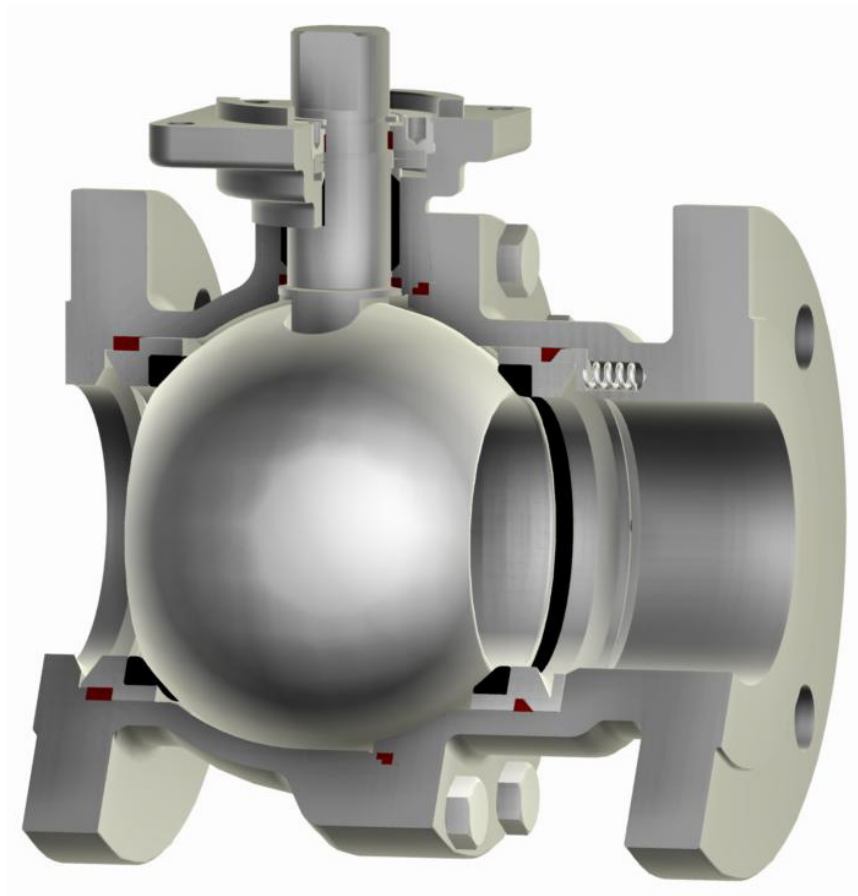




Two-Way Carbon Seated Ball Valve Type 85-C



Design Characteristics

- ✓ Two piece body
- ✓ Floating ball
- ✓ Blow out proof stem
- ✓ Live loaded stem packing
- ✓ Spring loaded seat system
- ✓ Fire Safe design optional

Design Standards

- ✓ EN 12516, EN 1983, ISO 5211, AD-2000
- ✓ ASME B16.34, API 608

Range of Application

- ✓ Diameter 1/2" to 6" / DN 15 to 150
- ✓ Class 150 to 300 / PN 10 to 40
- ✓ -20°F to +750°F / -60°C to +400°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
- 6 Stem
- 8 Gland Washer
- 16 Plate Spring
- 17 Coil Spring
- 19 Sealing Ring
- 20 Sealing Ring
- 21 Seat Unit
- 23 Body Gasket
- 24 Stem Packing
- 25 Bearing Ring
- 26 Bearing Ring
- 28 Hexagonal Screw
- 44 Locking Ring
- 45 Threaded Ring

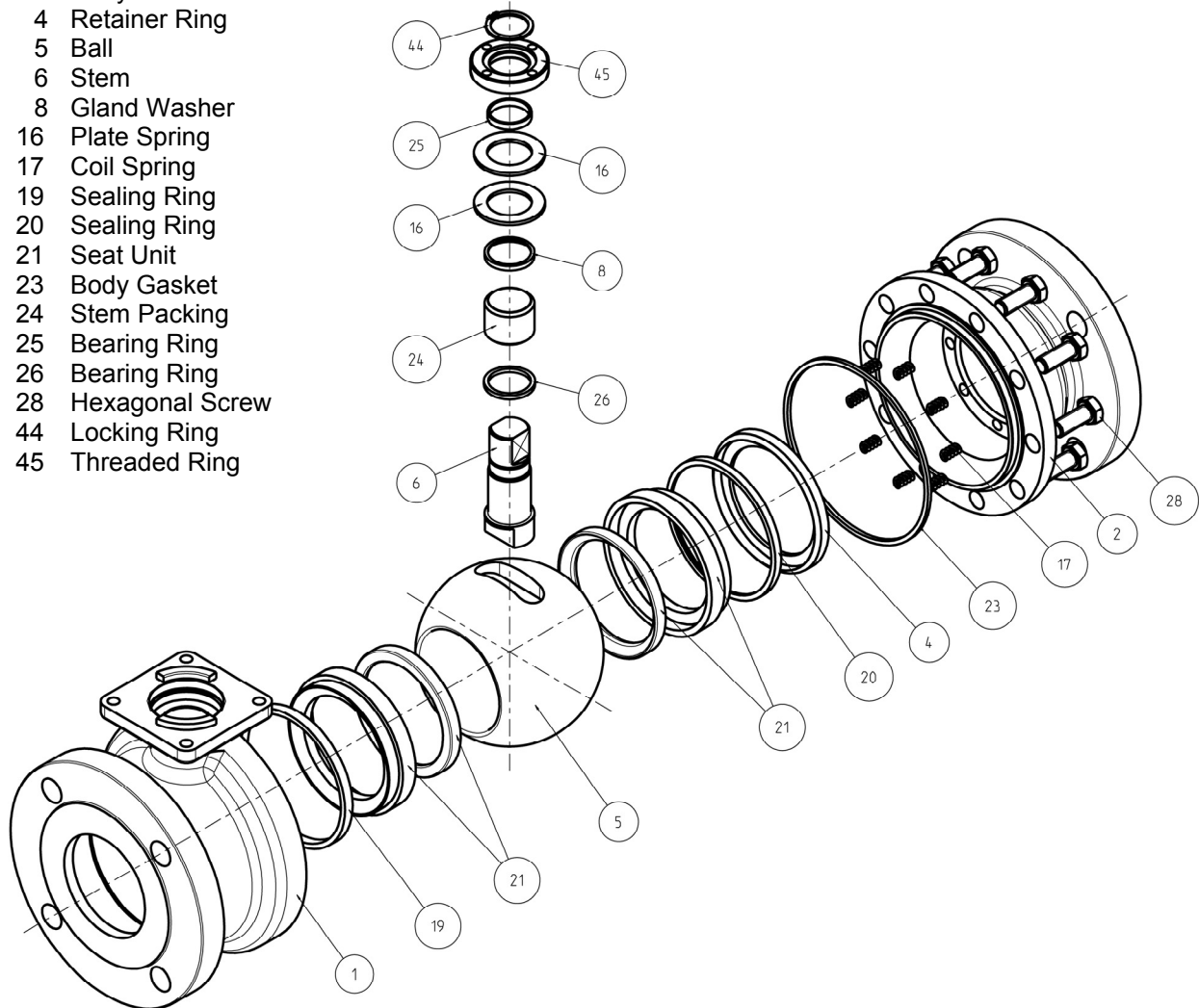


Fig. 1

Description

This PERRIN ball valve is a floating ball design with a two piece split body housing. The spring loaded carbon seat system and live loaded stem packing also provide continuous tightness during rapid temperature changes.

The valve is equipped with an integral actuator mounting flange for actuator connection according to ISO 5211 standard. 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

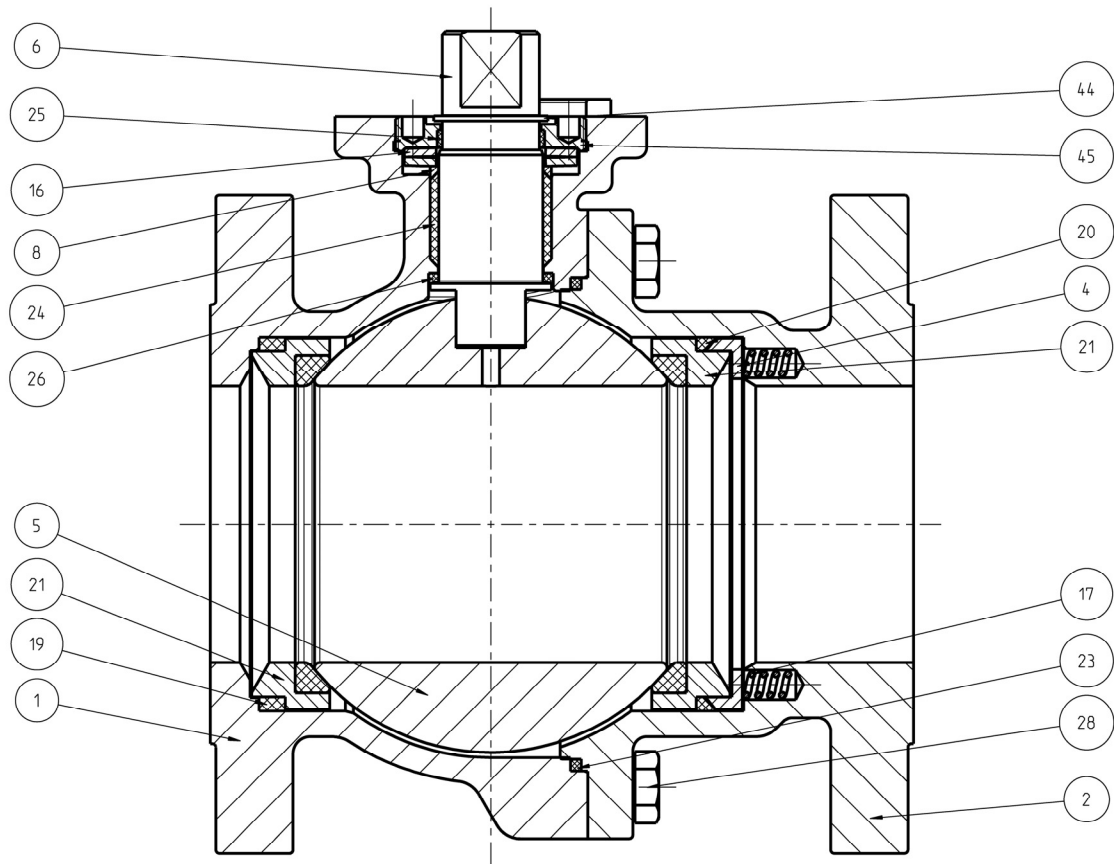


Fig. 2

Item	Designation	ASME		DIN EN	
		-20°F up to +750°F	-20°F up to +750°F	-60°C up to +400°C	-10°C up to +400°C
1	Body	A351 CF8M	A216 WCB	1.4408 ¹⁾	1.0619
2	Body End Connection				
4	Retainer Ring	Type 316	Type 316	1.4571	1.4571
5	Ball	Type 316 A351 CF8M	Type 316 A351 CF8M ¹⁾	1.4571 1.4408 ¹⁾	1.4571 1.4408 ¹⁾
6	Stem	Type 51 ²⁾ Type 316	Type 51 ²⁾ Type 316	1.4462 ²⁾ 1.4571	1.4462 ²⁾ 1.4571
8	Gland Washer	Type 316	Type 316	1.4571	1.4571
16	Plate Spring ³⁾	Type 301	AISI 6150	1.4310	1.8159
17	Coil Spring	Type 316	Type 316	1.4571	1.4571
19	Sealing Ring	Graphite	Graphite	Graphite	Graphite
20	Sealing Ring				
21	Seat Unit	Type 316 / Carbon	Type 316 / Carbon	1.4571 / Carbon	1.4571 / Carbon
23	Body Gasket	Graphite	Graphite	Graphite	Graphite
24	Stem Packing				
26	Bearing Ring				
28	Hexagonal Screw	SS	SS	SS	SS
44	Locking Ring	SS	Type 316	SS	1.4571
45	Threaded Ring	Type 316	Type 316	1.4571	1.4571

Tab. 1

- 1) Temperature limitation 300°C [576°F] acc. to German technical rule AD-2000 W5 if intercrystalline corrosion resistant is required
2) Temperature limitation 280°C [536°F]
3) Material 2.4668 (Inconel 718) is generally required for operating temperature over 200°C [392°F]
4) Materials for lower / higher temperature on request



Technical Data

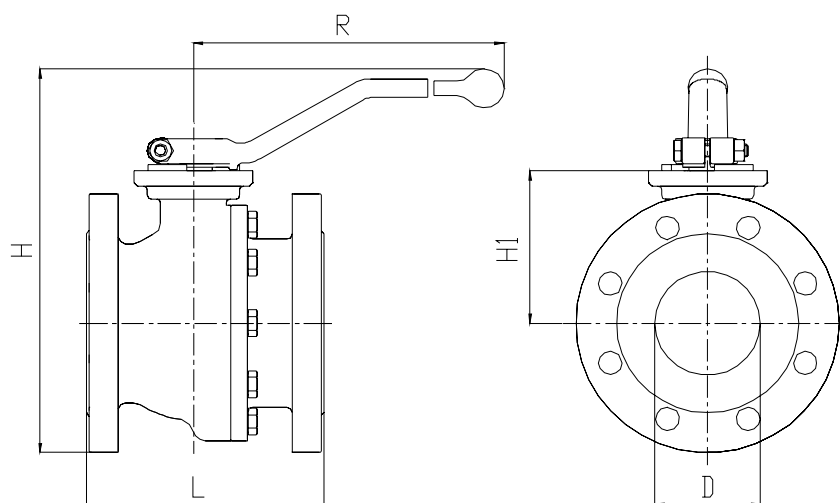


Fig.3

D = NPS = DN

Nominal Size		Class 150 - Full Bore Dimensions acc. to ASME Standards						Face to Face ASME B16.10		Cv [gal/min]	Weights	
NPS [inch]	DN [mm]	H [inch]	H [mm]	H1 [inch]	H1 [mm]	R [inch]	R [mm]	L [inch]	L [mm]		kg	lbs
½	15	5.8	147	1.9	48	7	180	4.25	108	27	3	7
¾	20	5.8	147	1.9	48	7	180	4.62	117	48	4	9
1	25	6.3	160	2	50	7	180	5	127	75	5	11
1¼	32	7	178	2.2	56	7	180	5.5	140	124	7	15
1½	40	7.9	201	3	76	12	300	6.5	165	193	10	22
2	50	8.7	221	3.3	84	12	300	7	178	302	13	29
2½	65	9.5	242	3.7	94	12	300	7.5	190	510	19	42
3	80	11.7	297	4	113	18	450	8	203	772	22	48
4	100	13	329	5	127	18	450	9	229	1206	31	68
6	150	14.8	377	7.1	180	28	700	15.5	394	2714	80	176

Tab.2

Nominal Size		Class 150 - *Single Reduced Bore Dimensions acc. to ASME Standards						Face to Face ASME B16.10		Cv [gal/min]	Weights	
NPS [inch]	*SRB [inch]	H [inch]	H [mm]	H1 [inch]	H1 [mm]	R [inch]	R [mm]	L [inch]	L [mm]		kg	lbs
½	-	-	-	-	-	-	-	-	-	-	-	-
¾	½	5.8	147	1.9	48	7	180	4.62	117	27	3	7
1	¾	5.8	147	1.9	48	7	180	5	127	48	4	9
1¼	1	6.3	160	2	50	7	180	5.5	140	75	5	11
1½	1¼	7	178	2.2	56	7	180	6.5	165	124	7	15
2	1½	7.9	201	3	76	12	300	7	178	193	10	22
2½	2	8.7	221	3.3	84	12	300	7.5	190	302	15	33
3	2½	9.5	242	3.7	94	12	300	8	203	510	18	40
4	3	11.7	297	4.4	113	18	450	9	229	772	25	55
6	4	13	329	5	127	18	450	15.5	394	1206	51	112

Tab.3



Nominal Size		Class 300 - Full Bore Dimensions acc. to ASME Standards						Face to Face ASME B16.10		Cv [gal/min]	Weights	
NPS [inch]	DN [mm]	H [inch]	H [mm]	H1 [inch]	H1 [mm]	R [inch]	R [mm]	L [inch]	L [mm]		kg	lbs
½	15	5.9	151	1.9	48	7	180	5.5	140	27	4	9
¾	20	6.2	157	1.9	48	7	180	6	152	48	5	11
1	25	6.6	168	2	50	7	180	6.5	165	75	6	13
1¼	32	7.3	186	2.2	56	7	180	7	178	124	9	20
1½	40	8.5	217	3	76	12	300	7.5	190	193	13	29
2	50	9	228	3.3	84	12	300	8.5	216	302	15	33
2½	65	9.7	247	3.7	94	12	300	9.5	241	510	21	46
3	80	12	305	4.4	113	18	450	11.12	282	772	33	73
4	100	13.5	343	5	127	18	450	12	305	1206	44	97
6	150	15.6	395	7.1	180	28	700	15.88	403	2714	88	194

Tab.4

Nominal Size		Class 300 - *Single Reduced Bore Dimensions acc. to ASME Standards						Face to Face ASME B16.10		Cv [gal/min]	Weights	
NPS [inch]	*SRB [inch]	H [inch]	H [mm]	H1 [inch]	H1 [mm]	R [inch]	R [mm]	L [inch]	L [mm]		kg	lbs
½	-	-	-	-	-	-	-	-	-	-	-	-
¾	½	5.9	151	1.9	48	7	180	6	152	27	4	9
1	¾	6.2	157	1.9	48	7	180	6.5	165	48	5	11
1¼	1	6.6	168	2	50	7	180	7	178	75	8	18
1½	1¼	7	186	2.2	56	7	180	7.5	190	124	11	24
2	1½	8.5	217	3	76	12	300	8.5	216	193	13	29
2½	2	9.0	228	3.3	84	12	300	9.5	241	302	18	40
3	2½	9.7	247	3.7	94	12	300	11.12	282	510	26	57
4	3	12.0	305	4.4	113	18	450	12	305	772	40	88
6	4	13.5	343	5.0	127	18	450	15.88	403	1206	79	174

Tab.5

Nominal Size	PN 16 - PN 40 Dimensions [mm] acc. to DIN EN Standards			Face to Face DIN EN 558		Kv [m³/h]	Weights [kg]	
DN	H	H1	R	GR1	GR27		GR1	GR27
				L	L			
15	147	48	180	130	115	23	4	3
20	147	48	180	150	120	41	5	4
25	160	50	180	160	125	64	6	5
32	178	56	180	180	130	106	8	7
40	201	76	300	200	140	165	10	9
50	221	84	300	230	150	258	12	11
65	242	94	300	290	170	436	19	17
80	297	113	450	310	180	660	25	21
100	337	127	450	350	190	1031	35	29
150	385	180	700	480	350	2320	101	78

Tab.6

Other dimensions and pressure classes on request.



Top Works

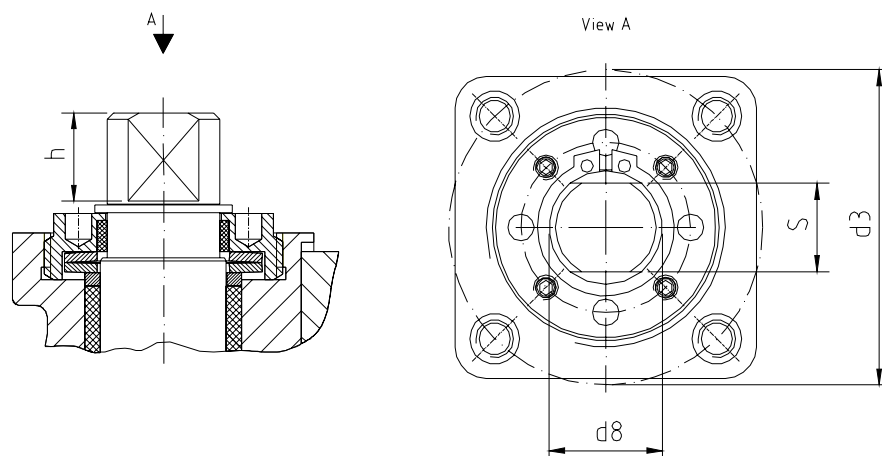


Fig.5

Dimensions								
F	h		s		d3		d8	
	mm	inch	mm	inch	mm	inch	mm	inch
F05	14	0.6	14	0.6	50	2	18	0.7
F07	17	0.7	17	0.7	70	2.8	22	0.9
F10	22	0.9	22	0.9	102	4	28	1.1
F14	36	1.4	36	1.4	140	5.5	48	1.9

Tab.7

Nominal Size		Actuator-Connection ISO 5211 Full Bore			Nominal Size		Actuator-Connection ISO 5211 *Single Reduced Bore	
NPS [inch]	DN [mm]	Class 150	Class 300		NPS [inch]	*SRB [inch]	Class 150	Class 300
½	15	F05	F05		½	-	-	-
¾	20	F05	F05		¾	½	F05	F05
1	25	F05	F05		1	¾	F05	F05
1¼	32	F05	F05		1¼	1	F05	F05
1½	40	F07	F07		1½	1¼	F05	F05
2	50	F07	F07		2	1½	F07	F07
2½	65	F07	F07		2½	2	F07	F07
3	80	F10	F10		3	2½	F07	F07
4	100	F10	F10		4	3	F10	F10
6	150	F14	F14		6	4	F14	F14

Tab.8

Pressure / Temperature Diagram

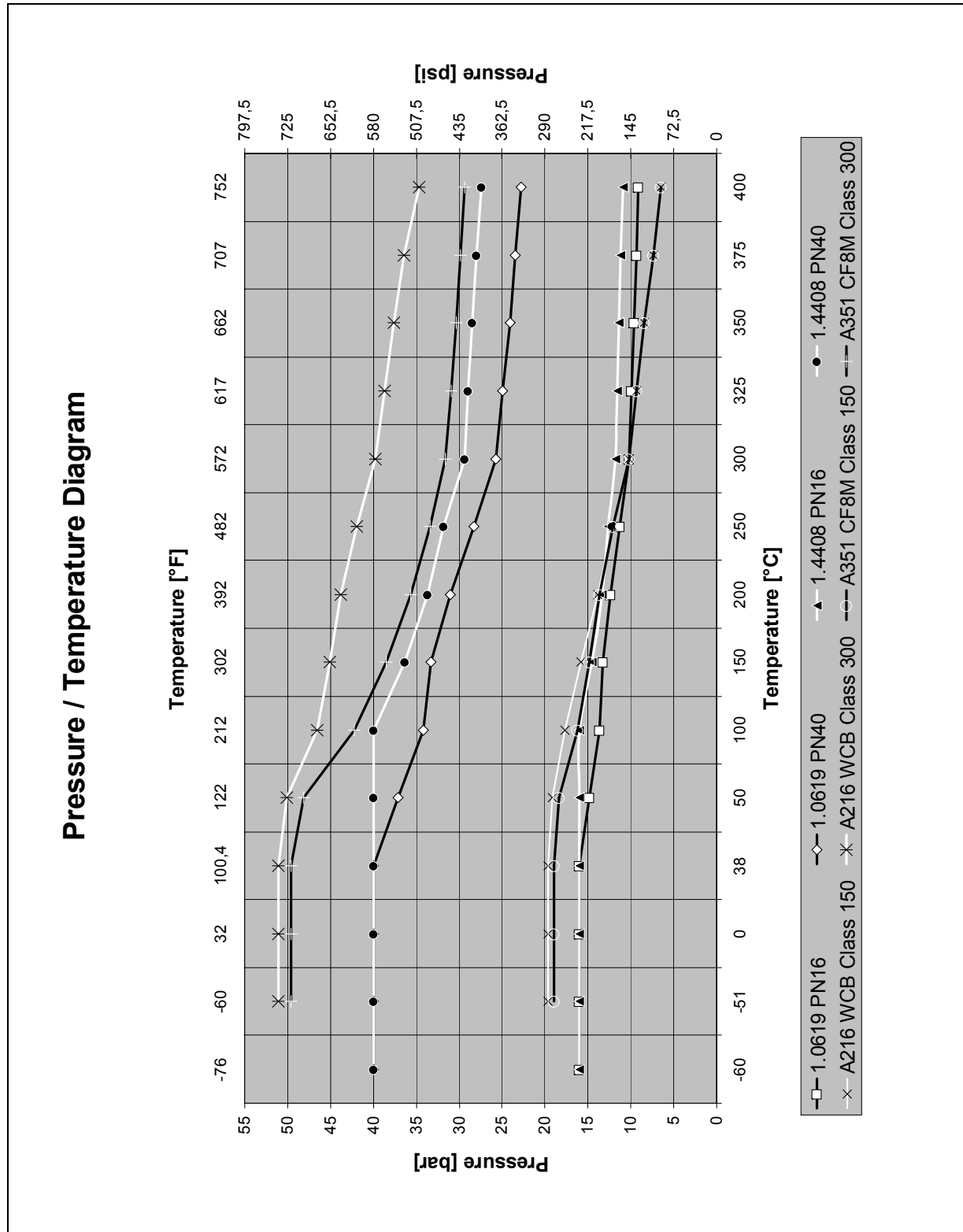


Fig. 5



Options

1) Seat system with protected spring area

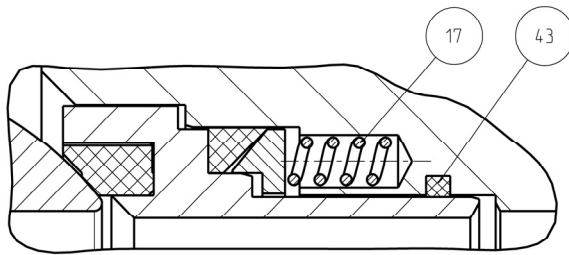


Fig. 7

The area where the springs (17) are located is protected by graphite-based seal (43). This seal prevents material from entering the spring area or recess but allow the spring chamber to be energized by line pressure.

2) Adjustable stem packing

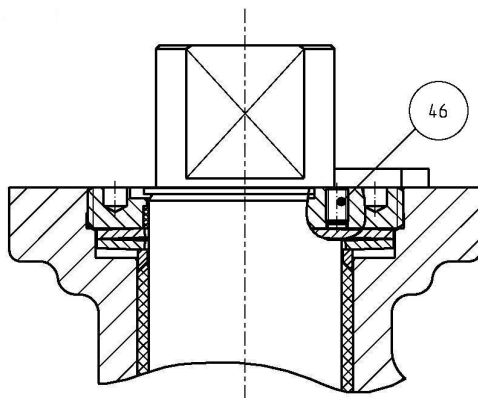


Fig. 8

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.

3) Valve with heating jacket

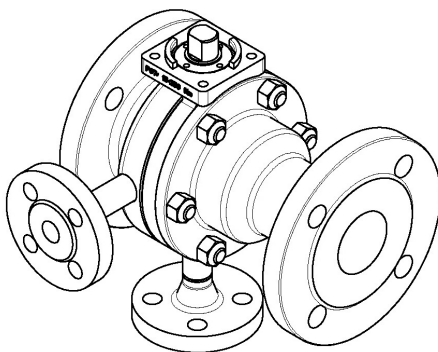


Fig. 9

Technical modifications are reserved.



