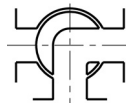
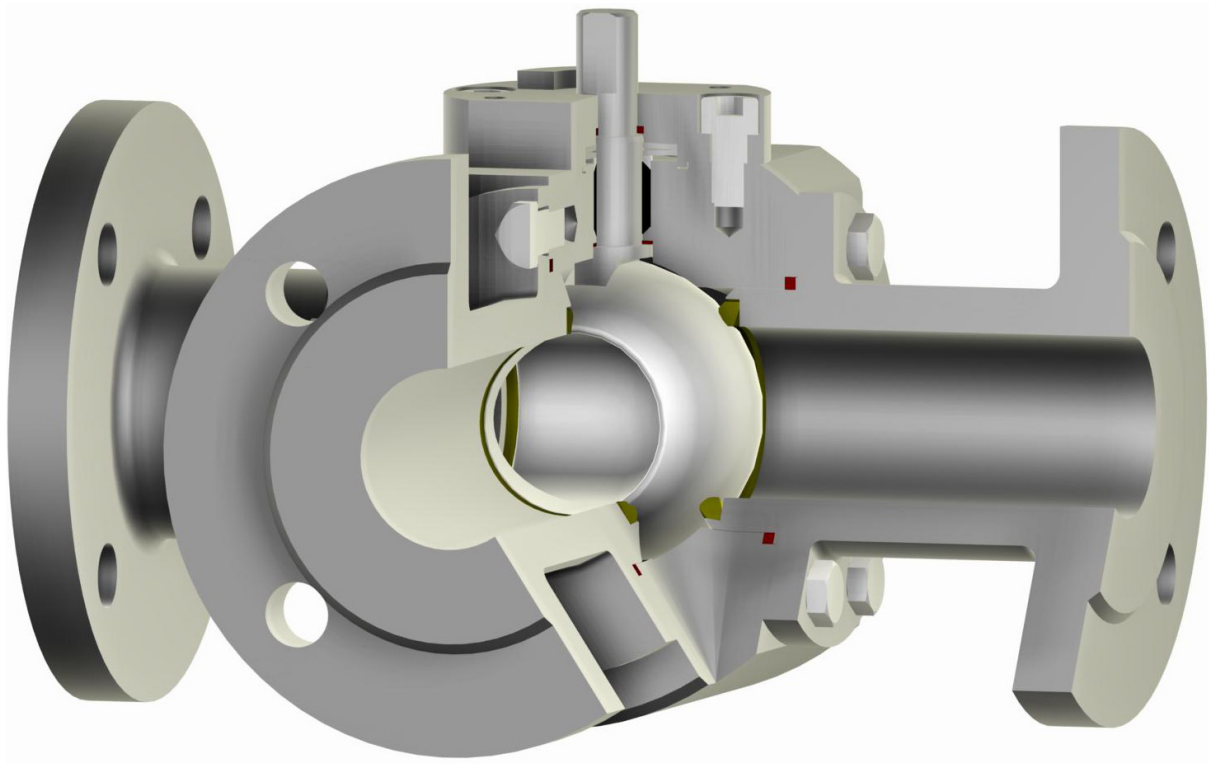




Three-Way Soft Seated Ball Valve Type 20-S



Design Characteristics

- ✓ Split body
- ✓ Floating ball
- ✓ Blow out proof stem
- ✓ Live loaded stem packing
- ✓ Fire Safe design optional
- ✓ 90° L- or T-port

Design Standards

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

Range of Application

- ✓ Diameter ½" to 4" / DN 15 to 100
- ✓ Class 150 to 300 / PN 10 to 40
- ✓ -20°F to +400°F / -60°C to +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
- 5 Ball
- 6 Stem
- 8 Gland Washer
- 10 Bearing Cover
- 16 Plate Spring
- 21 Seat Ring
- 23 Body Gasket
- 24 Stem Packing
- 25 Bearing Ring
- 26 Bearing Ring
- 28 Screw
- 29 Screw

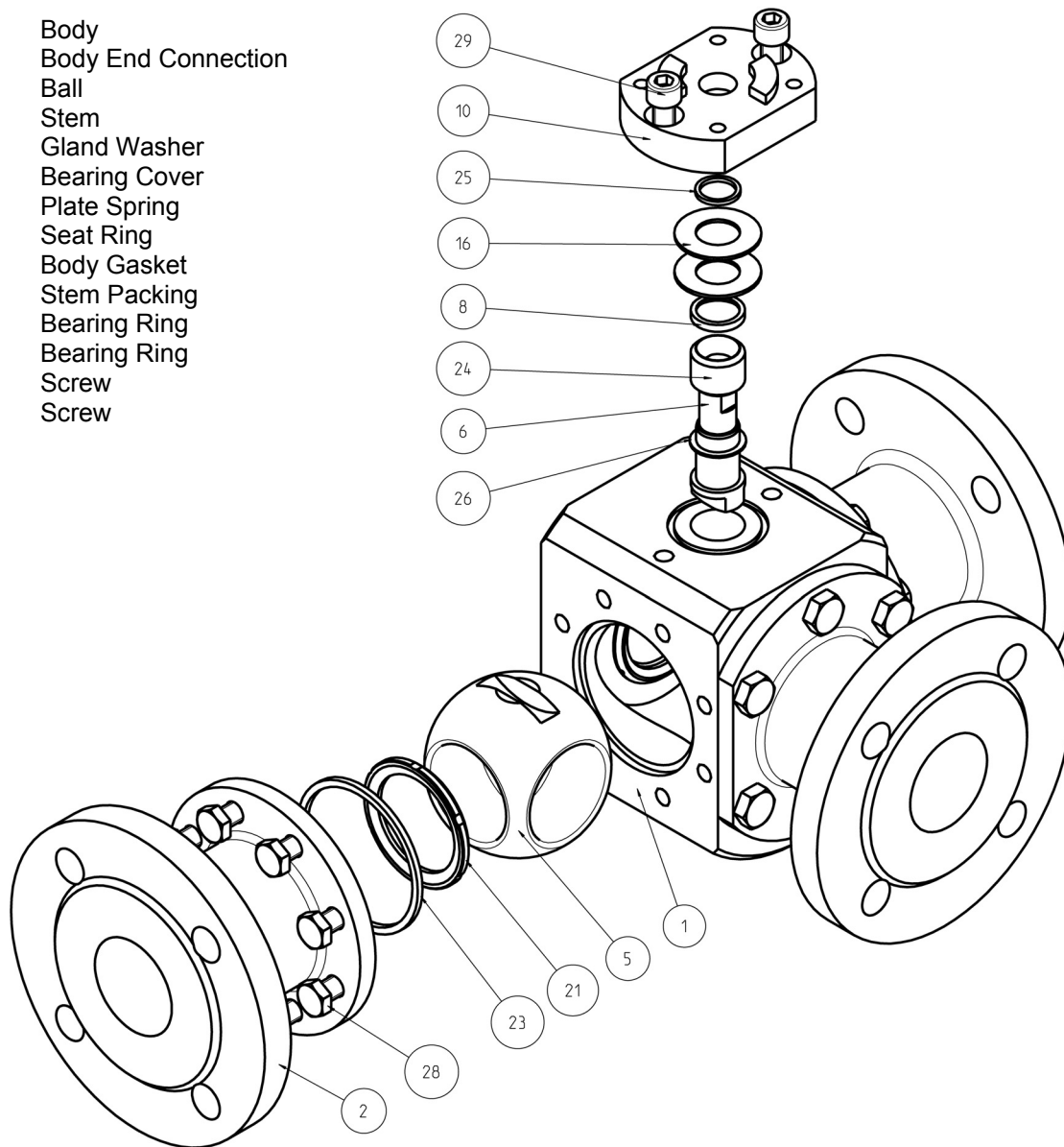


Fig. 1

Description

This PERRIN ball valve design features a split body and a floating, seat supported ball. The stem packing is spring loaded, the seat units are pre-loaded. Ball valve can be designed as transflow or non-transflow (see options).

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

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

Parts List / Materials

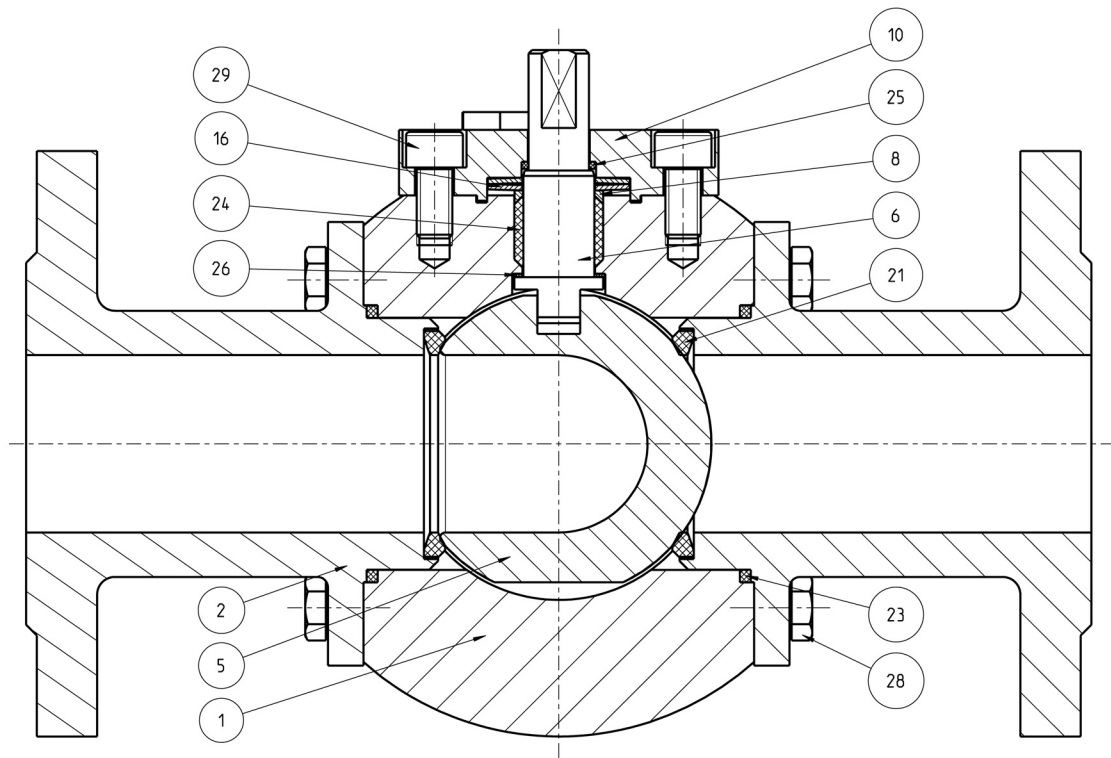


Fig. 2

Item	Designation	ASME		DIN EN	
		-20°F up to +400°F	-20°F up to +400°F	-60°C up to +200°C	-10°C up to +200°C
1	Body	A351 CF8M	A216 WCB	1.4408	1.0619
2	Body End Connection	Type 316 (up to 2")	A105 (up to 2")	1.4571 (up to 2")	1.0460 (up to 2")
5	Ball	Type 316 A351 CF8M	Type 316 A351 CF8M	1.4571 1.4408	1.4571 1.4408
6	Stem	Type 316	Type 316	1.4571	1.4571
8	Gland Washer	Type 316	Type 316	1.4571	1.4571
10	Bearing Cover	Type 316	A105	1.4571	1.0460
16	Plate Spring	Typ 301	Typ 301	1.4310	1.4310
21	Seat Ring	Mod. PTFE TFM 1600	Mod. PTFE TFM 1600	Mod. PTFE TFM 1600	Mod. PTFE TFM 1600
23	Body Gasket	PTFE-Glass	PTFE-Glass	PTFE-Glass	PTFE-Glass
24	Stem Packing	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment
25	Bearing Ring	Carbon	Carbon	Carbon	Carbon
26	Sealing Ring	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony
28	Screw	SS	SS	SS	SS
29	Screw	SS	SS	SS	SS

Tab.1

1) Materials for lower / higher temperature on request



Technical Data

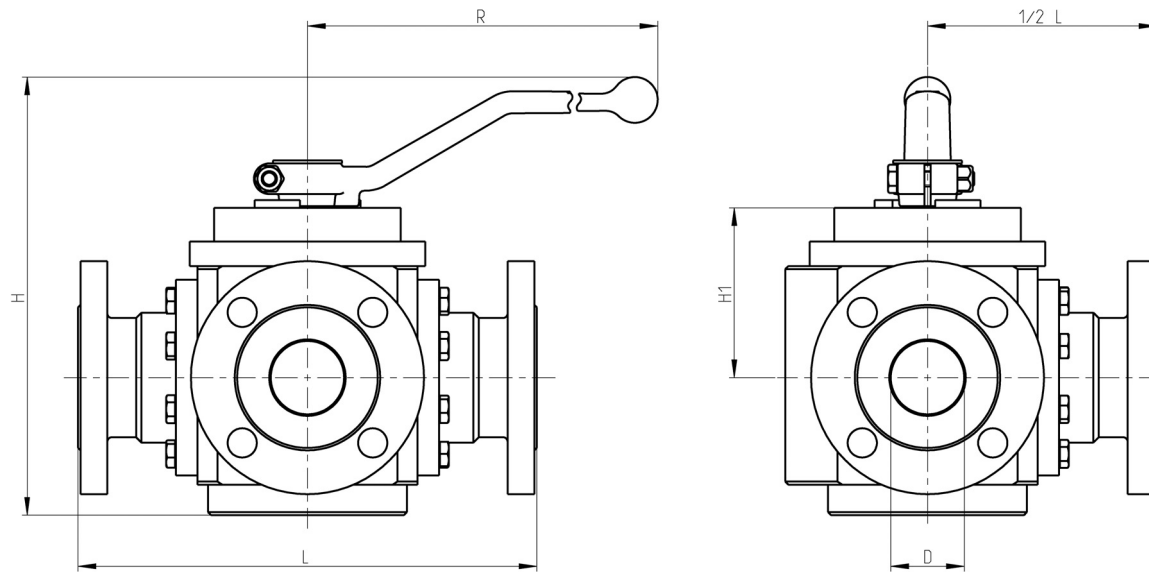


Fig.3

D = NPS = DN = Nominal Size
m = Weight
Cv; Kv = Flow Rate für L-Port

CLASS 150 - Full Bore

NPS [inch]	DN [mm]	H		H1		R		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
½	15	5,4	138	2,1	54	7	180	8	210	23	18	8
¾	20	7,1	180	2,7	68	7	180	9	230	42	20	9
1	25	7,1	180	2,7	68	12	300	9	230	66	29	13
1¼	32	7,2	182	2,7	68	12	300	10	260	109	46	21
1½	40	8	204	3,2	81	18	450	10	260	171	64	29
2	50	8,5	217	3,5	89	18	450	9	230	267	70	32
2½	65	9	229	3,9	99	18	450	11	290	453	121	55
3	80	9,6	243	4,9	125	31	800	12	310	687	141	64
4	100	11,9	303	5,5	140	31	800	14	350	1074	194	88

Tab.2

CLASS 150 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		R		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
¾	½	5,4	138	2,1	54	7	180	9	230	21	19	9
1	¾	7,1	180	2,7	68	7	180	9	230	37	22	10
1¼	1	7,1	180	2,7	68	12	300	10	260	59	31	14
1½	1¼	7,2	182	2,7	68	12	300	10	260	98	51	23
2	1½	8	204	3,2	81	18	450	9	230	154	70	32
2½	2	8,5	217	3,5	89	18	450	11	290	240	77	35
3	2½	9	229	3,9	99	18	450	12	310	408	133	61
4	3	9,6	243	4,9	125	31	800	14	350	618	155	70

Tab.3



CLASS 300 - Full Bore

NPS [inch]	DN [mm]	H		H1		R		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
½	15	5,4	138	2,1	54	7	180	8	210	23	18	8
¾	20	7,1	180	2,7	68	7	180	9	230	42	20	9
1	25	7,1	180	2,7	68	12	300	9	230	66	29	13
1¼	32	7,2	182	2,7	68	12	300	10	260	109	46	21
1½	40	8	204	3,2	81	18	450	10	260	171	64	29
2	50	9,1	230	4,4	112	18	450	12	300	267	88	40
2½	65	9,6	244	4,7	119	18	450	13	340	453	139	63
3	80	11,9	301	6	156	31	800	15	380	687	161	73
4	100	12,7	323	6,6	167	31	800	17	430	1074	231	105

Tab.4

CLASS 300 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		R		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
¾	½	5,4	138	2,1	54	7	180	9	230	21	19	9
1	¾	7,1	180	2,7	68	7	180	9	230	37	22	10
1¼	1	7	180	2,7	68	12	300	10	260	59	31	14
1½	1¼	7,2	182	2,7	68	12	300	10	260	98	51	23
2	1½	8,0	204	3,2	81	18	450	12	300	154	70	32
2½	2	9,1	230	4,4	112	18	450	13	340	240	97	44
3	2½	9,6	244	4,7	119	18	450	15	380	408	152	69
4	3	11,9	301	6	156	31	800	17	430	618	189	86

Tab.5



PN 16

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
15	138	54	180	210	20	8
20	180	68	180	230	36	9
25	180	68	300	230	57	13
32	182	68	300	260	94	21
40	204	81	450	260	148	29
50	217	89	450	230	231	32
65	229	99	450	290	392	55
80	243	125	800	310	594	64
100	303	140	800	350	929	88

Tab.6

PN 40

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
15	124	58	180	210	20	7
20	137	70	180	230	36	8
25	153	74	300	230	57	12
32	163	80	300	260	94	19
40	213	100	450	260	148	27
50	230	112	450	300	231	36
65	244	119	450	340	392	61
80	301	156	800	380	594	71
100	323	167	800	430	929	102

Tab.7

Other dimensions and pressure classes on request.

Top Works

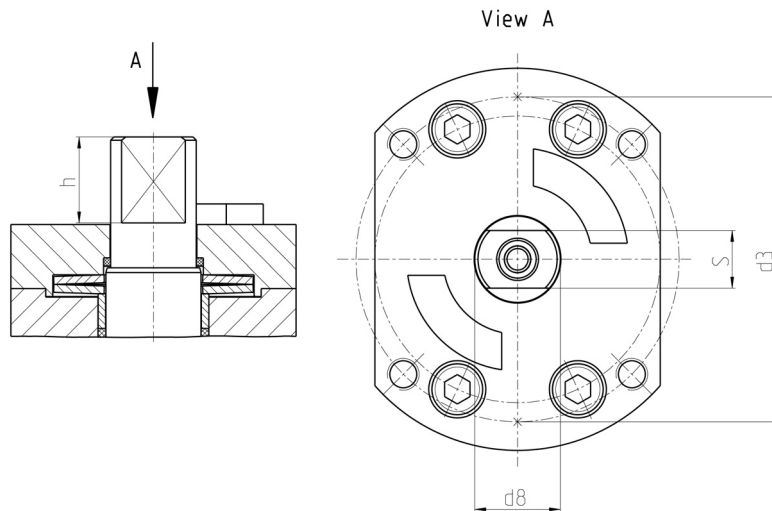


Fig.4

F	h		s		d3		d8	
	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
F05	17	0,7	10	0,4	50	2	13	0,5
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	5	40	1,6

Tab.8

Antriebsschnittstelle ISO 5211 Full Bore

NPS [inch]	DN [mm]	CLASS / PN	
		150 / 16	300 / 40
½	15	F05	F05
¾	20	F05	F05
1	25	F05	F05
1¼	32	F07	F07
1½	40	F07	F10
2	50	F07	F10
2½	65	F07	F10
3	80	F10	F12
4	100	F10	F12

Reduced Bore

NPS [inch]	NPS-R [inch]	CLASS	
		150	300
½	-	-	-
¾	½	F05	F05
1	¾	F05	F05
1¼	1	F05	F05
1½	1¼	F07	F07
2	1½	F07	F10
2½	2	F07	F10
3	2½	F07	F10
4	3	F10	F12

Tab.9



Pressure / Temperature Diagrams

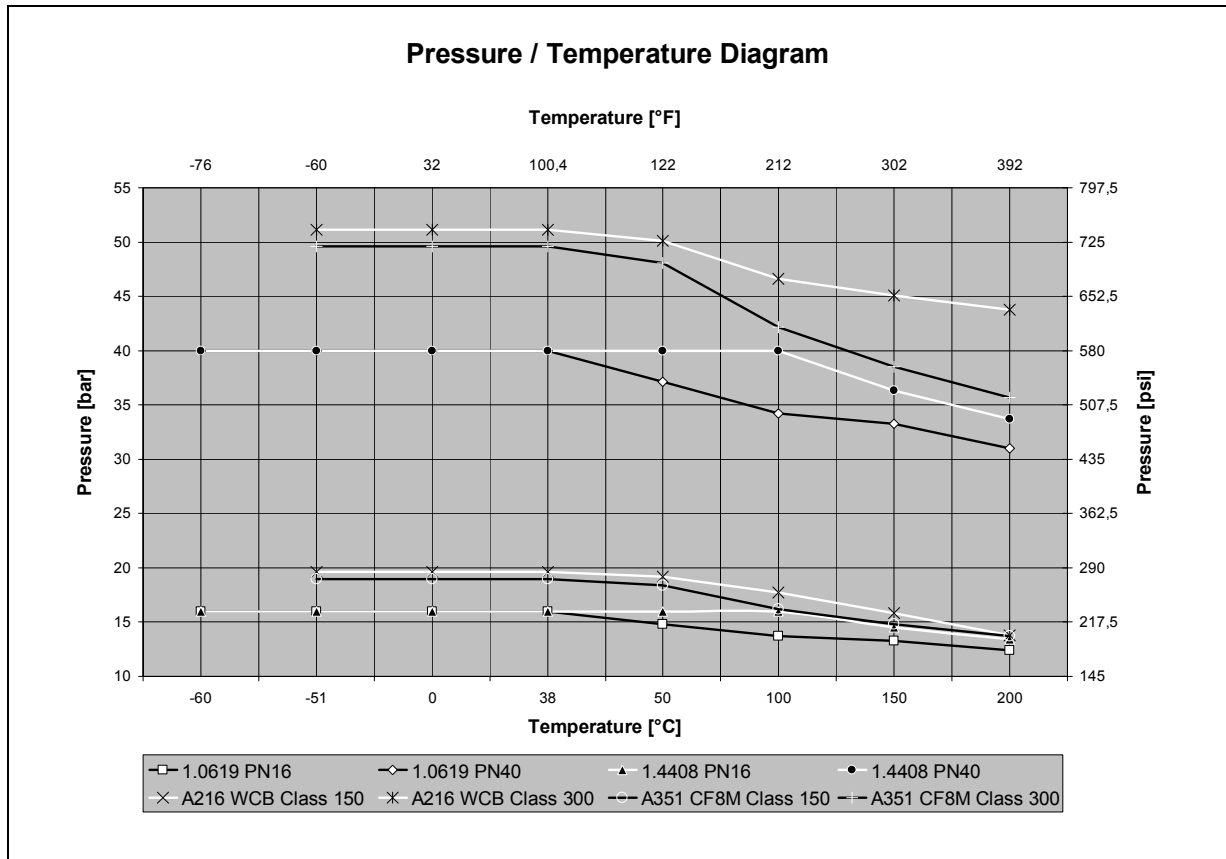


Fig.5

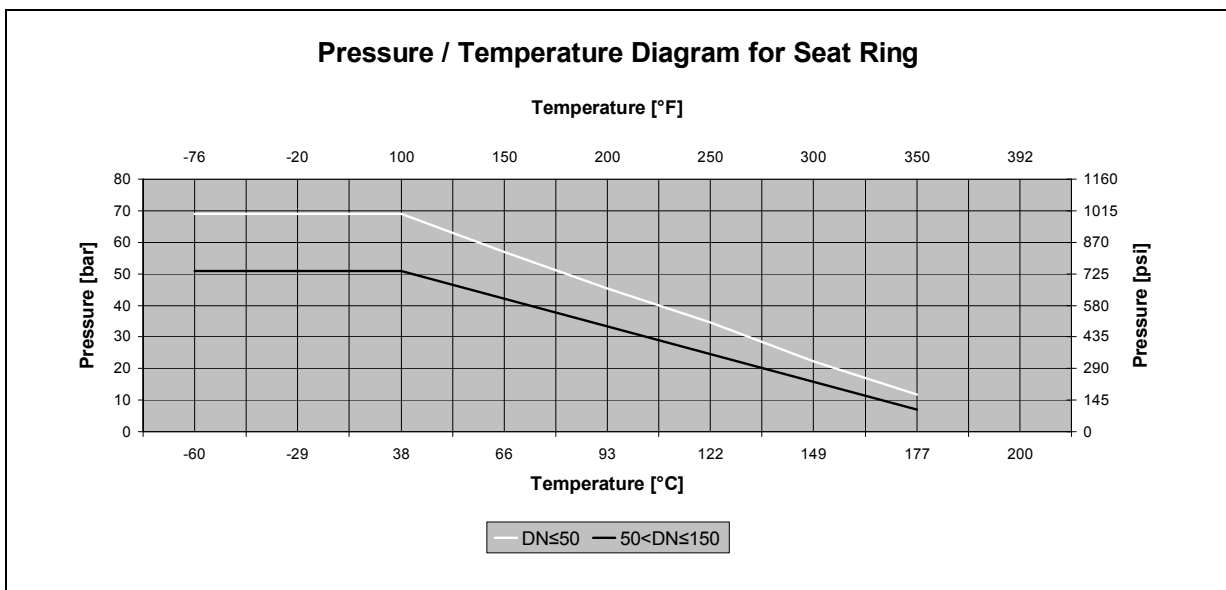


Fig.6



Options

1) Adjustable stem packing

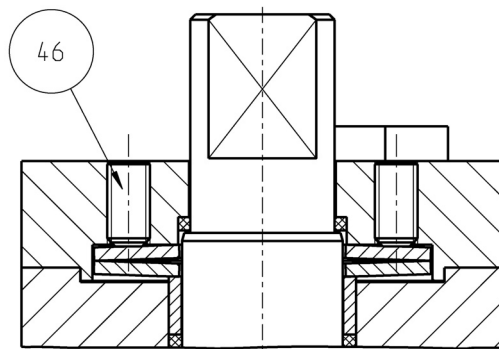


Fig.7

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) Double-stage gland packing with purge connection

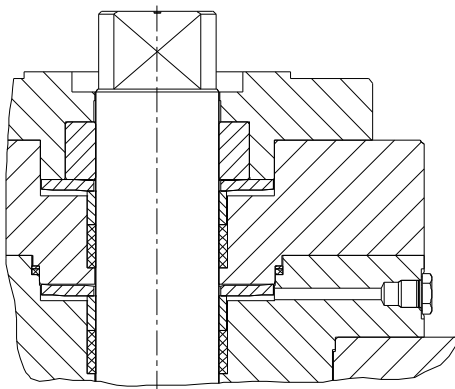


Fig.8

3) Valve with heating jacket

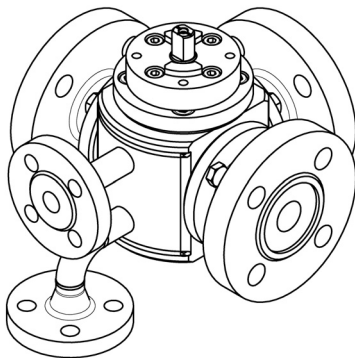


Fig.9



4) Ball options

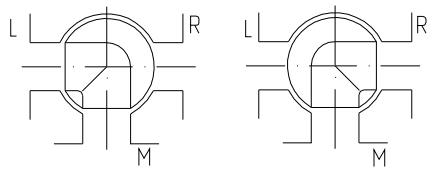


Fig.10 L-port

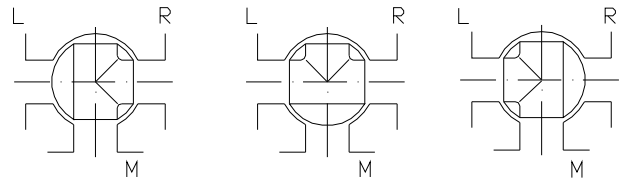


Fig.11 T-port

5) Flow options (Schematic drawing taken from Valve Type 21-M)

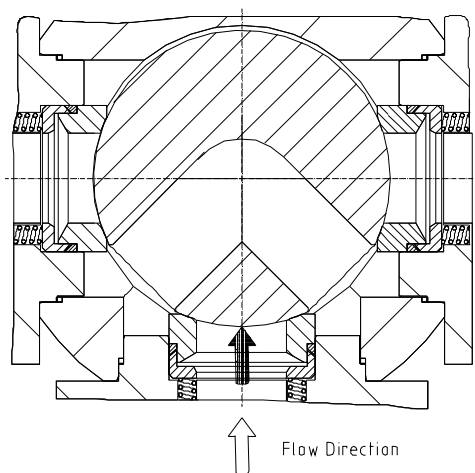


Fig.12 Non-transflow

Direct flow is not possible in this ball position.

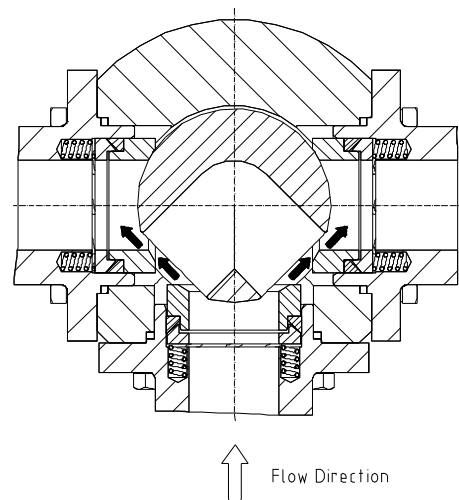


Fig.13 Transflow

Direct flow is possible through both outlets at the same time.

Technical modifications are reserved.



