

## 3-way ball valve, article 441-VA with electrical 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:

Lever

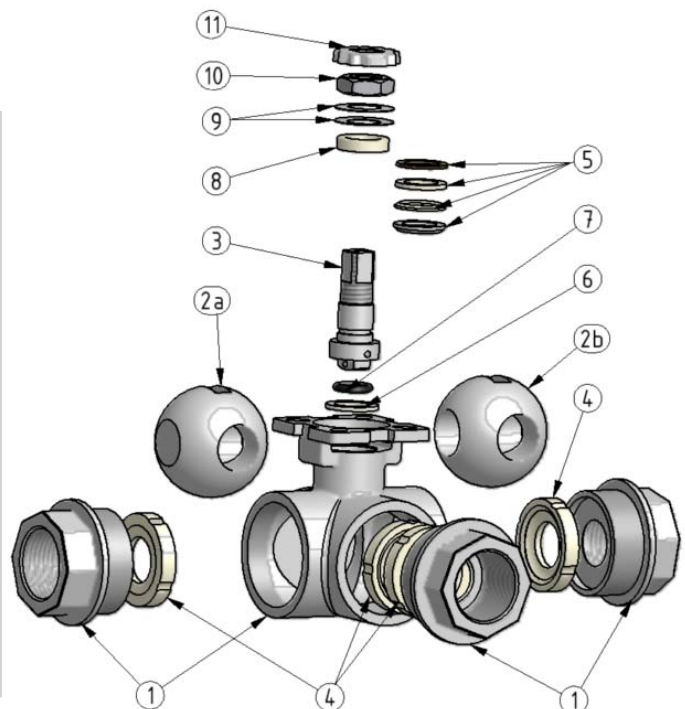


pneumatic actuator

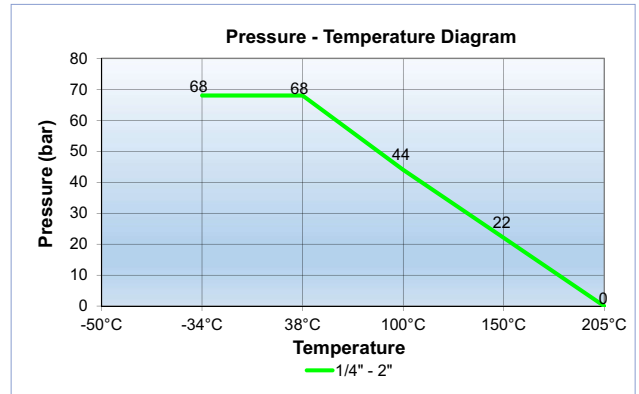
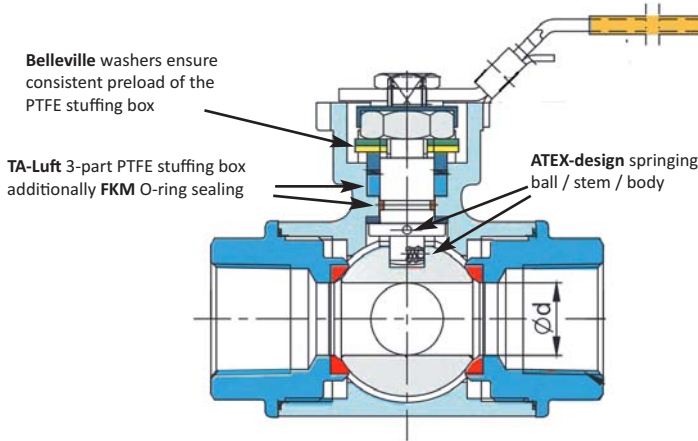


- Design standard DIN EN 12516-1
- Housing strength DIN EN 12516-2
- Design pressure PN 68
- Marking EN 19, MSS SP-25
- Inspection / test DIN EN 12266 P10 / P11 / P12

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

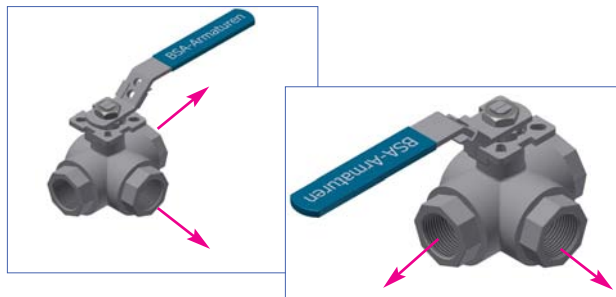


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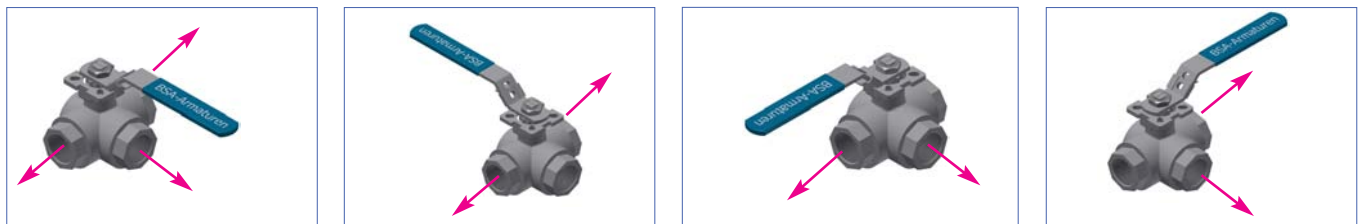


#### possible switching paths 3-way ball valves

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



441-VA\_AQL\_AQ\_2021\_ENG\_Rev. 01

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



Ball valve and electric actuator, each with standardized interface according to ISO 5211, enable direct, backlash-free assembly.

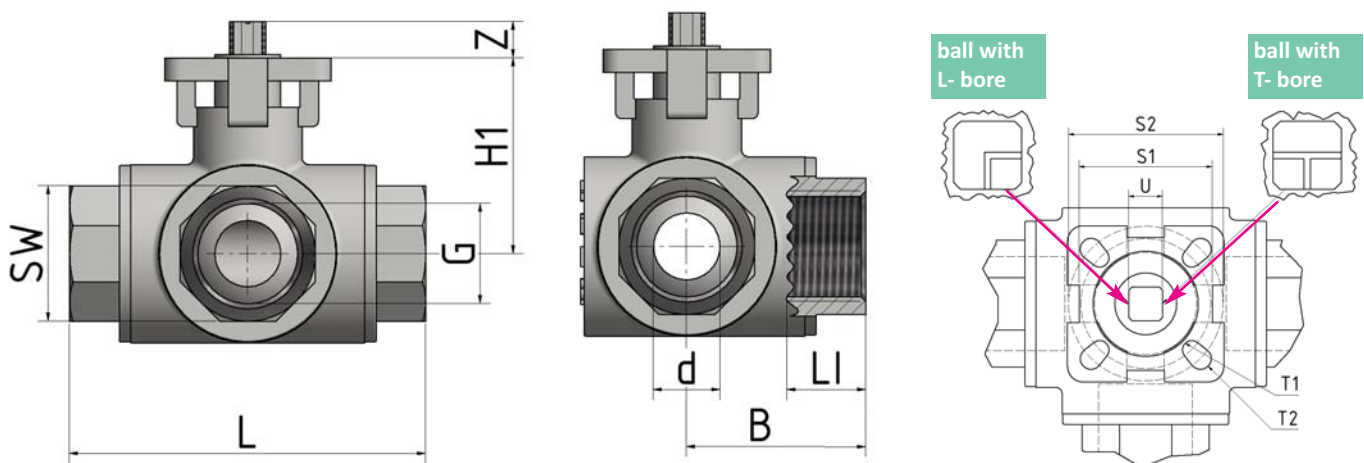
Modern design and compact construction characterize this series of electric part-turn actuators. The simple but robust and reliable design guarantees high availability in daily industrial use.

The actuators are maintenance-free and completely pre-wired internally. The self-locking gear with high-performance grease filling guarantees a long service life. The unit is delivered ready for connection, adjusted and tested.

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

- a) OPEN / CLOSED operation class A according to EN 15714-2
- b) Jog mode or positioning operation, class B (S4 - 30%, motor power up to 120 starts per hour at peak load) according to EN 15714-2.

Further information on the electric drives can be found in the individual data sheets.



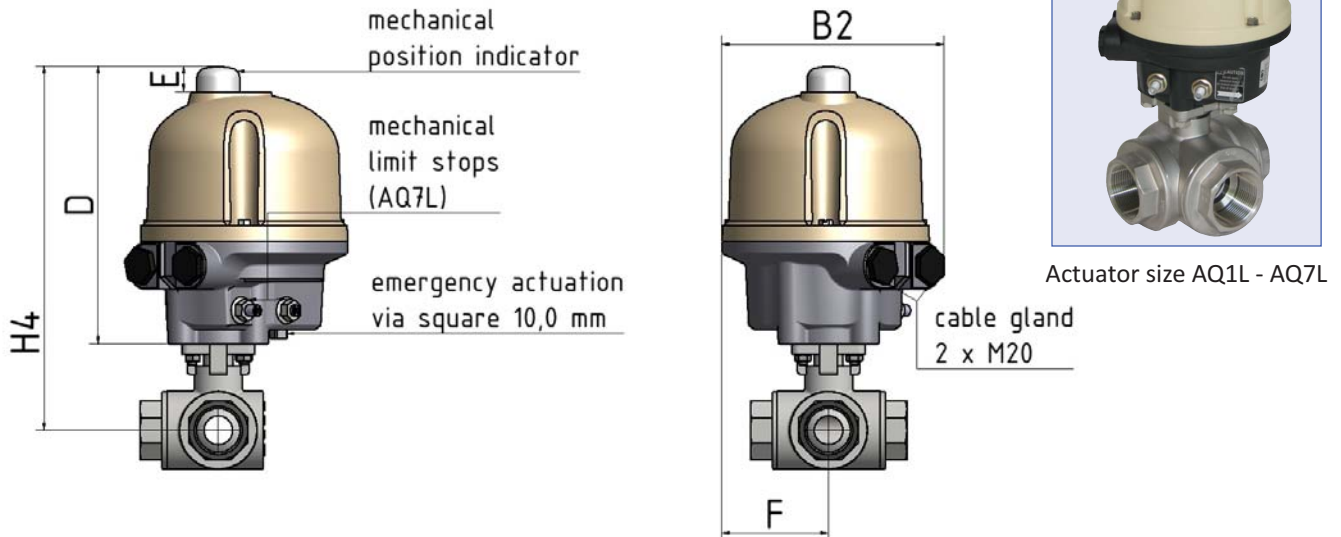
Actuator design up to a maximum of 10 bar

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 electrical actuator Diameter G 1/4" up to G 2"



Kugelhahn 441-VA			Actuator design up to a maximum of 10 bar						
Diameter G	Article-No. L-bore	Article-No. T-bore	Voltage	H4 (mm)	D (mm)	B2 (mm)	E (mm)	F (mm)	Weight (kg)
G 1/4	215.3911.6.61	215.3995.6.61		217,0	175	150	17,5	89,5	3,42
	AQ1L	171.8093.1L.13	171.8093.1L.13						
	171.8092.1L.13	171.8092.1L.13	24 V						
G 3/8"	215.3911.6.62	215.3995.6.62		217,0	175	150	17,5	89,5	3,30
	AQ1L	171.8093.1L.13	171.8093.1L.13						
	171.8092.1L.13	171.8092.1L.13	24 V						
G 1/2"	215.3911.6.63	215.3995.6.63		217,0	175	150	17,5	89,5	3,34
	AQ1L	171.8093.1L.13	171.8093.1L.13						
	171.8092.1L.13	171.8092.1L.13	24 V						
G 3/4"	215.3911.6.65	215.3995.6.65		223,0	175	150	17,5	89,5	3,57
	AQ1L	171.8093.1L.13	171.8093.1L.13						
	171.8092.1L.13	171.8092.1L.13	24 V						
G 1"	215.3911.6.67	215.3995.6.67		234,5	175	150	17,5	89,5	4,42
	AQ3L	171.8093.3L.15	171.8093.3L.15						
	171.8092.3L.15	171.8092.3L.15	24 V						
G 1 1/4"	215.3911.6.68	215.3995.6.68		238,0	175	150	17,5	89,5	5,51
	AQ3L	171.8093.3L.15	171.8093.3L.15						
	171.8092.3L.15	171.8092.3L.15	24 V						
G 1 1/2"	215.3911.6.69	215.3995.6.69		248,5	175	150	17,5	89,5	6,70
	AQ3L	171.8093.3L.15	171.8093.3L.15						
	171.8092.3L.15	171.8092.3L.15	24 V						
G 2"	215.3911.6.70	215.3995.6.70		277,8	195	150	17,5	89,5	10,52
	AQ7L	171.8093.7L.15	171.8093.7L.15						
	171.8092.7L.15	171.8092.7L.15	24 V						

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