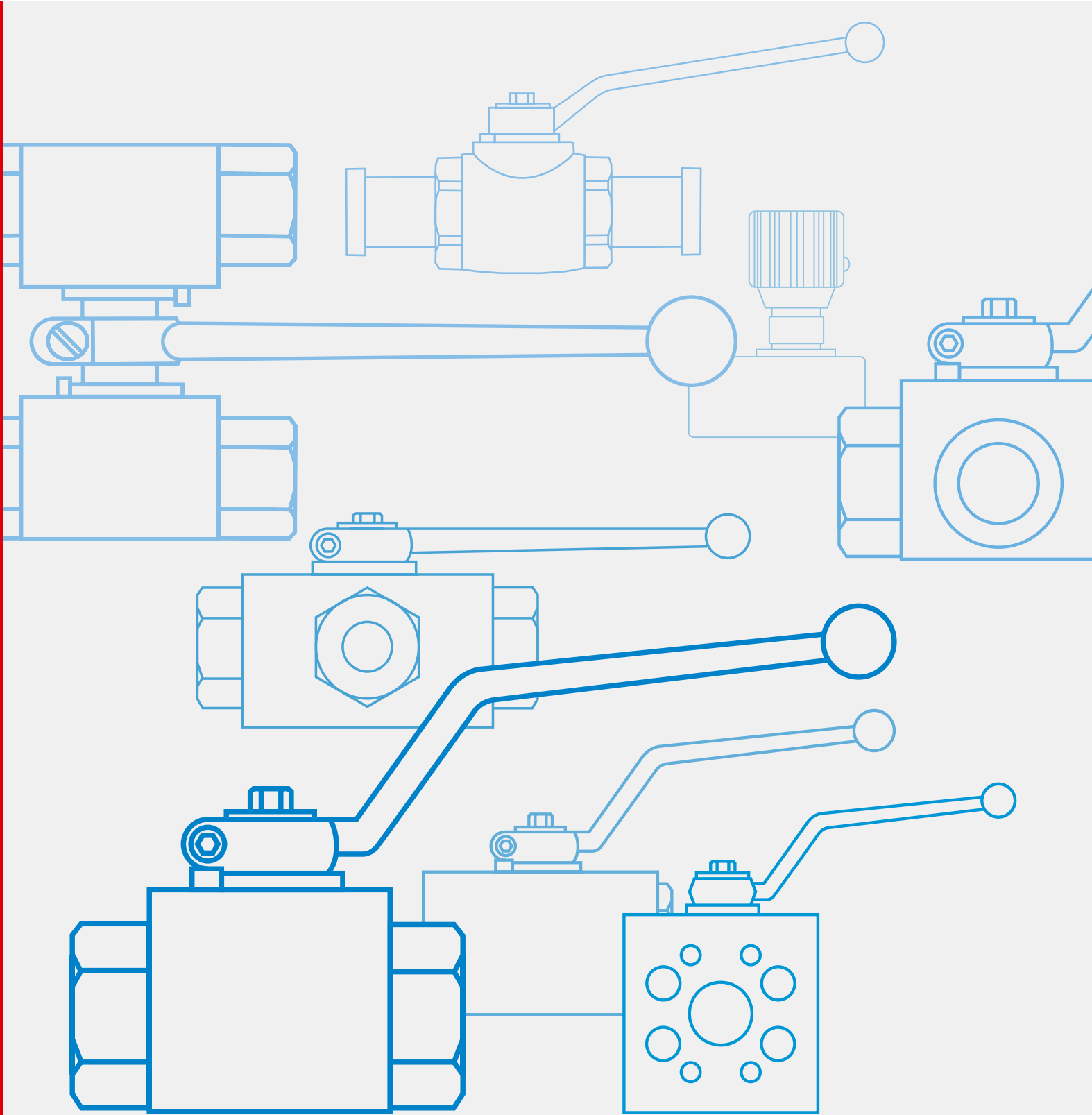


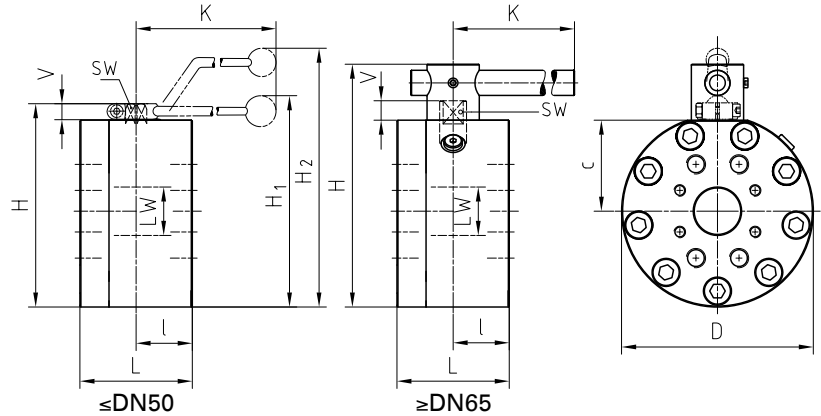
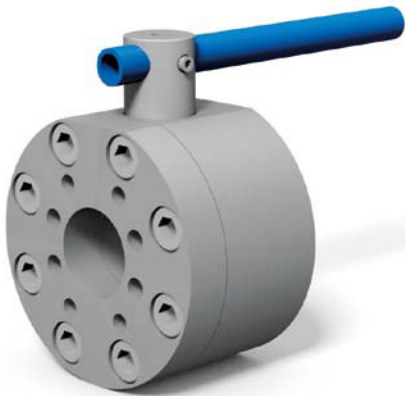


**MHA ZENTGRAF**  
FlowControl Technology



# Flange ball valve with SAE connection metric / UNC Steel

KH-SAE



## AVAILABLE SIZES

DN15 - DN80 (5/8" to 3")

## CONNECTIONS

ISO 6162-1 and -2 (double flange pattern)

## ACCESSORIES ON REQUEST

- Locking devices page 226 - 230
- Actuators 224 - 225
- Mounting holes on request
- Position switches on request
- Combinations on request
- Detent on request

## MATERIAL CODE DESCRIPTION

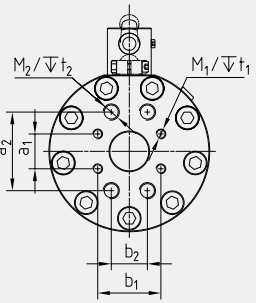
Materials	DN15-50 212A	DN15-50 2128	DN65-80 282A	DN65-80 2828
Body	Steel	Steel	Steel	Steel
Ball	Steel	Steel	Steel	Steel
Stem	Steel	Steel	Duplex	Duplex
Ball seats	POM	POM	POM	POM
O-rings	NBR	FPM	NBR	FPM
Tmin /Tmax	-10°C / 100°C	-10°C / 100°C	-10°C / 100°C	-10°C / 100°C

## GENERAL DIMENSIONS

Type	LW	L	I	D	H	c	V	K	SW	H <sub>1</sub>	H <sub>2</sub>	Lever
KH-DN15	15	75	35	88	88	31	13	160	12	-	132	Al
KH-DN20	20	80	35	98	100	36,5	14	200	14	103	-	Zn
KH-DN25	25	88	38	118	113	39,5	14	200	14	116	-	Zn
KH-DN32	32	100	50	145	158	68	17	320	17	167	-	Al
KH-DN40	38	110	55	165	178	78	17	320	17	187	-	Al
KH-DN50	48	116	58	198	210	94	17	320	17	219	-	Al
KH-DN65	63	170	75	218	275	100	20	600	16	-	-	St <sup>(1)</sup>
KH-DN80 (PN100)	76	170	70	248	307	111	26	600	19	-	-	St <sup>(1)</sup>
KH-DN80 (PN160/420)	76	170	79	258	315	114,5	26	600	19	-	-	St <sup>(1)</sup>

Please note the pressure ratings of the connection flanges!

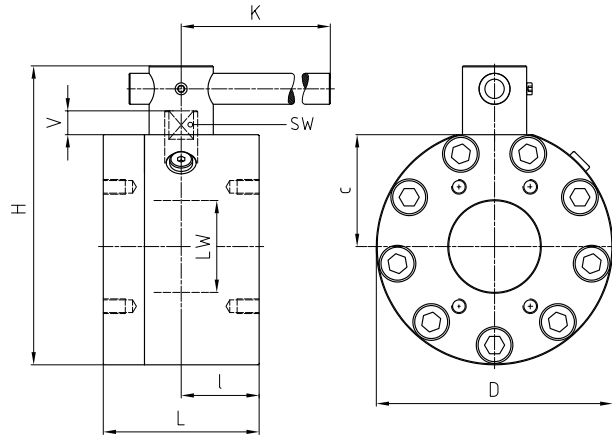
<sup>(1)</sup> Lever must be fixed centrally during operation. In case of vibration the handle may otherwise operate the valve by itself.

CONNECTION TYPE	DIMENSIONS										ORDER CODE PER MATERIAL COMBINATION		
	Type	a <sub>1</sub>	b <sub>1</sub>	M <sub>1</sub>	t <sub>1</sub>	a <sub>2</sub>	b <sub>2</sub>	M <sub>2</sub>	t <sub>2</sub>	Weight [Kg]	PN [bar]	212A (282A)	2128 (2828)
	ISO 6162-1 and -2 (double flange pattern)												
	KH-DN15-SAE210/420	17,5	38,1	M8	18	40,5	18,2	M8	18	2,96	350/420	44655*	45545*
	KH-DN20-SAE210/420	22,2	47,6	M10	18	50,8	23,8	M10	18	4,20	350/420	44804*	45546*
	KH-DN25-SAE210/420	27,8	57,2	M12	20	52,4	26,2	M10	20	6,00	320/420	44632*	45547*
	KH-DN32-SAE210/420 <sup>(2)</sup>	30,2	58,7	M12	20	66,7	31,8	M14	22	11,65	210/400	45548*	45549*
	KH-DN32-SAE210/420	30,2	58,7	M10	20	66,7	31,8	M12	22	11,70	280/420	44826*	45550*
	KH-DN40-SAE210/420	35,7	69,9	M12	21	79,4	36,5	M16	27	17,10	210/420	45212*	45551*
	KH-DN50-SAE210/420	42,9	77,8	M12	20	96,8	44,5	M20	28	24,60	210/420	44710*	21845*
	KH-DN65-SAE210/420	58,7	123,8	M24	41	88,9	50,8	M12	19	44,40	175/420	41440	46204
	KH-DN80-SAE210/420	71,4	152,4	M30	47	106,4	61,9	M16	24	54,90	100	46376	46205
	KH-DN80-SAE210/420	71,4	152,4	M30	47	106,4	61,9	M16	24	60,40	160/420	58191	58107
	KH-DN15-SAE210/420	17,5	38,1	5/16"UNC	18	40,5	18,2	5/16"UNC	18	2,96	350/420	46206	25414
	KH-DN20-SAE210/420	22,2	47,6	3/8"UNC	18	50,8	23,8	3/8"UNC	18	4,20	350/420	46207	46212
	KH-DN25-SAE210/420	27,8	57,2	7/16"UNC	20	52,4	26,2	3/8"UNC	20	6,00	320/420	46208	46213
	KH-DN32-SAE210/420	30,2	58,7	7/16"UNC	22	66,7	31,8	1/2"UNC	22	11,70	280/420	46209	46214
	KH-DN40-SAE210/420	35,7	69,9	1/2"UNC	20	79,4	36,5	5/8"UNC	24	17,10	210/420	46210	46215
	KH-DN50-SAE210/420	42,9	77,8	1/2"UNC	20	96,8	44,5	3/4"UNC	28	24,60	210/420	46211	46216

<sup>(2)</sup>This version is not to be used for new designs.

\*Article usually in stock.

Two-way



### AVAILABLE SIZES

DN65 - DN125 (2 1/2" to 5")

### CONNECTIONS

ISO 6162-1 (single flange pattern)

### ACCESSORIES ON REQUEST

- Locking devices page 230
- Actuators 224 - 225
- Mounting holes on request
- Position switches on request
- Combinations on request
- Detent on request

### MATERIAL CODE DESCRIPTION

Materials	282A	2828
Body	Steel	Steel
Ball	Steel	Steel
Stem	Duplex	Duplex
Ball seats	POM	POM
O-rings	NBR	FPM
Tmin / Tmax	-10°C / 100°C	-10°C / 100°C

### GENERAL DIMENSIONS

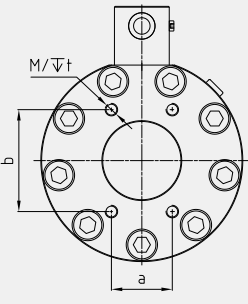
Type	LW	L	I	D	H	c	V	K	SW	Lever
KH-DN65	63	150	75	198	259	94	20	600	16	St <sup>(1)</sup>
KH-DN80 (PN100)	76	140	70	210	277	100	26	600	19	St <sup>(1)</sup>
KH-DN80 (PN160)	76	150	79	218	284	103,5	26	600	19	St <sup>(1)</sup>
KH-DN100	100	170	85	258	326	122	27	900	24	St <sup>(1)</sup>
KH-DN125	118	210	105	295	377	140	33	900	36	St <sup>(1)</sup>

Please note the pressure ratings of the connection flanges!

<sup>(1)</sup> Lever must be fixed centrally during operation. In case of vibration the handle may otherwise operate the valve by itself.

# Flange ball valve with SAE connection metric / UNC Steel

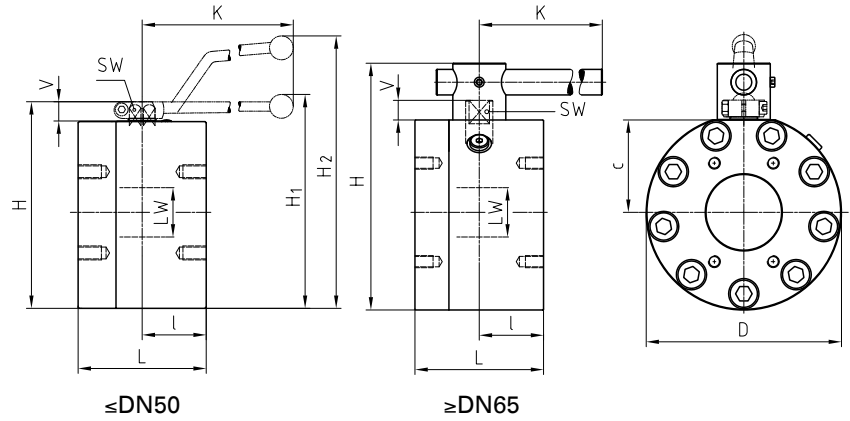
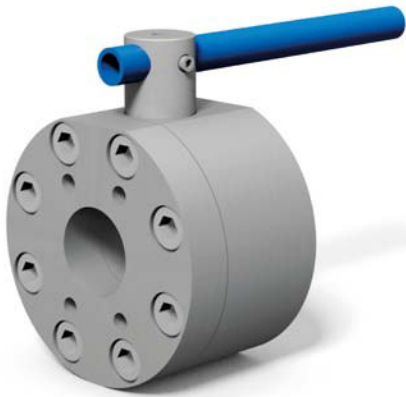
KH-SAE

CONNECTION TYPE	DIMENSIONS						ORDER CODE PER MATERIAL COMBINATION		
ISO 6162-1 (single flange pattern)	Type	a	b	M	t	Weight [Kg]	PN [bar]	282A	2828
	KH-DN65-SAE210	50,8	88,9	M12	19	33,50	175	32104	25933
	KH-DN80-SAE210	61,9	106,4	M16	24	33,50	100	30721	25934
	KH-DN80-SAE210	61,9	106,4	M16	24	39,40	160	58097	58098
	KH-DN100-SAE210	77,8	130,2	M16	24	60,50	35	30722	25935
	KH-DN125-SAE210	92,1	152,4	M16	30	95,50	35	14830	25936
	KH-DN65-SAE210	50,8	88,9	1/2" UNC	19	33,50	175	21886	10702
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	33,50	100	27427	10701
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	39,40	160	58101	58102
	KH-DN100-SAE210	77,8	130,2	5/8" UNC	24	60,50	35	27428	10700
	KH-DN125-SAE210	92,1	152,4	5/8" UNC	30	95,50	35	37954	10699

Two-way

# Flange ball valve with SAE connection metric / UNC Stainless Steel

KH-SAE



## AVAILABLE SIZES

DN15 - DN125 (5/8" to 5")

## CONNECTIONS

ISO 6162-1, ISO 6162-2 (single flange pattern)

## ACCESSORIES ON REQUEST

- Locking devices page 226 - 230
- Actuators 224 - 225
- Mounting holes on request
- Position switches on request
- Combinations on request
- Detent on request

## MATERIAL CODE DESCRIPTION

Materials	442A	4428
Body	Stainless Steel	Stainless Steel
Ball	Stainless Steel	Stainless Steel
Stem	Stainless Steel	Stainless Steel
Ball seats	POM	POM
O-rings	NBR	FPM
Tmin /Tmax	-10°C / 100°C	-10°C / 100°C

## GENERAL DIMENSIONS ISO 6162-1 (SAE210)

Type	LW	L	I	D	H	c	V	K	SW	H <sub>1</sub>	H <sub>2</sub>	Lever
KH-DN15	15	75	35	78	83	31	13	160	12	-	127	Al
KH-DN20	20	80	35	98	100	36,5	14	200	14	103	-	Zn
KH-DN25	25	88	38	118	113	39,5	14	200	14	116	-	Zn
KH-DN32	32	100	50	145	158	68	17	320	17	167	-	Al
KH-DN40	38	110	55	165	178	78	17	320	17	187	-	Al
KH-DN50	48	116	58	198	210	94	17	320	17	219	-	Al
KH-DN65	63	150	75	198	259	94	20	600	16	-	-	St <sup>(1)</sup>
KH-DN80 (PN100)	76	140	70	210	277	100	26	600	19	-	-	St <sup>(1)</sup>
KH-DN80 (PN160)	76	150	79	218	284	103,5	26	600	19	-	-	St <sup>(1)</sup>
KH-DN100	100	170	85	258	326	122	27	900	24	-	-	St <sup>(1)</sup>
KH-DN125	118	210	105	295	377	140	33	900	36	-	-	St <sup>(1)</sup>

## GENERAL DIMENSIONS ISO 6162-2 (SAE420)

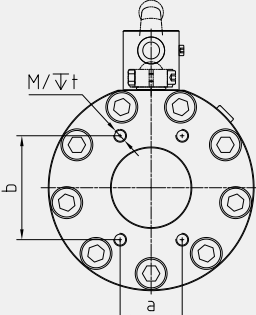
Type	LW	L	I	D	H	c	V	K	SW	H <sub>1</sub>	H <sub>2</sub>	Lever
KH-DN15	15	75	35	78	83	31	13	160	12	-	127	Al
KH-DN20	20	80	35	98	100	36,5	14	200	14	103	-	Zn
KH-DN25	25	88	38	118	113	39,5	14	200	14	116	-	Zn
KH-DN32	32	100	50	145	158	68	17	320	17	167	-	Al
KH-DN40	38	110	55	165	178	78	17	320	17	187	-	Al
KH-DN50	48	116	58	198	210	94	17	320	17	219	-	Al
KH-DN65	63	170	75	218	275	100	20	600	16	-	-	St <sup>(1)</sup>
KH-DN80 (PN100)	76	170	70	248	307	111	26	600	19	-	-	St <sup>(1)</sup>
KH-DN80 (PN420)	76	170	79	258	315	114,5	26	600	19	-	-	St <sup>(1)</sup>

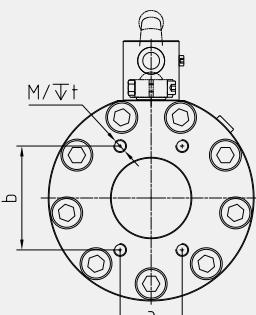
Please note the pressure ratings of the connection flanges!

<sup>(1)</sup> Lever must be fixed centrally during operation. In case of vibration the handle may otherwise operate the valve by itself.

# Flange ball valve with SAE connection metric / UNC Stainless Steel

KH-SAE

CONNECTION TYPE	DIMENSIONS						ORDER CODE PER MATERIAL COMBINATION		
	Type	a	b	M	t	Weight [Kg]	PN [bar]	442A	4428
<b>ISO 6162-1</b> (single flange pattern) 	KH-DN15-SAE210	17,5	38,1	M8	18	2,50	350	17228	37557
	KH-DN20-SAE210	22,2	47,6	M10	18	4,15	350	19946	37558
	KH-DN25-SAE210	26,2	52,4	M10	20	6,27	320	17229	37559
	KH-DN32-SAE210	30,2	58,7	M12 <sup>(2)</sup>	20	11,85	210	16115	37566
	KH-DN32-SAE210	30,2	58,7	M10	20	11,85	280	41727	41728
	KH-DN40-SAE210	35,7	69,9	M12	21	17,00	210	12818	13256
	KH-DN50-SAE210	42,9	77,8	M12	20	25,50	210	12819	13257
	KH-DN65-SAE210	50,8	88,9	M12	19	33,50	175	17592	13255
	KH-DN80-SAE210	61,9	106,4	M16	24	33,50	100	25309	13254
	KH-DN80-SAE210	61,9	106,4	M16	24	40,00	160	58099	58100
	KH-DN100-SAE210	77,8	130,2	M16	24	60,50	35	23662	32960
	KH-DN125-SAE210	92,1	152,4	M16	30	95,50	35	37567	37568
	KH-DN15-SAE210	17,5	38,1	5/16" UNC	18	2,50	350	24701	37813
	KH-DN20-SAE210	22,2	47,6	3/8" UNC	18	4,15	350	37815	37816
	KH-DN25-SAE210	26,2	52,4	3/8" UNC	20	6,27	320	37818	37941
	KH-DN32-SAE210	30,2	58,7	7/16" UNC	20	11,85	280	37943	37944
	KH-DN40-SAE210	35,7	69,9	1/2" UNC	20	17,00	210	37946	37947
	KH-DN50-SAE210	42,9	77,8	1/2" UNC	20	25,50	210	27350	37949
	KH-DN65-SAE210	50,8	88,9	1/2" UNC	19	33,50	175	37950	37951
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	33,50	100	33274	37952
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	40,00	160	58103	58104
	KH-DN100-SAE210	77,8	130,2	5/8" UNC	24	60,50	35	24717	37953
	KH-DN125-SAE210	92,1	152,4	5/8" UNC	30	95,50	35	37955	37956

CONNECTION TYPE	DIMENSIONS						ORDER CODE PER MATERIAL COMBINATION		
	Type	a	b	M	t	Weight [Kg]	PN [bar]	442A	4428
<b>ISO 6162-2</b> (single flange pattern) 	KH-DN15-SAE420	18,2	40,5	M8	18	2,50	420	26159	37571
	KH-DN20-SAE420	23,8	50,8	M10	18	4,25	420	16937	37572
	KH-DN25-SAE420	27,8	57,2	M12	20	6,30	420	37569	37570
	KH-DN32-SAE420	31,8	66,7	M14 <sup>(2)</sup>	22	11,80	400	16114	37573
	KH-DN32-SAE420	31,8	66,7	M12	22	11,80	420	41731	41732
	KH-DN40-SAE420	36,5	79,4	M16	27	16,90	420	14401	16313
	KH-DN50-SAE420	44,5	96,8	M20	28	25,30	420	16113	37574
	KH-DN65-SAE420	123,8	58,7	M24	41	44,50	420	46354	46355
	KH-DN80-SAE420	152,4	71,4	M30	47	55,00	100	46356	46357
	KH-DN80-SAE420	152,4	71,4	M30	47	63,50	420	58105	58106
	KH-DN15-SAE420	18,2	40,5	5/16" UNC	18	2,50	420	37958	37959
	KH-DN20-SAE420	23,8	50,8	3/8" UNC	18	4,25	420	37961	37962
	KH-DN25-SAE420	27,8	57,2	7/16" UNC	20	6,30	420	37964	14241
	KH-DN32-SAE420	31,8	66,7	1/2" UNC	22	11,80	420	37966	18654
	KH-DN40-SAE420	36,5	79,4	5/8" UNC	24	16,90	420	27349	14242
	KH-DN50-SAE420	44,5	96,8	3/4" UNC	30	25,30	420	29020	14243

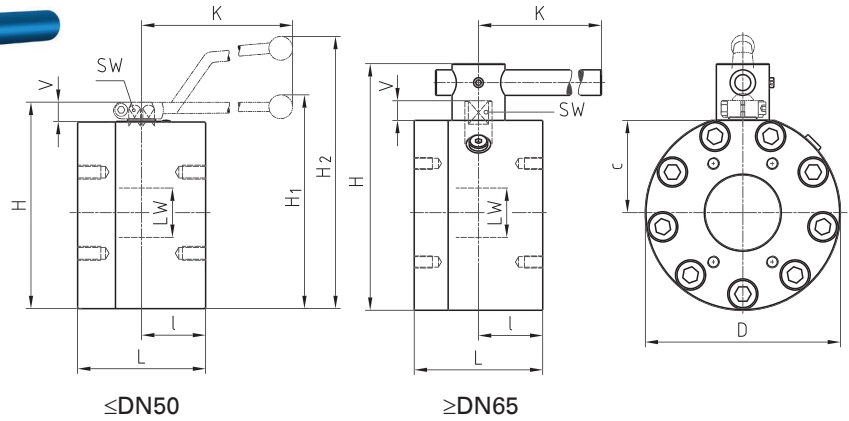
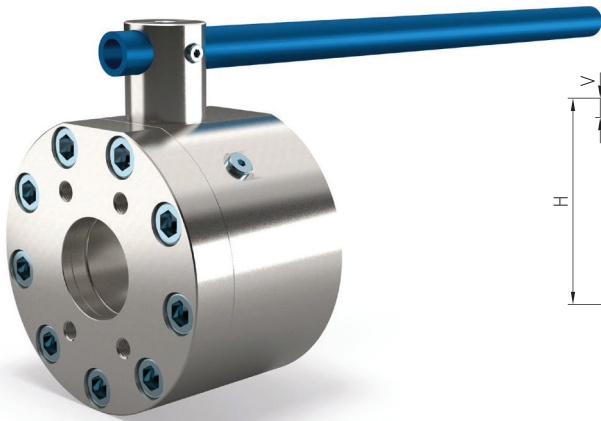
<sup>(2)</sup>This version is not to be used for new designs.

Two-way

# Flange ball valve with SAE connection metric / UNC Stainless Steel

**KH-SAE**

Two-way



## AVAILABLE SIZES

DN15 - DN125 (5/8" to 5")

## CONNECTIONS

ISO 6162-1, ISO 6162-2 (single flange pattern)

## ACCESSORIES ON REQUEST

- Locking devices page 230 - 234
- Actuators 228 - 229
- Mounting holes on request
- Position switches on request
- Combinations on request
- Detent on request

## MATERIAL CODE DESCRIPTION

Materials	442A	4428
Body	Stainless Steel	Stainless Steel
Ball	Stainless Steel	Stainless Steel
Stem	Stainless Steel	Stainless Steel
Ball seats	POM	POM
O-rings	NBR	FPM
Tmin / Tmax	-10°C / 100°C	-10°C / 100°C

## GENERAL DIMENSIONS ISO 6162-1 (SAE210)

Type	LW	L	I	D	H	c	V	K	SW	H <sub>1</sub>	H <sub>2</sub>	Lever
KH-DN15	15	75	35	78	83	31	13	160	12	-	127	Al
KH-DN20	20	80	35	98	100	36,5	14	200	14	103	-	Zn
KH-DN25	25	88	38	118	113	39,5	14	200	14	116	-	Zn
KH-DN32	32	100	50	145	158	68	17	320	17	167	-	Al
KH-DN40	38	110	55	165	178	78	17	320	17	187	-	Al
KH-DN50	48	116	58	198	210	94	17	320	17	219	-	Al
KH-DN65	63	150	75	198	259	94	20	600	16	-	-	St <sup>(1)</sup>
KH-DN80 (PN100)	76	140	70	210	277	100	26	600	19	-	-	St <sup>(1)</sup>
KH-DN80 (PN160)	76	150	79	218	284	103,5	26	600	19	-	-	St <sup>(1)</sup>
KH-DN100	100	170	85	258	326	122	27	900	24	-	-	St <sup>(1)</sup>
KH-DN125	118	210	105	295	377	140	33	900	36	-	-	St <sup>(1)</sup>

## GENERAL DIMENSIONS ISO 6162-2 (SAE420)

Type	LW	L	I	D	H	c	V	K	SW	H <sub>1</sub>	H <sub>2</sub>	Lever
KH-DN15	15	75	35	78	83	31	13	160	12	-	127	Al
KH-DN20	20	80	35	98	100	36,5	14	200	14	103	-	Zn
KH-DN25	25	88	38	118	113	39,5	14	200	14	116	-	Zn
KH-DN32	32	100	50	145	158	68	17	320	17	167	-	Al
KH-DN40	38	110	55	165	178	78	17	320	17	187	-	Al
KH-DN50	48	116	58	198	210	94	17	320	17	219	-	Al
KH-DN65	63	170	75	218	275	100	20	600	16	-	-	St <sup>(1)</sup>
KH-DN80 (PN100)	76	170	70	248	307	111	26	600	19	-	-	St <sup>(1)</sup>
KH-DN80 (PN420)	76	170	79	258	315	114,5	26	600	19	-	-	St <sup>(1)</sup>

Please note the pressure ratings of the connection flanges!

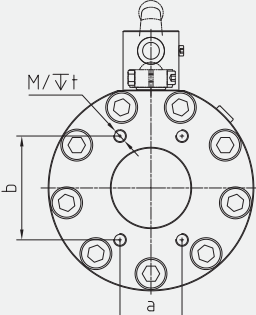
<sup>(1)</sup> Lever must be fixed centrally during operation. In case of vibration the lever may otherwise operate the valve by itself.

**! We stamp the valves with the flange pressure rating in accordance with ISO 6162-1 as stated above. Nevertheless the valve is suitable for usage up to 210 bar if higher-rated flanges are used.**

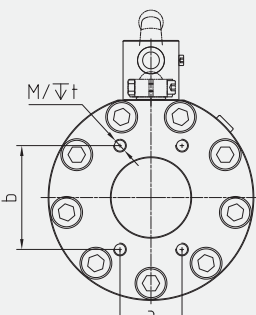


# Flange ball valve with SAE connection metric / UNC Stainless Steel

## KH-SAE

CONNECTION TYPE	DIMENSIONS						ORDER CODE PER MATERIAL COMBINATION		
	Type	a	b	M	t	Weight [Kg]	PN [bar]	442A	4428
<b>ISO 6162-1</b> (single flange pattern) 	KH-DN15-SAE210	17,5	38,1	M8	18	2,50	350	17228	37557
	KH-DN20-SAE210	22,2	47,6	M10	18	4,15	350	19946	37558
	KH-DN25-SAE210	26,2	52,4	M10	20	6,27	320	17229	37559
	KH-DN32-SAE210	30,2	58,7	M12 <sup>(2)</sup>	20	11,85	280	16115	37566
	KH-DN32-SAE210	30,2	58,7	M10	20	11,85	280	41727	41728
	KH-DN40-SAE210	35,7	69,9	M12	21	17,00	210	12818	13256
	KH-DN50-SAE210	42,9	77,8	M12	20	25,50	210	12819	13257
	KH-DN65-SAE210	50,8	88,9	M12	19	33,50	175	17592	13255
	KH-DN80-SAE210	61,9	106,4	M16	24	33,50	100	25309	13254
	KH-DN80-SAE210	61,9	106,4	M16	24	40,00	160	58099	58100
	KH-DN100-SAE210	77,8	130,2	M16	24	60,50	35	23662	32960
	KH-DN125-SAE210	92,1	152,4	M16	30	95,50	35	37567	37568
	KH-DN15-SAE210	17,5	38,1	5/16" UNC	18	2,50	350	24701	37813
	KH-DN20-SAE210	22,2	47,6	3/8" UNC	18	4,15	350	37815	37816
	KH-DN25-SAE210	26,2	52,4	3/8" UNC	20	6,27	320	37818	37941
	KH-DN32-SAE210	30,2	58,7	7/16" UNC	20	11,85	280	37943	37944
	KH-DN40-SAE210	35,7	69,9	1/2" UNC	20	17,00	210	37946	37947
	KH-DN50-SAE210	42,9	77,8	1/2" UNC	20	25,50	210	27350	37949
	KH-DN65-SAE210	50,8	88,9	1/2" UNC	19	33,50	175	37950	37951
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	33,50	100	33274	37952
	KH-DN80-SAE210	61,9	106,4	5/8" UNC	24	40,00	160	58103	58104
	KH-DN100-SAE210	77,8	130,2	5/8" UNC	24	60,50	35	24717	37953
	KH-DN125-SAE210	92,1	152,4	5/8" UNC	30	95,50	35	37955	37956

Two-way

CONNECTION TYPE	DIMENSIONS						ORDER CODE PER MATERIAL COMBINATION		
	Type	a	b	M	t	Weight [Kg]	PN [bar]	442A	4428
<b>ISO 6162-2</b> (single flange pattern) 	KH-DN15-SAE420	18,2	40,5	M8	18	2,50	420	26159	37571
	KH-DN20-SAE420	23,8	50,8	M10	18	4,25	420	16937	37572
	KH-DN25-SAE420	27,8	57,2	M12	20	6,30	420	37569	37570
	KH-DN32-SAE420	31,8	66,7	M14 <sup>(2)</sup>	22	11,80	420	16114	37573
	KH-DN32-SAE420	31,8	66,7	M12	22	11,80	420	41731	41732
	KH-DN40-SAE420	36,5	79,4	M16	27	16,90	420	14401	16313
	KH-DN50-SAE420	44,5	96,8	M20	28	25,30	420	16113	37574
	KH-DN65-SAE420	123,8	58,7	M24	41	44,50	420	46354	46355
	KH-DN80-SAE420	152,4	71,4	M30	47	55,00	100	46356	46357
	KH-DN80-SAE420	152,4	71,4	M30	47	63,50	420	58105	58106
	KH-DN15-SAE420	18,2	40,5	5/16" UNC	18	2,50	420	37958	37959
	KH-DN20-SAE420	23,8	50,8	3/8" UNC	18	4,25	420	37961	37962
	KH-DN25-SAE420	27,8	57,2	7/16" UNC	20	6,30	420	37964	14241
	KH-DN32-SAE420	31,8	66,7	1/2" UNC	22	11,80	420	37966	18654
	KH-DN40-SAE420	36,5	79,4	5/8" UNC	24	16,90	420	27349	14242
	KH-DN50-SAE420	44,5	96,8	3/4" UNC	30	25,30	420	29020	14243

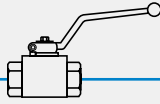
<sup>(2)</sup>This version is not to be used for new designs.



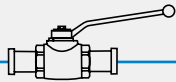
# MHA ZENTGRAF

FlowControl Technology

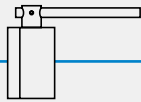
2-way threaded  
DN 4 to DN 50



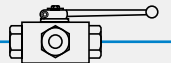
2-way SAEFS  
DN 4 to DN 50



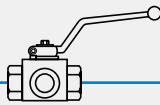
2-way flanged  
DN 15 to DN 200



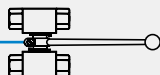
3- and 4-way  
DN 6 to DN 40



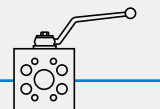
3-way selector  
DN 6 to DN 50



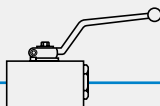
Combinations  
DN 6 to DN 50



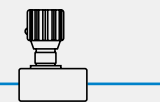
Intermediate  
DN 13 to DN 50



Manifold  
DN 6 to DN 50



Flow control  
DN 6 to DN 50



[www.mha-zentgraf.com](http://www.mha-zentgraf.com)  
[info@mha-zentgraf.com](mailto:info@mha-zentgraf.com)

After a custom solution?  
- Speak with us now!