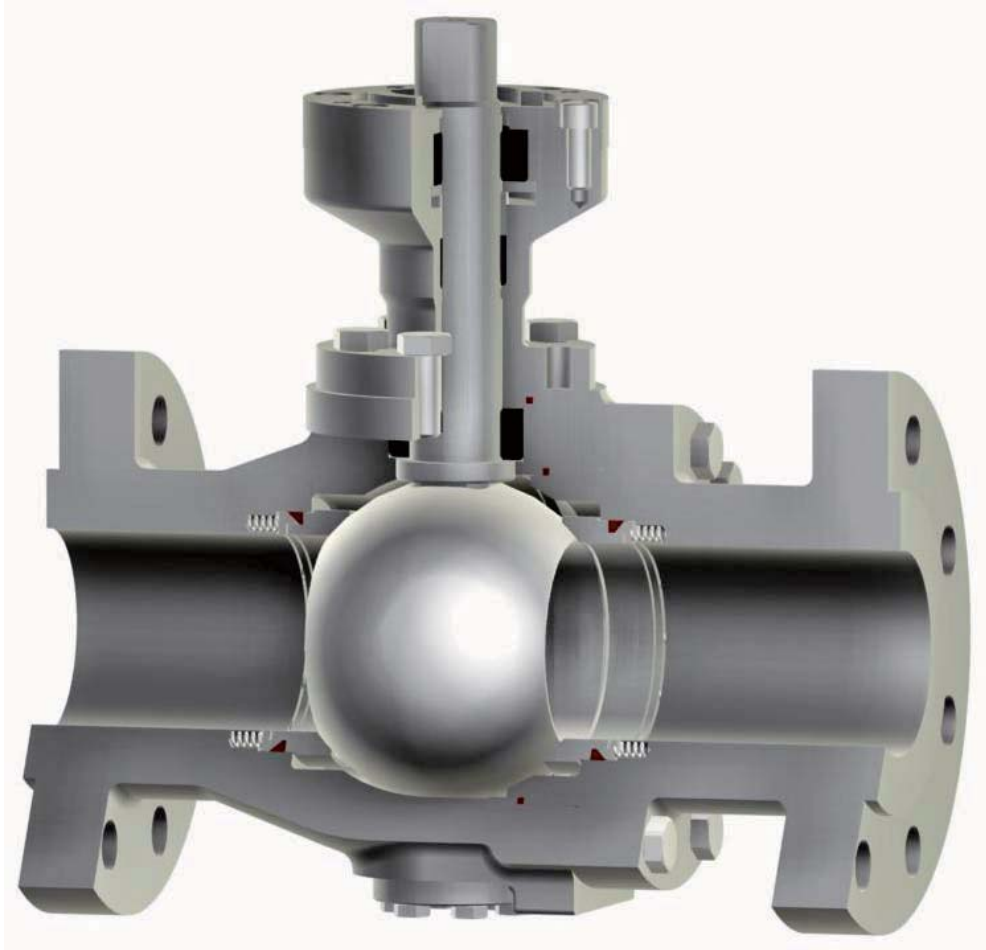




## 两通金属硬密封球阀14-M



### 结构特征

- ✓ 两件式阀体
- ✓ 底轴式安装的固定球
- ✓ 防喷出阀杆
- ✓ 动负载阀杆填料
- ✓ 弹簧加载阀座密封结构
- ✓ 消防火烧安全设计（选项）

### 设计参照标准

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

### 应用范围

- ✓ 设计通径 1" to 24" / DN 25 to 600
- ✓ 压力等级 Class 150 to 2500 / PN 10 to 420
- ✓ 操作温度 -20°F to +1000°F / -60°C to +550°C

### 环保认证

- ✓ “TA-Luft” 低逸散性排放认证

### 测试参照标准

- ✓ EN 12266-1/2
- ✓ API 598



## 主要部件清单

- 1 主阀体
- 2 副阀体
- 4 弹簧挡圈
- 5 阀球
- 6 阀杆
- 7 底轴
- 8 填料压环
- 9 底轴轴套
- 10 填料压盖
- 11 阀盖
- 16 碟簧
- 17 柱簧
- 18 阀体垫片
- 20 阀座密封环
- 21 阀座
- 23 阀体垫片
- 24 阀杆填料
- 25 阀杆轴套
- 26 阀杆轴套
- 27 阀体垫片
- 28 螺栓
- 29 螺栓
- 30 螺栓
- 31 螺栓

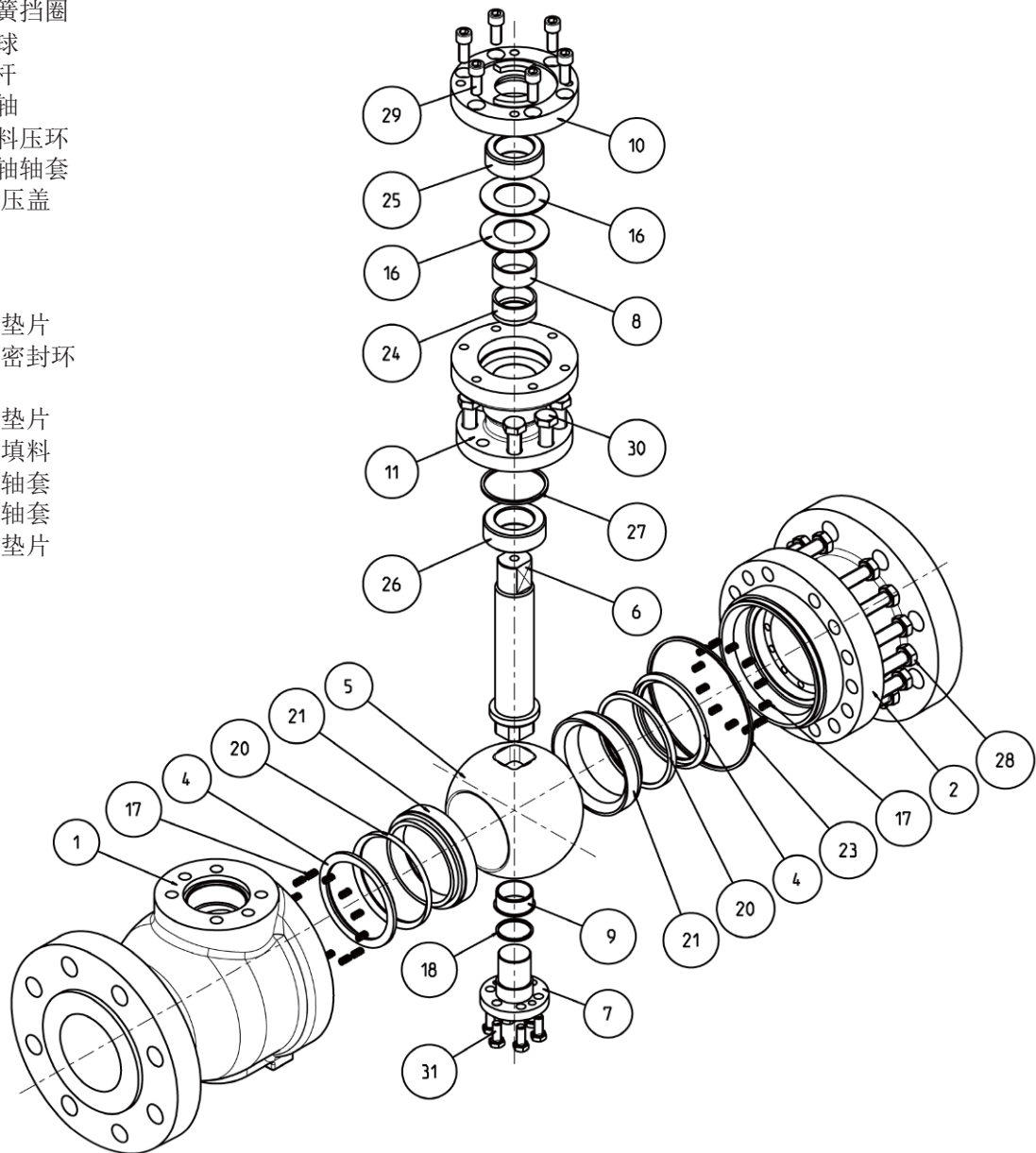


Fig.1

## 产品介绍

Perrin 14-M系列球阀是带底轴装配的固定球球阀，阀体为两片式分体设计，金属硬密封阀座采用弹簧预紧的密封结构，动负载阀杆填料确保在使用温度和压力变化时提供连续可靠的密封性能。

阀门按照ISO5211标准设计了一体式执行机构安装法兰，便于装配阀门驱动机构，阀杆加长件以及阀位锁定机构。

阀门采用防静电和防喷出式阀杆设计，阀杆填料和密封取得了“TA-Luft”低逸散性排放认证。



部件及材质列表

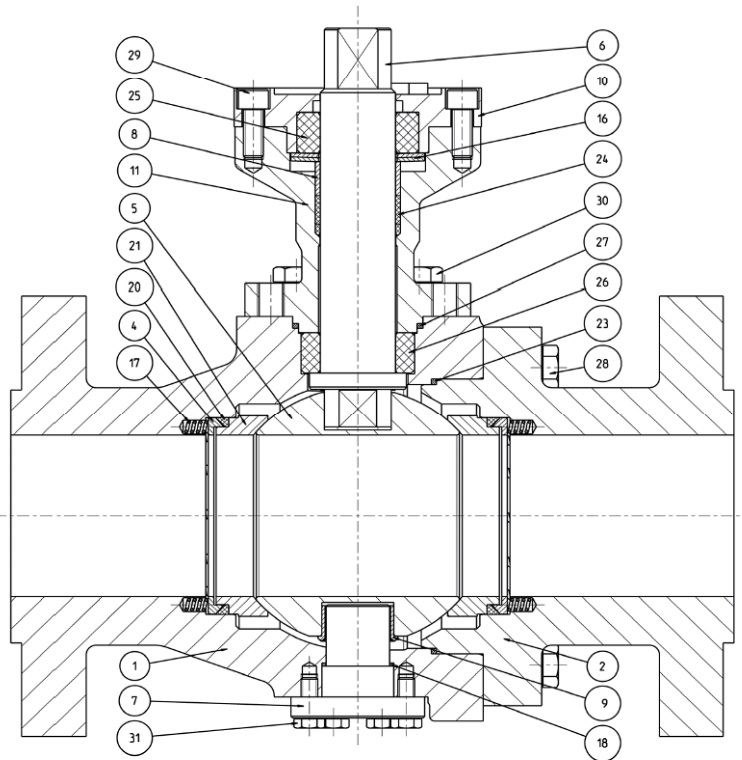


Fig.2

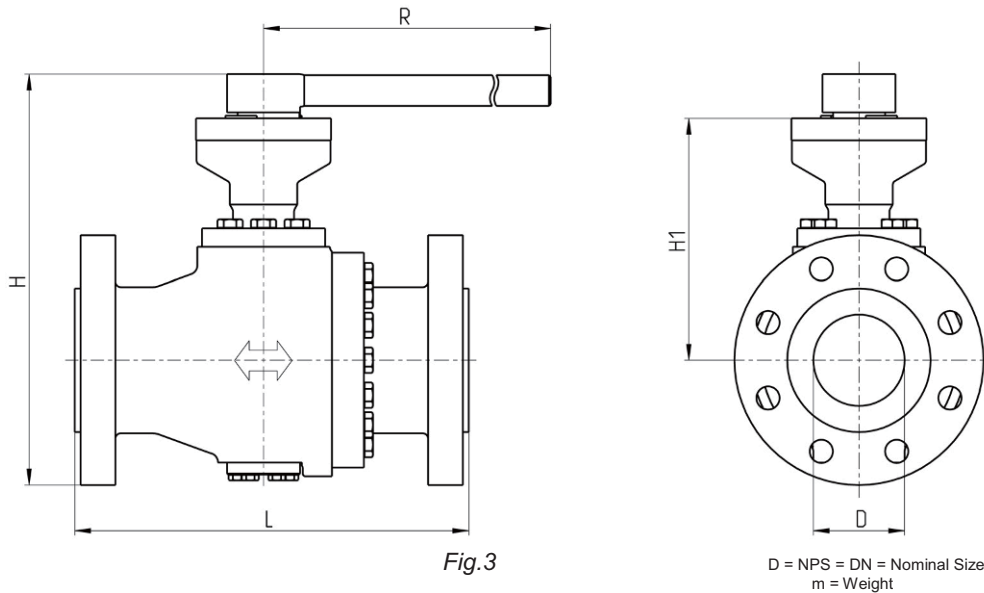
序号	部件名称	ASME		DIN EN	
		-20°F up to +1000°F	-20°F up to +1000°F	-60°C up to +550°C	-10°C up to +450°C
1	主阀体	A351 CF8M	A216 WCB	1.4408 <sup>1)</sup>	1.0619
2	副阀体	Type 316 (up to 2")	A105 (up to 2")	1.4571 (up to 2")	1.0460 (up to 2")
4	弹簧挡圈	Type 316	Type 316	1.4571	1.4571
5	球阀	Type 316 coated A351 CF8M coated	Type 316 coated A351 CF8M coated	1.4571 coated 1.4408 <sup>1)</sup> coated	1.4571 coated 1.4408 <sup>1)</sup> coated
6	阀杆	Type 51 <sup>2)</sup> Type 316	Type 51 <sup>2)</sup> Type 316	1.4462 <sup>2)</sup> 1.4571	1.4462 <sup>2)</sup> 1.4571
7	底轴	Type 316 coated	Type 316 coated	1.4571 coated	1.4571 coated
8	填料压环	Type 316	Type 316	1.4571	1.4571
9	底轴轴套	Type 316 coated	Type 316 coated	1.4571 coated	1.4571 coated
10	填料压盖	Type 316	A105	1.4571	1.0460
11	阀盖				
16	碟簧 <sup>3)</sup>	Type 301	AISI 6150	1.4310	1.8159
17	柱簧	Type 316	Type 316	1.4571	1.4571
18	阀体垫片	Graphite	Graphite	Graphite	Graphite
20	阀座密封圈				
21	阀座	Type 316 coated Type 51 <sup>2)</sup> coated	Type 316 coated Type 51 <sup>2)</sup> coated	1.4571 coated 1.4462 <sup>2)</sup> coated	1.4571 coated 1.4462 <sup>2)</sup> coated
23	阀体垫片	Graphite	Graphite	Graphite	Graphite
24	阀杆填料	Carbon	Carbon	Carbon	Carbon
25	阀杆轴套				
26	阀杆轴套	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony	Carbon-Antimony
27	阀体垫片	Graphite	Graphite	Graphite	Graphite
28	螺栓	SS	SS	SS	SS
29	螺栓	SS	SS	SS	SS
30	螺栓	SS	SS	SS	SS
31	螺栓	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) 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



技术数据



**CLASS 150 - 全通径**

NPS [inch]	DN [mm]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	25	7,8	198	4,5	114	12	300	5	127	75	18	8
1¼	32	8,4	214	4,7	119	12	300	5,5	140	124	22	10
1½	40	10,4	264	6,1	156	18	450	6,5	165	193	31	14
2	50	12,6	319	8,1	205	18	450	7	178	302	59	27
2½	65	13,5	343	8,5	215	18	450	7,5	190	510	101	46
3	80	16,1	409	10	253	28	700	8	203	772	121	55
4	100	17	434	10,4	265	28	700	9	229	1206	158	72

Tab.2

**CLASS 150 - 缩径**

NPS [inch]	NPS-R [inch]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	¾	7,6	192	4,5	114	12	300	5	127	48	17	7,5
1¼	1	7,8	198	4,5	114	12	300	5,5	140	75	20	9
1½	1¼	8,4	214	4,7	119	12	300	6,5	165	124	25	12
2	1½	10,4	264	6,1	156	18	450	7	178	193	35	16
2½	2	12,6	319	8,1	205	18	450	7,5	190	302	68	31
3	2½	13,5	343	8,5	215	18	450	8	203	510	116	53
4	3	16,1	409	10	253	28	700	9	229	772	139	63

Tab.3



**CLASS 300 - Full Bore**

NPS [inch]	DN [mm]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	25	7,8	198	4,5	114	12	300	6,5	165	75	11	24
1¼	32	8,4	214	4,7	119	12	300	7	178	124	15	33
1½	40	10,4	264	6,1	156	18	450	7,5	190	193	23	51
2	50	12,6	319	8,1	205	18	450	8,5	216	302	29	64
2½	65	13,5	343	8,5	215	18	450	9,5	241	510	50	110
3	80	16,1	409	10	253	28	700	11,12	282	772	57	125
4	100	17	434	10,4	265	28	700	12	305	1206	75	165

Tab.4

**CLASS 300 - Reduced Bore**

NPS [inch]	NPS-R [inch]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	¾	7,6	192	4,5	114	12	300	6,5	165	48	20	9
1¼	1	7,8	198	4,5	114	12	300	7	178	75	28	13
1½	1¼	8,4	214	4,7	119	12	300	7,5	190	124	38	17
2	1½	10,4	264	6,1	156	18	450	8,5	216	193	58	26
2½	2	12,6	319	8,1	205	18	450	9,5	241	302	73	33
3	2½	13,5	343	8,5	215	18	450	11,12	282	510	121	55
4	3	16,1	409	10	253	28	700	12	305	772	144	66

Tab.5

**CLASS 600 - Full Bore**

NPS [inch]	DN [mm]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	25	7,8	198	4,5	114	12	300	8,5	216	75	26	12
1¼	32	8,4	214	4,7	119	18	450	9	229	124	37	17
1½	40	10,4	264	6,1	156	18	450	9,5	241	193	64	29

Tab.6

**CLASS 600 - Reduced Bore**

NPS [inch]	NPS-R [inch]	H		H1		R		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
1	¾	7,6	192	4,5	114	12	300	8,5	216	48	22	10
1¼	1	7,8	198	4,5	114	12	300	9	229	75	31	14
1½	1¼	8,4	214	4,7	119	18	450	9,5	241	124	44	20

Tab.7



**PN 16 – PN 40**

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] DIN EN 558		Kv [m <sup>3</sup> /h]	m [kg]	
				GR1	GR27		GR1	GR27
25	198	114	300	160	125	64	8	7
32	214	119	300	180	130	106	10	9
40	264	156	450	200	140	165	14	12
50	319	205	450	230	150	258	27	23
65	343	215	450	290	170	436	40	35
80	400	244	700	310	180	660	48	42
100	433	264	700	350	190	1031	63	54

Tab.8

**PN 100**

DN [mm]	H [mm]	H1 [mm]	R [mm]	L [mm] DIN EN 558		Kv [m <sup>3</sup> /h]	m [kg]	
				GR1	GR27		GR1	GR27
25	206	114	300	160	125	64	12	10
32	214	119	300	180	130	106	17	15
40	269	157	450	200	140	165	29	25

Tab.9

Other dimensions and pressure classes on request.

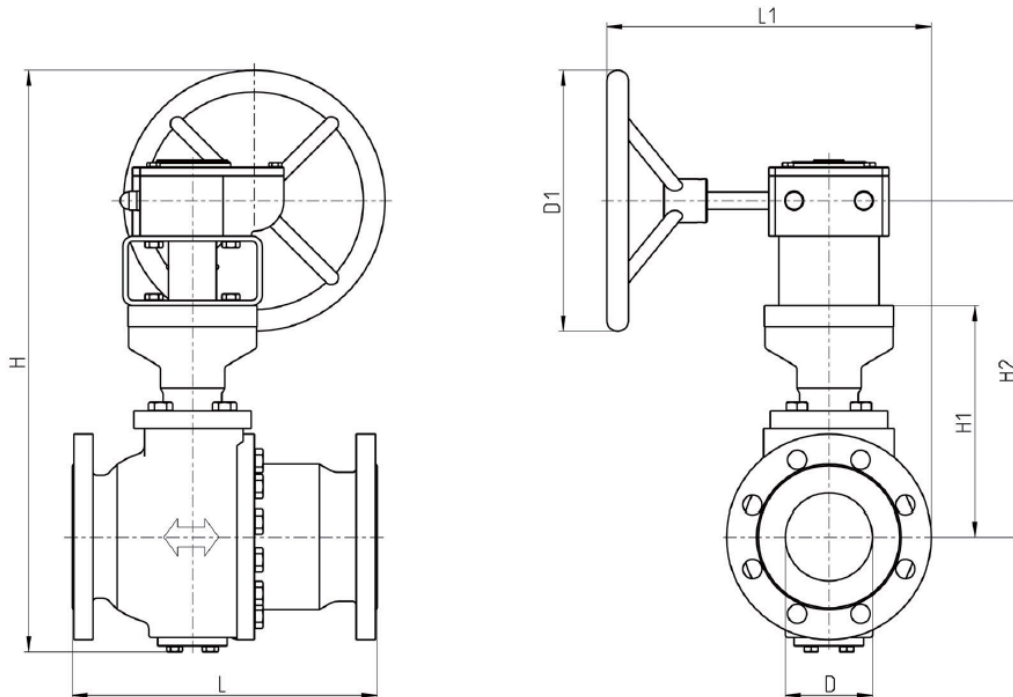


Fig.4

D = NPS = DN = Nominal Size  
m = Weight

**CLASS 150 - Full Bore**

NPS [inch]	DN [mm]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	150	31	796	12	307	17	431	17	435	18	450	15,5	394	2714	308	140
8	200	40	1028	14	366	20	507	18	467	28	700	18	457	4825	594	270
10	250	47	1186	18	452	25	633	22	559	28	700	21	533	7840	792	360
12	300	51	1294	24	610	33	828	25	638	18	450	24	610	10856	1117	508
14	350	55	1390	24	600	35	898	28	724	18	450	27	686	14776	1593	724
16	400	62	1578	25	632	37	930	32	808	28	700	30	762	19300	2178	990
18	450	62	1576	28	710	40	1008	37	930	20	500	34	864	24426	3727	1694
20	500	67	1689	28	700	43	1090	39	978	20	500	36	914	30157	4759	2163
24	600	79	2009	34	863	49	1253	41	1035	28	700	42	1067	43426	7051	3205

Tab.10

**CLASS 150 - Reduced Bore**

NPS [inch]	NPS-R [inch]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	5	28	703	10	264	15	388	15	373	14	350	15,5	394	1206	223	101
8	6	33	827	12	307	17	431	15	373	18	450	18	457	2714	339	154
10	8	42	1060	14	366	20	507	18	467	28	700	21	533	4825	559	254
12	10	48	1224	18	452	25	633	21	528	28	700	24	610	7840	894	407
14	12	52	1320	24	610	33	828	24	600	18	450	27	686	10856	1284	584
16	14	56	1421	24	600	35	898	28	699	18	450	30	762	14776	1832	833
18	16	63	1598	25	632	37	930	28	699	28	700	34	864	19300	2917	1326
20	18	64	1629	25	632	37	930	31	777	28	700	36	914	24426	4103	1865
24	20	69	1746	28	700	43	1090	39	979	20	500	42	1067	30157	5472	2487

Tab.11



**CLASS 300 - Full Bore**

NPS [inch]	DN [mm]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	150	38	957	12	307	18	448	20	515	28	700	15,88	403	2714	383	174
8	200	45	1139	14	366	22	548	23	588	31	800	19,75	502	4825	608	277
10	250	50	1272	18	452	30	750	27	679	24	600	22,38	568	7840	938	427
12	300	56	1418	24	610	36	908	30	770	20	500	25,5	648	10856	1469	668
14	350	60	1532	24	600	39	990	35	888	20	500	30	762	14776	2275	1034
16	400	62	1571	25	632	40	1022	38	953	18	450	33	838	19300	3452	1569
18	450	75	1906	28	710	43	1100	39	985	35	900	36	914	24426	4352	1978
20	500	76	1927	28	700	43	1083	40	1019	36	914	39	991	30157	5656	2571
24	600	85	2160	34	863	49	1246	47	1202	36	914	45	1143	43426	9328	4240

Tab.12

**CLASS 300 - Reduced Bore**

NPS [inch]	NPS-R [inch]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
6	5	32	805	10,4	264	16	405	12	315	31	800	15,9	403	1206	319	145
8	6	38	957	12	307	18	448	20	515	28	700	20	502	2714	507	230
10	8	45	1139	14	366	22	548	23	588	31	800	22	568	4825	782	355
12	10	50	1272	18	452	30	750	27	679	24	600	26	648	7840	1224	556
14	12	56	1418	24	610	36	908	30	770	20	500	30	762	10856	1896	862
16	14	60	1532	24	600	39	990	35	888	20	500	33	838	14776	2877	1308
18	16	71	1796	25	632	40	1022	36	913	35	900	36	914	19300	3762	1710
20	18	75	1906	28	710	43	1100	39	985	35	900	39	991	24426	4714	2143
24	20	76	1927	28	700	43	1083	40	1019	36	914	45	1143	30157	7773	3533

Tab.13





**CLASS 600 - Full Bore**

NPS [inch]	DN [mm]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
2	50	13	329	8,1	205	14	346	18	461	10	250	11,5	292	302	110	50
2½	65	13,5	343	8,5	215	14	356	18	461	14	350	13	330	510	150	68
3	80	15,9	403	10	253	17	435	20	510	24	600	14	356	772	187	85
4	100	17	437	10,4	265	22	563	23	588	31	800	17	432	1206	330	150
6	150	37	947	15	378	20	519	25	639	20	500	22	559	2714	660	300
8	200	46	1163	19	471	26	653	28	720	24	600	26	660	4825	1320	600
10	250	51	1308	21	531	33	829	33	842	18	450	31	787	7840	2420	1100
12	300	58	1461	25	634	37	932	35	900	20	500	33	838	10856	3300	1500
14	350	73	1859	28	710	43	1100	35	898	36	914	35	889	14776	3960	1800
16	400	75	1912	28	722	44	1112	38	972	36	914	39	991	19300	4840	2200
18	450	82	2089	34	870	50	1260	39	1001	36	914	43	1092	24426	5896	2680
20	500	86	2186	37	940	52	1323	41	1038	36	914	47	1194	30157	6820	3100
24	600	90	2289	39	980	54	1363	43	1102	36	914	55	1397	43426	10780	4900

Tab.14

**CLASS 600 - Reduced Bore**

NPS [inch]	NPS-R [inch]	H		H1		H2		L1		D1		L ASME B16.10		Cv [gal/min]	m	
		[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]		[lbs]	[kg]
2	1½	10,4	264	6,1	156	14	346	18	461	10	250	11,5	292	193	103	47
2½	2	13	329	8,1	205	14	346	18	461	10	250	13	330	302	127	58
3	2½	13,5	343	8,5	215	14	356	18	461	14	350	14	356	510	165	75
4	3	15,9	403	10	253	17	435	20	510	24	600	17	432	772	206	94
6	5	17	437	10,4	265	22	563	23	588	31	800	22	559	1206	380	173
8	6	37	947	15	378	20	519	25	639	20	500	26	660	2714	759	345
10	8	46	1163	19	471	26	653	28	720	24	600	31	787	4825	1518	690
12	10	51	1308	21	531	33	829	33	842	18	450	33	838	7840	2783	1265
14	12	58	1461	25	634	37	932	35	900	20	500	35	889	10856	3795	1725
16	14	73	1859	28	710	43	1100	35	898	36	914	39	991	14776	4554	2070
18	16	75	1912	28	722	44	1112	37	939	36	914	43	1092	19300	5566	2530
20	18	81	2060	34	870	50	1260	38	972	36	914	47	1194	24426	6472	2942
24	20	86	2186	37	940	52	1323	41	1038	36	914	55	1397	30157	7843	3565

Tab.15



**PN 16**

DN [mm]	H [mm]	H1 [mm]	H2 [mm]	L1 [mm]	D1 [mm]	L [mm] DIN EN 558		Kv [m <sup>3</sup> /h]	m [kg]	
						GR1	GR27		GR1	GR27
150	799	307	431	435	450	480	350	2320	117	101
200	1027	366	507	526	700	600	400	4124	192	167
250	1186	452	633	600	700	730	450	6701	307	267
300	1247	574	792	687	450	850	500	9279	441	384
350	1383	600	898	770	450	980	550	12629	630	547
400	1570	632	930	800	700	1100	762	16496	861	749
450	1578	710	1008	830	500	1200	-	20877	1723	-
500	1698	700	1090	987	500	1250	914	25775	2056	1788
600	2023	863	1253	1049	700	1450	-	37116	2964	-

Tab.16

**PN 40**

DN [mm]	H [mm]	H1 [mm]	H2 [mm]	L1 [mm]	D1 [mm]	L [mm] DIN EN 558		Kv [m <sup>3</sup> /h]	m [kg]	
						GR1	GR27		GR1	GR27
150	931	307	431	506	700	480	350	2320	151	132
200	1095	366	507	585	800	600	400	4124	240	209
250	1158	452	633	682	600	730	450	6701	371	322
300	1300	574	792	768	500	850	500	9279	580	505
350	1438	600	898	926	500	980	550	12629	899	782
400	1485	632	930	959	450	1100	762	16496	1364	1186
450	1808	710	1008	972	914	1200	-	20877	1978	-
500	1925	700	1090	1010	914	1250	914	25775	2236	1944
600	2155	863	1253	1190	914	1450	-	37116	3687	-

Tab.17

**PN 100**

DN [mm]	H [mm]	H1 [mm]	H2 [mm]	L1 [mm]	D1 [mm]	L [mm] DIN EN 558		Kv [m <sup>3</sup> /h]	m [kg]	
						GR1	GR27		GR1	GR27
50	329	205	470	480	250	230	150	258	43	38
65	343	215	484	487	350	290	170	436	59	51
80	403	253	585	542	600	310	180	660	74	64
100	437	265	735	645	800	350	190	1031	130	113
150	961	314	438	529	700	480	350	2320	261	227
200	1134	385	526	605	800	600	400	4124	522	454
250	1187	471	652	692	600	730	450	6701	957	832
300	1318	592	810	768	500	850	500	9279	1304	1134
350	1480	632	930	936	500	980	550	12629	1565	1361
400	1531	678	976	959	450	1100	762	16496	2200	1913
500	1947	722	1112	1010	914	1250	914	25775	3100	2696
600	2176	884	1274	1190	914	1450	-	37116	4900	4261

Tab.18

**Other dimensions and pressure classes on request.**



驱动接口尺寸

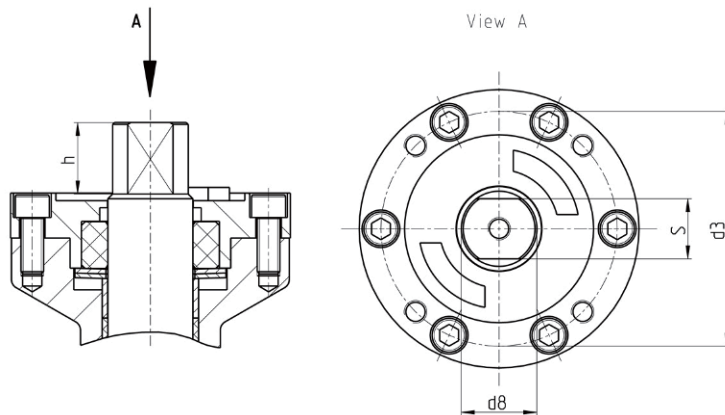


Fig.5

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
F25	48	1,9	55	2,2	254	10	82	3,2
F35	94	3,7	65	2,6	356	14	98	3,9

Tab.19

Actuator-Connection 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
1	25	F07	F07	F07	1	¾	F07	F07	F07
1¼	32	F07	F10	F10	1¼	1	F07	F07	F07
1½	40	F07	F10	F10	1½	1¼	F07	F10	F10
2	50	F10	F10	F10	2	1½	F07	F10	F10
2½	65	F10	F10	F10	2½	2	F10	F10	F10
3	80	F12	F12	F12	3	2½	F10	F10	F10
4	100	F12	F12	F12	4	3	F12	F12	F12
6	150	F12	F14	F16	6	4	F12	F12	F12
8	200	F14	F16	F25	8	6	F12	F14	F16
10	250	F16	F25	F35	10	8	F14	F16	F25
12	300	F16	F25	F35	12	10	F16	F25	F35
14	350	F25	F35	F35*	14	12	F16	F25	F35
16	400	F25	F35	F35*	16	14	F25	F35	F35*
18	450	F25	F35*	F40*	18	16	F25	F35	F35*
20	500	F35	F35*	F40*	20	18	F25	F35	F35*
24	600	F35	F40*	F48*	24	20	F35	F35*	F40*

\* Feather Keyway

Tab.20



阀体材质温度-压力曲线图

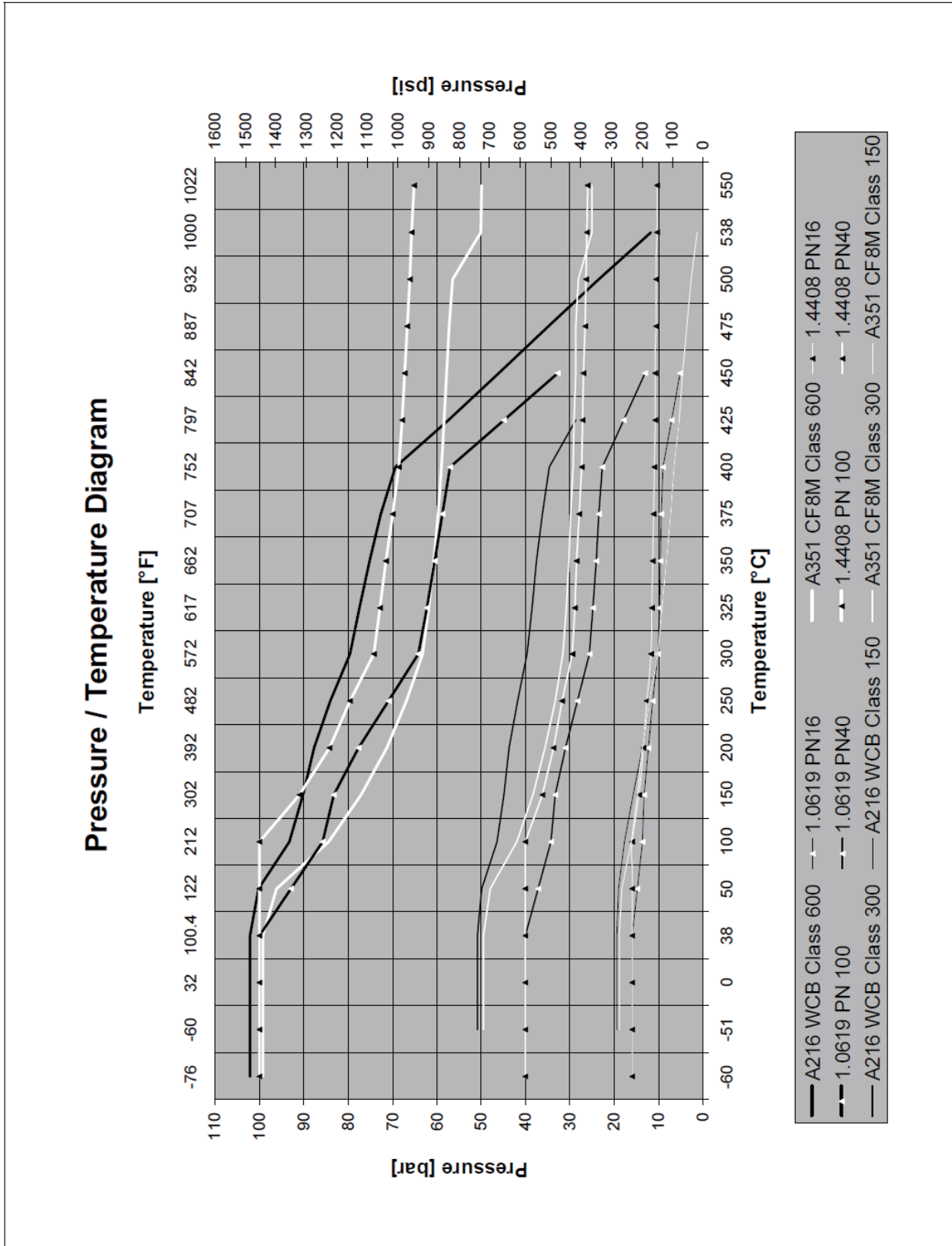
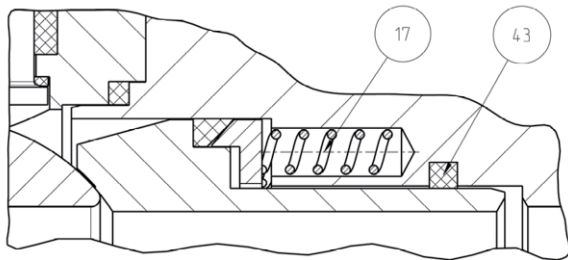


Fig.6



## 阀门配置选项

### 1)具有弹簧防护功能的阀座系统:



密封线（43）可保护阀座系统的弹簧（17）区域。  
密封线可阻挡管路介质中的泥浆或颗粒进入弹簧区域，同时又能使管线压力进入以保证阀座单元的密封比压。

### 2)具有单阀座双向密封功能的阀座单元

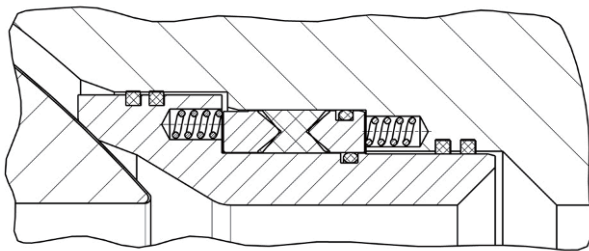


Fig.8

### 3)应用于高差压工况的阀座密封结构

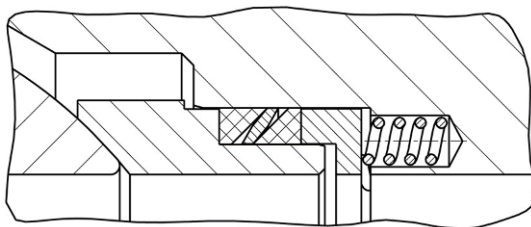


Fig.9



4)单阀座单向密封功能的球阀结构

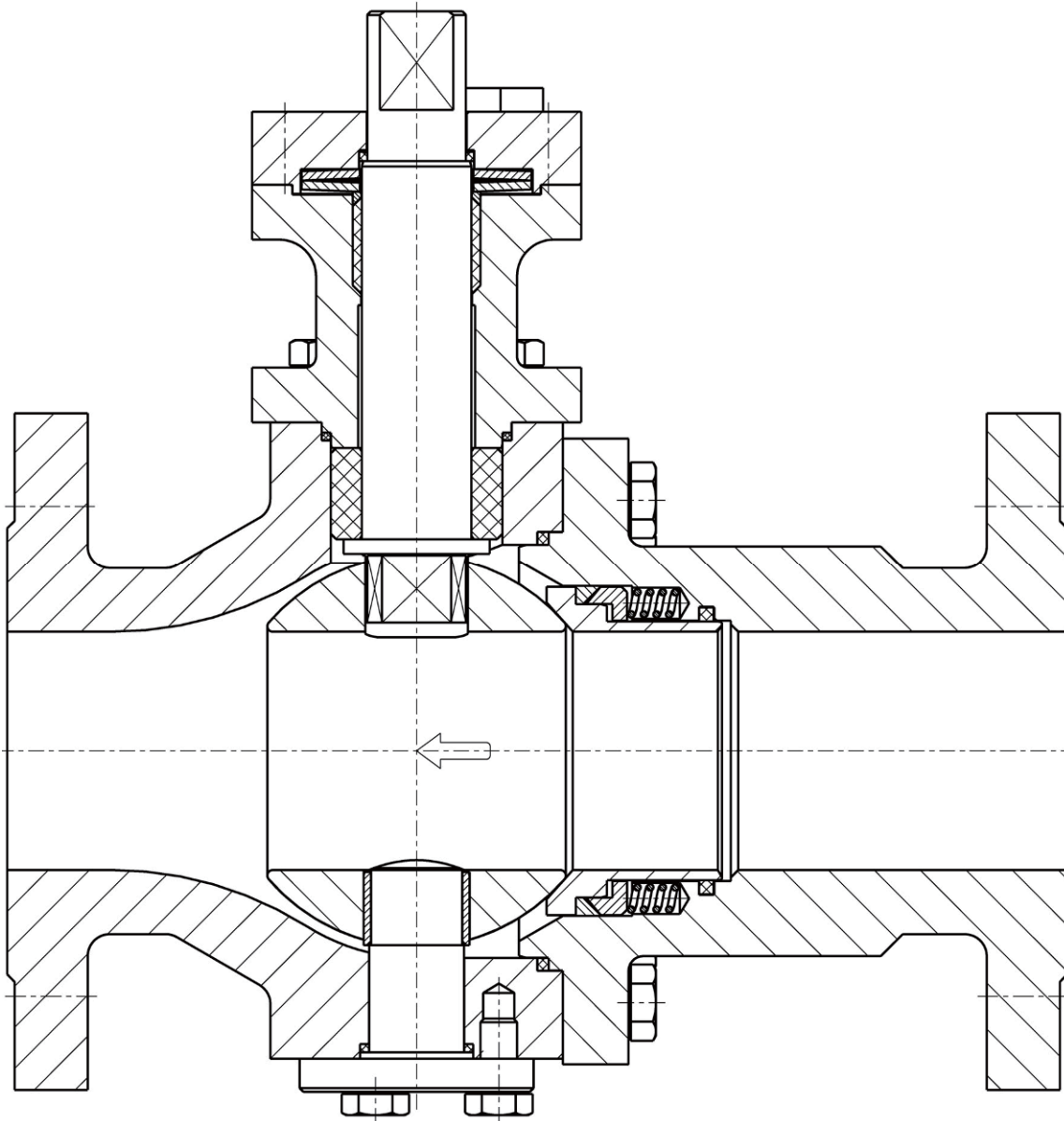


Fig.10



5) 带可调压紧机构的填料压盖

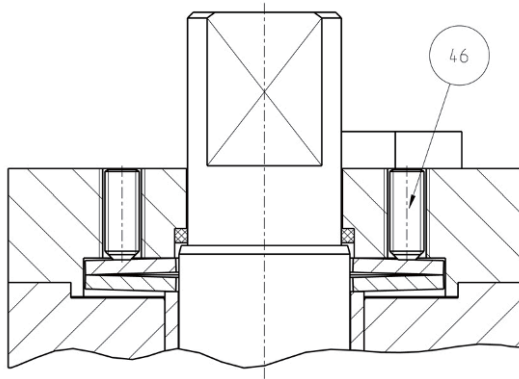


Fig.11

可为动负载阀杆填料配置带调整螺钉（46）的填料压盖。填料磨损发生泄漏时，拧紧这些调整螺钉可增加填料的压紧力。

6) 带探测接口的双级填料结构

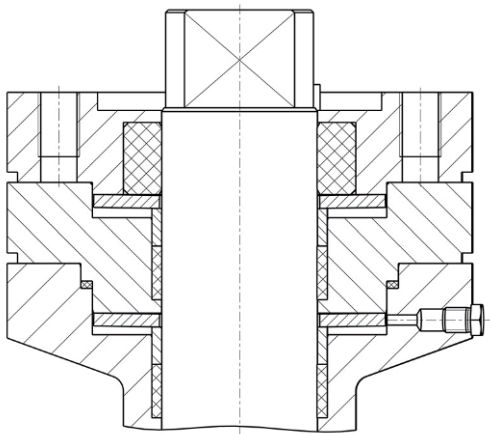


Fig.12

7) 带泄放口的双截断阀  
Double block and bleed with bleed and/or vent port

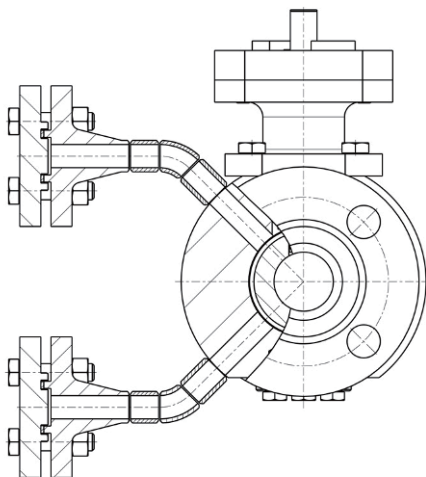


Fig.13

可根据需要配置排泄或排放接口。



8) 三件式阀体结构

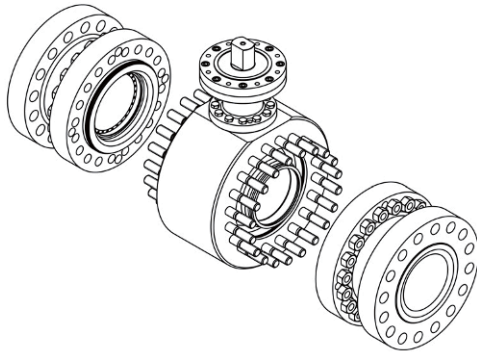


Fig.14

根据客户特殊要求，可制造三件式阀体结构的阀门。

9) 带伴热夹套的球阀

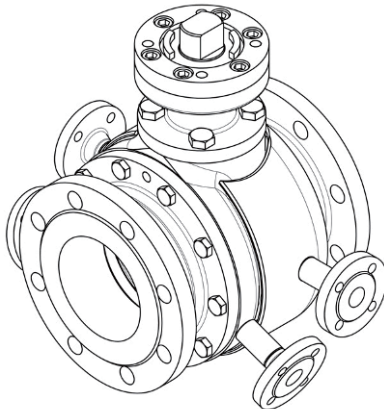


Fig.15

可根据客户要求设计制造带伴热夹套的球阀。

10) 节流球阀

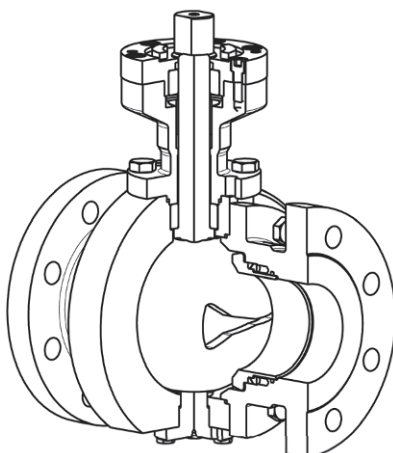


Bild 16

可根据客户要求设计生产带节流孔的球阀。

Technical modifications are reserved.









