



## Flanged Ball Valves Type AF90D

**DIN flange ball valves with double sealing system to be mounted between flanges according to DIN EN 1092-1, antistatic with ISO mounting pad for direct mounting of pneumatic or electrical actuators. Fire safe certified ball valves. Seals according FDA regulation.**

### Acceptance / Certificates

- ATEX Ex II 2 GDc IIB/IIC
- CE0036 acc. to PED 97/23/EC
- Fire safe acc. to BS EN ISO 10497:2004
- Seals acc. FDA 21CFR 177.1550
- DIN EN 12266-1:2003
- TA-Luft acc. to VDI 2440

**basis DN15 - DN50**



**basis DN 65 - DN100**



**with stem extension**



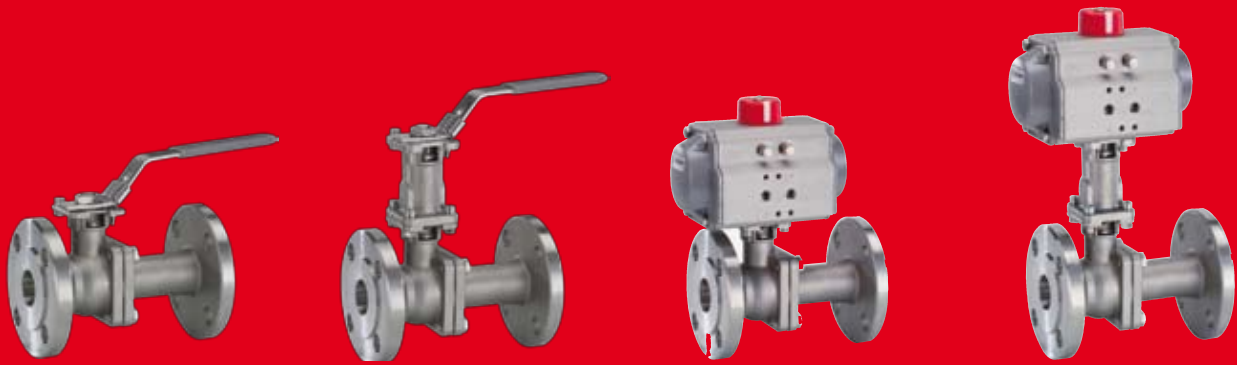
**with actuator**



**with actuator + stem extension**



# System Ball Valve AF90D · Specials



**Fire Safe**  
+  
**FDA**



## At a glance

The system ball valve grows with the requirement of the plant. Initially mounted as basis ball valve with handle, the ball valve can easily be retrofitted with a stem extension, an actuator or a combination of both.

### Options:

Automatically pressure release system, stem extension, heating jacket, locking device.

## Brief description

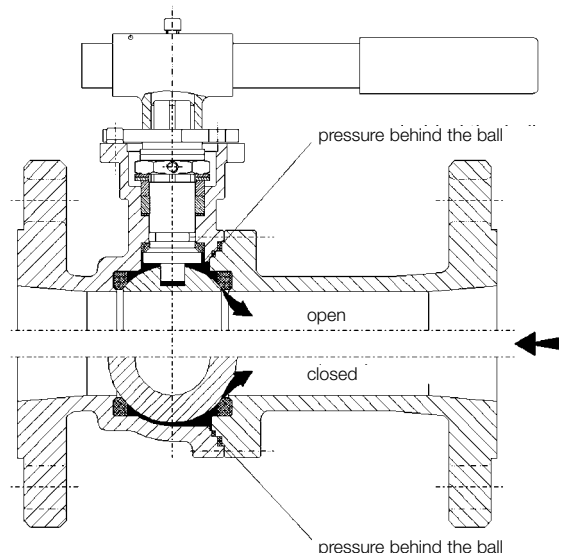
2 piece ball valve to be mounted between flanges DIN EN 1092-1, antistatic, full bore, face to face dimension according to DIN EN 558-1 column 1 and column 27, with plane faced face form B1. Tight closing according to DIN EN 12266-1:2003, P11 and P12 (leakage rate A). Fire safe according to BS EN ISO 10497:2004 and seals in conformity with US FDA 21CFR 177.1550. Double sealing system on body with chambered PTFE sealing towards media and graphite sealing towards outside. ISO top flange according to DIN EN ISO 5211 for actuator direct mounting.

## Pressure releasing system

Ball valves equipped with an automatically pressure releasing system prevent the uncontrolled pressure increase between ball and body. In open and closed ball positions, the media behind the ball remains in closed.

In case of a heating up of the media, the media expands and as a result the pressure behind the ball raises up. This pressure increase may damage the ball seats and an internal leakage occurs or the ball will be blocked by the increased pressure.

The optional pressure releasing system prevents an uncontrolled pressure increase and releases overpressures directly back into the piping system. No damage of the ball seats will therefore occur.



# System Ball Valve AF90D · Description

## Double sealing system

The outer graphite body seal and graphite stem packing grant the fire safe attribute of the ball valve, which is fire safe certified according to BS EN ISO 10497:2004.

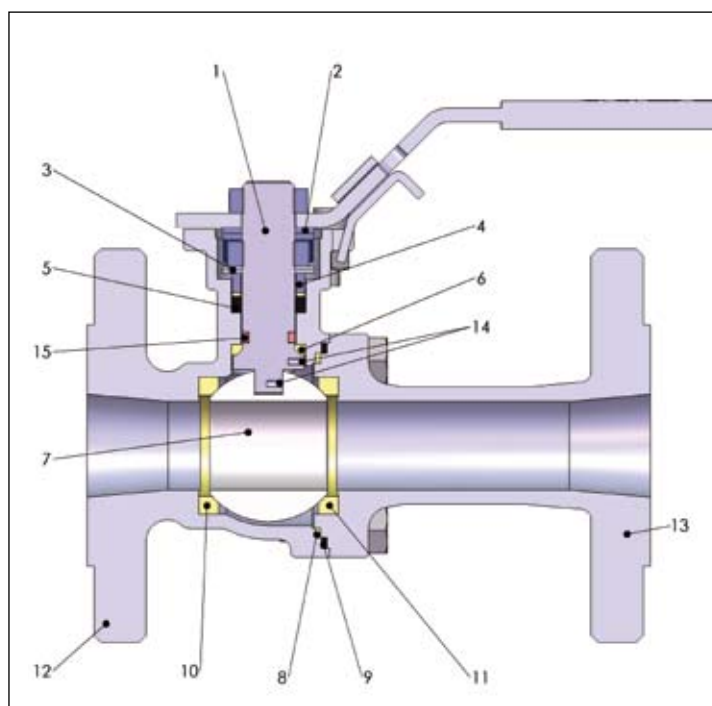
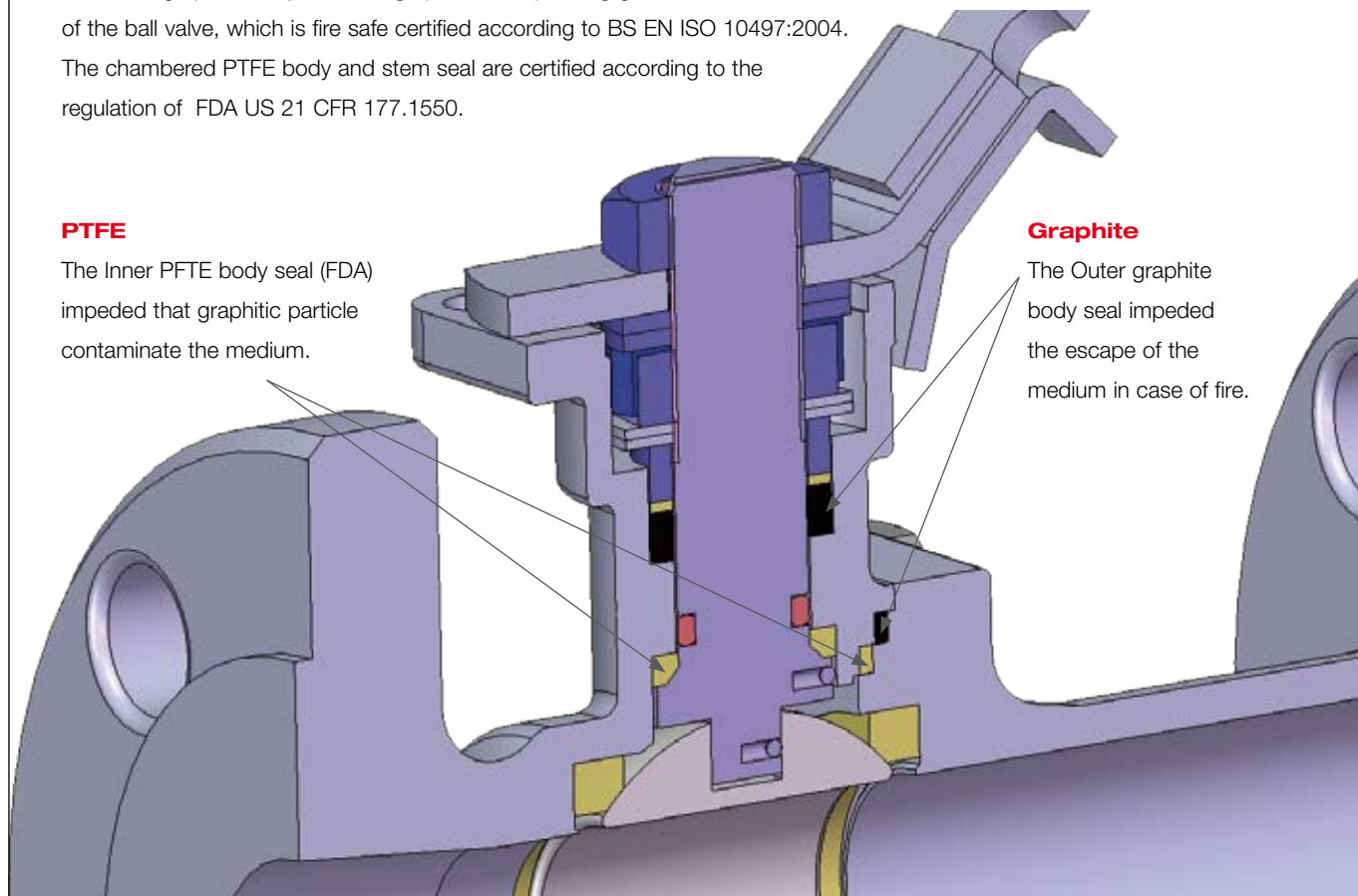
The chambered PTFE body and stem seal are certified according to the regulation of FDA US 21 CFR 177.1550.

### PTFE

The Inner PTFE body seal (FDA) impeded that graphitic particle contaminate the medium.

### Graphite

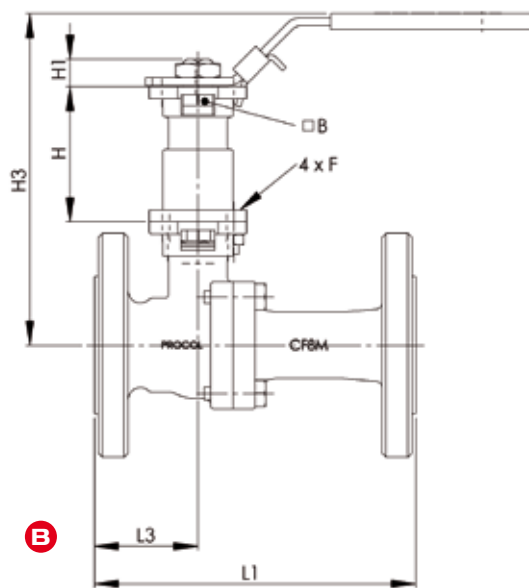
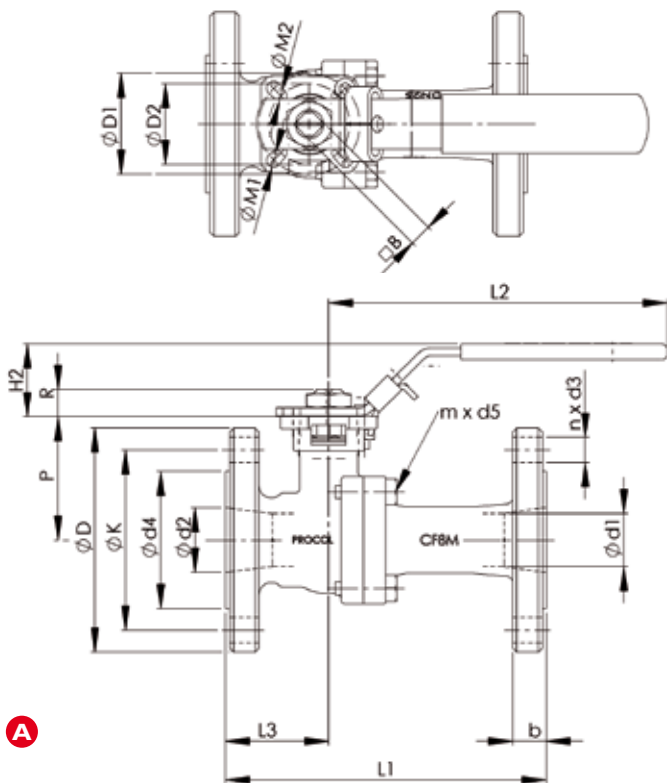
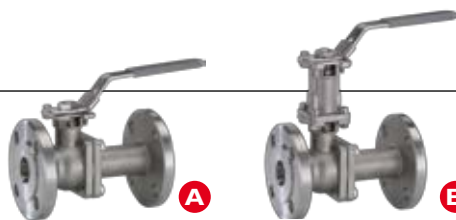
The Outer graphite body seal impeded the escape of the medium in case of fire.



Pos.	Description	Material
1	Stem	1.4401
2	Distancer	1.4435
3	Belleville Washer	1.4301
4	Stem Seal Follower	1.4401
5	Stem Packing	Graphite/PTFE
6	Stem Washer	PTFE
7	Ball	1.4401
8	Body Seal Wetted Side	PTFE
9	Body Seal Outside	Graphite
10	Seat Ring	PTFE
11	Seat Ring ( <i>pressure releasing</i> )	PTFE / FEP
12	Body	1.4408/CF8M/A216WCB
13	Flange	1.4408/CF8M/A216WCB
14	Antistatic Device	1.4401
15	O-Ring	NBR / FEP

# System Ball Valve AF90D · Dimensions

Hand operated ball valve according  
EN 558-1, Column 1 and Column 27



DN	PN	$\phi d1$	$\phi d2$	$\phi d4$	$n \times d3$	$\phi K$	$\phi D$	P	H2	R	L1 Column 1	A Weight kg Column 1	L1 Column 27	A Weight kg Column 27	L2	L3
15	16/40	15	18	45	4 x 14	65	95	47	52	11	130	2,3	115	2,2	170	44.5
20	16/40	20	23	58	4 x 14	75	105	52.5	52	9	150	3,3	120	3,0	170	44.5
25	16/40	25	29	68	4 x 14	85	115	61	52	12	160	4,1	125	3,7	170	51.3
32	16/40	32	38	78	4 x 18	100	140	70	52	13	180	5,4	130	4,9	170	56
40	16/40	38	44	88	4 x 18	110	150	79	58	16	200	6,9	140	6,4	230	62.5
50	16/40	50	56	102	4 x 18	125	165	88	58	16	230	10,0	150	9,1	230	70
65	16	65	71	122	4 x (8) x 18	145	185	110	58	25	290	14,0	170	12,7	370	87
80	16	80	84	138	8 x 18	160	200	118	58	25	310	17,9	180	15,8	370	90
100	16	100	109	158	8 x 18	180	220	134	58	22	350	25,7	190	22,0	450	103

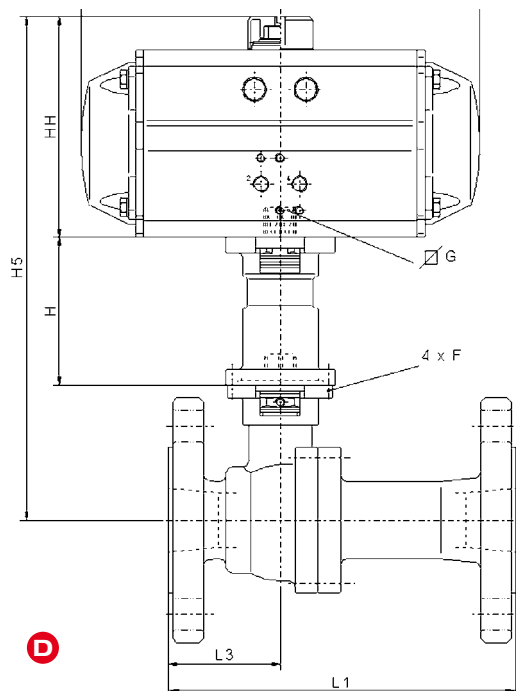
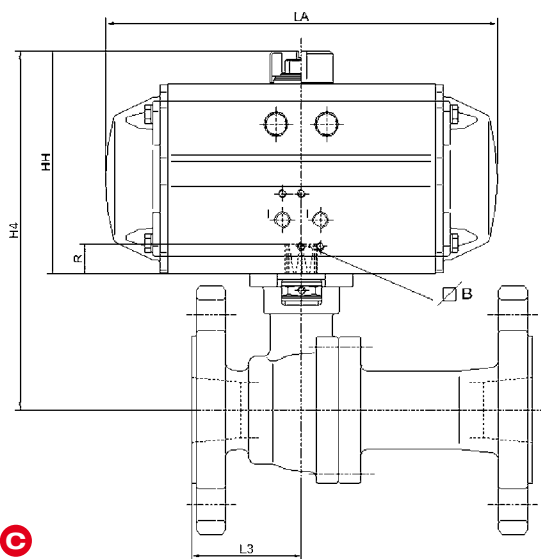
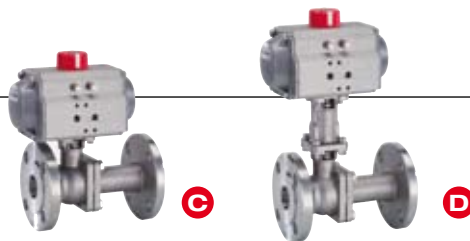
DN	PN	b	$\phi D1$	$\phi D2$	M1	M2	mx d5	B	H3	H	H1
15	16/40	14	42	36	6	6	4 x M8 x 25	9	148	61	6.1
20	16/40	16	42	36	6	6	4 x M8 x 25	9	153	61	6.1
25	16/40	16	50	42	7	6	4 x M8 x 25	11	168	67	10.9
32	16/40	16	50	42	7	6	4 x M8 x 25	11	177	67	10.9
40	16/40	16	70	50	10	8	4 x M10 x 25	14	223	86	13.9
50	16/40	18	70	50	10	8	4 x M12x 30	14	232	86	13.9
65	16	18	102	70	12	9.5	6 x M10 x 25	17	273	105	16.8
80	16	20	102	70	12	9.5	6 x M10 x 25	17	281	105	16.8
100	16	20	102	70	12	9.5	6 x M10 x 25	17	297	105	16.8

# System Ball Valve AF90D · Dimensions

Actuated ball valve according  
EN 558-1, Column 1 and Column 27

Actuator dimensioning:

- Air supply 6 bar • Max. pressure difference 10 bar
- Lubricating media • Ball seats PTFE

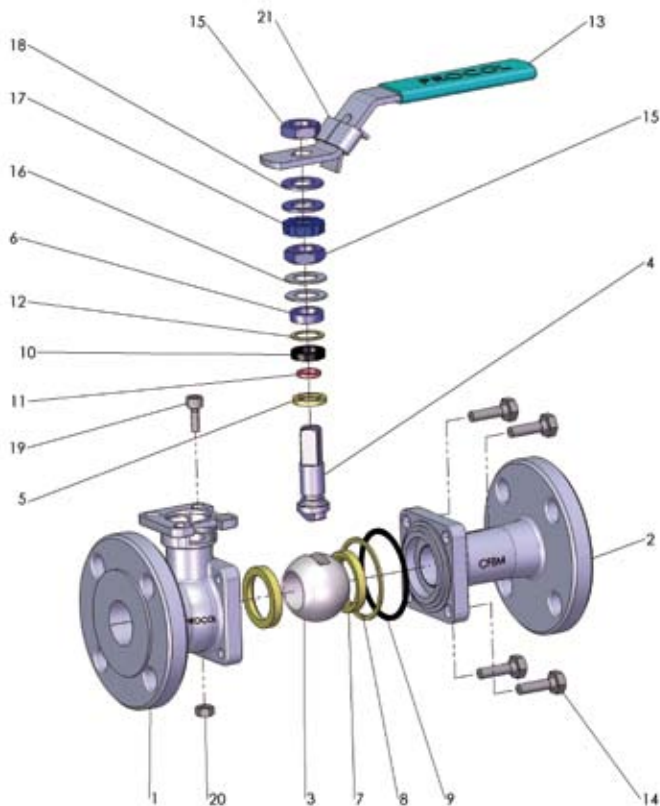


DN	KV	Running torque Nm	double acting actuator	Weight kg Column 1 Actuator DA	Weight kg Column 27 Actuator DA	single acting actuator	Weight kg Column 1 Actuator SA	Weight kg Column 27 Actuator SA
15	11	12	AT 45	3	2.9	AT 100 S12	4,0	3,9
20	28	13	AT 45	4	3.7	AT 100 S12	5,0	4,7
25	50	16	AT 100 D	5,7	5,3	AT 200 S12	7,3	6,9
32	71	24	AT 100 D	7,0	6,5	AT 200 S12	8,6	8,1
40	96	44	AT 200 D	9,6	9,1	AT 250 S12	11,3	10,9
50	205	55	AT 200 D	12,7	11,8	AT 300 S12	16,5	15,6
65	275	60	AT 200 D	16,7	15,4	AT 300 S12	20,5	19,2
80	500	90	AT 250 D	21,8	19,6	AT 350 S12	28,0	25,8
100	700	130	AT 300 D	31,1	27,4	AT 400 S12	38,3	34,6

DN	H4		HH		L1 Column 1	L1 Column 27	L3	LA		H5	
	DA	SA	DA	SA				DA	SA	DA	SA
15	133	152	86	105	130	115	44.5	118	159	194	213
20	139	158	86	105	150	120	44.5	118	159	199	218
25	166	183	105	122	160	125	51.3	159	211	233	250
32	175	192	105	122	180	130	56	159	211	242	259
40	201	214	122	135	200	140	62.5	211	248	287	300
50	210	235	122	147	230	150	70	211	269	296	321
65	232	257	122	147	290	170	87	211	269	337	362
80	253	293	135	175	310	180	90	248	315	358	398
100	281	321	147	187	350	190	103	269	345	386	426

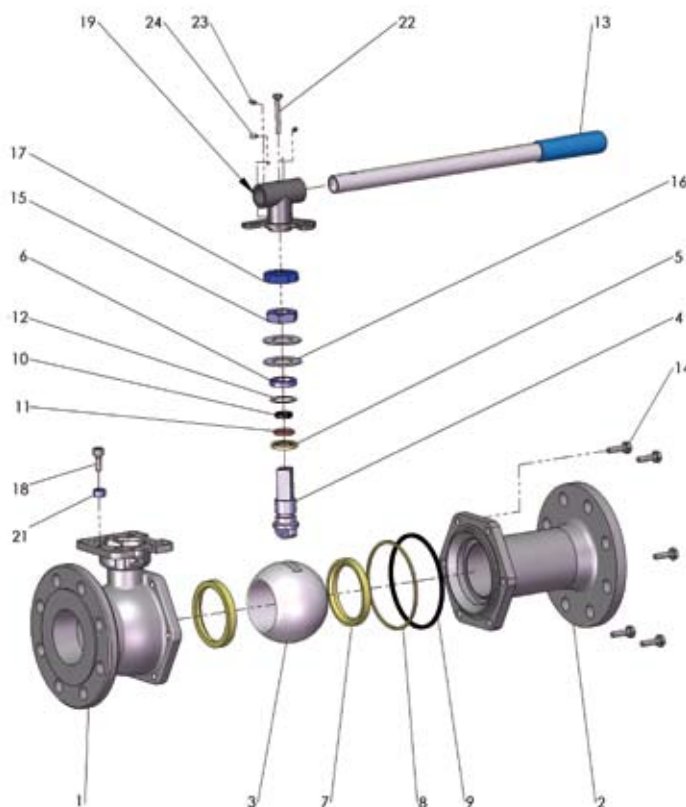
# System Ball Valve AF90D · Part list

## Valve AF90D DN 15 - 50



Pos. Nr.	Description	Material	Spare part Kit
1	Body	1.4408	
2	Flange	1.4408	
3	Ball	1.4401	
4	Stem	1.4401	
5	Stem Washer	PTFE	X
6	Stem Seal Follower	1.4401	
7	Seat Ring	PTFE	X
8	Body Seal Wetted	PTFE	X
9	Body Seal Outside	Graphite	X
10	Stem Packing	Graphite	X
11	O-Ring (optional)	NBR / FEP	
12	Stem Shim	PTFE	
13	Handle / Sleeve	304 / PVC	
14	Hex Screw	A2-70	
15	Stem Nut	1.4301	
16	Belleville Washer	1.4301	
17	Safety Cap	1.4301	
18	Distancer	1.4435	
19	Stop Device	1.4301	
20	Hex Nut	A2-70	
21	Locking Device	304	

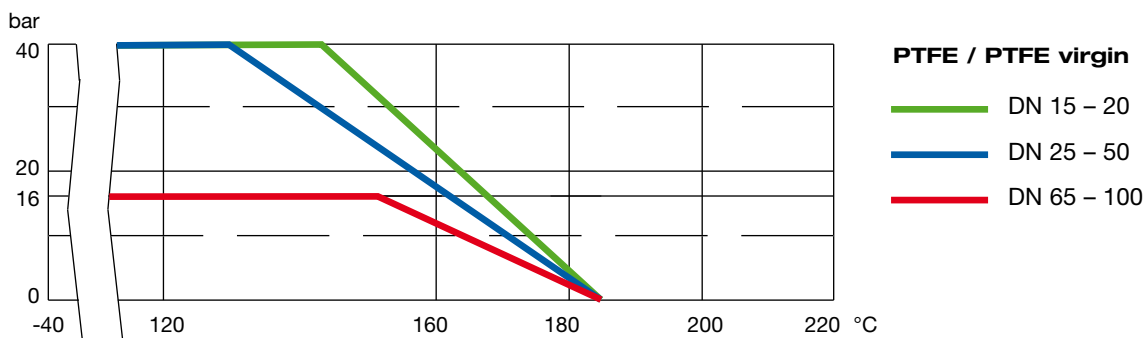
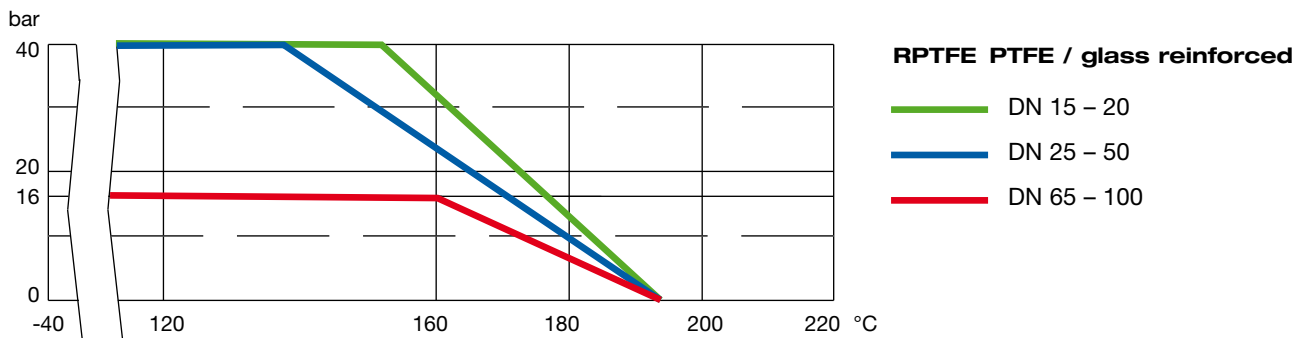
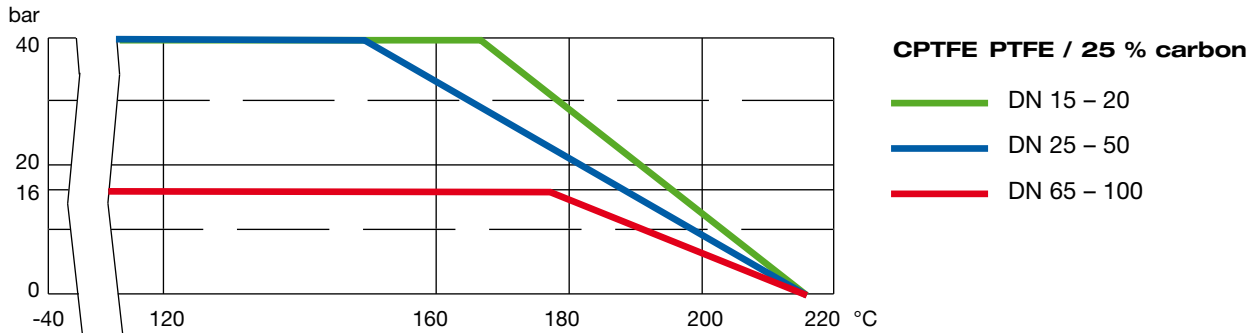
## Valve AF90D DN 65 - 100



Pos. Nr.	Description	Material	Spare part Kit
1	Body	1.4408	
2	Flange	1.4408	
3	Ball	1.4401	
4	Stem	1.4401	
5	Stem Washer	PTFE	X
6	Stem Seal Follower	1.4401	
7	Seat Ring	PTFE	X
8	Body Seal Wetted	PTFE	X
9	Body Seal Outside	Graphite	X
10	Stem Packing	Graphite	X
11	O-Ring (optional)	NBR / FEP	
12	Stem Shim	PTFE	
13	Handle / Sleeve	304 / PVC	
14	Hex Screw	A2-70	
15	Stem Nut	1.4301	
16	Belleville Washer	1.4301	
17	Safety Cap	1.4301	
18	Distancer	1.4435	
19	Stop Device	1.4301	
20	Hex Nut	A2-70	
21	Locking Device	304	

# System Ball Valve AF90D · Description

## Pressure/temperature diagram



For applications at temperatures below  $-10^{\circ}\text{C}$  the notched bar impact strength has to be respected.

### CPTFE

PTFE virgin, reinforced with carbon (about 25%), usable for higher temperature range, higher form stability compared with RPTFE.

Color: black

### PTFE virgin (FDA)

PTFE (Teflon®) is the most used sealing material for ball valves. With excellent chemical resistance against the most mediums.

Color: white

### RPTFE

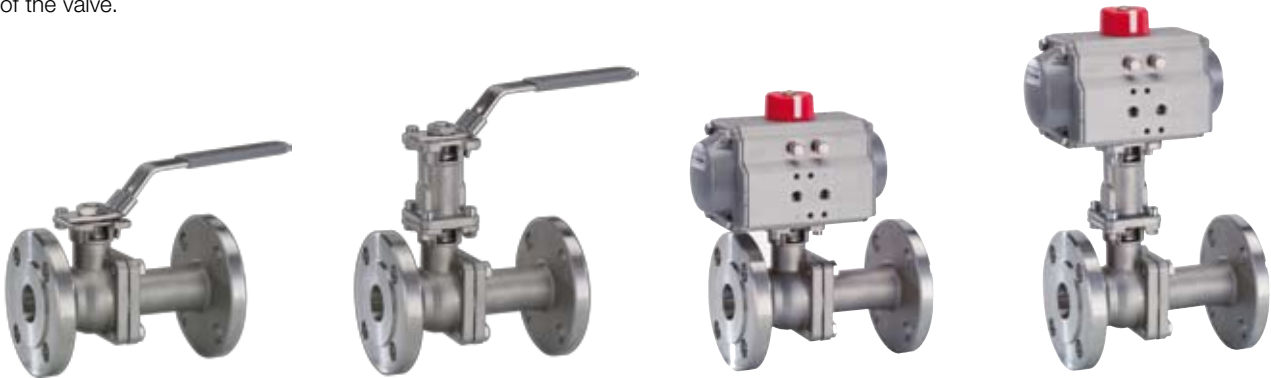
PTFE virgin, reinforced with glass (about 15%), the same chemical resistance as PTFE virgin. Higher form stability compared with PTFE and applicable for higher pressures and temperatures.

Color: white

## The system ball valve AF90D according to the „Babuschka“-principle

### Pressure releasing system

The system ball valve AF90D growth with the technical requirements on the plants. Once as a basic ball valve mounted only with handle, is it possible to mount a stem extension, an actuator or a combination of both of them directly on this ball valve, without the dismounting of the valve.



## Our Product Range in System Ball Valves

