SA 07.2-UW – SA 16.2-UW
for continuous underwater use

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

General information

Multi-turn actuators for continuous underwater use require AC actuator controls. Actuator controls are mounted on a wall bracket and are not immersed. A special cable set for connection between actuator and actuator controls is required.

Type	Output speed rpm		Torque range[1]			Number of starts	Valve attachment[2]		Handwheel (Option)		Weight[3]
	50 Hz	60 Hz	Min. [Nm]	S2-15 min Max. [Nm]	S2-30 min Max. [Nm]	Starts Max. [1/h]	Standard EN ISO 5210	Option DIN 3210	Ø [mm]	Reduction ratio	approx. [kg]
SA 07.2-UW	4	4.8	10	30	20	60	F07 F10	– G0[4]	160	11 : 1	25
	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	26
	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-UW	4	4.8	20	60	40	60	F07 F10	– G0[4]	160	11 : 1	25
	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	27
	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-UW	4	4.8	40	120	90	60	F10	G0[4]	200	11 : 1	31
	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	33
	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-UW	4	4.8	100	250	180	60	F14	G1/2	315	11 : 1	54
	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	58
	45	54								8 : 1	
	63	75								11 : 1	
	90	108								8 : 1	
	125	150								5.5 : 1	
	180	216		200	140					4 : 1	

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

Type	Output speed rpm		Torque range[1]			Number of starts	Valve attachment[2]		Handwheel (Option)		Weight[3]
	50 Hz	60 Hz	Min. [Nm]	S2-15 min Max. [Nm]	S2-30 min Max. [Nm]	Starts Max. [1/h]	Standard EN ISO 5210	Option DIN 3210	Ø [mm]	Reduction ratio	approx. [kg]
SA 14.6-UW	4	4.8	200	500	360	60	F14	G1/2	400	11 : 1	56
	5.6	6.7								8 : 1	
	8	9.6								11 : 1	
	11	13								8 : 1	
	16	19								11 : 1	62
	22	26								8 : 1	
	32	38								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 16.2-UW	4	4.8	400	1,000	710	60	F16	G3	500	11 : 1	77
	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	88
	45	54								8 : 1	
	63	75								11 : 1	93
	90	108								8 : 1	
	125	150		800	570					5.5 : 1	
	180	216								4 : 1	

1) The tripping torque is adjustable for directions OPEN and CLOSE within the indicated torque range.
2) Indicated flange sizes apply for output drive type B1. Refer to separate dimension sheets for further output drive types.
3) Indicated weight includes multi-turn actuator with 3-phase AC motor, electrical connection with cable glands and output drive type B1.
4) G0 valve attachment is designed without spigot hub.

Features and functions		
Type of duty	Standard:	Short-time duty S2- 15 min, classes A and B according to EN ISO 22153
	Option:	Short-time duty S2- 30 min, classes A and B according to EN ISO 22153
	For nominal voltage and +40 °C ambient temperature and at load with 35 % of the max. torque.	
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	Standard voltages:	

3-phase AC Voltages/frequencies											
Volt	220	230	380	380	400	400	415	440	460	480	500
Hz	60	50	50	60	50	60	50	60	60	60	50

Special voltages:

3-phase AC Voltages/frequencies								
Volt	220	440	525	575	575	600	660	690
Hz	50	50	50	50	60	60	50	50

Further voltages on request
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

Features and functions		
Motor protection	Standard:	Thermoswitches (NC)
	Option:	PTC thermistors (according to DIN 44082) PTC thermistors additionally require a suitable tripping device in the actuator controls.
Self-locking	Self-locking: Output speeds up to 90 rpm (50 Hz), 108 rpm (60 Hz) NOT self-locking: Output speeds from 125 rpm (50 Hz), 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 (option)	Manual drive for setting and emergency operation, handwheel does not rotate during electrical operation.	
Indication for manual operation (option)	Indication whether manual operation is active/not active via single switch (1 change-over contact)	
Electrical connection	The AUMA plug/socket connector is part of the cable set with wall bracket which must be ordered separately and which is customised for connection. Terminal compartment additionally sealed against interior (double sealed)	
Terminal plan	TPA00R100-0I1-000 (basic version)	
Valve attachment	Standard:	B1 according to EN ISO 5210
	Option:	B3, B4, D according to EN ISO 5210; B2 on request B, D, E according to DIN 3210
	Special valve attachments: B3D, DD	

Electronic control unit	
Non-Intrusive setting	Magnetic limit and torque transmitter (MWG) Turns per stroke: 1 to 500 (standard) or 10 to 5,000 (option)
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	For continuous underwater use as well as indoor and outdoor use.	
Mounting position	Any position	
Installation altitude	≤ 2 000 m above sea level > 2,000 m above sea level, on request	
Ambient temperature	–30 °C to +70 °C	
Humidity	Up to 100 % relative humidity across the entire permissible temperature range	
Enclosure protection in accordance with IEC 60529	Standard:	Increased enclosure protection IP68-C15. The maximum head of water is 15 m.
	Option:	Increased enclosure protection IP68-C60. The maximum head of water is 60 m. In combination with handwheel permissible head of water of more than 15 m on request
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 Resistant to vibration during start-up or for failures of the plant. However, a fatigue strength may not be derived from this. They are not valid in combination with gearboxes.	
Corrosion protection	KX-G: Suitable for use in freshwater (Im1), seawater (Im2) and on seafloor (Im3), aluminium-free version (outer parts)	
Coating	Two-layer powder coating with additional wet painting	
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 ISO 22153. Detailed information can be provided on request.	
Noise 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 SA 07.2-UW – SA 16.2-UW/SAR 07.2-UW – SAR 16.2-UW Electrical data SA 07.2 – SA 16.2