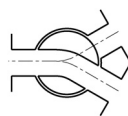
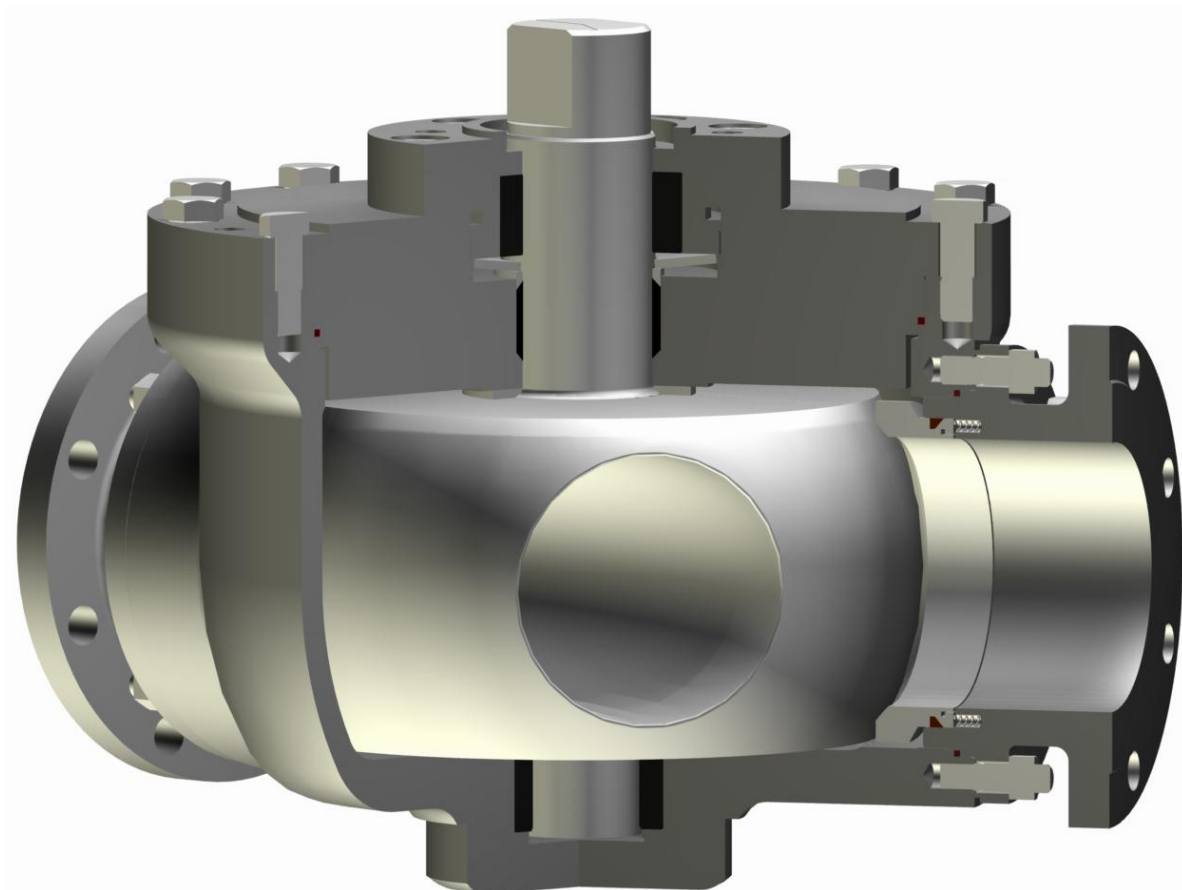




Diverter Ball Valve Metal Seated Type 25-M



Design Characteristics

- ✓ Split body
- ✓ Ball with integral stem and twin bearings
- ✓ Live loaded stem packing
- ✓ Spring loaded seat system
- ✓ Fire Safe design optional
- ✓ 30° L-port

Design Standards

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

Range of Application

- ✓ Diameter 1/2" to 10" / DN 15 to 250
- ✓ Class 150 to 300 / PN 10 to 40
- ✓ -20°F to +1000°F / -60°C to +450°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
- 14 Distance Disc
- 16 Plate Spring
- 17 Coil Spring
- 20 Sealing Ring
- 21 Seat Ring
- 23 Body Gasket
- 24 Stem Packing
- 25 Bearing Ring
- 27 Body Gasket
- 28.1 Stud Bolt
- 28.2 Nut
- 29 Screw
- 30 Screw

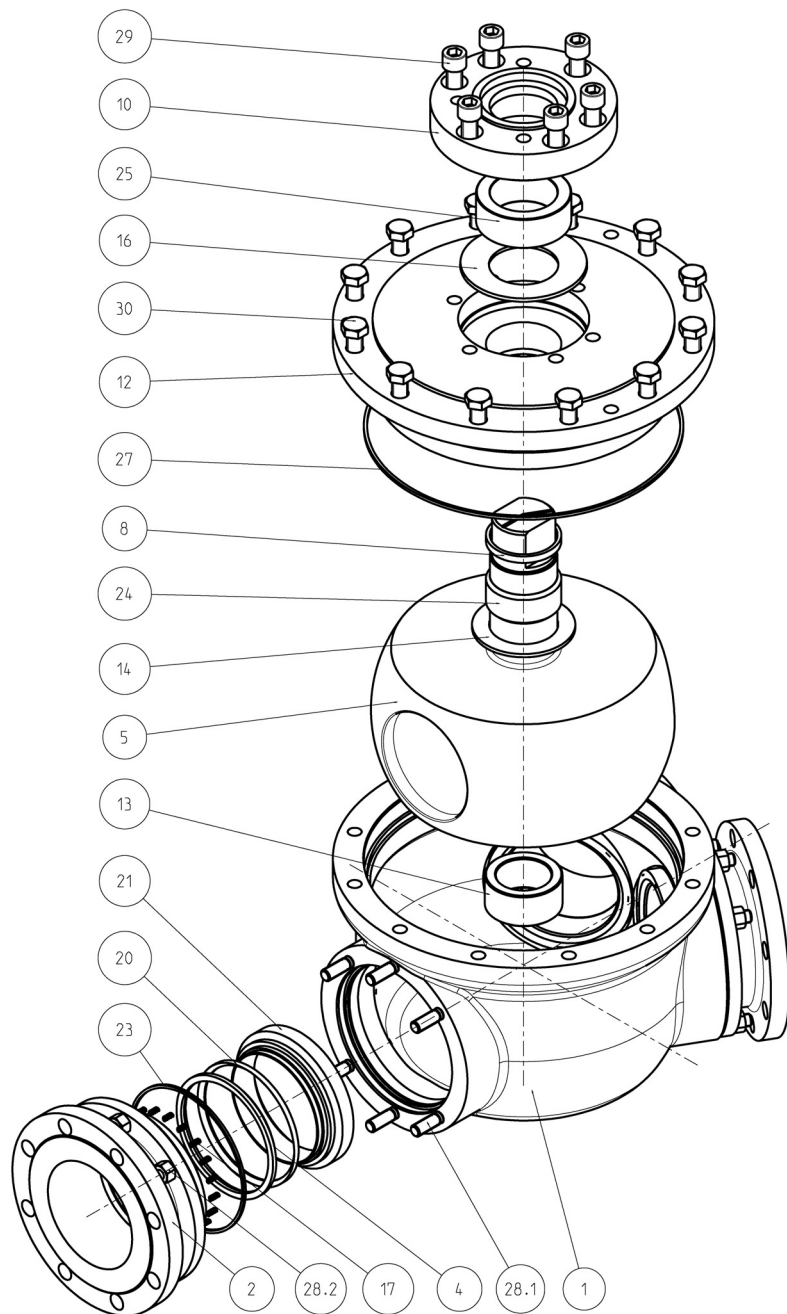


Fig. 1

Description

This PERRIN ball valve has twin bearing ball with integral stem and split body housing. The spring loaded metallic seat system and live loaded stem packing also provide continuous tightness during short-term temperature and pressure changes.

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 valves have an antistatic design. The stem packing and sealings are "TA-Luft" certified for low fugitive emissions.

Parts List / Materials

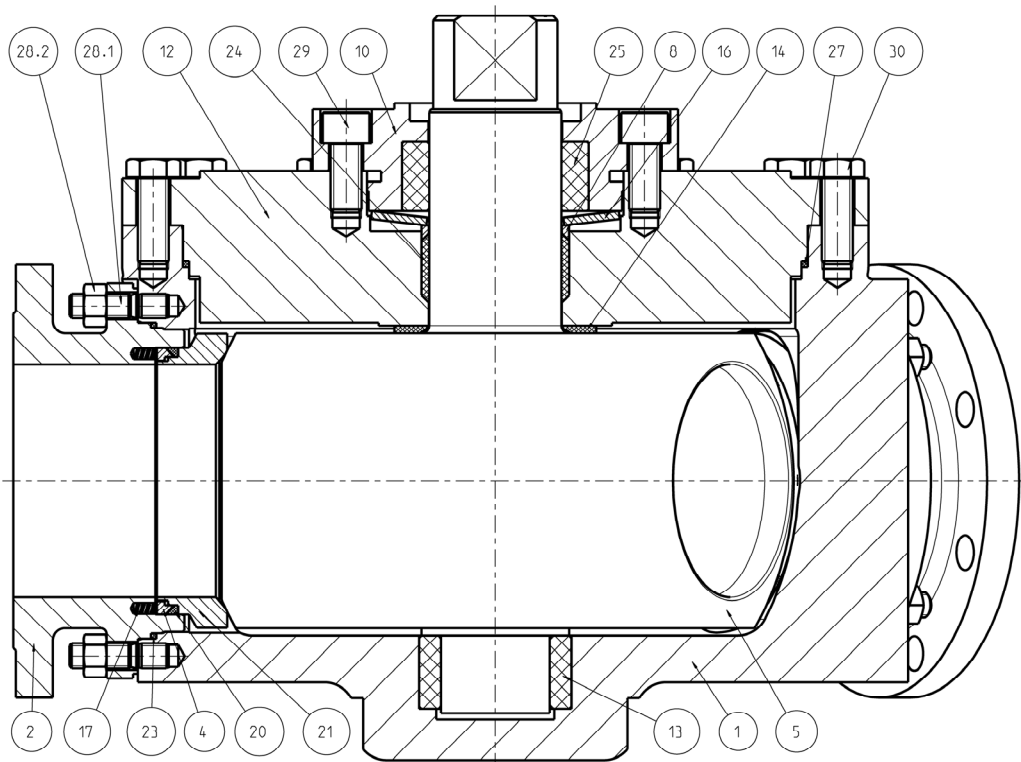


Fig. 2

Item	Designation	ASME		DIN EN	
		-20°F up to +1000°F	-20°F up to +1000°F	-60°C up to +450°C	-10°C up to +450°C
1	Body	A351 CF8M	A216 WCB	1.4408 ¹⁾	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")
4	Retainer Ring	Type 316	Type 316	1.4571	1.4571
5	Ball with Stem	Type 316 coated A351 CF8M coated	Type 316 coated A351 CF8M coated	1.4571 coated 1.4408 ¹⁾ coated	1.4571 coated 1.4408 ¹⁾ 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 A351 CF8M	A216 WCB A105	1.4571 1.4408 ¹⁾	1.0619 1.0460
13	Bearing Ring	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony
14	Distance Disc	Type 316	Type 316	1.4571	1.4571
16	Plate Spring ²⁾	Type 301	AISI 6150	1.4310	1.8159
17	Coil Spring	Type 316	Type 316	1.4571	1.4571
20	Sealing Ring	Graphite	Graphite	Graphite	Graphite
21	Seat Ring	Type 316 coated	Type 316 coated	1.4571 coated	1.4571 coated
23	Body Gasket	Graphite	Graphite	Graphite	Graphite
24	Stem Packing ³⁾	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment	PTFE-Con. Pigment
25	Bearing Ring	Carbon	Carbon	Carbon	Carbon
27	Body Gasket	Graphite	Graphite	Graphite	Graphite
28.1	Stud Bolt	SS	SS	SS	SS
28.2	Nut	SS	SS	SS	SS
29	Screw	SS	SS	SS	SS
30	Screw	SS	SS	SS	SS

Tab. 1

1) Temperature limitation 300°C [576°F] acc. to German technical rule AD-2000 W5 if intercrystalline corrosion resistant is required

2) Material 2.4668 (Inconel 718) is generally required for operating temperature over 200°C [392°F]

3) For temperature over 200°C [392°F] with Graphite Packing

4) Materials for lower / higher temperature on request



Technical Data

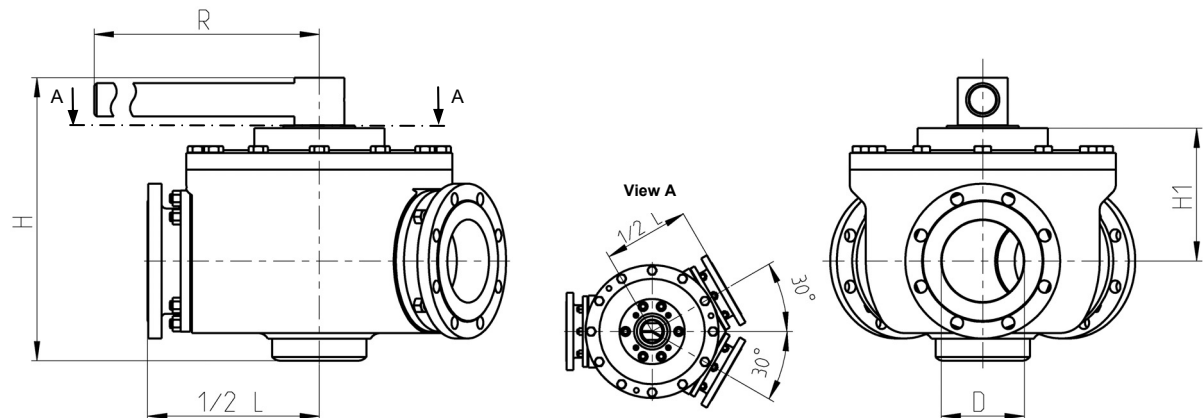


Fig.3

D = NPS = DN = Nominal Size
m = Weight
Cv; Kv = Flow Rate for 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	4,9	124	2,3	58	18	450	13	340	26	85	38,5
¾	20	5,4	137	2,8	70	18	450	13	340	46	86	39
1	25	6	153	2,9	74	18	450	13	340	72	88	40
1¼	32	6,4	163	3,1	80	18	450	14	360	118	150	68
1½	40	8,4	213	3,9	100	18	450	14	360	186	165	75
2	50	9,1	230	4,4	112	31	800	16	400	290	196	89
2½	65	9,6	244	4,7	119	31	800	16	400	491	224	102
3	80	11,9	301	6,1	156	31	800	18	450	743	242	110
4	100	12,7	323	6,6	167	31	800	20	520	1162	528	240

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	4,9	124	2,3	58	18	450	13	340	23	77	35
1	¾	5,4	137	2,8	70	18	450	13	340	42	79	36
1¼	1	6	153	2,9	74	18	450	14	360	65	83	38
1½	1¼	6,4	163	3,1	80	18	450	14	360	107	136	62
2	1½	8,4	213	3,9	100	18	450	16	400	167	156	71
2½	2	9,1	230	4,4	112	31	800	16	400	261	183	83
3	2½	9,6	244	4,7	119	31	800	18	450	442	227	103
4	3	11,9	301	6,1	156	31	800	20	520	669	477	217

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	4,9	124	2,3	58	18	450	13	340	26	85	38,5
¾	20	5,4	137	2,8	70	18	450	13	340	46	86	39
1	25	6	153	2,9	74	18	450	13	340	72	88	40
1¼	32	6,4	163	3,1	80	18	450	14	360	118	150	68
1½	40	8,4	213	3,9	100	18	450	14	360	186	165	75
2	50	9,1	230	4,4	112	31	800	16	400	290	196	89
2½	65	9,6	244	4,7	119	31	800	16	400	491	224	102
3	80	11,9	301	6,1	156	31	800	18	450	743	242	110
4	100	12,7	323	6,6	167	31	800	20	520	1162	528	240

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	4,9	124	2,3	58	18	450	13	340	23	85	39
1	¾	5,4	137	2,8	70	18	450	13	340	42	88	40
1¼	1	6	153	2,9	74	18	450	14	360	65	143	65
1½	1¼	6,4	163	3,1	80	18	450	14	360	107	156	71
2	1½	8,4	213	3,9	100	18	450	16	400	167	183	83
2½	2	9,1	230	4,4	112	31	800	16	400	261	213	97
3	2½	9,6	244	4,7	119	31	800	18	450	442	231	105
4	3	11,9	301	6,1	156	31	800	20	520	669	502	228

Tab.5



PN 16

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
15	175	92	450	340	23	37
20	175	92	450	340	40	37
25	175	92	450	340	63	37
32	213	100	450	360	103	65
40	213	100	450	360	161	71
50	258	133	800	400	251	83
65	277	145	800	400	425	91
80	301	157	800	450	643	100
100	323	168	800	520	1005	210

Tab.6

PN 40

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
15	175	92	450	340	23	38,5
20	175	92	450	340	40	39
25	175	92	450	340	63	40
32	213	100	450	360	103	68
40	213	100	450	360	161	75
50	258	133	800	400	251	89
65	277	145	800	400	425	102
80	301	157	800	450	643	110
100	323	168	800	520	1005	240

Tab.7

Other dimensions and pressure classes on request.

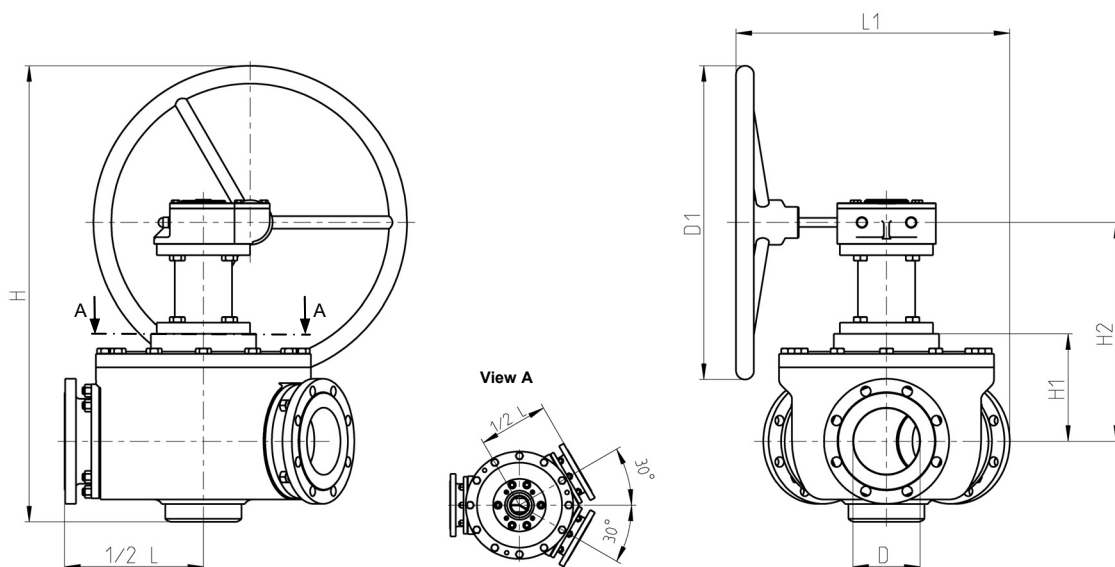


Fig.4

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

CLASS 150 - Full Bore

NPS [inch]	DN [mm]	H		H1		H2		L1		D1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	150	34	861	9	240	13	331	20	515	28	700	24	620	2615	858	390
8	200	35	877	10	266	18	456	23	588	20	500	39	1000	4648	1373	624
10	250	42	1057	11	284	20	504	29	725	28	700	47	1200	7552	2196	998

Tab.8

CLASS 150 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		H2		L1		D1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	5	27	687	7	167	12	297	19	492	20	500	24	620	1634	792	360
8	6	34	852	8	201	13	331	20	515	28	700	39	1000	2353	1318	599
10	8	36	909	10	266	18	456	23	588	20	500	47	1200	4183	2141	973
12	10	43	1095	11	284	20	504	29	725	28	700	57	1450	6797	3267	1485

Tab.9



CLASS 300 - Full Bore

NPS [inch]	DN [mm]	H		H1		H2		L1		D1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	150	33	840	12	307	17	431	24	610	20	500	24	620	2615	858	390
8	200	39	998	14	366	20	507	31	790	24	600	39	1000	4648	1373	624
10	250	49	1255	18	452	25	633	28	718	31	800	47	1200	7552	2196	998

Tab.10

CLASS 300 - Reduced Bore

NPS [inch]	NPS-R [inch]	H		H1		H2		L1		D1		L Perrin Standard		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	4	31	796	7	167	13	337	22	560	24	600	24	620	1634	792	360
8	6	34	872	12	307	17	431	24	610	20	500	39	1000	2353	1318	599
10	8	41	1029	14	366	20	507	31	790	24	600	47	1200	4183	2141	973
12	10	51	1293	18	452	25	633	28	718	31	800	57	1450	6797	1067	485

Tab.11

PN 16

DN [mm]	H [mm]	H1 [mm]	H2 [mm]	L1 [mm]	D1 [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
150	824	201	331	515	700	620	2262	390
200	876	266	456	588	500	1000	4021	624
250	1057	284	504	679	700	1200	6533	998

Tab.12

PN 40

DN [mm]	H [mm]	H1 [mm]	H2 [mm]	L1 [mm]	D1 [mm]	L [mm] Perrin Standard	Kv [m³/h]	m [kg]
150	974	307	431	515	800	620	2262	390
200	977	366	507	588	600	1000	4021	624
250	1236	452	633	679	800	1200	6533	998

Tab.13

Other dimensions and pressure classes on request.



Top Works

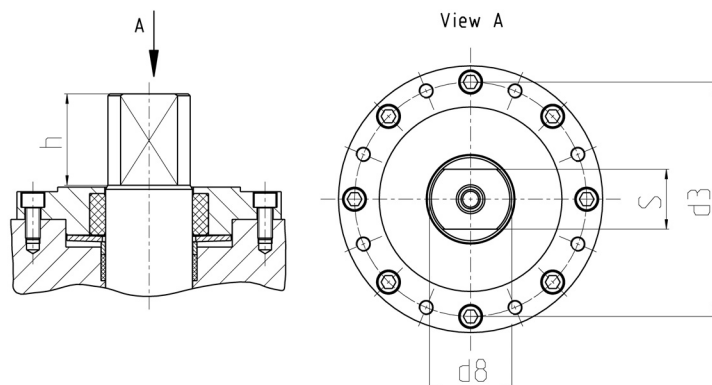


Fig.5

F	h		s		d3		d8	
	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]
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
F25	48	1,9	55	2,2	254	10	82	3,2

Tab.14

Actuator-Connection ISO 5211

Full Bore

NPS [inch]	DN [mm]	CLASS / PN	
		150 / 16	300 / 40
½	15	F10	F10
¾	20	F10	F10
1	25	F10	F10
1¼	32	F10	F10
1½	40	F10	F10
2	50	F12	F12
2½	65	F12	F12
3	80	F12	F12
4	100	F12	F12
6	150	F16	F16
8	200	F16	F16
10	250	F16	F25
12	300	F16	F25

Reduced Bore

NPS [inch]	NPS-R [inch]	CLASS	
		150	300
½	-	-	-
¾	-	-	-
1	¾	F10	F10
1¼	1	F10	F10
1½	1¼	F10	F10
2	1½	F12	F12
2½	2	F12	F12
3	2½	F12	F12
4	3	F12	F12
6	4	F16	F16
8	6	F16	F16
10	8	F16	F16
12	10	F16	F25

Tab.15



Pressure / Temperature Diagram

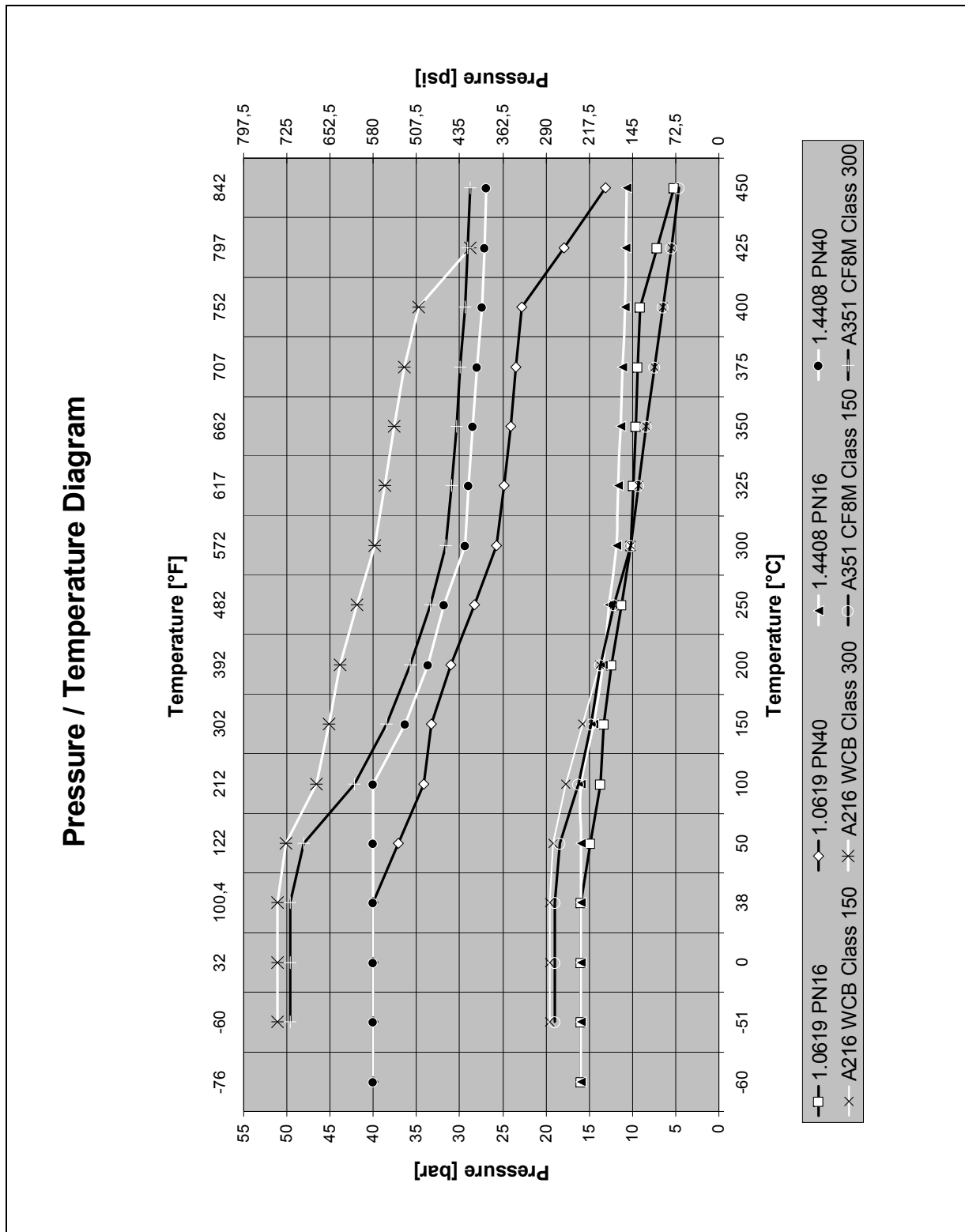


Fig.6

Options

1) Seat system with protected spring area

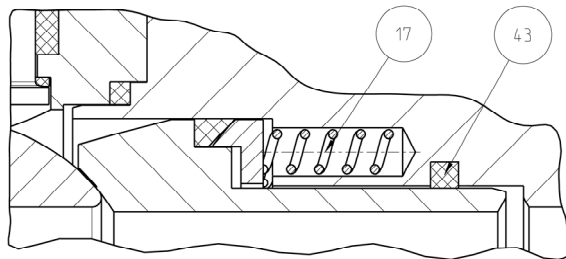


Fig.7

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

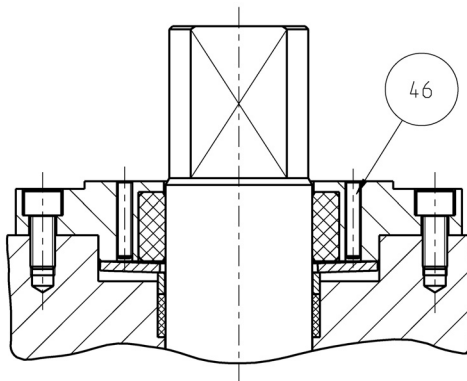


Fig.8

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) Double-stage gland packing with sniffing connection

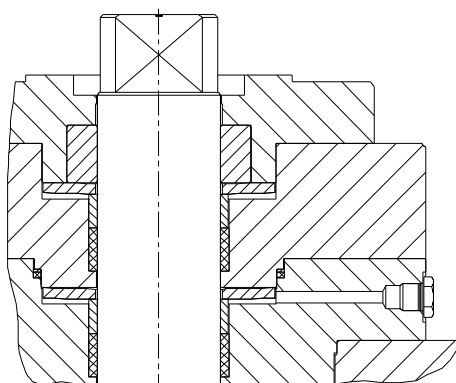


Fig.9

4) Ball positions

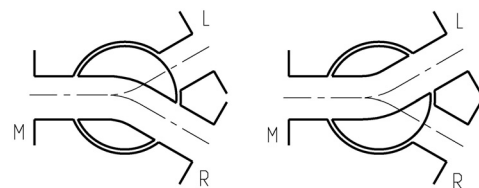


Fig.10

Technical modifications are reserved.

