

Multi-turn actuator			Motor											
Type	Output speed [rpm]	Max. torque [Nm]	Motor type	Nominal power ¹⁾ P _N [kW]	Speed [rpm]	Operating capacitor ²⁾ [μF]	Starting capacitor ²⁾ [μF]	Nominal current ³⁾ I _N (A)	Max. current ⁴⁾ I _{max} [A]	Starting current I _A [A]	cos φ	Over-current protection device setting [A]	AUMA power class switchgear	
													Contact- tor	Thyristor
SA 07.2	4.8	25	VE0048-4-0,02	0.02	1,680	10	–	1.3	1.3	2.5	0.80	1.3	A1	B1
	6.7							1.3	1.3	2.5	0.80	1.3	A1	B1
	9.6		VE0048-4-0,04	0.04	1,680	15	–	1.5	1.6	2.8	0.94	1.6	A1	B1
	13							1.5	1.7	2.8	0.94	1.7	A1	B1
	19		VE0048-2-0,06	0.06	3,360	25	–	3.0	3.2	6.0	0.75	3.2	A1	B1
	26							3.0	3.4	6.0	0.75	3.4	A1	B1
	38		AE0048-4-0,10	0.10	1,680	35	–	3.6	4.2	6.5	0.93	4.1	A1	B1
	54							3.6	4.3	6.5	0.93	4.1	A1	B1
	75		AC0048-2-0,20	0.20	3,360	–	480	3.6	5.0	34	0.56	5.0	A2	–
	108							3.6	5.5	34	0.56	5.1	A2	–
150	AC0048-2-0,30	0.30	3,360	–	480	4.5	6.6	34	0.71	5.1	A2	–		
216						4.5	8.2	34	0.71	5.1	A2	–		
SA 07.6	4.8	45	VE0048-4-0,03	0.03	1,680	10	–	1.3	1.4	2.5	0.80	1.4	A1	B1
	6.7							1.3	1.4	2.5	0.80	1.4	A1	B1
	9.6		VE0048-4-0,07	0.07	1,680	15	–	1.6	1.8	2.8	0.96	1.8	A1	B1
	13							1.6	1.9	2.8	0.96	1.9	A1	B1
	19		VE0048-2-0,12	0.12	3,360	25	–	3.2	3.7	6.0	0.78	3.4	A1	B1
	26							3.2	3.8	6.0	0.78	3.4	A1	B1
	38		AE0048-4-0,20	0.20	1,680	35	–	4.0	4.7	6.5	0.93	4.1	A1	B1
	54							4.0	5.0	6.5	0.93	4.1	A1	B1
	75		AC0048-2-0,40	0.40	3,360	–	480	5.5	7.5	40	0.72	7.5	A2	–
	108							5.5	8.5	40	0.72	7.8	A2	–
150	AC0048-2-0,50	0.50	3,360	–	480	6.1	10	40	0.76	7.8	A2	–		
216						6.1	12	40	0.76	7.8	A2	–		
SA 10.2	4.8	90	VE0048-4-0,06	0.06	1,680	15	–	1.6	1.7	2.8	0.96	1.7	A1	B1
	6.7							1.6	1.9	2.8	0.96	1.9	A1	B1
	9.6		VE0048-4-0,12	0.12	1,680	30	–	2.8	3.2	6.6	0.95	3.2	A1	B1
	13							2.8	3.5	6.6	0.95	3.4	A1	B1
	19		VE0048-2-0,25	0.25	3,360	35	–	3.8	4.5	11	0.85	4.3	A1	B1
	26							3.8	5.0	11	0.85	4.3	A1	B1
	38		AC0056-4-0,40	0.40	1,680	–	440	5.7	7.3	33	0.63	7.3	A2	–
	54							5.7	9.3	33	0.63	8.1	A2	–
	75		AC0056-2-0,70	0.70	3,360	–	850	7.3	11	62	0.83	11	A2	–
	108							7.3	15	62	0.83	13	A2	–
150	AC0056-2-1,00	1.00	3,360	–	850	10	20	62	0.88	13	A2	–		
216						10	25	62	0.88	13	A2	–		
SA 14.2	4.8	180	VE0056-4-0,12	0.12	1,680	25	–	2.0	2.6	10	0.90	2.1	A1	B1
	6.7							2.0	2.6	10	0.90	2.1	A1	B1
	9.6		VE0056-4-0,25	0.25	1,680	40	–	5.0	5.6	11	0.80	5.2	A1	B1
	13							5.0	5.7	11	0.80	5.2	A1	B1
	19		VC0056-2-0,45	0.45	3,360	–	480	5.6	9.0	46	0.70	6.7	A2	–
	26							5.6	11	46	0.70	6.7	A2	–
38	AC0056-4-0,75	0.75	1,680	–	850	10	15	61	0.70	15	A2	–		
54						10	18	61	0.70	16	A2	–		
SA 14.6	4.8	360	VE0056-4-0,20	0.20	1,680	40	–	4.8	5.5	11	0.77	5.2	A1	B1
	6.7							4.8	5.6	11	0.77	5.2	A1	B1
	9.6	300	VC0056-4-0,40	0.40	1,680	–	440	5.7	7.8	33	0.63	7.8	A2	–
	13							5.7	8.6	33	0.63	8.1	A2	–
	19	VC0056-2-0,80	0.80	3,360	–	850	8.2	12	62	0.85	12	A2	–	
	26						8.2	14	62	0.85	13	A2	–	

Notes on table

- | | |
|-----------------------------------|--|
| 1) Nominal power P _N | 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 _N | Current at running torque |
| 4) Max. current I _{max} | 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.																														
Thermoswitches/PTC thermistors	<p>To protect against overheating, thermoswitches or PTC thermistors are embedded in the motor windings.</p> <p>Actuators without integral controls (AUMA NORM): Thermoswitches or PTC thermistors have to be considered within the external controls (refer to terminal plan).</p> <p>Note: Failure to connect thermoswitches or PTC thermistors shall void the warranty for the motor.</p> <p>Rating of the thermoswitches</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>Actuators with AM or AC integral controls: 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														
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																												
Mains voltage, mains frequency	<p>Permissible variation of mains voltage: ±10 %</p> <p>Permissible variation of mains frequency: ±5 %</p>																														
Terminal plan	<table border="1"> <thead> <tr> <th>Multi-turn actuators</th> <th>Motor (type)</th> <th>Terminal plan</th> </tr> </thead> <tbody> <tr> <td>SA 07.2 – SA 14.6</td> <td>VE.../AE...</td> <td>TPA01R1AA-101-000</td> </tr> <tr> <td>SA 07.2 – SA 14.6</td> <td>VC.../AC...</td> <td>TPA03R1AA-101-000</td> </tr> </tbody> </table> <p>For further information refer to "Technical data Multi-turn actuators SA 07.2 – SA 14.6 for open-close duty with 1-phase AC motors"</p>	Multi-turn actuators	Motor (type)	Terminal plan	SA 07.2 – SA 14.6	VE.../AE...	TPA01R1AA-101-000	SA 07.2 – SA 14.6	VC.../AC...	TPA03R1AA-101-000																					
Multi-turn actuators	Motor (type)	Terminal plan																													
SA 07.2 – SA 14.6	VE.../AE...	TPA01R1AA-101-000																													
SA 07.2 – SA 14.6	VC.../AC...	TPA03R1AA-101-000																													
Switchgear sizing	<p>For motor operation, reversing contactors (mechanically, electrically and electronically locked) or thyristors (electronically locked) can be used.</p> <p>Actuators without integral controls (AUMA NORM): 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>AUMA power class</th> <th>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> </thead> <tbody> <tr> <td></td> <td>400 V AC</td> <td>480 V AC</td> <td>600 V AC</td> </tr> <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>AUMA power class</th> <th>Thyristor Rated operating current acc. to EN 60947-4-2 Utilization category AC-53a</th> </tr> </thead> <tbody> <tr> <td></td> <td>400 V AC</td> </tr> <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>Actuators with AM or AC integral controls: 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	480 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
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	480 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																														