

2-way flange ball valve, article 460-GS with pneumatic actuator

Diameter DN 65 up to DN 200 pressure range PN 10 / PN 16



2-way flange ball valve designed for industrial use. High-quality processing and diverse qualifications enable a wide range of applications. Version as 2-part, flanged housing, pressure range up to 16,0 bar. Full bore, floating ball, both sides 100% tight closing. Shaft seal consisting of multilayer graphite rings, preloaded and self-adjusting by Belleville washers and additional FKM O-ring.

Suitable for gaseous and liquid media, for the steam area ball seals made of R-PTFE (TFM 4215) are available. In any case, the material resistance cast steel GP240GH must be observed.

- both sides flange connection according to DIN EN 1092-1, form B pressure class PN 10 / PN 16
- ball above with pressure compensation bore
- ISO 5211 mounting flange for actuators (direct mounting)

Operation optionally with lever (lockable), pneumatic or electrical actuator. Unit (ball valve / actuator) is mounted ready for connection including functional test.

	TÜV TA-Luft certified
	Antistatic design ATEX 94/9/EC
	0035
	Safety Integrity Level (IEC 61508)
	API 607/5
	ambient -10° C...+80° C
	medium -10° C...+200° C

- Design Standard DIN EN 12516-1
- Housing strength DIN EN 12516-2
- Design pressure PN 10 / PN 16
- Marking EN 19, MSS SP-25
- Examination / test DIN EN 12266 P10 / P11 / P12
- Housing cast AD 2000-Merkblatt W0 (TÜV)

Operating-variants:

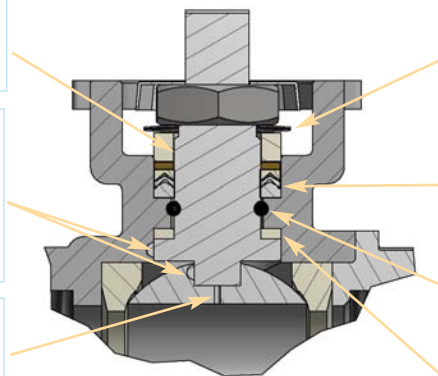


shaft sealing according to VDI 2440 (TA-Luft)

Operating stem is inserted into the body shaft from inside. This guarantees blow-out safety stem.

ATEX-antistatic, the ball-stem connection and the stem-body connection have an anti static feature, which ensures electrical continuity contact between those parts. As a result the ball valve complies with the ATEX Directive 2014/34/EU (Ex II 2 G/D Ex-c II)

The highly polished solid ball has a **pressure relief hole** in the stem slot in order to avoid pressure build-up in the body cavity. This ensures a right shutoff and a long service life



Disc springs ensure the permanent pretensioning of the chevron ring set.

primary shaft seal 3-ply V-ring chevron packing set (PTFE)

secondary shaft seal (O-ring FPM)

tertiary shaft feedthrough (PTFE sealing washer)

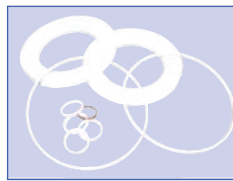
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Seal kit (standard), consisting of:

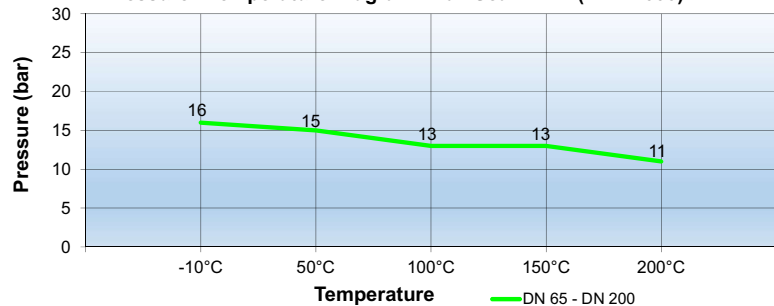
Pos.	Description	Material
4	ball seal (2x)	PTFE (TFM-1600)
8	thrust ring	PTFE
9	O-ring	FKM (Viton)
10	chevron packing set	graphite (3-parts)
12	thrust ring	stainless steel 1.4401
21	body seal	stainless steel-graphite-PTFE



Seal kit PTFE TFM 1600 (standard)

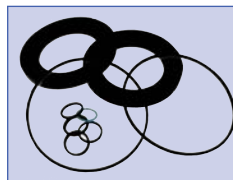
Diameter	Article-No.
DN 65	215.7882.18.24
DN 80	215.7882.18.25
DN 100	215.7882.18.27
DN 125	215.7882.18.28
DN 150	215.7882.18.29
DN 200	215.7882.18.31

Pressure - Temperature Diagram Ball Seal PTFE (TFM-1600)



Seal kit for the steam sector, Tmax. 240° C, consisting of:

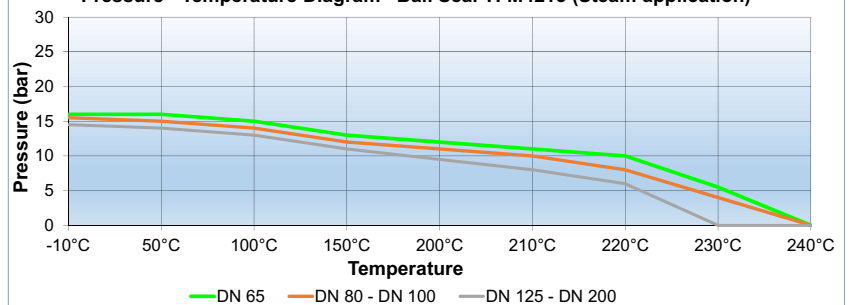
Pos.	Description	Material
4	ball seal (2x)	R-PTFE (TFM-4215)
8	thrust ring	PTFE
9	O-ring	FKM (Viton)
10	chevron packing set	graphite (3-parts)
12	pressure ring	stainless steel 1.4401
21	body seal	stainless steel-graphite-PTFE



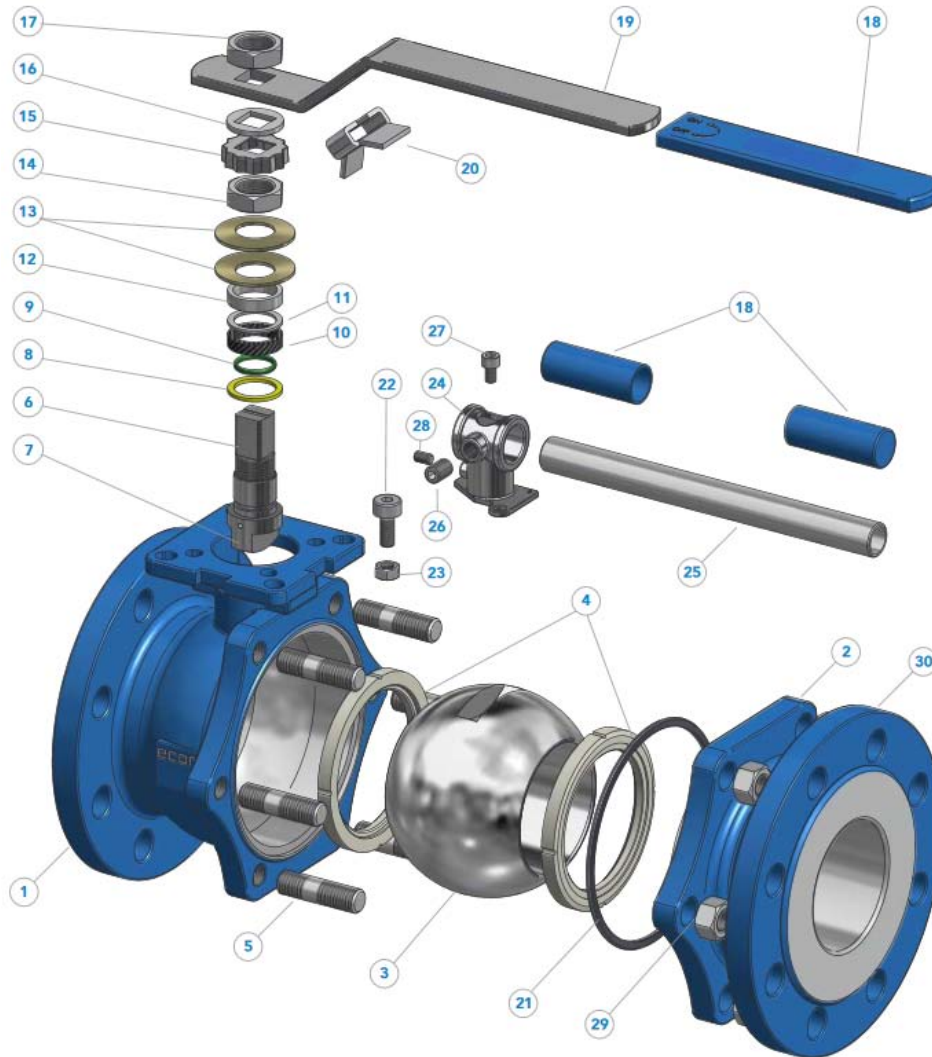
Seal kit TFM4215

Diameter	Article-No.
DN 65	215.7882.46.24
DN 80	215.7882.46.25
DN 100	215.7882.46.27
DN 125	215.7882.46.28
DN 150	215.7882.46.29
DN 200	215.7882.46.31

Pressure - Temperature Diagram Ball Seal TFM4215 (Steam application)



2-way flange ball valve, article 460-GS



Pos.	Description	Material	Pos.	Description	Material
1	body with ISO top flange	cast steel 1.6019 (GP240GH) with epoxy coating	2	body end	cast steel 1.6019 (GP240GH) with epoxy coating
3	ball	stainless steel 1.4308	4	seat ring	PTFE profile shells (TFM 1600)
5	stud	steel 1.7225	6	stem	stainless steel 1.4301
7	Anti-static device	stainless steel 1.4301	8	thrust washer seal	PTFE
9	O-ring	FKM (Viton)	10	glandpacking	graphite (3-parts)
11	bushing	stainless steel 1.4301	12	gland	stainless steel 1.4401
13	belleville washer	stainless steel 1.4310	14	nut	stainless steel 1.4301
15	locking cap	stainless steel 1.4301	16	ring	stainless steel 1.4301
17	nut	stainless steel 1.4301	18	sleeve	plastic
19	hand lever	stainless steel 1.4301	20	locking device	stainless steel 1.4301
21	body gasket	stainless steel-graphite-PTFE (spiral wound)	22	socket head screw	stainless steel 1.4301
23	nut	stainless steel 1.4301	24	T-bar support	stainless steel 1.4308
25	T-bar	steel zinc plated	26	allen set screw	stainless steel 1.4301
27	socket head screw	stainless steel 1.4301	28	allen set screw	stainless steel 1.4301
29	nut	steel 1.0503	30	name plate	stainless steel 1.4301

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Ball valve and pneumatic actuator each enable direct, backlash-free assembly due to their standardized interfaces according to ISO 5211. Modern industrial design and compact construction characterize this pneumatic rotary actuator series. High-quality materials and the robust, reliable design guarantee high availability in daily use.

Depending on the process requirements, there are two versions to choose from:

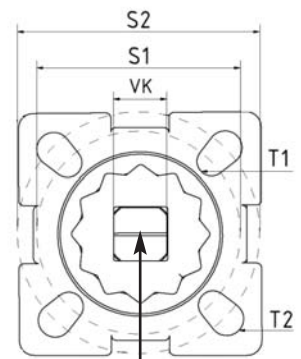
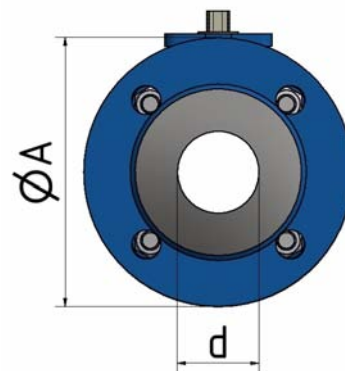
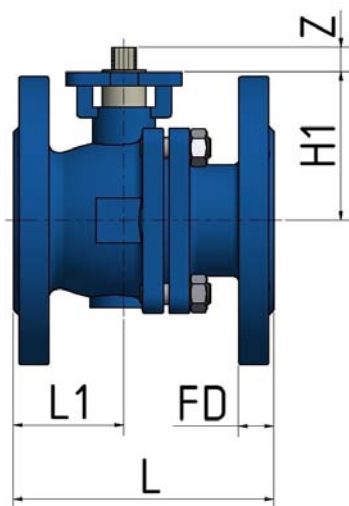
Function double-acting = Pressurization of the air chambers alternately on both sides

Function single-acting = Pressurization of only one air chamber, resetting by built-in spring assemblies (optionally spring-opening or spring-closing)

Quality of the control medium filtered compressed air according to DIN/ISO 8573-1, class 4.

The unit is always delivered adjusted and tested ready for operation.

Further information on the pneumatic actuators can be found in the individual data sheets.



Ground joint indicates position of ball bore

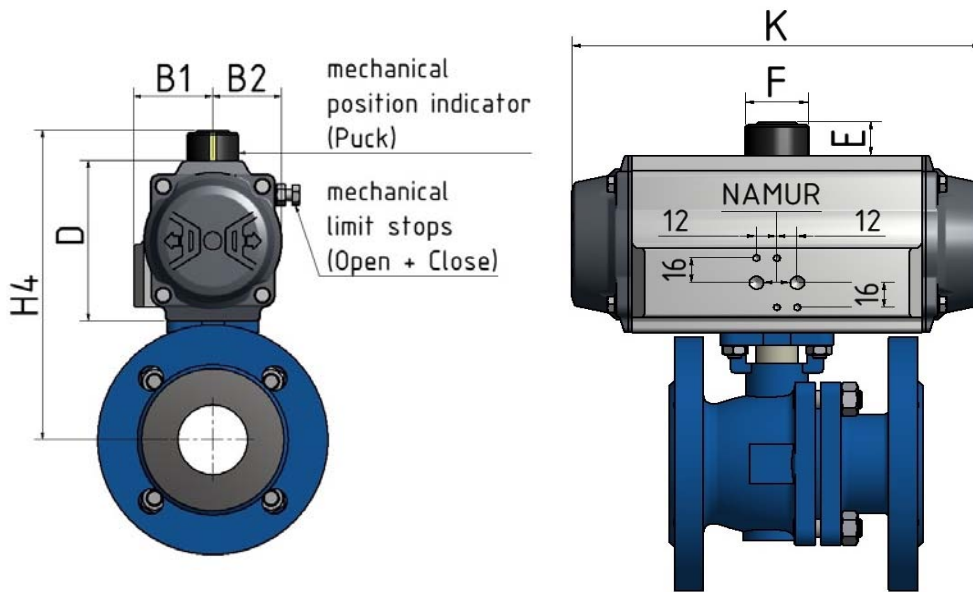
Diameter	L (mm)	L1 (mm)	FD (mm)	H1 (mm)	Z (mm)	d (mm)	ØA (mm)	S1/S2	VK (mm)	T1 (mm)	T2 (mm)	Pressure rating
DN 65 (2 1/2")	170	69	18	102	17	63	185	F07 / F10	17	4x9	4x11	PN 10 / PN 16
DN 80 (3")	180	75	20	112	17	76	200	F07 / F10	17	4x9	4x11	PN 10 / PN 16
DN 100 (4")	190	83	20	140	22	100	220	F10	22	-	4x11	PN 10 / PN 16
DN 125 (5")	325	153	22	183	27	125	250	F12	27	-	4x14	PN 10 / PN 16
DN 150 (6")	350	162	22	204	27	150	285	F12	27	-	4x14	PN 10 / PN 16
DN 200 (8")	400	191	24	253	36	200	340	F14	36	-	4x14	PN 10 / PN 16

Diameter	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
Ø	63,5 mm	76,0 mm	100,0 mm	125,0 mm	150,0 mm	200,0 mm
KV	387,0	670,8	1.169,6	1.462,0	2.236,0	3.612,0

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Longitudinal construction standard, if transverse construction desired, please indicate when ordering.

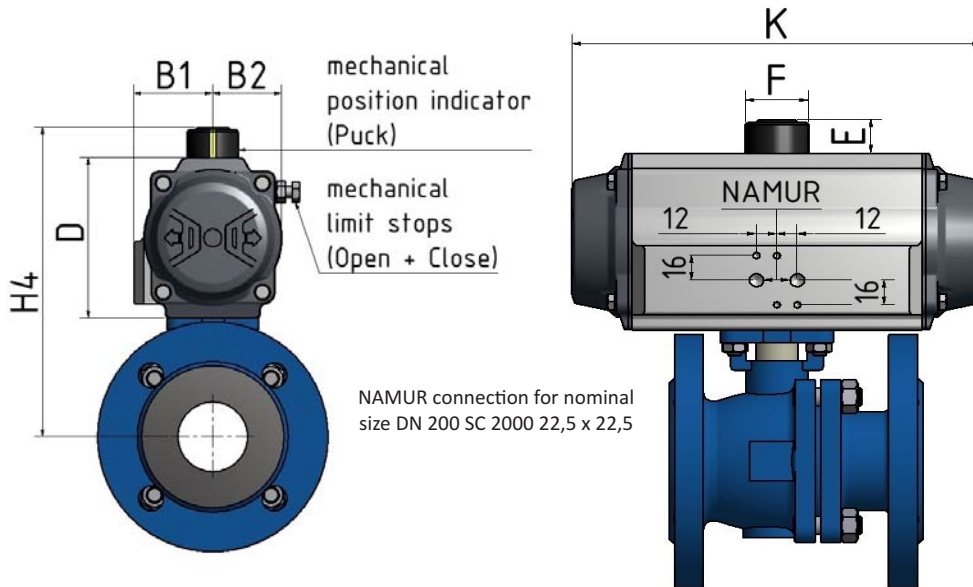
- double acting -

Diameter	Article-No. 460-GS Cast steel 1.0619	actuator design up to max. 10 bar								
		H4 (mm)	D (mm)	B1 (mm)	B2 (mm)	K (mm)	F (mm)	E (mm)	Air connection	Weight (kg)
DN 65	215.3840.4.24	204	102	50,5	42,5	203,5	51	20	G 1/8"	16,48
DR 60	86.8200.5.60			56,5	49,5					
DN 80	215.3840.4.25	227	115	56,5	49,5	241,0	51	20	G 1/8"	21,52
DR 100	86.8200.5.100			72,0	64,0					
DN 100	215.3840.4.27	285	145	72,0	64,0	304,0	57,5	30	G 1/4"	33,27
DR 220	86.8200.5.220			86,0	80,0					
DN 125	215.3840.4.28	360	177	86,0	80,0	394,5	67,5	30	G 1/4"	74,20
DR 450	86.8200.5.450			86,0	80,0					
DN 150	215.3840.4.29	381	177	86,0	80,0	394,5	67,5	30	G 1/4"	86,00
DR 450	86.8200.5.450			86,0	80,0					
DN 200	215.3840.4.31	449	196	93,0	88,0	422,5	67,5	30	G 1/4"	144,80
DR 600	86.8200.5.600			93,0	88,0					

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- single acting -

spring closing spring opening

Diameter	Article-No. 460-GS Cast steel 1.0619	actuator design up to max. 10 bar								Air connection	Weight (kg)
		H4 (mm)	D (mm)	B1 (mm)	B2 (mm)	K (mm)	F (mm)	E (mm)			
DN 65	215.3840.4.24										
SC 220	86.8201.5.220-10	247	145	72,0	64,5	304,0	57,5	30	G 1/4"	22,97	
SC 150	86.8202.5.150-08	229	127	63,0	55,5	259,0	51,0	20		19,51	
DN 80	215.3840.4.25										
SC 300	86.8201.5.300-10	269	157	77,0	69,5	333,0	57,5	30	G 1/4"	29,67	
SC 220	86.8202.5.220-08	257	145	72,0	64,5	304,0	57,5	30		26,65	
DN 100	215.3840.4.27										
SC 450	86.8201.5.450-10	317	177	86,0	80,0	394,5	67,5	30	G 1/4"	41,80	
	86.8202.5.450-10										
DN 125	215.3840.4.28										
SC 600	86.8201.5.600-12	379	196	93,0	88,0	422,5	67,5	30	G 1/4"	81,40	
	86.8202.5.600-09										80,50
DN 150	215.3840.4.29										
SC 1200	86.8201.5.1200-10	449	245	115,5	110,0	528,0	94,0	50	G 1/4"	113,80	
	86.8202.5.1200-10										
DN 200	215.3840.4.31										
SC 2000	86.8201.5.2000-10	551,5	298,5	131,0	131,0	605,0	115,0	50	G 3/8"	193,60	
	86.8202.5.2000-10										

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