



**ANSI Ball valve with full Bore,
2-piece body construction**

A brides

**ISO F14AC
NPS 1/2"-2" / ANSI 150 - 300**

**ISO F14A
NPS 2 1/2"-12" / ANSI 150 - 300
NPS 1/2"-12" / ANSI 600**

Applications

- General industry, power stations, chemical industry, oil and petrochemical industry as well as associated branches of industry
- Paper industry, food industry, pharmaceutical industry

Operating data

- Temperature range, depending on the operating pressure and the seat material, -29 °C to +250 °C
- Permissible operating pressure: see table page 2

Design

- Two-piece body; full bore;
- Length:
 - Short Body 1/2" - 6" according to ASME B16-10 short, 8" - 12" according to ASME B16-10 long (Class 150 : 1/2" - 6" EN 558-2 series 3, 8" - 12" EN 558-2 series 12, Class 300 : EN 558-2 series 4, Class 600 : EN 558-2 series 5)
 - Long body according to EN 558-2 series 12
- Design according to ASME 16-34, BS5351
- Flanges according ASME B16-5 / Raised face
- Test according to BS 6755 Part 1
- Fire safe according to BS 6755 P.2
- The valves meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) appendix I for fluids of the group 1 and 2.
- Vacuum service up to 0,00013 mbar.

Standard variants

- Fire safe version
- Seat in:
 - PTFE + Glass Fibre
 - PTFE + Graphite
 - PTFE + Stainless Steel powder
 - PEEK
 - UHMWPE
- Seal O'ring in EPDM, Nitrile, FEP
- Oval handle (up to 2"), T handle
- Locking device
- Gas service tested for pressure as low as 0,3 bar
- ATEX version in accordance with 94/9/EC directive

Remarks

- Seat selection 8226.21
- Operating instructions 8226.81

On all enquiries/orders please specify

- | | |
|-------------------------|---------------------------|
| 1 Type | 6 Medium |
| 2 PN | 7 Operating temperature |
| 3 DN | 8 Pipe connection |
| 4 Working pressure | 9 Standard variants |
| 5 Differential pressure | 10 Type series booklet n° |



Working pressures

class	Material	Working pressure in bar for temperature °C								
		-29 °C	38 °C	65 °C	100 °C	120 °C	150 °C	180 °C	200 °C	260 °C
150	A216 WCC	20,00	20,00	18,70	17,90	16,90	15,90	14,85	13,80	11,70
	A351 CF8M	18,95	18,95	17,60	16,20	15,50	14,80	14,00	13,40	11,70
300	A216 WCC	51,70	51,70	51,70	51,70	51,00	50,30	49,45	48,60	45,85
	A351 CF8M	49,65	49,65	46,15	42,70	40,65	38,60	37,00	35,50	33,10
600	A216 WCC	103,00	103,00	103,00	103,00	101,50	100,00	98,60	97,20	91,70
	A351 CF8M	99,30	99,30	92,40	85,50	84,80	84,15	77,40	70,70	65,85

Temperature limits of seats

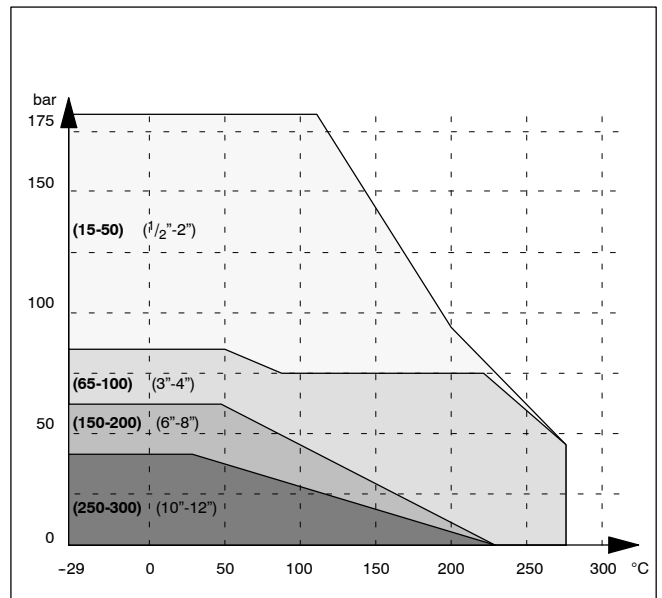
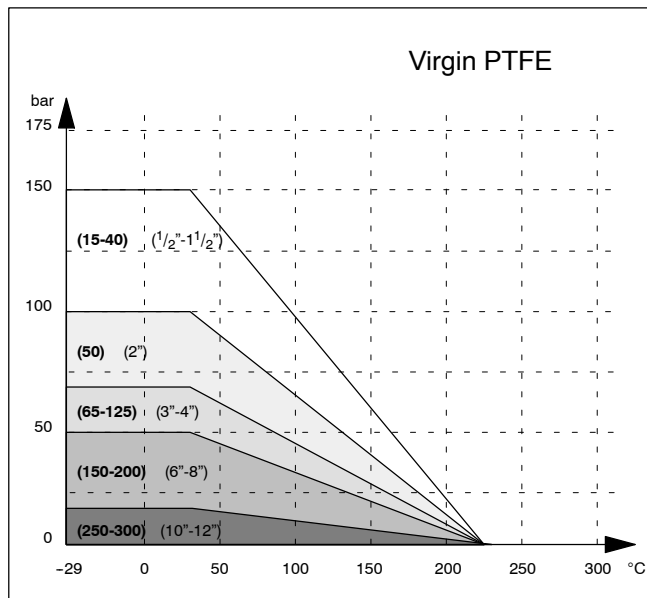
The values that are shown are an approximation to reality based on our own past experience.

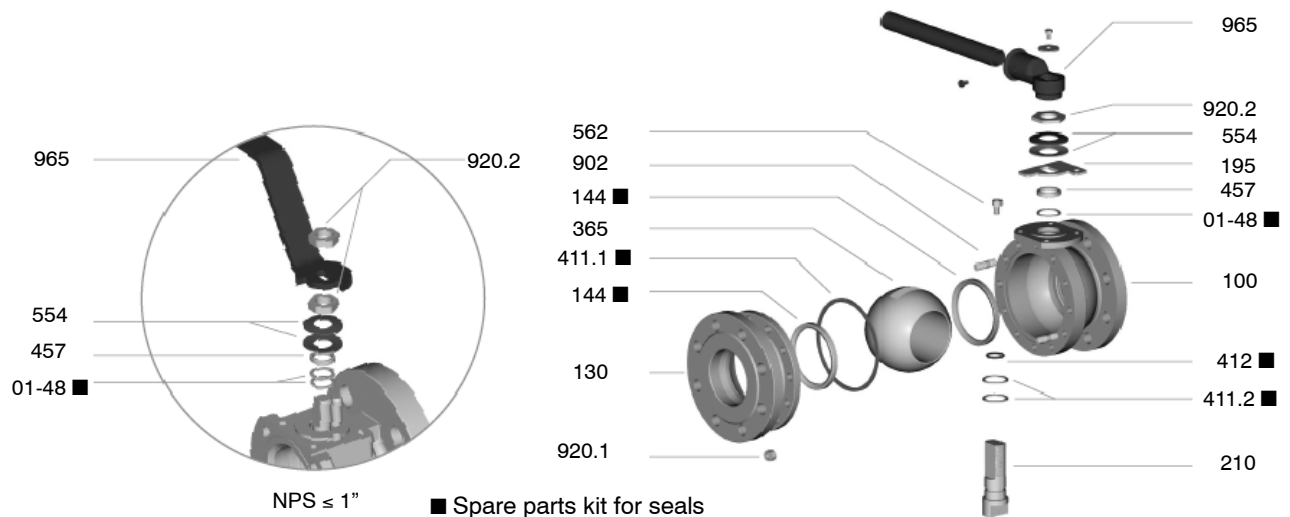
Virgin PTFE:

Inert to most media, low friction coefficient, subject to temperature limitations. Good performance in gas applications.

Other Seats:

For precise determination and choice of seat see seat selection 8226.21





Materials

Fire Safe Version:

Part no.	Name of parts	Stainless Steel Version	Cast Steel Version	
01-48	Gland Packing	Graphite	Graphite	
100	Body	ASTM A351 CF8M	ASTM A216 WCC WCC = WCB (0,25% C max.)	
130	Body Connector	ASTM A351 CF8M	ASTM A216 WCC WCC=WCB (0,25% C max.)	
144	Seat	PTFE	PTFE	
195	Stop Plate	Steel nickel plated	Steel zinc plated	
210	Stem	ASTM A479 316	DN ≤ 2" : ASTM A479 316 2" < DN < 10" : ASTM A479 410 DN ≥ 10" : ASTM A479 316	
365	Ball	DN ≤ 1" : ASTM A479 316 DN ≥ 1 1/2" : 1.4408 (CF8M)	DN ≤ 1" : ASTM A479 316 DN ≥ 1 1/2" : 1.4408 (CF8M)	
411.1	Body Seal	316L+Graphite	316L+Graphite	
411.2	Stem Seal	DN ≤ 1" : PTFE+C+Graphite DN ≥ 1 1/2" : PTFE	DN ≤ 1" : PTFE+C+Graphite DN ≥ 1 1/2" : PTFE	
412	Stem O'ring	FPM (Viton®)	FPM (Viton®)	
457	Gland Ring	ASTM A479 316	ASTM A479 316	
554	Washer	Stainless steel (1.4122)	blued steel	
562	Stop Pin	Stainless steel (DIN 267/11 A2-70)	Steel	
902	Stud Bolt-Bolt Nut	ANSI 150	ASTM A193/A194 B/M/2HM, blued	
920.1		ANSI 300		DN ≤ 8" : DIN 267/11 A2-70
				DN ≤ 8"+Nace: ASTM A193/A194 B7M/2HM deltatone coated
				DN ≥ 10" : ASTM A193/A194 B7M/2HM deltatone coated
920.1		ANSI 600		DN ≤ 4" : DIN 267/11 A2-70
				DN ≤ 4"+Nace: ASTM A193/A194 B7M/2HM deltatone coated
	DN ≥ 6" : ASTM A193/A194 B7M/2HM deltatone coated			
920.1	ANSI 600	DN ≤ 2" : DIN 267/11 A2-70		
		DN ≤ 2"+Nace: ASTM A193/A194 B7M/2HM deltatone coated		
		DN ≥ 3" : ASTM A193/A194 B7M/2HM deltatone coated		
920.2	Nut	Stainless steel (DIN 267/11 A2-70)	DIN 267/3 C 8.8 blued	
965	Hand Lever	DN ≤ 1" : SS+Plastic DN > 1" : GGG 40	DN ≤ 1" : Steel coated DN > 1" : GGG 40	

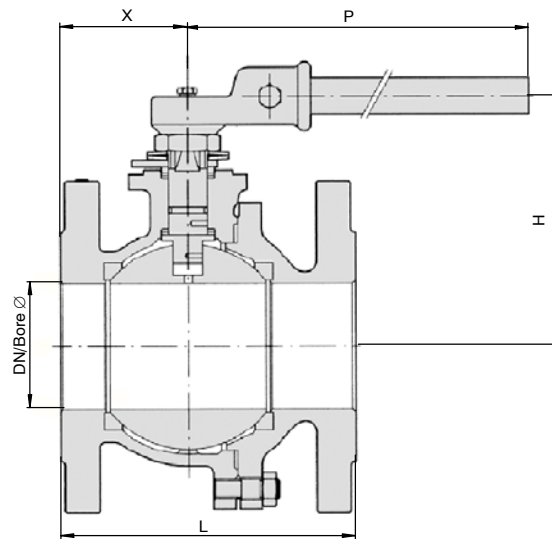
Standard variants

Not Fire Safe with PTFE Seat:

Part no.	Name of parts	Material
01-48	Gland Packing	DN ≤ 1" : PTFE+C+Graphite DN ≥ 1 1/2" : PTFE
411.1	Body Seal	DN ≤ 1" : PTFE DN ≥ 1 1/2" : 316L+Flexite®

Ball 420 for Cast Steel Version (DN 2 1/2" to DN 8" incl.):

Part no.	Name of parts	Material
210	Control Shaft	ASTM A479 410
365	Ball	1.4027 (CA15)

Dimensions
Valves with handles

ANSI 150

NPS	Bore	L		Mounting plate ISO 5211	X	P	H	Weight (kg)	
		Short ¹⁾	Long ²⁾					Short	Long
1/2"	14	108	-	F03	52	150	85	1,5	-
3/4"	19	117	-		56	150	90	2,1	-
1"	25	127	-	F05	58	150	104	2,9	-
1" 1/2	38	165	-		80	200	118	6,6	-
2"	51	178	203	F07	76	250	128	11,2	13,3
3"	76	203	241		90	250	148	21,0	25,8
4"	102	229	305	F10	114	500	196	38,0	42,6
6"	152	267	394		133	750	223	74,0	87,5

ANSI 300

NPS	Bore	L		Mounting plate ISO 5211	X	P	H	Weight (kg)	
		Short ¹⁾						Short	
1/2"	14	140		F03	70	150	85	2,1	
3/4"	19	152			76	150	90	3,3	
1"	25	165		F05	79	150	104	4,9	
1" 1/2	38	190			96	200	118	9,9	
2"	51	216		F07	108	350	128	14,5	
3"	76	283			127	350	148	29,5	
4"	102	305		F10	152	500	196	53,0	
6"	152	403			201	1000	223	110,0	

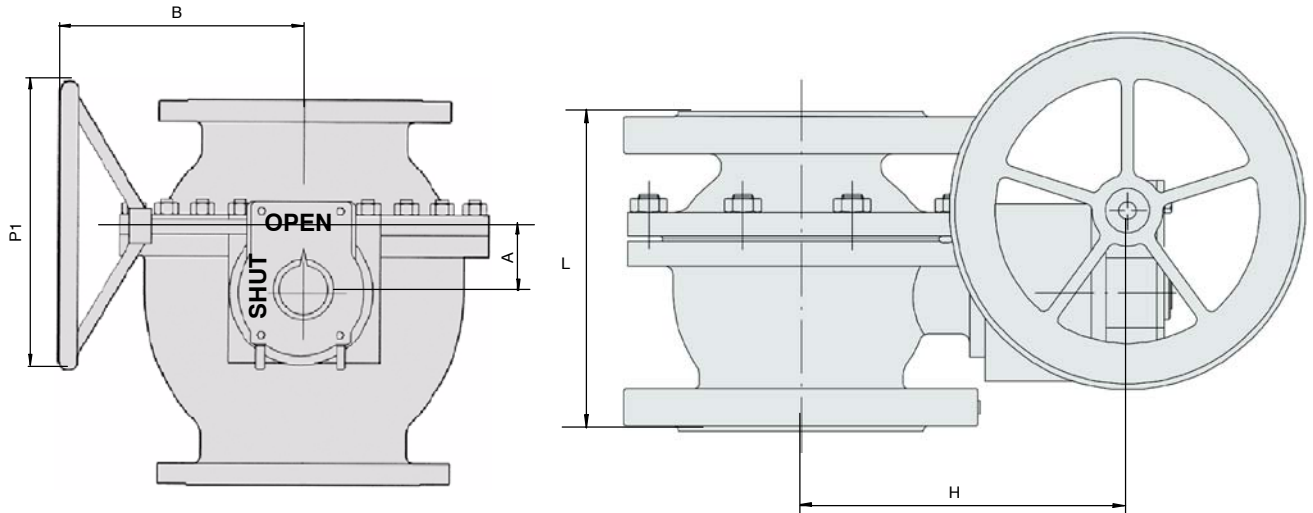
ANSI 600 ³⁾

NPS	Bore	L		Mounting plate ISO 5211	X	P	H	Weight (kg)	
		Short ¹⁾	Long ²⁾					Short	Long
1/2"	14	165		F03	82	150	85	2,9	
3/4"	19	190			95	150	90	4,2	
1"	25	216		F05	108	150	104	5,9	
1" 1/2	38	241			102	200	129	11,5	
2"	51	292		F07	117	350	128	17,5	
3"	76	356			136	350	148	34,7	
4"	102	432		F10	216	500	196	68,5	

¹⁾ 1/2" - 6" : ASME B16-10 Short
 8" - 12" : ASME B16-10 Long

³⁾ 4" - 6" : available in Reduced Bore

²⁾ BS-EN-558/2.T1.S12

Valves with gear operators

ANSI 150

NPS	Bore	L		Mounting plate ISO 5211	Gear operator	H	A	B	P1	Weight (kg)	
		Short ¹⁾	Long ²⁾							Short	Long
4"	102	229	305	F10	RM. 551	196	71	282	300	46	50,6
6"	152	267	394			223	71	282	300	82	95,5
8"	203	457 ²⁾	-	F14	RM. 882	342	86	340	400	180	-
10"	254	533 ²⁾	-	F16	RM. 1953	378	130	365	500	255	-
12"	305	610 ²⁾	-			440	130	365	500	360	-

ANSI 300

NPS	Bore	L		Mounting plate ISO 5211	Gear operator	H	A	B	P1	Weight (kg)	
		Short ¹⁾								Short	Long
4"	102	305		F10	RM. 551	196	71	282	300	61,0	
6"	152	403				223	71	282	300	118,0	
8"	203	502		F14	RM. 882	342	86	340	400	220,0	
10"	254	568		F16	RM. 1953	378	130	365	500	297,0	
12"	305	648				440	130	365	500	450,0	

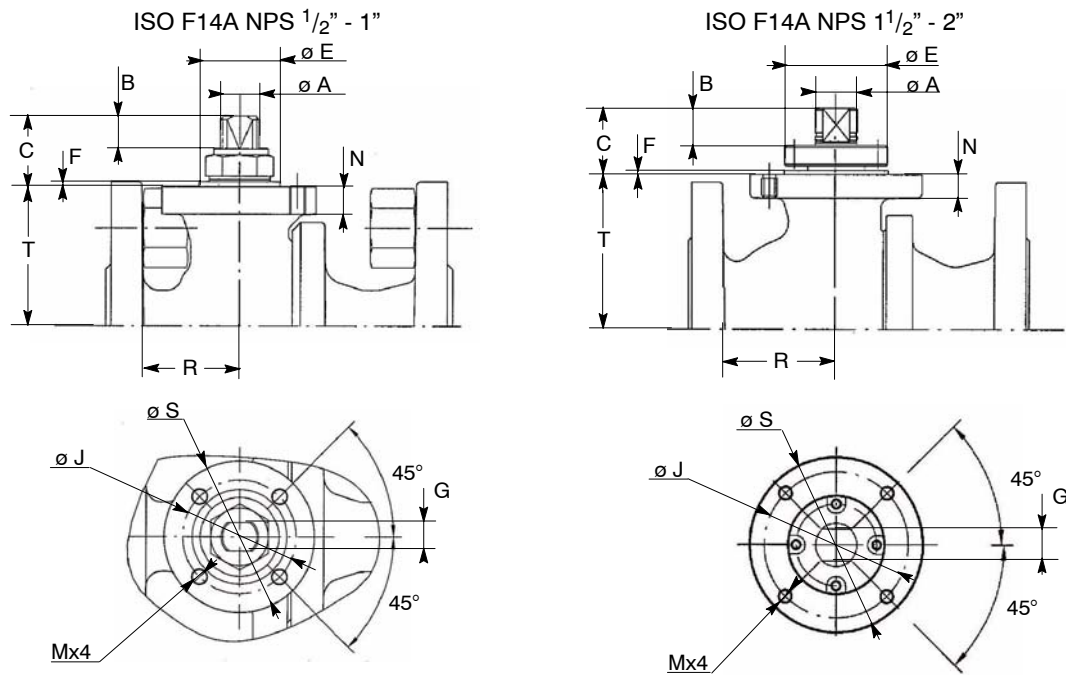
ANSI 600

NPS	Bore	L		Mounting plate ISO 5211	Gear operator	H	A	B	P1	Weight (kg)	
		Short ¹⁾								Short	Long
4"	102	305		F10	RM. 551	196	71	282	300	82,0	

¹⁾ 1/2" - 6" : ASME B16-10 Short

¹⁾ 8" - 12" : ASME B16-10 Long

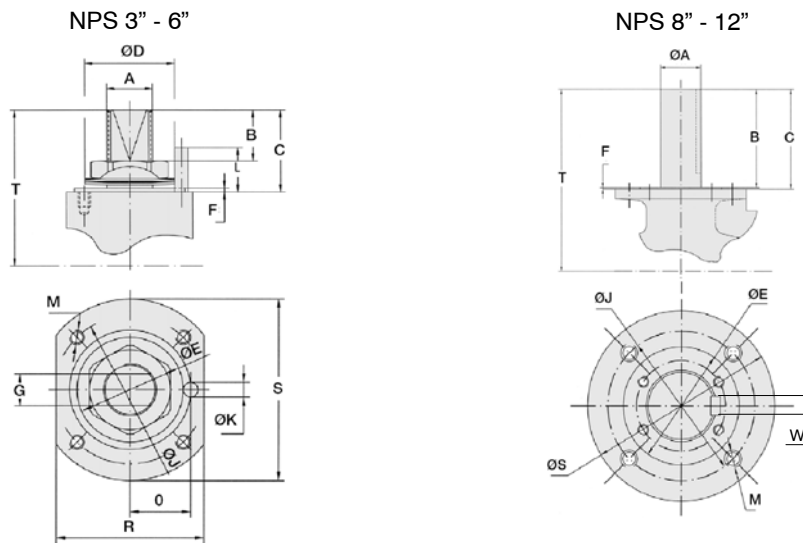
²⁾ BS-EN-558/2.T1.S12

Coupling flange dimensions
ISO F14AC

Valves with handles or bare shaft

ANSI 150 / ANSI 300														
NPS	ISO 5211 DIN 3337	A	B	C	E	F	G	J	M	N	R min		S	T
											A-150	A-300		
1/2"	F03	M12	10,0	21,5	25	1,5	9	36	M5	9	30	44	48	43,0
3/4"											33	48		46,5
1"	F05	M18	14,0	32,0	35	2,0	14	50	M6	11	38	65	65	55,0
1 1/2"	F07	ø 22	17,0	34,0	55		17	70	M8	12	51	55	65	71,0
2"						59	64	90	80,0					

Coupling flange dimensions

ISO F14A



Valves with handles or bare shaft

ANSI 150 / ANSI 300

NPS	ISO 5211 DIN 3337	T	A	B min.	C	D	E	F	G	W	J	K	L	O	M	R	S							
2" 1/2"	F07	140,0	M24x2	25,5	46,0	50	55	3,0	19	70	-	-	-	M8	72	90								
3"		150,0																						
4"	F10	196,0	M36x2	40,5	66,0	71	70		22	102					140	M10	100	125						
6"		235,0																						
8"	F14	296,5	ø 50	42,0	64,5	-	100	3,0	30	18	165	-	-	M16	-	175								
10"	F16	461,0	ø 65	171,5	174,5	-	130										18	165	-	-	-	M20	-	210
12"		490,0																						

ANSI 600

NPS	ISO 5211 DIN 3337	T	A	B min.	C	D	E	F	G	W	J	K	L	O	M	R	S
1/2"	F03	41,5	M10x1,5	8,0	16,5	20	25	1,5	6	36	7	14	14	M5	40	-	
3/4"		45,5															
1"	F05	68,0	M14x1,5	14,0	30,0	28	35	3,0	9	50	-	-	-	M6	52	65	
1" 1/2"		90,0															14,5
2"	F07	130,0	M24x2	25,5	46,0	50	55	3,0	19	70	-	-	-	M8	72	90	
3"		150,0															
4"	F10	196,0	M36x2	40,5	66,0	71	70		22	102					-	-	-
6"		235,0															

Special execution: Valves with gear boxes

NPS	ISO 5211 DIN 3337	T	A	B min.	C	D	E	F	G	W	J	K	L	O	M	R	S
8"	F14	380,5	ø 50	145,5	148,5	-	100	3	-	14	140	-	-	-	M16	-	175
10"	F16	461,0	ø 65	171,5	174,5	-	130	3,0	-	18	165	-	-	-	M20	-	210
12"		490,0															

Hydraulic characteristics

NPS	Bore	Flow coefficient			
		ANSI 150 - ANSI 300		ANSI 600	
		Kvo	Cvo	Kvo	Cvo
1/2"	14	15	18	15	18
3/4"	19	34	40	34	40
1"	25	56	65	56	65
1" 1/2	38	128	150	128	150
2"	51	222	260	222	260
3"	76	838	980	838	980
4"	102	1368	1600	1368	1600
6"	152	3504	4100	-	-
8"	203	7564	8850	-	-
10"	254	12564	14700	-	-
12"	305	19829	23200	-	-

Operating torques

NPS	Bore	Operating torque ²⁾ in Nm		
		ANSI 150	ANSI 300	ANSI 600
1/2"	14	5	8	10
3/4"	19	6	8	10
1"	25	8	10	15
1" 1/2	38	20	25	30
2"	51	25	35	40
3"	76	60	90	120 ¹⁾
4"	102	120	175	250 ¹⁾
6"	152	250	350	-
8"	203	500	750	-
10"	254	1400	1600	-
12"	305	2000	2100	-

¹⁾ Values according to the pressure limitations of seats. See seats

²⁾ The safety coefficient to define the adapted actuator is not included in the torque value.

The values shown throughout this table are an average of the real values. These values have been taken under ideal conditions of clean water, room temperature, unfilled PTFE, daily handling and without safety rate. For different types of services and conditions, we suggest that the following corrective factors be used.

Corrective factors	
Filled PTFE seats	1,2-1,4
Low temperature (-50 °C)	1,5
Low temperature (-100 °C)	2
Long inactivity	2 (min.)
Nondry gases	1,5
Dry gases (Natural Gas)	1,7
Powder	1,3
Drying-out-fluids	1,2

Product Features - to our Customers' Benefit

Double D stem end always showing valve position.

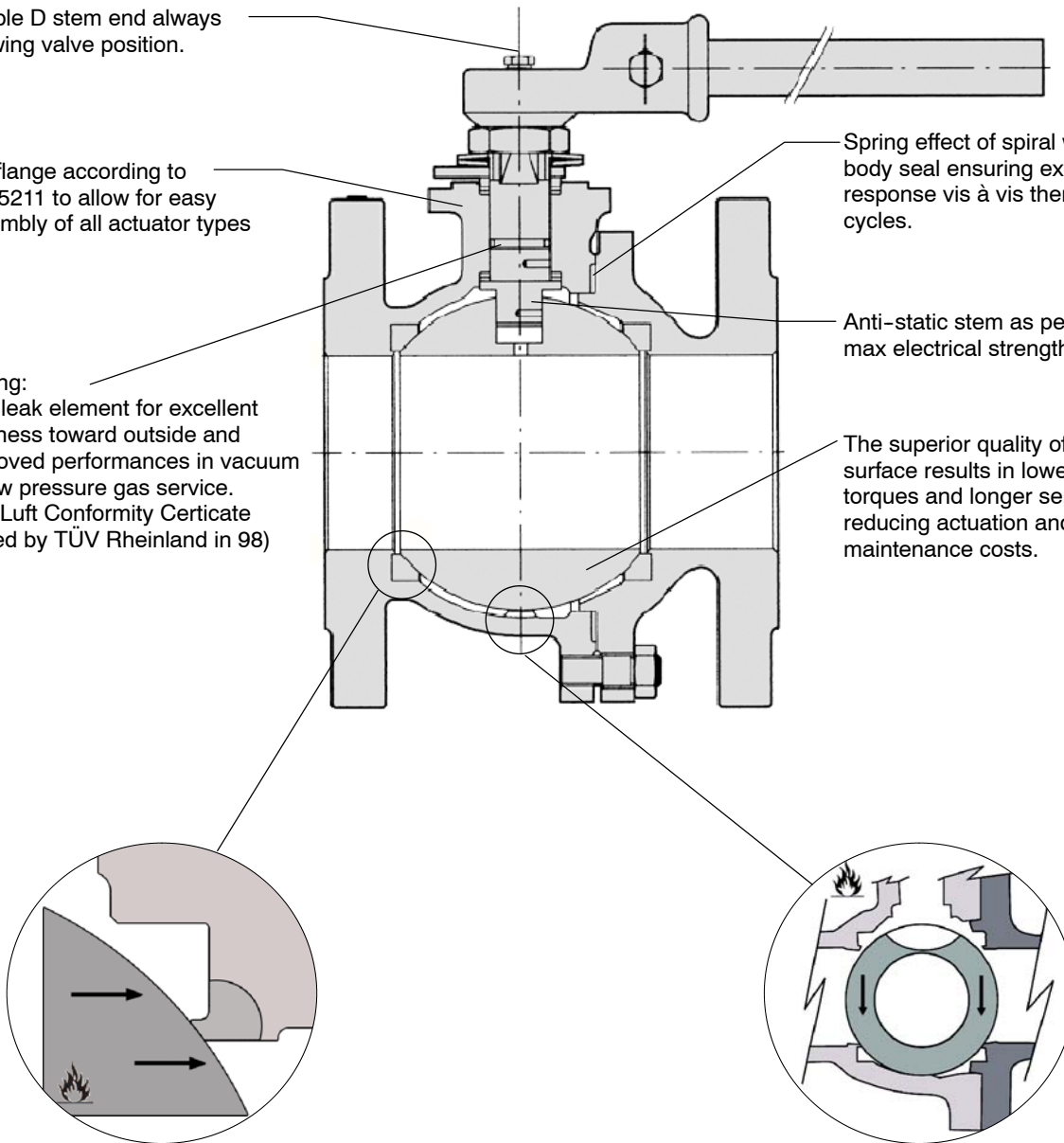
Top flange according to ISO 5211 to allow for easy assembly of all actuator types

O'Ring: anti-leak element for excellent tightness toward outside and improved performances in vacuum or low pressure gas service. (TA-Luft Conformity Certificate issued by TÜV Rheinland in 98)

Spring effect of spiral wounded body seal ensuring excellent response vis à vis thermal cycles.

Anti-static stem as per BS 5351, max electrical strength of 10 Ω

The superior quality of the ball surface results in lower operating torques and longer service life thus reducing actuation and maintenance costs.



In case seat is destroyed, second metal lips enables metal to metal tightness between ball and seat.

Support around the ball. It prevents the ball from falling once seats are destroyed by fire

Fire Safe Design

This leaflet is not contractual and may be amended without notice

03.07.07

8227.1/3-10

