

KNIFE GATE VALVE WITH AUMA ACTUATOR

MAIN CHARACTERISTICS

The S-GATE knife gate valve fitted with the AUMA electric actuator is dedicated for the automatic shut off line and tank of heavy fluids slurries and powders. Standard applications for these valves are the water treatment, paper industry, cement industry, bulk handling and food industry. The AUMA electric actuator allows the remote control of the gate. This actuator can be installed either indoor or outdoor due to its IP68 protection. The actuator has a declutchable manual override, torque limiter, 4 limit switches and an anti-condensation heating resist on. The movement of the gate is protected by side covers.

AVAILABLE MODELS

S-GATE 170/171 : cast iron body, stainless steel gate, NBR seat (S-170), EPDM (S-171)

S-GATE 172 : stainless steel body, stainless steel gate, EPDM seat

S-GATE 176 : cast iron body, stainless steel gate, metal seat (in-line leakage: 2% kvs)

S-GATE 178 : cast iron body, stainless steel gate, NBR seat, bi-directional tightness

Size 50 to 600, wafer-lug mounting between flanges EN 1092 PN10

Supply 230V CA or 400V CA.



LIMITS OF USE

Pressure of fluide : PS	DN 50 to 200	10 bar
	DN 250	8 bar
	DN 300	6 bar
Temperature of fluide : TS	See below	
Room température	-25°C / +55°C	
Electric protection	IP 68	
Duty factor	S4-25% / 10 cycles by hour.	

TS / seat	NBR	EPDM	FPM	PTFE	METAL
170-171-178 : cast iron	-10°C	+0°C	-10°C	+0°C	-
172 : stainless steel	+80°C	+110°C	+150°C	+180°C	-
176 : cast iron	-	-	-	-	-10°C +90°C
176 : cast iron + graphite	-	-	-	-	-10°C +200°C

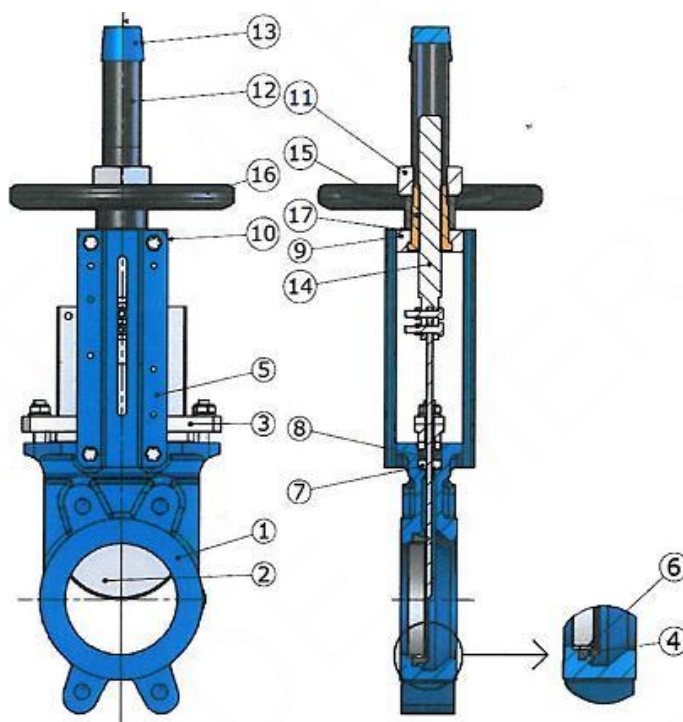


KNIFE GATE VALVE WITH AUMA ACTUATOR

REGULATIONS AND STANDARD OF CONSTRUCTION

Item	Standard	Item	Standard
P.E.D. CE 2014/68	Category I module A	Actuator connecting	ISO 5211
Flanges dimensions	EN 1092-2	Final testing	EN 12266-1
ANSI 150 flanges dimensions	ANSI B16.5		

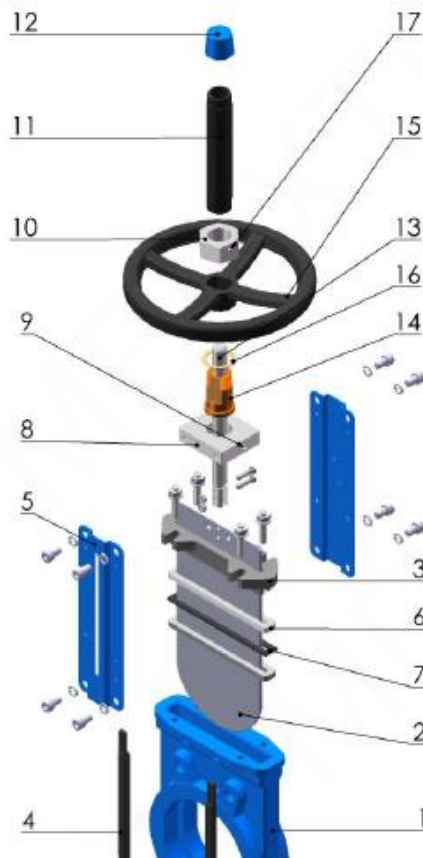
UNI-DIRECTIONNAL CONSTRUCTION



N°	Item	Cast iron S-170 / S-171		Cast iron S-176	Stainless steel S-172
1	Body	epoxy RAL 500S coated EN-GJL 250 cast iron			1.4408 stainless steel
2	Gate	AISI 304 stainless steel			AISI 316 stainless steel
3	Stuffing's box gland DN50-200	Aluminium			1.4408 stainless steel
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron			1.4408 stainless steel
4	Seat	NBR	EPDM	METAL	EPDM
5	Support	Epoxy coated carbon steel			Epoxy coated carbon steel
6	Ring	AISI 304 stainless steel			AISI 316 stainless steel
7	Packing	PTFE			PTFE
8	O-ring	NBR	EPDM	NBR	EPDM
9	Yoke	Carbon steel			
10	Grease box	Steel			
11	Handwheel nut	Steel			
12	Stem cap	Steel			
13	Cap	Plastic			
14	Stem	AISI 303 stainless steel			
15	Stem nut	Bronze			
16	Handwheel	Steel			
17	Friction washer	Brass			

KNIFE GATE VALVE WITH AUMA ACTUATOR

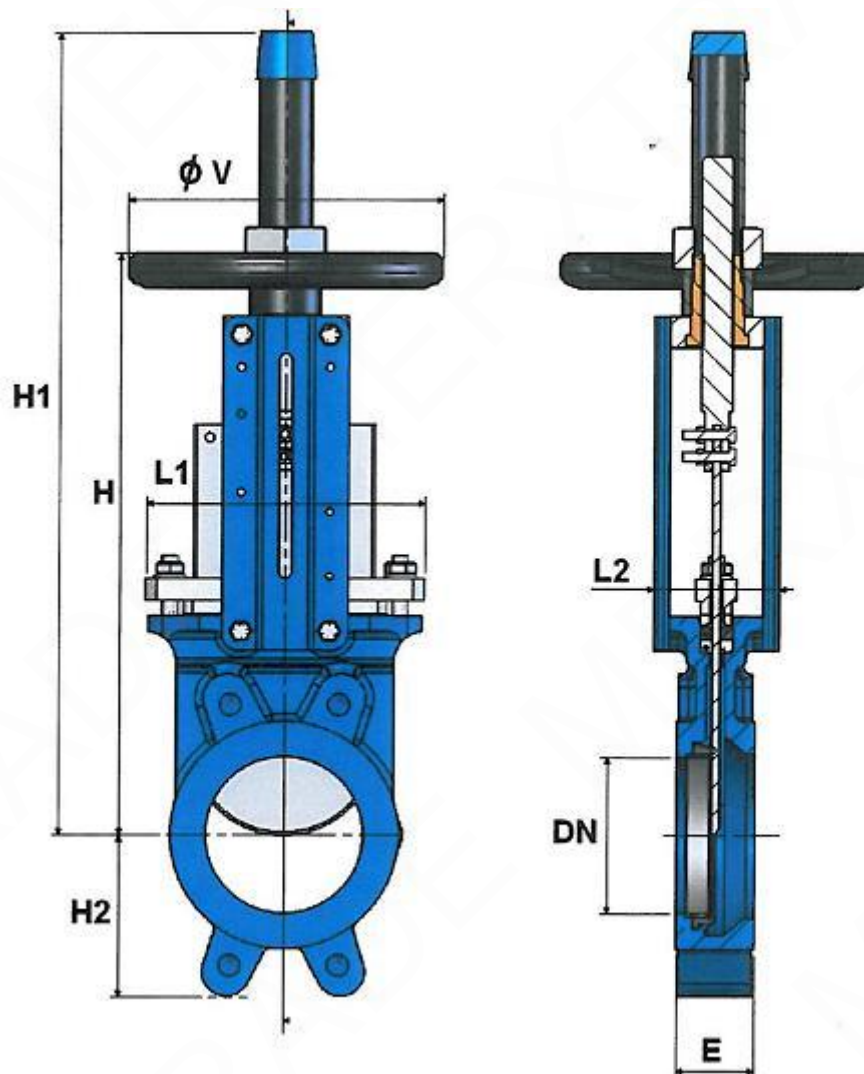
BI-DIRECTIONAL CONSTRUCTION



N°	Item	Cast iron S-178
1	Body	EN-GJL 250 cast iron
2	Gate	AISI 304 stainless steel
3	Stuffing's box gland DN50-200	Aluminium
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron
4	Seat	NBR
5	Support	Epoxy coated carbon steel
6	Ring	NBR
7	O-ring	PTFE
8	Yoke	Carbon steel
9	Grease box	Steel
10	Handwheel nut	Steel
11	Stem cap	Steel
12	Cap	Plastic
13	Stem	AISI 303 stainless steel
14	Stem nut	Bronze
15	Handwheel	Steel
16	Friction washer	Brass
17	Screw	AISI 304 stainless steel

KNIFE GATE VALVE WITH AUMA ACTUATOR

DIMENSIONS (mm)



DN	50	65	80	100	125	150	200	250	300
E	40	40	50	50	50	60	60	70	70
H	289	316	342	382	415	458	575	676	776
H1	409	436	462	502	585	637	815	1016	1116
H2	63	70	92	105	120	130	160	198	234
L1	124	139	154	174	192	217	270	326	380
L2	92	92	92	92	102	102	119	119	119
Ø V	185	185	185	185	225	225	325	325	380
170 - weight (kg)	6,5	7,1	8,5	9,8	12,7	16,1	26,8	43,5	57,5
172 - weight (kg)	6,5	7,8	8,5	10	12,7	15,8	27,8	44,6	58,6

KNIFE GATE VALVE WITH AUMA ACTUATOR

ACTUATION WITH AUMA

The actuation with AUMA is offered with following characteristics :

- actuator with aluminium epoxy coated housing and carbon steel gearbox,
- max. upstream / downstream pressure differential $\Delta P=10$ bar.

Direct connection between valve and actuator following ISO 5211 - F10

The operators are protected from the movement of the gate through side covers.

DN	Actuator	Power (W)	Intensity in the starting up (A)	Nominal intensity (A)	Speed (t/min)	Time of operating (s)
50	SA07.2	100	2.4	1.0	45	36
65						42
80						54
100						66
125	SA07.6	200	4.6	1.6	45	84
150						102
200						108
250						132
300	SA10	400	8.5	2.5	45	162
350						156
400						180

For any other working conditions, please consult.

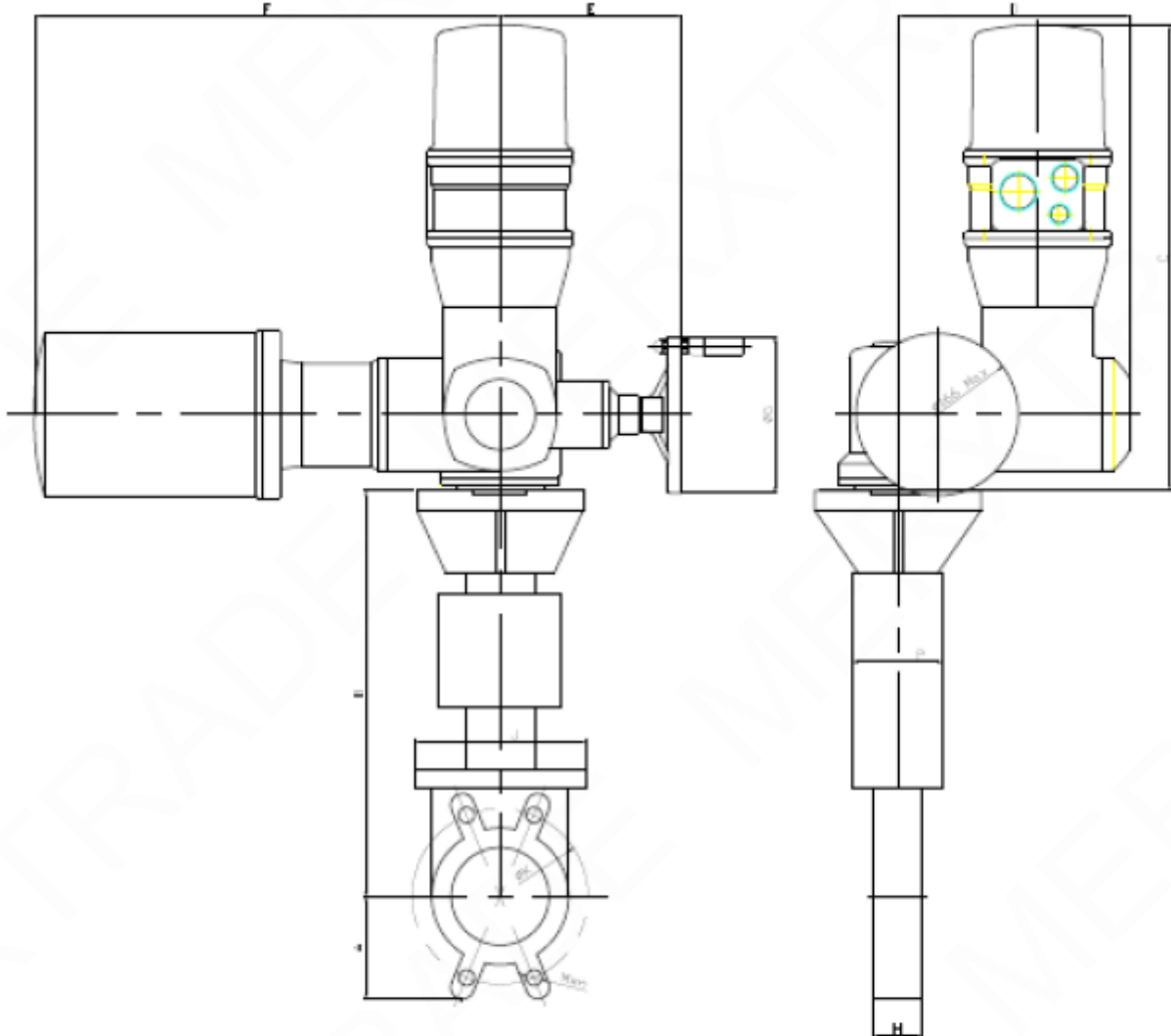
*indicative operating time without pressure

OPTIONS FOR THE ACTUATOR

n°	Item
1	Potentiometer
2	Local control unit

OPTIONS FOR THE VALVE

n°	Item
1	NBR, EPDM, PTFE, FPM, metal-metal seats
2	HT graphited packing
3	Deflector
4	ANSI 150 flanges drilling
5	PN 25 body
6	Flow deflector



DN	50	65	80	100	125	150	200	250	300	350	400
MOEIJER	SA 07L	SA 07L	SA 07L	SA 07L	SA 07S	SA 07S	SA 07S	SA 07S	SA 10L	SA 10L	SA 10L
A	63	70	92	105	120	130	160	198	234	256	292
B	325	350	375	420	450	509	648	710	817	920	1030
C	477	477	477	477	477	477	477	477	479	479	479
D	237	237	237	237	237	237	237	237	247	247	247
E	187	187	187	187	187	187	187	187	193	193	193
F	476	476	476	476	476	476	476	476	476	476	476
G	160	160	160	160	160	160	160	160	200	200	200
H	40	40	50	50	50	60	60	70	70	96	100
J	124	139	154	174	192	217	270	326	380	438	493
ØK	125	145	160	180	210	240	295	350	400	460	515
NxP	M16x4	M16x4	M16x4	M16x4	M16x4	M20x4	M20x4	M20x5	M20x5	M20x10	M24x10
P	92	92	92	92	102	102	120	120	120	190	190

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Solutions for a world in motion



Description produit

Electrical data Multi-turn actuators for open-close duty with 3-phase AC motors Short-time duty S2 - 15 min, 400 V/50 Hz										SA 07.2 – SA 16.2		
Multi-turn actuator			Motor									
Type	Speed	Torque	Type	Power ¹⁾ PN (kW)	Speed rpm	Nominal current ²⁾ In (A)	Current ³⁾ approx. I _{max} (A)	Starting current I _a (A)	cos φ	Setting Overcurrent prot. device (A)	AUMA Power class	
	rpm	max. Nm									Contact ⁴⁾	Thyristor ⁴⁾
SA 07.2	4	30	VD00063-4-0.02	0.02	1,400	0.4	0.3	1.0	0.40	0.3	A1	B1
	5.6		VD00063-4-0.02	0.02	1,400	0.4	0.4	1.0	0.40	0.4	A1	B1
	8		VD00063-4-0.04	0.04	1,400	0.4	0.4	1.0	0.50	0.4	A1	B1
	11		VD00063-4-0.04	0.04	1,400	0.4	0.5	1.0	0.50	0.5	A1	B1
	16		VD00063-2-0.06	0.06	2,800	0.6	0.6	1.9	0.57	0.6	A1	B1
	22		VD00063-2-0.06	0.06	2,800	0.6	0.7	1.9	0.57	0.7	A1	B1
	32		AD00063-4-0.10	0.10	1,400	1.0	1.0	2.4	0.42	1.0	A1	B1
	45		AD00063-4-0.10	0.10	1,400	1.0	1.0	2.4	0.42	1.0	A1	B1
	63		AD00063-2-0.20	0.20	2,800	0.8	1.2	4.4	0.60	1.2	A1	B1
	90		AD00063-2-0.20	0.20	2,800	0.8	1.3	4.4	0.60	1.3	A1	B1
125	AD00063-2-0.30	0.30	2,800	0.9	1.5	4.4	0.70	1.5	A1	B1		
180	AD00063-2-0.30	0.30	2,800	0.9	1.6	4.4	0.70	1.6	A1	B1		
SA 07.6	4	60	VD00063-4-0.03	0.03	1,400	0.4	0.4	1.0	0.43	0.4	A1	B1
	5.6		VD00063-4-0.03	0.03	1,400	0.4	0.5	1.0	0.43	0.5	A1	B1
	8		VD00063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	11		VD00063-4-0.06	0.06	1,400	0.6	0.7	1.6	0.38	0.7	A1	B1
	16		VD00063-2-0.12	0.12	2,800	0.7	0.9	3.0	0.52	0.9	A1	B1
	22		VD00063-2-0.12	0.12	2,800	0.7	1.0	3.0	0.52	1.0	A1	B1
	32		AD00063-4-0.20	0.20	1,400	1.6	1.9	4.6	0.42	1.9	A1	B1
	45		AD00063-4-0.20	0.20	1,400	1.6	2.0	4.6	0.42	2.0	A1	B1
	63		AD00063-2-0.40	0.40	2,800	1.6	2.3	9.0	0.53	2.3	A1	B1
	90		AD00063-2-0.40	0.40	2,800	1.6	2.5	9.0	0.53	2.5	A1	B1
125	AD00063-2-0.50	0.50	2,800	1.7	3.0	9.0	0.62	3.0	A1	B1		
180	AD00063-2-0.50	0.50	2,800	1.7	3.2	9.0	0.62	3.2	A1	B1		
SA 10.2	4	120	VD00071-4-0.06	0.06	1,400	0.5	0.6	2.0	0.40	0.6	A1	B1
	5.6		VD00071-4-0.06	0.06	1,400	0.5	0.6	2.0	0.40	0.6	A1	B1
	8		VD00071-4-0.12	0.12	1,400	1.0	1.1	3.0	0.40	1.1	A1	B1
	11		VD00071-4-0.12	0.12	1,400	1.0	1.2	3.0	0.40	1.2	A1	B1
	16		VD00071-2-0.25	0.25	2,800	1.3	1.5	4.5	0.52	1.5	A1	B1
	22		VD00071-2-0.25	0.25	2,800	1.3	1.8	4.5	0.52	1.8	A1	B1
	32		AD00071-4-0.40	0.40	1,400	2.5	2.6	8.5	0.42	2.6	A1	B1
	45		AD00071-4-0.40	0.40	1,400	2.5	3.0	8.5	0.42	3.0	A1	B1
	63		AD00071-2-0.70	0.70	2,800	3.0	3.6	16	0.54	3.6	A1	B1
	90		AD00071-2-0.70	0.70	2,800	3.0	4.0	16	0.54	4.0	A1	B1
125	AD00071-2-1.00	1.00	2,800	3.5	5.2	16	0.64	5.2	A1	B1		
180	AD00071-2-1.00	1.00	2,800	3.5	5.5	16	0.64	5.5	A1	B1		
SA 14.2	4	250	VD00090-4-0.12	0.12	1,400	0.5	0.8	2.8	0.60	0.8	A1	B1
	5.6		VD00090-4-0.12	0.12	1,400	0.5	1.0	2.8	0.60	1.0	A1	B1
	8		VD00090-4-0.25	0.25	1,400	1.0	1.6	5.2	0.60	1.6	A1	B1
	11		VD00090-4-0.25	0.25	1,400	1.0	1.7	5.2	0.60	1.7	A1	B1
	16		VD00090-2-0.45	0.45	2,800	1.5	3.0	9.0	0.64	3.0	A1	B1
	22		VD00090-2-0.45	0.45	2,800	1.5	3.5	9.0	0.64	3.5	A1	B1
	32		AD00090-4-0.75	0.75	1,400	2.5	4.0	16	0.62	4.0	A1	B1
	45		AD00090-4-0.75	0.75	1,400	2.5	5.0	16	0.62	5.0	A1	B1
	63		AD00090-2-1.40	1.40	2,800	4.7	7.0	38	0.60	7.0	A2	B2
	90		AD00090-2-1.40	1.40	2,800	4.7	9.0	38	0.60	9.0	A2	B2
125	AD00090-2-1.80	1.80	2,800	5.3	11	38	0.65	11	A2	B2		
180	AD00090-2-1.80	1.80	2,800	5.3	11	38	0.65	11	A2	B2		
SA 14.6	4	500	VD00090-4-0.20	0.20	1,400	0.9	0.9	5.2	0.54	0.9	A1	B1
	5.6		VD00090-4-0.20	0.20	1,400	0.9	1.0	5.2	0.54	1.0	A1	B1
	8		VD00090-4-0.40	0.40	1,400	1.7	3.0	9.3	0.56	3.0	A1	B1
	11		VD00090-4-0.40	0.40	1,400	1.7	3.5	9.3	0.56	3.5	A1	B1
	16		VD00090-2-0.80	0.80	2,800	3.6	5.0	18	0.51	5.0	A1	B1
	22		VD00090-2-0.80	0.80	2,800	3.6	5.5	18	0.51	5.5	A1	B1
	32		AD00090-4-1.60	1.60	1,400	5.3	7.5	38	0.57	7.5	A2	B2
	45		AD00090-4-1.60	1.60	1,400	5.3	9.0	38	0.57	9.0	A2	B2
	63		AD00090-2-3.00	3.00	2,800	9.0	13	58	0.60	13	A2	B3
	90		AD00090-2-3.00	3.00	2,800	9.0	16	58	0.60	16	A2	B3
125	AD00090-2-3.30	3.30	2,800	9.5	21	58	0.65	19	A2	B3		
180	AD00090-2-3.30	3.30	2,800	9.5	22	58	0.65	19	A2	B3		
SA 16.2	4	1,000	VD00112-4-0.40	0.40	1,400	1.4	2.7	10	0.65	2.7	A1	B1
	5.6		VD00112-4-0.40	0.40	1,400	1.4	2.9	10	0.65	2.9	A1	B1
	8		VD00112-4-0.80	0.80	1,400	2.8	5.0	22	0.57	5.0	A1	B2
	11		VD00112-4-0.80	0.80	1,400	2.8	5.5	22	0.57	5.5	A1	B2
	16		VD00112-2-1.50	1.50	2,800	4.8	8.7	40	0.60	8.7	A2	B2
	22		VD00112-2-1.50	1.50	2,800	4.8	10	40	0.60	10	A2	B2
	32		AD00112-4-3.00	3.00	1,400	8.5	13	60	0.71	13	A2	B3
	45		AD00112-4-3.00	3.00	1,400	8.5	16	60	0.71	16	A2	B3
	63		AD00112-2-5.00	5.00	2,800	11	25	120	0.80	25	A2	–
	90		AD00112-2-5.00	5.00	2,800	11	30	120	0.80	26	A2	–
125	AD00112-2-6.00	6.00	2,800	12	35	120	0.83	26	A2	–		
180	AD00112-2-6.00	6.00	2,800	12	45	120	0.83	26	A2	–		

1) Mechanical power at the motor shaft at operating torque (corresponds to approx. 35 % of maximum torque).
The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi \times \sqrt{3}$

2) Current at operating torque

3) Current at max. torque. We recommend to select switchgears according to these values.

4) Assignment of switchgears when using AUMA controls of types AUMA AUMA MATIC and AUMATIC. For selection of switchgears for actuators in NORM version, please refer to notes on page 2.

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

Issue 1.11

Y004.858/002/en

SA 07.2 – SA 16.2	Electrical data Multi-turn actuators for open-close duty with 3-phase AC motors Short-time duty S2 - 15 min, 400 V/50 Hz
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Motor data is approximate. Due to usual manufacturing tolerances, there may be deviations from the values given.

The permissible fluctuation of the nominal voltage is $\pm 10\%$. If the voltage drops below, there is a reduction of the nominal output torque.

To protect against overheating, thermostiches or PTC thermistors are embedded in the motor windings. For actuators without integral controls (AUMA NORM), these have to be connected to the external control circuit (see terminal plan). If thermostiches or PTC thermistors are not connected, this voids our warranty for the motor.

Rating of the thermostiches:

AC		DC	
250 V, 50 – 60 Hz		60 V	1.0 A
cos $\varphi = 1$	2.5 A	42 V	1.2 A
cos $\varphi = 0.6$	1.6 A	24 V	1.5 A


For further details refer to "Technical data Multi-turn actuators SA 07.2 – SA 16.2 for open-close duty with 3-phase AC motors".

Assigning switchgears for NORM version (without AUMA controls)


We recommend to specify switchgears according to their rated power/motor power in compliance with the assigned AUMA power class.


AUMA power class	Rated power contactor acc. to IEC AC-3	Motor power contactor acc. to UL/CSA for	
		400 V AC	480 V AC 600 V AC
A1	4.0 kW	5.0 hp	5.0 hp
A2	7.5 kW	10 hp	10 hp
A3	15 kW	20 hp	25 hp
A4	30 kW	60 hp	60 hp
A5	55 kW	75 hp	100 hp

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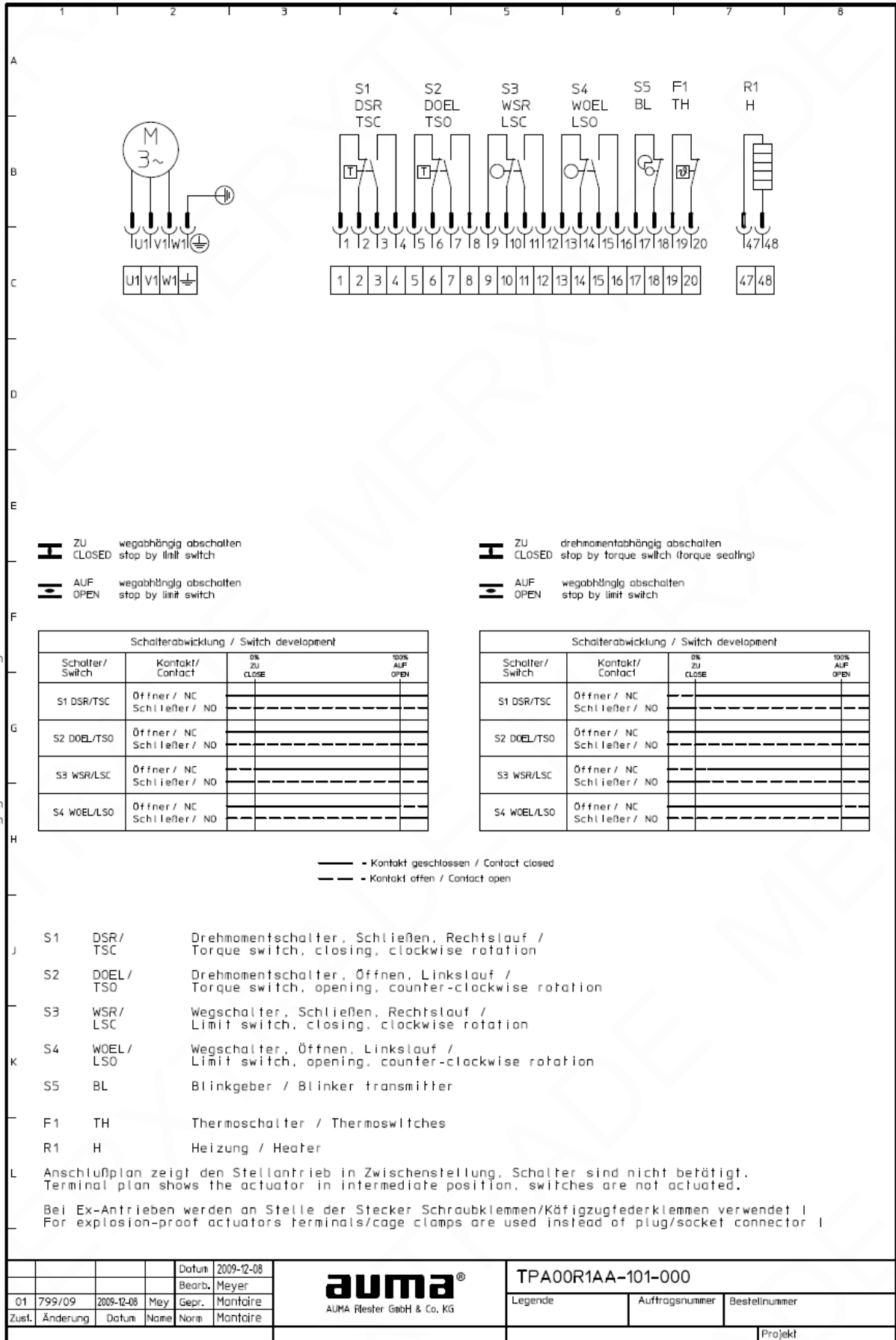
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Technical data Multi-turn actuators for open-close duty with 3-phase AC motors						SA 07.2 – SA 16.2 AUMA NORM					
Type	Output speed rpm		Torque range ¹⁾ for type of duty			Valve attachment		Valve stem diameter for a rising valve stem ²⁾ max. mm	Handwheel		
	50 Hz	60 Hz	min. Nm	S2-15 min max. Nm	S2-30 min max. Nm	Standard EN ISO 5210	Option DIN 3210		Ø mm	Reduction	approx. kg ³⁾
SA 07.2	4	4.8	10	30	20	F07	G0	26	160	11:1	19
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38				11:1					
	45	54				8:1					
	63	75				11:1					
	90	108				8:1					
	125 ³⁾	150 ³⁾				5.5:1					
180 ³⁾	216 ³⁾	4:1									
SA 07.6	4	4.8	20	60	40	F07	G0	26	160	11:1	20
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38				11:1					
	45	54				8:1					
	63	75				11:1					
	90	108				8:1					
	125 ³⁾	150 ³⁾				5.5:1					
180 ³⁾	216 ³⁾	4:1									
SA 10.2	4	4.8	40	120	90	F10	G0	40	200	11:1	22
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38								11:1	
	45	54								8:1	
	63	75								11:1	
	90	108								8:1	
	125 ³⁾	150 ³⁾								5.5:1	
180 ³⁾	216 ³⁾	4:1									
SA 14.2	4	4.8	100	250	180	F14	G1/2	57	315	11:1	44
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38								11:1	
	45	54								8:1	
	63	75								11:1	
	90	108								8:1	
	125 ³⁾	150 ³⁾								5.5:1	
180 ³⁾	216 ³⁾	4:1									
SA 14.6	4	4.8	200	500	360	F14	G1/2	57	400	11:1	46
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38								11:1	
	45	54								8:1	
	63	75								11:1	
	90	108								8:1	
	125 ³⁾	150 ³⁾								5.5:1	
180 ³⁾	216 ³⁾	4:1									
SA 16.2	4	4.8	400	1,000	710	F16	G3	75	500	11:1	67
	5.6	6.7								8:1	
	8	9.6								11:1	
	11	13								8:1	
	16	19								11:1	
	22	26								8:1	
	32	38		11:1							
	45	54		8:1							
	63	75		11:1							
	90	108		8:1							
	125 ³⁾	150 ³⁾		5.5:1							
180 ³⁾	216 ³⁾	4:1									
1) Tripping torque adjustable for directions OPEN and CLOSE 2) For output drives type A and B1 3) Not self-locking 4) Weight for multi-turn actuator AUMA NORM with 3-phase AC motor, standard electrical connection, output drive type B1 and handwheel We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.											
auma [®]						Issue		1.09		1/3	
Y004.785/002/en											

SA 07.2 – SA 16.2 AUMA NORM		Technical data Multi-turn actuators for open-close duty with 3-phase AC motors
General information		
Multi-turn actuators AUMA NORM require electric controls. AUMA offers the actuator controls AUMA AMTIC AM or AUMATIC AC for the sizes SA 07.2 – SA 16.2. These can also easily be mounted to the actuator at a later date		
Features and functions		
Type of duty ⁵⁾	Standard: Short-time duty S2 - 15 min Option: Short-time duty S2 - 30 min	
Motors	3-ph AC asynchronous motor, type IM B9 according to IEC 60034	
Insulation class	Standard: F, tropicalized Option: H, tropicalized	
Motor protection	Standard: Thermostats (NC) Option: PTC thermistors (PTC according to DIN 44082) ⁶⁾	
Self-locking ⁷⁾	Output speeds up to 90 rpm (50 Hz), 108 rpm (60 Hz)	
Limit switching	Counter gear mechanism for end positions CLOSED and OPEN Turns per stroke: 2 to 500 (standard), or 2 to 5,000 (option) Standard: Single switch (1 NC and 1 NO) for each end position, not galvanically isolated Options: Tandem switch (2 NC and 2 NO) for each end position, switches galvanically isolated Triple switch (3 NC and 3 NO) for each end position, switches galvanically isolated Intermediate position switch (DUO limit switching), available for any intermediate position	
Torque switching	Torque switching for direction OPEN and CLOSE, adjustable to any position Standard: Single switch (1 NC and 1 NO) for each direction, not galvanically isolated Options: Tandem switch (2 NC and 2 NO) for each direction, switches galvanically isolated	
Non-intrusive setting (option)	Magnetic limit and torque transmitter MWG (only possible in combination with actuator controls AC 01.2) for 1 to 500 turns per stroke or for 10 to 5,000 turns per stroke	
Position feedback signal, analogue (options)	Potentiometer or 0/4 – 20 mA (RWG) For further details see separate data sheet	
Torque feedback signal, analogue (option)	Only in combination with magnetic limit and torque transmitter MWG and AC actuator controls	
Mech. position indicator (option)	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED	
Running indication	Blinker transmitter	
Heater in switch compartment	Standard: Self-regulating PTC heater, 5 – 20 W, 110 – 250 V AC/DC Options: 24 – 48 V AC/DC or 380 – 400 V AC A resistance type heater (5 W, 24 V AC) is installed in the actuator in combination with the AM or AC actuator controls.	
Motor heater (option)	SA 07.2 – SA 10.2: 12.5 W at 110 – 220 V AC or 220 – 240 V AC SA 07.2 – SA 16.2: 22.0 W at 400 V AC SA 14.2 – SA 16.2: 25.0 W at 110 – 220 V AC or 220 – 240 V AC	
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during electric operation. Option: Handwheel lockable Handwheel spindle extension Screwing tool in case of emergency with square 30 mm or 50 mm	
Electrical connection	Standard: AUMA plug/socket connector with screw-type connection	
Threads for cable entries	Standard: Metric threads Options: Pg-threads, NPT-threads, G-threads	
Terminal plan	00R1AA-101-000 (basic version)	
Output drive types	A, B1, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 Special output drives: AF, AK, B3D, ED, DD, IB1, IB3	
Sensor system		
Signalisation manual operation (option)	Signal for manual operation via microswitch active/not active (1 change-over contact)	
Motor temperature (option)	PT 100 temperature sensor (in combination with actuator controls AC 01.2 only)	
⁵⁾ For nominal voltage and 40 °C ambient temperature at an average load of 35 % of the max. torque ⁶⁾ PTC thermistors require additionally a suitable tripping device in the controls. ⁷⁾ Multi-turn actuators are self-locking, if the valve position cannot be changed from standstill while torque acts upon the output shaft.		
We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.		
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		Y004.795.002/en

Technical data Multi-turn actuators for open-close duty with 3-phase AC motors		SA 07.2 – SA 16.2 AUMA NORM
Gear housing temperature (option)	PT 100 temperature sensor (in combination with actuator controls AC 01.2 only)	
Vibration sensor	In combination with actuator controls AC 01.2 only	
Service conditions		
Mounting position	Any position	
Enclosure protection according to EN 60529	Standard: IP 68 (8 m head of water for max. 96 h, up to 10 operations are permissible during flooding) Options: IP 68-DS (Double Sealed) (Double Sealed = terminal compartment additionally sealed against interior)	
Corrosion protection	Standard: KS Suitable for installation in industrial units, in water or power plants with a low pollutant concentration as well as for installation in occasionally or permanently aggressive atmosphere with a moderate pollutant concentration (e.g. in wastewater treatment plants, chemical industry) Options: KX Suitable for installation in extremely aggressive atmosphere with high humidity and high pollutant concentration KX-G Same as KX, however aluminium-free version (outer parts)	
Installation altitude	Standard: ≤ 2,000 m above sea level Option: > 2,000 m above sea level, please contact the factory	
Finish coating	Standard: Two-component iron-mica combination Powder paint	
Colour	Standard: AUMA silver-grey (similar to RAL 7037) Option: Other colours are possible on request	
Ambient temperature ⁸⁾	Standard: -40 °C to +80 °C Options: -50 °C to +60 °C (low temperature) -60 °C to +60 °C (extreme low temperature) 0 °C to +120 °C (high temperature)	
Vibration resistance according to EN 60068-2-6	2 g, for 10 to 200 Hz Resistant to vibrations during start-up or for failures of the plant. However, a fatigue strength may not be derived from this. Valid for multi-turn actuators in version AUMA NORM (with AUMA plug/socket connector, without actuator controls). Not valid in combination with gearboxes	
Lifetime	Operating cycles OPEN - CLOSE - OPEN with 30 turns/stroke: SA 07.2 – SA 10.2: 25,000 SA 14.2 – SA 16.2: 20,000	
Further information		
EU directives	Electromagnetic Compatibility (EMC): (2004/108/EC) Low Voltage Directive: (2006/95/EC) Machinery Directive: (2006/42/EC)	
Reference documents	Product description "Electric multi-turn actuators SA .2 with AM .1 and AC .2" Dimension sheets SA .2 Electrical data SA .2	
⁸⁾ Version with RWG between -50 °C and +80 °C		
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Für diese Zeichnung gelten die Bestimmungen über den Schutz für Urheberrecht.



I ZU wegabhängig abschalten
CLOSED stop by limit switch

II AUF wegabhängig abschalten
OPEN stop by limit switch

I ZU drehmomentabhängig abschalten
CLOSED stop by torque switch (torque seafing)

II AUF wegabhängig abschalten
OPEN stop by limit switch

Schalterabwicklung / Switch development			
Schalter / Switch	Kontakt / Contact	0% ZU / CLOSE	100% AUF / OPEN
S1 DSR/TSC	Öffner / NC Schließer / NO	—	—
S2 DOEL/TSO	Öffner / NC Schließer / NO	—	—
S3 WSR/LSC	Öffner / NC Schließer / NO	—	—
S4 WOEL/LSO	Öffner / NC Schließer / NO	—	—

Schalterabwicklung / Switch development			
Schalter / Switch	Kontakt / Contact	0% ZU / CLOSE	100% AUF / OPEN
S1 DSR/TSC	Öffner / NC Schließer / NO	—	—
S2 DOEL/TSO	Öffner / NC Schließer / NO	—	—
S3 WSR/LSC	Öffner / NC Schließer / NO	—	—
S4 WOEL/LSO	Öffner / NC Schließer / NO	—	—

— - Kontakt geschlossen / Contact closed
- - - - Kontakt offen / Contact open

- S1 DSR / TSC Drehmomentschalter, Schließen, Rechtslauf / Torque switch, closing, clockwise rotation
- S2 DOEL / TSO Drehmomentschalter, Öffnen, Linkslauf / Torque switch, opening, counter-clockwise rotation
- S3 WSR / LSC Wegschalter, Schließen, Rechtslauf / Limit switch, closing, clockwise rotation
- S4 WOEL / LSO Wegschalter, Öffnen, Linkslauf / Limit switch, opening, counter-clockwise rotation
- S5 BL Blinkgeber / Blinker transmitter
- F1 TH Thermoschalter / Thermostwitches
- R1 H Heizung / Heater

Anschlußplan zeigt den Stellantrieb in Zwischenstellung, Schalter sind nicht betätigt.
Terminal plan shows the actuator in intermediate position, switches are not actuated.

Bei Ex-Antrieben werden an Stelle der Stecker Schraubklemmen/Käfigzugfederklemmen verwendet |
For explosion-proof actuators terminals/cage clamps are used instead of plug/socket connector |

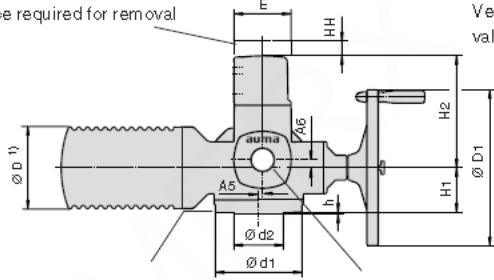
		Datum: 2009-12-08	auma [®] AUMA Rieker GmbH & Co. KG		TPA00R1AA-101-000		
		Bearb.: Meyer			Legende	Auftragsnummer	Bestellnummer
01	799/09	2009-12-08	Mey	Gepr.:	Montaire		
Zust.	Änderung	Datum	Name	Norm	Montaire		
						Projekt	

Dimensions Multi-turn actuators AUMA NORM

**SA 07.2 – SA 16.2
SAR 07.2 – SAR 16.2**

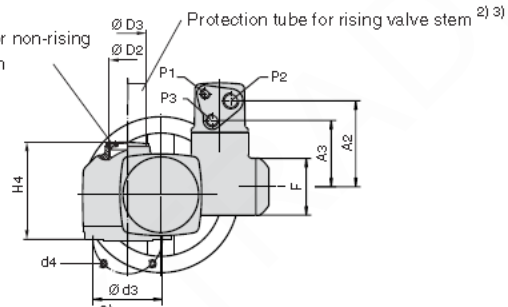
With AUMA plug/socket connector and 3-phase AC motor

Space required for removal



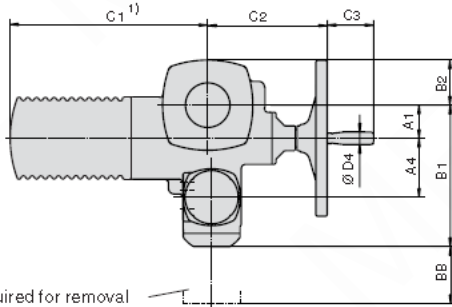
Base of SA without output drive A

Version for non-rising valve stem

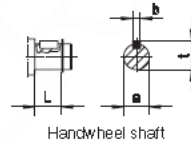


Indicator glass for mech. position indicator²⁾

Output drives according to EN ISO 5210, DIN 3210, DIN 3338, dimensions see next page



Space required for removal



Handwheel shaft

- 1) Exact dimensions according to motor used
- 2) Only if ordered additionally
- 3) In steps of 100 mm length each
- 4) Standard, other threads on request

Dimensions	Multi-turn actuator type					
	SA 07.2 SAR 07.2	SA 07.6 SAR 07.6	SA 10.2 SAR 10.2	SA 14.2 SAR 14.2	SA 14.6 SAR 14.6	SA 16.2 SAR 16.2
EN ISO 5210 (DIN 3210)	F07 (F10/G0)	F07 (F10/G0)	F10 (G0)	F14 (G1/2)	F14 (G1/2)	F16 (G3)
A1	40	40	50	67	67	80
A2	174	174	174	174	174	174
A3	134	134	134	134	134	134
A4	103	103	103	119	119	119
A5	–	–	–	8	8	15
A6	–	–	–	16	16	20
B1	238	238	248	296	296	307
B 2	62	62	65	91	91	115
C 1 ¹⁾	265	265	283	399	399	430
C 2	186	186	191	242	245	271
C 3	63	63	63	94	94	94
Ø D	101	101	121	153	153	190
Ø D 1	160	160	200	315	400	500
Ø D 2	G 1¼"	G 1¼"	G 2"	G 2½"	G 2½"	G 3"
Ø D 3	42 x 3.3	42 x 3.3	60 x 3.7	76 x 3.7	76 x 3.7	89 x 4.1
Ø D 4	20	20	20	25	25	25
E	115	115	115	115	115	115
F	115	115	115	115	115	115
H 1	78	78	80	90	90	110
H 2	210	210	210	226	226	230
H 4	160	160	170	196	196	235
L	20	20	24	38,8	45,8	45,8
P 1 ⁴⁾	M20 x 1.5	M20 x 1.5	M20 x 1.5	M20 x 1.5	M20 x 1.5	M20 x 1.5
P 2 ⁴⁾	M32 x 1.5	M32 x 1.5	M32 x 1.5	M32 x 1.5	M32 x 1.5	M32 x 1.5
P 3 ⁴⁾	M25 x 1.5	M25 x 1.5	M25 x 1.5	M25 x 1.5	M25 x 1.5	M25 x 1.5
BB min.	180	180	180	180	180	180
HH min.	30	30	30	30	30	30
Ø a	20 d7	20 d7	20 d7	30 d7	30 d7	30 d7
b	6	6	6	8	8	8
Ø d 1	90 (125)	90 (125)	125	175	175	210
Ø d 2	55 (70/60)	55 (70/60)	70 (60)	100	100	130
Ø d 3	70 (102)	70 (102)	102	140	140	165
d 4	4 x M8 (4 x M10)	4 x M8 (4 x M10)	4 x M10	4 x M16	4 x M16	4 x M20
h	3	3	3	4	4	5
t	22.5	22.5	22.5	33	33	33

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SA 07.2 – SA 16.2 SAR 07.2 – SAR 16.2		Output drives according to		EN ISO 5210 DIN 3338 DIN 3210									
Output drives		Dimensions		AUMA multi-turn actuator type									
				SA 07.2/SA 07.6		SA 10.2		SA 14.2/SA14.6		SA 16.2			
Stem nut		EN ISO 5210	DIN 3210	F07	F10	G0	F10	G0	F14	G1/2	F16	G3	
Type EN ISO 5210 A DIN 3210 A													
Arrangement of holes d4		Weight		kg	1.1	1.3	1.3	2.8	2.8	6.8	11.7		
Plug sleeve ³⁾													
Type EN ISO 5210 B 1 = $\varnothing d7$ EN ISO 5210 B 2 < $\varnothing d7$ > $\varnothing d7$ min. DIN 3210 B = $\varnothing d7$		Missing dimensions refer to output drive A											
Bore with keyway													
Type EN ISO 5210 B 3 = $\varnothing d10$ EN ISO 5210 B 4 $\leq \varnothing dy$ DIN 3210 E = $\varnothing d10$		Missing dimensions refer to output drive A											
Dog coupling ³⁾													
Type DIN 3338 C = $\varnothing d11$		Missing dimensions refer to output drive A											
Shaft coupling													
Type DIN 3210 D		Missing dimensions refer to output drive A											
		Weight		kg	-	-	0.4	-	0.7	-	2	-	4.3
¹⁾ Dimensions depend on $\varnothing d7 / \varnothing d10$, refer to DIN 6885 P1 ²⁾ For rising valve stem $\varnothing d11$ max. = $\varnothing d5$ of type A ³⁾ Weight included in actuator * Dimensions outside DIN 3338													
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Issue		1.09											
		Y004.731.602/en											