

# BALL VALVES FOR HEATING TECHNOLOGIES

KV

05.02.2026





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# 1 KV

**KV:** Ball valves - with and without actuator, **HT:** Temperature up to +200°C

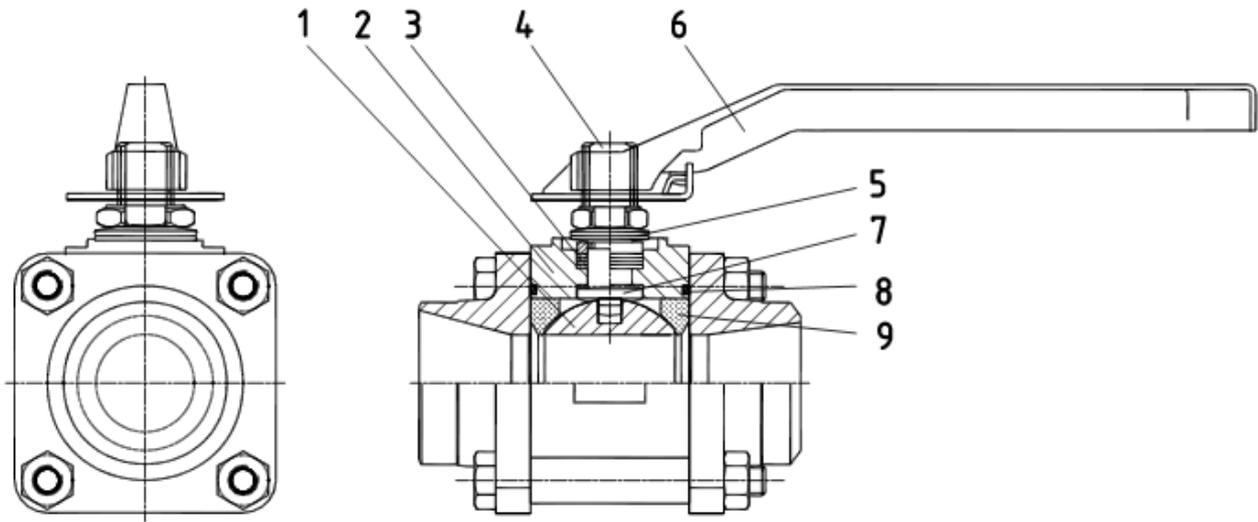
KV	Connection	Form	Material	Valve type
KV	Materials			
E	E accessory, electric actuator			
P	P accessory, pneumatic actuator			
HN	HN accessory, manual override			
KV PS40	Welding ends	Straight-way	St	KV D AE / DV
			NIRO	KV D AE / DV NIRO
			St	KVE D AE DV
			NIRO	KVE D AE DV NIRO
			St	KVP D AE DV / HN
			NIRO	KVP D AE DV / HN NIRO
	Flanged ends	Straight-way	St	KV D FL / DV
			NIRO	KV D FL / DV NIRO
			St	KVE D FL / DV
			NIRO	KVE D FL / DV NIRO
			St	KVP D FL / DV
			NIRO	KVP D FL / DV NIRO
Information	Pressure relief hole in ball valves			

**DV:** optional bonnet extension, **St:** steel , **NIRO:** stainless steel

Information	DIN-FL welding neck flanges - DIN
	Comparison of European/American materials
	Legal notices

## 2 KV materials

Designation and materials  
KV HT ball valve



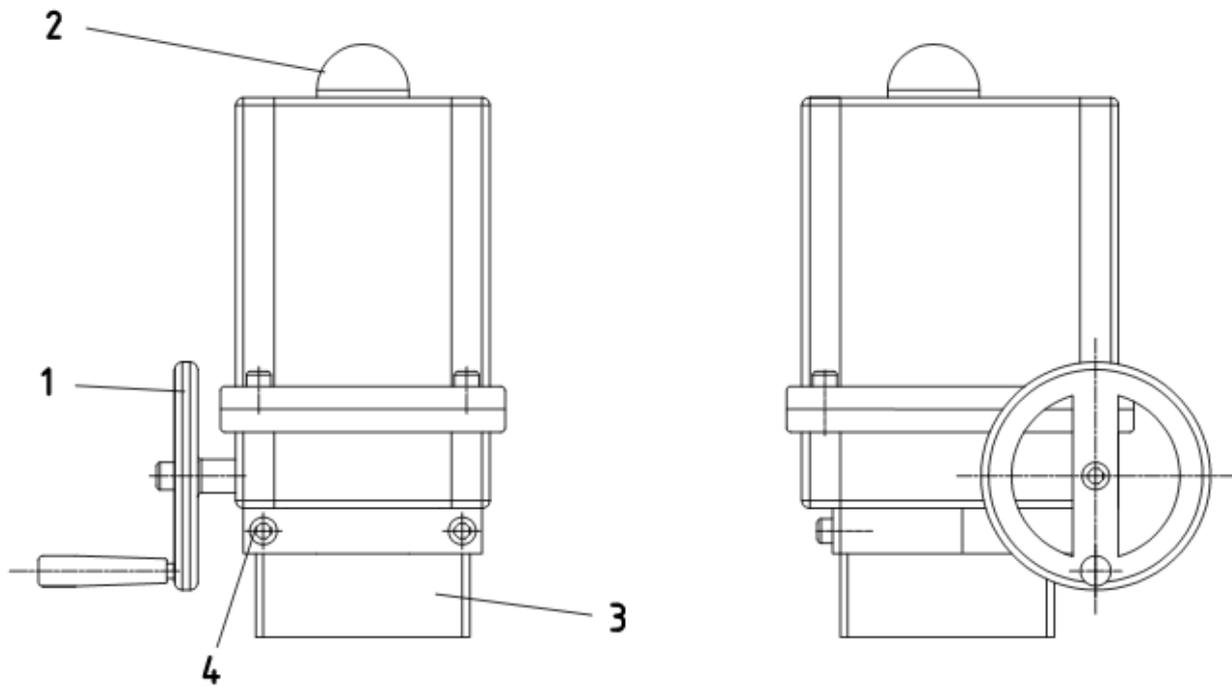
Part	Material for steel valves	Material for stainless steel valves
1 Ball	GX5CrNiMo19-11-2 1.4408	GX5CrNiMo19-11-2 1.4408
2 Body	P250GH 1.0460 GP240GH 1.0619	X2CrNiMo17-12-2 1.4404 GXCrNiMo19-11-2 1.4408
3 Gland	PTFE glass-fibre reinforced	PTFE glass-fibre reinforced
4 Stem	X2CrNiMo17-12-2 1.4404 X2CrNiMoN22-5-3 1.4462	X2CrNiMo17-12-2 1.4404 X2CrNiMoN22-5-3 1.4462
5 Disc spring	X10CrNi18-8 1.4310	X10CrNi18-8 1.4310
6 Hand lever	Steel	Steel
7 Shaft seal	PTFE glass-fibre reinforced /	PTFE glass-fibre reinforced
8 Body gasket	PTFE	PTFE
9 Seat	PTFE	PTFE

Properties:

- Standard ball valves have a reduced bore.
- The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.
- Please observe the notes in the appendix "Pressure relief hole in ball valves".
- The double shaft seal (item 3 and 7) allows the gland to be replaced under pressure.

### 3 E accessories

E - PS electric actuator



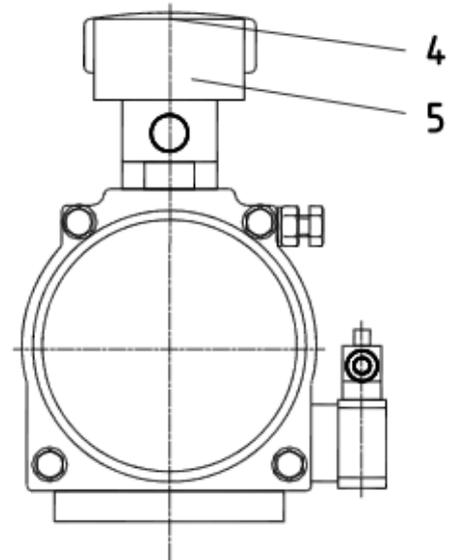
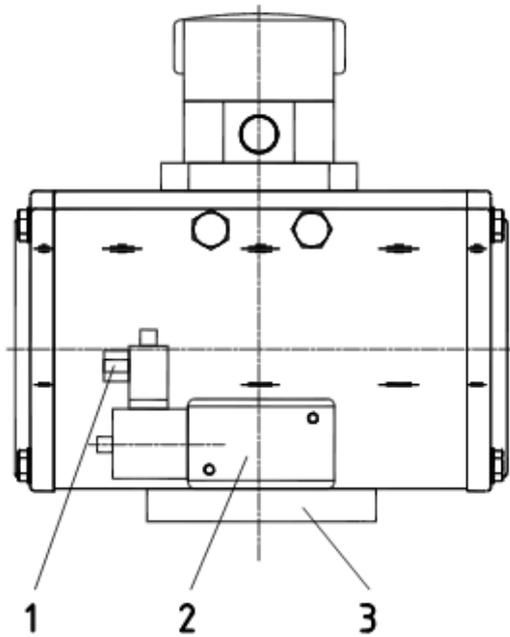
Part	Material for steel valves	Material for stainless steel valves
1 Handwheel	Steel Plastic	Steel
2 Position indicator	Plastic	Plastic
3 Mounting flange	Steel	Steel
4 Power connection	Plastic	Plastic

Properties:

- Power supply 230VAC 1-ph 50/60Hz
- Duty cycle: 50% duty cycle at 40°C
- Max. 1200 cycles per hour
- Protection class: PSR-E50 IP65, PSQ IP67
- Ambient temperature: -20°C...80°C
- 2 torque switches and temperature monitoring
- 2 limit switches for free use
- Including 8W 230VAC motor heater

## 4 P accessories

P - pneumatic actuator spring-to-close\*



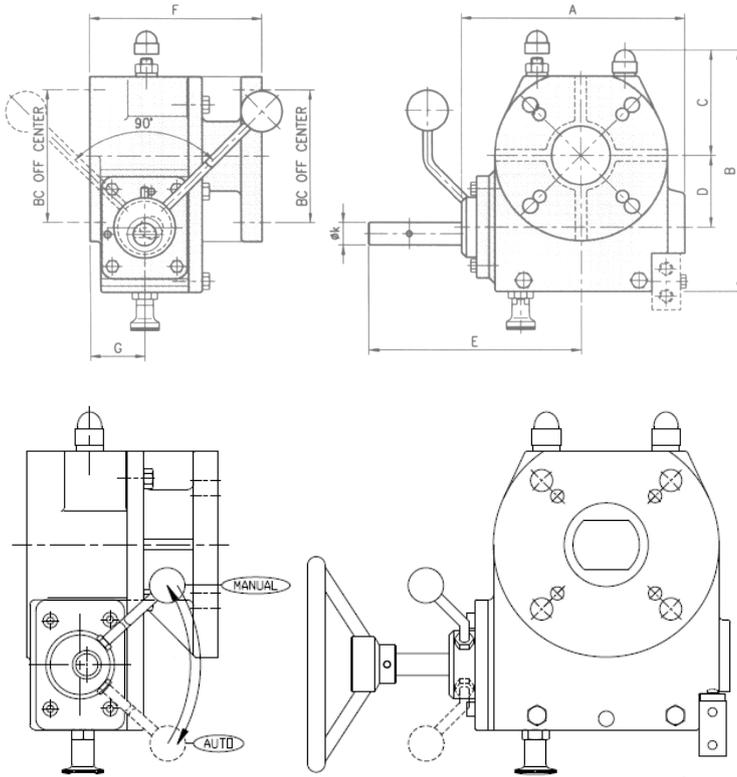
Part	Material for steel valves	Material for stainless steel valves
1 Cable entry	Plastic	Plastic
2 3/2-way solenoid valve	Plastic	Plastic
3 Mounting flange	Steel	Steel
4 Position indicator	Plastic	Plastic
5 Limit switch box	Plastic	Plastic

Properties:

- Control medium: Dry, oil-free air or nitrogen
  - Control pressure: 6 bar, (max. 8 bar)
  - Air inlet connection: G1/4" female thread
  - Coil voltage 24V DC or 230V AC 1-ph 50/60Hz
  - Duty cycle: 100% duty cycle at 40°C
  - Protection class: IP65
  - Ambient temperature: -30°C...90°C
  - 2 limit switches for free use
- \* double-acting actuator on request

## 5 HN accessories

HN - manual override for pneumatic actuator



Type	Ratio	Torque				M.A. ± 10%	Weight			
		Outlet		Inlet			kg	Lb.		
		Nm	lbf. inch	Nm	lbf. inch					
ILG/D 200	28:1	250	(2210)	26	(235)	9.5	8.5	(18.7)		
ILG/D 600	32:1	750	(6640)	75	(665)	10.0	17.0	(37.4)		
ILG/D 900	40:1	1450	(1105)	130	(1150)	11.0	21.0	(46.2)		
ILG/D 1500	68:1	2485	(22000)	185	(1640)	13.5	34.0	(74.8)		
ILG/D 2400	68:1	3390	(30000)	225	(1990)	15.0	54.0	(118.8)		
ILG/D 5000	80:1	7450	(66000)	325	(2875)	23.0	80.0	(176.0)		
ILG/D 5000/ SP	160:1	7450	(66000)	135	(1195)	55.0	95.0	(209.0)		

Type	A	B	C	D	E	F	G	Øk	ISO top flange valve BC acc. ISO 5211	ISO top flange ac- tuator BC acc. ISO 5211	Bore max.
ILG/D 200	146	145	57	50	139	125	40	16	F05-F07	F07	Ø30
ILG/D 600	194	215	93	63	185	145	43	20	F07-F10-F12	F10-F12	Ø34
ILG/D 900	210	235	100	82	205	150	45	20	F10-F12-F14	F10-F12	Ø45
ILG/D 1500	242	273	105	108	223	168	50	25	F12-F14-F16	F12-F14-F16	Ø50
ILG/D 2400	268	315	110	127	244	190	58	25	F14-F16-F25	F16-F25	Ø60

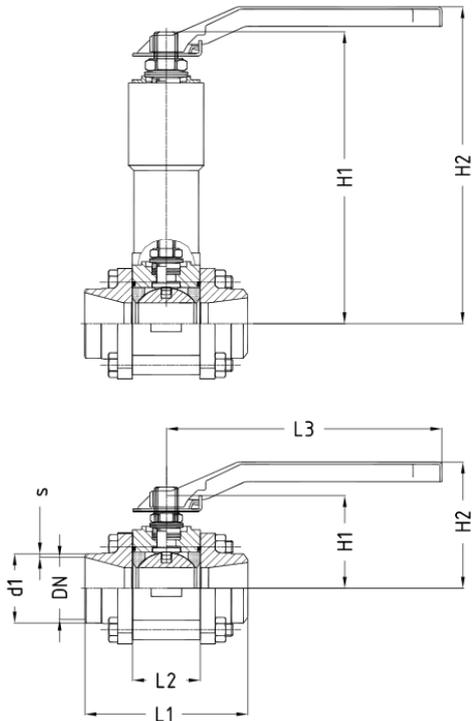
Type	A	B	C	D	E	F	G	Øk	ISO top flange valve BC acc. ISO 5211	ISO top flange ac- tuator BC acc. ISO 5211	Bore max.
ILG/D 5000	295	368	132	154	275	205	68	30	F16-F25	F16-F25	Ø65

## 6 KV D AE HT / KV D AE DV HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

Ball valve - with hand lever for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE!** Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.



Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Welding ends acc. to:										
		ISO Series 1		ANSI Sched 40								
DN	INCH	d1	s	d1	s	L1	L2	L3	H1	H2	H1*)	H2*)
15	1/2"	21.3	2.0	21.3	2.8	65.0	20.4	140	40	55	140	155
20	3/4"	26.9	2.3	26.9	2.9	72.5	24.5	140	42	57	142	157

Nominal size:		Welding ends acc. to:										
25	1"	33.7	2.6	33.7	3.4	85.4	31.4	180	53	74	153	174
32	1 1/4"	42.4	2.6	42.4	3.6	99.3	41.3	180	58	77	158	177
40	1 1/2"	48.3	2.6	48.3	3.7	110.4	48.4	200	71	89	171	189
50	2"	60.3	2.9	60.3	3.9	126.3	56.3	200	76	94	176	194
65	2 1/2"	76.1	2.9	76.1	5.2	142.6	71.4	250	86	110	186	210
80	3"	88.9	3.2	88.9	5.5	169.5	88.9	480	153	161	253	261
100	4"	114.3	3.6	114.3	6.0	214.0	108.5	480	168	176	268	276
125	5"	139.7	4.0	139.7	6.6	277.0	134.6	480	182	190	282	290
150	6"	168.3	4.5	168.3	7.1	307.0	134.6	480	182	190	282	290

Table 1: Dimensions

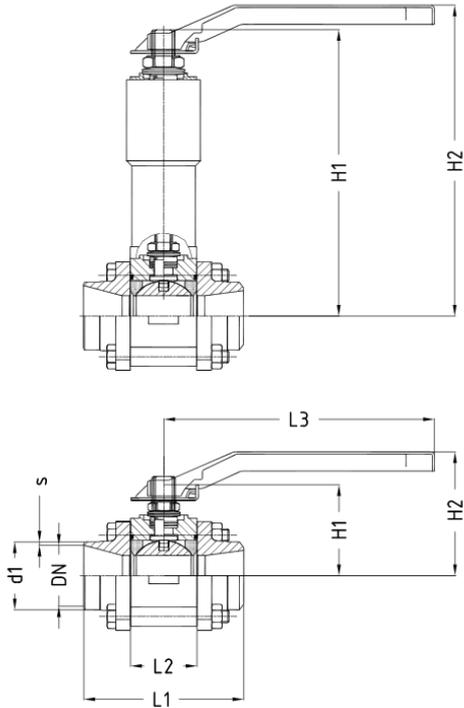
\*) for valves with bonnet extension

## 7 KV D AE NIRO HT / KV D AE DV NIRO HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KV stainless steel ball valve - with hand lever for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Welding ends acc. to:										
		ISO Series 1		ANSI Sched 40								
DN	INCH	d1	s	d1	s	L1	L2	L3	H1	H2	H1*)	H2*)
15	1/2"	21.3	2.0	21.3	2.8	65.0	20.4	140	40	55	140	155
20	3/4"	26.9	2.3	26.9	2.9	72.5	24.5	140	42	57	142	157
25	1"	33.7	2.6	33.7	3.4	85.4	31.4	180	53	74	153	174

Nominal size:	Welding ends acc. to:											
32	1 1/4"	42.4	2.6	42.4	3.6	99.3	41.3	180	58	77	158	177
40	1 1/2"	48.3	2.6	48.3	3.7	110.4	48.4	200	71	89	171	189
50	2"	60.3	2.9	60.3	3.9	126.3	56.3	200	76	94	176	194
65	2 1/2"	76.1	2.9	76.1	5.2	142.6	71.4	250	86	110	186	210
80	3"	88.9	3.2	88.9	5.5	169.5	88.9	480	153	161	253	261
100	4"	114.3	3.6	114.3	6.0	214.0	108.5	480	168	176	268	276
125	5"	139.7	4.0	139.7	6.6	277.0	134.6	480	182	190	282	290
150	6"	168.3	4.5	168.3	7.1	307.0	134.6	480	182	190	282	290

Table 2: Dimensions

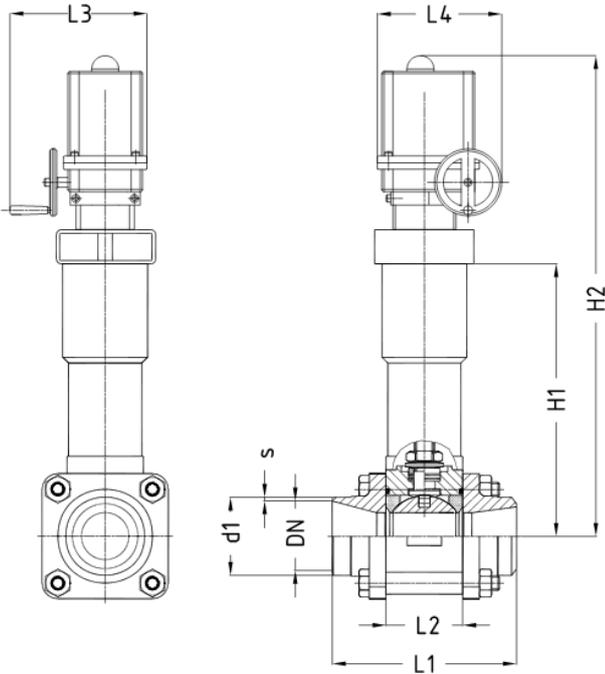
\*) for valves with bonnet extension

## 8 KVE D AE DV HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KVE steel ball valve - with electric actuator for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Permissible ambient temperature for actuator -25°C to +70°C

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Welding ends acc. to:											
DN	INCH	Actuator	Closing pressure	ISO series 1		ANSI Sched 40							
DN	INCH	Type	delta p	d1	s	d1	s	L1	L2	L3	L4	H1	H2
15	1/2"	PSR-E50	40	21.3	2.0	21.3	2.8	65.0	20.4	146	180	140	364
20	3/4"	PSR-E50	40	26.9	2.3	26.9	2.9	72.5	24.5	146	180	142	366

Nominal size:				Welding ends acc. to:									
25	1"	PSR-E50	40	33.7	2.6	33.7	3.4	85.4	31.4	146	180	153	372
32	1 1/4"	PSR-E50	40	42.4	2.6	42.4	3.6	99.3	41.3	146	180	158	370
40	1 1/2"	PSR-E50	25	48.3	2.6	48.3	3.7	110.4	48.4	146	180	171	376
50	2"	PSR-E50	16	60.3	2.9	60.3	3.9	126.3	56.3	146	180	176	380
65	2 1/2"	PSQ 102	25	76.1	2.9	76.1	5.2	142.6	71.4	263	196	186	483
80	3"	PSQ 102	16	88.9	3.2	88.9	5.5	169.5	88.9	263	196	253	542
100	4"	PSQ 202	16	114.3	3.6	114.3	6.0	214.0	108.5	305	227	268	649
125	5"	PSQ 502	16	139.7	4.0	139.7	6.6	277.0	134.6	416	278	282	724
150	6"	PSQ 502	16	168.3	4.5	168.3	7.1	307.0	134.6	416	278	282	724

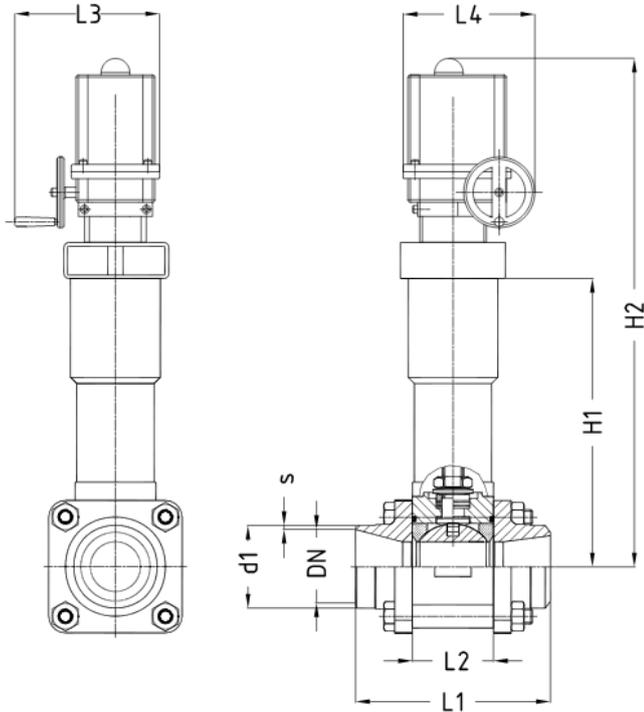
Table 3: Dimensions

## 9 KVE D AE DV NIRO HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KVE stainless steel ball valve - with electric actuator for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Permissible ambient temperature for actuator -25°C to +70°C

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Welding ends acc. to:											
		Actuator	Closing pressure	ISO Series 1		ANSI Sched 40							
DN	INCH	Type	delta p	d1	s	d1	s	L1	L2	L3	L4	H1	H2
15	1/2"	PSR-E50	40	21.3	2.0	21.3	2.8	65.0	20.4	146	180	140	364
20	3/4"	PSR-E50	40	26.9	2.3	26.9	2.9	72.5	24.5	146	180	142	366

Nominal size:				Welding ends acc. to:									
25	1"	PSR-E50	40	33.7	2.6	33.7	3.4	85.4	31.4	146	180	153	372
32	1 1/4"	PSR-E50	40	42.4	2.6	42.4	3.6	99.3	41.3	146	180	158	370
40	1 1/2"	PSR-E50	25	48.3	2.6	48.3	3.7	110.4	48.4	146	180	171	376
50	2"	PSR-E50	16	60.3	2.9	60.3	3.9	126.3	56.3	146	180	176	380
65	2 1/2"	PSQ 102	25	76.1	2.9	76.1	5.2	142.6	71.4	263	196	186	483
80	3"	PSQ 102	16	88.9	3.2	88.9	5.5	169.5	88.9	263	196	253	542
100	4"	PSQ 202	16	114.3	3.6	114.3	6.0	214.0	108.5	305	227	268	649
125	5"	PSQ 502	16	139.7	4.0	139.7	6.6	277.0	134.6	416	278	282	724
150	6"	PSQ 502	16	168.3	4.5	168.3	7.1	307.0	134.6	416	278	282	724

Table 4: Dimensions

## 10 KVP D AE DV HT / KVP D AE DV HN HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HN:** Manual override, **HT:** Temperature up to +200°C  
 KVP steel ball valve - with pneumatic actuator spring-to-close for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

Permissible ambient temperature for actuator -30°C to +90°C.

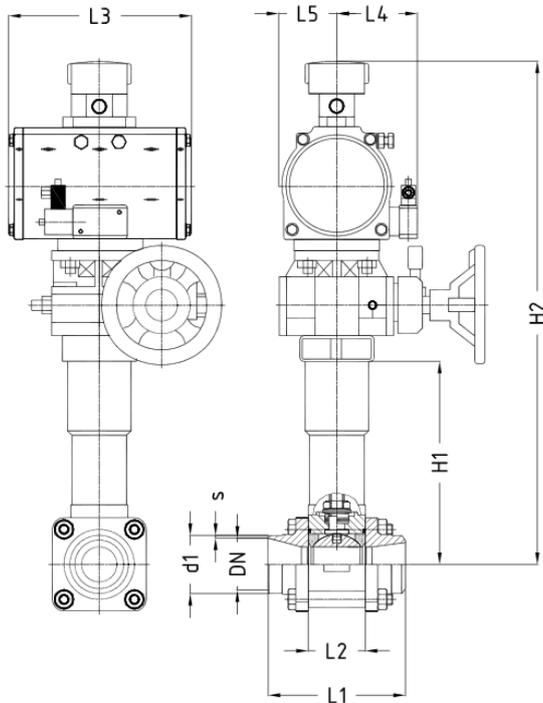


Illustration shows version with optionally available manual override.

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Welding ends acc. to:													
		Actuator	Closing pressure	ISO Series 1		ANSI Sched 40									
DN	INCH	Type	delta p	d1	s	d1	s	L1	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	002-SR5.5	25	21.3	2.0	21.3	2.8	65.0	20.4	156	73	36	140	372	497

Nominal size:		Welding ends acc. to:													
20	3/4"	002-SR5.5	25	26.9	2.3	26.9	2.9	72.5	24.5	156	73	36	142	374	499
25	1"	004-SR5.5	25	33.7	2.6	33.7	3.4	85.4	31.4	172	75	39	153	390	515
32	1 1/4"	009-SR5.5	25	42.4	2.6	42.4	3.6	99.3	41.3	195	89	53	158	417	542
40	1 1/2"	009-SR5.5	25	48.3	2.6	48.3	3.7	110.0	48.4	195	89	53	171	423	548
50	2"	014-SR5.5	25	60.3	2.9	60.3	3.9	126.0	56.3	206	94	58	176	443	568
65	2 1/2"	025-SR5.5	16	76.1	2.9	76.1	5.2	143.0	71.4	242	106	70	186	493	618
80	3"	037-SR5.5	16	88.9	3.2	88.9	5.5	170.0	88.9	285	118	82	253	522	667
100	4"	045-SR5.5	16	114.3	3.6	114.3	6.0	214.0	108.5	334	124	88	268	573	718
125	5"	070-SR5.5	25	139.7	4.0	139.7	6.6	277.0	134.6	394	139	103	282	617	762
150	6"	070-SR5.5	16	168.3	4.5	168.3	7.1	307.0	134.6	394	139	103	282	617	762

Table 5: Dimensions  
H2\* without manual override

## 11 KVP D AE DV NIRO HT / KVP D AE DV HN NIRO HT

**D:** Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HN:** Manual override, **HT:** Temperature up to +200°C  
 KVP steel ball valve - with pneumatic actuator spring-to-close for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**

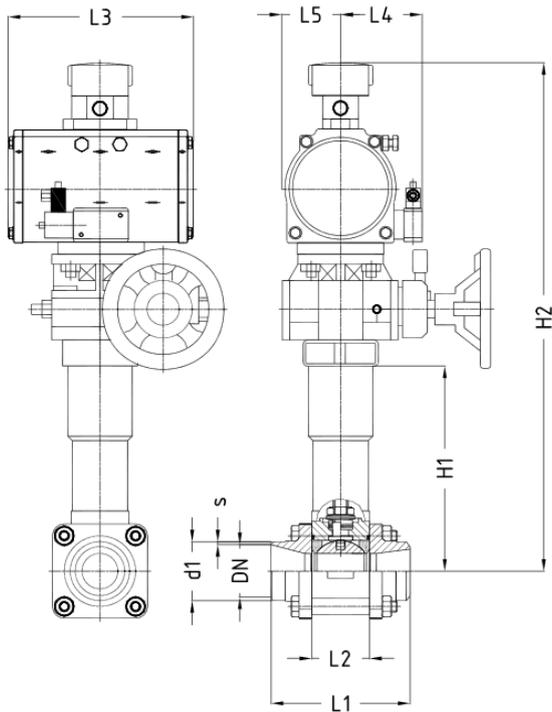


Illustration shows version with optionally available manual override.

Permissible ambient temperature for actuator -30°C to +90°C.

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2"...4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5"...6"	PN40	40	40	8	5	PS [bar]

Nominal size:			Welding ends acc. to:												
DN	INCH	Actuator Type	Closing pressure delta p	ISO Series 1		ANSI Sched 40		L1	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	002-SR5.5	25	d1	s	d1	s	65.0	20.4	156	73	36	140	372	497
20	3/4"	002-SR5.5	25	26.9	2.3	26.9	2.9	72.5	24.5	156	73	36	142	374	499

Nominal size:			Welding ends acc. to:												
25	1"	004-SR5.5	25	33.7	2.6	33.7	3.4	85.4	31.4	172	75	39	153	390	515
32	1 1/4"	009-SR5.5	25	42.4	2.6	42.4	3.6	99.3	41.3	195	89	53	158	417	542
40	1 1/2"	009-SR5.5	25	48.3	2.6	48.3	3.7	110.0	48.4	195	89	53	171	423	548
50	2"	014-SR5.5	25	60.3	2.9	60.3	3.9	126.0	56.3	206	94	58	176	443	568
65	2 1/2"	025-SR5.5	16	76.1	2.9	76.1	5.2	143.0	71.4	242	106	70	186	493	618
80	3"	037-SR5.5	16	88.9	3.2	88.9	5.5	170.0	88.9	285	118	82	253	522	667
100	4"	045-SR5.5	16	114.3	3.6	114.3	6.0	214.0	108.5	334	124	88	268	573	718
125	5"	070-SR5.5	25	139.7	4.0	139.7	6.6	277.0	134.6	394	139	103	282	617	762
150	6"	070-SR5.5	16	168.3	4.5	168.3	7.1	307.0	134.6	394	139	103	282	617	762

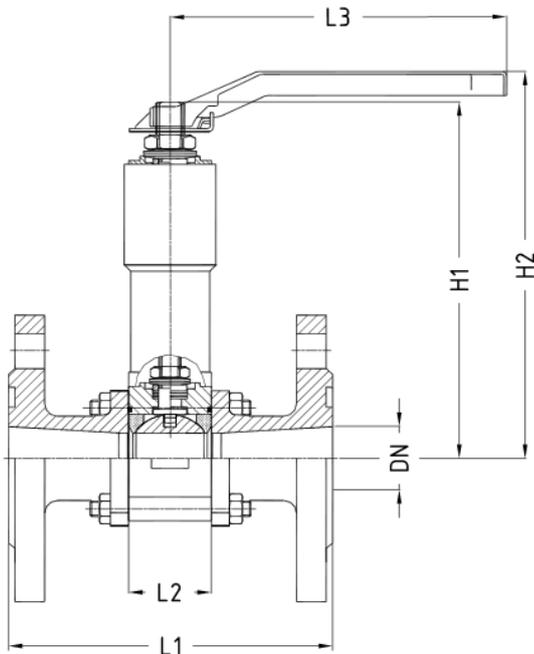
Table 6: Dimensions (H2\*: without manual override)

## 12 KV D FL HT / KV D FL DV HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KV steel ball valve - with hand lever for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Flanged ends acc. to:							
		PN40 DIN		ANSI 300lbs					
DN	INCH	L1	L1	L2	L3	H1	H2	H1*)	H2*)
15	1/2"	130	149	20.4	140	40	55	140	155
20	3/4"	150	174	24.5	140	42	57	142	157
25	1"	160	192	31.4	180	53	74	153	174
32	1 1/4"	180	210	41.3	180	58	77	158	177

Nominal size:		Flanged ends acc. to:							
40	1 1/2"	200	234	48.4	200	71	89	171	189
50	2"	230	261	56.3	200	76	94	176	194
65	2 1/2"	290	326	71.4	250	86	110	186	210
80	3"	310	334	88.9	480	153	161	253	261
100	4"	350	372	108.5	480	168	176	268	276
125	5"	400	442	134.6	480	182	190	282	290
150	6"	480	508	134.6	480	182	190	282	290

Table 7: Dimensions

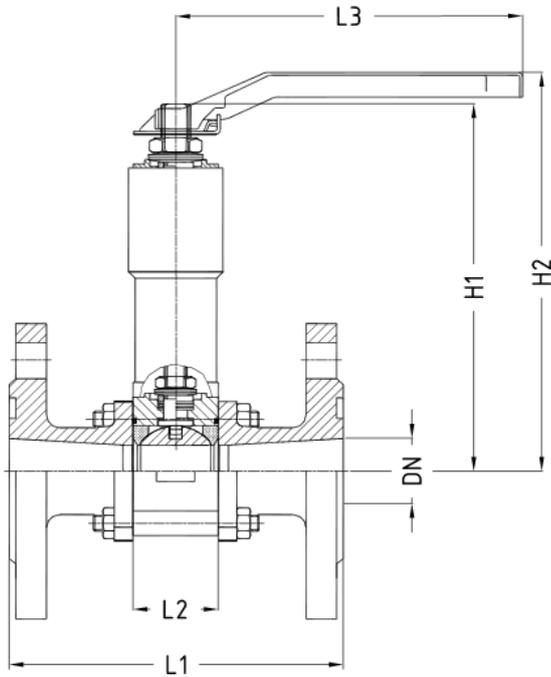
\*) for valves with bonnet extension

### 13 KV D FL NIRO HT / KV D FL DV NIRO HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KV stainless steel ball valve - with hand lever for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size:		Flanged ends acc. to:							
		PN40 DIN		ANSI 300 RF					
DN	INCH	L1	L1	L2	L3	H1	H2	H1*)	H2*)
15	1/2"	130	149	20.4	140	40	55	140	155
20	3/4"	150	174	24.5	140	42	57	142	157
25	1"	160	192	31.4	180	53	74	153	174
32	1 1/4"	180	210	41.3	180	58	77	158	177

Nominal size:		Flanged ends acc. to:							
40	1 1/2"	200	234	48.4	200	71	89	171	189
50	2"	230	261	56.3	200	76	94	176	194
65	2 1/2"	290	326	71.4	250	86	110	186	210
80	3"	310	334	88.9	480	153	161	253	261
100	4"	350	372	108.5	480	168	176	268	276
125	5"	400	442	134.6	480	182	190	282	290
150	6"	480	508	134.6	480	182	190	282	290

Table 8: Dimensions

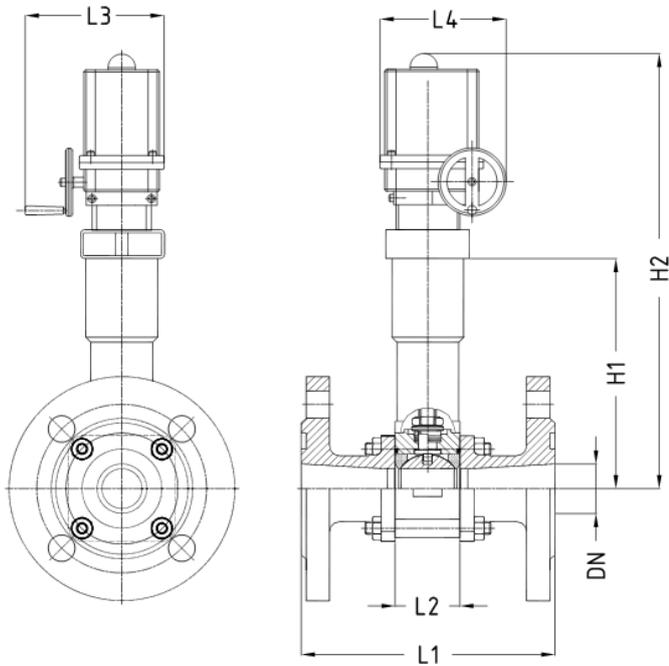
\*) for valves with bonnet extension

## 14 KVE D FL DV HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KVE steel ball valve - with electric actuator for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Permissible ambient temperature for actuator -25°C to +70°C

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2"...4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5"...6"	PN40	40	40	8	5	PS [bar]

Nominal size		Flanged ends acc. to:								
		Actuator	Closing pressure	PN40 DIN	ANSI 300 RF					
DN	INCH	Type	delta p	L1	L1	L2	L3	L4	H1	H2
15	1/2"	PSR-E50	40	130	149	20.4	146	180	140	364
20	3/4"	PSR-E50	40	150	174	24.5	146	180	142	366

Nominal size		Flanged ends acc. to:								
25	1"	PSR-E50	40	160	192	31.4	146	180	153	372
32	1 1/4"	PSR-E50	40	180	210	41.3	146	180	158	370
40	1 1/2"	PSR-E50	25	200	234	48.4	146	180	171	376
50	2"	PSR-E50	16	230	261	56.3	146	180	176	380
65	2 1/2"	PSQ 102	25	290	326	71.4	263	196	186	483
80	3"	PSQ 102	16	310	334	88.9	263	196	253	542
100	4"	PSQ 202	16	350	372	108.5	305	227	268	649
125	5"	PSQ 502	16	400	442	134.6	416	278	282	724
150	6"	PSQ 502	16	480	508	134.6	416	278	282	724

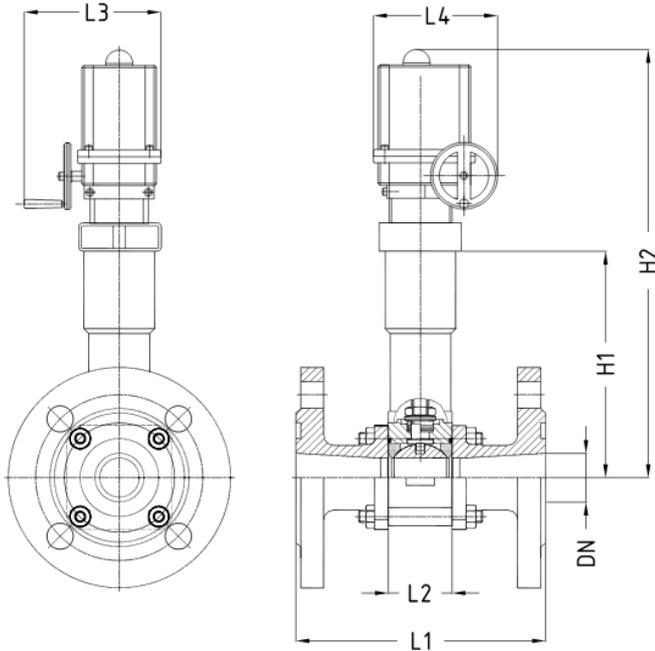
Table 9: Dimensions

## 15 KVE D FL DV NIRO HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HT:** Temperature up to +200°C

KVE stainless steel ball valve - with electric actuator for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow.**



Permissible ambient temperature for actuator -25°C to +70°C

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size		Flanged ends acc. to:								
		Actuator	Closing pressure	PN40 DIN	ANSI 300 RF					
DN	INCH	Type	delta p	L1	L1	L2	L3	L4	H1	H2
15	1/2"	PSR-E50	40	130	149	20.4	146	180	140	364
20	3/4"	PSR-E50	40	150	174	24.5	146	180	142	366

Nominal size		Flanged ends acc. to:								
25	1"	PSR-E50	40	160	192	31.4	146	180	153	372
32	1 1/4"	PSR-E50	40	180	210	41.3	146	180	158	370
40	1 1/2"	PSR-E50	25	200	234	48.4	146	180	171	376
50	2"	PSR-E50	16	230	261	56.3	146	180	176	380
65	2 1/2"	PSQ 102	25	290	326	71.4	263	196	186	483
80	3"	PSQ 102	16	310	334	88.9	263	196	253	542
100	4"	PSQ 202	16	350	372	108.5	305	227	268	649
125	5"	PSQ 502	16	400	442	134.6	416	278	282	724
150	6"	PSQ 502	16	480	508	134.6	416	278	282	724

Table 10: Dimensions

## 16 KVP D FL DV HT/ KVP D FL DV HN HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HN:** Manual override, **HT:** Temperature up to +200°C  
 KVP steel ball valve - with pneumatic actuator spring-to-close for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow. Permissible ambient temperature for actuator -30°C to +90°C.**

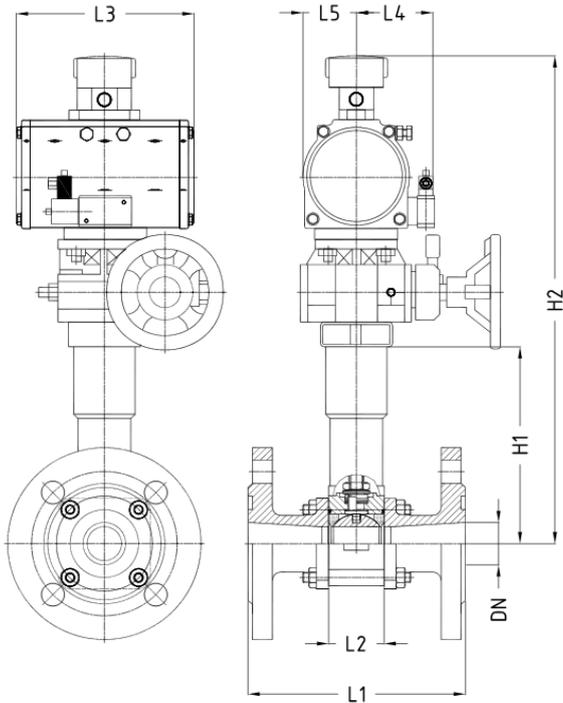


Illustration shows version with optionally available manual override.

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5" ... 6"	PN40	40	40	8	5	PS [bar]

Nominal size		Flanged ends acc. to:										
		Actuator	Closing pressure	PN40 DIN	ANSI 300 RF							
DN	INCH	Type	delta p	L1	L1	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	002-SR5.5	25	130	149	20.4	156	73	36	140	372	497
20	3/4"	002-SR5.5	25	150	174	24.5	156	73	36	142	374	499

Nominal size			Flanged ends acc. to:									
25	1"	004-SR5.5	25	160	192	31.4	172	75	39	153	390	515
32	1 1/4"	009-SR5.5	25	180	210	41.3	195	89	53	158	417	542
40	1 1/2"	009-SR5.5	25	200	234	48.4	195	89	53	171	423	548
50	2"	014-SR5.5	25	230	261	56.3	206	94	58	176	443	568
65	2 1/2"	025-SR5.5	16	290	326	71.4	242	106	70	186	493	618
80	3"	037-SR5.5	16	310	334	88.9	285	118	82	253	522	667
100	4"	045-SR5.5	16	350	372	108.5	334	124	88	268	573	718
125	5"	070-SR5.5	25	400	442	134.6	394	139	103	282	617	762
150	6"	070-SR5.5	16	480	508	134.6	394	139	103	282	617	762

Table 11: Dimensions  
H2\* without manual override

## 17 KVP D FL DV NIRO HT / KVP D FL DV HN NIRO HT

**D:** Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HN:** Manual override, **HT:** Temperature up to +200°C  
 KVP steel ball valve - with pneumatic actuator spring-to-close for natural gases and liquids (e.g. NH<sub>3</sub>, CO<sub>2</sub>) and non-corrosive media according to EN 378-1

**NOTICE! Standard ball valves have a reduced bore. The ball has a pressure relief hole and therefore only seals tightly in the direction of flow. Permissible ambient temperature for actuator -30°C to +90°C.**

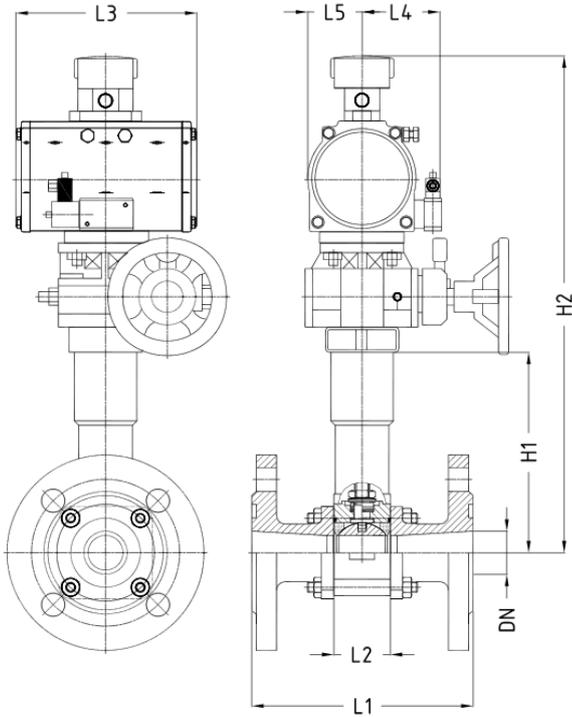


Illustration shows version with optionally available manual override.

Pressure / temperature operating limits according to AD data sheet W10 for load case II:

Pressure / temperature operating limits:

**PS:** Max. permissible operating pressure in bar

**TS:** Permissible operating temperature in °C associated with the permissible operating pressures (PS)

**PN:** Nominal pressure rating

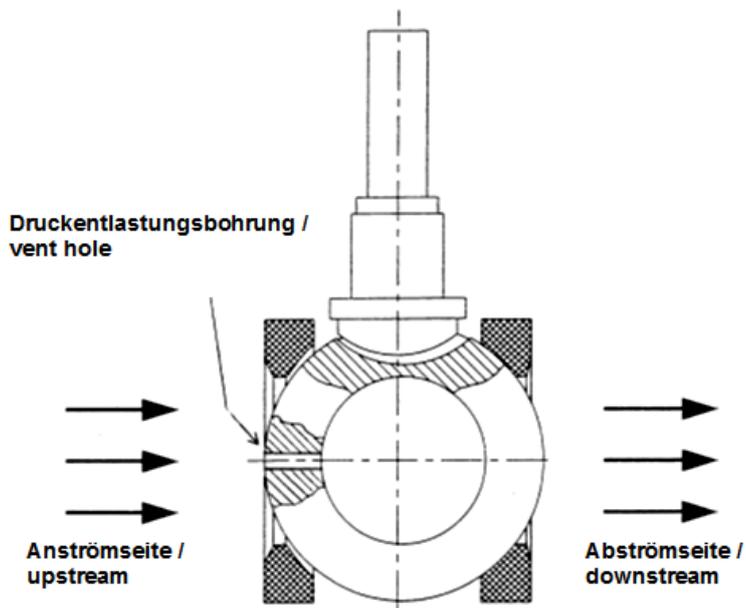
DN / INCH	PN	-10	+50	+150	+200	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	24	13	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	16	9	PS [bar]
DN 65...100 1 1/2"...4"	PN40	40	40	11	7	PS [bar]
DN 125...150 5"...6"	PN40	40	40	8	5	PS [bar]

Nominal size				Flanged ends acc. to:								
DN	INCH	Actuator Type	Closing pressure delta p	PN40 DIN	ANSI 300 RF	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	002-SR5.5	25	130	149	20.4	156	73	36	140	372	497

Nominal size			Flanged ends acc. to:									
20	3/4"	002-SR5.5	25	150	174	24.5	156	73	36	142	374	499
25	1"	004-SR5.5	25	160	192	31.4	172	75	39	153	390	515
32	1 1/4"	009-SR5.5	25	180	210	41.3	195	89	53	158	417	542
40	1 1/2"	009-SR5.5	25	200	234	48.4	195	89	53	171	423	548
50	2"	014-SR5.5	25	230	261	56.3	206	94	58	176	443	568
65	2 1/2"	025-SR5.5	16	290	326	71.4	242	106	70	186	493	618
80	3"	037-SR5.5	16	310	334	88.9	285	118	82	253	522	667
100	4"	045-SR5.5	16	350	372	108.5	334	124	88	268	573	718
125	5"	070-SR5.5	25	400	442	134.6	394	139	103	282	617	762
150	6"	070-SR5.5	16	480	508	134.6	394	139	103	282	617	762

Table 12: Dimensions  
H2\* without manual override

## 18 Pressure relief hole in ball valves, type KV, KVE, KVP

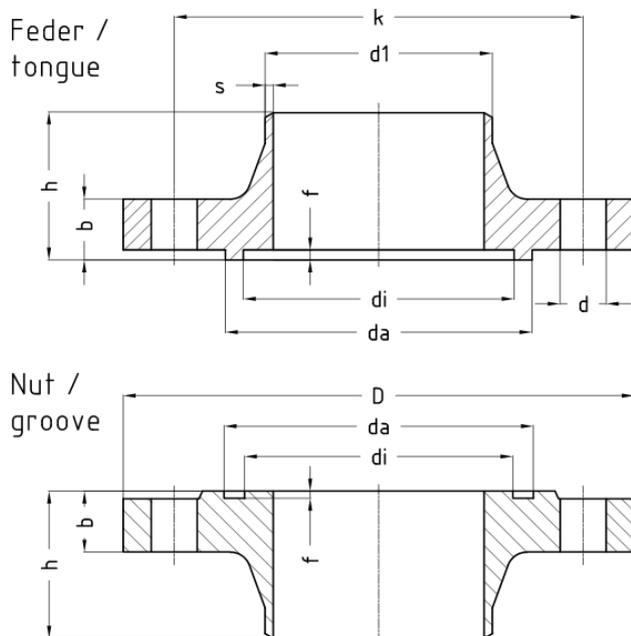


In the closed position, the pressure relief hole of approx. 2-4 mm allows trapped liquid refrigerant to degas towards the upstream side. The direction of flow is marked with an arrow. The installation position in the direction of flow is mandatory, as the ball only seals tightly in the direction of flow.

## 19 Welding neck flanges - DIN 2634/2635

- DIN-FL N
- DIN-FL F
- DIN-FL C
- DIN-FL D
- FL - flange
- Form N - groove
- Form F - tongue
- Form C - smooth flange facing
- Form D - smooth flange facing

DN 10-150 DIN 2635 PN 40,  
DN 200 DIN 2634 PN 25



DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400																				
Welding ends					Flange facing design											Screws DIN 931			Sealing ring DIN 2691	
Series 1		Series 2			Groove						Tongue					Quant- ity	Thread	Lengt h	di	da
DN	d1	s	d1	s	b	k	h	d	D	di	da	f	di	da	f					
10	17.2	1.8	15.0	2.5	1 6	60	35	1 4	90	23	35	2. 5	24	34	4. 0	4	M 12	45	24	34
15	21.3	2.0	20.0	2.5	1 6	65	38	1 4	95	28	40	2. 5	29	39	4. 0	4	M 12	45	29	39
20	26.9	2.3	25.0	2.5	1 8	75	40	1 4	10 5	35	51	2. 5	36	50	4. 0	4	M 12	50	36	50
25	33.7	2.6	32.0	3.0	1 8	85	40	1 4	11 5	42	58	2. 5	43	57	4. 0	4	M 12	50	43	57
32	42.4	2.6	38.0	3.0	1 8	10 0	42	1 8	14 0	50	66	2. 5	51	65	4. 0	4	M 16	55	51	65

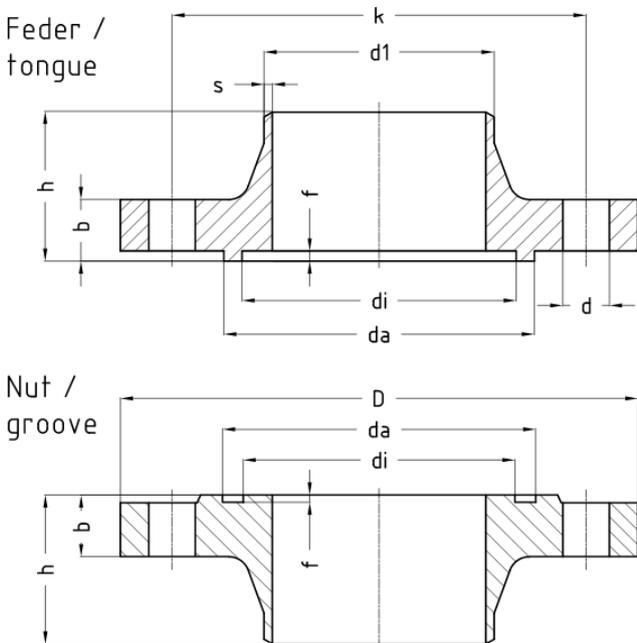
DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400																				
40	48.3	2.6	45.0	3.0	1 8	11 0	45	1 8	15 0	60	76	2. 5	61	75	4. 0	4	M 16	55	61	75
50	60.3	2.9	57.0	3.2	2 0	12 5	48	1 8	16 5	72	88	2. 5	73	87	4. 0	4	M 16	60	73	87
65	76.1	2.9	76.1	3.6	2 2	14 5	52	1 8	18 5	94	11 0	2. 5	95	10 9	4. 0	8	M 16	60	95	109
80	88.9	3.2	88.9	4.0	2 4	16 0	58	1 8	20 0	10 5	12 1	2. 5	10 6	12 0	4. 0	8	M 16	65	106	120
100	114.3	3.6	108.0	4.0	2 4	19 0	65	2 2	23 5	12 8	15 0	3. 0	12 9	14 9	4. 5	8	M 20	70	129	149
125	139.7	4.0	133.0	4.0	2 6	22 0	68	2 6	27 0	15 4	17 6	3. 0	15 5	17 5	4. 5	8	M 24	80	155	175
150	168.3	4.5	159.0	4.5	2 8	25 0	75	2 6	30 0	18 2	20 4	3. 0	18 3	20 3	4. 5	8	M 24	80	183	203
200	219.1	6.3			3 4	32 0	88	3 0	37 5	23 8	26 0	3. 0	23 9	25 9	4. 5	12	M 27	100	239	259
250	273.0	7.1			3 8	38 5	105	3 3	45 0	29 1	31 3	3. 0	29 2	31 2	4. 5	12	M 30	110	292	312
300	323.9	8.0			4 2	45 0	115	3 3	51 5	34 2	36 4	3. 0	34 3	36 3	4. 5	16	M 30	120	343	363
350	355.6	8.8			4 6	51 0	125	3 6	58 0	39 4	42 2	3. 5	39 5	42 1	5. 0	16	M 33	130	395	421
400	406.4	11.0			5 0	58 5	135	3 9	66 0	44 6	47 4	3. 5	44 7	47 3	5. 0	16	M 36	140	447	473

Table 13: Installation lengths

## 20 Welding neck flanges - DIN 2634/2636/2637

- DIN-FL N
- DIN-FL F
- DIN-FL C
- DIN-FL D
- FL - flange
- Form N - groove
- Form F - tongue
- Form C - smooth flange facing (Rz 160) DIN 2526
- Form D - smooth face facing (Rz 40) DIN 2526

DN 10-150 DIN 2635 PN 40,  
DN 200 DIN 2634 PN 25



### DIN 2634 PN25 DN200-500

DN	Welding ends		Flange facing design										Screws DIN 931			Sealing ring DIN 2691		
	d1	s	Groove					Tongue					Quant-ity	Thread	Lengt h	d <sub>i</sub>	d <sub>a</sub>	
200	219.1	6.3	30	310	80	26	360	238	260	3.0	239	259	4.5	12	M 24	90	239	259
250	273.0	7.1	32	370	88	30	425	291	313	3.0	292	312	4.5	12	M 27	90	292	312
300	323.9	8.0	34	430	92	30	485	342	364	3.0	343	363	4.5	16	M 27	100	343	363
350	355.6	8.0	38	490	103	35	554	392	425	3.5	393	421	5.0	16	M 30	110	395	421
400	406.4	8.8	40	550	113	36	620	446	474	3.5	447	473	5.0	16	M 33	120	447	473

DIN 2634 PN25 DN200-500																		
500	508.0	10.0	44	660	125	36	730	548	576	35	549	575	5.0	20	M 33	130	549	575
DIN2636 PN63 DN10-40 / DIN 2637 PN100 DN10-40																		
DN	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Lengt h	di	Da
10	17.2	2.0	20	70	45	14	100	23	35	2.5	24	34	4.0	4	M 12	55	24	34
15	21.3	2.0	20	75	45	14	105	28	40	2.5	29	39	4.0	4	M 12	55	29	39
20	26.9	2.6	22	90	48	18	130	35	51	2.5	36	50	4.0	4	M 16	60	36	50
25	33.7	2.6	24	10	58	18	140	42	58	2.5	43	57	4.0	4	M 16	65	43	57
32	42.4	2.9	24	11	60	22	150	50	66	2.5	51	65	4.0	4	M 20	70	51	65
40	48.3	2.9	26	12	62	22	170	60	76	2.5	61	75	4.0	4	M 20	70	61	75
DIN 2636 PN63 DN50-125																		
DN	d1	S	b	k	h	d	D	di	da	f	di	da	f	Quant-ity	Thread	Lengt h	di	da
50	60.3	2.9	26	13	62	22	180	72	88	2.5	73	87	4.0	4	M 20	75	73	87
65	76.1	3.2	26	16	68	22	205	94	110	2.5	95	109	4.0	8	M 20	75	95	109
80	88.9	3.6	28	17	72	22	215	105	121	2.5	106	120	4.0	8	M 20	75	106	120
100	114.3	4.0	30	20	78	26	250	128	150	3.0	129	149	4.5	8	M 24	90	129	149
125	139.7	4.5	34	24	88	30	295	154	176	3.0	155	175	4.5	8	M 27	100	155	175

Table 14: Installation lengths

## 21 Appendix

Comparison of European / American materials

GEA AWP valves contain individual parts in different materials. The following table contains all materials that GEA AWP uses for pressure-retaining parts and lists the equivalent American materials.

European material		American equivalent material		
Material number	Short name	Standard	Material standard	Grade
Valves made of carbon steel				
1.0345	P235GH, TC1 +N	DIN EN 10216-2	ASME SA-106	A + B
1.0038	S235JR +N	DIN EN 10025-2	ASME SA-570	36
1.0425	P265GH	DIN EN 10028-2	ASME SA-516	60
1.0577	S355J2 +N	DIN EN 10025-2	ASME SA-516	65
1.0562	P355N	DIN EN 10028-3		
1.0460	C22.8	VdTÜV 350/3	ASME SA-105	-
Valves made of low-temperature steel				
1.0451	P215NL +N	DIN EN 10216-4	ASME SA-333	6
1.0452	P255QL +QT	DIN EN 10216-4		
1.0566	P355NL1 +N	DIN EN 10028-3 DIN 17103 VdTÜV 354/3	ASME SA-662 ASME SA-420 ASME SA-350	B WPL6 LF2
1.0488	TStE 285	DIN 17103 VdTÜV 352/3	ASME SA-662 ASME SA-350	A LF2
Valves made of stainless steel				
1.4301	X5CrNi18-10	DIN EN 10216-5 DIN EN 10028-7 DIN EN 10222-5 DIN EN 1092-1	ASME SA-312 ASME SA-240 ASME SA-182	TP304 304 F304

Straight-way valves in non-standard design (e.g. deviating materials, third-party inspection) are only available in angle-seat form.

## 22 Legal notices

- GEA AWP valves must be handled in accordance with the GEA AWP operating regulations.
- The safety instructions mentioned in the operating regulations must be observed.
- A hazard analysis is available for GEA AWP valves.
- GEA AWP valves must only be handled by authorised persons.
- The instructions for the use of personal protective equipment (PPE) must be observed.
- GEA AWP valves must be used for their intended purpose.
- This catalogue has been carefully created and checked; however, it may still contain errors. The technical specifications given in the catalogue are not contractually guaranteed properties. Technical specifications are only binding if they have been confirmed by us in writing.
- We reserve the right to make technical changes.
- Further information on our declarations of conformity, operating regulations, calculation software and the general terms and conditions can be found on our website [www.awpvalves.com](http://www.awpvalves.com) under the Tools/Downloads tab.
- Our general terms and conditions apply.

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