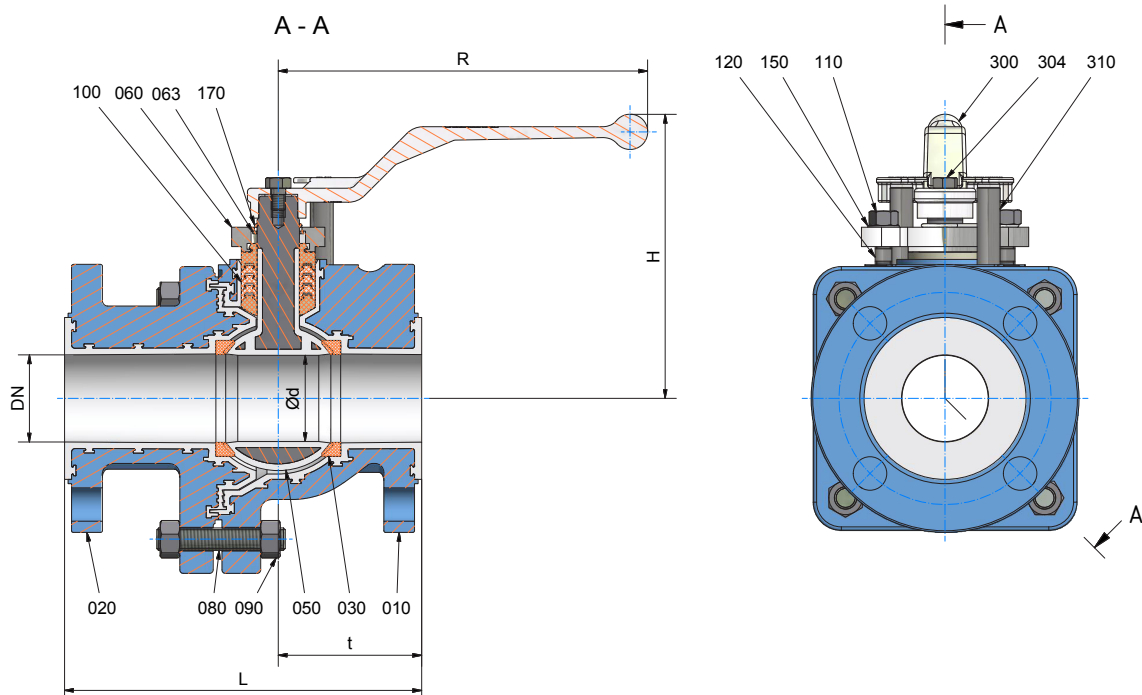


Register 27 CONTENTS - AKH8A

Contents

<i>Technical Data AKH8A</i>	<i>2</i>
<i>Material specification AKH8A.....</i>	<i>3</i>
<i>Dimensions AKH8A</i>	<i>4</i>
<i>Assembly Instructions AKH8A</i>	<i>5</i>
<i>Disassembly Instructions for AKH8A</i>	<i>6</i>
<i>AKH8A - recommended tightening torques*</i>	<i>7</i>
<i>AKH8A - Actuator Sizing Torques.....</i>	<i>7</i>
<i>AKH8A with kit for actuator mounting</i>	<i>8</i>
<i>AKH8A/DA with pressure compensation grooves by slotted seat ring</i>	<i>9</i>
<i>Special cleaning and packaging procedures</i>	<i>10</i>
<i>Optional ball with side vent hole</i>	<i>11</i>
<i>Optional with C-ball</i>	<i>12</i>
<i>Optional with V-ball.....</i>	<i>13</i>

Technical Data AKH8A



Face to Face dimensions ISO 5752 Tab. 6, short
 ASTM B 16.10, short
 Flange Connections ASTM B 16.5 Cass 150,
 Min. flange thickness acc.
 to ASME B 16.5 Cass 150,
 Table 9 (Flanged Fittings)

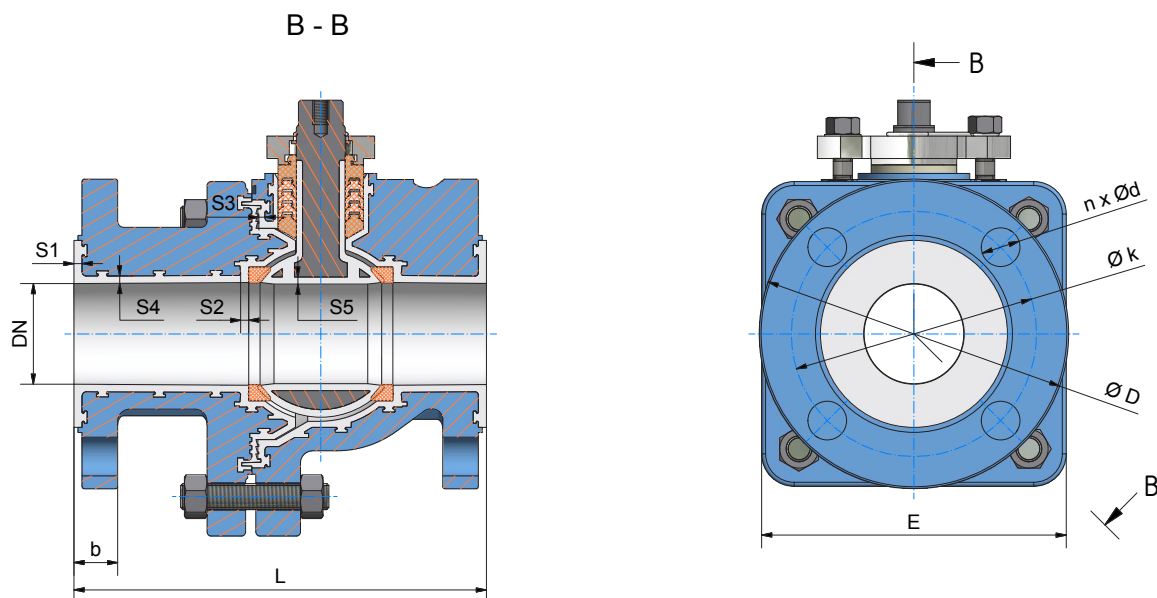
DN		L	H	R	t	Ød	weight	
1"	mm	127	127,5	210	55,5	24	kg	7,4
	inch	5	5,02	8,27	2,19	0,94	lbs	16,3
1½"	mm	165	155,5	312,5	68,5	38	kg	11,9
	inch	6,5	6,12	12,3	2,7	1,5	lbs	26,2
2"	mm	178	161,5	312,5	81,5	49	kg	15,7
	inch	7	6,36	12,3	3,21	1,93	lbs	34,6
3"	mm	203	209	410	88	72	kg	31,2
	inch	8	8,23	16,14	3,46	2,83	lbs	68,8
4"	mm	229	224	410	101	95	kg	43,9
	inch	9	8,82	16,14	3,98	3,74	lbs	96,8
6"	mm	267	299	900	114	130	kg	96,8
	inch	10,5	11,77	35,43	4,49	5,12	lbs	213,4

Material specification AKH8A

No.	Designation	Quantity	Material	Material-No. / DIN	ASTM / AISI
010	body	1	ductile iron / PFA	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
		1	ductile iron / PFA conductive	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
020	side piece	1	ductile iron / PFA	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
		1	ductile iron / PFA conductive	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
030	seat ring	2	PTFE	pure - PTFE	
		2	PTFE conductive		
050	ball with stem unit	1	duplex stainless steel / PFA		A 995 Gr. CD4MCuN
		1	duplex stainless steel / PFA conductive		
060	gland follower	1	stainless steel	1.4308 / DIN EN 10283	A 743 CF-8
063	anti blow out ring	1	stainless steel	1.4301 / DIN EN 10088-3	A 194 8
080	stud bolt	1 set	stainless steel	1.4301 / DIN EN 10088-3	A 193 B8
090	hexagon nut	1 set	stainless steel	1.4301 / DIN EN 10088-3	A 194 8
150	serrated lock washer	2	stainless steel	1.4301 / DIN EN 10088-3	AISI 304
100	packing material (chevron)	1 set	PTFE		
		1 set	PTFE-Graphite		
110	hexagon nut	1 set	stainless steel	1.4301 / DIN EN 10088-3	A 194 8
120	stud bolt	2	stainless steel	1.4301 / DIN EN 10088-3	A 194 B8
170	grounding device	1	stainless steel	1.4310 / DIN EN 10270-3	AISI 301
300	hand lever				
	DN1" - 4"	1	die cast metall	ZP0410 / DIN EN 12844	
	DN6"	1	steel	1.0037 / DIN EN 10025-2	A 283 B
304	hexagon bolt	1	stainless steel	1.4301 / DIN EN 10088-3	A 193 B8
310	stop	2	stainless steel	1.4301 / DIN EN 10088-3	AISI 304

Valves with conductive lining only contain components with conductive materials

Dimensions AKH8A



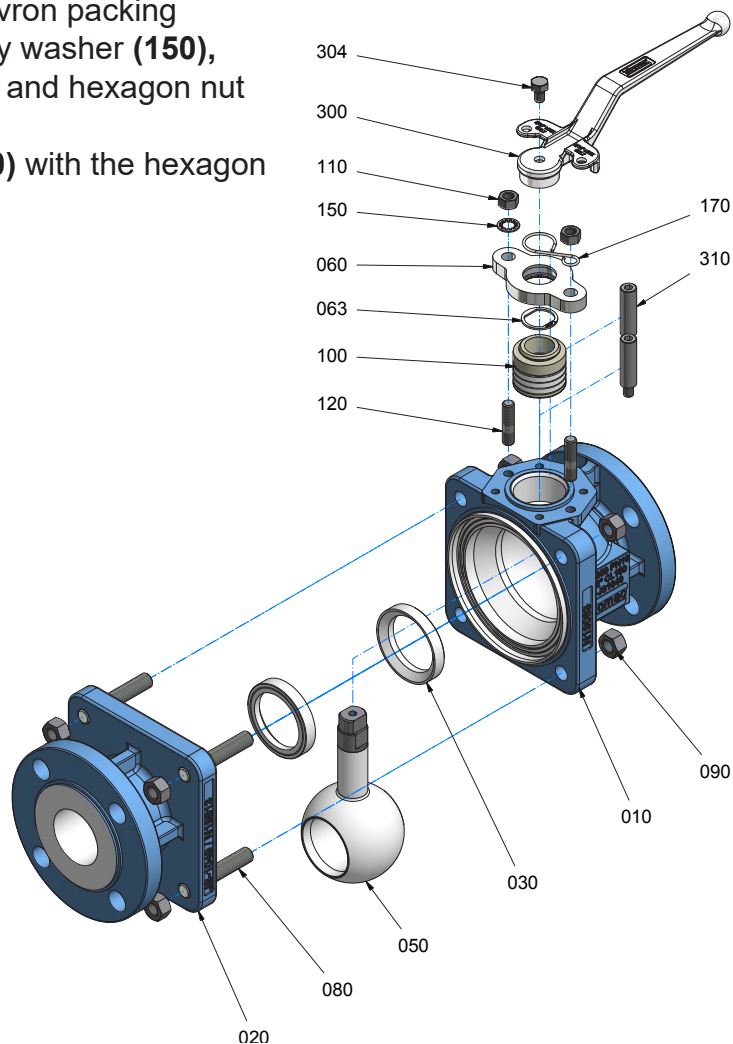
DN		L	b	ØD	Øk	nxØd	S1	S2	S3	S4	S5	E
1"	mm	127	17	108	79,2	4x16	4	3	3	3,5	2,5	105
	inch	5	0,67	4,25	3,12	4x0,63	0,16	0,12	0,12	0,14	0,10	4,13
1½"	mm	165	20	127	98,6	4x16	4	4	4	3,5	3,25	144
	inch	6,5	0,79	5	3,88	4x0,63	0,16	0,14	0,14	0,14	0,13	5,67
2"	mm	178	21,5	152,4	120,7	4x19	4	4	4	3,5	3	150
	inch	7	0,85	6	4,75	4x0,75	0,16	0,16	0,14	0,14	0,12	5,91
3"	mm	203	26,5	190,5	152,4	4x19	4	3,5	4,0	4,5	4,25	236
	inch	7,99	1,04	7,5	6	4x0,75	0,16	0,14	0,16	0,18	0,17	9,29
4"	mm	229	26,5	228,6	190,5	8x19	4	5	4,0	5,5	4,75	266
	inch	9	1,04	9	7,5	8x0,75	0,16	0,2	0,16	0,22	0,19	10,47
6"	mm	267	28	279,4	241,5	8x22,5	4	5	4	6	4,5	350
	inch	10,5	1,1	11	9,51	8x0,89	0,16	0,2	0,16	0,24	0,18	13,78

- stem lining at least 2,5mm (0,098 inch)

Assembly Instructions AKH8A

The general installation and maintenance instructions must be observed.

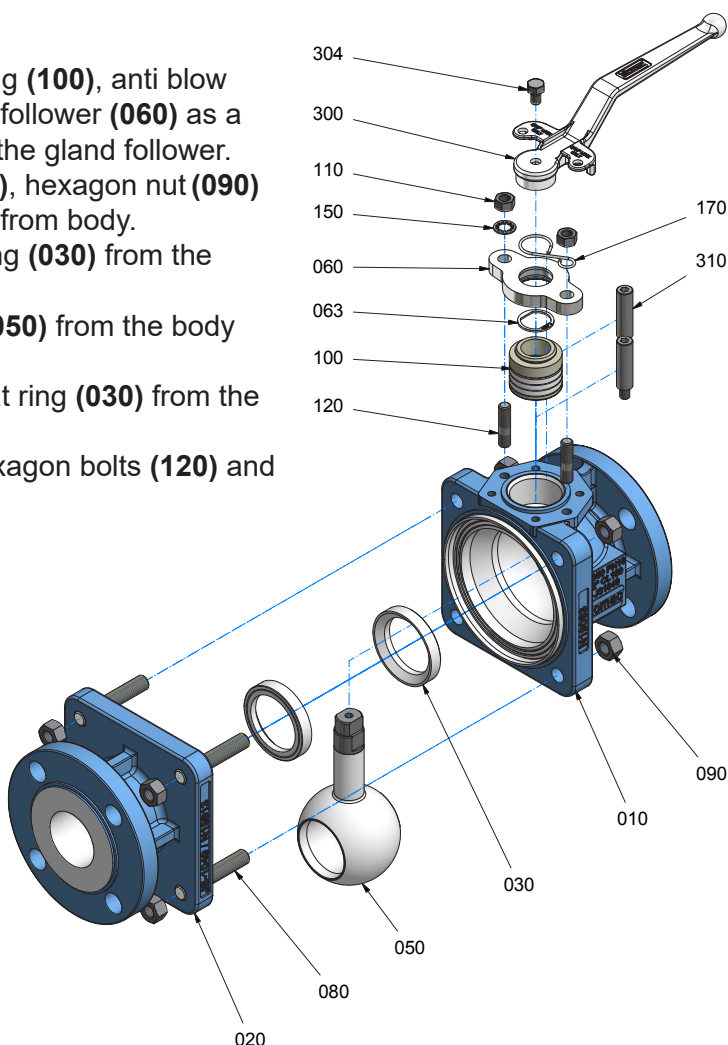
1. Assemble stops (**310**).
2. Screw hexagon bolts (**120**) into the body.
3. Insert first ball seat ring (**030**) into body (**010**).
4. Insert ball/stem unit (**050**) into the body (**010**).
5. Install second ball seat ring (**030**) on to ball (**050**).
6. Install side piece (**020**) on to body (**010**).
7. Install body bolts (**080**) and hexagon nuts (**090**) and tighten by crisscross method to recommended torques.
8. Assemble chevron packing (**100**), gland follower (**060**) and blow out ring (**063**).
9. Insert assembled chevron packing (**100, 060, 063**), safety washer (**150**), grounding strap (**170**) and hexagon nut (**120**).
10. Install hand lever (**300**) with the hexagon bolt (**304**).



Disassembly Instructions for AKH8A

For all jobs which are to be carried out on an installed valve, the works safety requirements and the general accident prevention instructions must be observed. Moreover, the general installation and maintenance instructions for atomac fluorocarbon resin lined valves must be considered.

1. Prior to disassembly, the valve must be cleared of all fluid according to the above-mentioned instructions. Particular care must be taken that during rinsing and draining of the piping, the valve is opened and closed repeatedly. These cycles (opening and closing) are to be repeated during draining of the piping. Only when following this procedure, is it ensured that all remaining pressure inside the body (stem guide and ball seats) is eliminated.
2. For disassembly of the valve, put body on a work bench with a soft cover (rubber mat). Remove hexagon bolt (304) and hand lever (300).
3. Release hexagon nut (120) and disassemble grounding device (170) and safety washer (150).
4. Remove Chevron packing (100), anti blow out ring (063) and gland follower (060) as a complete unit by pulling the gland follower.
5. Remove body bolts (080), hexagon nut (090) and separate side piece from body.
6. Remove first ball seat ring (030) from the side piece (020).
7. Remove ball/stem unit (050) from the body (010).
8. Remove second ball seat ring (030) from the body (010).
9. If necessary, remove hexagon bolts (120) and hand lever stops (310).



AKH8A - recommended tightening torques*

DN	tie rods (080/090)		connection flange		gland bolts (100/110/120)	
	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
1"	26	230	15	133	4	35
1½"	54	478	26	230	7	62
2"	80	708	60	531	7	62
3"	84	743	100	885	8	71
4"	138	1221	76	673	8	71
6"	161	1425	129	1142	12	106

* maximum value

When bolting together dissimilar materials, always tighten to the lowest recommended torque of the components in the joint. Using higher torques may cause excessive deformation of the „softer“ material in the joint

AKH8A - Actuator Sizing Torques

Packingmaterial: chevron PTFE or PTFE-graphite

• for clean and clear application

Size	0 bar Δ p	0 psi Δ p	10 bar Δ p	150 psi Δ p	19 bar Δ p	275 psi Δ p	MAST	
	Nm	· in	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
1"	10	89	10	85	10	89	60	531
1½"	20	177	33	292	41	363	131	1159
2"	25	221	41	363	54	478	131	1159
3"	60	531	102	903	130	1151	502	4443
4"	80	708	143	1266	190	1682	502	4443
6"	252	2230	360	3186	432	3824	1329	11763

• for dry and slurry application

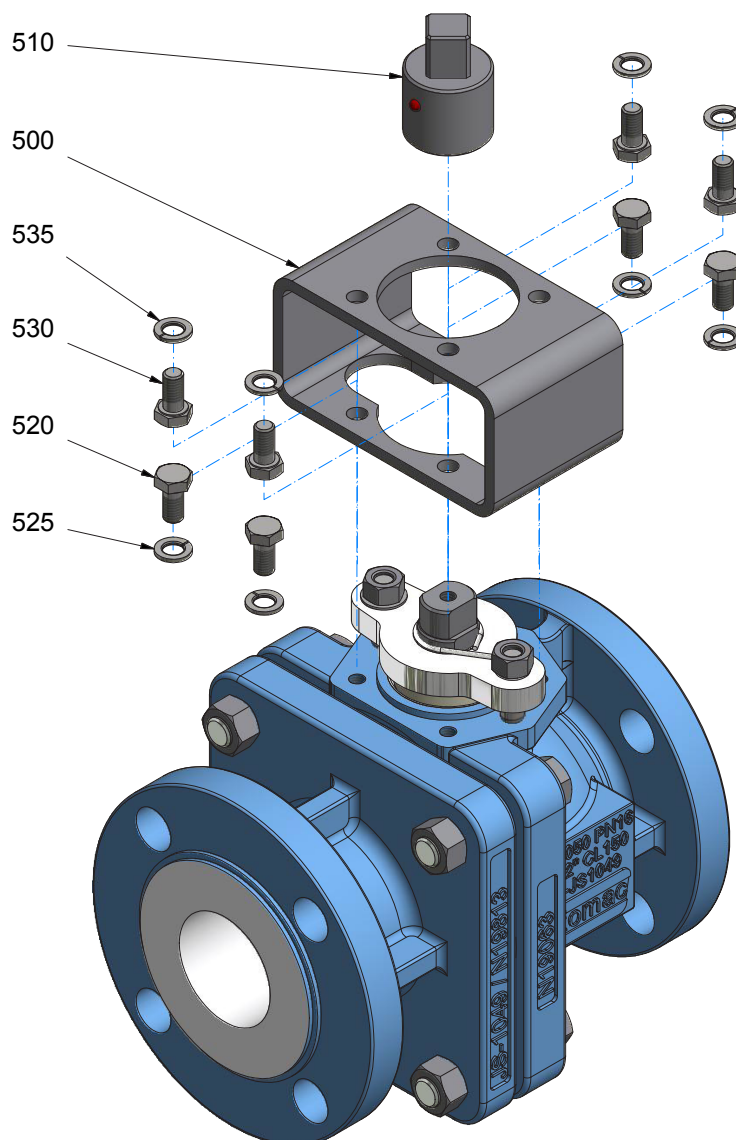
Size	0 bar Δ p	0 psi Δ p	10 bar Δ p	150 psi Δ p	19 bar Δ p	275 psi Δ p	MAST	
	Nm	· in	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
1"	13	115	12	110	13	115	60	531
1½"	26	230	43	380	54	478	131	1159
2"	33	292	53	472	71	628	131	1159
3"	78	690	133	1174	169	1496	502	4443
4"	104	920	186	1645	247	2186	502	4443
6"	328	2903	468	4142	562	4974	1329	11763

* reduced port

- Stated torques are sizing torques. No further safety factors are to be applied against these torques.
- The use of ceramic balls in lined valves will result in 15% higher sizing torques.
- The use of C-Balls or V-Balls does not result in change in sizing torques.
- Stated sizing torques are „Break-Open“ and „Re-Seating“ torques. Running torques are typically 35% below sizing torques.
- The stated „MAST“ value is the Maximum Allowable Stem Torque. Beyond this value permanent deformation / destruction of liner is to be expected.
- Please note the service conditions of the pressure- / vacuum-temperature-diagrams: register 1, page 13.

AKH8A with kit for actuator mounting

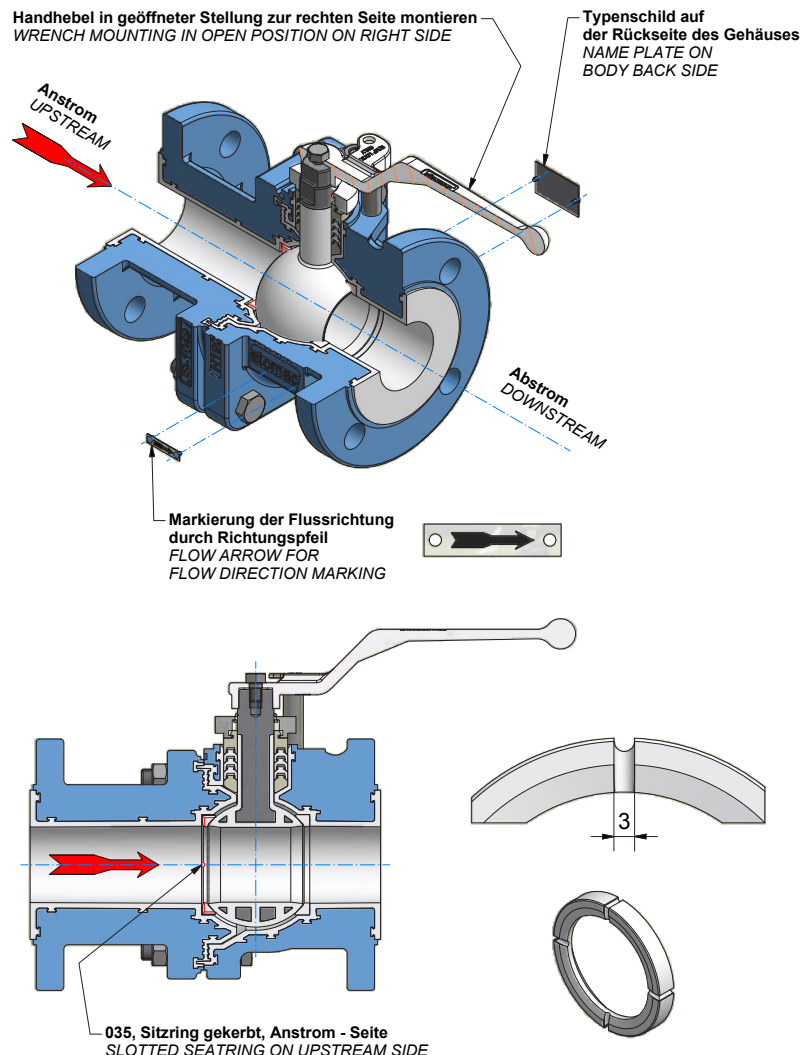
No.	Designation	Quantity	Material	Material-No.	DIN	ASTM / AISI
500	bracket	1	steel (yellow chromated)	1.0037	DIN EN 10025-2	A 283-B
510	adapter	1	stainless steel	1.4101	DIN EN 10088-3	AISI 430 F
520	hexagon bolt	4	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
525	serrated lock washer	4	stainless steel	1.4301	DIN EN 10088-3	AISI 304
530	hexagon bolt	1 set	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
535	serrated lock washer	1 set	stainless steel	1.4301	DIN EN 10088-3	AISI 304



AKH8A/DA with pressure compensation grooves by slotted seat ring

See material specification AKH8A page 3.

No.	Designation	Quantity	Material	Material-No. / DIN	ASTM / AISI
035	seat ring with pressure compensation grooves	1	PTFE	pure - PTFE	



See Assembly Instructions AKH8A page 5.

Attention, please take care of the tight direction of indicator while assembly.

9. Install ball seat ring with pressure compensation grooves (035) on to ball (050).
Disassembly instruction see AKH8A page 6

Special cleaning and packaging procedures

1. Recleaning

The ball valve should be thoroughly cleaned with a clean, dry, lint-free towel and blown off with dry nitrogen gas. This will assure that the valve is free from moisture, grease and other media before packing.

2. Packing

Prior to packing, the ball valve should be jig welded in a PE-foil (0.2 mm thick). The bag contains desiccants acc. to DIN 55473, quantity acc. to DIN 55474 and a moisture indicator.

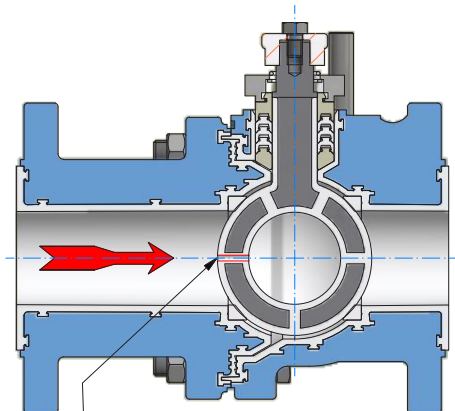
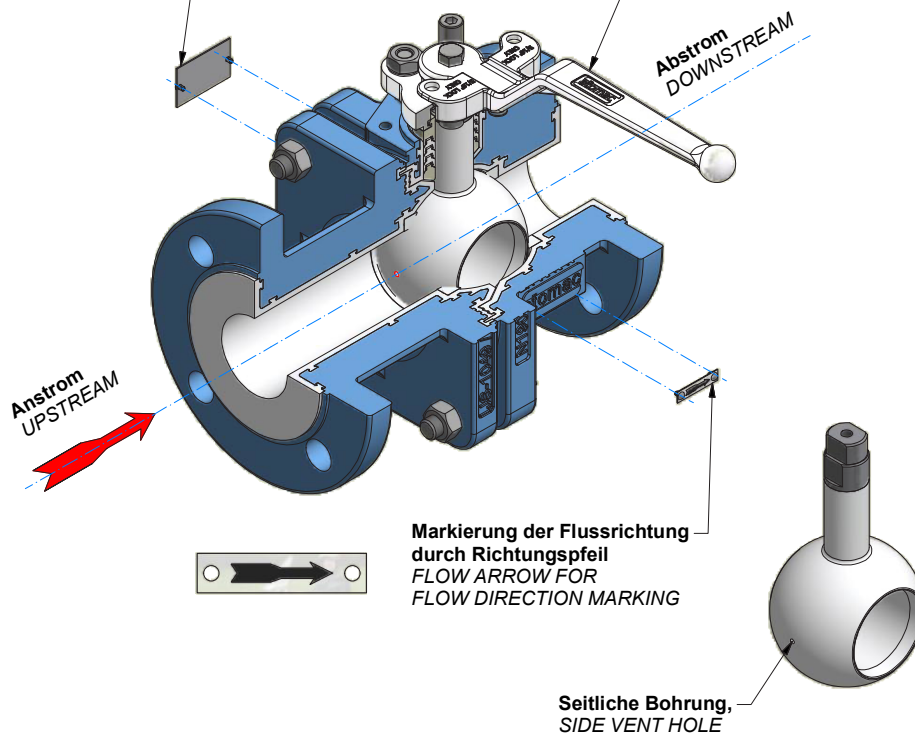
AKH8A - K_v Data and C_v Data (DIN EN 60534-2-3)

DIN	K_v m ³ /h	C_v gal/min
1"	46,6	54,1
1½"	126,9	147,5
2"	202,5	235,4
3"	507,8	590,2
4"	953,4	1108,1
6"	1577,7	1833,8

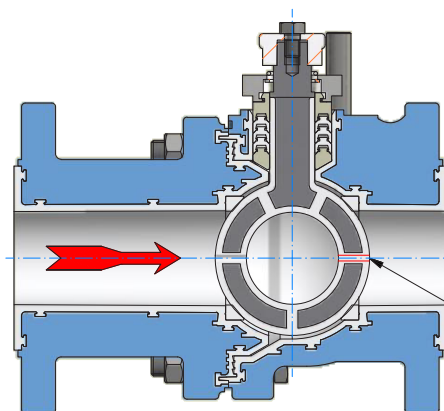
Optional ball with side vent hole

Handhebel in geöffneter Stellung zur rechten Seite montieren
WRENCH MOUNTING IN OPEN POSITION ON RIGHT SIDE

Typenschild auf der Rückseite des Gehäuses
NAME PLATE ON BODY BACK SIDE



STANDARD
Seitliche Bohrung, Anstrom - Seite
SIDE VENT HOLE ON UPSTREAM SIDE

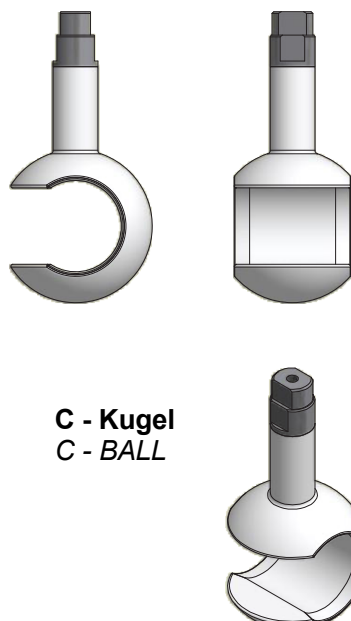
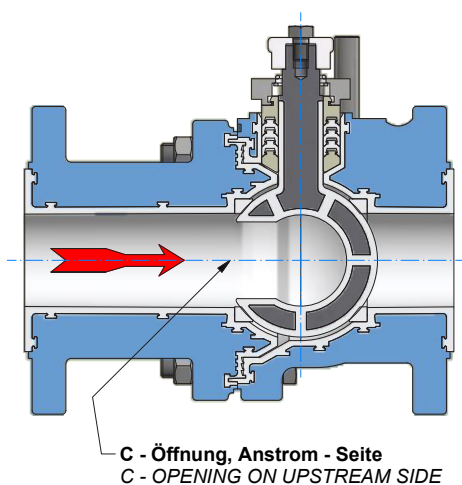
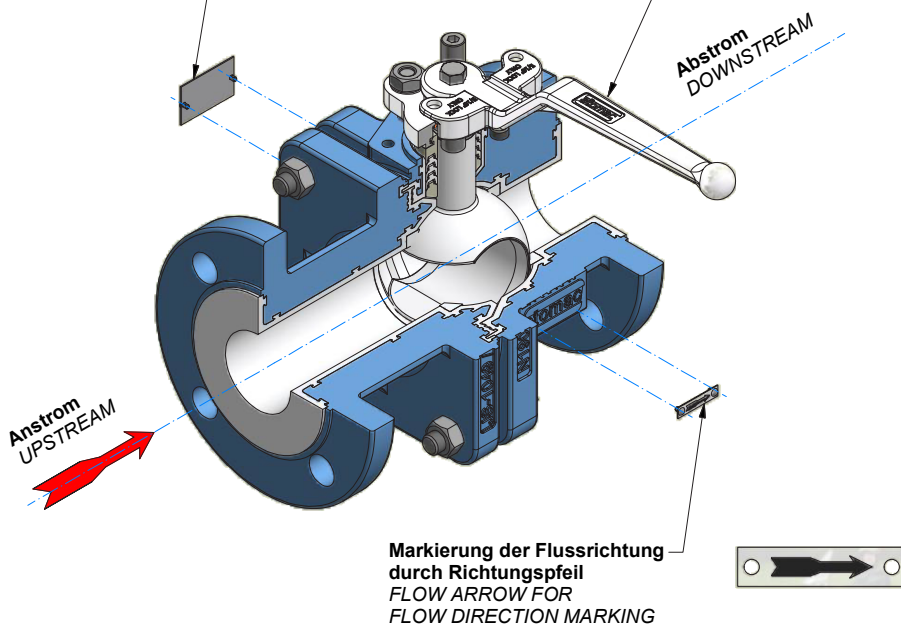


OPTIONAL
Seitliche Bohrung, Abstrom - Seite
SIDE VENT HOLE ON DOWNSTREAM SIDE

Optional with C-ball

Handhebel in geöffneter Stellung zur rechten Seite montieren
WRENCH MOUNTING IN OPEN POSITION ON RIGHT SIDE

Typenschild auf der Rückseite des Gehäuses
NAME PLATE ON BODY BACK SIDE

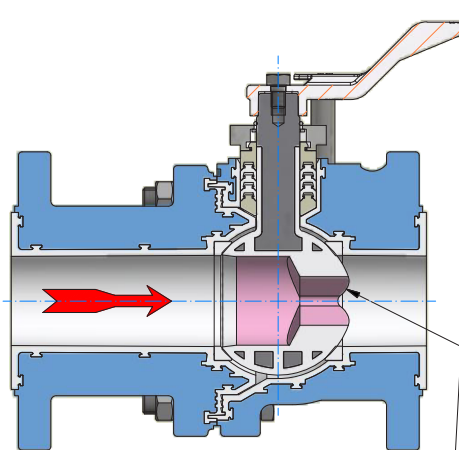
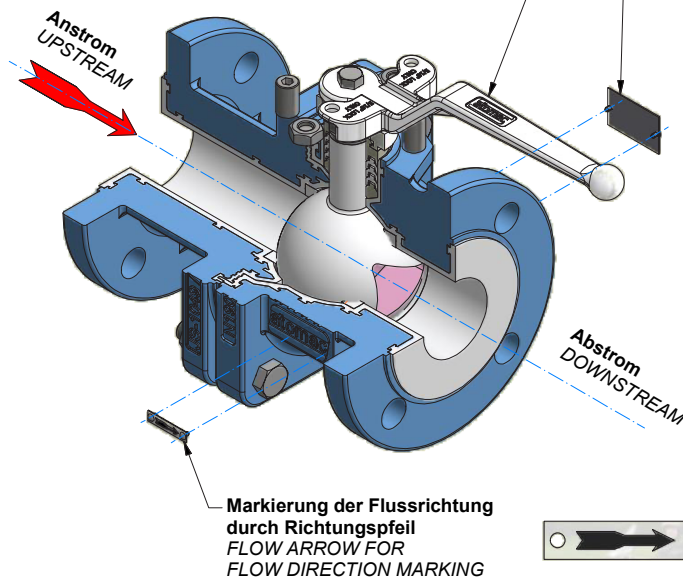


**C - Kugel
C - BALL**

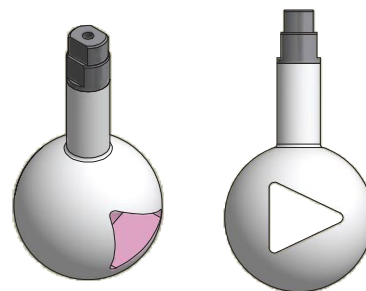
Optional with V-ball

Handhebel in geöffneter Stellung zur rechten Seite montieren
WRENCH MOUNTING IN OPEN POSITION ON RIGHT SIDE

Typenschild auf
der Rückseite des Gehäuses
NAME PLATE ON
BODY BACK SIDE



Kleine Öffnung, Abstrom - Seite
SMALL OPENING ON DOWNSTREAM SIDE



V - Kugel
V - BALL

