

Technical data Multi-turn actuators for open-close duty with 3-phase AC motors	SA 07.2 – SA 16.2 AUMA NORM
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Type	Output speed rpm		Torque range ¹⁾ for type of duty			Valve attachment		Valve stem diameter	Handwheel		approx. kg ⁴⁾
	50 Hz	60 Hz	min. Nm	S2-15 min max. Nm	S2-30 min max. Nm	Standard EN ISO 5210	Option DIN 3210	for a rising valve stem ²⁾ max. mm	Ø mm	Reduc- tion	
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⁾	25	25	20	F10	G0	34	160	5.5:1	20	
180 ³⁾	216 ³⁾								4:1		
4	4.8								11:1		
5.6	6.7								8:1		
8	9.6								11:1		
SA 07.6	11	13	20	60	40	F07	G0	26	160	11:1	20
	16	19								8:1	
	22	26								11:1	
	32	38								8:1	
	45	54								11:1	
	63	75				8:1					
	90	108				11:1					
	125 ³⁾	150 ³⁾				8:1					
	180 ³⁾	216 ³⁾				5.5:1					
	4	4.8				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⁾	100	100	70	F10	G0	40	200	5.5:1	25	
180 ³⁾	216 ³⁾								4:1		
4	4.8								11:1		
5.6	6.7								8:1		
8	9.6								11:1		
SA 14.2	11	13	100	250	180	F14	G1/2	57	315	11:1	44
	16	19								8:1	
	22	26								11:1	
	32	38								8:1	
	45	54								11:1	
	63	75				8:1					
	90	108				11:1					
	125 ³⁾	150 ³⁾				8:1					
	180 ³⁾	216 ³⁾				5.5:1					
	4	4.8				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⁾	400	400	290	F14	G1/2	57	400	5.5:1	53	
180 ³⁾	216 ³⁾								4:1		
4	4.8								11:1		
5.6	6.7								8:1		
8	9.6								11:1		
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⁾	800	800	570	F16	G3	75	500	5.5:1	79	
180 ³⁾	216 ³⁾								4:1		
4	4.8								11:1		
5.6	6.7								8:1		
8	9.6								11:1		

1) Tripping torque adjustable for directions OPEN and CLOSE
2) For output drive types 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

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General information

Multi-turn actuators AUMA NORM require electric controls. AUMA offers the actuator controls AUMA MATIC 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	Standard: Short-time duty S2 - 15 min Option: Short-time duty S2 - 30 min For nominal voltage and 40 °C ambient temperature and at average load with 35 % of the max. torque																																																
Motors	3-ph AC asynchronous motor, type IM B9 according to IEC 60034																																																
Mains voltage, mains frequency	Standard voltages: <table border="1"> <tr> <td colspan="11">3-ph AC current Voltages/frequencies</td> </tr> <tr> <td>Volt</td> <td>220</td> <td>230</td> <td>240</td> <td>380</td> <td>400</td> <td>415</td> <td>440</td> <td>460</td> <td>480</td> <td>500</td> </tr> <tr> <td>Hz</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>60</td> <td>60</td> <td>60</td> <td>50</td> </tr> </table> Special voltages: <table border="1"> <tr> <td colspan="5">3-ph AC current Voltages/frequencies</td> </tr> <tr> <td>Volt</td> <td>525</td> <td>575</td> <td>660</td> <td>690</td> </tr> <tr> <td>Hz</td> <td>50</td> <td>50</td> <td>50</td> <td>50</td> </tr> </table> Permissible variation of mains voltage: ± 10 % Permissible variation of mains frequency: ± 5 %	3-ph AC current Voltages/frequencies											Volt	220	230	240	380	400	415	440	460	480	500	Hz	50	50	50	50	50	50	60	60	60	50	3-ph AC current Voltages/frequencies					Volt	525	575	660	690	Hz	50	50	50	50
3-ph AC current Voltages/frequencies																																																	
Volt	220	230	240	380	400	415	440	460	480	500																																							
Hz	50	50	50	50	50	50	60	60	60	50																																							
3-ph AC current Voltages/frequencies																																																	
Volt	525	575	660	690																																													
Hz	50	50	50	50																																													
Overvoltage category	Category III according to IEC 60364-4-443																																																
Insulation class	Standard: F, tropicalized Option: H, tropicalized																																																
Motor protection	Standard: Thermoswitches (NC) Option: PTC thermistors (PTC according to DIN 44082) ⁵⁾																																																
Self-locking	Output speeds up to 90 rpm (50 Hz) or 108 rpm (60 Hz) NOT self-locking: Output speeds from 125 rpm (50 Hz) or 150 rpm (60 Hz) Multi-turn actuators are self-locking, if the valve position cannot be changed from standstill while torque acts upon the output drive.																																																
Motor heater (option)	Voltages: 110 – 220 V AC, 220 – 240 V AC or 400 V AC (external supply) Power depending on the sizes 12.5 – 25 W																																																
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during electric operation. Option: Handwheel lockable Handwheel spindle extension Power tool in case of emergency with square 30 mm or 50 mm																																																
Indication for manual operation (option)	Indication whether manual operation is active/not active via single switch (1 NC and 1 NO) For further details, see separate data sheet																																																
Electrical connection	Standard: AUMA plug/socket connector with screw-type connection Options: Terminals or crimp connection Control plug gold-plated (pins and sockets)																																																
Threads for cable entries	Standard: Metric threads Options: Pg-threads, NPT-threads, G-threads																																																
Terminal plan	TPA00R1AA-101-000 (basic version)																																																
Valve attachment	Standard: B1 according to EN ISO 5210 Options: A, B2, B3, B4 according to EN ISO 5210 A, B, D, E according to DIN 3210 C according to DIN 3338 Special output drive types: AF, B3D, ED, DD, IB1, IB3 A prepared for permanent lubrication of stem																																																

Electro-mechanical control unit

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 switches (1 NC and 1 NO) for each end position, not galvanically isolated Options: Tandem switches (2 NC and 2 NO) for each end position, switches galvanically isolated Triple switches (3 NC and 3 NO) for each end position, switches galvanically isolated Intermediate position switches (DUO limit switching), available for any intermediate position For further details, see separate data sheet
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5) PTC thermistors require additionally a suitable tripping device in the controls.

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Torque switching	Torque switching adjustable for directions OPEN and CLOSE Standard: Single switch (1 NC and 1 NO) for each direction, switches not galvanically isolated Options: Tandem switch (2 NC and 2 NO) for each direction, switches galvanically isolated For further details, see separate data sheet	
Position feedback signal, analogue (options)	Potentiometer or 0/4 – 20 mA (RWG) For further details see separate data sheet	
Mechanical position indicator	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED	
Running indication	Blinker transmitter For further details see separate data sheet	
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 of 5 W, 24 V AC is installed in the actuator in combination with the AUMA MATIC AM or AUMATIC AC actuator controls.	
Electronic control unit (only in combination with actuator controls AUMATIC AC 01.1/AC 01.2)		
Non-Intrusive settings (option)	Magnetic limit and torque transmitter MWG For 1 to 500 turns per stroke or 10 to 5,000 turns per stroke	
Position feedback signal	via actuator controls	
Torque feedback signal	via actuator controls	
Mechanical position indicator	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED	
Running indication	Blinking signal via controls	
Heater in switch compartment	Resistance type heater at 5 W, 24 V AC	
Service conditions		
Use	Approved for indoor and outdoor use	
Mounting position	Any position	
Level of mounting	Standard: ≤ 2,000 m above sea level Option: > 2,000 m above sea level, please contact the factory	
Ambient temperature ⁶⁾	Standard: –40 °C to +80 °C Options: –50 °C to +60 °C –60 °C to +60 °C 0 °C to +120 °C	
Enclosure protection according to EN 60529	Standard: IP 68 with AUMA 3-ph AC motor For special motors variant enclosure protection: refer to name plate Option: DS Terminal compartment additionally sealed against interior (double sealed) According to AUMA definition, enclosure protection IP 68 meets the following requirements: Depth of water: maximum 8 m head of water Duration of flooding: maximal 96 hours Up to 10 operations during flooding	
Pollution degree	Within multi-turn actuator: pollution degree 2 Outside multi-turn actuator: pollution degree 4	
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	
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)	
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	
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	
6) Version with RWG from –50 °C to +80 °C		
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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

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