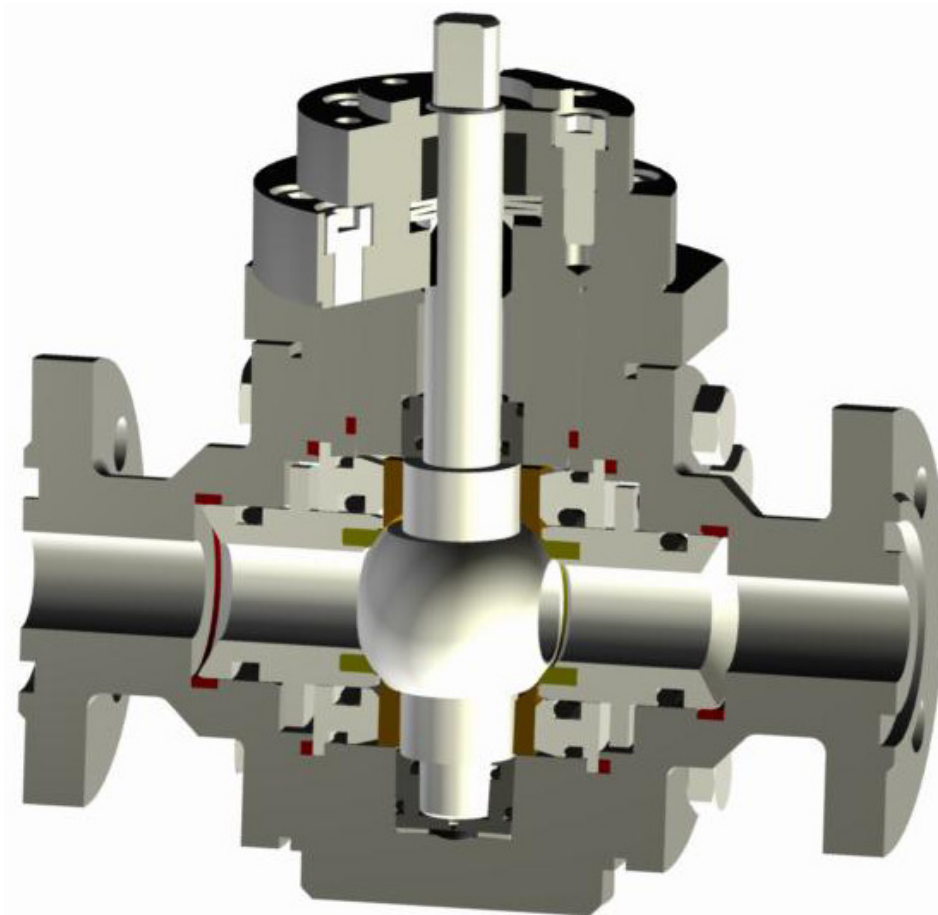




Two-Way Ball Valve Type 16.123



Design Characteristics

- ✓ Split body design
- ✓ Trunnion mounted ball with integral stem
- ✓ Spring area protected seat system
- ✓ Spring loaded seat system
- ✓ Live loaded stem packing
- ✓ Minimal dead spaces through cavity fillers
- ✓ Fire Safe design optional

Design Standards

- ✓ EN 12516, EN 1983, ISO 5211, AD-2000
- ✓ ASME B 16.34, API 608

Range of Application

- ✓ Diameter 1/2" to 6" / DN 15 to 150
- ✓ Class 150 to 600 / PN 10 to 100
- ✓ -76°F bis +392°F / -60°C bis +200°C

Approvals

- ✓ "TA-Luft" certified for low fugitive emissions

Testing Standards

- ✓ EN 12266-1/2
- ✓ API 598



Main Parts

- 1 Body
- 2 Body End Connection
- 4 Retainer Ring
- 5 Ball with Stem
- 8 Gland Washer
- 10 Bearing Cover
- 12 Cover
- 13 Bearing Ring
- 16 Plate Spring
- 17 Coil Spring
- 20 Sealing Ring
- 21 Seat Ring
- 23 Body Gasket
- 24 Stem Packing
- 25 Bearing Ring
- 26 Bearing Ring
- 27 Body Gasket
- 28-30 Screw
- 35-39 Round Ring
- 40 Ring
- 41 Plate Spring
- 46 Half Shell

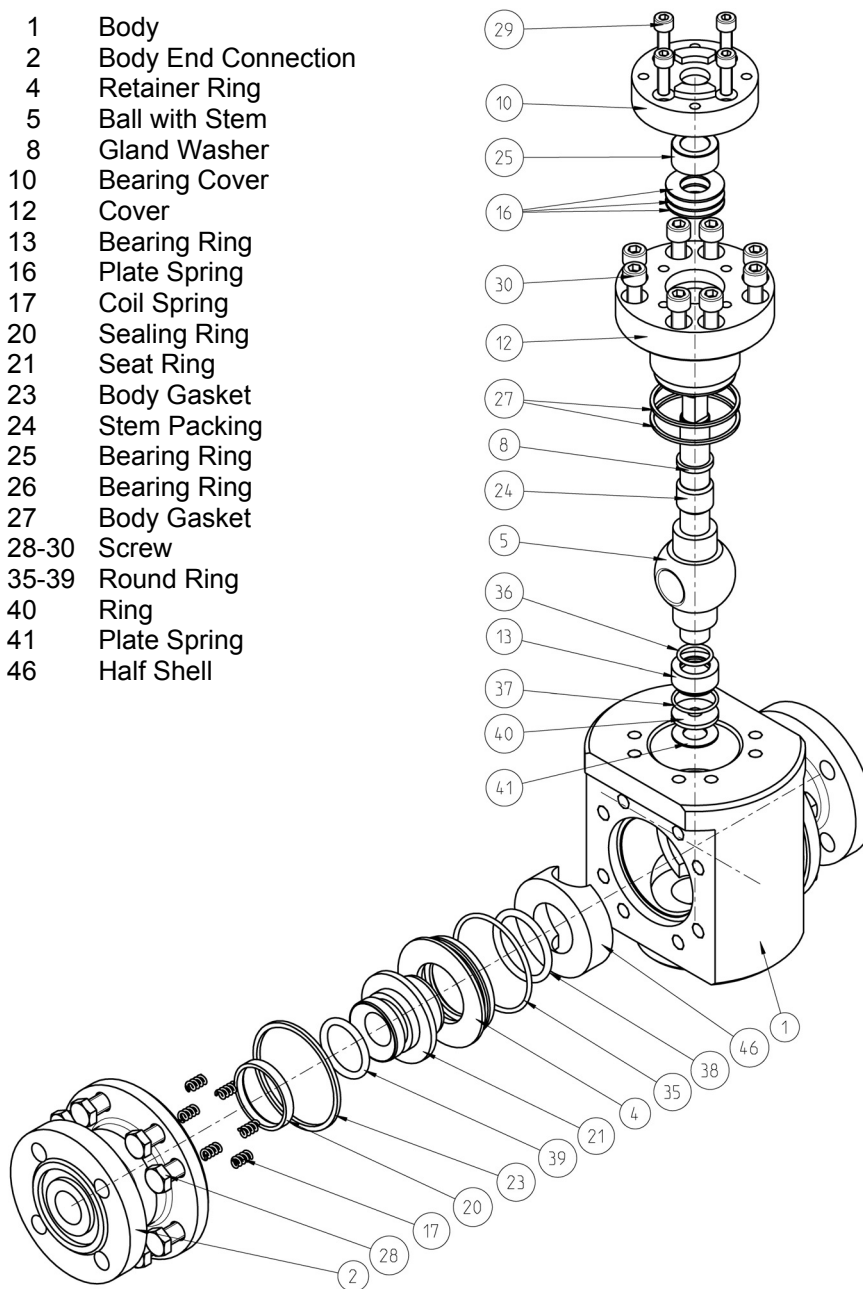


Fig.1

Description

This PERRIN ball valve is designed with split body housing and triple bearing ball. The spring loaded seat system and packing provide continuous tightness, even during short-term temperature changes. The seating system is protected using round rings against ingress of medium. This series has been developed specifically for use in the manufacture of polyethylene and polypropylene.

The valve is equipped with an integral actuator mounting flange for actuator connection according to ISO 5211. Stem extensions, locking devices and actuators with accessories, can be attached without operating interruptions.

The ball valve has an antistatic design. The stem packing and sealings are "TA-Luft" certified for low fugitive emissions.



Parts List / Materials

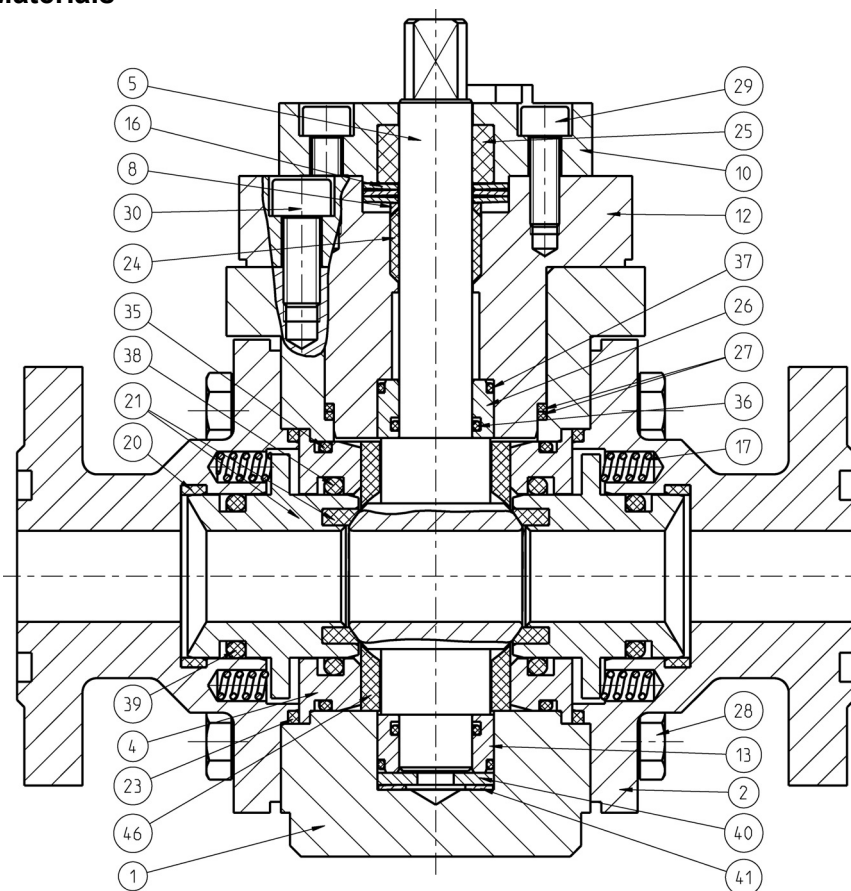


Fig. 2

Item	Designation	ASME		DIN EN	
		-20°F up to +392°F	-20°F up to +392°F	-60°C up to +200°C	-10°C up to +200°C
1	Body	Type 316	A105	1.4571	1.0460
2	Body End Connection				
4	Retainer Ring	Type 316	Type 316	1.4571	1.4571
5	Ball with Stem	Type 316 coated	Type 316 coated	1.4571 coated	1.4571 coated
8	Gland Washer	Type 316	Type 316	1.4571	1.4571
10	Bearing Cover	Type 316	A105	1.4571	1.0460
12	Cover	Type 316	A105	1.4571	1.0460
13	Bearing Ring	PEEK	PEEK	PEEK	PEEK
16	Plate Spring	Type 301	Type 301	1.4310	1.4310
17	Coil Spring	Type 316Ti	Type 316Ti	1.4571	1.4571
20	Sealing Ring	PTFE-Glass	PTFE-Glass	PTFE-Glass	PTFE-Glass
21	Seat Ring	Type 316-PEEK	Type 316-PEEK	1.4571-PEEK	1.4571-PEEK
23	Body Gasket	Graphite	Graphite	Graphite	Graphite
24	Stem Packing	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment
25	Bearing Ring	Carbon	Carbon	Carbon	Carbon
26	Bearing Ring	PEEK	PEEK	PEEK	PEEK
27	Body Gasket	Graphite	Graphite	Graphite	Graphite
28-30	Screw	SS	SS	SS	SS
35-39	Round Ring	Polymer / Elastomer	Polymer / Elastomer	Polymer / Elastomer	Polymer / Elastomer
40	Ring	Type 316	Type 316	1.4571	1.4571
41	Plate Spring	Type 301	Type 301	1.4310	1.4310
46	Half Shell	PTFE-Glass / PEEK	PTFE-Glass / PEEK	PTFE-Glass / PEEK	PTFE-Glass / PEEK

Tab. 1

1) Materials for lower / higher temperature on request

Technical Data

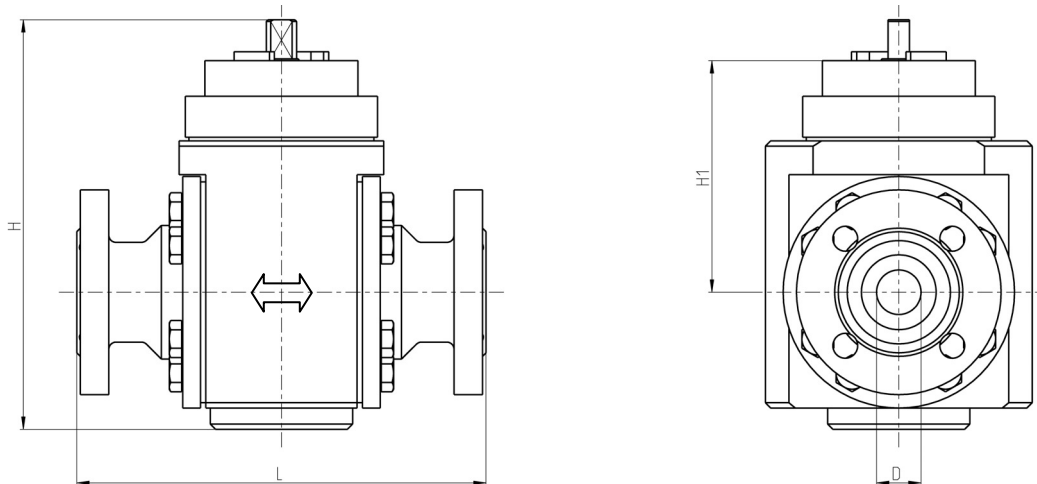


Fig.3

D = NPS = DN = Nominal Size
m = Weight

CLASS 150 - Full Bore

NPS [inch]	DN [mm]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
½	15	6,2	158	3,5	89	9,1	230	27	51	23
¾	20	6,8	173	3,7	95	9,1	230	47	57	26
1	25	7,4	188	4,1	105	9,1	230	74	64	29
1½	40	9,4	238	5,3	135	10,2	260	191	101	46
2	50	10	255	5,8	147	11,8	300	298	136	62
3	80	13,5	343	7,5	191	15	380	763	268	122
4	100	14,3	363	7,9	201	17	430	1192	504	229
6	150	20,6	523	11,2	284	23	580	2682	741	337

Tab.2

CLASS 150 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
¾	½	6,2	158	3,5	89	9	230	24	54	25
1	¾	6,8	173	3,7	95	9	230	43	59	27
1½	1¼	8,3	210	4,7	120	10	260	110	96	44
2	1½	9,4	238	5,3	135	12	300	172	128	58
3	2½	12,6	320	7,0	178	15	380	454	251	114
4	3	13,5	343	8	191	17	430	687	476	216
6	5	14,3	363	7,9	201	23	580	1676	708	322

Tab.3



CLASS 300 - Full Bore

NPS [inch]	DN [mm]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
½	15	6,2	158	3,5	89	9,1	230	27	53	24
¾	20	6,8	173	3,7	95	9,1	230	47	59	27
1	25	7,4	188	4,1	105	9,1	230	74	66	30
1½	40	9,4	238	5,3	135	10,2	260	191	108	49
2	50	10	255	5,8	147	11,8	300	298	141	64
3	80	13,5	343	7,5	191	15	380	763	277	126
4	100	14,3	363	7,9	201	17	430	1192	524	238
6	150	20,6	523	11,2	284	23	580	2682	779	354

Tab.4

CLASS 300 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
¾	½	6,2	158	3,5	89	9	230	24	57	26
1	¾	6,8	173	3,7	95	9	230	43	64	29
1½	1¼	8,3	210	4,7	120	10	260	110	103	47
2	1½	9,4	238	5,3	135	12	300	172	134	61
3	2½	12,6	320	7	178	15	380	454	264	120
4	3	13,5	343	7,5	191	17	430	687	499	227
6	5	14,3	363	7,9	201	23	580	1676	739	336

Tab.5

CLASS 600 - Full Bore

NPS [inch]	DN [mm]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
½	15	6,2	158	3,5	89	9,1	230	27	55	25
¾	20	6,8	173	3,7	95	9,1	230	47	62	28
1	25	7,4	188	4,1	105	10	260	74	68	31
1½	40	9,4	238	5,3	135	12	300	191	112	51
2	50	10	255	5,8	147	11,8	300	298	145	66
3	80	13,5	343	7,5	191	15	380	763	286	130
4	100	14,3	363	7,9	201	17	430	1192	552	251
6	150	20,6	523	11,2	284	23	580	2682	849	386

Tab.6



CLASS 600 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
¾	½	6,2	158	3,5	89	9	230	24	57	26
1	¾	6,8	173	3,7	95	10	260	43	64	29
1½	1¼	8,3	210	4,7	120	12	300	110	103	47
2	1½	9,4	238	5,3	135	12	300	172	134	61
3	2½	12,6	320	7	178	15	380	454	264	120
4	3	13,5	343	7,5	191	17	430	687	499	227
6	5	14,3	363	7,9	201	23	580	1676	739	336

Tab.7

PN 16 – PN 40

DN [mm]	H [mm]	H1 [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
15	230	130	230	23	24
20	230	130	230	41	27
25	230	130	230	64	28
40	230	130	260	165	48
50	300	166	300	258	62
80	375	199	380	660	122
100	377	201	430	1031	229
150	523	284	580	2320	341

Tab.8

Other dimensions and pressure classes on request.

Top Works

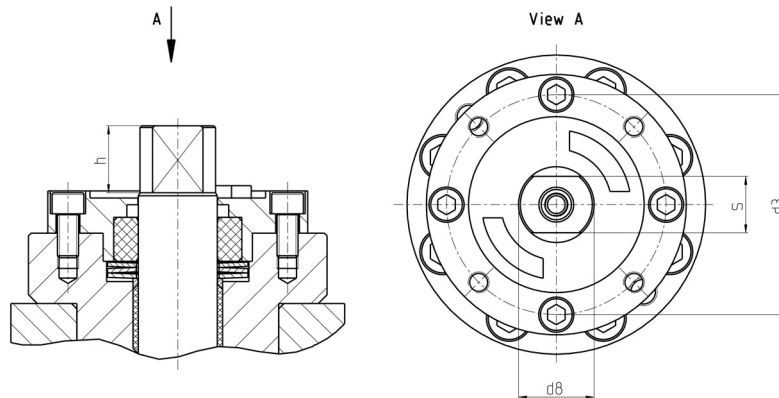


Fig.5

F	h		s		d3		d8	
	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
F07	22	0,9	12	0,5	70	2,8	17	0,7
F10	27	1,1	18	0,7	102	4	27	1,1
F12	38	1,5	32	1,3	125	4,9	40	1,6
F14	38	1,5	38	1,5	140	5,5	57	2
F16	48	1,9	44	1,7	165	6,5	68	2,7

Tab.9

Antriebsschnittstelle ISO 5211

Full Bore

Reduced Bore

NPS [inch]	DN [mm]	CLASS / PN				NPS [inch]	NPS-R [inch]	CLASS		
		150 / 16	300 / 40	600 / 100				150	300	600
½	15	F07	F07	F07		½	-	-	-	-
¾	20	F07	F07	F07		¾	½	F07	F07	F07
1	25	F07	F07	F07		1	¾	F07	F07	F07
1½	40	F07	F10	F10		1½	1	F07	F10	F10
2	50	F10	F10	F10		2	1½	F07	F10	F10
3	80	F12	F12	F12		3	2	F10	F12	F10
4	100	F12	F12	F12		4	3	F12	F12	F12
6	150	F12	F16	F16		6	4	F12	F12	F12

Tab.10



Pressure / Temperature Diagram

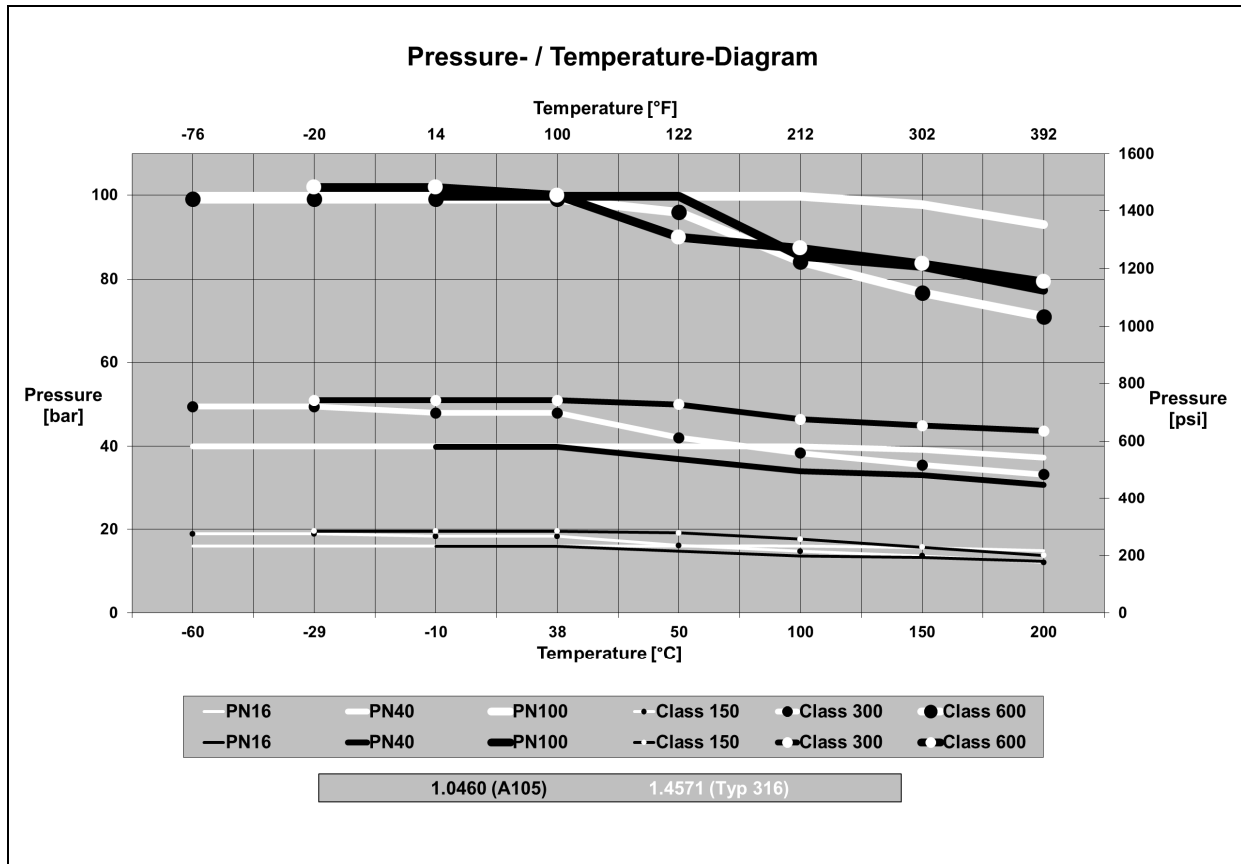


Fig. 6

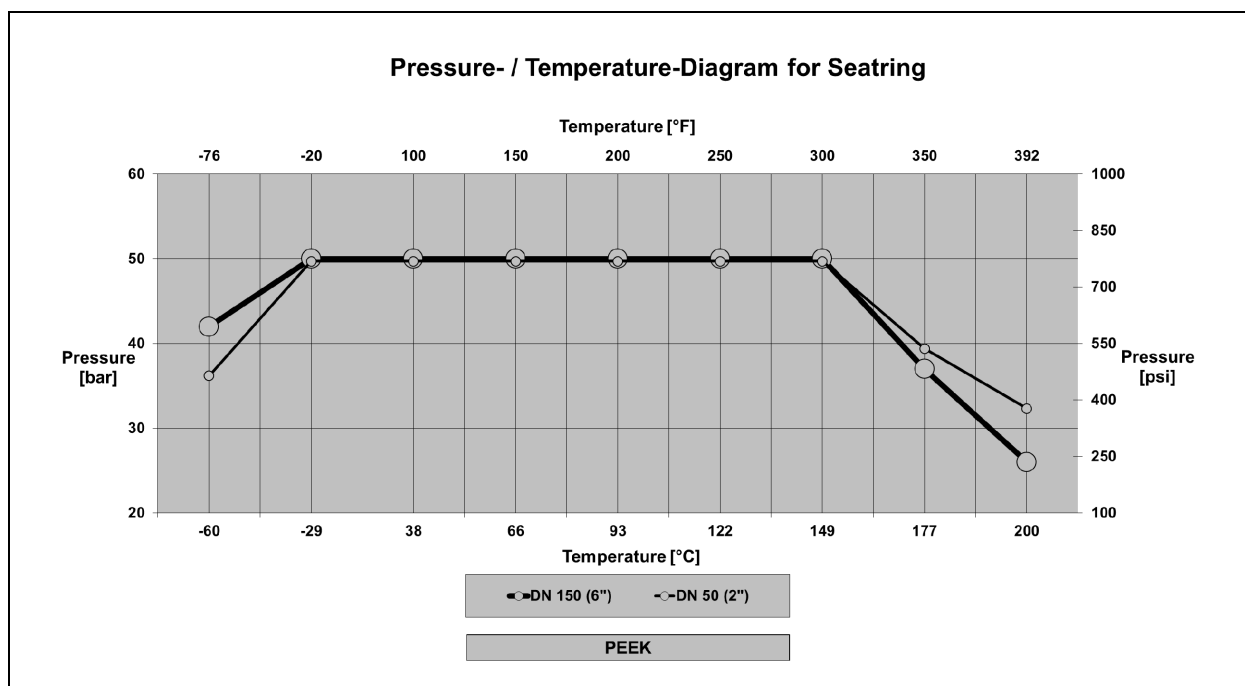


Fig. 7

Options

1) Adjustable stem packing

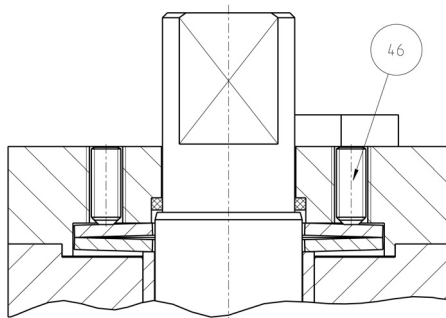


Fig.8

Additionally the live loaded stem packing may be equipped with hexagon socket screws (46). To fasten these screws it is possible to increase the spring force on the packing in the event of leakage.

2) Ball valve metal seated

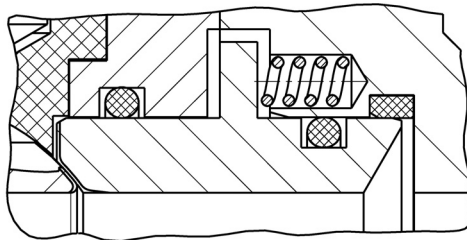


Fig.9

This ball valve can also be alternatively metal seated.

3) Ball valve with flushing nozzle

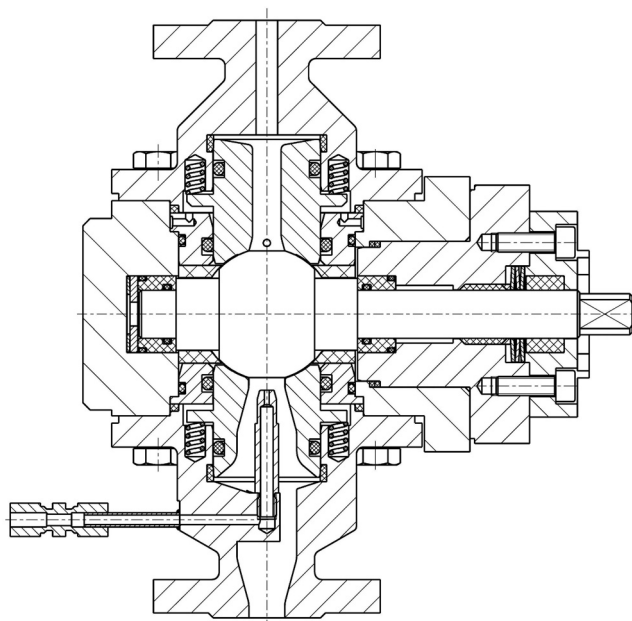


Fig.10

The design with flushing nozzle is intended in the use of adhesive media. The ball and the flow area can be flushed as needed.



4) Ball valve with conical outlet and single seat system

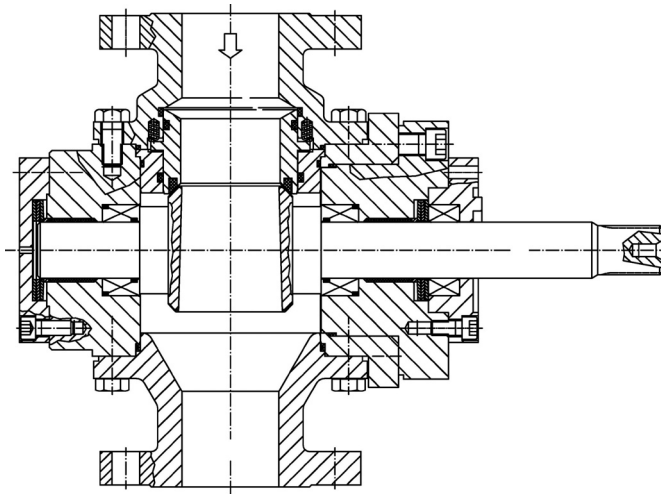


Fig.11

The design with conical outlet is designed primarily for use in reactor-discharging.

5) Ball valve with direct actuator connection and dosing ball

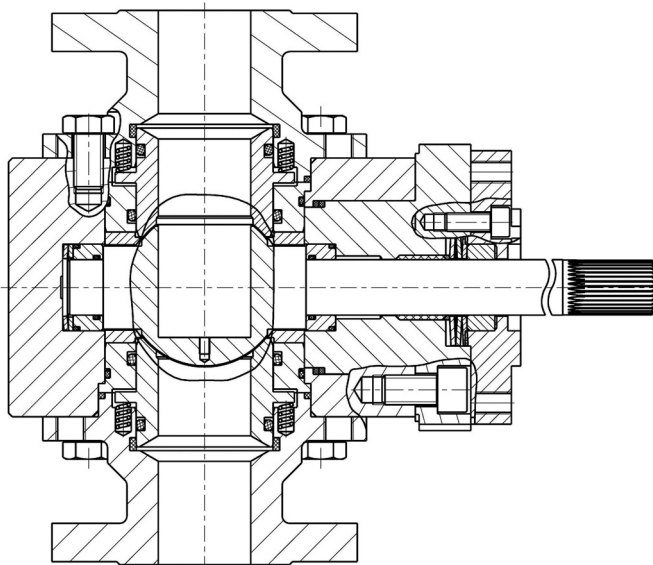


Fig.12

The dosage of the medium is attained by a 180 ° turning movement. The ball can also be equipped with dosing inserts. This can make a variable flow volume, if necessary.

For high switching cycles, a shaft with serration is used.



6) Ball valve with „Balanced Design“

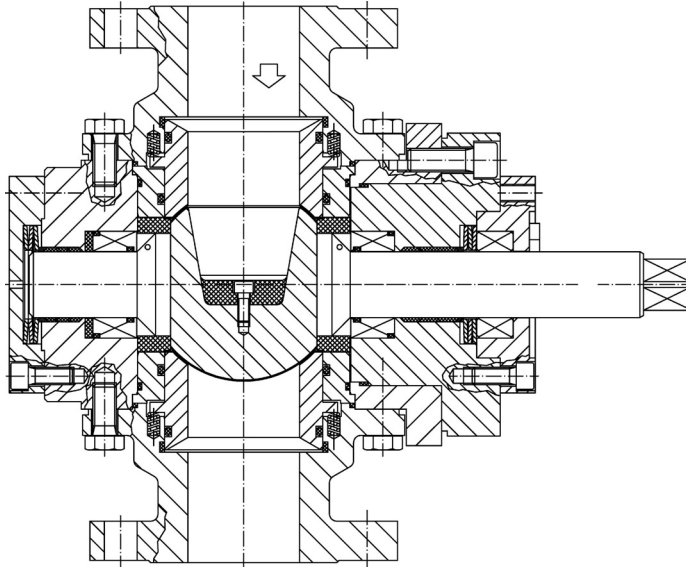


Fig. 13

This design is applicable at higher operating pressures.
Due to the balanced design, the axial forces of the stem are reduced.

7) Double-stage gland packing with sniffing connection

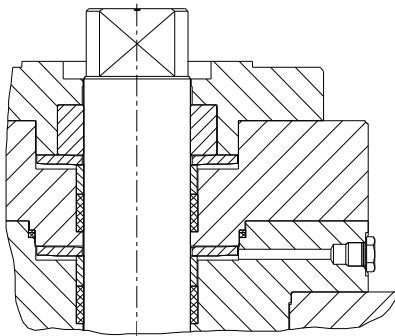


Fig. 14

8) Valve with heating jacket

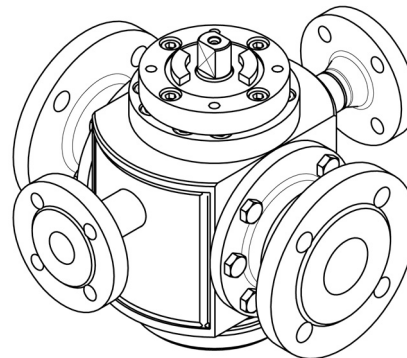


Fig. 15

Technical modifications are reserved.

