

**Soft seal Ball valve  
Floating ball  
Flange  
PN16-40  
DN15-200**

**Range of application:**

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

**Temperature range:**

Max. working temperature :  
 -29°C to +260°C (carbon steel)  
 -50°C to +260°C (stainless steel)  
 -196°C acc. to requirement

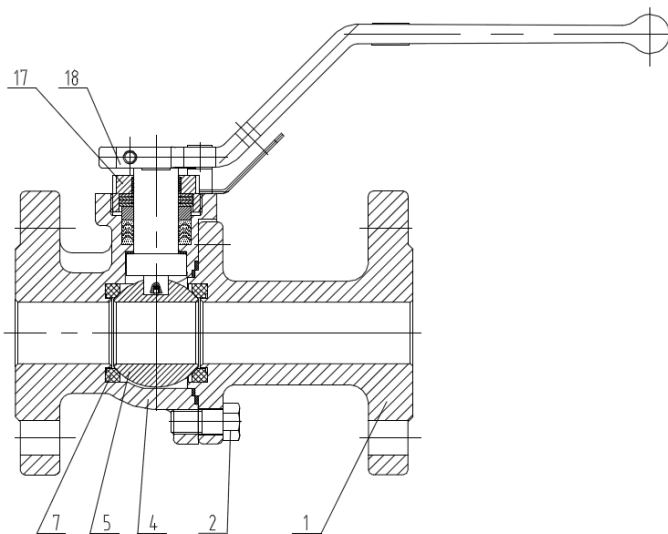
**Perform standard:**

Design: split body with full bore round port , floating ball.  
 acc. DIN 3357 .  
 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 2002 10000 cycles RT.  
 TA-Luft 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.  
 Optional: Ball with relief bore on pressure side (requires unidirectional  
 installation)

**Material [ according DIN EN (DIN) ]**

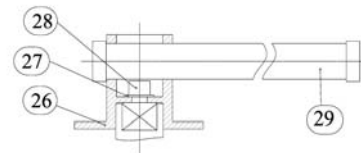
Body: —1.0619N,1.0619QT  
 —1.4408,1.4409,1.4539,1.4470  
 —Hastelloy (2.4610) ,  
 Hastelloy B3 (2.4600)  
 Ball: —1.4301  
 —1.4401  
 —1.4404  
 —1.4539  
 —Hastelloy (2.4610) ,  
 Hastelloy B3 (2.4600)  
 Body Seal: PTFE /Graphite  
 Seat: PTFE / RPTFE /TFM1600 / VX1  
 / PEEK /PCTFE

FIG.	Pressure	Material	RANGE
133.751	PN16	1.0619N	DN15-DN200
135.751	PN40	1.0619N	DN15-DN200
153.751	PN16	1.4408	DN15-DN200
155.751	PN40	1.4408	DN15-DN200
503.751	PN16	1.4539	DN15-DN200
505.751	PN40	1.4539	DN15-DN200
533.751	PN16	Hastelloy (2.4610)	DN15-DN200
535.751	PN40	Hastelloy (2.4610)	DN15-DN200
543.751	PN16	Hastelloy B3 (2.4600)	DN15-DN200
545.751	PN40	Hastelloy B3 (2.4600)	DN15-DN200



**DN15 - DN100**

Ball valve with full bore and Flange .



**DN125 - DN200**

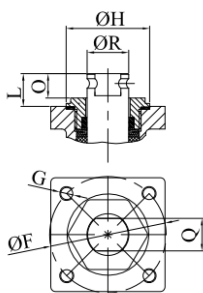
**Material list**

NO.	Part	Material				
		FIG. 153.751/ 155.751	FIG. 133.751 /135.751	FIG. 503.751 /505.751	FIG.533.751 /535.751	FIG.543.751 /545.751
1	Adapte	1.4408	1.0619N	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
2	Bolts	A4-70	1.7225	A4-70	A4-70	A4-70
4	Body	1.4408	1.0619N	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
5	Ball	1.4401	1.4301	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
7	Seat	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE
17	Nut	1.4401	CS	1.4401	1.4401	1.4401
18	Lever	1.4308	GGG 40.3	1.4308	1.4308	1.4308
26	Switch	1.4408	1.0619N	1.4408	1.4408	1.4408
27	Gasket	1.4301	1.4301	1.4301	1.4301	1.4301
28	Bolt	A2-70	35	A2-70	A2-70	A2-70
29	Lever	1.4301	C45	1.4301	1.4301	1.4301

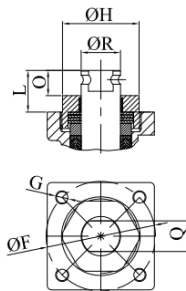


**Material list**

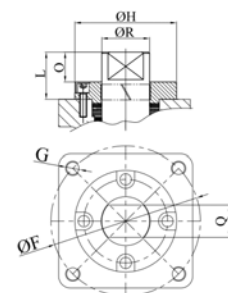
NO.	Part	Material					
		Fig.751 GP	Fig.751 GPG	Fig.751 GG	Fig.751 NP	Fig.751 NPG	Fig.751 NG
10	Thrust bearing	PTFE+25%glass					
11	Stem	1.4548/1.4462/1.4571/1.4401/1.4539/Hastelloy (2.4610) /Hastelloy B3 (2.4600)					
12	Packing	PTFE	PTFE	Graphite	PTFE	PTFE	Graphite
13	Gasket	1.4401					
14	Belleville spring	1.4568					
15	Nut	1.4401/1.0460					
16	Gland	1.4401/1.0460					
17	Packing		Graphite			Graphite	
19	Body seal	PTFE	Graphite	Graphite	PTFE	Graphite	Graphite
20	Body seal	PTFE	PTFE	Graphite	PTFE	PTFE	Graphite
21	Bearing	PTFE+30%C					



DN15-100 Nut Type A



DN15-100 Nut Type B



DN125-200 Gland Type

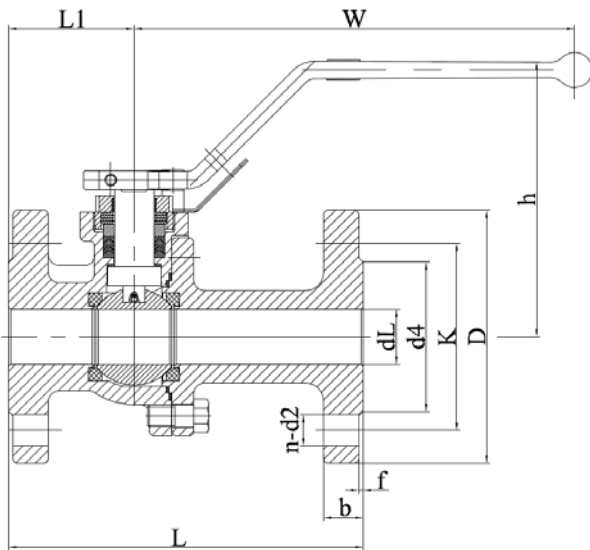
**Dimension List, DN15-DN100 Nut Type A, DN125-DN200 Gland Type**

DN	15	20	25	32	40	50	65	80	100	125	150	200
ΦF	50	50	50	50	70	70	70	102	102	125	125	125
G	M6	M6	M6	M6	M8	M8	M8	M10	M10	M12	M12	M12
ΦH	35	35	35	35	55	55	55	70	70	85	85	85
L	17	16	18.5	19	27	28	27.5	30	33	41	41	39
O	11.3	10	11	11.5	15.8	16.8	16.5	18	20.8	26.5	26.5	25.5
Q	9	9	14	14	17	17	17	19	19	27	27	27
ΦR	11.8	11.8	18	18	21.8	21.8	21.8	25.8	25.8	40	40	50
ISO 5211	F05	F05	F05	F05	F07	F07	F07	F10	F10	F12	F12	F12

**Dimension List, DN15-DN100 Nut Type B**

DN	15	20	25	32	40	50	65	80	100
ΦF	50	50	50	50	70	70	70	102	102
G	M6	M6	M6	M6	M8	M8	M8	M10	M10
ΦH	35	35	35	35	55	55	55	70	70
L	17	17	19	19	29	28	27.5	32	33
O	11	11	11.5	11.5	18.5	17.5	17	21.5	21.8
Q	9	9	14	14	17	17	17	19	19
ΦR	11.8	11.8	18	18	21.8	21.8	21.8	25.8	25.8
ISO 5211	F05	F05	F05	F05	F07	F07	F07	F10	F10

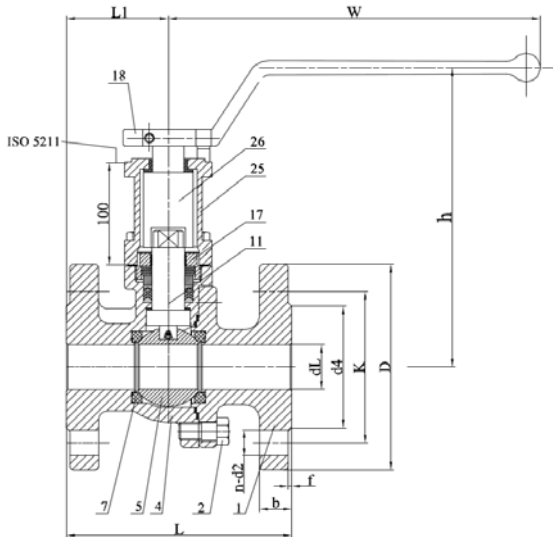
FIG.	Pressure	Material	RANGE
133.751	PN16	1.0619N	DN15-DN200
135.751	PN40	1.0619N	DN15-DN200
153.751	PN16	1.4408	DN15-DN200
155.751	PN40	1.4408	DN15-DN200
503.751	PN16	1.4539	DN15-DN200
505.751	PN40	1.4539	DN15-DN200
533.751	PN16	Hastelloy (2.4610)	DN15-DN200
535.751	PN40	Hastelloy (2.4610)	DN15-DN200
543.751	PN16	Hastelloy B3 (2.4600)	DN15-DN200
545.751	PN40	Hastelloy B3 (2.4600)	DN15-DN200



Ball valve with full bore and Flange . Flange end: DIN EN 1092-1 Form B1 ; Face to face: EN558-1 , G27 / G28 .

**Dimension List**

PN	DN	dL	L	L1	h	W	D	b	K	n-d2	d4×f	Weight
16(40)	15	Φ15	115.0 /130.0	45.5	115.0	200.0	Φ95	16.0	Φ65	4-Φ14	Φ45×2	3.5
	20	Φ20	120.0/ 150.0	50.5	121.0	200.0	Φ105	18.0	Φ75	4-Φ14	Φ58×2	4.4
	25	Φ25	125.0/ 160.0	57.0	127.0	200.0	Φ115	18.0	Φ85	4-Φ14	Φ68×2	5.3
	32	Φ31	130.0/ 180.0	58.0	142.0	200.0	Φ140	18.0	Φ100	4-Φ18	Φ78×2	7.2
	40	Φ40	140.0/ 200.0	63.5	143.0	270.0	Φ150	18.0	Φ110	4-Φ18	Φ88×3	9.3
	50	Φ50	150.0/ 230.0	67.0	150.0	270.0	Φ165	20.0	Φ125	4-Φ18	Φ102×3	13.0
16	65	Φ65	170.0 /290.0	71.0	160.0	270.0	Φ185	18.0	Φ145	4-Φ18	Φ122×3	16.5
	80	Φ77	180.0 /310.0	83.0	192.0	360.0	Φ200	20.0	Φ160	8-Φ18	Φ138×3	22.5
	100	Φ100	190.0/ 350.0	87.0	209.0	360.0	Φ220	20.0	Φ180	8-Φ18	Φ158×3	30.5
	125	Φ125	325.0	122.0	241.5	500.0	Φ250	22.0	Φ210	8-Φ18	Φ188×3	55.0
	150	Φ150	350.0	124.0	256.0	650.0	Φ285	22.0	Φ240	8-Φ22	Φ212×3	82.0
	200	Φ200	400.0	168.0	315.0	760.0	Φ340	24.0	Φ295	12-Φ22	Φ268×3	190.0
40	65	Φ65	170.0/290.0	71.0	160.0	270.0	Φ185	22.0	Φ145	8-Φ18	Φ122×3	18.7
	80	Φ77	180.0/310.0	83.0	192.0	360.0	Φ200	24.0	Φ160	8-Φ18	Φ138×3	23.6
	100	Φ100	190.0/350.0	87.0	209.0	360.0	Φ235	24.0	Φ190	8-Φ22	Φ162×3	34.0
	125	Φ125	325.0	122.0	241.5	500.0	Φ270	26.0	Φ220	8-Φ26	Φ188×3	60.5
	150	Φ150	350.0	124.0	256.0	650.0	Φ300	28.0	Φ250	8-Φ26	Φ218×3	89.0
	200	Φ200	400.0	168.0	315.0	760.0	Φ375	34.0	Φ320	12-Φ30	Φ285×3	201.0

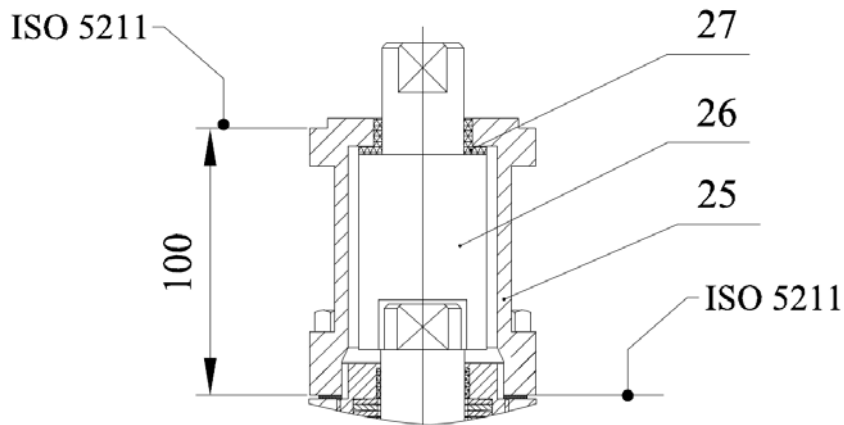


Long stem ball valve with full bore and Flange .  
 Flange end: DIN EN 1092-1 Form B1 ;  
 Face to face: EN558-1 .

**Material list**

NO.	Part	Material				
1	Adapt	1.4408	1.0619N	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
2	Bolts	A4-70	1.7225	A4-70	A4-70	A4-70
4	Body	1.4408	1.0619N	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
5	Ball	1.4401	1.4301	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
7	Seat	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE/PTFE+25%glass	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE/PTFE+25%glass	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE/PTFE+25%glass	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE/PTFE+25%glass	PTFE/RPTFE/TFM 1600/VX1/ PEEK /PCTFE/PTFE+25%glass
11	Stem	1.4548 /1.4462/1.4571/ 1.4401	1.4548 /1.4462/1.4571/ 1.4401	1.4539	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
17	Nut	1.4401	CS	1.4401	1.4401	1.4401
18	Lever	1.4308	GGG-40	1.4308	1.4308	1.4308
25	Case	1.4408	1.0619N	1.4408	1.4408	1.4408
26	Long	1.4548 / 1.4401	1.4548 / 1.4401	1.4548 / 1.4401	1.4548/1.4401	1.4548/1.4401

PN	DN	dL	l	ll	H	W	D	b	K	n-d2	d4×f	Weight
16(40)	15	Φ15	115.0/130.0	45.5	215.0	200.0	Φ95	16.0	Φ65	4-Φ14	Φ45×2	4.4
	20	Φ20	120.0/150.0	50.5	221.0	200.0	Φ105	18.0	Φ75	4-Φ14	Φ58×2	5.3
	25	Φ25	125.0/160.0	57.0	227.0	200.0	Φ115	18.0	Φ85	4-Φ14	Φ68×2	6.2
	32	Φ31	130.0/180.0	58.0	242.0	200.0	Φ140	18.0	Φ100	4-Φ18	Φ78×2	8.1
	40	Φ40	140.0/200.0	63.5	243.0	270.0	Φ150	18.0	Φ110	4-Φ18	Φ88×3	11.6
	50	Φ50	150.0/230.0	67.0	250.0	270.0	Φ165	20.0	Φ125	4-Φ18	Φ102×3	15.3
16	65	Φ65	170.0/290.0	71.0	260.0	270.0	Φ185	18.0	Φ145	4-Φ18	Φ122×3	18.8
	80	Φ77	180.0/310.0	83.0	292.0	360.0	Φ200	20.0	Φ160	8-Φ18	Φ138×3	26.6
	100	Φ100	190.0/350.0	87.0	309.0	360.0	Φ220	20.0	Φ180	8-Φ18	Φ158×3	34.6
	125	Φ125	325.0	122.0	341.5	500.0	Φ250	22.0	Φ210	8-Φ18	Φ188×3	61.3
	150	Φ150	350.0	124.0	356.0	650.0	Φ285	22.0	Φ240	8-Φ22	Φ212×3	88.3
	200	Φ200	400.0	168.0	415.0	760.0	Φ340	24.0	Φ295	12-Φ22	Φ268×3	196.3
40	65	Φ65	170.0/290.0	71.0	260.0	270.0	Φ185	22.0	Φ145	8-Φ18	Φ122×3	21.0
	80	Φ77	180.0/310.0	83.0	292.0	360.0	Φ200	24.0	Φ160	8-Φ18	Φ138×3	27.7
	100	Φ100	190.0/350.0	87.0	309.0	360.0	Φ235	24.0	Φ190	8-Φ22	Φ162×3	38.1
	125	Φ125	325.0	122.0	341.5	500.0	Φ270	26.0	Φ220	8-Φ26	Φ188×3	66.8
	150	Φ150	350.0	124.0	356.0	650.0	Φ300	28.0	Φ250	8-Φ26	Φ218×3	95.3
	200	Φ200	400.0	168.0	415.0	760.0	Φ375	34.0	Φ320	12-Φ30	Φ285×3	207.3



**Extended stem type**

**Material list**

NO.	Part	Material				
		1.4408	1.0619N	1.4408	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
25	Case	1.4408	1.0619N	1.4408	Hastelloy (2.4610)	Hastelloy B3 (2.4600)
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	H	ISO5211
16(40)	15	100	F05
	20	100	F05
	25	100	F05
	32	100	F05
	40	100	F07
	50	100	F07
16	65	100	F07
	80	100	F10
	100	100	F10
	125	100	F12
	150	100	F12
	200	100	F12
40	65	100	F07
	80	100	F10
	100	100	F10
	125	100	F12
	150	100	F12
	200	100	F12

**Connecting format**

Flanged		
Pressure rating	Flange dimension	Sealing form
PN16 PN40	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
Kv	12	23	60	72	175	360	620	930	1900	3500	-----

**Open torque - Nm**

ΔP (bar)	DN										
	15	20	25	32	40	50	65	80	100	150	200
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

Seat material: PTFE+25%glass

ΔP (bar)	DN										
	15	20	25	32	40	50	65	80	100	150	200
0	2.5	3.0	5.0	7.0	11.0	13.5	31.0	47.0	60.0	104.0	158.5
10	3.0	5.0	8.0	12.0	19.0	21.5	44.0	64.0	84.0	176.0	280.0
16	4.0	6.5	13.0	17.0	25.0	19.0	56.0	80.0	105.5	245.0	396.0
25	5.5	9.0	16.0	24.0	21.0	44.0	76.0	104.0	144.0	400.0	408.0
40	7.0	12.0	21.0	33.0	40.0	57.5	104.0	152.0	212.0	536.0	880.0

Seat material: TFM1600

ΔP (bar)	DN										
	15	20	25	32	40	50	65	80	100	150	200
0	4.5	5.0	9.0	13.0	21.0	25.5	58.0	88.0	112.0	195.0	295.0
10	6.0	9.0	15.0	22.0	36.0	40.0	82.0	120.0	157.0	330.0	520.0
16	7.5	12.0	24.0	31.0	46.0	54.0	105.0	150.0	198.0	459.0	740.0
25	10.0	16.0	30.0	45.0	58.0	82.0	142.0	195.0	270.0	750.0	760.0
40	13.0	22.0	39.0	61.0	75.0	108.0	195.0	285.0	397.0	1000.0	1600.0

Seat material: PTFE+20%PEEK PCTFE

**Maximum and minimum**

DN	15	20	25	32	40	50	65	80	100	150	200
M <sub>d max</sub>	50	50	336	336	600	600	600	1000	1000	3500	4000
M <sub>d min</sub>	2	2	3	5	8	9	21	32	41	70	99

**Allowable pressure in dependence of the temperature**

DN	PN	-60℃	-10℃	50℃	100℃	150℃	200℃
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

Seat material: TFM1600

DN	PN	-60℃	-10℃	50℃	100℃	150℃	200℃
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

Seat material: PTFE+25%glass

DN	PN	-60℃	-10℃	50℃	100℃	150℃	200℃
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

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

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

Seat material: PEEK

The shown values refer to austenitic stainless steel 1.4408. More details please consult.