

## 3-way ball valve, article 441-VA with pneumatic actuator Diameter G 1/4" up to G 2"

**3-way ball valve threaded ends with standardized interface** according to ISO 5211 for direct mounting of pneumatic or electrical actuators. Designed for general, industrial use. Stainless steel ball with reduced bore, optionally with L-bore or T-bore. Shaft seal consisting of multilayer PTFE V-rings, preloaded and self-adjusting by belleville washers and additional FKM O-ring.

Suitable for neutral, gaseous and liquid media (no steam) considering material resistance stainless steel 1.4408.

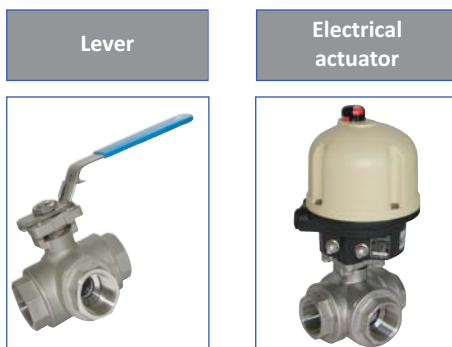
- **three-sided with female thread according to ISO EN 228**
- **100% sealing on all sides due to 4 PTFE ball seals**

NOTE: Freezing of the medium in the ball valve must be avoided in any case.



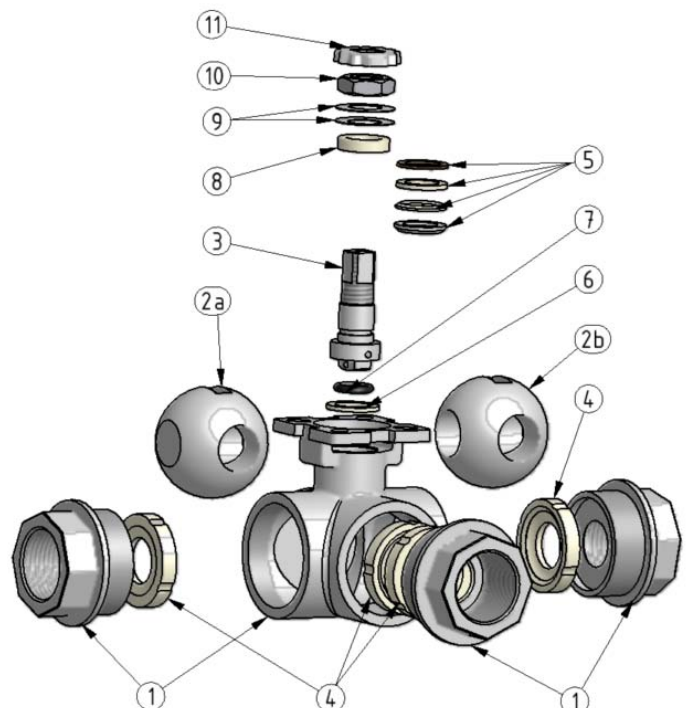
	TÜV TA-Luft certified
	Antistatik-design ATEX 94/9/EC
	0036
	Ambient -20° C ... +60° C
	Medium -34° C ... +200° C

### Operating-variants:



- Design standard DIN EN 12516-1
- Housing strength DIN EN 12516-2
- Design pressure PN 68
- Marking EN 19, MSS SP-25
- Inspection / test DIN EN 12266 P10 / P11 / P12

Pos.	Description	Material
1	Body	Stainless steel 1.4408
	Threaded ends	Stainless steel 1.4408
2a	Ball L-bore	Stainless steel 1.4408
2b	Ball T-bore	Stainless steel 1.4408
3	Stem	Stainless steel 1.4401
4	Ball seal	4x PTFE-profile shells reinforced
5	Packing set	PTFE
6	Slide ring	PTFE
7	Stem seal	VITON O-Ring
8	Thrust ring	Stainless steel 1.4401
9	Belleville washers	Stainless steel 1.4301
10	Stem nut	Stainless steel 1.4571
11	Safety cap	Stainless steel 1.4301



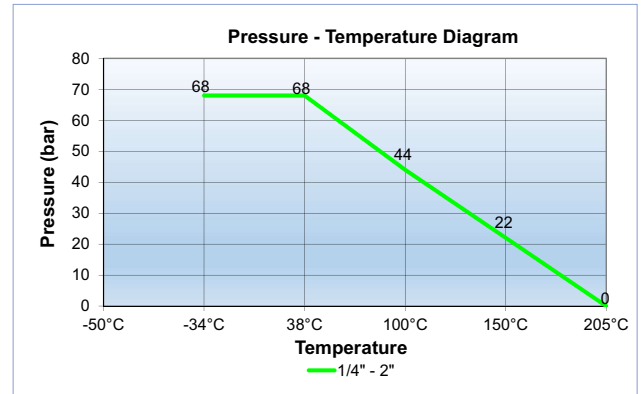
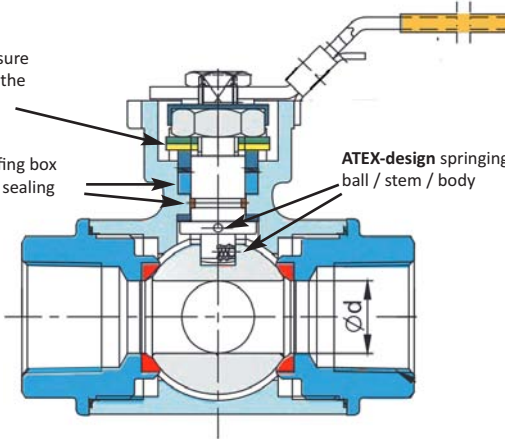
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Belleville washers ensure consistent preload of the PTFE stuffing box

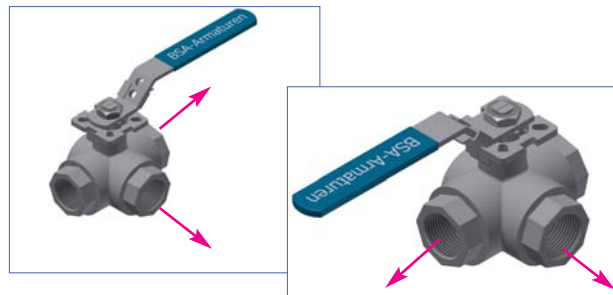
TA-Luft 3-part PTFE stuffing box additionally FKM O-ring sealing

ATEX-design springing ball / stem / body

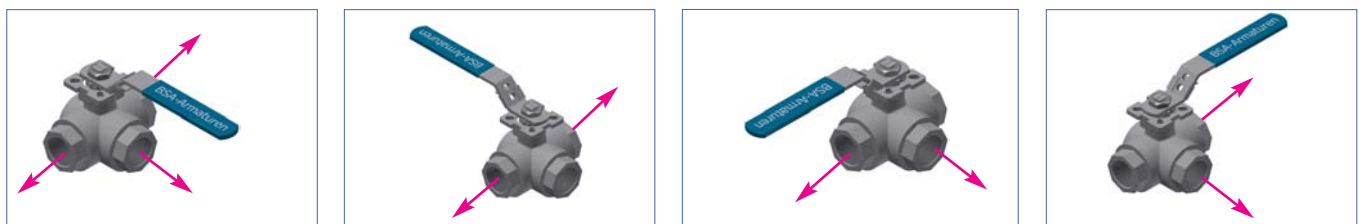


#### possible switching paths 3-way ball valves

3-way ball valve, article 441-VA with L-ball bore		
	switch-path 1	switch-path 2
basic position		
switch position 90°		
direction of rotation	right	left



3-way ball valve, article 441-VA with T-ball bore								
	switch-path 1	switch-path 2	switch-path 3	switch-path 4	switch-path 5	switch-path 6	switch-path 7	switch-path 8
basic position								
switch position 90°								
direction of rotation	right	left	right	left	right	left	right	left



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### 3-way ball valve, article 441-VA with pneumatic actuator Diameter G 1/4" up to G 2"



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:

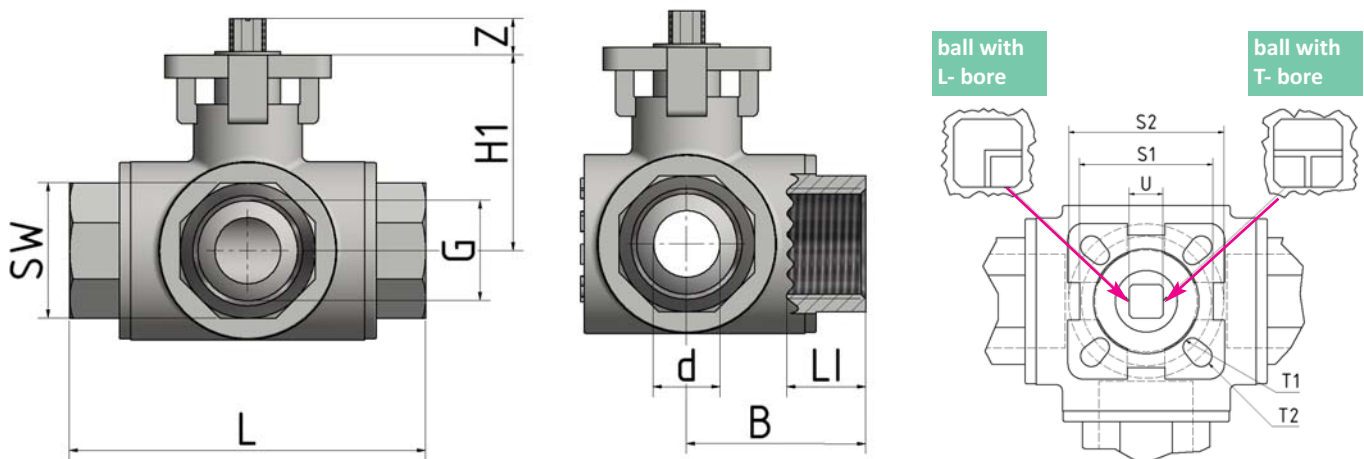
**Function double-acting** = Pressurization of the air chambers alternately on both sides

**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.**



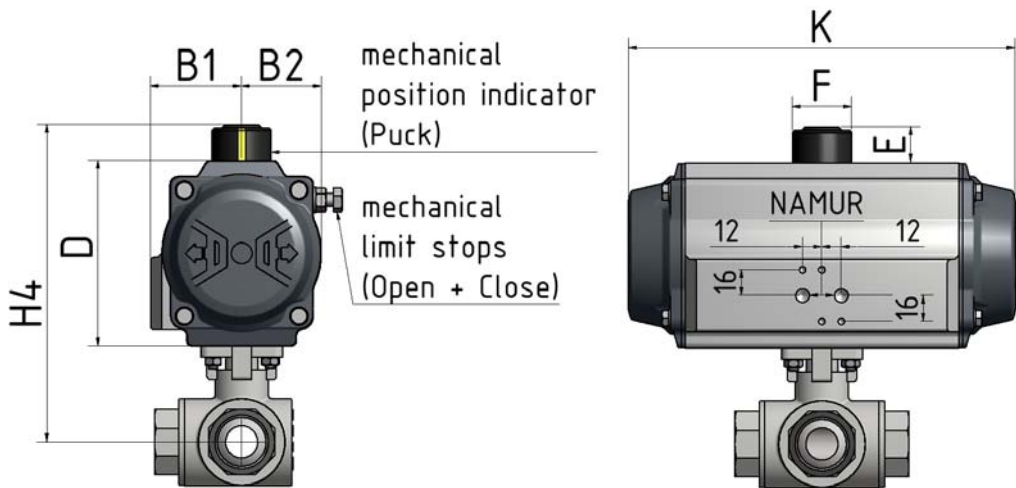
Actuator design up to a maximum of 10 bar

Diameter	L (mm)	H1 (mm)	SW (mm)	Z (mm)	B (mm)	d (mm)	LI (mm)	S1/S2	U (mm)	T1 (mm)	T2 (mm)	Pressure rating max. (bar)	Weight (kg)
G 1/4"	79	42,0	27	9	39,5	11	13,8	F03/F04	9	4x6	4x6	68	0,92
G 3/8"	79	42,0	27	9	39,5	11	14,2	F03/F04	9	4x6	4x6	68	0,80
G 1/2"	79	42,0	27	9	39,5	11	14,5	F03/F04	9	4x6	4x6	68	0,84
G 3/4"	88	49,0	34	9	44,0	15	16,7	F03/F05	9	4x6	4x7	68	1,07
G 1"	108	59,5	41	11	54,0	20	20,5	F04/F05	11	4x6	4x7	68	1,92
G 1 1/4"	124	63,0	50	11	62,0	25	21,8	F04/F07	11	4x6	4x9	68	3,01
G 1 1/2"	135	73,5	56	14	67,5	32	23,5	F05/F07	14	4x7	4x9	68	4,20
G 2"	164	82,8	70	14	82,0	40	30,0	F05/F07	14	4x7	4x9	68	7,02

Diameter	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Ø	11,0	11,0	11,0	15,0	20,0	25,0	32,0	40,0
KV	2,8	3,0	3,3	3,9	7,9	13,0	20,7	36,7

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### 3-way ball valve, article 441-VA with pneumatic actuator Diameter G 1/4" up to G 2"



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

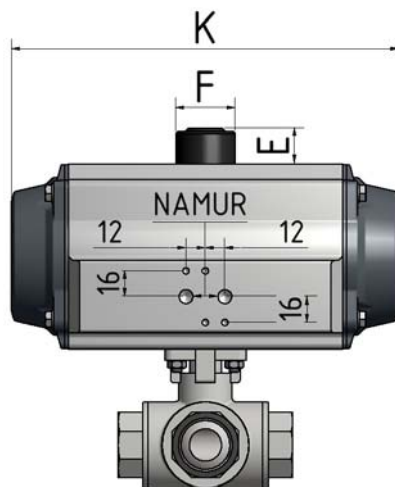
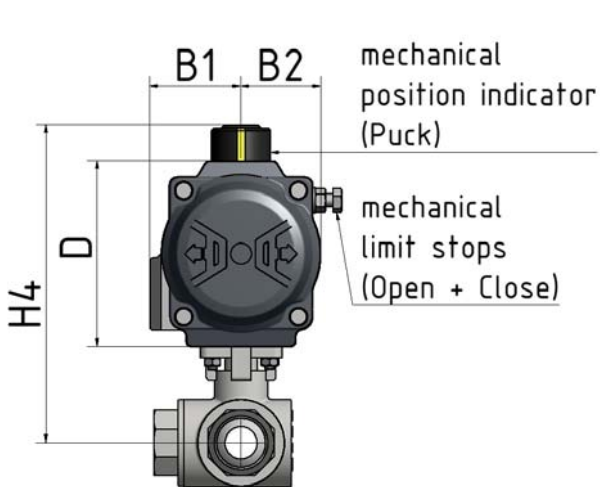
**- double acting -**

Diameter	Article-Numbers		Actuator design up to a maximum of 10 bar								Air connection	Weight (kg)
	L-bore	T-bore	H4 (mm)	D (mm)	B1 (mm)	B2 (mm)	K (mm)	F (mm)	E (mm)			
G 1/4"	215.3911.6.61	215.3995.6.61	128,0	66	35,5	26,5	118,0	37	20	G 1/8"	1,67	
DR 10	86.8200.5.10	86.8200.5.10										
G 3/8"	215.3911.6.62	215.3995.6.62	128,0	66	35,5	26,5	118,0	37	20	G 1/8"	1,55	
DR 10	86.8200.5.10	86.8200.5.10										
G 1/2"	215.3911.6.63	215.3995.6.63	128,0	66	35,5	26,5	118,0	37	20	G 1/8"	1,59	
DR 10	86.8200.5.10	86.8200.5.10										
G 3/4"	215.3911.6.65	215.3995.6.65	135,0	66	35,5	26,5	118,0	37	20	G 1/8"	1,82	
DR 10	86.8200.5.10	86.8200.5.10										
G 1"	215.3911.6.67	215.3995.6.67	148,5	69	43,0	29,0	136,0	37	20	G 1/8"	3,02	
DR 15	86.8200.5.15	86.8200.5.15										
G 1 1/4"	215.3911.6.68	215.3995.6.68	168,0	85	48,5	36,0	153,5	37	20	G 1/8"	4,62	
DR 30	86.8200.5.30	86.8200.5.30										
G 1 1/2"	215.3911.6.69	215.3995.6.69	178,5	85	48,5	36,0	153,5	37	20	G 1/8"	5,81	
DR 30	86.8200.5.30	86.8200.5.30										
G 2"	215.3911.6.71	215.3995.6.71	204,8	102	50,5	42,5	203,5	37	20	G 1/8"	9,70	
DR 60	86.8200.5.60	86.8200.5.60										

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### 3-way ball valve, article 441-VA with pneumatic actuator

Diameter G 1/4" up to G 2"



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

**- single acting -**  
spring closing      spring opening

Diameter	Article-Numbers		Actuator design up to a maximum of 10 bar								
	L-bore	T-bore	H4 (mm)	D (mm)	B1 (mm)	B2 (mm)	K (mm)	F (mm)	E (mm)	Air connection	Weight (kg)
G 1/4"	215.3911.6.61	215.3995.6.61									
SC 30	86.8201.5.30-08	86.8201.5.30-08	147,0	85	48,5	36,0	153,5	37	20	G 1/8"	2,69
	86.8202.5.30-08	86.8202.5.30-08									
G 3/8"	215.3911.6.62	215.3995.6.62									
SC 30	86.8201.5.30-08	86.8201.5.30-08	147,0	85	48,5	36,0	153,5	37	20	G 1/8"	2,57
	86.8202.5.30-08	86.8202.5.30-08									
G 1/2"	215.3911.6.63	215.3995.6.63									
SC 30	86.8201.5.30-08	86.8201.5.30-08	147,0	85	48,5	36,0	153,5	37	20	G 1/8"	2,61
	86.8202.5.30-08	86.8202.5.30-08									
G 3/4"	215.3911.6.65	215.3995.6.65									
SC 30	86.8201.5.30-11	86.8201.5.30-11	154,0	85	48,5	36,0	153,5	37	20	G 1/8"	3,69
	86.8202.5.30-08	86.8202.5.30-08									
G 1"	215.3911.6.67	215.3995.6.67									
SC 60	86.8201.5.60-10	86.8201.5.60-10	181,5	102	50,5	42,5	203,5	37	20	G 1/8"	4,90
	86.8202.5.60-10	86.8202.5.60-10									
G 1 1/4"	215.3911.6.68	215.3995.6.68									
SC 60	86.8201.5.60-10	86.8201.5.60-10	185,0	102	50,5	42,5	203,5	37	20	G 1/8"	5,99
	86.8202.5.60-10	86.8202.5.60-10									
G 1 1/2"	215.3911.6.69	215.3995.6.69									
SC 100	86.8201.5.100-10	86.8201.5.100-10	208,5	115	56,5	49,5	241,0	37	20	G 1/8"	8,52
	86.8202.5.100-10	86.8202.5.100-10									
G 2"	215.3911.6.71	215.3995.6.71									
SC 150	86.8201.5.150-10	86.8201.5.150-10	229,8	127	63,0	55,5	259,0	37	20	G 1/4"	12,87
	86.8202.5.150-10	86.8202.5.150-10									

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