



For further information
please contact CRP Ltd.
Tel. +44(0)1706 756 400
web. www.crp.co.uk
email. enquiry@crp.co.uk

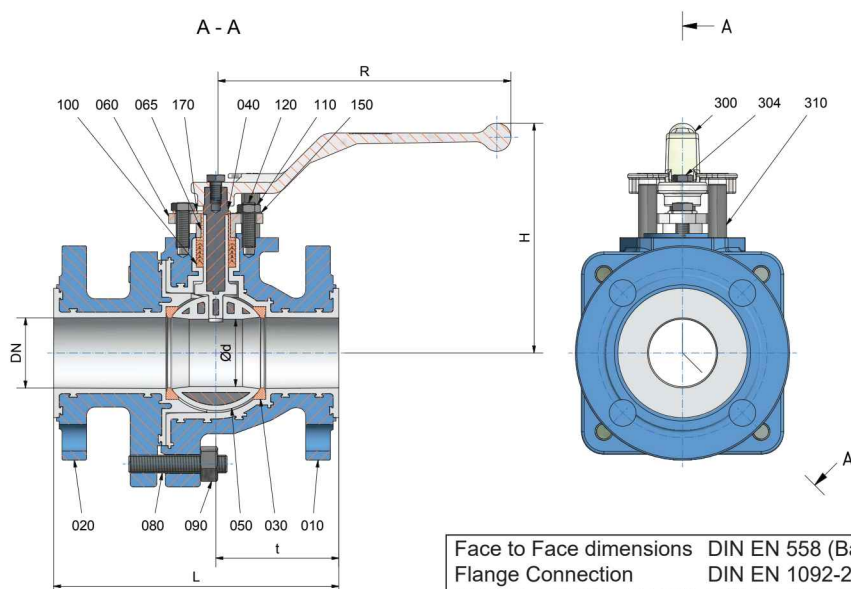
Register 2

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Technical Data AKH2 (DIN)



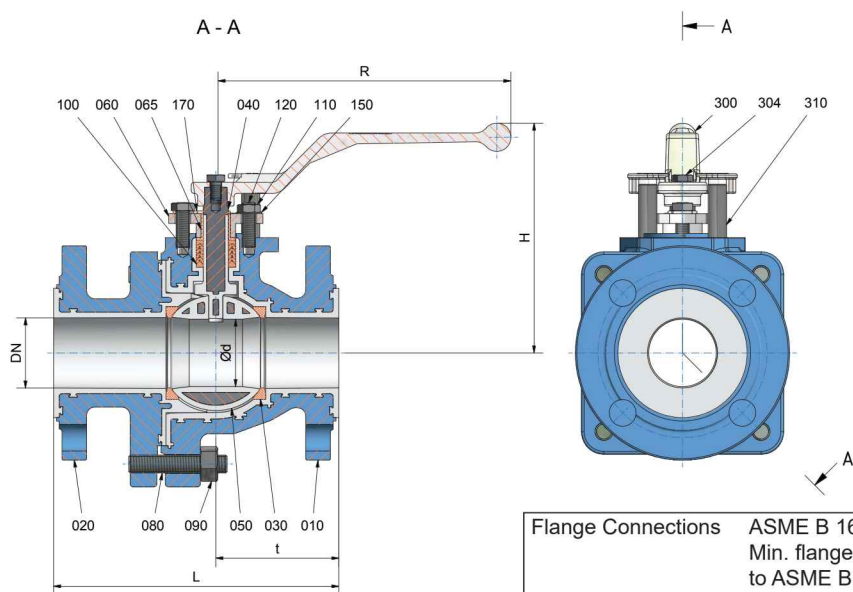
DN / DIN		L	H	R	t	Ød	weight	
015	mm	130	121,5	160	59,5	15	kg	4,0
	inch	5,12	4,78	6,3	2,34	0,59	lbs	8,8
020	mm	150	121,5	160	69,5	20	kg	4,8
	inch	5,9	4,78	6,3	2,7	0,8	lbs	10,6
025	mm	160	124	160	65,5	24	kg	5,4
	inch	6,3	4,88	6,3	2,58	0,9	lbs	11,9
032	mm	180	145	210	81	32	kg	10,2
	inch	7,09	5,71	8,27	3,19	1,26	lbs	22,5
040	mm	200	150	210	80	38	kg	10,7
	inch	7,87	5,91	8,27	3,15	1,5	lbs	23,6
050	mm	230	165,5	210	87,5	48	kg	14,1
	inch	9,06	6,52	8,27	3,44	1,89	lbs	31,1
065	mm	290	205	313	108	65	kg	24,0
	inch	11,42	8,07	12,32	4,25	2,56	lbs	52,9
080	mm	310	212	313	118	80	kg	31,0
	inch	12,2	8,35	12,32	4,65	3,15	lbs	68,3
100	mm	350	227	313	140	100	kg	47,5
	inch	13,78	8,94	12,32	5,51	3,94	lbs	104,7
150	mm	480	317	337°	180	147	kg	100,0
	inch	18,9	12,48	13,27°	7,09	5,79	lbs	220,5
200/150**	mm	457	312	337°	228,5	147	kg	117,0
	inch	18	12,28	13,27°	9	5,79	lbs	257,9
200**	mm	457	374	450°	230	195	kg	208,0
	inch	18	14,72	17,72°	9,06	7,68	lbs	458,6
250**	mm	534	--	--	267	245	kg	320,0
	inch	21	--	--	10,51	9,65	lbs	705,5
300**	mm	610	--	--	294	290	kg	432,0
	inch	24	--	--	11,57	11,42	lbs	952,4

°° pass-through handle Ø 26,52 inch standard

° pass-through handle Ø 35,43 inch standard

** Face-to-Face Dimensions acc. to ASME B 16.10

Technical Data AKH2 (ANSI)



Flange Connections ASME B 16.5 Cass 150,
 Min. flange thickness acc.
 to ASME B 16.5 Cass 150,
 Table 9 (Flanged Fittings)

DN / ANSI		L	H	R	t	Ød	weight	
1/2" **	inch	5,12	4,78	6,3	2,34	0,59	lbs	9,5
	mm	130	121,5	160	59,5	15	kg	4,3
3/4" **	inch	5,91	4,78	6,3	2,74	0,79	lbs	10,1
	mm	150	121,5	160	69,5	20	kg	4,6
1"	inch	6	4,88	6,3	2,58	0,98	lbs	11,0
	mm	152	124,0	160	65,5	25	kg	5,0
1 1/2"	inch	7	5,91	8,27	3,15	1,5	lbs	18,5
	mm	178	150	210	80	38	kg	8,4
2"	inch	8	6,5	8,27	3,44	1,89	lbs	28,2
	mm	203	165,5	210	87,5	48	kg	12,8
3"	inch	9,49	8,35	12,32	4,65	3,15	lbs	64,2
	mm	241	212	313	118	80	kg	29,1
4"	inch	11,5	8,94	12,32	5,51	3,94	lbs	95,9
	mm	292	227,0	313	140	100	kg	43,5
6"	inch	14	12,44	13,27°°	7,09	5,79	lbs	214,1
	mm	356	316	337°°	180	147	kg	97,1
8"/6"	inch	18	12,44	13,27°°	9	5,79	lbs	238,1
	mm	457	316	337°°	228,5	147	kg	108,0
8"	inch	18	14,69	17,72°	9,06	7,68	lbs	458,6
	mm	457	373	450°	230	195	kg	208,0
10"	inch	21	-	-	10,51	9,65	lbs	705,5
	mm	534	-	-	267	245	kg	320,0
12" *	inch	24	-	-	11,57	11,42	lbs	992,1
	mm	610	-	-	294	290	kg	450,0
14"*	inch	27	-	-	13,5	13,78	lbs	1267,7
	mm	686	-	-	343	350	kg	575,0

°° pass-through handle Ø 26,52 inch standard

° pass-through handle Ø 35,43 inch standard

** Face-to-Face Dimensions acc. to DIN EN 558 (Basic series 1)

* ball valve only manual actuator (weight without actuator)

Material specification AKH2

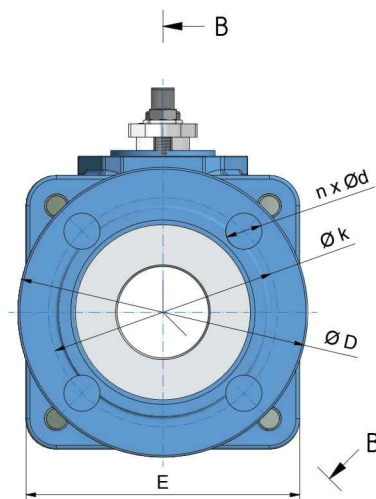
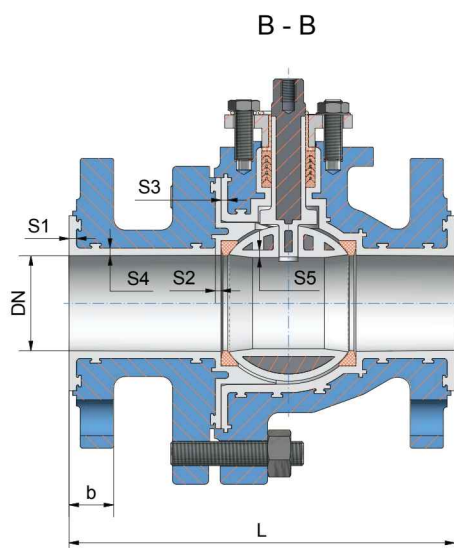
No.	Designation	Quantity	Material	Material-No. / DIN	ASTM / AISI
010	body	1	ductile iron / PFA	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
		1	ductile iron / PFA conductive	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
020	side piece	1	ductile iron / PFA	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
		1	ductile iron / PFA conductive	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
030	seat ring	2	PTFE		
		2	PTFE conductive		
040	stem	1	stainless steel / PFA	1.4470 / DIN EN 10283	A 890 CD3MN
		1	stainless steel / PFA conductive	1.4470 / DIN EN 10283	A 890 CD3MN
		1	Hastelloy C4 / PFA **	2.4610 / DIN 17744	
050	ball				
		1	cast steel / PFA	1.0619 / DIN EN 10213-2	A 216 Grade WCB
		1	cast steel / PFA conductive	1.0619 / DIN EN 10213-2	A 216 Grade WCB
		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
		1	ceramic Al ₂ O ₃ *		
		1	MG-PSZ DN 150/6"		
060	gland follower	1	stainless steel	1.4308 / DIN EN 10283	A 743 CF-8
065	gland insert	1	PTFE-graphite		
080	stud bolt				
		1 set	stainless steel	1.4301-K70 / DIN EN 10088-3	A 193 B8
	hexagon bolt				
		1 set	stainless steel	1.4301-K70 / DIN EN 10088-3	A 193 B8
090	hexagon nut	1 set	stainless steel	1.4301-K70 / DIN EN 10088-3	A 194 8
100	packing material (chevron)	1 set	PTFE		
		1 set	PTFE-graphite		
110	hexagon nut	2	stainless steel	1.4301 / DIN EN 10088-3	A 194 8
120	stud bolt	2	stainless steel	1.4301 / DIN EN 10088-3	A 193 B8
150	serrated lock washer	2	stainless steel	1.4301 / DIN EN 10088-3	AISI 304
170	grounding device	1	stainless steel	1.4310 / DIN EN 10270-3	AISI 301
300	hand lever				
		1	die cast metall (galvanized)	ZP0410 / DIN EN 12844	
		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
		2	stainless steel	1.4104 / DIN EN 10088-3	AISI 430 F

Valves with conductive lining only contain components with conductive materials

* ceramic ball on request (available up to DN 150 / 6")

** Hastelloy stem on request

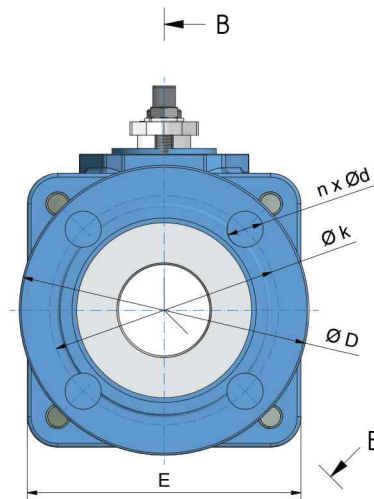
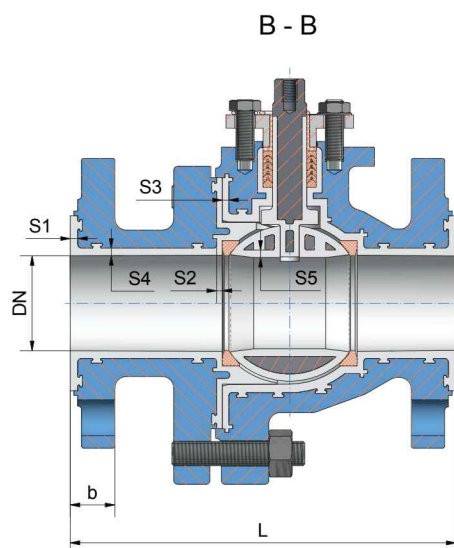
Dimensions AKH2 (DIN)



DN / DIN		L	b	ØD	Øk	nxØd	S1	S2	S3	S4	S5	E °
015	mm	130	15	95	65	4x14	3,5	4	2,5	3,5	5	107
	inch	5,12	0,59	3,74	2,65	4x0,55	0,14	0,16	0,1	0,14	0,2	4,21
020	mm	150	16	105	75	4x14	3,5	4	2,5	3,5	2,5	107
	inch	5,9	0,63	4,13	2,95	4x0,55	0,14	0,16	0,1	0,14	0,1	4,21
025	mm	160	16,5	115	85	4x14	3,5	2,5	3	3,5	2,5	106
	inch	6,3	0,65	4,53	3,35	4x0,55	0,14	0,1	0,12	0,14	0,1	4,17
032	mm	180	20	140	100	4x18	4	3	3	4	3,5	124
	inch	7,09	0,79	5,51	3,94	4x0,71	0,16	0,12	0,12	0,16	0,14	4,88
040	mm	200	20	150	110	4x18	4	3	3	4	3	124
	inch	7,87	0,79	5,91	4,33	4x0,71	0,16	0,12	0,12	0,16	0,12	4,88
050	mm	230	20,5	165	125	4x18	4	3	3,5	4	3	144
	inch	9,06	0,81	6,5	4,92	4x0,71	0,16	0,12	0,14	0,16	0,12	5,67
065	mm	290	24	185	145	4x18	4	3	3,5	4,5	3,5	190
	inch	11,42	0,94	7,28	5,71	4x0,71	0,16	0,12	0,14	0,18	0,14	7,48
080	mm	310	26	200	160	8x18	4	5	4	4,5	4,25	230
	inch	12,2	1,02	7,87	6,3	8x0,71	0,16	0,2	0,16	0,18	0,17	9,06
100	mm	350	28	220	180	8x18	4	5	4	5	4,5	250
	inch	13,78	1,1	8,66	7,09	8x0,71	0,16	0,2	0,16	0,2	0,18	9,84
150	mm	480	29	285	240	8x22	4	5	4	6	5,5	Ø365
	inch	18,9	1,14	11,22	9,45	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø14,37
200/150	mm	457	33	340	295	8x22	4	5	4	6	5,5	Ø365
	inch	18	1,3	13,39	11,61	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø14,37
200	mm	457	36,5	340	295	8x22	4	5	4	6	5,5	Ø485
	inch	18	1,44	13,39	11,61	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø19,09
250	mm	534	36,5	406,4	361,9	12x25	4,5	5	4,5	6	5,5	Ø580
	inch	21	1,44	16	14,25	12x1	0,18	0,2	0,18	0,23	0,22	Ø22,83
300	mm	610	43,5	445	400	12x22	4,5	5	4,5	7	6	Ø642
	inch	24,02	1,71	17,52	15,75	12x0,87	0,18	0,2	0,18	0,28	0,23	Ø25,28

- stem lining DN 15, 20 and 25 0,059 inch
- all other sizes at least 0,098 inch
- ° DN 80 octagonal, DN 100 hexagonal

Dimensions AKH2 (ANSI)



DN / ANSI		L	b	ØD	Øk	nxØd	S1	S2	S3	S4	S5	E °
1/2"	inch	5,12	0,59	3,5	2,38	4x0,63	0,14	0,16	0,1	0,14	0,2	4,21
	mm	130	15	88,9	60,5	4x16	3,5	4	2,5	3,5	5	107
3/4"	inch	5,9	0,63	3,88	2,75	4x0,63	0,14	0,16	0,1	0,14	0,1	4,21
	mm	150	16	98,5	70	4x16	3,5	4	2,5	3,5	2,5	107
1"	inch	6	0,65	4,25	3,13	4x0,63	0,14	0,1	0,13	0,14	0,1	4,17
	mm	152,4	16,5	107,9	79,2	4x16	3,5	2,5	3	3,5	2,5	106
1 1/2"	inch	7	0,79	5	3,88	4x0,63	0,16	0,13	0,13	0,16	0,12	4,88
	mm	178	20	127	98,5	4x16	4	3	3	4	3	124
2"	inch	8	0,81	6	4,75	4x0,75	0,16	0,13	0,14	0,16	0,13	5,67
	mm	203	20,5	152,4	120,5	4x19	4	3	3,5	4	3	144
3"	inch	9,5	1,02	7,5	6	4x0,75	0,16	0,2	0,16	0,17	0,17	9,06
	mm	241	26	190,5	152,5	4x19	4	5	4	4,25	4,25	230
4"	inch	11,5	1,1	9	7,5	8x0,75	0,16	0,2	0,16	0,2	0,18	9,84
	mm	292	28	228,6	190,5	8x19	4	5	4	5	4,5	250
6"	inch	14	1,14	11	9,5	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø14,37
	mm	356	29	279,4	241,5	8x22	4	5	4	6	5,5	Ø365
8"/6"	inch	18	1,3	13,5	11,75	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø14,37
	mm	457	33	342,9	298,5	8x22	4	5	4	6	5,5	Ø365
8"	inch	18	1,44	13,5	11,75	8x0,87	0,16	0,2	0,16	0,23	0,22	Ø19,09
	mm	457	36,5	342,9	298,5	8x22	4	5	4	6	5,5	Ø485
10"	inch	21	1,44	16	14,25	12x1	0,18	0,2	0,18	0,23	0,22	Ø22,83
	mm	534	36,5	406,4	361,9	12x25	4,5	5	4,5	6	5,5	Ø580
12"	inch	24	1,71	19	17	12x1	0,18	0,2	0,18	0,23	0,22	Ø25,28
	mm	610	43,5	482,6	431,8	12x25	4,5	5	4,5	6	5,5	Ø642
14"	inch	27,01	1,71	13,99	18,76	12x1,12	0,18	0,24	0,18	0,24	0,24	Ø27,76
	mm	686	43,5	355,4	476,5	12x28,5	4,5	6	4,5	6	6	Ø705

- stem lining DN 1/2", 3/4" and 1" 0,059 inch
 - all other sizes at least 0,098 inch
 ° DN 3" octagonal, DN 4" hexagonal

Spare Parts (item n°) - AKH2 Standard Version

DIN	ANSI	Ball		Seat Rings PTFE
		PFA	Ceramic [°]	
015	1/2"	0000321	0002316	0000159
020	3/4"	0000322	0002316	0000159
025	1"	0000323	0002317	0015001
032	-	0000324	---	0000160
040	1 1/2"	0000325	0002319	0000160
050	2"	0000326	0002320	0000161
065	-	0000327	0002321	0000162
080	3"	0000328	0002322	0000163
100	4"	0000329	0002323	0000164
150	6"	0000330	0002405	0000165
200/150	8"/6"	0000330	---	0000165
200	8"	0000331	---	0000166
250	10"	0010845	---	0011250
300	12"	0004049	---	0006353
-	14"	0042879	---	0042881

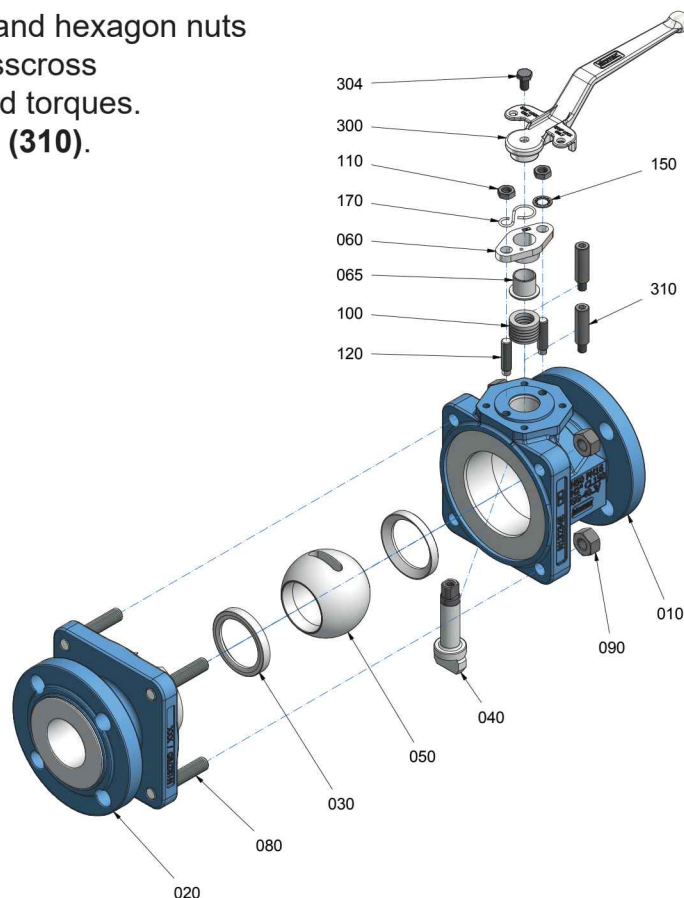
DIN	ANSI	Stem		Packing (set)	
		Stainless Steel/ PFA	Hastelloy/PFA	PTFE	PTFE/ Graphite
015	1/2"	0000113	0000114	0000167	0000174
020	3/4"	0000113	0000114	0000167	0000174
025	1"	0000115	0000116	0000167	0000174
032	-	0000117	0000118	0000168	0000175
040	1 1/2"	0000117	0000118	0000168	0000175
050	2"	0000119	0000120	0000169	0000176
065	-	0000121	0000122	0000170	0000177
080	3"	0000121	0000122	0000170	0000177
100	4"	0000121	0000122	0000170	0000177
150	6"	0000123	0000124	0000172	0000179
200/150	8"/6"	0000123	0000124	0000172	0000179
200	8"	0000125	0000126	0000173	0000180
250	10"	0010843	---	0011251	0011252
300	12"	0004038	---	0006348	0006349
-	14"	0004038	---	0006348	0006349

[°] Al₂O₃

Assembly Instructions AKH2

The general installation and maintenance instructions must be observed.

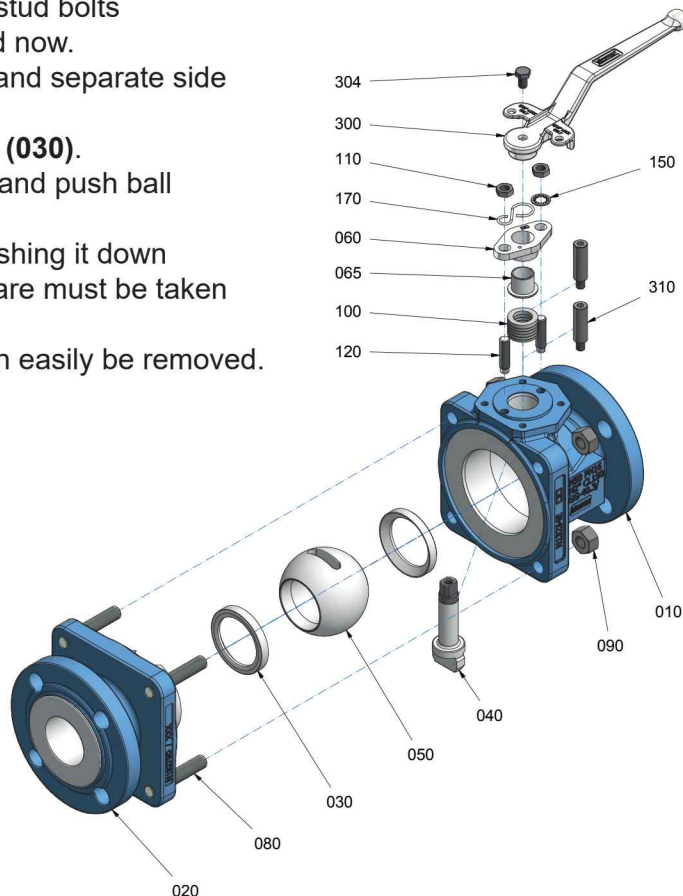
1. Screw stud bolts (120) into body (010).
2. Insert stem (040) from inside of body in such a way that the flat side is parallel to body longitudinal axis.
3. Insert chevron packing (100).
4. Install gland insert (065), gland follower (060), safety washer (150), hexagon nuts (110) and grounding strap (170).
5. Install hand lever (300) on to stem (040) with the hexagon bolt (304).
6. Insert first seat ring (030) into body (010).
7. Insert ball (050) to valve stem by pushing the ball in a downward motion through valve body.
8. Turn hand lever (300) 90° of longitudinal axis of body.
9. Install second ball seat ring (030) on to ball (050).
10. Install side piece (020) on to body (010), making sure that recess for stem is on the correct side.
11. Install body bolts (080) and hexagon nuts (090) and tighten by crisscross method to recommended torques.
12. Assemble the two stops (310).



Disassembly Instructions for AKH2

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). If necessary, remove the stops (**310**). Remove hexagon bolt (**110**) and lock washer (**150**) and grounding device (**170**).
3. Open valve completely. Remove hand lever (**300**).
4. Disassemble gland follower (**060**) and gland insert (**065**). If necessary, stud bolts (**120**) can also be removed now.
5. Remove body bolts (**080**) and separate side piece from body.
6. Remove first ball seat ring (**030**).
7. Put ball in closed position and push ball out of the body.
8. Remove stem (**040**) by pushing it down through the body (**010**). Care must be taken not to damage body liner.
9. Chevron packing (**100**) can easily be removed.



AKH2 - recommended tightening torques*

DN	tie rods (080/090)		connection flange		gland bolts (110/120/150)	
	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
015	25	221	10	88	4	35
½"	24	212	8	71	4	35
020	25	221	18	160	4	35
¾"	24	212	11	97	4	35
025	26	230	25	221	4	35
1"	26	230	15	133	4	35
032	54	478	40	354	7	62
040	54	478	50	442	7	62
1½"	59	522	26	257	7	62
050	80	708	65	575	7	62
2"	87	770	60	531	7	62
065	141	1248	90	796	8	71
080	84	743	55	486	8	71
3"	87	770	100	885	8	71
100	138	1221	65	575	8	71
4"	143	1266	76	673	8	71
150	178	1575	130	1150	12	106
6"	180	1593	129	1142	12	106
200/150	178	1575	190	1681	12	106
8"/6"	180	1593	188	1664	12	106
200	240	2124	190	1682	15	133
8"	275	2440	195	1725	15	133
250	302	2673	232	2053	17	150
10"	280	2478	241	2133	17	150
300	418	3699	316	2796	20	177
12"	408	3611	335	2965	20	177
14"	463	4098	308	2726	20	177

* 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

Gear Operator (worm gear)

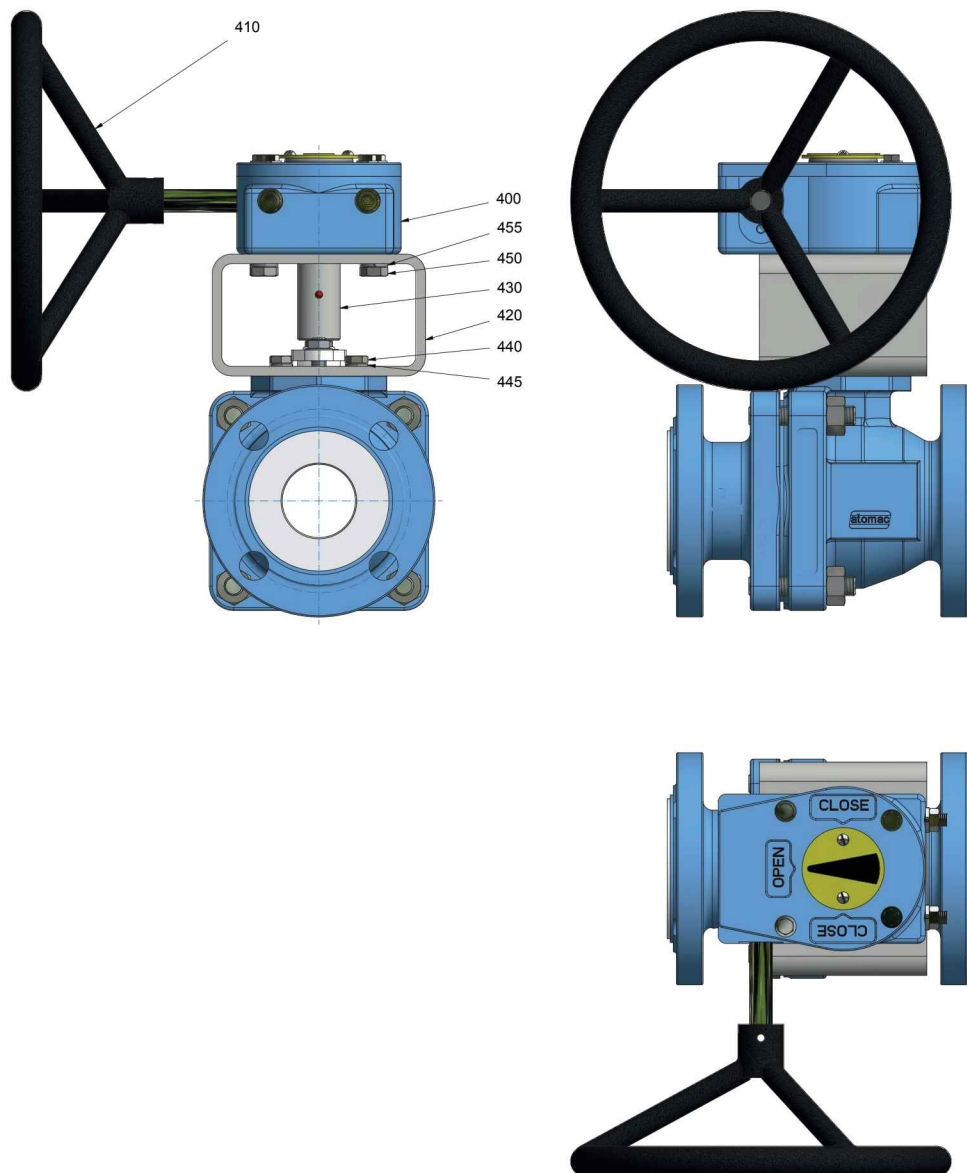
The fully closed, waterproof actuator consists of a body with lid, worm gear, input shaft and hand wheel. For the correct adjustment of the ball position, there are two adjustable stops mounted in the body.

The gear is fully greased and does not need any further lubrication.

The actuator with hand wheel is mounted on a bracket with four stainless steel bolts. The on/off position is indicated through a pointer. The actuator is self-locked.

Designation	Material
Body	Gray Iron
Worm	Spheroidal Graphite Cast Iron
Input Shaft	AISI 410
Hand Wheel	Steel

Material specification - AKH2 with manual gear



No.	Designation	Quantity	Material	Material-No.	DIN	ASTM / AISI
400	gear	1				
410	handwheel	1				
420	bracket	1	steel (yellow chromated)	1.0037	DIN EN 10025-2	A 283 B
430	adapter	1	stainless steel	1.4104	DIN EN 10088-3	AISI 430 F
440	hexagon bolt	4	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
445	serrated lock washer	4	stainless steel	1.4301	DIN EN 10088-3	AISI 304
450	hexagon bolt	4	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
455	serrated lock washer	4	stainless steel	1.4301	DIN EN 10088-3	AISI 304

AKH2 - 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	lbf · in	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
015	1/2"	7	62	7	62	8	71	40	354
020	3/4"	7	62	7	62	8	71	40	354
025	1"	7	62	8	71	8	71	40	354
032	-	20	177	27	239	34	301	115	1018
040	1 1/2"	20	177	27	239	34	301	115	1018
050	2"	27	239	34	301	45	398	130	1151
065	-	51	451	73	646	93	426	420	3717
080	3"	59	522	85	752	108	956	420	3717
100	4"	79	699	119	1053	158	1398	420	3717
150	6"	210	1859	300	2655	360	3186	1107	9798
200/150*	8"/6"	210	1859	300	2655	360	3186	1107	9798
200	8"	480	4248	700	6196	900	7966	2180	19295
250	10"	600	5310	1430	12657	1760	15577	8355	73948
300	12"	1150	10178	2400	21242	2900	25667	13250	117272
350	14"	2200	19472	3300	29207	4200	37173	13250	117272

- for dry and slurry application

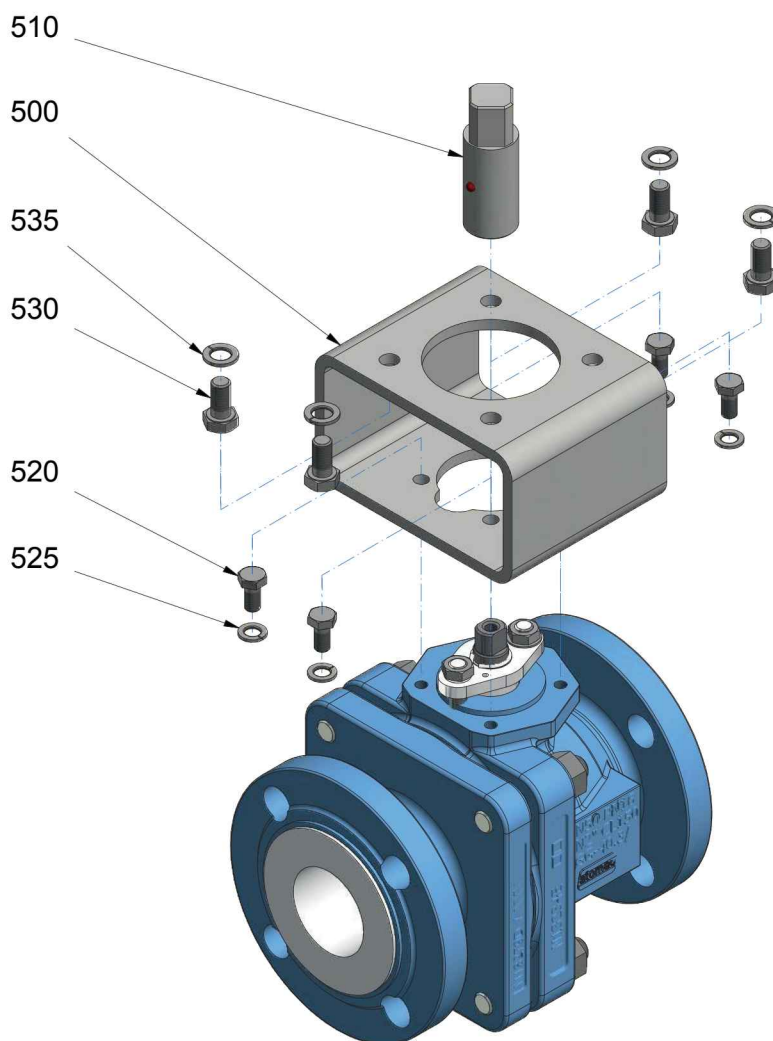
Size		0 bar Δ p	0 psi Δ p	10 bar Δ p	150 psi Δ p	19 bar Δ p	275 psi Δ p	MAST	
		Nm	lbf · in	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
015	1/2"	9	81	9	81	10	92	40	354
020	3/4"	9	81	9	81	10	92	40	354
025	1"	9	81	10	92	10	92	40	354
032	-	26	230	35	311	44	391	115	1018
040	1 1/2"	26	230	35	311	44	391	115	1018
050	2"	35	311	44	391	59	518	130	1151
065	-	66	587	95	840	121	1070	420	3717
080	3"	77	679	111	978	140	1243	420	3717
100	4"	103	909	155	1369	205	1818	420	3717
150	6"	273	2416	390	3452	468	4142	1107	9798
200/150*	8"/6"	273	2416	390	3452	468	4142	1107	9798
200	8"	624	5523	910	8054	1170	10355	2180	19295
250	10"	780	6904	1859	16454	2288	20251	8355	73948
300	12"	1495	13232	3120	27614	3770	33367	13250	117272
350	14"	2860	25313	4290	37970	5460	48325	13250	117272

* reduced port

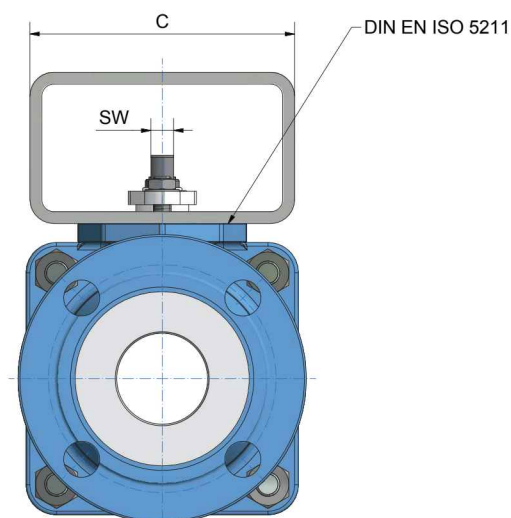
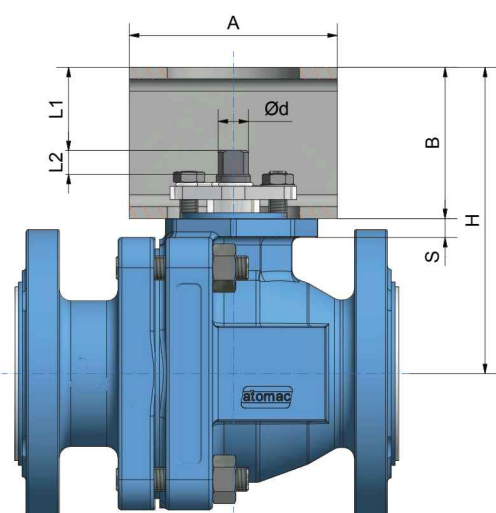
- Stated torques are sizing torques. No further safety factors are to be applied against these torques.
- The use of ceramic balls in lined valves will result in 15% higher sizing torques.
- The use of C-Balls or V-Balls does not result in change in sizing torques.
- Stated sizing torques are „Break-Open“ 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.

AKH2 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



AKH2 - Dimension for actuator mounting acc. to NAMUR - recommendation



DIN	ANSI		H	A	B	C	SW ^{+0,1 -0,1}	Ød ^{+0 -0,1}	S	L1	L2	ISO 5211
015	1/2"	mm	107,5	75	60	100	8	10	7,5	33,5	7,5	F05
		inch	4,23	2,95	2,36	3,94	0,315	0,393	0,3	1,32	0,3	
020	3/4"	mm	107,5	75	60	100	8	10	7,5	33,5	7,5	F05
		inch	4,23	2,95	2,36	3,94	0,315	0,393	0,3	1,32	0,3	
025	1"	mm	109	75	60	100	8	10	7,5	30,5	9,3	F05
		inch	4,29	2,95	2,36	3,94	0,315	0,393	0,3	1,2	0,37	
032	-	mm	129	100	60	100	12	16	10	25,5	12,5	F07
		inch	5,08	3,94	2,36	3,94	0,472	0,63	0,39	1	0,49	
040	1 1/2"	mm	129	100	60	100	12	16	10	25,5	12,5	F07
		inch	5,08	3,94	2,36	3,94	0,472	0,63	0,39	1	0,49	
050	2"	mm	142	100	60	100	12	16	10	23	12,5	F07
		inch	5,59	3,94	2,36	3,94	0,472	0,63	0,39	0,91	0,49	
065	-	mm	200	135	80	140	16	22	13	34	15,5	F10
		inch	7,87	5,31	3,15	5,51	0,63	0,866	0,51	1,34	0,61	
080	3"	mm	207	135	80	140	16	22	13	34	15,5	F10
		inch	8,15	5,31	3,15	5,51	0,63	0,866	0,51	1,34	0,61	
100	4"	mm	222	135	80	140	16	22	13	34	15,5	F10
		inch	8,74	5,31	3,15	5,51	0,63	0,866	0,51	1,34	0,61	
150	6"	mm	284	135	80	140	20	30	14	23	19,5	F12
		inch	11,18	5,31	3,15	5,51	0,787	1,181	0,55	0,91	0,77	
200/150	8"/6"	mm	284	135	80	140	20	30	14	23	19,5	F12
		inch	11,18	5,31	3,15	5,51	0,787	1,181	0,55	0,91	0,77	
200	8"	mm	376	225	120	220	27	40	14	61	19,5	F12
		inch	14,8	8,86	4,72	8,66	1,063	1,575	0,55	2,4	0,77	
250	10"	mm	421	225	120	220	36	50	17	31	35	F14
		inch	16,57	8,86	4,72	8,66	1,417	1,969	0,67	1,22	1,38	
300	12"	mm	463	225	120	220	46	60	19	23	45,0	F16
		inch	18,23	8,86	4,72	8,66	1,811	2,362	0,75	0,91	1,77	
-	14"	mm	493	225	120	220	46	60	19	27	45	F16
		inch	19,41	8,86	4,72	8,66	1,81	2,36	0,75	1,06	1,77	

Material Specification AKH2 Class 300

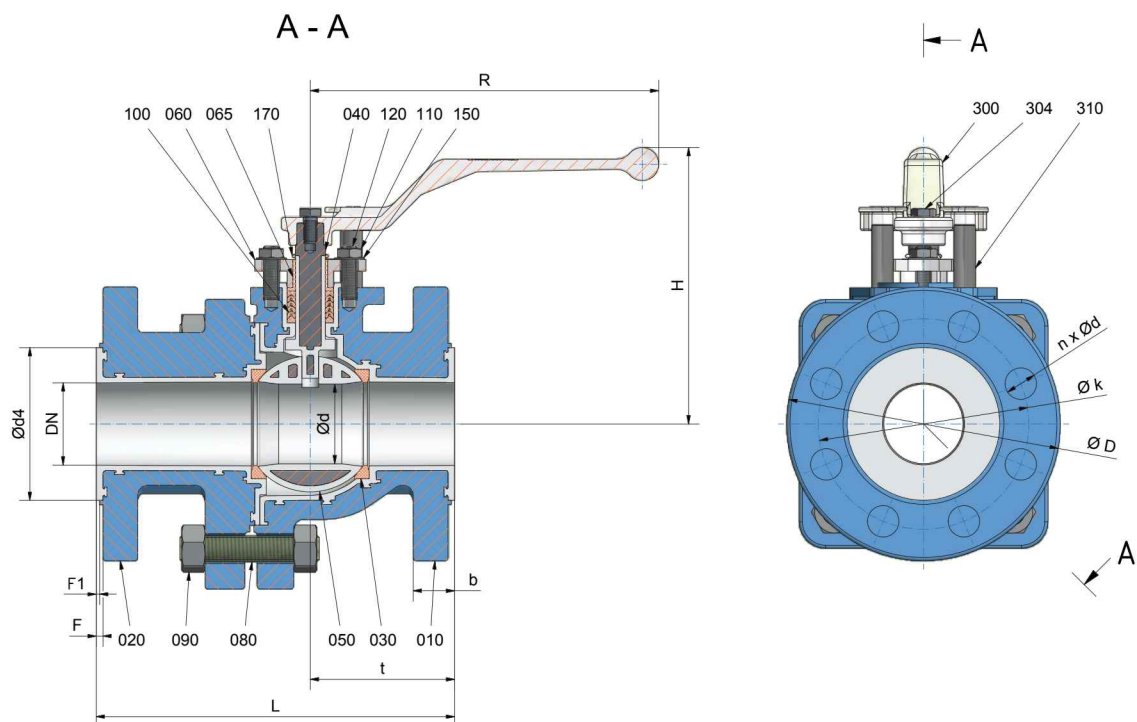
No.	Designation	Quantity	Material	Material-No. / DIN	ASTM / AISI
010	body	1	carbon steel / PFA	1.0619 / DIN EN 10213-2	A 216 Grade WCB
020	side piece	1	carbon steel / PFA	1.0619 / DIN EN 10213-2	A 216 Grade WCB
030	seat ring	2	PTFE	pure - PTFE	
040	stem	1	stainless steel / PFA	1.4470 / DIN EN 10283	A 890 CD3MN
		1	Hastelloy C4 / PFA **	2.4610 / DIN 17744	
050	ball				
	DN 1"- 2"	1	cast steel / PFA	1.0619 / DIN EN 10213-2	A 216 Grade WCB
	DN 3"- 6"	1	ductile iron / PFA	EN-JS1049 (GGG-40.3) / DIN EN 1563	A 395
		1	ceramic Al ₂ O ₃ *		
		1	MG-PSZ DN 150/6"		
060	gland follower	1	stainless steel	1.4308 / DIN EN 10283	A 743 CF-8
065	gland insert	1	PTFE-graphite		
080	stud bolt				
	DN 1"- 6"	1 set	stainless steel	1.4301-K70 / DIN EN 10088-3	A 193 B7YC
090	hexagon nut	1 set	stainless steel	1.4301-K70 / DIN EN 10088-3	A 194 2HYC
100	packing material (chevron)	1 set	PTFE ° PTFE-graghit °		
110	hexagon nut	2	stainless steel	1.4301 / DIN EN 10088-3	A 194 8
120	stud bolt	2	stainless steel	1.4301 / DIN EN 10088-3	A 193 B8
150	serrated lock washer	2	stainless steel	1.4301 / DIN EN 10088-3	AISI 304
170	grounding device	1	stainless steel	1.4310 / DIN EN 10270-3	AISI 301
300	hand lever				
	DN 1"- 4"	1	die cast metall (galvanized)	ZP0410 / DIN EN 12844	
	DN 6"	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				
	DN 1"- 4"	1	stainless steel	1.4301 / DIN EN 10088-3	AISI 304
	DN 6"	2	stainless steel	1.4104 / DIN EN 10088-3	AISI 430 F

* ceramic ball on request

** Hastelloy stem on request

° optional

°° DN 6" - 2 hexagon bolts



ANSI		L	b	ØD	F	F1	Ød	Ød4	Øk	n x Ød	H	R	t	weight	
1"	mm	165	19,5	124	4	2	24	51	88,9	19 x 4	125	160	59,5	kg	6,8
	inch	6,5	0,77	4,88	0,16	0,08	0,94	2,01	3,5	0,75 x 4	4,9	6,3	2,34	lbs	15,0
1½"	mm	190	22,5	155,4	4	2	38	73	114,3	22 x 4	150	210	78	kg	12,8
	inch	7,48	0,89	6,12	0,16	0,08	1,5	2,87	4,5	0,87 x 4	5,91	8,27	3,07	lbs	28,2
2"	mm	216	25	165	4	2	48	92	127	19 x 8	166	210	87	kg	16,6
	inch	8,5	0,98	6,5	0,16	0,08	1,89	3,62	5	0,75 x 8	6,52	8,27	3,43	lbs	36,6
3"	mm	282	30,5	209,6	4	2	80,5	127	168	22 x 8	212	313	128	kg	39,5
	inch	11,1	1,2	8,25	0,16	0,08	3,17	5	6,61	0,87 x 8	8,35	12,32	5,04	lbs	87,1
4"	mm	305	34	254	4	2	100,5	157	200	22 x 8	227	313	142	kg	59,0
	inch	12,01	1,34	10	0,16	0,08	3,96	6,18	7,87	0,87 x 8	8,94	12,32	5,59	lbs	130,1
6"	mm	403	38,5	317,5	4	2	150	208	269,7	22 x 12	316	337*	180,5	kg	126,0
	inch	15,87	1,52	12,5	0,16	0,08	5,91	8,19	10,62	0,87 x 12	12,44	13,27*	7,11	lbs	277,8

* pass-through handlelever Ø 674 mm standard

AKH2 Class 300 - recommended tightening torques*

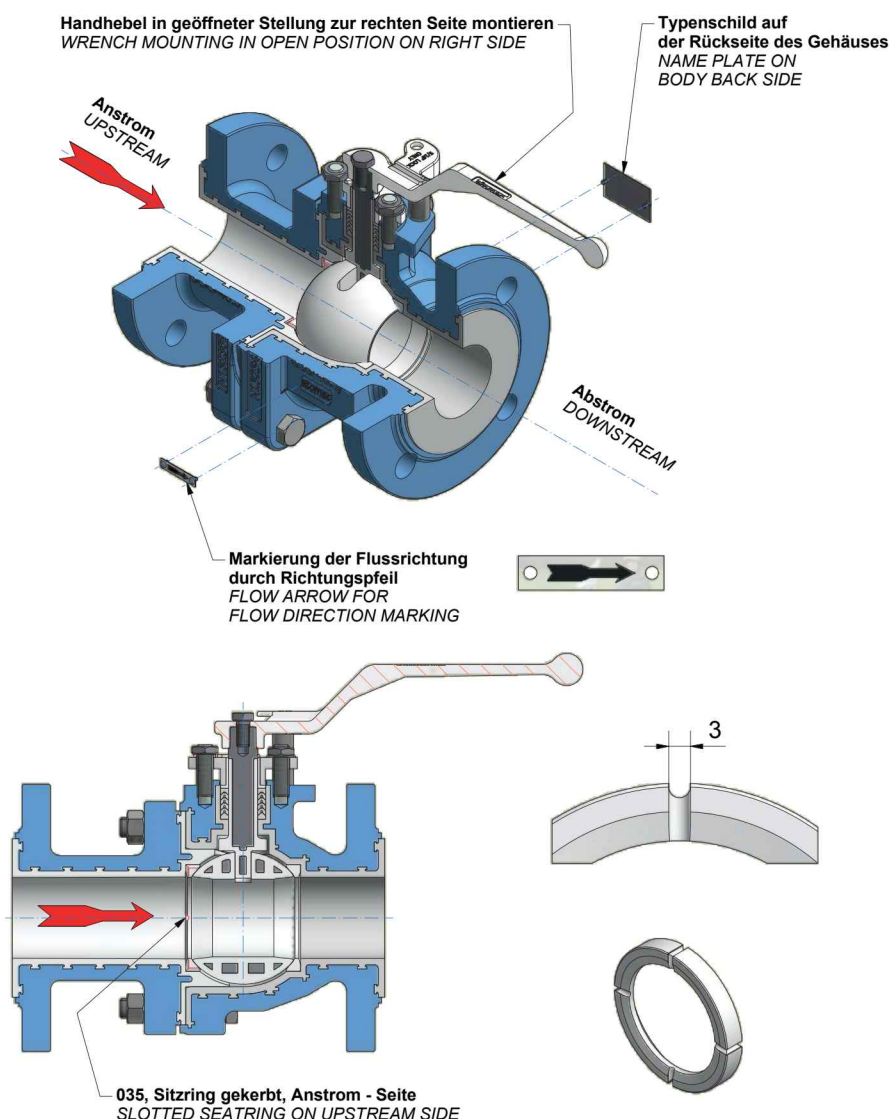
DN	tie rods (080/090)		connection flange		gland bolts (110/120/150)	
	Nm	lbf · in	Nm	lbf · in	Nm	lbf · in
½"	35	310	15	133	4	35
1"	45	398	35	310	4	35
1½"	105	929	75	664	7	62
2"	155	1372	50	443	7	62
3"	160	1416	95	841	8	71
4"	210	1859	145	1283	8	71
6"	515	4558	140	1239	12	106
8"	600	5310	225	1991	15	133
10"	650	5753	290	2567	17	150
12"	810	7169	450	3983	20	177
14"	1160	10267	380	3363	20	177

* maximum value

AKH2/DA with pressure compensation grooves by slotted seat ring

See material specification AKH2 page 4.

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



See Assembly Instructions AKH2 page 8.

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 AKH2 page 9

Special cleaning and packaging procedures

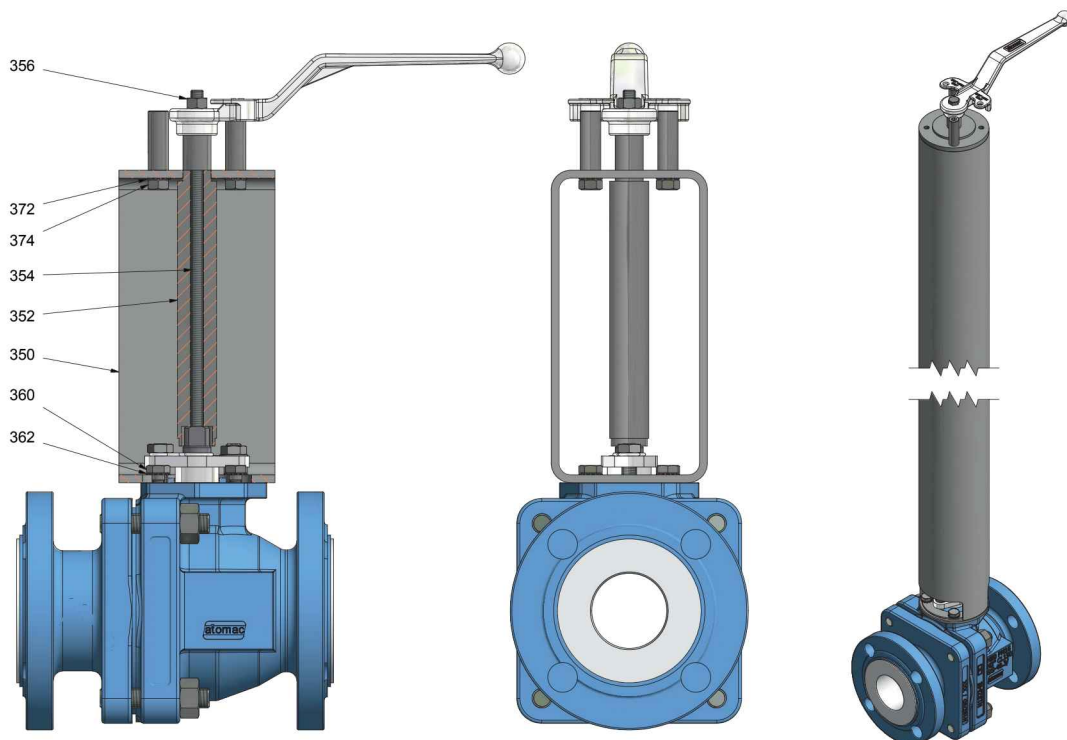
1. Recleaning

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.

AKH2 Extension Kit



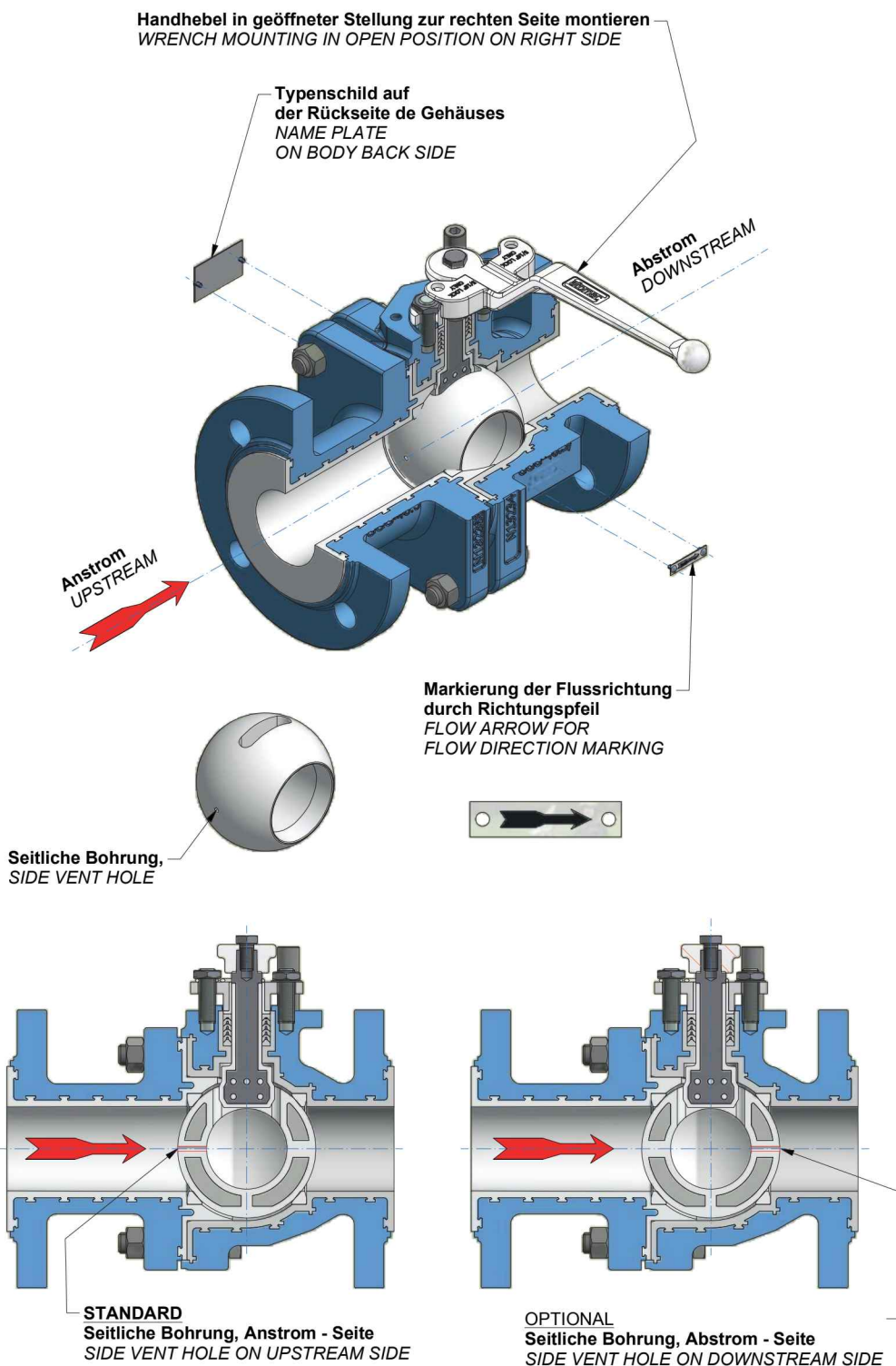
No.	Designation	Pieces	Material	Material-No.	DIN	ASTM / AISI
350	bracket	1	steel, yellow chromated	1.0037	DIN EN 10025-2	A 283 B
352	adapter	1	stainless steel	1.4104	DIN EN 10088-3	AISI 430 F
354	stud bolt	1	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
356	hexagon nut	1	stainless steel	1.4301	DIN EN 10088-3	A 194 8
360	hexagon bolt	2	stainless steel	1.4301	DIN EN 10088-3	A 193 B8
362	serrated lock washer	2	stainless steel	1.4301	DIN EN 10088-3	AISI 304
372	serrated lock washer	2	stainless steel	1.4301	DIN EN 10088-3	AISI 304
374	hexagon nut	2	stainless steel	1.4301	DIN EN 10088-3	A 194 8

AKH2 - Kv Data and Cv Data (DIN EN 60534-2-3)

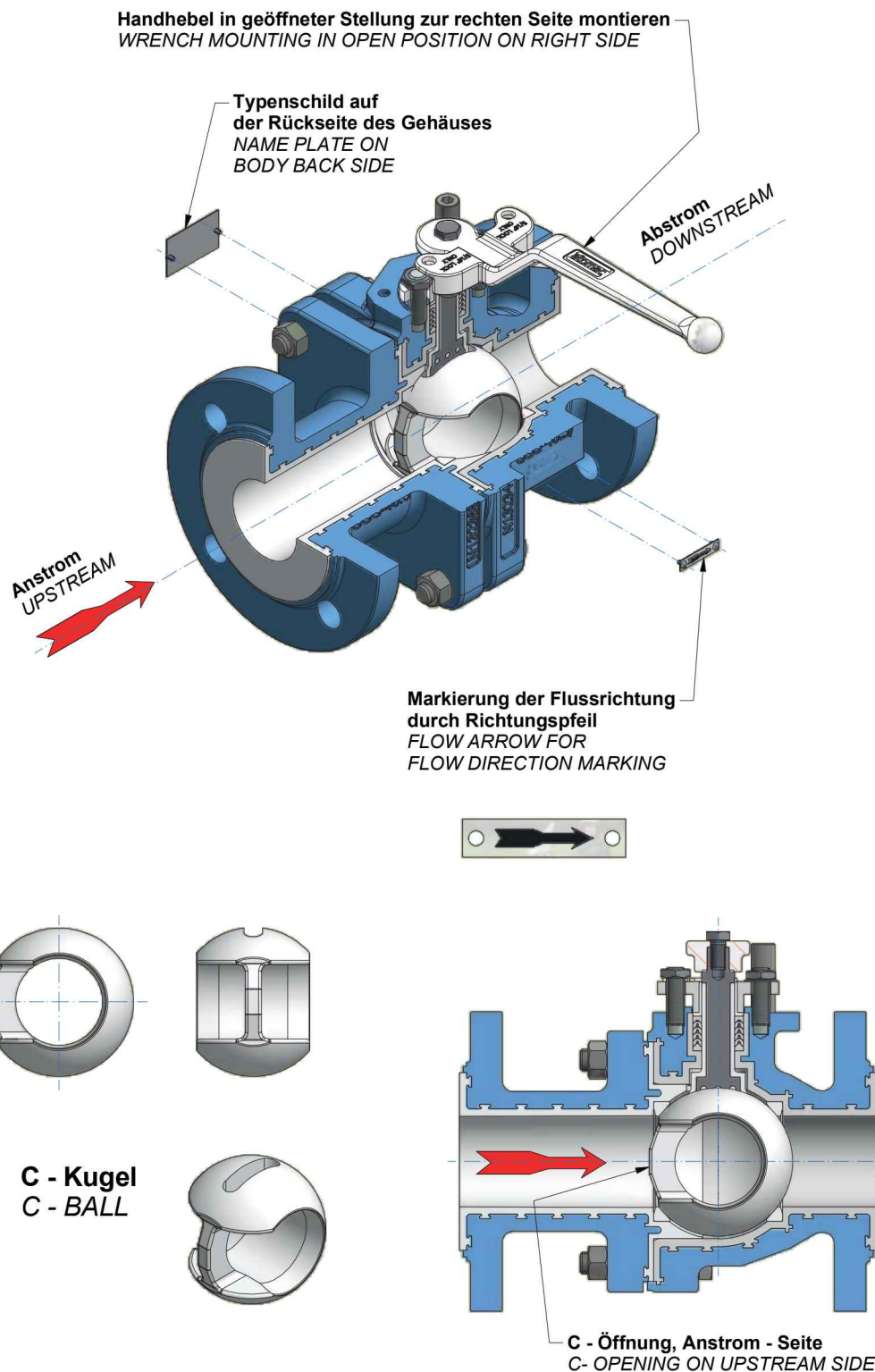
DIN	ANSI	K _v m³/h	C _v gal/min
015	½"	16,9	19,6
020	¾"	24,4	28,4
025	1"	38,6	44,9
032	-	68,4	79,5
040	1 ½"	121,4	141,1
050	2"	199,9	232,3
065	-	329,3	382,7
080	3"	525,8	611,1
100	4"	940,2	1092,8
150	6"	2134,0	2480,3
200*	8"*	1501,8	1745,5
200	8"	3941,0	4580,6
250	10"	5226,0	6074,2
300	12"	7591,0	8823,0
-	14"		

**reduced port*

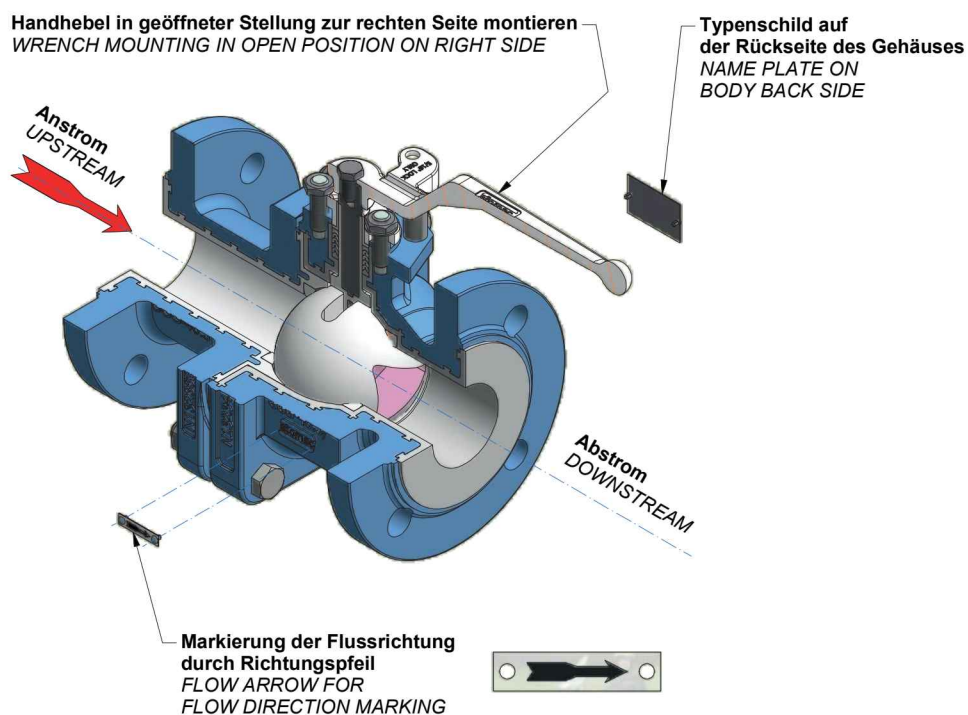
Optional ball with side vent hole



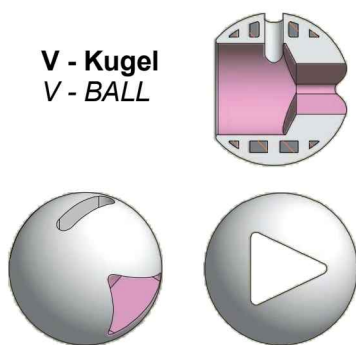
Optional with C-ball



Optional with V-ball or S-ball



V - Kugel
V - BALL



S - Kugel
S - BALL

