

BALL / BUTTERFLY VALVES FOR REFRIGERA- TION

KV/KVplus, AK/AKplus

27.07.2026



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1 KV/KVplus AK/AKplus

KV/KVplus: ball valves - with and without actuator

KV/KVplus	Connection	Form	Material	Valve type
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 KVplus AE / DV
			NIRO	KV D AE / DV NIRO
			St	KVE D AE DV KVEplus D AE DV
			NIRO	KVE D AE DV NIRO
			St	KVP D AE DV / HN KVPplus 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		

AK/AKplus: butterfly valves - with and without actuator

AK	Connection	Form	Material	Valve type
AK/AKplus PS25	Flanged ends	Straight-way	St	AK FL AKplus FL
			NIRO	AK FL NIRO
			St	AKE FL AKEplus FL
			NIRO	AKE FL NIRO
			St	AKP FL / HN AKPplus FL / HN
			NIRO	AKP FL / HN NIRO

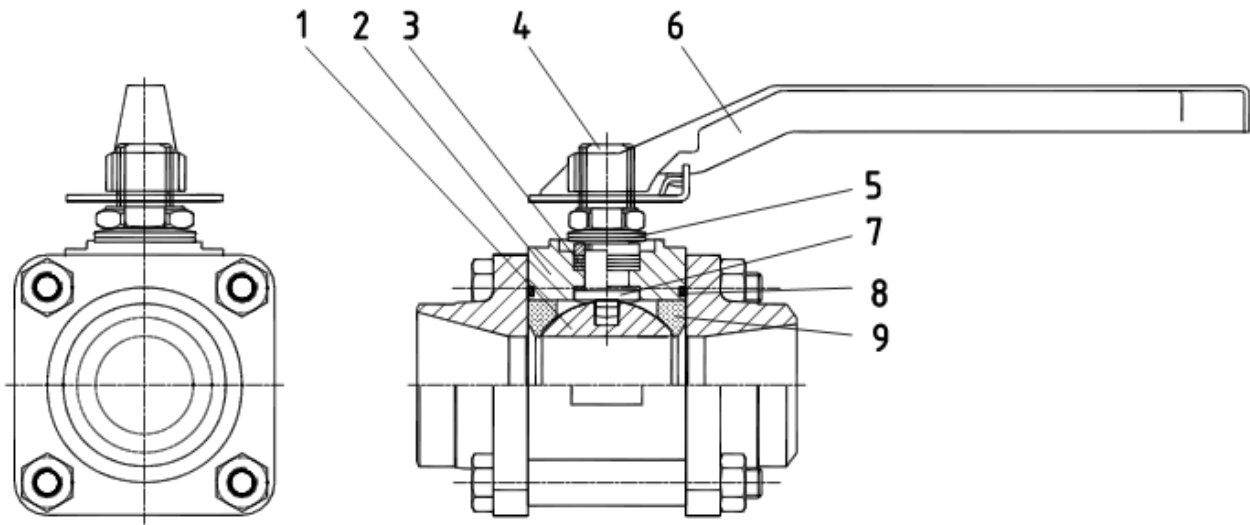
DV = optional bonnet extension, St = steel, NIRO = stainless steel

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

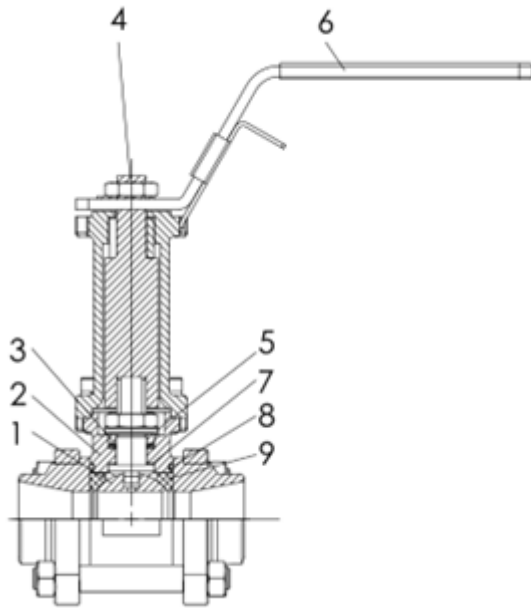
Properties:

- 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 KVplus materials

Designation and materials

KVplus HT ball valve



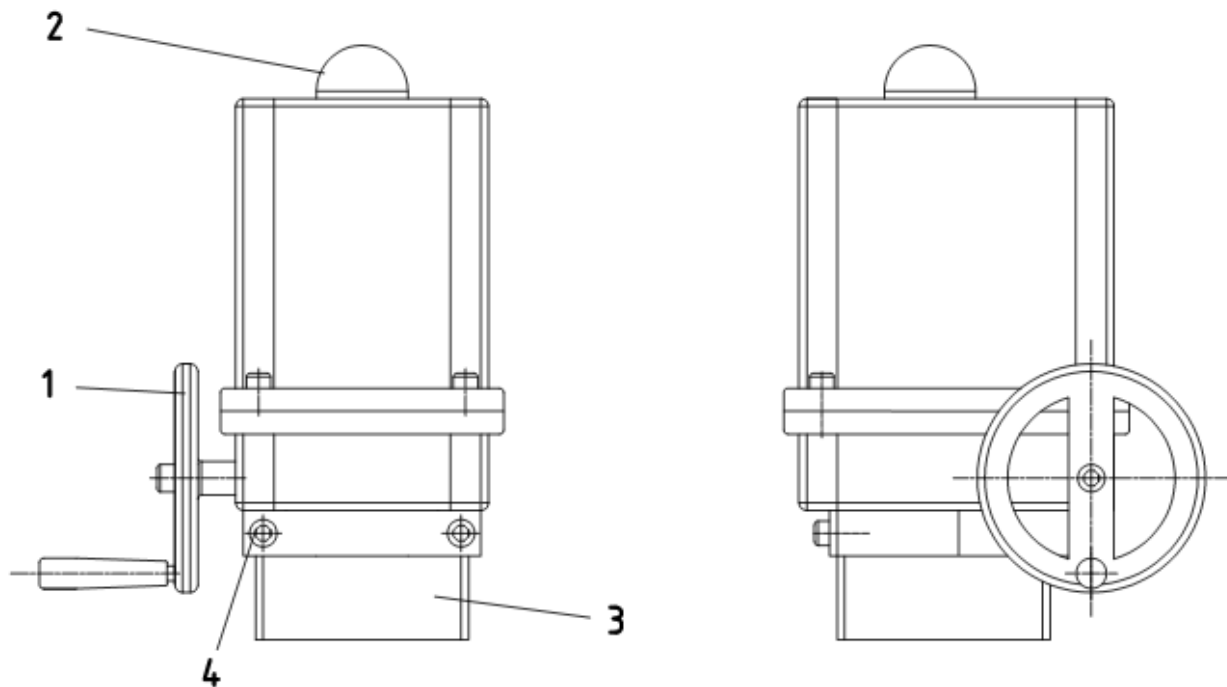
	Part	Material for steel valves
1	Ball	GX5CrNiMo19-11-2 1.4408
2	Body	GP240GH 1.0619
3	Gland	PTFE
4	Stem	Stainless steel
5	Disc spring	Stainless steel
6	Hand lever	Stainless steel
7	Shaft seal	PEEK coated PTFE
8	Body	PTFE
9	Seat	PTFE

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.

4 E accessories

E - PS electric actuator



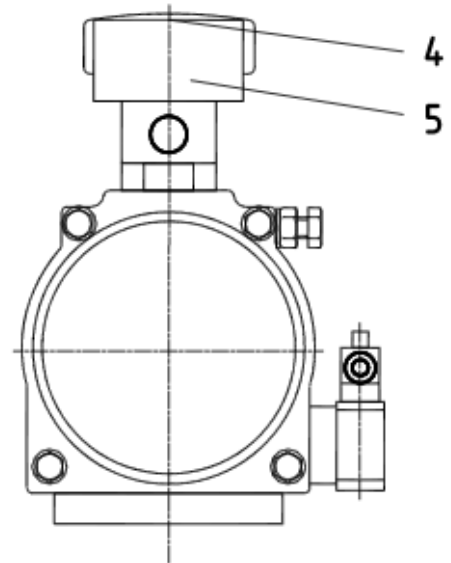
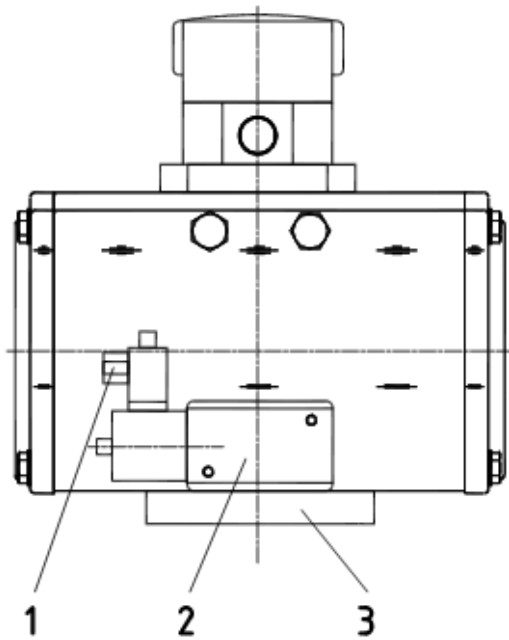
Part		Material for steel valves	Material for stainless steel valves
1	Handwheel	Steel Plastic	Steel
2	Position indicator	Plastic	Plastic
3	Mounting flange	Steel	Steel
4	Power connection	Plastic	Plastic

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

5 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

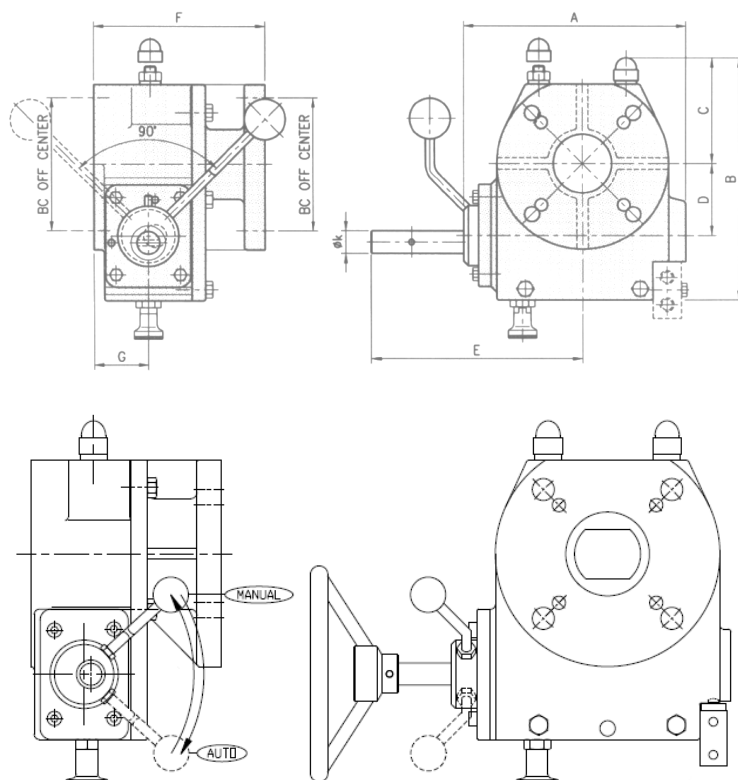
Properties:

- 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

6 HN accessories

HN - manual override for pneumatic actuator



Type	Ratio	Torque				M.A. ± 10%	Weight			
		Outlet		Inlet						
		Nm	lbf. inch	Nm	lbf. inch		kg	Lb.		
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)		

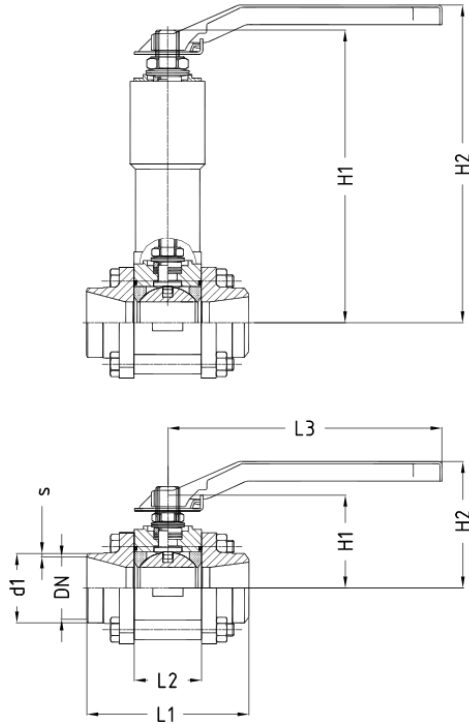
Type	A	B	C	D	E	F	G	Øk	ISO top flange valve BC acc. ISO 5211	ISO top flange actuator BC acc. ISO 5211	Bore max.
ILG/D 200	146	145	57	50	139	125	40	16	F05-F07	F07	Ø30
ILG/D 600	194	215	93	63	185	145	43	20	F07-F10-F12	F10-F12	Ø34
ILG/D 900	210	235	100	82	205	150	45	20	F10-F12-F14	F10-F12	Ø45
ILG/D 1500	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
ILG/D 5000	295	368	132	154	275	205	68	30	F16-F25	F16-F25	Ø65

7 KV D AE/ KV D AE DV

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

Ball valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	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	
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	

Nominal size:		Welding ends acc. to:										
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

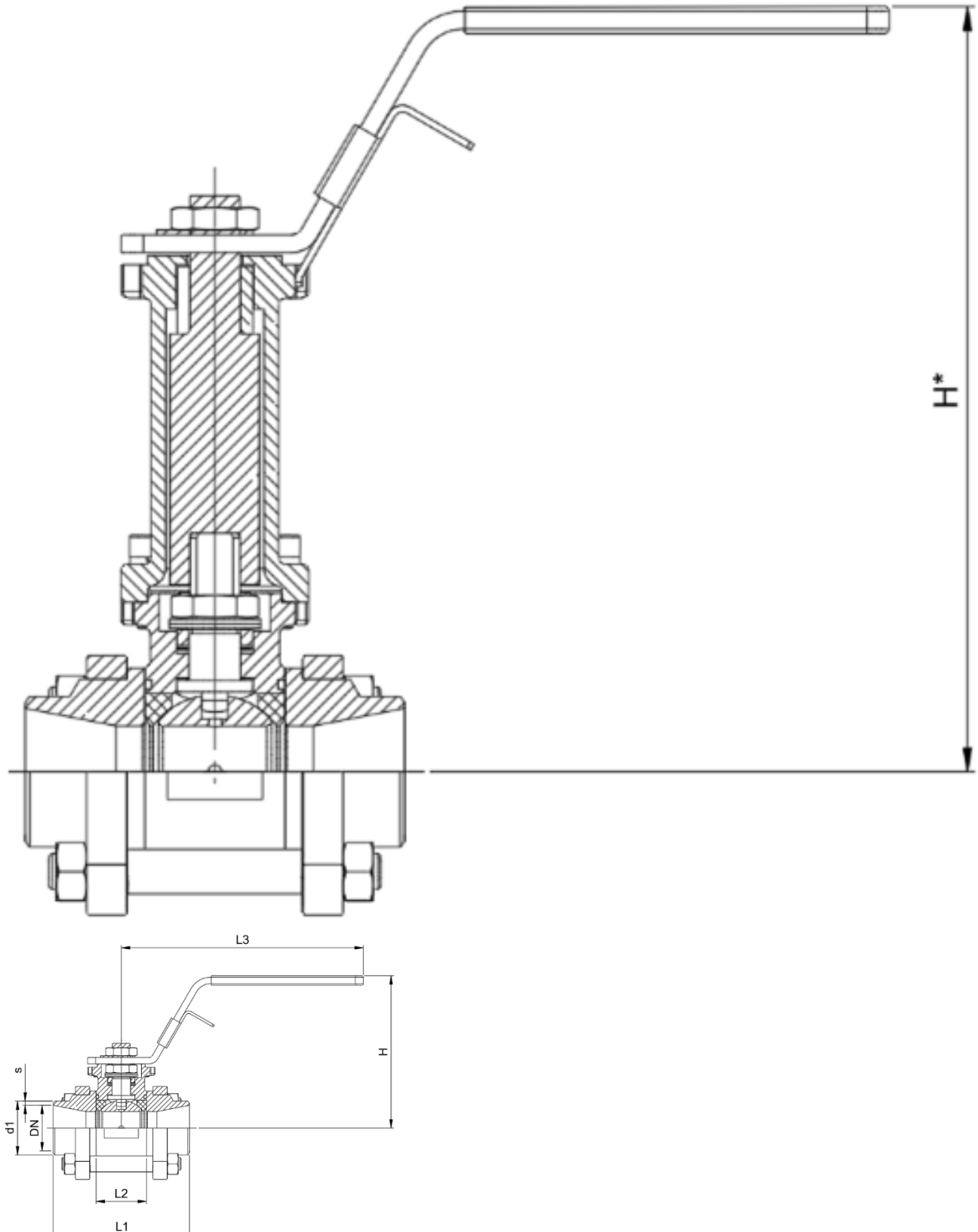
*) for valves with bonnet extension

8 KVplus D AE/ KVplus D AE DV

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

Ball valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	37.5	40	40	11	PS [bar]
DN 125...200 5"...8"	PN40	30	40	40	8	PS [bar]

Nominal size:		Welding ends acc. to:								
		ISO Series 1								
DN	INCH	d1	s			L1	L2	L3	H	H*
15	1/2"	21.3	2.0			65	20.4	150	85	160
20	3/4"	26.9	2.3			70	24.5	150	88	163
25	1"	33.7	2.6			85	31.4	150	95	170
32	1 1/4"	42.4	2.6			100	41.3	150	100	175
40	1 1/2"	48.3	2.6			110	48.4	200	125	200
50	2"	60.3	2.9			125	56.3	200	130	205
65	2 1/2"	76.1	2.9			143	71.4	250	158	229
80	3"	88.9	3.2			170	88.9	480	206	281
100	4"	114.3	3.6			214	108.5	510	221	322
125	5"	139.7	4.0			277	134.6	510	235	335
150	6"	168.3	4.5			307	134.6	510	235	335
200	8"	219.1	6.3			409	189.1	510	318	420

Table 2: Dimensions

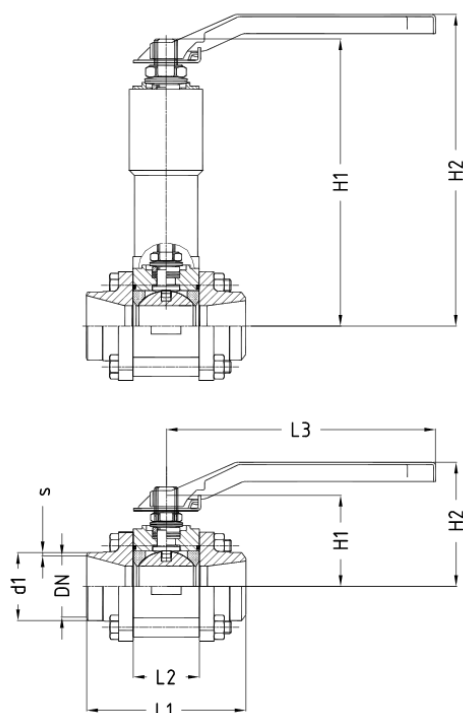
*) for valves with bonnet extension

9 KV D AE NIRO / KV D AE DV NIRO

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

KV stainless steel ball valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	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
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

Nominal size:		Welding ends acc. to:										
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 3: Dimensions

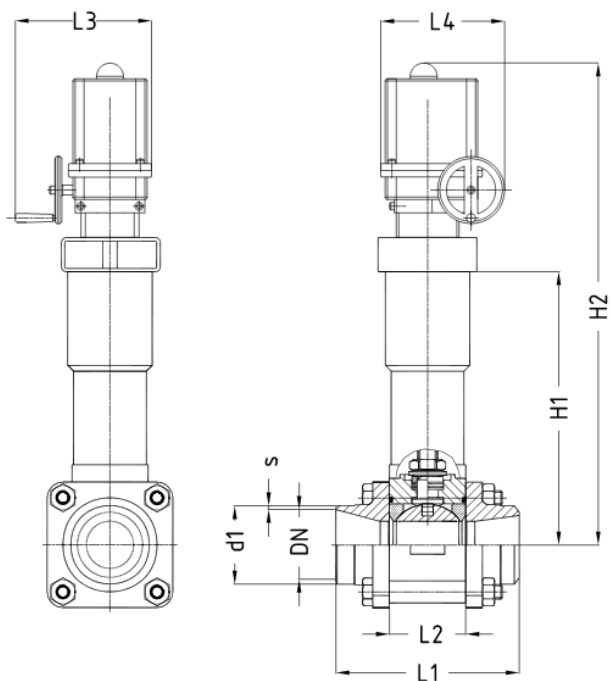
*) for valves with bonnet extension

10 KVE D AE DV

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

KVE steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	PS [bar]

Nominal size:		Welding ends acc. to:											
DN	INCH	Actuator	Closing pressure	ISO series 1		ANSI Sched 40		L1	L2	L3	L4	H1	H2
		Type	delta p	d1	s	d1	s						
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
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

Nominal size:				Welding ends acc. to:									
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

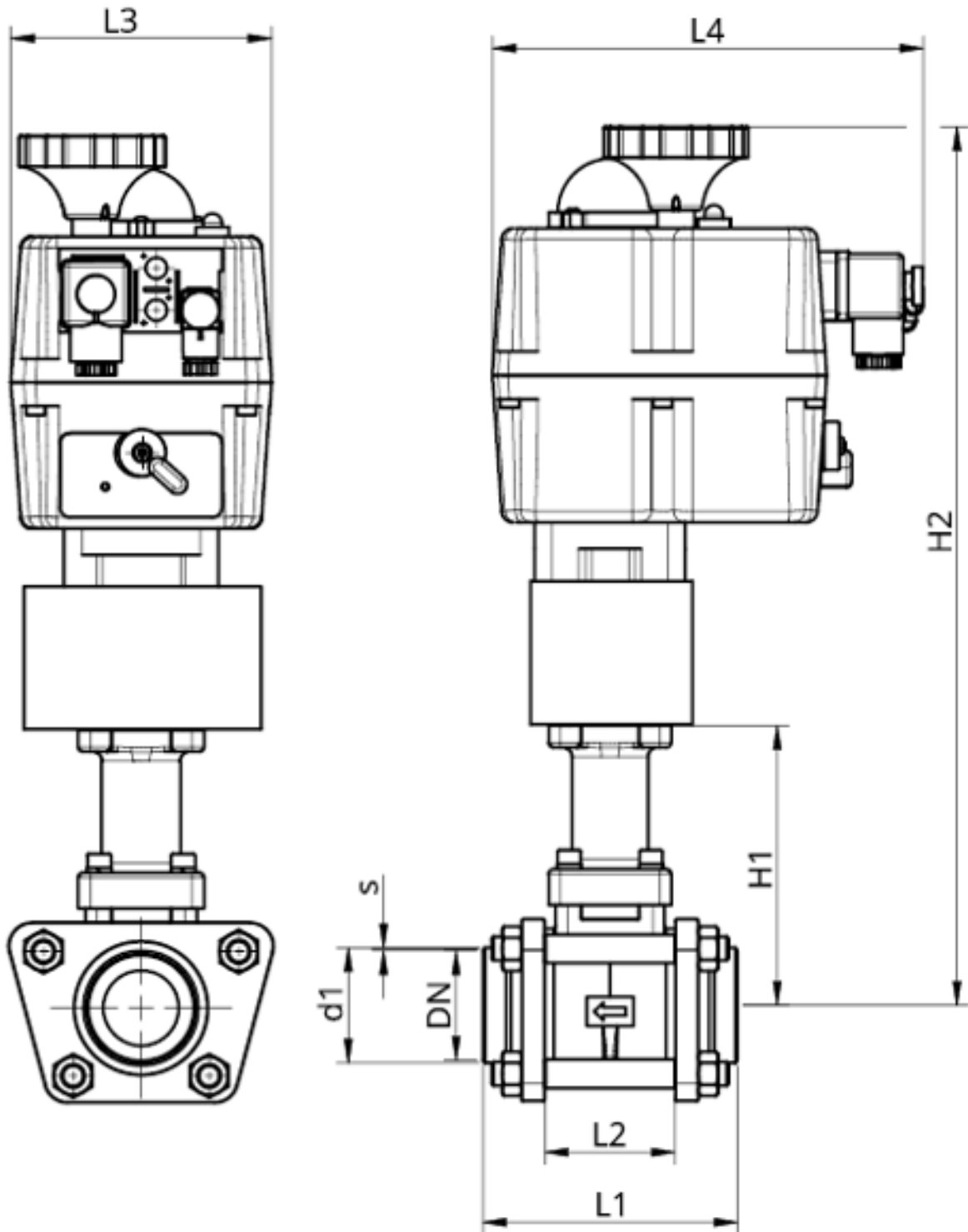
Table 4: Dimensions

11 KVEplus D AE DV

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

KVEplus steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	PS [bar]

Nominal size				Welding ends acc. to:							
		Actuator	Closing pressure	ISO series 1							
DN	INCH	Type	delta p	d1	s	L1	L2	L3	L4	H1	H2
15	1/2"	J4C-S20	40	21.3	2.0	65	20.4	110	181	105	334
20	3/4"	J4C-S20	40	26.9	2.3	70	24.5	110	181	107	336
25	1"	J4C-S20	40	33.7	2.6	85	31.4	110	181	113	342
32	1 1/4"	J4C-S35	40	42.4	2.6	100	41.3	110	181	111	340
40	1 1/2"	J4C-S55	25	48.3	2.6	110	48.4	110	181	117	346
50	2"	J4C-S55	16	60.3	2.9	125	56.3	110	181	121	377
65	2 1/2"	J4C-S140	25	76.1	2.9	143	71.4	214	235	145	374
80	3"	J4C-S300	16	88.9	3.2	170	88.9	214	235	174	459
100	4"	J4C-S300	16	114.3	3.6	214	108.5	214	235	189	523
125	5"	J4C-S300	16	139.7	4.0	277	134.6	214	235	203	537
150	6"	J4C-S300	16	168.3	4.5	307	189.1	214	235	203	537
200	8"	OOM6									

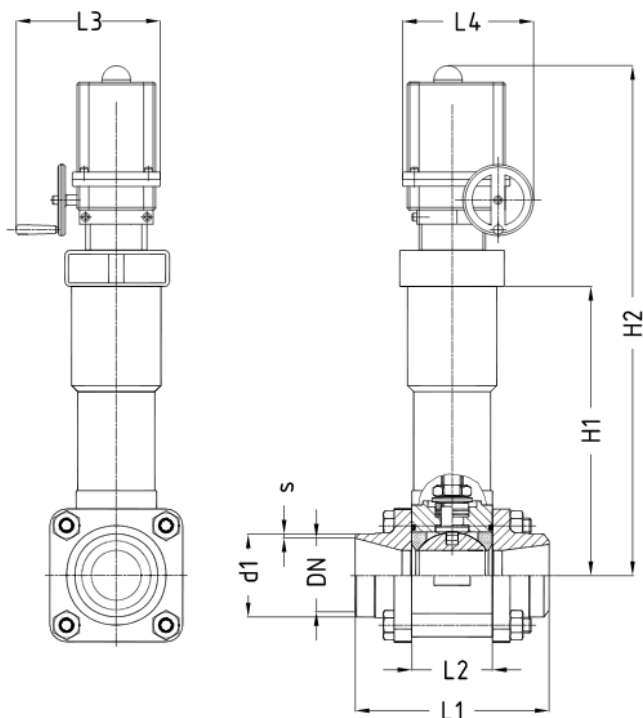
Table 5: Dimensions

12 KVE D AE DV NIRO

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension

KVE stainless steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5"...6"	PN40	30	40	40	8	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
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

Nominal size:				Welding ends acc. to:									
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 6: Dimensions

13 KVP D AE DV / KVP D AE DV HN

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HN:** Manual override

KVP steel ball valve - with pneumatic actuator spring-to-close for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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

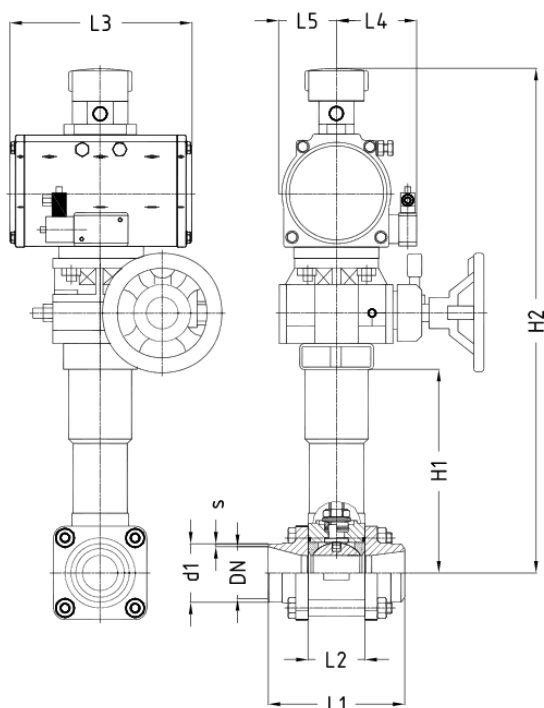


Illustration shows version with optionally available manual override.

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

Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5"...6"	PN40	30	40	40	8	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
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

Nominal size:		Welding ends acc. to:													
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 7: Dimensions

H2* without manual override

14 KVPplus D AE DV / KVPplus D AE DV HN

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HN:** Manual override

KVPplus steel ball valve - with pneumatic actuator spring-to-close for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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

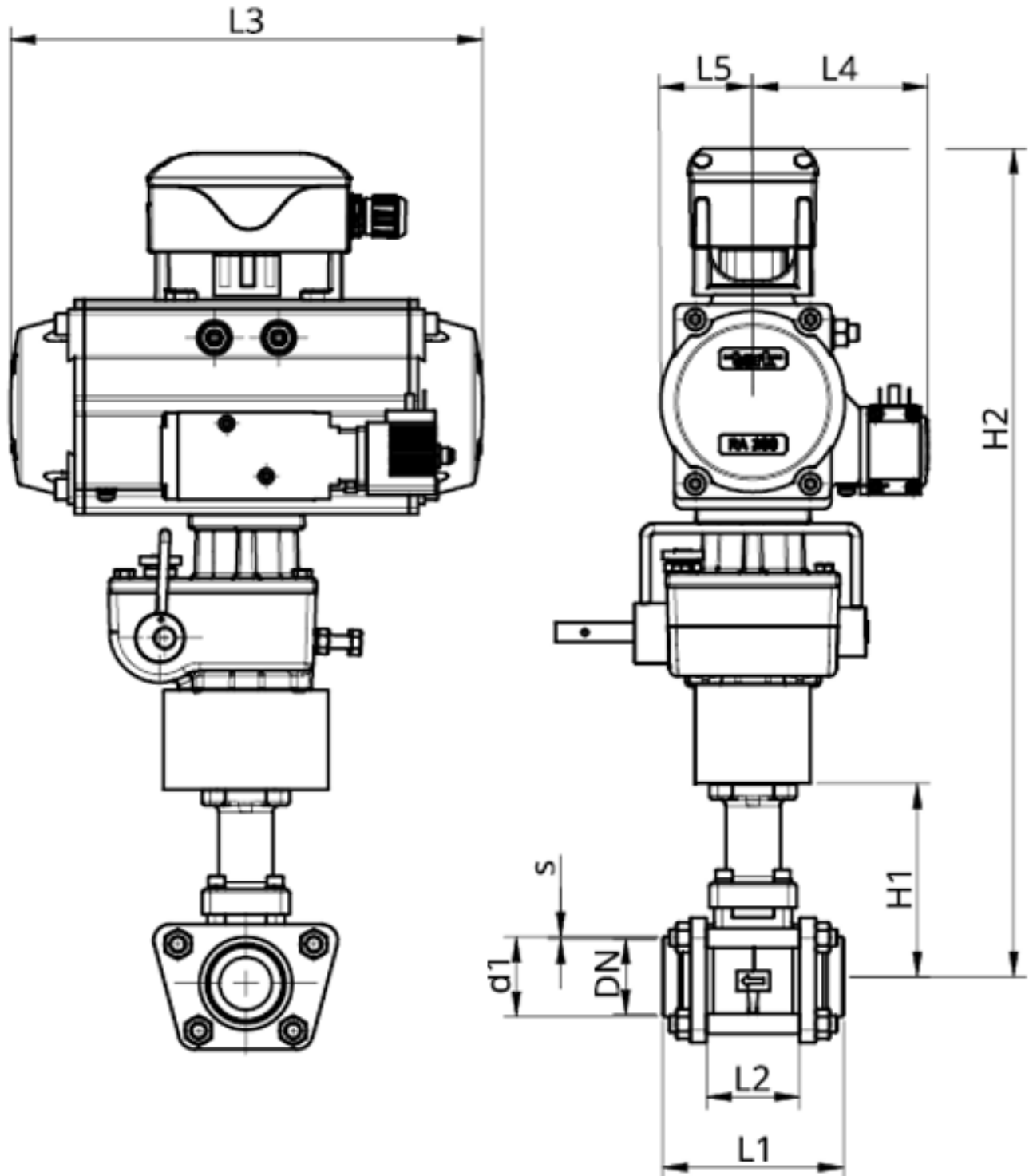


Illustration shows version with optionally available manual override.

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

Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	37.5	40	40	11	PS [bar]
DN 125...200 5"...8"	PN40	30	40	40	8	PS [bar]

Nominal size				Welding ends acc. to:									
		Actuator	Closing pressure	ISO Series 1									
DN	INCH	Type	delta p	d1	s	L1	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	RA60SR	25	21.3	2.0	65	20.4	172.6	84	35.7	105	358.2	478.2
20	3/4"	RA60SR	25	26.9	2.3	70	24.5	172.6	84	35.7	107	360.2	480.2
25	1"	RA60SR	25	33.7	2.6	85	31.4	172,	84	35.7	113	366.2	486.2
32	1 1/4"	RA80SR	25	42.4	2.6	100	41.3	242	95.3	50.9	111	395.9	515.9
40	1 1/2"	RA100SR	25	48.3	2.6	110	48.4	282	102	56	117	415	535
50	2"	RA120SR	25	60.3	2.9	125	56.3	360	124.2	62.8	121	449	576
65	2 1/2"	RA143SR	16	76.1	2.9	142.6	71.4	514	128	91	145	503	630
80	3"	RA143SR	16	88.9	3.2	179.5	88.9	514	128	91	174	552	702
100	4"	RA200SR	16	114.3	3.6	214	108.5	680	158	121	214	670	820
125	5"	RA200SR	25	139.7	4.0	277	134.6	680	158	121	228	684	879
150	6"	RA200SR	16	168.3	4.5	307	134.6	680	158	121	228	684	879
200	8"	RA270SR		219.1	6.3	409	189.1	775.5	202	165	286	828	1023

Table 8: Dimensions

H2* without manual override

15 KVP D AE DV NIRO / KVP D AE DV HN NIRO

D: Straight-way, **AE:** Welding ends, **DV:** Bonnet extension, **HN:** Manual override

KVP stainless steel ball valve - with pneumatic actuator spring-to-close for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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.

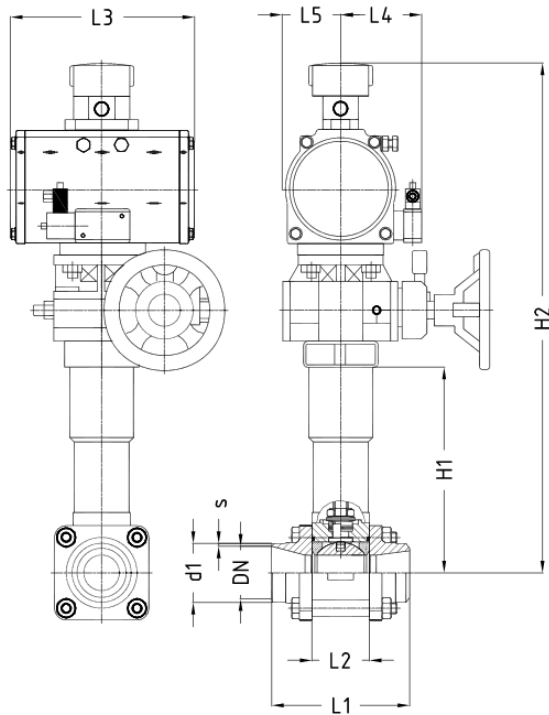


Illustration shows version with optionally available manual override.

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ...1 1/4"	PN40	40	40	40	24	PS [bar]
DN 40...50 1 1/2" ...2"	PN40	40	40	40	16	PS [bar]
DN 65...100 1 1/2" ...4"	PN40	37.5	40	40	11	PS [bar]
DN 125...150 5" ...6"	PN40	40	40	40	8	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
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

Nominal size:			Welding ends acc. to:												
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

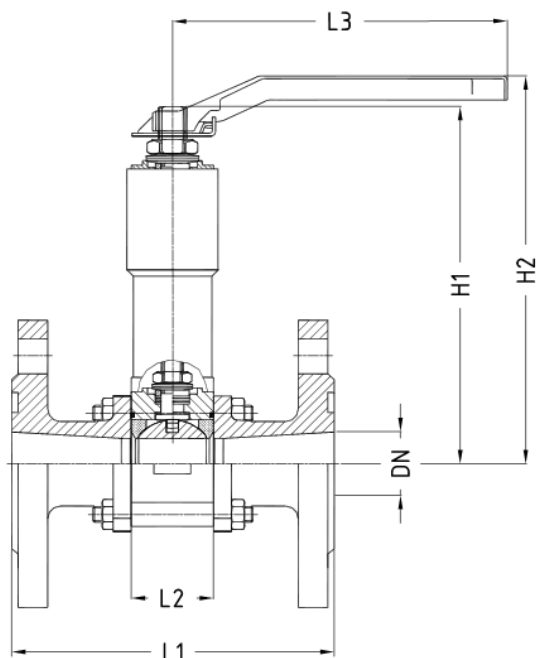
Table 9: Dimensions (H2*: without manual override)

16 KV D FL / KV D FL DV

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension

KV steel ball valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	PS [bar]

Nominal size:		Flanged ends acc. to:							
DN	INCH	PN40 DIN	ANSI 300lbs	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
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

Nominal size:		Flanged ends acc. to:							
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 10: Dimensions

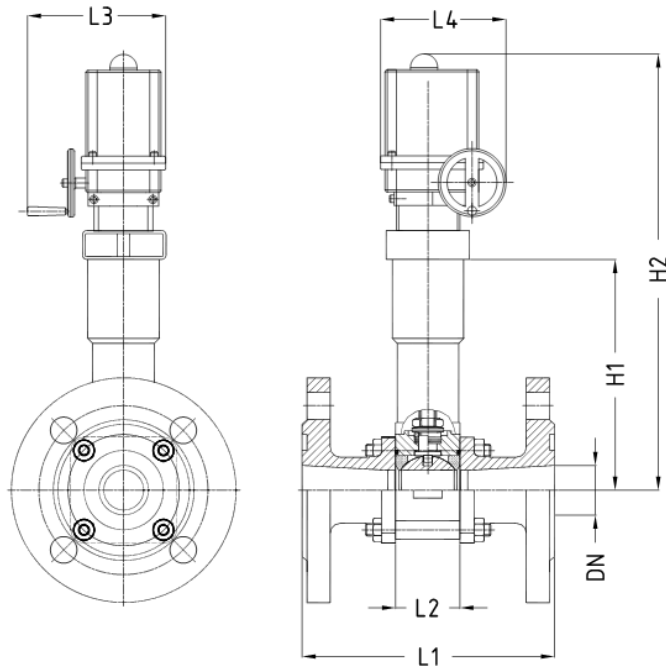
*) for valves with bonnet extension

17 KVE D FL DV

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension

KVE steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	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
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

Nominal size			Flanged ends acc. to:							
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

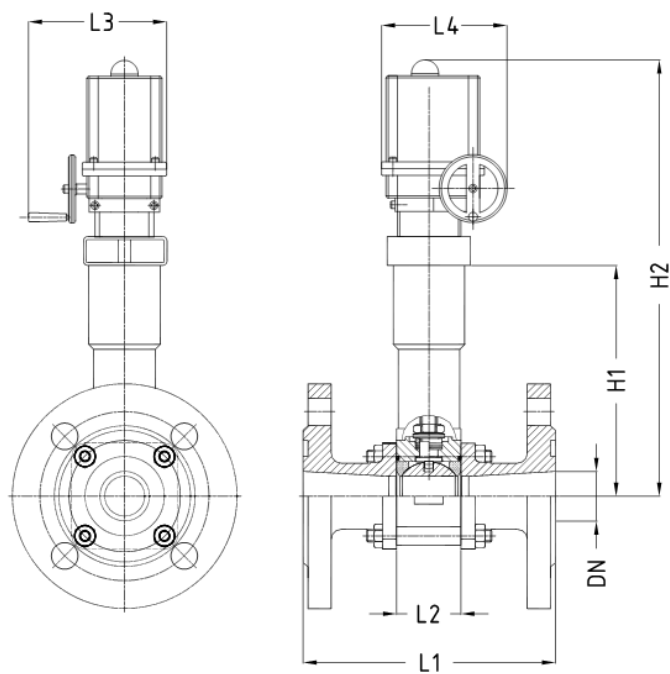
Table 11: Dimensions

18 KVE D FL DV

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension

KVE steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5"...6"	PN40	30	40	40	8	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
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

Nominal size			Flanged ends acc. to:							
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

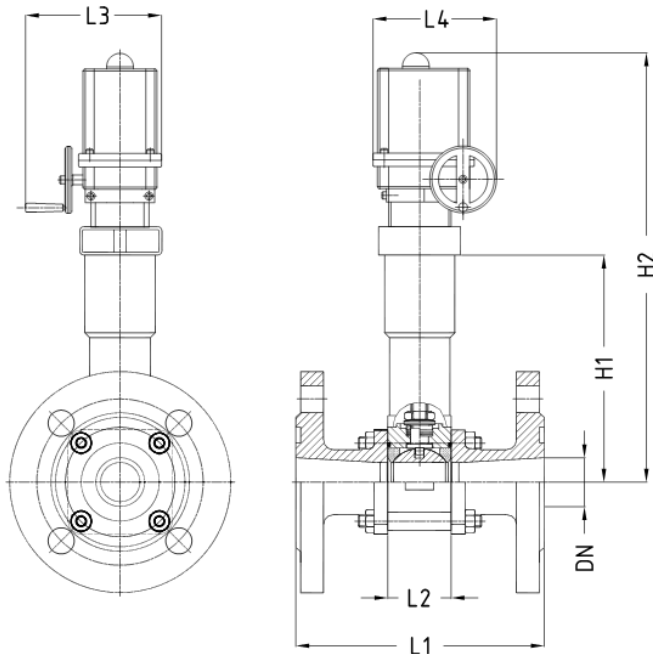
Table 12: Dimensions

19 KVE D FL DV NIRO

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension

KVE stainless steel ball valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5"...6"	PN40	30	40	40	8	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
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

Nominal size			Flanged ends acc. to:							
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 13: Dimensions

20 KVP D FL DV / KVP D FL DV HN

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HN:** Manual override

KVP steel ball valve - with pneumatic actuator spring-to-close for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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.

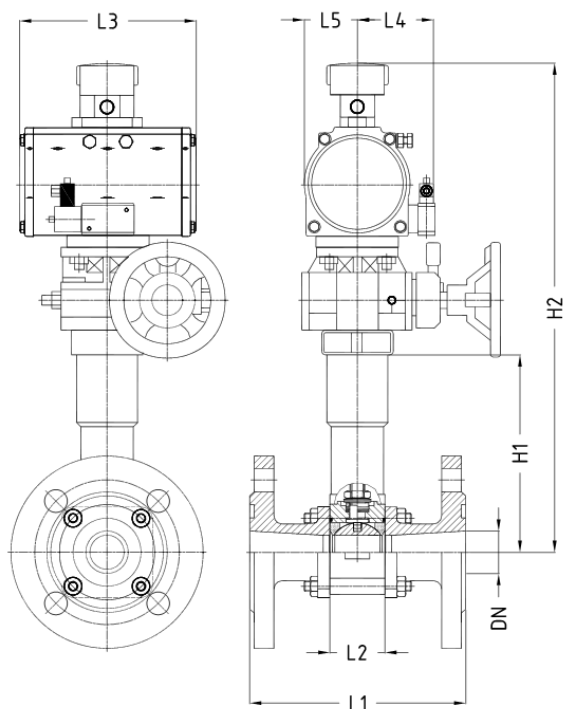


Illustration shows version with optionally available manual override.

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

Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2"...1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2"...2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2"...4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5"...6"	PN40	30	40	40	8	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
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

Nominal size		Flanged ends acc. to:											
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 14: Dimensions

H2* without manual override

21 KVP D FL DV NIRO / KVP D FL DV HN NIRO

D: Straight-way, **FL:** Flanged ends, **DV:** Bonnet extension, **HN:** Manual override

KVP stainless steel ball valve - with pneumatic actuator spring-to-close for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

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.

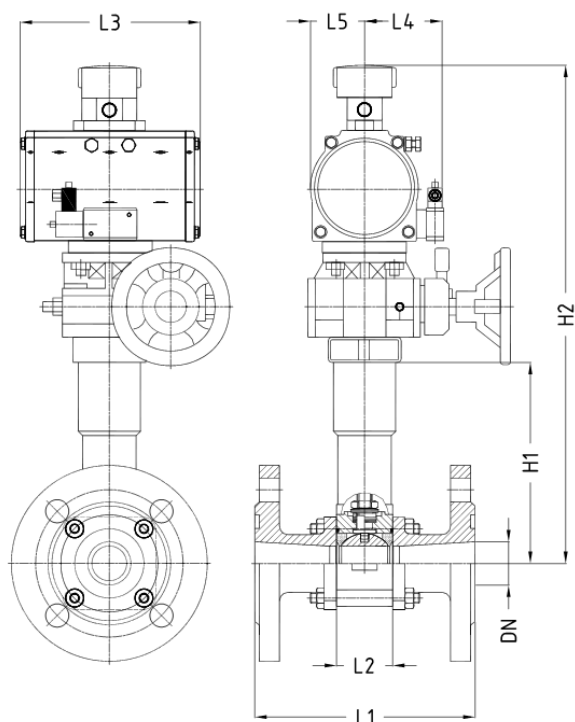


Illustration shows version with optionally available manual override.

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

Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 15...32 1/2" ... 1 1/4"	PN40	30	40	40	24	PS [bar]
DN 40...50 1 1/2" ... 2"	PN40	30	40	40	16	PS [bar]
DN 65...100 1 1/2" ... 4"	PN40	30	40	40	11	PS [bar]
DN 125...150 5" ... 6"	PN40	30	40	40	8	PS [bar]

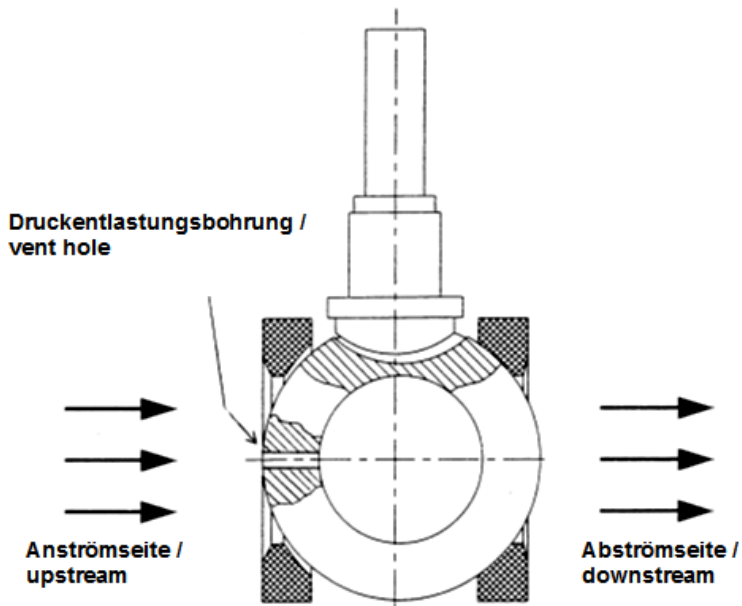
Nominal size				Flanged ends acc. to:								
		Actuator	Closing pressure	PN40 DIN	ANSI 300 RF							
DN	INCH	Type	delta p	L1	L1	L2	L3	L4	L5	H1	H2*	H2
15	1/2"	002-SR5.5	25	130	149	20.4	156	73	36	140	372	497
20	3/4"	002-SR5.5	25	150	174	24.5	156	73	36	142	374	499
25	1"	004-SR5.5	25	160	192	31.4	172	75	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

Nominal size				Flanged ends acc. to:								
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 15: Dimensions

H2* without manual override

22 Pressure relief hole in ball valves, type KV/KVplus, KVE/KVEplus, KVP/KVPplus

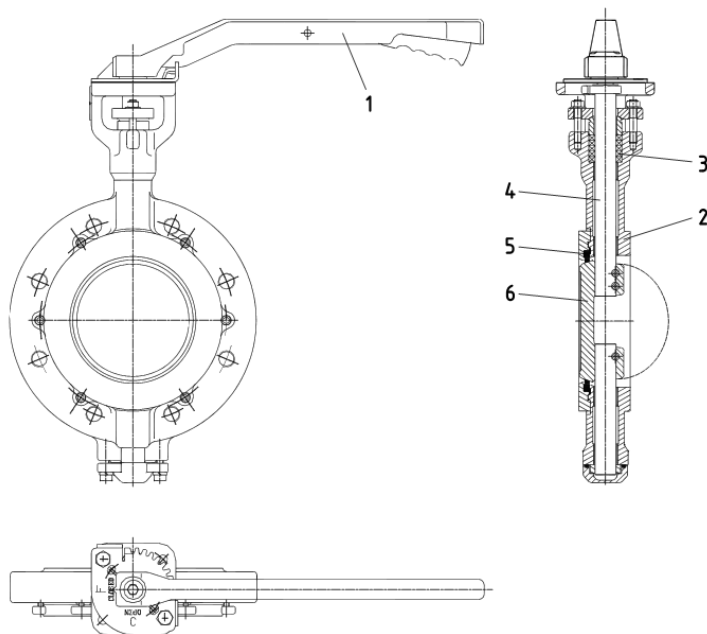


In the closed position, the pressure relief hole of approx. 2-4 mm allows trapped liquid refrigerant to degas towards the upstream side. The direction of flow is marked with an arrow. The installation position in the direction of flow is mandatory, as the ball only seals tightly in the direction of flow.

23 AK materials

Designation and materials

AK - butterfly valve



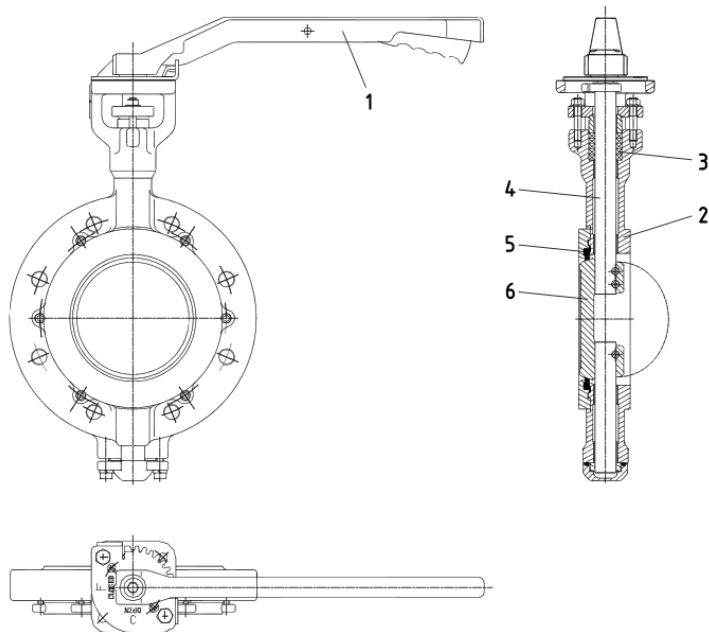
Part		Material for steel valves	Material for stainless steel valves
1	Hand lever	Aluminium	Aluminium
2	Body	GP 240 GH 1.0619 A216 Gr. WCB	GX5CrNiMo19-11-2 1.4408 A351 Gr. CF8M
3	Gland	Graphite	Graphite
4	Stem	X20Cr13 1.4021 AISI 420	X5CrNiCuNb16-4 1.4542 A564 Gr. 630
5	Valve seat	PTFE	PTFE
6	Washer	GP 240 GH 1.0619 A216 Gr. WCB	GX5CrNiMo19-11-2 1.4408 A351 Gr. CF8M

Properties: Double – eccentric; wafer type – design; tightening of the packing from the outside is possible

24 AKplus materials

Designation and materials

AK - butterfly valve



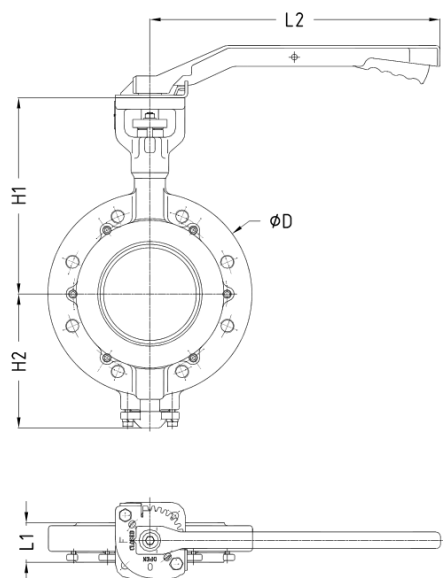
Part		Material for steel valves	Material for stainless steel valves
1	Hand lever	Aluminium	Aluminium
2	Body	GP 240 GH 1.0619	GX5CrNiMo19-11-2 1.4408 A351 Gr. CF8M
3	Gland	Graphite	Graphite
4	Stem	X20Cr13 1.4021	X5CrNiCuNb16-4 1.4542 A564 Gr. 630
5	Valve seat	RTFE + 15% graphite	PTFE
6	Washer	GP 240 GH 1.0619	GX5CrNiMo19-11-2 1.4408 A351 Gr. CF8M

Properties: Double – eccentric; wafer type – design; tightening of the packing from the outside is possible

25 AK FL

FL: Flanged ends

AK steel butterfly valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...350 2" ... 14"	PN25	18.7	25	25	25	21	PS [bar]

Nominal size:		Flanged ends acc. to:				
DN	INCH	ØD	L1	L2	H1	H2
50	2"	97	43	230	175	102
65	2 1/2"	117	46	230	191	116
80	3"	130	46	230	197	122
100	4"	158	52	320	233	149
125	5"	188	56	320	245	160
150	6"	212	56	420	283	193
200	8"	267	60	*	307	217
250	10"	321	68	*	371	251
300	12"	372	78	*	399	302
350	14"	431	78	*	421	324

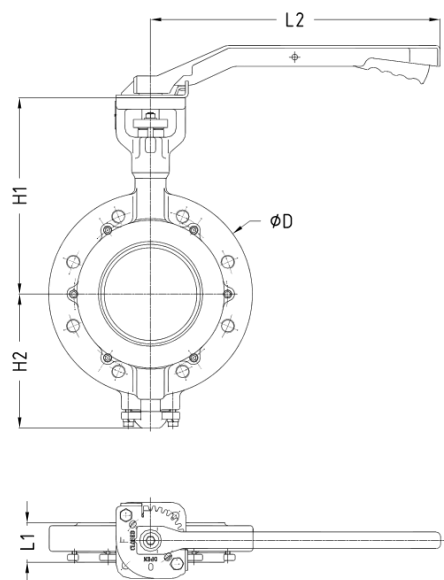
Table 16: Dimensions

* use of a worm gear

26 AKplus FL

FL: Flanged ends

AKplus steel butterfly valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...500 2"...14"	PN25	18.7	25	25	25	24	PS [bar]

Nominal size		Flanged ends acc. to:				
DN	INCH	ØD	L1	L2	H1	H2
50	2"	97	43	230	175	102
65	2 1/2"	117	46	230	191	116
80	3"	130	46	230	197	122
100	4"	158	52	320	233	149
125	5"	188	56	320	245	160
150	6"	212	56	420	283	193
200	8"	267	60	420	307	217
250	10"	321	68	278	371	251
300	12"	372	78	278	399	302
350	14"	431	78	278	421	324
400	16"	484	102	318	453	358
450	18"	534	114	318	522	392
500	20"	590	127	496	550	427

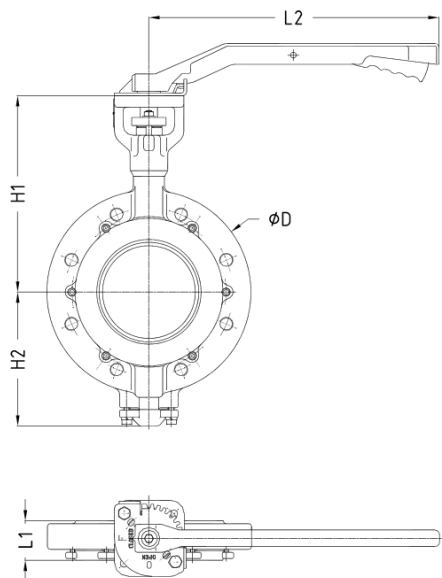
Table 17: Dimensions

* use of a worm gear

27 AK FL NIRO

FL: Flanged ends

AK stainless steel butterfly valve - with hand lever for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 50...350 2" ... 14"	PN25	25	25	25	21	PS [bar]

Nominal size:		Flanged ends acc. to:				
DN	INCH	ØD	L1	L2	H1	H2
50	2"	97	43	230	175	102
65	2 1/2"	117	46	230	191	116
80	3"	130	46	230	197	122
100	4"	158	52	320	233	149
125	5"	188	56	320	245	160
150	6"	212	56	420	283	193
200	8"	267	60	*	307	217
250	10"	321	68	*	371	251
300	12"	372	78	*	399	302
350	14"	431	78	*	421	324

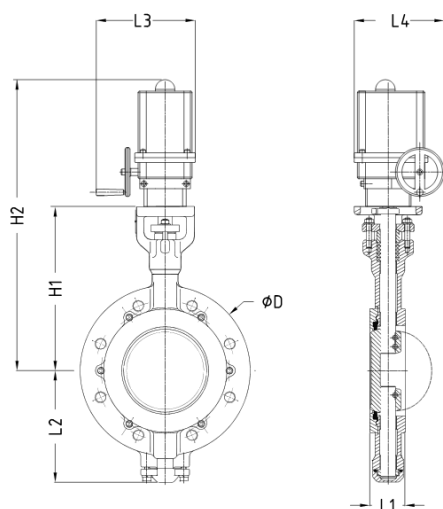
Table 18: Dimensions

* use of a worm gear

28 AKE FL

FL: Flanged ends

AKE steel butterfly valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...350 2"...14"	PN25	18.7	25	25	25	21	PS [bar]

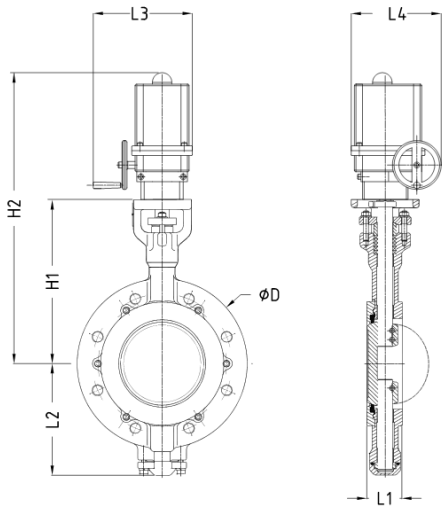
Nominal size:										
		Actuator	Closing pressure							
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	H1	H2
50	2"	PSR-E50	25	97	43	102	146	180	175	409
65	2 1/2"	PSR-E50	25	117	46	116	146	180	191	425
80	3"	PSR-E50	16	130	46	122	146	180	197	431
100	4"	PSQ 102	25	158	52	149	263	196	233	536
125	5"	PSQ 102	16	188	56	160	263	196	245	548
150	6"	PSQ 202	16	212	56	193	305	227	283	638
200	8"	PSQ 502	25	267	60	217	416	278	307	763
250	10"	PSQ 502	16	321	68	251	416	278	371	787
300	12"	PSQ 702	25	372	78	302	416	378	399	895
350	14"	PSQ 1002	16	431	78	324	416	378	421	917

Table 19: Dimensions

29 AKEplus FL

FL: Flanged ends

AKEplus steel butterfly valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...500 2"...14"	PN25	18.7	25	25	25	24	PS [bar]

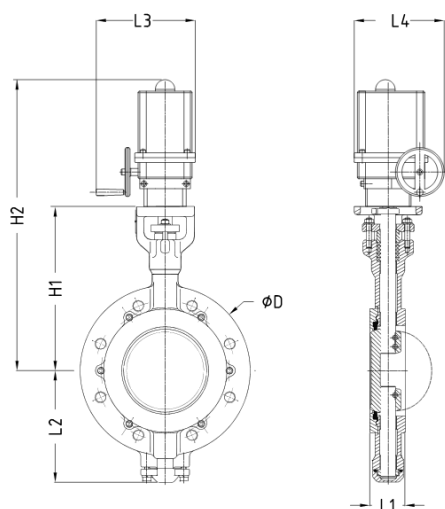
Nominal size:										
		Actuator	Closing pressure							
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	H1	H2
50	2"	J4SC35	25	97	43	102	110	181	175	344
65	2 1/2"	J4SC35	25	117	46	116	110	181	191	360
80	3"	J4SC55	16	130	46	122	110	181	197	393
100	4"	J4SC85	25	158	52	149	110	181	273	429
125	5"	J4SC140	16	188	56	160	214	235	245	499
150	6"	J4SC300	16	212	56	193	214	235	283	537
200	8"	J4SC300	25	267	60	217	214	235	307	561
250	10"	OOM-5-E	16	321	68	251	392	294	371	701
300	12"	OOM-7-E	25	372	78	302	347	336	399	818
350	14"	OOM-7-E	16	431	78	324	347	336	421	840
400	16"	OOM-8-E		484	102	358	347	336	453	872
450	18"									
500	20"									

Table 20: Dimensions

30 AKE FL NIRO

FL: Flanged ends

AKE stainless steel butterfly valve - with electric actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 50...350 2"...14"	PN25	25	25	25	21	PS [bar]

Nominal size:										
		Actuator	Closing pressure							
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	H1	H2
50	2"	PSR-E50	25	97	43	102	146	180	175	409
65	2 1/2"	PSR-E50	25	117	46	116	146	180	191	425
80	3"	PSR-E50	16	130	46	122	146	180	197	431
100	4"	PSQ 102	25	158	52	149	263	196	233	536
125	5"	PSQ 102	16	188	56	160	263	196	245	548
150	6"	PSQ 202	16	212	56	193	305	227	283	638
200	8"	PSQ 502	25	267	60	217	416	278	307	763
250	10"	PSQ 502	16	321	68	251	416	278	371	787
300	12"	PSQ 702	25	372	78	302	416	378	399	895
350	14"	PSQ 1002	16	431	78	324	416	378	421	917

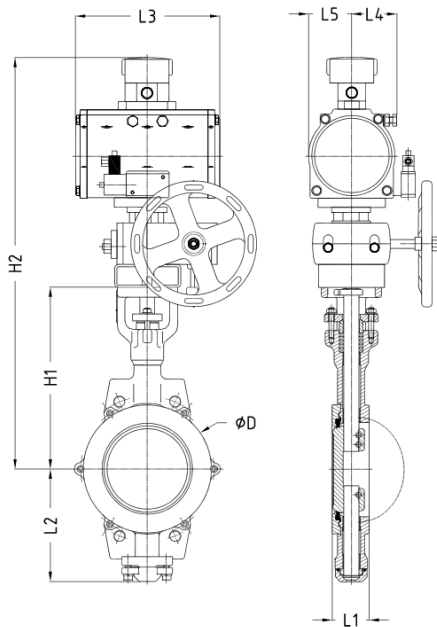
Table 21: Dimensions

31 AKP FL / AKP FL HN

FL: Flanged ends, **HN:** Manual override

AKP steel butterfly valve - with pneumatic actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

Note: Permissible ambient temperature for actuator -25 °C...+70 °C, illustration shows design with optionally available manual override.



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...350 2" ... 14"	PN25	18.7	25	25	25	21	PS [bar]

Nominal size												
		Actuator	Closing pressure									
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	L5	H1	H2*	H2
50	2"	009-SR5.5/80	25	97	43	102	195	89	53	175	456	581
65	2 1/2"	009-SR5.5/80	25	117	46	116	195	89	53	191	472	597
80	3"	009-SR6.9/80	16	130	46	122	195	89	53	197	478	603
100	4"	025-SR5.5/80	16	158	52	149	242	106	70	233	556	701
125	5"	037-SR5.5/80	25	188	56	160	285	118	82	245	589	734
150	6"	037-SR6.9/100	16	212	56	193	285	118	82	283	627	772
200	8"	070-SR6.2/90	16	267	60	217	394	139	103	307	696	841
250	10"	079E-090S7.0	16	321	68	251	654	165	140	371	930	1098
300	12"	079E-180S5.5	16	372	78	302	664	165	140	399	958	1126
350	14"	B-270M-S080	16	431	78	324	788	195	170	421	1080	1248

Table 22: Dimensions

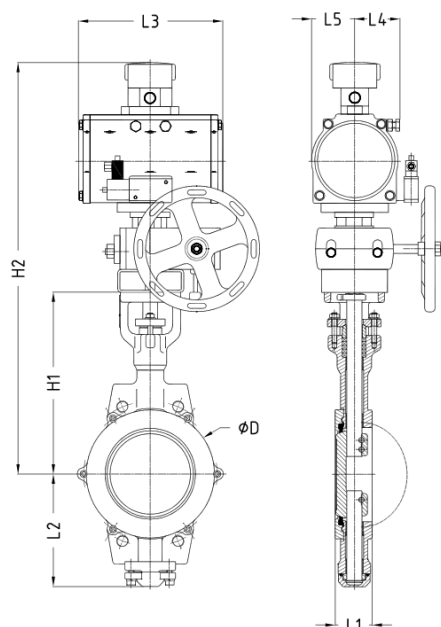
H2* without manual override

32 AKPplus FL / AKPplus FL HN

FL: Flanged ends, **HN:** Manual override

AKPplus steel butterfly valve - with pneumatic actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

Note: Permissible ambient temperature for actuator -25 °C...+70 °C, illustration shows design with optionally available manual override.



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-29	-10	+50	+150	TS [°C]
DN 50...500 2" ...20"	PN25	18.7	25	25	25	23	PS [bar]

Nominal size											
		Actuator	Closing pressure								
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	L5	H1	H2
50	2"	RA100SR	25	97	43	230	282	102	56	175	533
65	2 1/2"	RA100SR	25	117	46	230	282	102	56	191	549
80	3"	RA120SR	16	130	46	230	360	124.2	62.8	197	585
100	4"	RA120SR	16	158	52	320	360	124.2	62.8	233	621
125	5"	RA143SR	25	188	56	320	514	128	91	245	670
150	6"	RA143SR	16	212	56	420	514	128	91	283	708
200	8"	RA200SR	16	267	60	420	680	158	158	307	913
250	10"	RA200SR	16	321	68	278	680	158	158	371	1022
300	12"	RA270SR	16	372	78	278	775.5	202	202	399	1136
350	14"	RA270SR	16	431	78	278	775.5	202	202	421	1158
400	16"	RA350SR		484	102	318	866.5	257	257	453	1290

Table 23: Dimensions

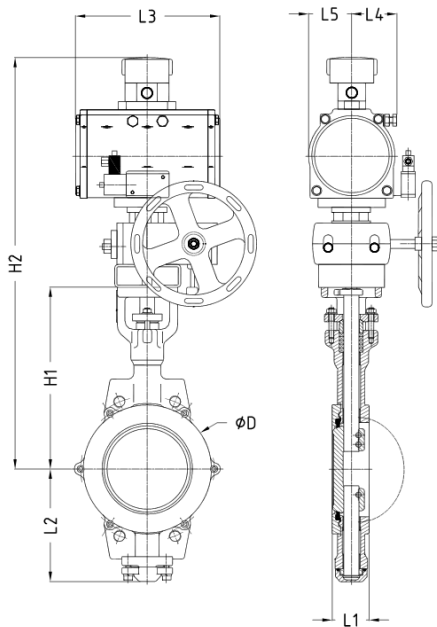
H2* without manual override

33 AKP FL NIRO / AKP FL HN NIRO

FL: Flanged ends, **HN:** Manual override

AKP stainless steel butterfly valve - with pneumatic actuator for natural refrigerants (NH₃, CO₂) and non-corrosive gases and liquids according to EN 378-1 as well as brines

Note: Permissible ambient temperature for actuator -25 °C...+70 °C. Illustration shows design with optionally available manual override.



Pressure/temperature operating limits:

PS: Max. allowable operating pressure in bar

TS: Permissible operating temperature in °C corresponding to the permissible operating pressures (PS)

PN: Nominal pressure rating

DN / INCH	PN	-50	-10	+50	+150	TS [°C]
DN 50...350 2" ... 14"	PN25	25	25	25	21	PS [bar]

Nominal size												
		Actuator	Closing pressure									
DN	INCH	Type	delta p	ØD	L1	L2	L3	L4	L5	H1	H2*	H2
50	2"	009-SR5.5/80	25	97	43	102	195	89	53	175	456	581
65	2 1/2"	009-SR5.5/80	25	117	46	116	195	89	53	191	472	597
80	3"	009-SR6.9/80	16	130	46	122	195	89	53	197	478	603
100	4"	025-SR5.5/80	16	158	52	149	242	106	70	233	556	701
125	5"	037-SR5.5/80	25	188	56	160	285	118	82	245	589	734
150	6"	037-SR6.9/100	16	212	56	193	285	118	82	283	627	772
200	8"	070-SR6.2/90	16	267	60	217	394	139	103	307	696	841
250	10"	079E-090S7.0	16	321	68	251	654	165	140	371	930	1098
300	12"	079E-180S5.5	16	372	78	302	664	165	140	399	958	1126
350	14"	B-270M-S080	16	431	78	324	788	195	170	421	1080	1248

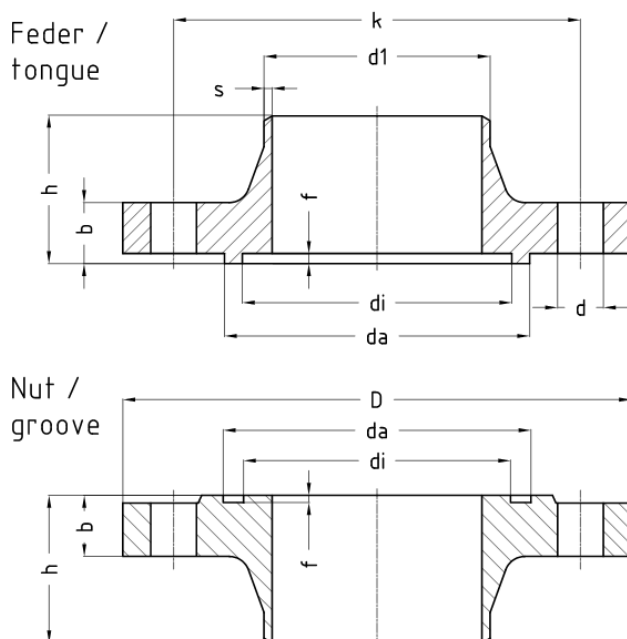
Table 24: Dimensions

H2* without manual override

34 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					Quantity	Thread	Length	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	16	60	35	14	90	23	35	2.5	24	34	4.0	4	M 12	45	24	34
15	21.3	2.0	20.0	2.5	16	65	38	14	95	28	40	2.5	29	39	4.0	4	M 12	45	29	39
20	26.9	2.3	25.0	2.5	18	75	40	14	105	35	51	2.5	36	50	4.0	4	M 12	50	36	50
25	33.7	2.6	32.0	3.0	18	85	40	14	115	42	58	2.5	43	57	4.0	4	M 12	50	43	57
32	42.4	2.6	38.0	3.0	18	100	42	18	140	50	66	2.5	51	65	4.0	4	M 16	55	51	65
40	48.3	2.6	45.0	3.0	18	110	45	18	150	60	76	2.5	61	75	4.0	4	M 16	55	61	75
50	60.3	2.9	57.0	3.2	20	125	48	18	165	72	88	2.5	73	87	4.0	4	M 16	60	73	87
65	76.1	2.9	76.1	3.6	22	145	52	18	185	94	110	2.5	95	109	4.0	8	M 16	60	95	109
80	88.9	3.2	88.9	4.0	24	160	58	18	200	105	121	2.5	106	120	4.0	8	M 16	65	106	120
100	114.3	3.6	108.0	4.0	24	190	65	22	235	128	150	3.0	129	149	4.5	8	M 20	70	129	149
125	139.7	4.0	133.0	4.0	26	220	68	26	270	154	176	3.0	155	175	4.5	8	M 24	80	155	175
150	168.3	4.5	159.0	4.5	28	250	75	26	300	182	204	3.0	183	203	4.5	8	M 24	80	183	203
200	219.1	6.3			34	320	88	30	375	238	260	3.0	239	259	4.5	12	M 27	100	239	259

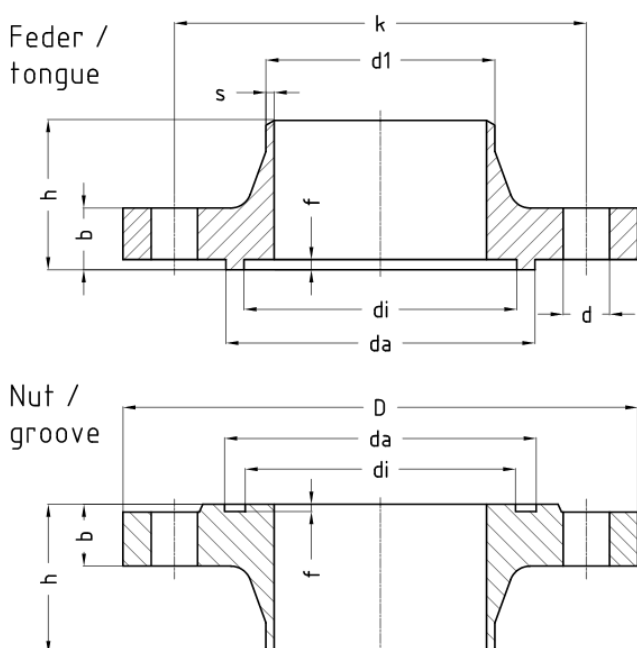
DIN2634 PN25 DN10-150 / DIN 2635 PN40 DN10-400																					
250	273.0	7.1			38	385	105	33	450	291	313	3.0	292	312	4.5	12		M 30	110	292	312
300	323.9	8.0			42	450	115	33	515	342	364	3.0	343	363	4.5	16		M 30	120	343	363
350	355.6	8.8			46	510	125	36	580	394	422	3.5	395	421	5.0	16		M 33	130	395	421
400	406.4	11.0			50	585	135	39	660	446	474	3.5	447	473	5.0	16		M 36	140	447	473

Table 25: Installation lengths

35 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																			
Welding ends								Flange facing design						Screws			Sealing ring		
Series 1								Groove			Tongue			DIN 931			DIN 2691		
DN	d1	s	b	k	h	d	D	di	da	f	di	da	f	Quantity	Thread	Length	di	da	
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	100	33	555	394	422	3.5	395	421	5.0	16	M 30	110	395	421	
400	406.4	8.8	40	550	110	36	620	446	474	3.5	447	473	5.0	16	M 33	120	447	473	
500	508.0	10.0	44	660	125	36	730	548	576	3.5	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	Quantity	Thread	Length	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	100	58	18	140	42	58	2.5	43	57	4.0	4	M 16	65	43	57	
32	42.4	2.9	24	110	60	22	155	50	66	2.5	51	65	4.0	4	M 20	70	51	65	

DIN 2634 PN25 DN200-500																			
40	48.3	2.9	26	125	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	Quantity	Thread	Length	di	da	
50	60.3	2.9	26	135	62	22	180	72	88	2.5	73	87	4.0	4	M 20	75	73	87	
65	76.1	3.2	26	160	68	22	205	94	110	2.5	95	109	4.0	8	M 20	75	95	109	
80	88.9	3.6	28	170	72	22	215	105	121	2.5	106	120	4.0	8	M 20	75	106	120	
100	114.3	4.0	30	200	78	26	250	128	150	3.0	129	149	4.5	8	M 24	90	129	149	
125	139.7	4.5	34	240	88	30	295	154	176	3.0	155	175	4.5	8	M 27	100	155	175	

Table 26: Installation lengths

36 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 under the Tools/Downloads tab.
- Our general terms and conditions apply.

GEA AWP GmbH
Armaturenstr. 2
17291 Prenzlau
Germany
phone: +49 3984 8559-0
fax: +49 3984 8559-18
e-mail: info@awpvalves.com

