



ball valve
soft seated
maintenance-free
with floating ball and one-
sided spring-loaded
ball seat

Flanged ends

PN 10 – 40

DN 15 – 150

Typ VFD

The sealing variants are approved in accordance with the german clear air regulations „TA-Luft 2021“

Fields of application

General industry, power plants, chemical, oil and petrochemical industry

Operating data

Temperature range, depending on the operating pressure:
 -10°C to +200°C: 1.0619, 1.4408
 Temperatures out of range?
 Contact VH Armaturen GmbH

Design

Two-piece body, full bore
 90° swivel fitting
 Encapsulated seat rings
 Antistatic (as) – feature

Pressure equipment directive
(PED) 2014/68/EU (category III)
VdTÜV approval mark TÜV.A.217 (since 1994)
VdTÜV Armatur 100, VbF, Gas-HL-VO, WHG
„TA-Luft 2021“ approved (2021 acc ISO15848-1)
Fire-Safe acc. to BS 6755-2 and ISO 10497
 Mounting flange acc. to DIN ISO 5211
Assembly of Actuators and other completions.

Coating

Alkyd resin lacquer, pacific blue- RAL 5002
 Stainless steel without coating

Materials (acc. to DIN EN (DIN))

body: casted steel - 1.0619
 casted stainless steel - 1.4408

ball: - 1.4404
 - 1.4408

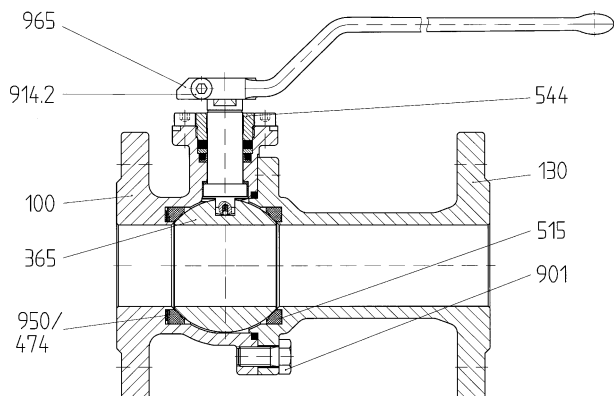
sealings:
 seatrings - pure TFM

other materials on request.

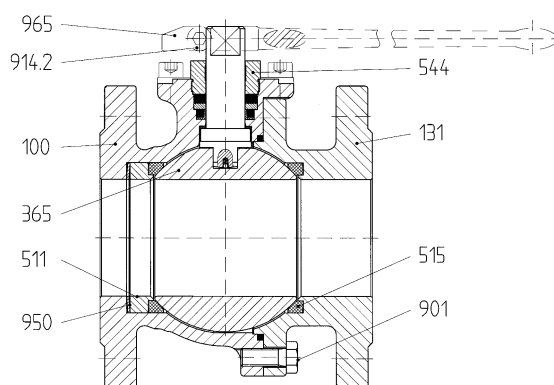
Order specification

Ball valve TOPI 215
 Nominal diameter DN
 Nominal pressure PN
 Operating conditions
 Flow media, temperature, pressure
 Connection acc. to DIN EN
 Identification number

additional testing i.e. DIN EN 12266-2/DIN 3230-5
 on customers request



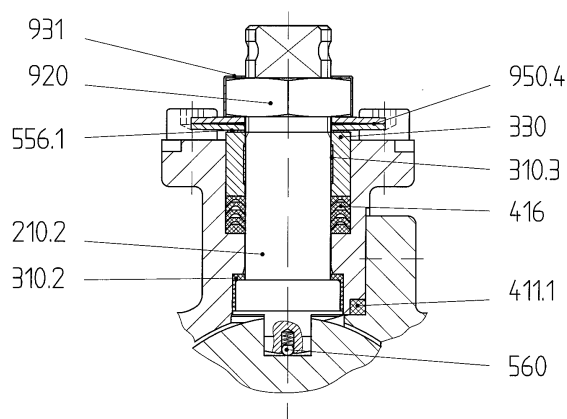
Picture 1a: ball valve with full bore and one-sided
Seat ring - Spring mounting DN15 – DN50



Picture 1b: ball valve with full bore and one-sided
Seat ring - Spring mounting DN80 – DN150

Table 1: Materials

Teile-Nr.	Bezeichnung	DN	Werkstoff	
100	body	15 bis 150	GP240GH+N (GS-C 25 N)	1.0619
			G-X5CrNiMo 19-11-2	1.4408
130	Body part	15 bis 150	GP240GH+N (GS-C 25 N)	1.0619
			G-X5CrNiMo 19-11-2	1.4408
365	ball	15 bis 50	X2CrNiMo 17-12-2	1.4404
		80 bis 150	G-X5CrNiMo 19-11-2	1.4408
511	Backing ring	80 bis 150	G-X5CrNiMo 19-11-2	1.4408
515	Seat ring		Pure TFM (Standard)	
901	Hex. Head bolt		A4 – 70	
914.2	Hex. Socket bolt		8.8 galv Zn	
544	Gland screw		1.4571	
965	Stainless steel-handle		1.4308	
950 / 474	Seat ring - Spring mounting	15 bis 150	1.4310 / 1.4571	

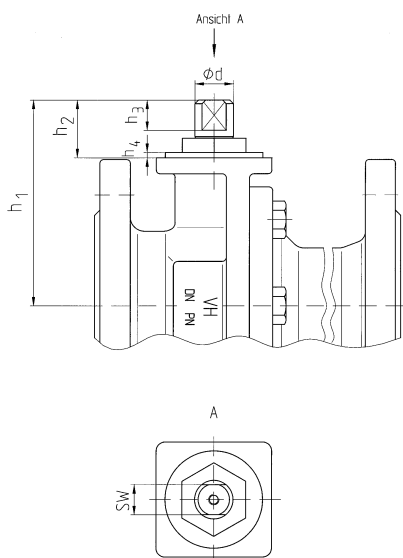


Variant 1: cup seal (graphite free) ("TA-Luft 2021" approved)

Table 2: materials

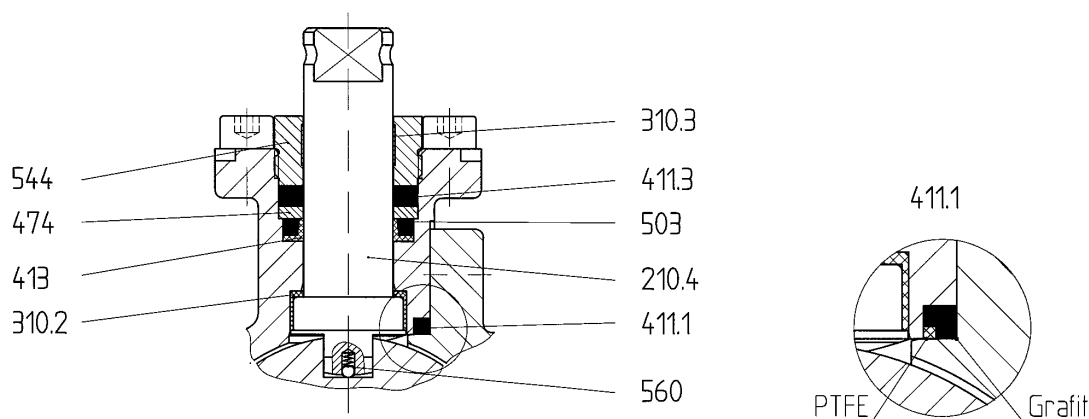
Item no.	designation	material
210.2	stem	1.4462
310.2	Lower control shaft bearing	Pure TFM
310.3	Upper control shaft bearing	1.4401 / PTFE
330	Bearing bracket	1.4404
411.1	Joint ring	Pure PTFE
416	Cup seal	Pure PTFE
556.1	Sliding disc	1.4401 / PTFE
560	Antistatic device	1.4571/1.4401
920	nut	A2 – 70
931	Safety plate	1.4301
950.4	Disc spring	1.4310

Control shaft dimensions Var 1



DN	h ₁	h ₂	h ₃	h ₄	ø d	SW	DIN ISO 5211
15	57	22	9	2	11,5	9	F05
25	73	24	9	2	16	11	F05
40	111	36	17	3	22	17	F07
50	119	36	17	3	22	17	F07
80	142	41	19	3	26	19	F10
100	160	41	19	3	26	19	F10
150	213	53	25	3	40	27	F12

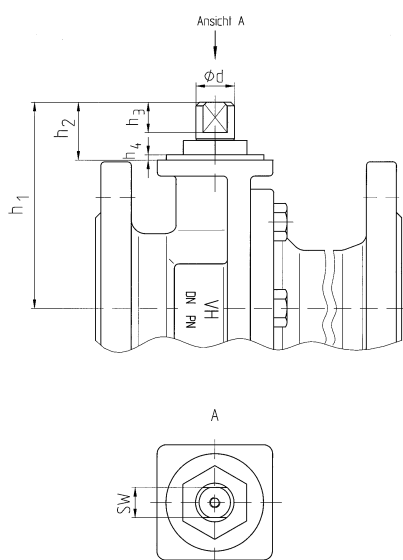
Fire-Safe-Variant ("TA-Luft 2021" approved)



Variante 3: with wedge ring (fire safe)

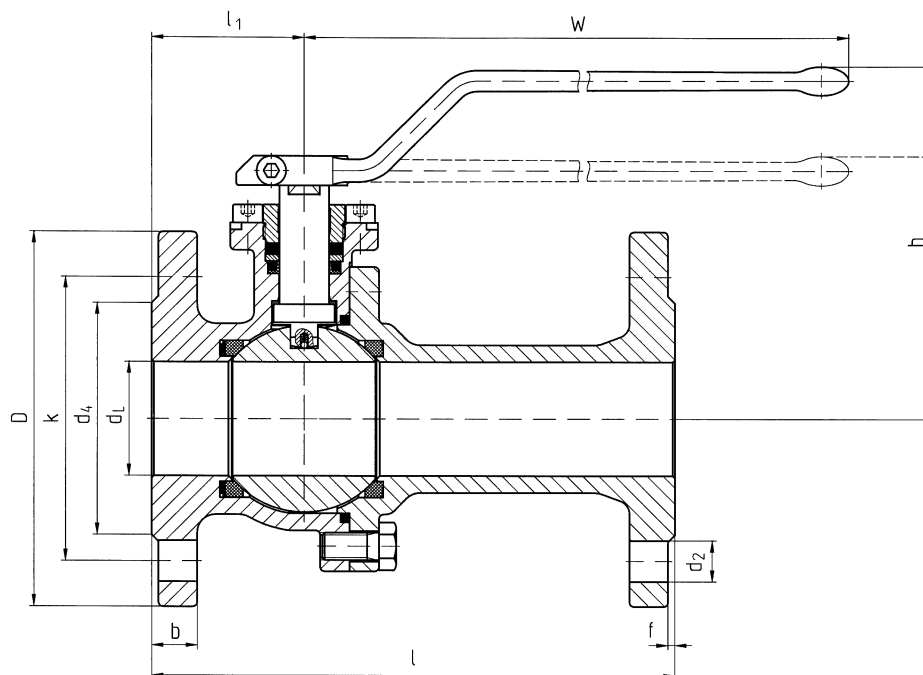
Table 3: Material

Item no.	designation	material
210.4	Stem	1.4462
310.2	lower control shaft bearing	Pure TFM
310.3	Upper control shaft bearing	1.4401 / PTFE
411.1	Wedge-ring	Grafit + PTFE
411.3	Wedge-ring	Grafit
413	Wedge-facing ring	Pure PTFE
474	thrusting	1,4571 / 1.4404
503	Wedge ring	Grafit
544	Stuffingbox screw	1.4404
560	Antistatic device	1.4571/1.4401



Dimensions control shaft Var 3

DN	h ₁	h ₂	h ₃	h ₄	ø d	SW	M	DIN ISO 5211
15	55	20	9	2	12	9	M6	F05
25	74,5	25	14	2	18	14	M6	F05
40	108	32,5	17	3	22	17	M6	F07
50	116	32,5	17	3	22	17	M6	F07
80	139	37,5	19	3	26	19	M8	F10
100	157	37,5	19	3	26	19	M8	F10
150	213	53	25	3	40	27	M12	F12



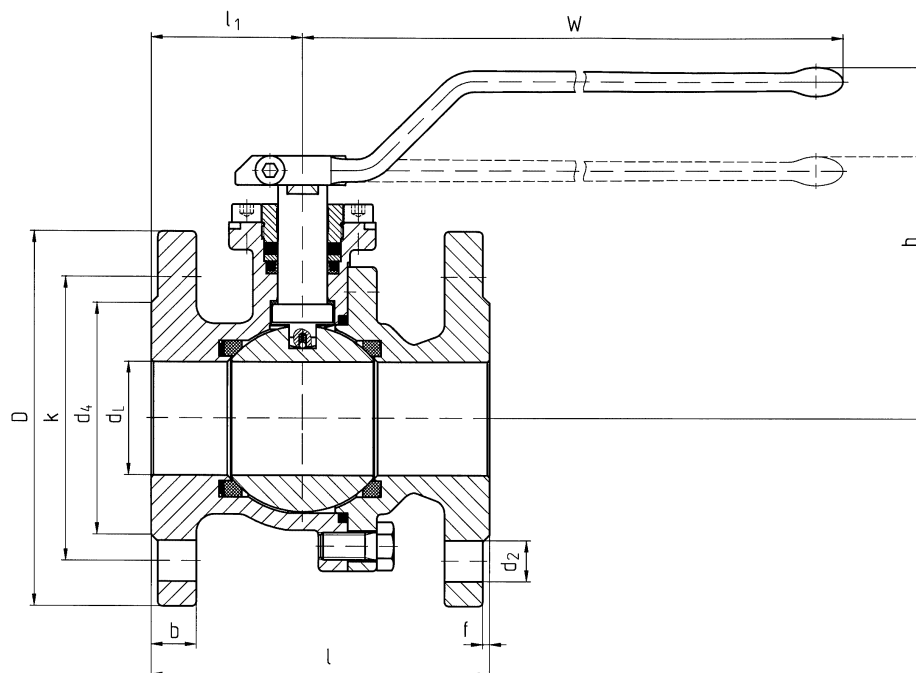
Picture 2 Ball valve with full bore flange acc. To DIN EN 1092-1 form B1; face to face dimension row 28 acc. to DIN EN 558-1 (F17 (long) acc. to DIN 3202 part 1)

Table 4: Dimensions and weights for ball valves Topi 210 long version (pic. 2)

Main dimensions															
VFD														weight	
PN	DN	d _L	I	I ₁	h	W	D	b	k	z	d ₂	d ₄ x f	ISO 5211	kg	
10/16 bis 40	15	15	130	52,5	108	210	95	16	65	4	14	45 x 2	F 05	2,6	
	25	25	160	57,0	124		115	18	85			68 x 2		4,8	
	40	40	200	64,5	151		282	150	20		18	88 x 3	F 07	8,6	
	50	50	230	67,0	159	165		125				102 x 3		12,5	
	80	77	310	83,0	139	500	200	24				8		138 x 3	F 10
	100	100	350	87,0	157		220						180	158 x 3	
	80	77	310	83,0	139		200	24	138 x 3	24,0					
	100	100	350	87,0	157		235		190	22	158 x 3		35,5		

VFD: full bore, flanged, dimensions acc. to DIN

Sectional view for DN80 – DN150 according to Pic. 1b!



Picture 3:) full bore ball valve with connectionflange acc. to DIN EN1092-1 form B1; face to face length row 27 acc.to EN 558-1 (F18 acc. to DIN 3202 part 1)

Table 5: Dimensions and weights for ball valves Topi 210 short version (pic. 3)

Main dimensions													
VFD													
PN	DN	dL	l	l ₁	h	W	D	b	k	z	d ₂	d ₄ x f	weight kg
10/16 bis 40	15	15	115	52,5	108	210	95	16	65	4	14	45 x 2	2,5
	25	25	125	57,0	124		115	18	85			68 x 2	4,6
	40	40	140	64,5	151	282	150		110		18	88 x 3	8,2
	50	50	150	67,0	159		165	20	125			102 x 3	11,5
10/16	80	77	180	83,0	139	500	200	22	160	8	18	138 x 3	22,0
	100	100	190	87,0	157		220		180			158 x 3	30,0
	150	150	350	124,0	210		285		240			212 x 3	75,8
40	80	77	180	83,0	139	500	200	24	160		18	138 x 3	22,0
	100	100	190	87,0	157		235		190			158 x 3	32,5

VFD: full bore, flanged, dimensions acc. to DIN

Sectional view for DN80 – DN150 according to Pic. 1b!

connection

DIN flange		
nom. pressure	connection	flange
PN 10/16 PN 40	Flanged ends acc. to DIN EN 1092-1	Acc. DIN EN 1092-1 Form B 1 ¹⁾ R _a max: 12,5 µm Rz max: 50 µm

Please note:

the ball valve can be installed in any position and irrespective of flow direction.

¹⁾ other connection features on request

technical data

flow characteristics – k_v (m³/h)

DN	15	25	40	50	80	100	150
k _v	12	60	175	360	930	1900	3500

Torque in Nm

Δ p bar	Nominal diameter						
	15	25	40	50	80	100	150
0	3	6	14	17	59	75	130
10	4	10	24	27	80	105	220
16	5	16	31	36	100	132	306
25	7	20	39	55	130	180	-
40	9	26	50	72	190	265	-

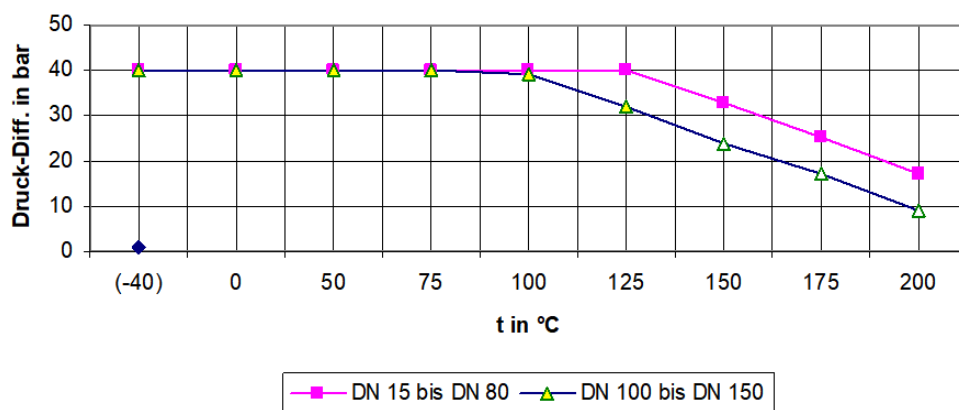
Maxi. torque stem in Nm

DN	15	25	40	50	80	100	150
M _d max	30	336	600	600	1000	1000	3500

Max. allowed torque F-Row (mounted with 4 A4-70 screws; shear force)

DN	15	25	32	40	50	80	100	150
F-Reihe	F05	F05	F05	F07	F07	F10	F10	F12
M _d max Nm	922	922	922	2348	2348	5420	5420	9652

Pressure-temperature rating for TOPI 210 VFD pure TFM, (minimum value²⁾)



²⁾ for operating conditions out of range please contact VH- Armaturen GmbH