Technical data Part-turn actuators for modulating duty

General information

SQRV part-turn actuators with variable speed. AUMA actuator controls of the ACV type are required to change the operating time.

Type	Operating time for 90°	Torque range[1]		Modulating torque[2]	Number of starts
	[s]	Min. [Nm]	Max.[3] [Nm]	Max. [Nm]	Starts Max. [1/h]
SQRV 05.2	4 – 28	75	150	75	1,500
	12 – 120				
SQRV 07.2	4 – 28	150	300	150	1,500
	12 – 120				
SQRV 10.2	12 – 120	300	600	300	1,500
SQRV 12.2	24 – 240	600	1,200	600	1,500
SQRV 14.2	40 – 360	1,200	2,400	1,200	1,500

1) The tripping torque is adjustable for directions OPEN and CLOSE within the indicated torque range.
2) Maximum permissible torque for modulating duty.
3) Maximum torque to approx. 50 % of shortest operating time.

Valve attachments and weight

Type	Valve attachment		Valve shaft			Handwheel		Weight
	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]
SQRV 05.2	F05/F07	F10	25.4	22	22	160	11	21[1]
							16	27[2]
SQRV 07.2	F05/F07	F10	25.4	22	22	160	11	21[1]
							16	27[2]
SQRV 10.2	F10	F12	38	30	27	200	11	26[1]
							16	31[2]
SQRV 12.2	F12	F14	50	36	41	200	11	35[1]
							16	43[2]
SQRV 14.2	F14	F16	60	46	46	200	11	44[1]
								55[2]

1) Indicated weight includes part-turn actuator with electrical connection in standard version, unbored coupling and handwheel.
2) Indicated weight includes part-turn actuator with electrical connection in standard version, unbored coupling and handwheel, including base and lever.

Features and functions

Type of duty	Intermittent duty S4 - 25 %, class C according to EN ISO 22153	
	For nominal voltage and +40 °C ambient temperature and at modulating torque load.	
Motors	3-phase AC asynchronous squirrel-cage motor, type IM B9 according to IEC 60034-7, IC410 cooling procedure according to IEC 60034-6	
Mains voltage, mains frequency	Voltages:	
	Refer to table: 3-phase AC standard voltages [▶ 2]	
	Refer to table: 1-phase AC standard voltages [▶ 2]	
	Permissible variation of mains voltage: ±10 %	
	Permissible variation of mains frequency: -5 %	
Overvoltage category	Category III according to IEC 60364-4-44	
Insulation class	Standard:	F, tropicalized
	Option:	H, tropicalized
Motor protection	Standard:	Thermoswitches (NC)
	Option:	PTC thermistors (according to DIN 44082)
Motor heater (option)	Voltages: 110 – 120 V AC, 220 – 240 V AC or 380 – 480 V AC	
	Power 12.5 W	
Self-locking	Yes (actuators are self-locking if the valve position cannot be changed from standstill while torque acts upon the output drive.)	
Swing angle	Standard:	Adjustable between 75° and < 105°
	Options:	15° to < 45°, 45° to < 75°, 105° to < 135°, 135° to < 165°, 165° to < 195°, 195° to < 225°
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

Features and functions		
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-type connection Gold-plated control plug (sockets and pins)
Threads for cable entries	Standard:	Metric threads
	Option:	Pg threads, NPT threads, G threads
Terminal plan	TPA00R100-0I1-000 (basic version)	
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 ISO 5211 without spigot	

Table 1: 3-phase AC standard voltages

Voltages/frequencies				
Volt [3~]	220 – 240	220 – 240	380 – 480	380 – 480
Hz	50	60	50	60

Table 2: 1-phase AC standard voltages

Voltages/frequencies				
Volt [1~]	110 – 120	110 – 120	220 – 240	220 – 240
Hz	50	60	50	60

With base and lever (option)		
Swing lever	Made of spheroidal cast iron with two or three bores for fixing a lever arrangement. Considering the installation conditions, the lever may be mounted to the output shaft in any desired position.	
Ball joints (option)	Two ball joints matching the lever, including lock nuts and two welding nuts, suitable for pipe according to dimension sheet.	
Fixing	Base and four holes for fastening screws	
Electronic control unit		
Non-intrusive settings	Magnetic limit and torque transmitter (MWG)	
Position feedback signal	Via actuator controls	
Torque feedback signal	Via actuator controls	
Running indication	Blinking signal via actuator 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 on request	
Ambient temperature	Standard:	–30 °C to +70 °C
	Options:	–40 °C to +70 °C –60 °C to +60 °C
Humidity	Up to 100 % relative humidity across the entire permissible temperature range	
Enclosure protection in accordance with IEC 60529	Standard:	IP68 with AUMA 3-phase AC motor For special motors, differing enclosure protection is possible
	Option:	Terminal compartment additionally sealed against interior of actuator (double sealed)
	According to AUMA definition, enclosure protection IP68 meets the following requirements: • Depth of water: maximum 8 m head of water • Continuous immersion in water: maximum 96 hours • Up to 10 operations during immersion • Modulating duty is not possible during immersion.	
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) 1 g, 10 to 200 Hz (for actuators with ACV actuator controls) Resistant to vibration during start-up or for plant failures. However, a fatigue strength may not be derived from this. Not valid in combination with gearboxes.	

Service conditions		
Corrosion protection	Standard:	KS: Suitable for use in areas with high salinity, almost permanent condensation, and high pollution.
	Option:	KX: Suitable for use in areas with extremely high salinity, permanent condensation, and high pollution.
Coating	Double layer powder coating	
Colour	Standard:	AUMA silver-grey (similar to RAL 7037)
	Option:	Available colours on request
Lifetime	AUMA part-turn actuators meet or exceed the lifetime requirements of EN ISO 22153. Detailed information can be provided on request.	
Sound pressure level	< 72 dB (A)	
Further information		
EU Directives	Machinery Directive 2006/42/EC Low Voltage Directive 2014/35/EU EMC Directive 2014/30/EU RoHS Directive 2011/65/EU	
Reference documents	Dimensions SQV 05.2 – SQV 14.2/SQRV 05.2 – SQRV 14.2 with ACV 01.2 Electrical data SQRV 07.2 – SQRV 16.2 Technical data ACV 01.2	