SQ 05.2 – SQ 14.2
AUMA NORM
Technical data Part-turn actuators for open-close duty with 3-phase AC motors

Type	Operating time for 90° in seconds		Torque range[1]		Valve attachment		Valve shaft			Handwheel		Weight[2]
	50 Hz:	60 Hz	Min. [Nm]	Max. [Nm]	Standard EN ISO 5211	Option EN ISO 5211	Cylindrical max. [mm]	Square max. [mm]	Two-flat max. [mm]	Ø mm	Turns for 90°	approx. [kg]
SQ 05.2	4	3	50	150	F05	F07	25.4	22	22	160	11	22
	5.6	4.5									16	
	8	6									11	
	11	9									16	
	16	12									11	
	22	17									16	
	32	25									11	
SQ 07.2	4	3	100	300	F07	F10	25.4	22	22	160	11	22
	5.6	4.5									16	
	8	6									11	
	11	9									16	
	16	12									11	
	22	17									16	
	32	25									11	
SQ 10.2	8	6	200	450	F10	F12	38	30	27	200	11	25
	11	9		600							15	
	16	12									11	
	22	17									15	
	32	25									11	
	45	35									15	
	63	50									11	
SQ 12.2	16	12	400	900	F12	F14	50	36	41	200	22	34
	22	17		1200							30	
	32	25									22	
	45	35									30	
	63	50									22	
SQ 14.2	24	20	800	1800	F14	F16	60	46	46	200	70	41
	36	30									51	
	48	40		2400							70	
	72	60									51	
	100	85									70	

General information

Part-turn actuators AUMA NORM require external controls.
For sizes SQ 05.2 – SQ 14.2, AUMA offer AM or AC actuator controls. These can also easily be mounted to the actuator at a later date.

Notes on table

1) Torque range	The tripping torque is adjustable for directions OPEN and CLOSE within the indicated torque range.
2) Weight	Indicated weight includes part-turn actuator AUMA NORM with 3-phase AC motor, standard electrical connection, unbored coupling and handwheel

Features and functions

Type of duty	Short-time duty S2 - 15 min
	For nominal voltage, 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	380	400	415	440	460	480	500
Hz	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

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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.
Motor heater (option)	Voltages:	110 – 120 V AC, 220 – 240 V AC or 400 V AC (externally supplied)
	Power:	12.5 W:
Swing angle	Standard:	Adjustable between 75° and < 105°
	Options	15° to < 45°, 45° to < 75°, 105° to < 135°
Self-locking	Yes (Part-turn actuators are self-locking if the valve position cannot be changed from standstill while torque acts upon the output drive.)	
Manual operation	Manual drive for setting and emergency operation, handwheel does not rotate during electrical operation	
	Options:	Handwheel lockable Handwheel stem extension
Indication for manual operation (option)	Indication whether manual operation is active/not active via single switch (1 change-over contact) For further information refer to separate data sheet Technical data for switches.	
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	TPA 00R1AA-101-000 (Grundausführung)	
Splined coupling for connection to the valve shaft	Standard:	Coupling without bore
	Options:	Machined coupling with bore and keyway, square bore or bore with two-flats according to EN ISO 5211
Valve attachment	Dimensions according to EN ISO 5211 without spigot	

Electromechanical control unit		
Limit switching	Counter gear mechanism for end positions OPEN and CLOSED	
	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	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 the AUMA MATIC or AUMATIC actuator controls.	

Electronic control unit (only in combination with AC actuator controls)	
Non-intrusive setting (option)	Magnetic limit and torque transmitter (MWG)
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 with 5 W, 24 V AC

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Service conditions			
Use	Indoor and outdoor use permissible		
Mounting position	Any position		
Installation altitude	≤ 2,000 m above sea level for > 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	
	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 60644		
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 part-turn actuators in version AUMA NORM (with AUMA plug/socket connector, without actuator controls).		
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 coating		
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)	
	Option:	Other colours are possible on request.	
Lifetime	AUMA part-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	Dimensions Part-turn actuators SQ 05.2 – SQ 14.2/SQR 05.2 – SQR 14.2 Electrical data Part-turn actuators SQ 05.2 – SQ 14.2 with 3-phase AC motors Technical data Electronic position transmitter/potentiometer Technical data for switches

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