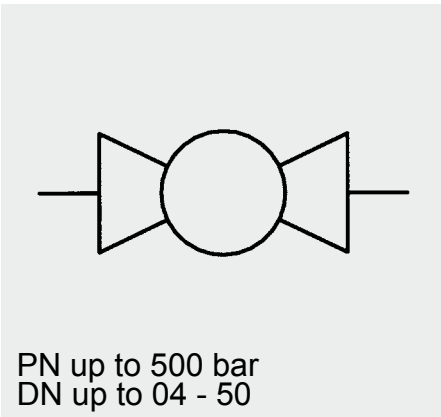
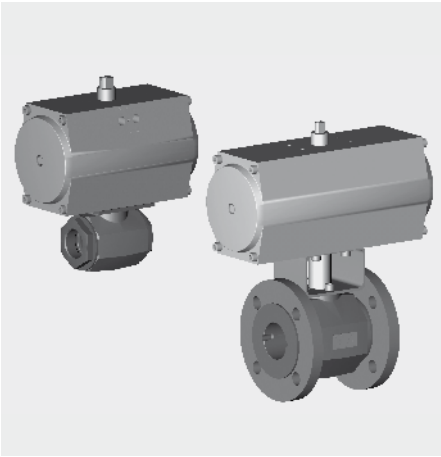


Ball Valves with Pneumatic Actuator



Model code
(also order example)

KHB-G1/4-1114 AP.E 3/2DC E

Designation

Type of ball valve

Actuator code

AP = pneumatic actuator
.E = spring return actuator
.D = double-acting actuator

Directional valve options

3/2 = 3/2 directional NAMUR control valve
5/2 = 5/2 directional NAMUR control valve
DC = 24V
AC = 230V 50Hz

Limit switch box options

E = electro-mechanical, visual indication open and closed
I = contactless (inductive), visual indication open and closed

Dimensions

Ball valves with pneumatic actuator	Spring-return				Double acting				
	DN	A	B	C	D	A	B	C	D
04/06-SW09	182	91	108	5	139	70	88	5	
08/10/13	215	100	117	5	160	83	100	5	
16	222	120	140	5	182	91	108	10	
20	222	120	140	5	182	91	108	10	
25	294	120	140	5	215	100	117	10	
32	300	137	160	5	222	120	140	5	
40	350	172	198	5	294	120	140	5	
50	350	172	198	5	294	120	140	5	

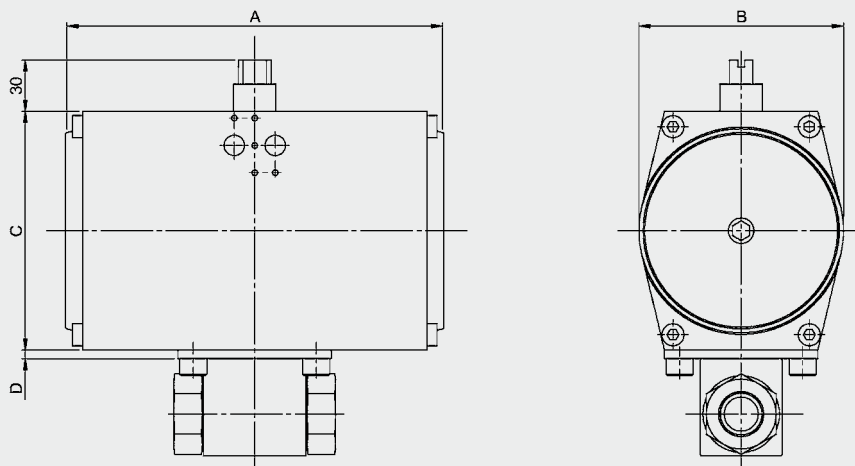
Note

We recommend using an adapter plate when fitting a pneumatic actuator to block-type, sleeve-type and 3-way change-over ball valves.

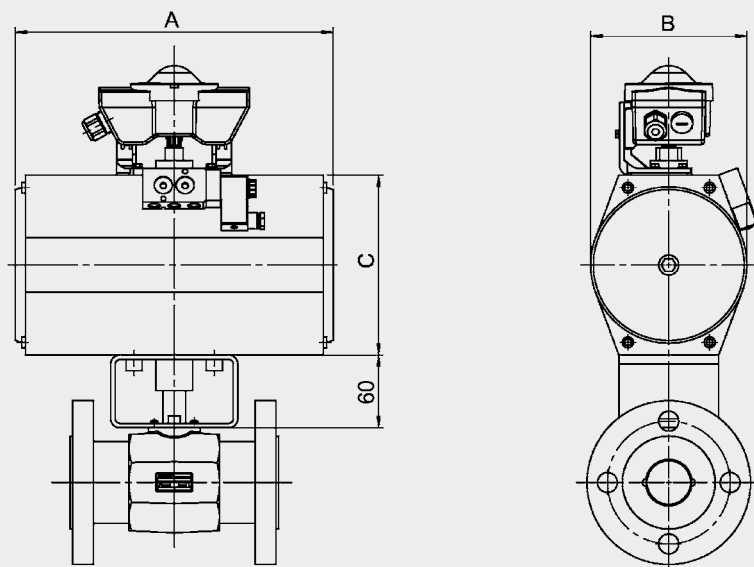
For flanged, manifold and 3-way and 4-way ball valves, a separate coupling is required for assembly.

On request other versions are available to suit almost all applications.

Assembly using adapter plate



Assembly using separate coupling



Technical specifications

Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	Up to PN 500 bar (see pressure range)
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Spare parts	Seal kits available on request

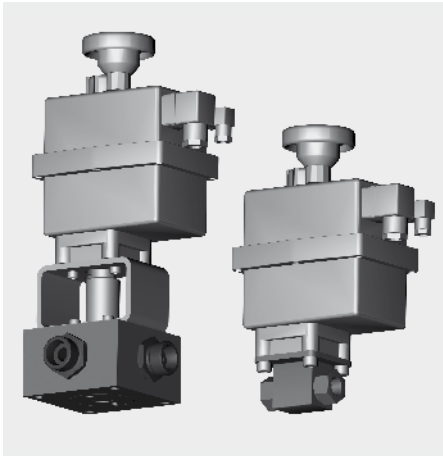
NOTE

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For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

Electrically Actuated Ball Valves

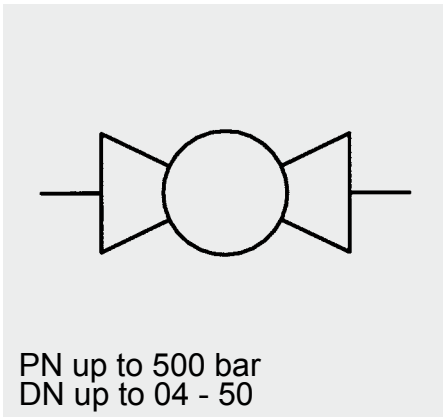


Model code
(also order example)

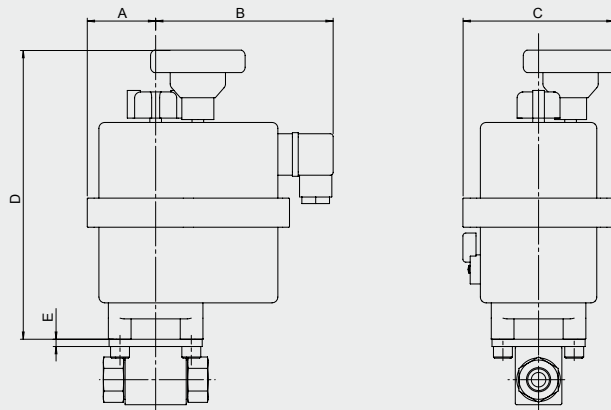
KHB-G1/4-1114 AE.24V

Designation
Type of ball valve

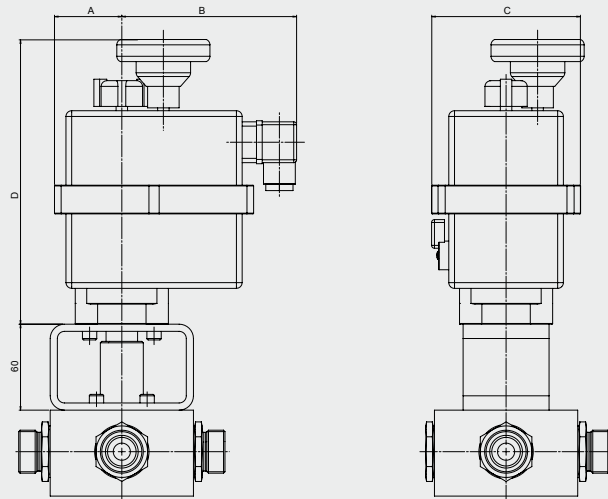
Actuator code
 AE = electric actuation
 .24V = 12-24V AC/DC
 .240V = 85 - 240V AC/DC



Assembly using adapter plate



Assembly using separate coupling



Dimensions

DN	A	B	C	D	E
04/06-SW09	51	126	110	196	5
08/10/13	51	126	110	196	5
16	51	126	110	196	10
20	107	128	214	254	5
25	107	128	214	254	5
32	107	128	214	254	5
40	107	128	214	254	5
50	107	128	214	254	5

Note

We recommend using an adapter plate when fitting an electric actuator to block-type, sleeve-type and 3-way change-over ball valves.

For flanged, manifold and 3-way and 4-way ball valves, a separate coupling is required for assembly.

On request other versions are available to suit almost all applications.

Equipment

Electrical actuator

- ETL (electronic torque limiter)
- AVS (automatic voltage sensor)
- ATC (automatic temperature control) to prevent condensation
- Mechanical release in event of jam
- Manual override
- Two integrated, volt-free micro switches for position confirmation
- Protection class IP 65

Technical specifications

Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	Up to PN 500 bar (see pressure range)
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Spare parts	Seal kits available on request

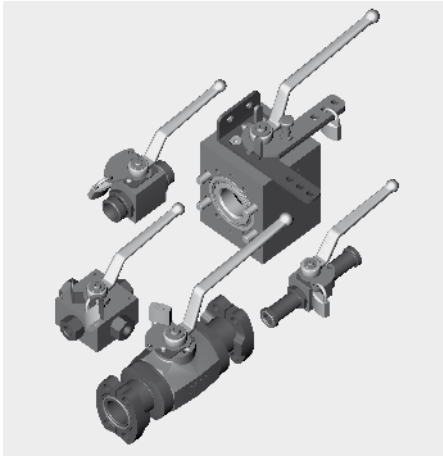
NOTE

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Lockable Ball Valves



Model code
(also order example)

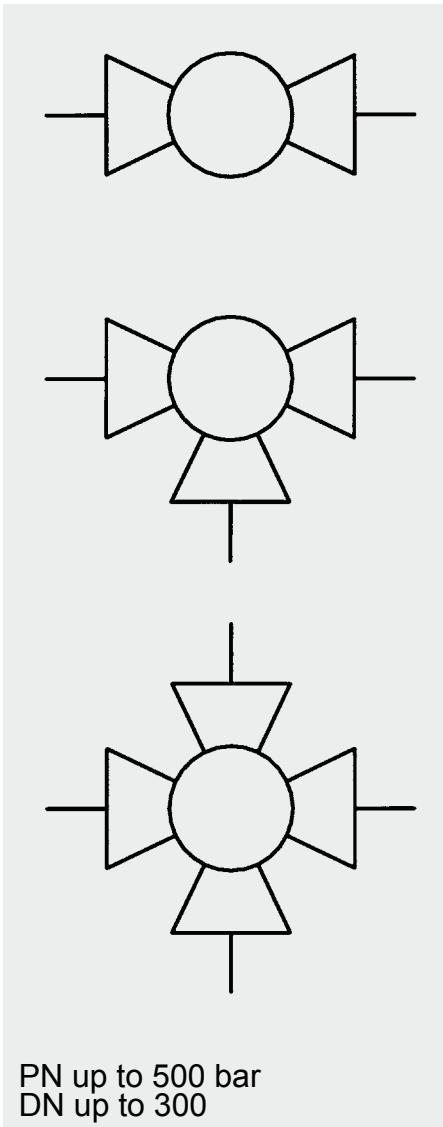
KHB-16SR-1114-16X SO 760

Designation

Type of ball valve

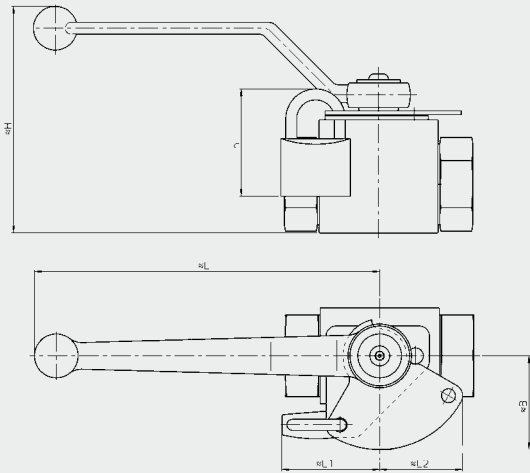
Lockable

- SO 760 = Ball valve can be locked in open and closed position using padlock. Padlock not supplied.
- SO 770 = Ball valve can be locked in open and closed position using padlock.
- SO 160 = Ball valve can be locked in open and closed position using cylinder lock. Key can be removed once locked.



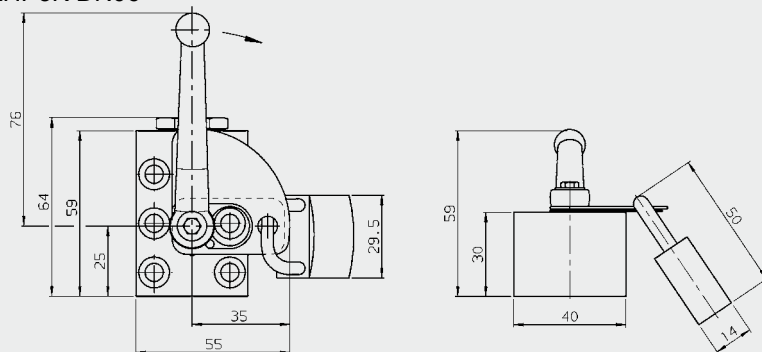
Lockable ball valves SO 760/770

KHB/KHM

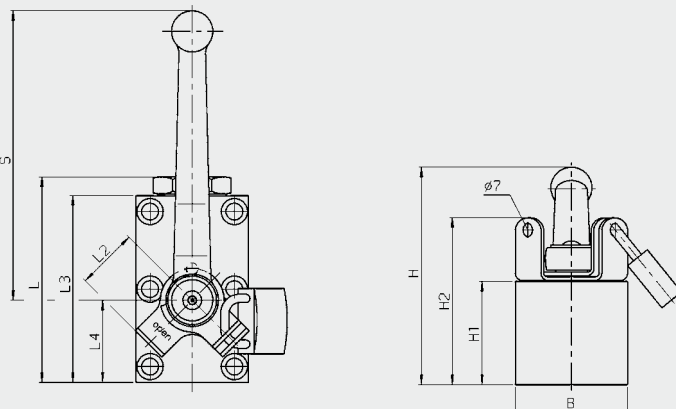


DN		L1	L2	h	B	H	L
04/06	M5	42	28.5	54	32	63.5	108
08/10/13	M5	42	28.5		32	68.5	108
12/16	M5	43	30.5		34	102	174
20	M6	50	41.7		47	114	174
25	M6	50	41.7		47	121	174
32	M8	47	37.9		42	158.5	213
40	M8	47	37.9		42	169.5	213
50	M8	47	37.9		42	186	213

KHP/KHP3K DN06



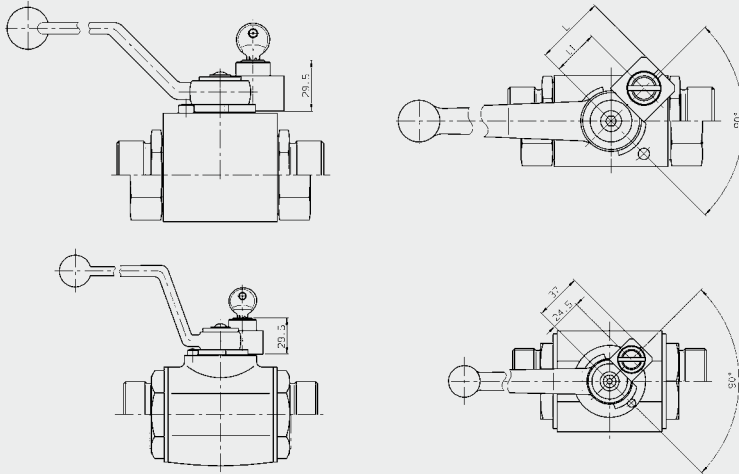
KHP/KHP3K DN10 - 50



Type	DN	B	H	H1	H2	L	L2	L3	L4	S
KHP/ KHP3K	06	40	59	30	–	64	35	59	25	76
	10	55	78	45	74	80	22	70	29	108
	16	60	120	55	89	110	33	100	44.5	174
	20	70	136	70	106	127	35	117	51	174
	25	80	146	80	116	145	35	135	62	174
	32	100	187	100	137	176	36	165	75	231
KHP	40	130	187	100	137	205	36	180	85	231
	50	149	197	110	147	245	36	220	106	231

Lockable ball valve SO 160

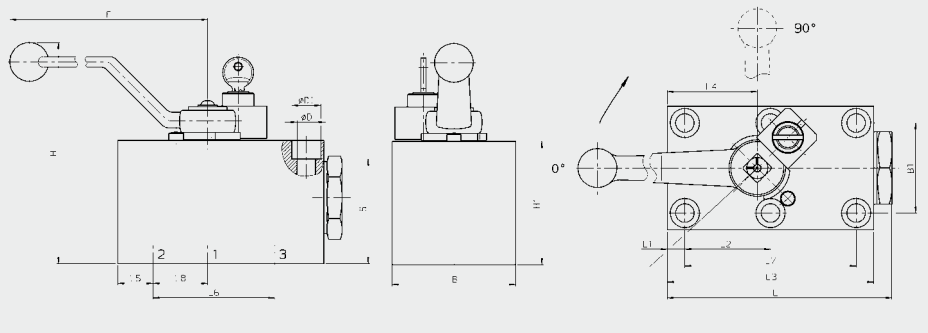
KHM-32-50 SO160



SO 160 - Ball valve can be locked in open or closed position.
Key can be removed once locked

DN	L	L1
04/06	35	22.5
08/10/13	31.5	19
12/16	33.5	21
20/25	37	24.5

KHP3K 16-25



Type	DN	LW	L	L1	L2	L3	L4	L5	L6	L7	L8	B	B1	E	H	H1	ØD	ØD1	S
KHP3K	16	16	110	8.5	41.5	100	44.5	17	58	83	26.5	60	45	169	119	55	9	14	48
	20	20	127	10	48.5	117	51	20	69	97	31	70	51	169	134	70	10.5	16.5	59.5
	25	23.5	145	10	57.5	135	62	24	81	115	38	80	60	169	144	80	10.5	17	69

NOTE

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Subject to technical modifications.

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Ball Valves with Electrical Limit Controls



Model code (Limit switch)
(also order example)

KHM-G2-1114-16X E 1. 000

Designation

Type of ball valve

Limit control

E = limit switch (position switch)

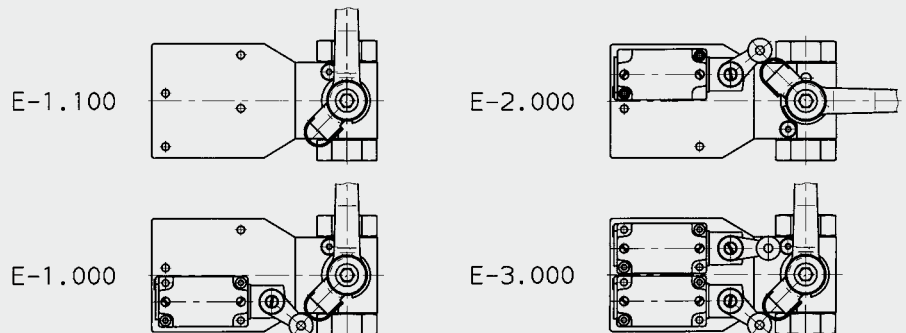
Monitored switching position

- 1 = monitoring of ball valve in open position
- 2 = monitoring of ball valve in closed position
- 3 = monitoring of ball valve in open and closed position

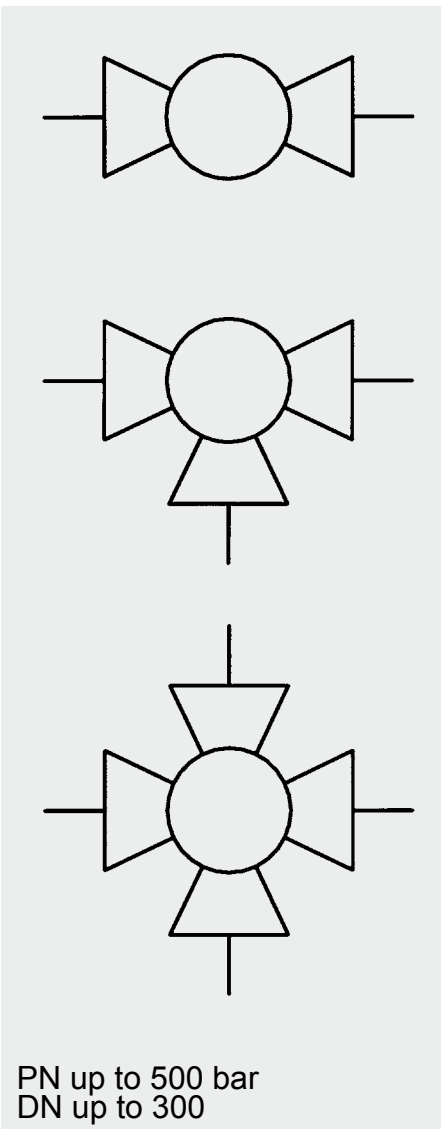
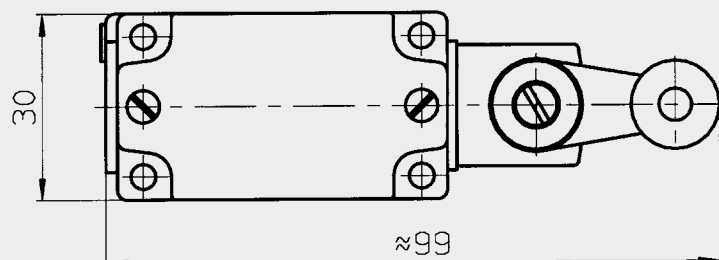
Limit switch code

000 = limit switch to DIN EN 50041 - Form A
100 = adapted for limit switch to DIN EN 50041 - Form A
... = on request, almost all commercially available makes and protection classes can be supplied..

Examples of different models



Limit switch



PN up to 500 bar
DN up to 300

Model code (Inductive proximity switch)
(also order example)

KHM-G2-1114-16X I 1. 200

Designation

Type of ball valve

Limit control

I = inductive proximity switch

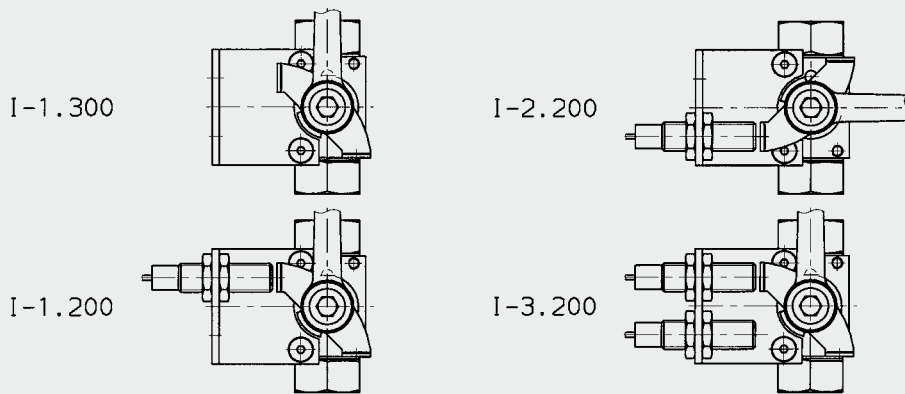
Monitored switching position

- 1 = monitoring of ball valve in open position
- 2 = monitoring of ball valve in closed position
- 3 = monitoring of ball valve in open and closed position

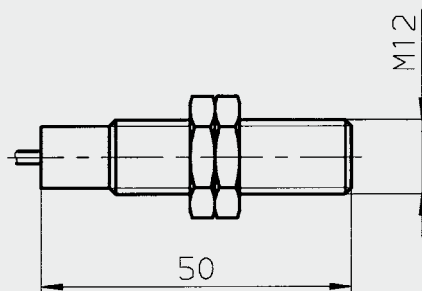
Proximity switch code

- 200 = with built-in cylindrical proximity switch M12 to DIN EN 60947 Type: IA
- 300 = adapted for cylindrical proximity switch M12 to DIN EN 60947 Type: IA
- ... = on request, almost all commercially available makes and protection classes can be supplied.

Examples of different models



Inductive proximity switch



Technical specifications

Limit switch:

Position switch:	to DIN EN 50041 Form A, metal enclosure with roller lever
Switch equipment:	1 N/C contact and 1 N/O contact
Protection class:	IP 67
Insulation group:	500 V AC
Continuous current:	10 A
Nominal voltage:	300 V AC
Mechanical service life:	30 x 10 ⁶ switching cycles
Switching frequency:	6 x 10 ³ switching cycles per hour
Permitted ambient temperature:	-40 to +85 °C

Inductive proximity switch:

Type of construction:	Cylindrical form M12 to DIN EN 60947
Rated switching distance:	4 mm
Output:	Normally open contact / PNP logic
Protection type:	IP 67
Operating voltage:	10 - 30 V DC (including residual ripple)
Nominal voltage:	12 - 24 V DC
Switching current:	≤ 200 mA
Current consumption without load:	< 11 mA
Switching hysteresis:	10%
Switching frequency:	800 Hz
Permitted ambient temperature:	-25 to +70 °C
Function display:	LED
Type of connection:	Cable 3 conductor, 5 m long

Spare parts

Retrofit kit for electrical switching position monitoring can be supplied on request.

NOTE

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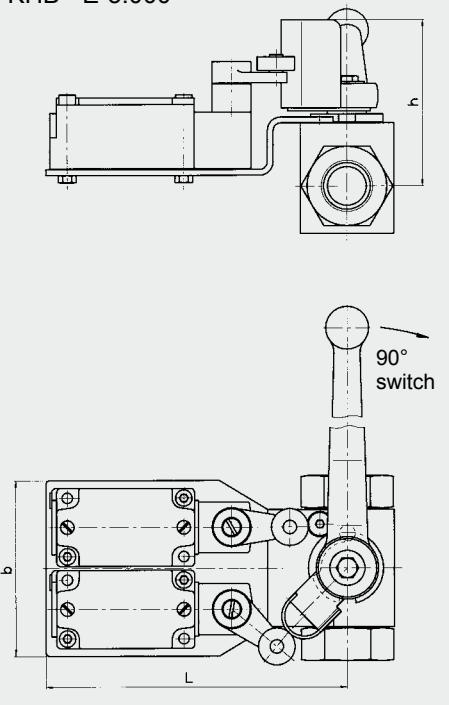
For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

DIMENSIONS

BALL VALVE WITH LIMIT SWITCH

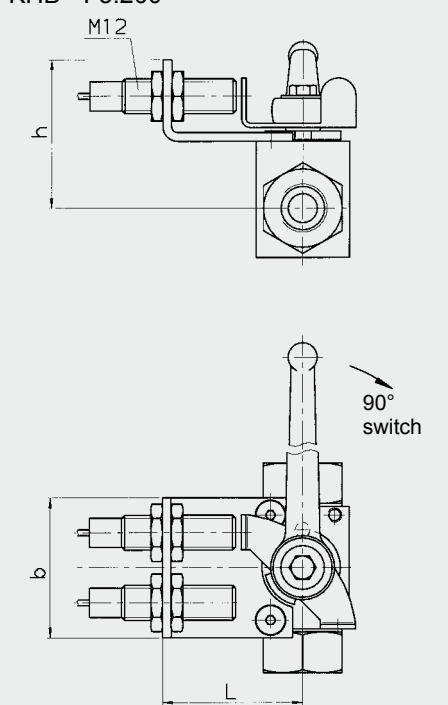
KHB - E-3.000



DN	L	b	h
04/06	155	90	75
08/10/13	155	90	75
16	155	90	82
20	155	90	87
25	155	90	90
32	155	90	103
40	155	90	109
50	155	90	115

BALL VALVE WITH INDUCTIVE PROXIMITY SWITCH M12

KHB - I-3.200



DN	L	b	h
06	45	47	59
08/10/13	46	47	51
16	46	47	54
20	49	60	61
25	49	60	64
32	50	60	78
40	50	60	84
50	50	60	91

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Handles SW 06–22

Model code
(also order example)

Handle

AG

SW12

Description

Handle

Materials and type

AG (01) = aluminium clamped handle, straight

ZG (03) = zinc die-casting clamped handle, straight

AK (02) = aluminium clamped handle, cranked

ZK (04) = zinc die-casting bolt-on handle, cranked

SK (06) = steel bolt-on handle, cranked

SK (26) = steel bolt-on handle, cranked, long (SW 17 only)

Widths of control spindle square

SW 06

SW 09

SW 12

SW 14

SW 17

SW 22

Other handles (e.g. stainless steel) on request

Description

Handles are designed to switch shut-off valves/ball valves.

Clamped handle

The handle is pushed onto the square end of the ball valve spindle and clamped to the square by means of a screw through the end of the handle.

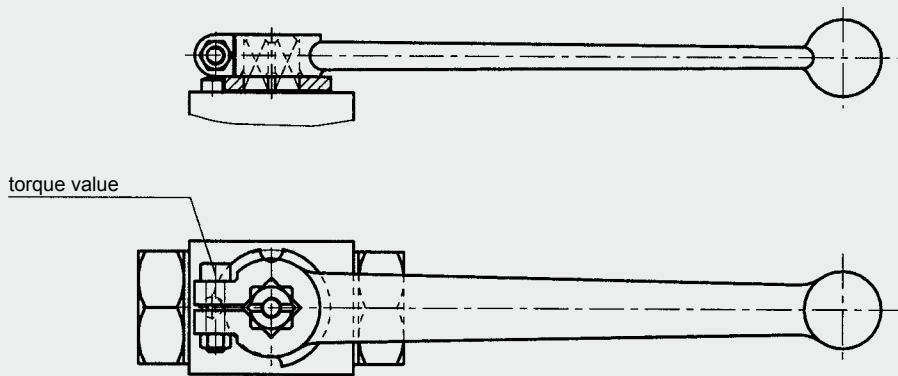
Bolt-on handle

The handle is screwed to the ball valve control spindle by means of a fixing bolt from above.

Both types of handle can be displaced by 45°.

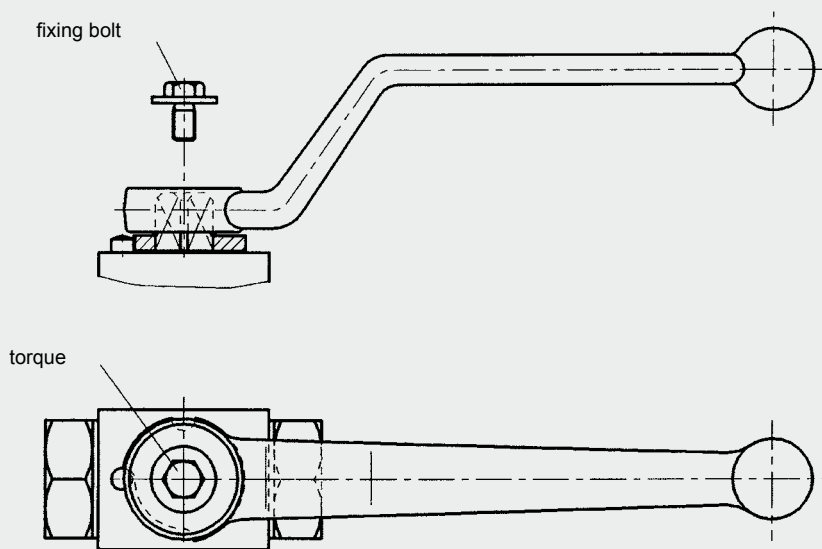
The fixing bolts for the bolt-on handles must be ordered separately.

CLAMPED HANDLE



	SW 09	SW 12	SW 14	SW 17	SW 22
	M 5 x 20	M 5 x 20	M 6 x 30	M 6 x 30	M 8 x 40
Torque	3 Nm	3 Nm	5 Nm	7 Nm	10 Nm

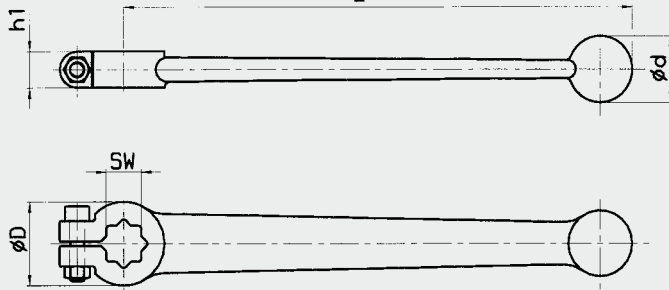
BOLT-ON HANDLE



	SW 06	SW 09	SW 12	SW 14	SW 17
Fixing bolt	M 3 x 6	M 5 x 10	M 5 x 12	M 6 x 10	M 8 x 16
Torque	0.5 Nm	3 Nm	3 Nm	3 Nm	5 Nm

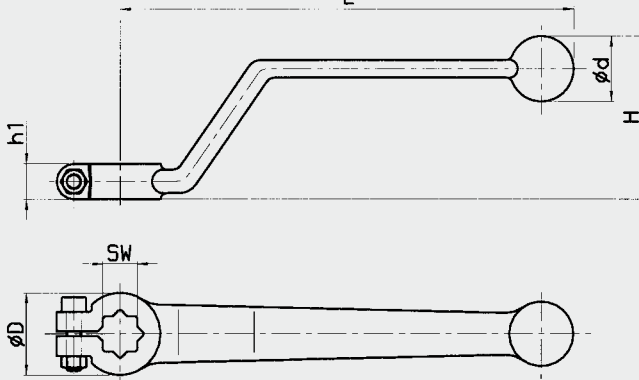
Dimensions

STRAIGHT HANDLE - CLAMPED HANDLE



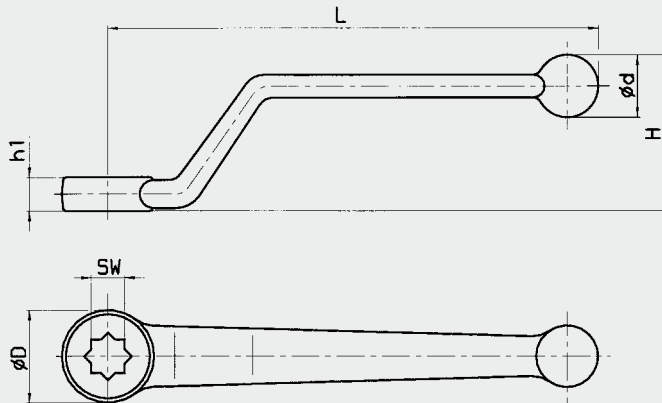
L	ϕD	ϕd	h_1	SW	Type	Part number	Weight (kg)
150	22	15	10	09	ZG (03)	559419	0.090
150	25	20	11	09	AG (01)	270099	0.054
175	28	22	12	12	AG (01)	270100	0.073
200	32	24	12	14	AG (01)	270101	0.096
240	36	26	14	17	AG (01)	270311	0.12

CRANKED HANDLE - CLAMPED HANDLE



L	H	ϕD	ϕd	h_1	SW	Type	Part number	Weight (kg)
140	41	25	20	11	09	AK (02)	271423	0.054
163	50	28	22	12	12	AK (02)	270381	0.072
183	54	32	24	12	14	AK (02)	270382	0.097
227	55	36	26	14	17	AK (02)	270383	0.12
360	85	44	32	18	22	AK (02)	281604	0.29

CRANKED HANDLE - BOLT-ON HANDLE



L	H	ϕD	ϕd	h_1	SW	Type	Part number	Weight [kg]	Fixing bolt/washer Part no.
76	27	16	12	6	06	ZK (04)	554893	0.030	637051
108	28	22	10	9.5	09	ZK (04)	556352	0.053	637052
169	59	31	18	12.5	12	SK (06)	275036	0.28	639387
169	59	31	18	12.5	14	SK (06)	282976	0.275	638601
228	80	34	20	14	17	SK (06)	273662	0.342	638600
306	81	35	22	16	17	SK (26)	561681	0.591	638600

Technical specifications

Material:

Aluminium	- red anodised
Zinc die-casting	- blue zinc-plated
Steel handle	- blue zinc-plated

Widths of control spindle square

SW 06, SW 09, SW 12, SW 14,
SW 17, SW 22

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