
12	Gasket	PTFE				
		Graphite				
13	Gasket	PTFE				
		Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
15	Bearing	PTFE+30%C				
16	Gasket	PTFE				
		Graphite				
17	Bolt	A2	A4-70	A4-70	A4-70	A4-70
18	Packing	PTFE				
		Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
21	Nut	A2	A4	A4	A4	A4
22	Lever	GGG40.3	1.4308	1.4308	1.4308	1.4308
23	Bolt	A2-70	A4-70	A4-70	A4-70	A4-70
24	Retaining ring	1.4301	1.4301	1.4301	1.4301	1.4301
25	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
28	Compression spring	INCONEL X-750				
29	Bearing	PTFE+30%C				
30	Seat	PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE				
31	Seat retainer	1.4301	1.4401	1.4401	1.4401	Hastelloy

Forged Ball valve, Flange, Trunnion ball, full bore, soft seat, PN16 to PN160, DN65-DN300

FIG.	Pressure	Material	RANGE
146.712	PN64	1.0460	DN65-DN300
147.712	PN100		
148.712	PN160		
236.712	PN64	1.4401	DN65-DN300
237.712	PN100		
238.712	PN160		
246.712	PN64	1.4404	DN65-DN300
247.712	PN100		
248.712	PN160		
186.712	PN64	1.4571	DN65-DN300
187.712	PN100		
188.712	PN160		
546.712	PN64	Hastelloy	DN65-DN300
547.712	PN100		
548.712	PN160		



DN65 - DN300 PTFE Packing

DN65 - DN300 Graphite Packing fire safe

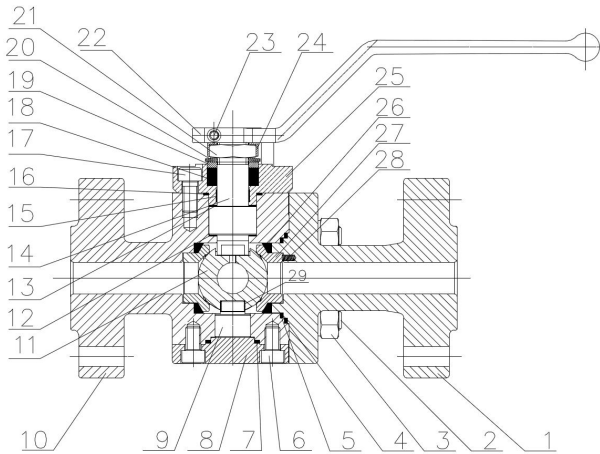
Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

Material list

NO.	Part	Material				
		FIG. 143.712/ 145.712/ 146.712/ 147.712/ 148.712	FIG. 233.712 /235.712/236.712 /237.712/238.712	FIG. 243.712 /245.712/246.712 /247.712/248.712	FIG. 183.712 /185.712/186.712 /187.712/188.712	FIG. 543.712 /545.712/546.712 /547.712/548.712
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	PTFE				
		Graphite				
5	Body seal	PTFE				
		Graphite				
6	Bolts	A2	A4-70	A4-70	A4-70	A4-70
7	Gasket	PTFE				
		Graphite				
8	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
9	Trunnion	1.4462	1.4462	1.4462	1.4462	Hastelloy
10	Body	1.0460	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301	1.4401	1.4404	1.4571	Hastelloy
12	Gasket	PTFE				
		Graphite				
13	Gasket	PTFE				
		Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
15	Bearing	PTFE+30%C				
16	Gasket	PTFE				
		Graphite				
17	Bolt	A2	A4-70	A4-70	A4-70	A4-70
18	Packing	PTFE				
		Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
28	Compression spring	INCONEL X-750				
29	Bearing	PEEK+30%C				
30	Seat	PTFE/RPTFE/TFM 1600/VX1/ PEEK/PCTFE				
31	Seat retainer	1.4301	1.4401	1.4401	1.4401	Hastelloy
32	Packing bushing	45	1.4401	1.4401	1.4401	Hastelloy
33	Packing gland	45	1.4401	1.4401	1.4401	Hastelloy
34	Nut	YK	A4	A4	A4	A4
35	Bolt	GC	A4-70	A4-70	A4-70	A4-70
36	Gland Flange	1.4301	1.4401	1.4401	1.4401	Hastelloy

Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN15 -DN50

FIG.	Pressure	Material	RANGE
146.713	PN64	1.0460	DN15-DN50
147.713	PN100		
148.713	PN160		
236.713	PN64	1.4401	DN15-DN50
237.713	PN100		
238.713	PN160		
246.713	PN64	1.4404	DN15-DN50
247.713	PN100		
248.713	PN160		
186.713	PN64	1.4571	DN15-DN50
187.713	PN100		
188.713	PN160		
546.713	PN64	Hastelloy	DN15-DN50
547.713	PN100		
548.713	PN160		



DN15 - DN50

Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

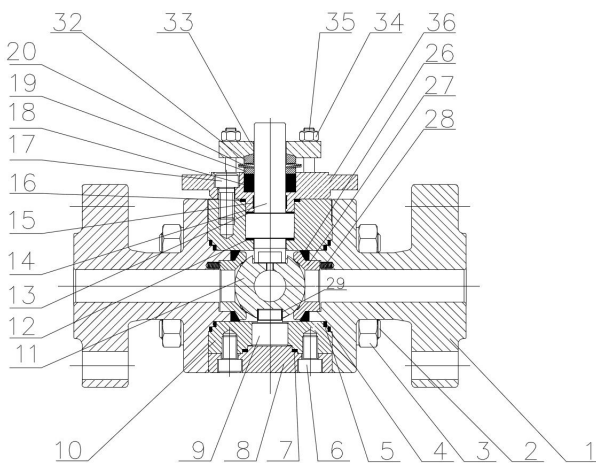
Material list

NO.	Part	Material				
		FIG. 143.713/ 145.713/ 146.713/ 147.713/ 148.713	FIG. 233.713 /235.713/236.713 /237.713/238.713	FIG. 243.713 /245.713/246.713 /247.713/248.713	FIG. 183.713 /185.713/186.713 /187.713/188.713	FIG. 543.713 /545.713/546.713 /547.713/548.713
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	Graphite				
5	Body seal	Graphite				
6	Bolt	A2	A4-70	A4-70	A4-70	A4-70
7	Gasket	Graphite				
8	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
9	Trunnion	1.4462	1.4462	1.4462	1.4462	Hastelloy
10	Body	1.0460	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
12	Gasket	Graphite				
13	Gasket	Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
15	Bearing	PEEK+30%C				
16	Gasket	Graphite				
17	Bolt	A2	A4-70	A4-70	A4-70	A4-70
18	Packing	Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
21	Nut	A2	A4	A4	A4	A4
22	Lever	GGG40.3	1.4308	1.4308	1.4308	1.4308
23	Bolt	A2-70	A4-70	A4-70	A4-70	A4-70
24	Retaining ring	1.4301	1.4301	1.4301	1.4301	1.4301
25	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
26	Gasket	Graphite				
27	Seat	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
28	Compression spring	INCONEL X-750				
29	Bearing	PEEK+30%C				

* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy

Forged Ball valve, Flange, Trunnion ball, full bore, metal seat, PN16 to PN160, DN65 -DN300

FIG.	Pressure	Material	RANGE
146.713	PN64	1.0460	DN65-DN300
147.713	PN100		
148.713	PN160		
236.713	PN64	1.4401	DN65-DN300
237.713	PN100		
238.713	PN160		
246.713	PN64	1.4404	DN65-DN300
247.713	PN100		
248.713	PN160		
186.713	PN64	1.4571	DN65-DN300
187.713	PN100		
188.713	PN160		
546.713	PN64	Hastelloy	DN65-DN300
547.713	PN100		
548.713	PN160		



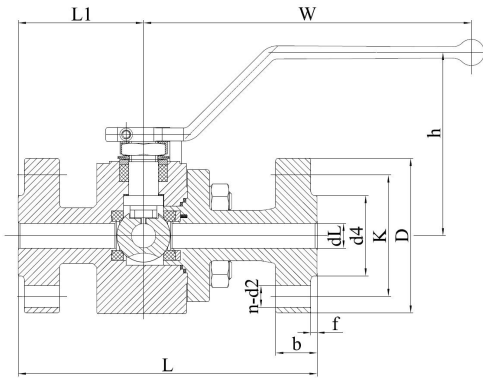
DN65 - DN300

Ball valve with full bore and Flange. PN64 PN100 PN160 EN558-1 G2

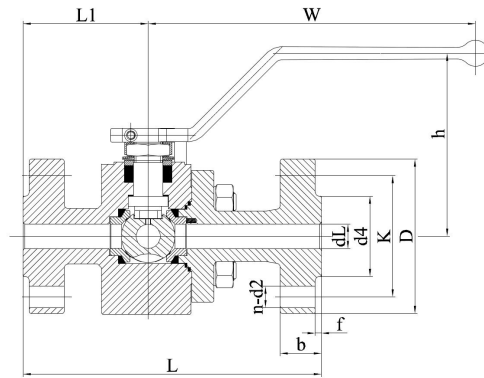
Material list

NO.	Part	Material				
		FIG. 143.713/ 145.713/ 146.713/ 147.713/ 148.713	FIG. 233.713 /235.713/236.713 /237.713/238.713	FIG. 243.713 /245.713/246.713 /247.713/248.713	FIG. 183.713 /185.713/186.713 /187.713/188.713	FIG. 543.713 /545.713/546.713 /547.713/548.713
1	Adapter	1.0460	1.4401	1.4404	1.4571	Hastelloy
2	Bolts	GC	A4-70	A4-70	A4-70	A4-70
3	Nut	YK	A4	A4	A4	A4
4	Body seal	Graphite				
5	Body seal	Graphite				
6	Bolt	A2	A4-70	A4-70	A4-70	A4-70
7	Gasket	Graphite				
8	Cover	1.4301	1.4401	1.4401	1.4401	Hastelloy
9	Trunnion	1.4462	1.4462	1.4462	1.4462	Hastelloy
10	Body	1.0460	1.4401	1.4404	1.4571	Hastelloy
11	Ball	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
12	Gasket	Graphite				
13	Gasket	Graphite				
14	Stem	1.4462	1.4462	1.4462	1.4462	Hastelloy
15	Bearing	PEEK+30%C				
16	Gasket	Graphite				
17	Bolt	A2	A4-70	A4-70	A4-70	A4-70
18	Packing	Graphite				
19	Packing ring	1.4401	1.4401	1.4401	1.4401	1.4401
20	Belleville spring	INCONEL X-750				
26	Gasket	Graphite				
27	Seat	1.4301+Coating*	1.4401+Coating*	1.4404+Coating*	1.4571+Coating*	Hastelloy
28	Compression spring	INCONEL X-750				
29	Bearing	PEEK+30%C				
32	Packing bushing	45	1.4401	1.4401	1.4401	Hastelloy
33	Packing gland	45	1.4401	1.4401	1.4401	Hastelloy
34	Nut	YK	A4	A4	A4	A4
35	Bolt	GC	A4-70	A4-70	A4-70	A4-70
36	Gland Flange	1.4301	1.4401	1.4401	1.4401	Hastelloy

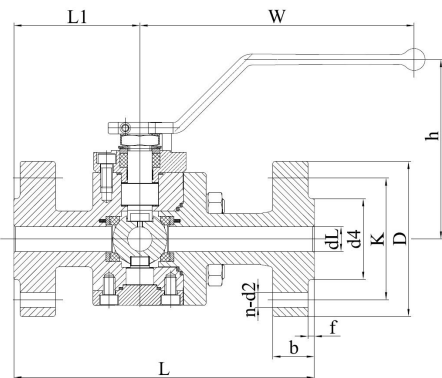
* coating options: Electroplated Hard Chrome/ Tungsten carbide /Chrome carbide /Carbide HVOF /Nickel-based alloy



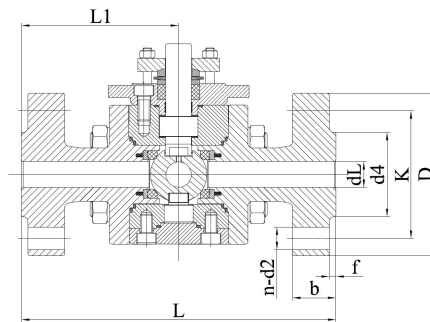
Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1;
 Face to face: PN16 PN40 EN558-1 G1,
 PN64 PN100 PN160 EN558-1 G2
 DN15-DN200



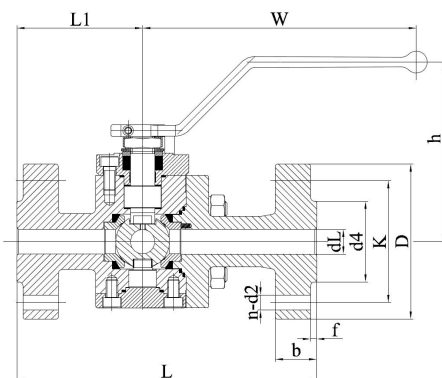
Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1 ;
 Face to face: PN16 PN40 EN558-1 G1 ,
 PN64 PN100 PN160 EN558-1 G2
 DN15-DN200



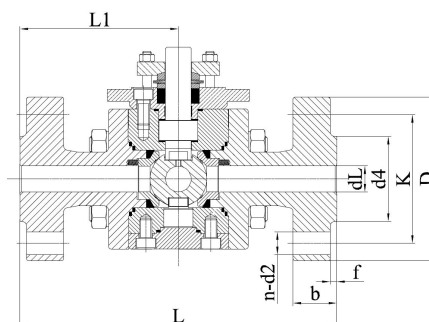
Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1;
 Face to face: PN64 PN100 PN160 EN558-1 G2
 DN15-DN50



Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1 ;
 Face to face: PN64 PN100 PN160 EN558-1 G2
 DN65-DN300



Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1;
 Face to face: PN64 PN100 PN160 EN558-1 G2
 DN15-DN50

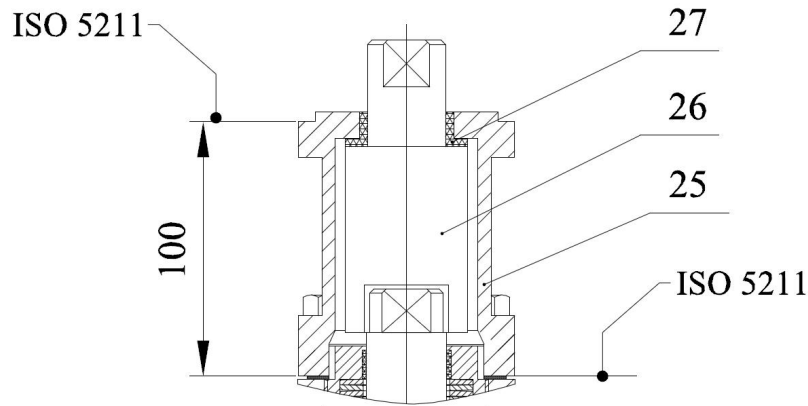


Ball valve with full bore and Flange .
 Flange end: DIN EN 1092-1 Form B1 ;
 Face to face: PN64 PN100 PN160 EN558-1 G2
 DN65-DN300

Dimension List

PN	DN	dL	L	L ₁	h	W	D	b	K	n-d2	d4×f	Weight
16(40)	15	Φ15	130.0	45.5	115.0	200.0	Φ95	16.0	Φ65	4-Φ14	Φ45×2	3.5
	20	Φ20	150.0	50.5	121.0	200.0	Φ105	18.0	Φ75	4-Φ14	Φ58×2	4.4
	25	Φ25	160.0	57.0	127.0	200.0	Φ115	18.0	Φ85	4-Φ14	Φ68×2	5.3
	32	Φ31	180.0	58.0	142.0	200.0	Φ140	18.0	Φ100	4-Φ18	Φ78×2	7.2
	40	Φ40	200.0	63.5	151.0	270.0	Φ150	18.0	Φ110	4-Φ18	Φ88×3	9.3
	50	Φ50	230.0	67.0	157.0	270.0	Φ165	20.0	Φ125	4-Φ18	Φ102×3	13.0
16	65	Φ65	290.0	71.0	191.0	270.0	Φ185	18.0	Φ145	4-Φ18	Φ122×3	16.5
	80	Φ77	310.0	83.0	201.0	360.0	Φ200	20.0	Φ160	8-Φ18	Φ138×3	22.5
	100	Φ100	350.0	87.0	218.0	360.0	Φ220	20.0	Φ180	8-Φ18	Φ158×3	30.5
	125	Φ125	400.0	122.0	241.5	500.0	Φ250	22.0	Φ210	8-Φ18	Φ188×3	55.0
	150	Φ150	480.0	124.0	256.0	650.0	Φ285	22.0	Φ240	8-Φ22	Φ212×3	82.0
	200	Φ200	600.0	168.0	315.0	760.0	Φ340	24.0	Φ295	12-Φ22	Φ268×3	190.0
40	65	Φ65	290.0	71.0	191.0	270.0	Φ185	22.0	Φ145	8-Φ18	Φ122×3	18.7
	80	Φ77	310.0	83.0	201.0	360.0	Φ200	24.0	Φ160	8-Φ18	Φ138×3	23.6
	100	Φ100	350.0	87.0	218.0	360.0	Φ235	24.0	Φ190	8-Φ22	Φ162×3	34.0
	125	Φ125	400.0	122.0	241.5	500.0	Φ270	26.0	Φ220	8-Φ26	Φ188×3	60.5
	150	Φ150	480.0	124.0	256.0	650.0	Φ300	28.0	Φ250	8-Φ26	Φ218×3	89.0
	200	Φ200	600.0	168.0	315.0	760.0	Φ375	34.0	Φ320	12-Φ30	Φ285×3	201.0
64	15	Φ15	210.0	45.5	115.0	200.0	Φ105	20.0	Ø75	4-Φ14	Φ45×2	3.8
	20	Φ20	230.0	50.5	121.0	200.0	Φ130	22.0	Ø90	4-Φ18	Φ58×2	5.0
	25	Φ25	230.0	57.0	127.0	200.0	Φ140	24.0	Ø100	4-Φ18	Φ68×2	5.6
	32	Φ31	260.0	58.0	142.0	200.0	Φ155	26.0	Ø110	4-Φ22	Φ78×2	7.9
	40	Φ40	260.0	63.5	151.0	270.0	Φ170	28.0	Ø125	4-Φ22	Φ88×3	12.1
	50	Φ50	300.0	67.0	157.0	270.0	Φ180	26.0	Ø135	4-Φ22	Φ102×3	17.5
	65	Φ65	340.0	71.0	191.0	270.0	Φ205	26.0	Ø160	8-Φ22	Φ122×3	25.0
	80	Φ77	380.0	83.0	201.0	360.0	Φ215	28.0	Ø170	8-Φ22	Φ138×3	38.0
	100	Φ100	430.0	87.0	218.0	360.0	Φ250	30.0	Ø200	8-Φ26	Φ162×3	61.9
	125	Φ125	500.0	122.0	241.5	500.0	Φ295	34.0	Ø240	8-Φ30	Φ188×3	108.9
	150	Φ150	550.0	124.0	256.0	650.0	Φ345	36.0	Ø280	8-Φ33	Φ218×3	150.3
	200	Φ200	650.0	168.0	315.0	760.0	Φ415	42.0	Ø345	12-Φ36	Φ285×3	258.1
	250	Φ250	775.0	185.0	347.0	988.0	Φ470	46.0	Ø400	12-Φ36	Φ345×3	456.0
300	Φ300	900.0	203.0	381.0	1284.0	Φ530	52.0	Φ460	16-Φ36	Φ410×4	654.8	
100	15	Φ15	210.0	45.5	115.0	200.0	Φ105	20.0	Φ75	4-Φ14	Φ45×2	5.2
	20	Φ20	230.0	50.5	121.0	200.0	Φ130	22.0	Φ90	4-Φ18	Φ58×2	8.4
	25	Φ25	230.0	57.0	127.0	200.0	Φ140	24.0	Φ100	4-Φ18	Φ68×2	9.8
	32	Φ31	260.0	58.0	142.0	200.0	Φ155	26.0	Φ110	4-Φ22	Φ78×2	14.5
	40	Φ40	260.0	63.5	151.0	270.0	Φ170	28.0	Φ125	4-Φ22	Φ88×3	20.9
	50	Φ50	300.0	67.0	157.0	270.0	Φ195	30.0	Φ145	4-Φ26	Φ102×3	32.5
	65	Φ65	340.0	71.0	191.0	270.0	Φ220	34.0	Φ170	8-Φ26	Φ122×3	45.0
	80	Φ77	380.0	83.0	201.0	360.0	Φ230	36.0	Φ180	8-Φ26	Φ138×3	69.4
	100	Φ100	430.0	87.0	218.0	360.0	Φ265	40.0	Φ210	8-Φ30	Φ162×3	104.0
	125	Φ125	500.0	122.0	241.5	500.0	Φ315	40.0	Φ250	8-Φ33	Φ188×3	185.1
	150	Φ150	550.0	124.0	256.0	650.0	Φ355	44.0	Φ290	12-Φ33	Φ218×3	244.1
	200	Φ200	650.0	168.0	315.0	760.0	Φ430	52.0	Φ360	12-Φ36	Φ285×3	418.0
	250	Φ250	775.0	185.0	347.0	988.0	Φ505	60.0	Φ430	12-Φ39	Φ345×3	683.9
300	Φ300	900.0	203.0	381.0	1284.0	Φ585	68.0	Φ500	16-Φ42	Φ410×4	931.3	

PN	DN	dL	L	L1	h	W	D	b	K	n-d2	d4×f	Weight
160	15	Φ15	210.0	45.5	115.0	200.0	Φ105	20.0	Φ75	4-Φ14	Φ45×2	9.2
	25	Φ25	230.0	57.0	127.0	200.0	Φ140	24.0	Φ100	4-Φ18	Φ68×2	16.0
	40	Φ40	260.0	63.5	151.0	270.0	Φ170	28.0	Φ125	4-Φ22	Φ88×3	29.8
	50	Φ50	300.0	67.0	157.0	270.0	Φ195	30.0	Φ145	4-Φ26	Φ102×3	49.2
	65	Φ65	340.0	71.0	191.0	270.0	Φ220	34.0	Φ170	8-Φ26	Φ122×3	67.5
	80	Φ77	380.0	83.0	201.0	360.0	Φ230	36.0	Φ180	8-Φ26	Φ138×3	85.1
	100	Φ100	430.0	87.0	218.0	360.0	Φ265	40.0	Φ210	8-Φ30	Φ162×3	148.6
	125	Φ125	500.0	122.0	241.5	500.0	Φ315	44.0	Φ250	8-Φ33	Φ188×3	259.0
	150	Φ150	550.0	124.0	256.0	650.0	Φ355	50.0	Φ290	12-Φ33	Φ218×3	302.5
	200	Φ200	650.0	168.0	315.0	760.0	Φ430	60.0	Φ360	12-Φ36	Φ285×3	554.3
	250	Φ250	775.0	185.0	347.0	988.0	Φ515	68.0	Φ430	12-Φ42	Φ345×3	882.4
	300	Φ300	900.0	203.0	381.0	1284.0	Φ585	78.0	Φ500	16-Φ42	Φ410×4	1306.0



Extended stem type

Material list

NO.	Part	Material				
		1.0460	1.4401	1.4404	1.4571	Hastelloy
25	Case	1.0460	1.4401	1.4404	1.4571	Hastelloy
26	Long stem	1.4548 / 1.4401	1.4548 / 1.4401	1.4548 / 1.4401	1.4548 / 1.4401	1.4548 / 1.4401
27	Thrust bearing	PTFE+25%glass	PTFE+25%glass	PTFE+25%glass	PTFE+25%glass	PTFE+25%glass

Dimension List

PN \ DN	16	40	64	100	160
15	F05	F05	F05	F05	F05
20	F05	F05	F05	F05	F05
25	F05	F05	F05	F07	F07
32	F05	F05	F05	F07	F07
40	F07	F07	F07	F10	F10
50	F07	F07	F10	F12	F12
65	F07	F07	F10	F12	F12
80	F10	F10	F14	F16	F16
100	F10	F10	F14	F16	F25
125	F12	F12	F14	F16	F25
150	F12	F12	F16	F25	F25
200	F12	F12	F16	F25	F30
250	F12	F12	F25	F30	F30
300	F16	F25	F25	F30	F35

Stem extension: 100 mm or 200 mm, or as required.

Connecting format

Flanged		
Pressure rating	Flange dimension	Sealing form
PN16 PN40 PN64 PN100 PN160	DIN EN 1092-1	DIN EN 1092-1 Form B 1 Ra max : 12.5 µm Rz max : 50 µm

Installation instructions

Installation site is not prescribed.
Regardless of the flow direction.

Details please consult.

Technical parameters

Flow characteristics - Kv (m³/h)

DN	15	20	25	32	40	50	65	80	100	150	200	250	300
Kv	12	23	60	72	175	360	620	930	1900	3500	-----	-----	-----

Open torque - Nm

△P (bar)	DN												
	15	20	25	32	40	50	65	80	100	150	200	250	300
0	3.0	3.5	6.0	9.0	14.0	17.0	39.0	59.0	75.0	130.0	198.0		
10	4.0	6.0	10.0	15.0	24.0	27.0	55.0	80.0	105.0	220.0	350.0		
16	5.0	8.0	16.0	21.0	31.0	36.0	70.0	100.0	132.0	306.0	495.0		
25	7.0	11.0	20.0	30.0	39.0	55.0	95.0	130.0	180.0	500.0	510.0		
40	9.0	15.0	26.0	41.0	50.0	72.0	130.0	190.0	265.0	670.0	1100.0		
64													
100													
160													

Maximum and minimum

DN	15	20	25	32	40	50	65	80	100	150	200	250	300
M _{d max}	50	50	336	336	600	600	600	1000	1000	3500	4000		
M _{d min}	2	2	3	5	8	9	21	32	41	70	99		

Allowable pressure in dependence of the temperature

DN	PN	-60°C	-10°C	50°C	100°C	150°C	200°C
15~25	40.0	30.0	40.0	40.0	40.0	34.0	22.0
32~50	40.0	30.0	40.0	40.0	40.0	33.0	17.0
65~80	40.0	30.0	40.0	40.0	40.0	29.5	13.5
100	16.0	12.0	16.0	16.0	16.0	15.5	11.5
100	40.0	30.0	40.0	40.0	32.0	26.5	12.0
125~200	16.0	12.0	16.0	16.0	16.0	15.5	7.5
125~200	40.0	30.0	40.0	40.0	26.0	23.5	8.0
15~300	64						
15~300	100						
15~300	160						

Seat material: TFM

DN	PN	-60°C	-10°C	50°C	100°C	150°C	200°C
15~25	40.0	30.0	40.0	40.0	40.0	35.0	23.0
32~50	40.0	30.0	40.0	40.0	40.0	34.0	17.5
65~80	40.0	30.0	40.0	40.0	40.0	30.0	14.0
100	16.0	12.0	16.0	16.0	16.0	15.9	11.8
100	40.0	30.0	40.0	40.0	33.0	27.0	12.3
125~200	16.0	12.0	16.0	16.0	16.0	16.0	8.7
125~200	40.0	30.0	40.0	40.0	27.0	24.0	8.3
15~300	64						
15~300	100						
15~300	160						

Seat material: PTFE+25%glass

DN	PN	-60°C	-10°C	50°C	100°C	150°C	200°C
15~25	40.0	30.0	40.0	40.0	40.0	35.7	23.0
32~50	40.0	30.0	40.0	40.0	40.0	34.5	18.0
65~80	40.0	30.0	40.0	40.0	40.0	31.0	14.0
100	16.0	12.0	16.0	16.0	16.0	16.0	12.0
100	40.0	30.0	40.0	40.0	32.0	28.0	12.5
125~200	16.0	12.0	16.0	16.0	16.0	16.0	9.0
125~200	40.0	30.0	40.0	40.0	26.0	24.5	8.5
15~300	64						
15~300	100						
15~300	160						

Seat material: PTFE+15%carbon

DN	PN	-60℃	-10℃	50℃	100℃	150℃	200℃
15~25	40.0	30.0	40.0	40.0	40.0	40.0	32.5
32~50	40.0	30.0	40.0	40.0	40.0	40.0	32.0
65~80	40.0	30.0	40.0	40.0	40.0	40.0	30.5
100	16.0	12.0	16.0	16.0	16.0	16.0	12.5
100	40.0	30.0	40.0	40.0	40.0	40.0	30.0
125~200	16.0	12.0	16.0	16.0	16.0	16.0	9.5
125~200	40.0	30.0	40.0	40.0	40.0	40.0	27.5
15~300	64						
15~300	100						
15~300	160						

Seat material: PTFE+20%PEEK

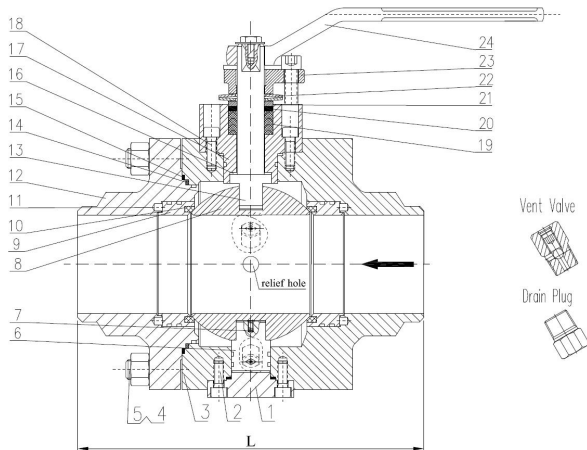
DN	PN	-60℃	-10℃	50℃	100℃	150℃	200℃
15~25	40.0	30.0	40.0	40.0	40.0	40.0	37.5
32~50	40.0	30.0	40.0	40.0	40.0	40.0	37.0
65~80	40.0	30.0	40.0	40.0	40.0	40.0	36.5
100	16.0	12.0	16.0	16.0	16.0	16.0	12.5
100	40.0	30.0	40.0	40.0	40.0	40.0	36.0
125~200	16.0	12.0	16.0	16.0	16.0	16.0	10.0
125~200	40.0	30.0	40.0	40.0	40.0	40.0	34.0
15~300	64						
15~300	100						
15~300	160						

Seat material: PEEK

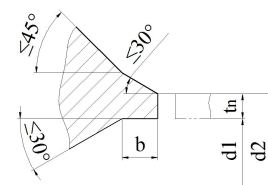
The shown values refer to austenitic stainless steel 1.4401. More details please consult.

**Forged Ball valve, BW ends, Trunnion ball, full bore, soft seat, PN64, DN80 -DN300
TRFL Technical Standards for Long-distance Pipelines, Medium: Gaseous Ethylene**

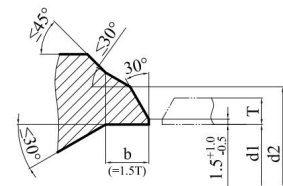
FIG.	Pressure	Material	RANGE
146.721-BW	PN64	1.0460	DN80-DN300



Ball valve with full bore and BW ends. PN64 EN558-1 G2



EN 12627 Fig1
 $tn \le 4mm$ DN80



EN 12627 Fig2
 $4mm < T \le 22mm$ DN100 - DN300

Material list

NO.	Part	Material	NO.	Part	Material
		FIG. 146.721-BW			FIG. 146.721-BW
1	Cap	1.0460	13	Stem	1.4462
2	Bolt	A2-70	14	Gasket	PTFE
3	Body	1.0460	15	Gasket	Graphite
4	Bolt	A2-70	16	Thrust Washer	CPTFE
5	Nut	A2-70	17	Stuffing Box	1.0460
6	Stem	1.4462	18	Bolt	A2-70
7	Spring	INCONEL X-750	19	Packing	PTFE
8	Ball	1.4301	20	Packing	Graphite
9	Seat Ring	1.4301	21	Packing ring	1.4401
10	Seat	PTFE+25%Glass	22	Belleville spring	INCONEL X-750
11	Spring	INCONEL X-750	23	Gland Flange	1.0460
12	Cap	1.0460	24	Handle	1.0619/1.0460

Dimension List

PN	DN	L	d2	d1	b	For pipe
64	80	380	91	80.9	6	Ø88.9×4.0
	100	430	117	104.3	8	Ø114.3×5.0
	125	500	144	130.7	7	Ø139.7×4.5
	150	550	172	157.1	9	Ø168.3×5.6
	200	650	223	204.9	11	Ø219.1×7.1
	250	775	278	255.4	14	Ø273.0×8.8
	300	900	329	301.9	17	Ø323.9×11.0