



ball valve
soft seated
maintenance-free
ball guided by bearings

Flanged ends

DN 80 – PN 16/40

DN 100 – PN 16/40

DN 150 – PN 16/40

DN 200 – PN 10/40

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: stainless steel - 1.4408

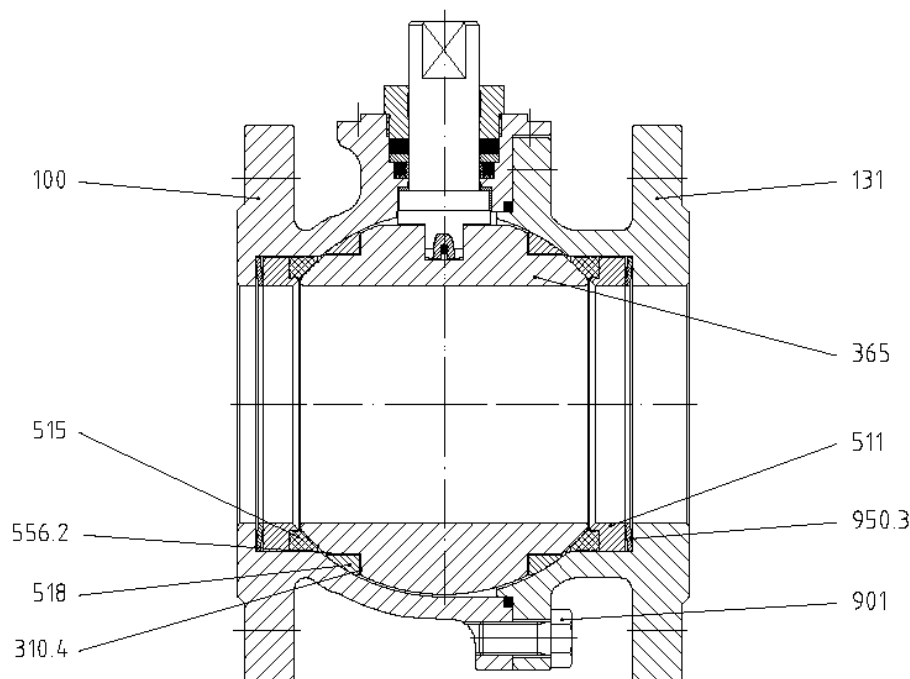
sealings:
 seatrings - pure TFM
 - PTFE, stainless steel reinforced

Other body, ball, and seal materials are available upon request.

Order specification

Ball valve TOPI 220
 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



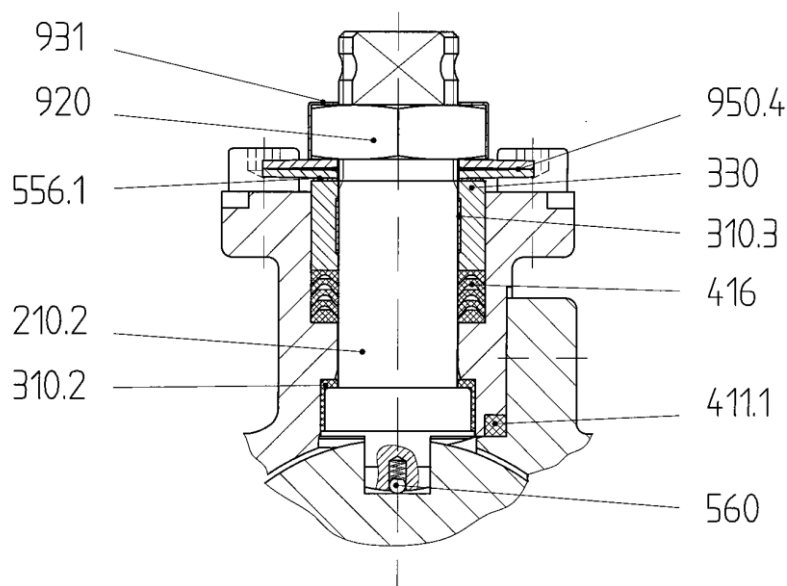
View 1: : ball valve with full bore

Table 1: materials (part 1)

Part no..	designation	material	
100	body	GP240GH+N(GS-C25 N)	1.0619
		G-X2CrNiMoN 18.10	1.4404
		G-X5CrNiMo 19-11-2	1.4408
131	body part	GP240GH+N(GS-C25 N)	1.0619
		G-X2CrNiMoN 18.10	1.4404
		G-X5CrNiMo 19-11-2	1.4408
310.4	upper shaft bearing	1.4401 / PTFE	
365	ball	G-X5CrNiMo 19-11-2	1.4408
511	supporting ring for seat	G-X2CrNiMoN 18.10	1.4404
515	seat	TFM, rein (Standard)	
518	bearing-ring for ball	G-X2CrNiMoN 18.10	1.4404
556.2	sliding disc	1.4401 / PTFE	
901	hex head bolt	A4 – 70	
950.3	disc spring	1.4310	
	handle *)	DN80 / DN100: 1.4308 // DN150: C-steel; gal Zn	

*) Ball valves DN80 and DN100 can be equipped as standard with stainless steel lever in 1.4308.
Ball valves DN 200 are equipped for manual operation only with gearbox!

Stuffing packing variants („TA-Luft 2021“ approved)

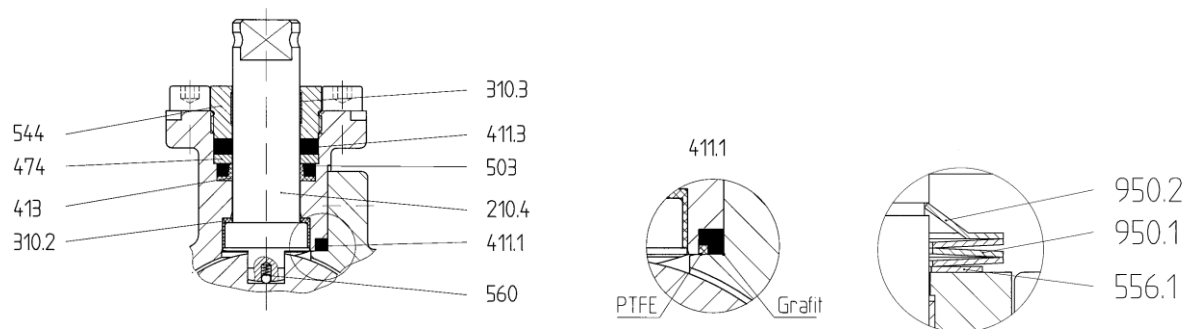


Variant 1: cup seal (grafite free)

Table 2: materials (part 2)

Part no..	designation	material
210.2	stem	1.4462
310.2	lower stem bearing	pure TFM
310.3	upper Stem bearing	1.4401 / PTFE
330	bearing bracket	1.4404
411.1	Sealing ring	PTFE, pure
416	cup seal	pure PTFE
556.1	Sliding disc	1.4401 / PTFE
560	antistatic device (as)	1.4571/1.4401
920	nut	A2 – 70
931	safety plate	1.4301
950.4	disc spring	1.4310

Fire-Safe-Variant („TA-Luft 2021“ approved)

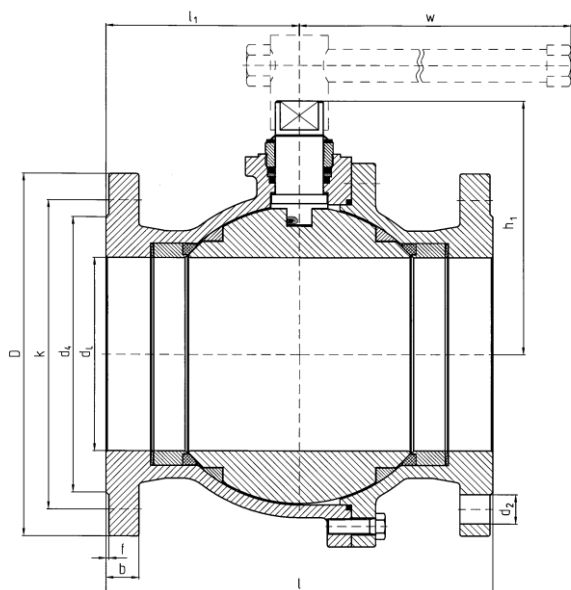


Variant 3: wedge ring sealing (fire-safe)

Table 3: materials (variant 3)

Part no..	designation	material
210.4	stem	1.4462
310.2	lower stem bearing	TFM, pure
310.3	upper stem bearing	1.4401 / PTFE
411.1	wedge ring	grafite + PTFE
411.3	wedge ring	Grafit
413	seal	pure PTFE
474	thrusting	1.4571 / 1.4404
503	wedge ring	grafite
544	stuffing box screw	1.4404
560	antistatic device (as)	1.4571 / 1.4401
556.1 *)	sliding disc	1.4401 / PTFE
950.1 *)	disc spring	1.4310
950.2 *)	disc spring, plate spring	1.4310

*) only DN150 and DN200



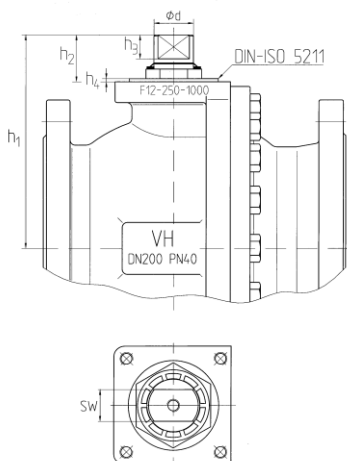
View 2: Ball valve with full bore flange installation length acc. to DIN EN 1092-1 form B1 (DIN 2526 Form C); basic row 27 acc. to DIN EN 558-1 (F18 (short) acc. to DIN 3202 part 1)

Table 4: dimensions, weight (View 2)

Main Weight														Weight
PN	DN	d _L	l	l ₁	h ₁	W	D	b	k	z	d ₂	d ₄ x f	ISO 5211	kg
10	200	200	400	200	263	*)	340	24	295	8	22	268 x 3	F 12	135,0
16	80	77	180	83	142,5	500	200	20	160		18	138 x 3	F 10	23,0
	100	100	190	87	160	500	220	20	180		18	158 x 3		31,0
	150	150	350	124	213	700	285	22	240		22	212 x 3	F 12	79,0
	200	200	400	200	263	*)	340	24	295	12	22	268 x 3		141,0
25	200	200	400	200	263	*)	360	30	310		26	278 x 3		146,0
40	80	77	180	83	142,5	500	200	24	160	8	18	138 x 3	F 10	23,0
	100	100	190	87	160	500	235	24	190		22	162 x 3		32,5
	150	150	350	124	213	700	300	28	250	8	26	218 x 3	F 12	79,0
	200	200	400	200	263	*)	375	34	320		30	285 x 3		157,0

*) Ball valves DN 200 are equipped for manual operation only with gearbox!

Dimensions: connection flange end



DN	h ₁	h ₂	h ₃	h ₄	ød	SW	DIN ISO 5211
80	142,5	41	19	3	26	19	F 10
100	160	41	19	3	26	19	F 10
150	213	53	25	3	40	27	F 12
200	263	58	30	3	50	30	F 12

Connection

DIN flange Nom. pressure	connection	flange
DN 80 - PN 16/40 DN 100 - PN 16/40 DN 150 - PN 16/40 DN 200 - PN 10/40	acc. to DIN EN 1092-1	acc. DIN EN 1092-1 Form B1 ¹⁾ Ra _{max} : 12,5 µm Rz _{max} : 50 µm

¹⁾ other connection features on request

Installation note:

The installation position of the ball valves is not specified and irrespective of flow direction.

ball valves DN 150 should and DN 200 must be equipped with gearbox

technical data

flow characteristics – k_v (m³/h)

DN	80	100	150	200
k _v	930	1900	3500	6500

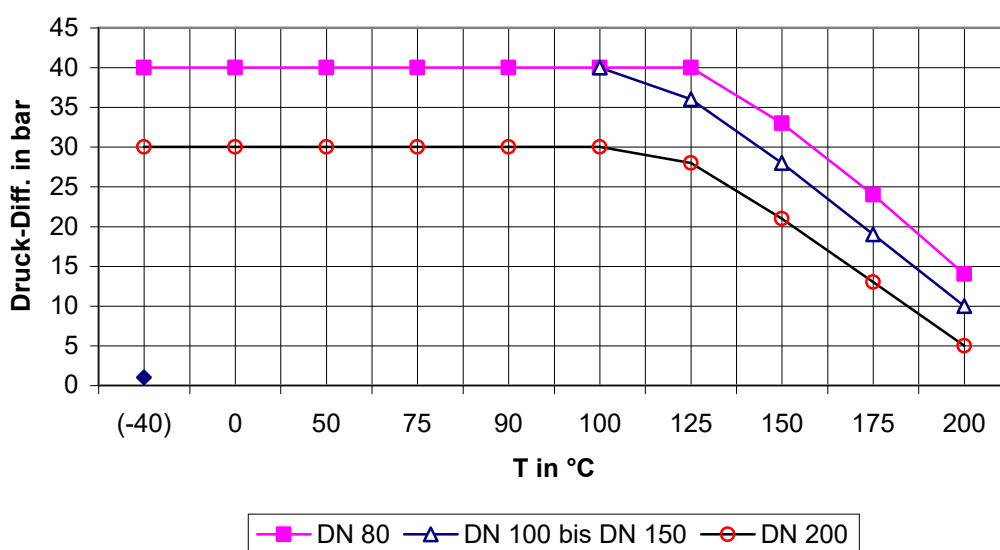
torque [Nm]

Δ p bar	diameter			
	80	100	150	200
0	40	60	120	180
10	80	120	244	320
16	105	160	335	450
25	130	200	460	650
40	160	220	615	1010

maximum torque (stem) [Nm]

DN	80	100	150	200
M _{d max}	1000	1000	3500	4800

Pressure-temperature rating for TOPI 210 VFD pure TFM. (minimum value ²⁾)



²⁾ for operating conditions above/outer limit please contact VH Armaturen GmbH