SA 07.2 – SA 16.2
AUMA NORM

Technical data Multi-turn actuators for open-close duty with 3-phase AC motors

Type	Speed rpm		Torque range[1]			Valve attachment[2]			Handwheel		Weight[3]
	50 Hz	60 Hz	Min. [Nm]	S2-15 min Max. [Nm]	S2-30 min Max. [Nm]	Standard EN ISO 5210	Option DIN 3210	Max. Ø rising stem [mm]	Ø [mm]	Reduct. ratio	approx. [kg]
SA 07.2	4	4.8	10	30	20	F07	–	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				F10	G0	34		11 : 1	20
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		25						4 : 1	
SA 07.6	4	4.8	20	60	40	F07	–	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				F10	G0	34		11 : 1	21
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		50	30					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	25
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		100	70					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	48
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		200	140					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	53
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		400	290					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	79
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	83
	125	150		800	570					5.5 : 1	
	180	216								4 : 1	

1) – 3) Refer to notes on page 2.

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General information
AUMA NORM multi-turn actuators require electric controls. For sizes SA 07.2 – SA 16.2, AUMA offer AM or AC actuator controls. These can also easily be mounted to the actuator at a later date.

Notes on table on page 1	
1) Torque range	The tripping torque is adjustable for directions OPEN and CLOSE within the indicated torque range.
2) Valve attachment	Indicated flange sizes apply for output drive types A and B1. Refer to dimension sheets for further output drive types.
3) Weight	Indicated weight includes for AUMA NORM multi-turn actuator with 3-phase AC motor, standard electrical connection, output drive type B1 and handwheel.

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:	

3-phase 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

Special voltages:

3-phase AC current - voltages/frequencies				
Volt	525	575	660	690
Hz	50	50	50	50

Permissible variation of mains voltage: ±10 %
Permissible variation of mains frequency: ±5 %

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 (according to DIN 44082) PTC thermistors additionally require a suitable tripping device in the controls.
Self-locking	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 – 120 V AC, 220 – 240 V AC or 400 V AC (externally supplied)
	Power depending on the size 12.5 – 25 W	
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during electrical operation	
	Options:	Handwheel lockable Handwheel stem extension Power tool for emergency operation with square 30 mm or 50 mm
Indication for manual operation (option)	Indication whether manual operation is active/not active via single switch (1 change-over contact)	
Electrical connection	Standard:	AUMA plug/socket connector with screw-type connection
	Options:	Terminals or crimp connection Gold-plated control plug (sockets and plugs)
Threads for cable entries	Standard:	Metric threads
	Options:	Pg-threads, NPT-threads, G-threads
Terminal plan	TPA00R1AA-101-000 (basic version)	

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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	

Electromechanical control unit		
Limit switching	Counter gear mechanism for end positions OPEN and CLOSED 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 switch (DUO limit switching), adjustable for any position
Torque switching	Torque switching adjustable for directions OPEN and CLOSE	
	Standard:	Single switches (1 NC and 1 NO) for each direction, not galvanically isolated
	Options:	Tandem switches (2 NC and 2 NO) for each direction, switches galvanically isolated
Position feedback signal, analogue (options)	Potentiometer or 0/4 – 20 mA (RWG)	
Mechanical 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 of 5 W, 24 V AC is installed in the actuator in combination with AUMA MATIC AM or AUMATIC AC actuator controls.	

Electronic control unit (only in combination with AC actuator controls)	
Non-intrusive setting (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 (option)	Continuous indication, adjustable indicator disc with symbols OPEN and CLOSED
Running indication	Blinking signal via controls
Heater in switch compartment	Resistance type heater with 5 W, 24 V AC

Service conditions		
Use	Indoor and outdoor use permissible	
Mounting position	Any position	
Installation altitude	≤ 2,000 m above sea level > 2,000 m above sea level, please contact AUMA	
Ambient temperature	Standard:	-40 °C to +80 °C
	Options:	-60 °C to +60 °C 0 °C to +120 °C
Enclosure protection according to EN 60529	Standard:	IP 68 with AUMA 3-phase AC motor For special motors differing 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 continuous immersion in water: Max. 96 hours • Up to 10 operations during continuous immersion	
Pollution degree	Pollution degree 4 (when closed) according to EN 50178	

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Vibration resistance according to IEC 60068-2-6	2 g, from 10 Hz to 200 Hz Resistant to vibration 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. wastewater treatments plants, chemical industry)
	Options:	KX	Suitable for installation in extremely aggressive atmospheres with high humidity and high pollutant concentration
		KX-G	Same as KX, however aluminium-free version (outer parts)
Finish coating	Powder paint Two-component iron-mica combination		
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Option:	Other colours are possible on request.	
Lifetime	AUMA multi-turn actuators meet or even exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request.		

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 Dimensions SA 07.2 – SA 16.2/SAR 07.2 – SAR 16.2 Electrical data SA 07.2 – SA 16.2 with 3-phase AC motors Technical data for switches Technical data Electronic position transmitter/potentiometer Technical data Output speeds, motors, reduction ratios and blinker transmitters