

Type	Output speed rpm		Torque range <sup>1)</sup>			Number of starts Max. [1/h]	Valve attachment <sup>2)</sup>			Handwheel		Weight <sup>3)</sup> approx. [kg]									
	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]	Reduction ratio										
SA 07.2	4	4.8	10	30	20	60	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					11 : 1	F10	G0		34		11 : 1								
	45	54					8 : 1														
	63	75					11 : 1														
	90	108					8 : 1														
125	150	5.5 : 1																			
180	216	4 : 1																			
SA 07.6	4	4.8	20	60	40	60	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					11 : 1	F10	G0		34		11 : 1								
	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	60	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		100	250	180	60	F14	G1/2	57	315	11 : 1
	45	54									8 : 1										
	63	75									11 : 1										
	90	108									8 : 1										
125	150	5.5 : 1																			
180	216	200	140	4 : 1																	
SA 14.2	4	4.8	100	250	180	60	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		200	500	360	60	F14	G1/2	57	400	11 : 1
	45	54									8 : 1										
	63	75									11 : 1										
	90	108									8 : 1										
125	150	5.5 : 1																			
180	216	400	290	4 : 1																	
SA 14.6	4	4.8	200	500	360	60	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		400	1,000	710	60	F16	G3	75	500	11 : 1
	45	54									8 : 1										
	63	75									11 : 1										
	90	108									8 : 1										
125	150	5.5 : 1																			
180	216	800	570	4 : 1																	
SA 16.2	4	4.8	400	1,000	710	60	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		800	570	60	F16	G3	75	500	11 : 1	
	45	54									8 : 1										
	63	75									11 : 1										
	90	108									8 : 1										
125	150	5.5 : 1																			
180	216	4 : 1																			

1) – 3) 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.

## AUMA NORM

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

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 AUMA NORM multi-turn actuator with 3-phase AC motor, electrical connection in standard version, output drive type B1 and handwheel.																																																																				
Features and functions																																																																					
Type of duty	Standard: Short-time duty S2 - 15 min, classes A and B according to EN 15714-2 Option: Short-time duty S2 - 30 min, classes A and B according to EN 15714-2 For nominal voltage and 40 °C ambient temperature and at load with 35 % of the max. torque.																																																																				
Motors	3-ph AC asynchronous motor, type IM B9 according to IEC 60034-7, IC410 cooling procedure according to IEC 60034-6																																																																				
Mains voltage, mains frequency	Standard voltages: <table border="1"> <thead> <tr> <th colspan="8">3-phase AC current</th> </tr> <tr> <th colspan="8">Voltages/frequencies</th> </tr> <tr> <th>Volt</th> <td>380</td> <td>400</td> <td>415</td> <td>440</td> <td>460</td> <td>480</td> <td>500</td> </tr> <tr> <th>Hz</th> <td>50</td> <td>50</td> <td>50</td> <td>60</td> <td>60</td> <td>60</td> <td>50</td> </tr> </thead> </table> Special voltages: <table border="1"> <thead> <tr> <th colspan="9">3-phase AC current</th> </tr> <tr> <th colspan="9">Voltages/frequencies</th> </tr> <tr> <th>Volt</th> <td>220</td> <td>230</td> <td>240</td> <td>525</td> <td>575</td> <td>600</td> <td>660</td> <td>690</td> </tr> <tr> <th>Hz</th> <td>50</td> <td>50</td> <td>50</td> <td>50</td> <td>60</td> <td>60</td> <td>50</td> <td>50</td> </tr> </thead> </table> Further voltages on request Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 %	3-phase AC current								Voltages/frequencies								Volt	380	400	415	440	460	480	500	Hz	50	50	50	60	60	60	50	3-phase AC current									Voltages/frequencies									Volt	220	230	240	525	575	600	660	690	Hz	50	50	50	50	60	60	50	50
3-phase AC current																																																																					
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Volt	380	400	415	440	460	480	500																																																														
Hz	50	50	50	60	60	60	50																																																														
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Volt	220	230	240	525	575	600	660	690																																																													
Hz	50	50	50	50	60	60	50	50																																																													
Overvoltage category	Category III according to IEC 60364-4-443																																																																				
Insulation class	Standard: F, tropicalized Option: H, tropicalized																																																																				
Motor protection	Standard: Thermostiches (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 380 – 480 V AC 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 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																																																																				

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

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 valve attachment: AF, B3D, ED, DD, IB1, IB3 A prepared for permanent lubrication of stem	

**Electromechanical control unit**

Limit switching device	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) silver contact (Ag) 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 each direction of operation Gold plated contacts (Au), recommended for low voltage actuator controls
Torque switching	Torque switching adjustable for directions OPEN and CLOSE	
	Standard:	Single switches (1 NC and 1 NO) silver contact (Ag) for each direction, not galvanically isolated
	Options:	Tandem switches (2 NC and 2 NO) for each direction, switches galvanically isolated Gold plated contacts (Au), recommended for low voltage actuator controls
Position feedback signal, analogue (options)	Potentiometer or 0/4 – 20 mA (electronic position transmitter)	
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 AM or AC actuator controls.	

**Electronic control unit (only in combination with AC actuator controls)**

Non-intrusive setting (option)	MWG magnetic limit and torque transmitter Turn per stroke: 1 to 500 (standard) or 10 to 5,000 (option)
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	Blinker transmitter
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 on request	
Ambient temperature	Standard:	–30 °C to +70 °C
	Options:	–40 °C to +70 °C
		–60 °C to +60 °C
		–30 °C to +80 °C 0 °C to +120 °C
Humidity	Up to 100 % relative humidity across the entire permissible temperature range	

## AUMA NORM

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

Enclosure protection according to EN 60529	Standard:	IP68 with AUMA 3-phase AC motor For special motors, differing enclosure protection is possible	
	Option:	DS Terminal compartment additionally sealed against interior (double sealed)	
	According to AUMA definition, enclosure protection IP68 meets the following requirements: <ul style="list-style-type: none"> <li>• Depth of water: maximum 8 m head of water</li> <li>• Duration of continuous immersion in water: Max. 96 hours</li> <li>• Up to 10 operations during continuous immersion</li> </ul>		
Pollution degree according to IEC 60664-1	Pollution degree 4 (when closed), pollution degree 2 (internal)		
Vibration resistance according to IEC 60068-2-6	2 g, 10 to 200 Hz (AUMA NORM actuator), 1g, 10 to 200 Hz (for actuators with AM or AC integral controls) 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 use in areas with high salinity, almost permanent condensation, and high pollution.
	Options:	KX	Suitable for use in areas with extremely high salinity, permanent condensation, and high pollution.
		KX-G	Same as KX, however aluminium-free version (outer parts)
Top coat	Double layer powder coating Two-component iron-mica combination		
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Option:	Available colours on request	
Lifetime	AUMA multi-turn actuators meet or exceed the lifetime requirements of EN 15714-2. Detailed information can be provided on request.		
Noise level	< 72 dB (A)		

## Further information

EU Directives	Electromagnetic Compatibility (EMC): (2004/108/EC) Low Voltage Directive: (2006/95/EC) Machinery Directive: (2006/42/EC)
Reference documents	Brochure Electric actuators for industrial valve automation 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