

Technical data Part-turn actuators for open-close and modulating duty

Type	Torque range		Operating time for 90° in seconds	Motor protection ²⁾	Valve attachment	Handwheel	Weight
	Open-close duty max. [Nm]	Modulating duty max. [Nm]					
ED 25	25	25	15	B	F03, (F04) ⁴⁾ , F05, F07	–	4.0
			30	B			
			70	B			
ED 50	50	50	15	T	F03, (F04), F05, F07	–	4.0
			30	B			
			70	B			
EQ 40	40	20	15	B	(F04) ⁴⁾ , F05, F07, F10	100	7.5
			30	B			
			60	B			
EQ 60	60	40	20	T	F05, F07, F10	100	7.5
			30	T			
			60	B			
EQ 100	100	60	20 ³⁾	B	F05, F07, F10	100	7.5
			30	T			
			60	T			
EQ 150	150	80	20 ³⁾	T	F05, F07, F10	100	7.5
			30 ³⁾	B			
			60	T			
EQ 300	300	180	40 ³⁾	T	F07, F10, (F12) ⁴⁾	100	15
			80 ³⁾	B			
			160	T			
EQ 600	600	300	80 ³⁾	T	F07, F10, (F12) ⁴⁾	100	15
			160 ³⁾	B			

General information

Part-turn actuators for controlling and automating final elements within the field of process engineering with swivel movements between 90° and 180° for e.g. butterfly valves, ball valves.

Notes on table

1) 50 Hz	For 60 Hz, operating time reduces and power consumption increases by 20 %
2) Motor protection	B = stallproof motor (S1 - 100 %), T = thermoswitch for temperature monitoring
3)	Aluminium hood required for optional positioner
4)	Offset by 45°, F12 on request

Features and functions of actuator

Type of duty	Open-close duty:	Short-time duty S2 - 15 min, class A								
	Modulating duty:	Intermittent duty S4 - 50 %, with maximum number of starts of 1,200 starts per hour Intermittent duty S1 - 100 % with maximum number of starts of 1,200 starts per hour; not available for all versions (option)								
Motor	Synchronous motor									
Mains voltage, mains frequency	Standard voltages:									
	1-phase AC current Voltages/frequencies									
	Volt	230	220							
	Hz	50	60							
	Options:									
	3-phase AC current Voltages/frequencies					1-phase AC current Voltages/frequencies				
	Volt	380	400	400	440	Volt	24	24	115	110
	Hz	50	50	60	60	Hz	50	60	50	60
	DC current Voltages									
	Volt	24								
	Permissible variation of mains voltage: ±10 % Permissible variation of mains frequency: ±5 % Further supply voltages on request									

We reserve the right to alter data according to improvements made. Previous documents become invalid with the issue of this document.

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Insulation class	E, B, F		
Motor protection	Stallproof motor or thermoswitch for temperature monitoring		
Heater (option)	Heating resistor with thermoswitch against moisture with automatic temperature regulation, max. 15 Watt, supply voltage 24, 115, 230 V/50/60 Hz [HZ/WP]		
Self-locking	Yes		
Swing angle (option)	Standard:	EQ:	90° ±15°
		ED:	90°, 120°, 150°, 180°
	Options:	EQ:	120° ±15°
	[SWE]		150° ±15° 180° ±15°
Cable entry	EQ:	3 blanking plugs M20 x 1.5	
	ED:	2 blanking plugs M16 x 1.5	
Manual operation	EQ:	Handwheel	
	ED:	Emergency manual operation with hexagon socket	
Electrical connection	Standard:	Internal terminal rail, for terminal assignment refer to terminal plan	
	Options:	<ul style="list-style-type: none"> Separate electrical terminal compartment at actuator with 32-pole terminal rail [ASK] Compact connector 10-pole silver/24-pole silver [KS1, KS3] 	
End positions	EQ:	Mechanical end stops, adjustable from outside	
	ED:	None	
Hood	Standard:	Polycarbonate (flammability class V0)	
	Option:	Aluminium with inspection glass	
Local controls (option), IP66	<ul style="list-style-type: none"> MANUAL/AUTO change-over Rotary switch (non latching) for OPEN and CLOSE [VSE] 		

With base and lever (option for EQ)

Lever size	<ul style="list-style-type: none"> With lever size 100 mm (distance from axis to bore) [LAG-HEB] With lever size 150/200 mm
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Features and functions of actuator controls

Limit switching (digital outputs)	Standard:	2 switches, max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load)	
	Options:	<ul style="list-style-type: none"> Additional limit switches for signalling end positions or intermediate positions, freely adjustable max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load), 2 switches [2WE] Additional limit switches for signalling end positions or intermediate positions, freely adjustable with gold-plated contacts for low voltage, max. 30 V AC, max. 0.1 A (resistive load), 2 switches [2WE-G] 	
Torque switching (digital outputs)	EQ:	Standard:	2 switches, max. 250 V AC, max. 10 A (resistive load), max. 5 A (inductive load)
		Option:	2 additional potential-free torque switches [2DE]
	ED:	None	
Digital inputs	Standard:	None	
	Options:	With 2 inputs (reversing contactors) for OPEN and CLOSE, option for: <ul style="list-style-type: none"> 24 V DC; 1,7 W appropriate for PLC [WSE] 24 V AC/DC 110 V AC 230 V AC 	
Positioner (option)	Positioning electronics for actuator control [PEL100, PEL-GL] Input 0 – 10 V, 0/4 – 20 mA, Output 0 – 10 V, 0/4 – 20 mA		
Position feedback signal, analogue (options)	<ul style="list-style-type: none"> Potentiometer 100/130/200/500/1,000/5,000 Ω or 10 kΩ [POT] Linearity fault ≤ 0.5 %, max. 1.5 W, wiper current 30 mA, max. 2 units Electronic position feedback, 2/3-wire system [ESR100] output 0/4 – 20 mA, supply voltage 24 V DC 		
Fieldbus (option)	Profibus DP-V0 for actuator control in housing IP66 [PBD100] Mounted to actuator with plug/socket connector M12, 5-pole, 2 x M20 cable glands		

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Emergency operation module (option)

Emergency operation module	<ul style="list-style-type: none"> • 250 Nm, supply voltage 24 V DC [FSC20-24] • 250 Nm, supply voltage 90 – 264 V AC [FSC20-230] • 450 Nm, supply voltage 90 – 264 V AC [FSC40-230]
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Service conditions

Mounting position	Any position, but not suspended downward	
Installation altitude	$\leq 2,000$ m above sea level $> 2,000$ m above sea level, on request	
Ambient temperature	Standard:	–20 °C to +70 °C
	Options:	–40 °C to +70 °C Other options on request
Enclosure protection according to EN 60529	Standard:	IP67
	Option:	IP68 [A-IP68]
Explosion-protection (option)	Ex II 3D IP65 T 150°C Dc [A-Ex]	
Corrosion protection	Standard:	C2 according to EN ISO 12944-2
	Option:	C3/C4 according to EN ISO 12944-2
Finish coating	Powder coating	
Colour	Standard:	Grey: RAL 7015 (housing) Green: RAL 5021 (hood)
	Option:	Available colours 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

Inspection certificate	On request
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 EQ 40 – EQ 600 Dimensions Part-turn actuators ED 25 – ED 50 Electrical data Part-turn actuators EQ 40 – EQ 600 Electrical data Part-turn actuators ED 25 – ED 50