

Multi-turn actuator			Motor											
Type	Output speed [rpm]	Max. torque [Nm]	Motor type	Nominal power <sup>1)</sup> P <sub>N</sub> [kW]	Speed [rpm]	Operating capacitor <sup>2)</sup> [μF]	Starting capacitor <sup>2)</sup> [μF]	Nominal current <sup>3)</sup> I <sub>N</sub> (A)	Max. current <sup>4)</sup> I <sub>max</sub> [A]	Starting current I <sub>A</sub> [A]	cos φ	Over-current protection device setting [A]	AUMA power class switchgear	
													Con-tactor	Thyris-tor
SA 07.2	4	30	VE0048-4-0,02	0.02	1,400	10	–	1.9	2.5	3.1	0.55	2.5	A1	B1
	5.6							1.9	2.5	3.1	0.55	2.5	A1	B1
	8		VE0048-4-0,04	0.04	1,400	15	–	1.9	2.5	3.1	0.75	2.5	A1	B1
	11							1.9	2.5	3.1	0.75	2.5	A1	B1
	16		VE0048-2-0,06	0.06	2,800	25	–	1.8	2.2	7.5	0.97	2.0	A1	B1
	22							1.8	2.2	7.5	0.97	2.0	A1	B1
	32		AE0048-4-0,10	0.10	1,400	30	–	4.7	4.7	6.6	0.65	4.6	A1	B1
	45							4.7	4.7	6.6	0.65	4.6	A1	B1
	63		AC0048-2-0,20	0.20	2,800	–	480	4.9	5.6	36	0.52	5.0	A2	–
	90							4.9	5.6	36	0.52	5.0	A2	–
125	AC0048-2-0,30	0.30	2,800	–	480	4.9	6.3	36	0.52	5.0	A2	–		
180						4.9	6.5	36	0.52	5.0	A2	–		
SA 07.6	4	60	VE0048-4-0,03	0.03	1,400	10	–	1.9	2.5	3.1	0.55	2.5	A1	B1
	5.6							1.9	2.5	3.1	0.55	2.5	A1	B1
	8		VE0048-4-0,07	0.07	1,400	15	–	1.9	2.5	3.1	0.75	2.5	A1	B1
	11							1.9	2.5	3.1	0.75	2.5	A1	B1
	16		VE0048-2-0,12	0.12	2,800	25	–	1.8	2.7	7.5	0.97	2.0	A1	B1
	22							1.8	2.7	7.5	0.97	2.0	A1	B1
	32		AE0048-4-0,20	0.20	1,400	30	–	4.7	4.7	6.6	0.71	4.6	A1	B1
	45							4.7	4.7	6.6	0.71	4.6	A1	B1
	63		AC0048-2-0,40	0.40	2,800	–	480	9.1	11	55	0.42	10	A2	–
	90							9.1	11	55	0.42	10	A2	–
125	AC0048-2-0,50	0.50	2,800	–	480	9.1	11	55	0.42	10	A2	–		
180						9.1	11	55	0.42	10	A2	–		
SA 10.2	4	120	VE0048-4-0,06	0.06	1,400	15	–	1.8	2.5	3.1	0.75	2.5	A1	B1
	5.6							1.8	2.5	3.1	0.75	2.5	A1	B1
	8		VE0048-4-0,12	0.12	1,400	30	–	4.7	4.7	6.6	0.65	4.6	A1	B1
	11							4.7	4.7	6.6	0.65	4.6	A1	B1
	16		VE0048-2-0,25	0.25	2,800	25	–	2.6	4.2	14	0.78	3.0	A1	B1
	22							2.6	4.2	14	0.78	3.0	A1	B1
	32		AC0056-4-0,40	0.40	1,400	–	440	9.8	12	44	0.40	10	A2	–
	45							9.8	12	44	0.40	10	A2	–
	63		AC0056-2-0,70	0.70	2,800	–	850	8.0	14	70	0.80	12	A2	–
	90							8.0	14	70	0.80	12	A2	–
125	AC0056-2-1,00	1.00	2,800	–	850	9.1	17	70	0.80	12	A2	–		
180						9.1	18	70	0.80	12	A2	–		
SA 14.2	4	250	VE0056-4-0,12	0.12	1,400	25	–	2.4	2.8	13	0.68	2.5	A1	B1
	5.6							2.4	2.8	13	0.68	2.5	A1	B1
	8		VE0056-4-0,25	0.25	1,400	40	–	2.8	4.8	13	0.99	3.4	A1	B1
	11							2.8	4.8	13	0.99	3.4	A1	B1
	16		VC0056-2-0,45	0.45	2,800	–	480	6.4	10	54	0.65	7.3	A2	–
	22							6.4	10	54	0.65	7.3	A2	–
	32		AC0056-4-0,75	0.75	1,400	–	850	14	20	40	0.60	17	A2	–
45	14	20						40	0.60	17	A2	–		
SA 14.6	4	500	VE0056-4-0,20	0.20	1,400	40	–	2.7	4.8	13	0.99	3.4	A1	B1
	5.6							2.7	4.8	13	0.99	3.4	A1	B1
	8		400	VC0056-4-0,40	0.40	1,400	–	440	9.8	12	44	0.40	10	A2
	11	9.8							12	44	0.40	10	A2	–
	16	VC0056-2-0,80		0.80	2,800	–	850	8.3	16	70	0.80	12	A2	–
	22		8.3					16	70	0.80	12	A2	–	

## Notes on table

1) Nominal power P <sub>N</sub>	Mechanical power output at motor shaft at running torque of multi-turn actuator (corresponds to approx. 35 % of maximum torque). The consumed electrical power can be calculated using the following formula: $P = U \times I \times \cos \varphi$
2) Operating/starting capacitor	For VE/AE motors, operating capacitors are integrated within the motor. For VC/AC motors, starting capacitors and starting switchgear are integrated within the motor.
3) Nominal current I <sub>N</sub>	Current at running torque
4) Max. current I <sub>max</sub>	Current at maximum torque

Notes on installation and sizing																												
Motor data	Motor data is approximate. Due to usual manufacturing tolerances, there may be deviations from the values given.																											
Motor protection	<p>To protect against overheating, thermostats or PTC thermistors are embedded in the motor windings.</p> <p><b>Actuators without integral controls (AUMA NORM):</b> Thermostats or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p><b>Note: Failure to connect thermostats or PTC thermistors shall void the warranty for the motor.</b></p> <p><b>Rating of the thermostats</b></p> <table border="1"> <thead> <tr> <th colspan="2">AC current</th> <th colspan="2">DC current</th> </tr> </thead> <tbody> <tr> <td colspan="2">250 V, 50 – 60 Hz</td> <td>60 V</td> <td>1.0 A</td> </tr> <tr> <td>cos φ = 1</td> <td>2.5 A</td> <td>42 V</td> <td>1.2 A</td> </tr> <tr> <td>cos φ = 0.6</td> <td>1.6 A</td> <td>24 V</td> <td>1.5 A</td> </tr> </tbody> </table> <p><b>Actuators with AM or AC integral controls:</b> Thermal motor protection is already integrated.</p>	AC current		DC current		250 V, 50 – 60 Hz		60 V	1.0 A	cos φ = 1	2.5 A	42 V	1.2 A	cos φ = 0.6	1.6 A	24 V	1.5 A											
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Mains voltage, mains frequency	<p>Permissible variation of mains voltage: ±10 %</p> <p>Permissible variation of mains frequency: ±5 %</p>																											
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Switchgear sizing	<p>For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used,</p> <p><b>Actuators without integral controls (AUMA NORM):</b> Switchgear are supplied by the customer. We recommend specification of switchgear suitable for their rated operating power/motor power in compliance with the assigned AUMA power class.</p> <p>Switchgear assignment to AUMA power classes:</p> <table border="1"> <thead> <tr> <th rowspan="2">AUMA power class</th> <th rowspan="2">Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3</th> <th colspan="2">Reversing contactor Motor power according to UL/CSA at</th> </tr> <tr> <th>400 V AC</th> <th>600 V AC</th> </tr> </thead> <tbody> <tr> <td>A1</td> <td>4.0 kW</td> <td>5.0 hp</td> <td>5.0 hp</td> </tr> <tr> <td>A2</td> <td>7.5 kW</td> <td>10 hp</td> <td>10 hp</td> </tr> <tr> <td>A3</td> <td>15 kW</td> <td>20 hp</td> <td>25 hp</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th rowspan="2">AUMA power class</th> <th rowspan="2">Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> </tr> <tr> <th>400 V AC</th> </tr> </thead> <tbody> <tr> <td>B1</td> <td>6 A</td> </tr> <tr> <td>B2</td> <td>8.5 A</td> </tr> <tr> <td>B3</td> <td>16 A</td> </tr> </tbody> </table> <p><b>Actuators with AM or AC integral controls:</b> Required switchgear in power classes A1 – A3 or B1 – B3 are already integrated in AM or AC controls. For actuators with AM integral actuator controls and installed switchgear in AUMA power class A3, an optional thermal overcurrent protection device cannot be directly integrated within the AM. An additional control box is required. However, AC actuator controls can be used instead of AM controls. When opting for AC controls, the additional control box can be omitted.</p>	AUMA power class	Reversing contactor Rated operating power acc. to EN 60947-4-1 Utilization category AC-3	Reversing contactor Motor power according to UL/CSA at		400 V AC	600 V AC	A1	4.0 kW	5.0 hp	5.0 hp	A2	7.5 kW	10 hp	10 hp	A3	15 kW	20 hp	25 hp	AUMA power class	Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a	400 V AC	B1	6 A	B2	8.5 A	B3	16 A
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