

# TECHNICAL CHARACTERISTICS

## Motors wound for 330 Vac phase to phase

		500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
NATURAL CONVECTION	Rated speed	Rpm	50	600	50	600	50	600	50	600	50	50	
	Continuous torque	(1)(4) N.m	210		365		520		640		878		1,185
	Current at continuous torque	(1) A	7.7	37.3	10.1	62.6	13.9	91.5	16.5	112.8	19	23.5	
	Peak torque	(2)(3) N.m	768		1,536		2,304		3,072		4,608		6,912
	Current at peak torque	(2) A	32.4	166.3	46.7	295.6	70	443	85.8	532	120.9	166.3	
	Rater power	(1) kW	1.05	12.60	1.80	19.50	2.60	25.20	3.30	28.40	4.60	6.22	
	Inertia	$10^{-3} \text{kg.m}^2$	216		433		649		865		1,296		1,944
	Weight	kg	27.4		43		58		73		103		148
	Thermal time constant	(1) s	1,036		1,593		2,153		2,710		3,830		4,670
	Thermal resistance	(1) °C / W	0.084		0.078		0.072		0.068		0.059		0.050
	Phase resistance at 20°C	(2) Ω	5.40	0.206	3.36	0.084	1.83	0.046	1.44	0.038	0.955	0.686	
	Phase inductance at I continuous	mH	26.2	1.0	25.3	0.63	17	0.42	15.1	0.4	11.5	9.2	
	Electrical time constant	(2) ms	4.9		7.5		9.3		10.5		12		13.4
	Power cable square section	nxmm <sup>2</sup>	4x1.5	4x6	4x1.5	4x16	4x1.5	4x16	4x1.5	4x25	4x2.5	4x4	
Power cable diameter	mm	Ø10.2	Ø15.9	Ø10.2	Ø24	Ø10.2	4xØ11	Ø10.2	4xØ13.5	Ø11.4	Ø13.1		

		500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 60°C	Continuous torque	(4) N.m	285		588		831		1,122		1,731		2,530
	Current at continuous torque	A	10.1	49.2	15.9	98.6	21.7	142.5	27.8	190.5	36.5	52	
	Fluid input temperature	(5)(6) °C	20		20		20		20		20		20
	Fluid temperature rise	°C	10		10		10		10		10		10
	Housing temperature	°C	< 30		< 30		< 30		< 30		< 30		< 30
	Fluid flow	l / mn	3		5		6		7		9		13
	Losse	W	1,750		2,520		3,160		3,920		4,813		6,870
	Pressure	Bar	0.04		0.23		0.65		0.9		1.84		5.4
	Power cable square section	nxmm <sup>2</sup>	4x1.5	4x10	4x1.5	4x25	4x2.5	4x35	4x4	4x50	4x6	4x10	
	Power cable diameter	mm	Ø10.2	Ø18.8	Ø10.2	4xØ13.5	Ø11.4	4xØ15.1	Ø13.1	4xØ17.1	Ø15.9	Ø18.8	

		500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 140°C	Continuous torque	(4) N.m	412		819		1,180		1,550		2,394		3,590
	Current at continuous torque	A	16.5	80.3	24.4	151	34	223	42	288	61	82	
	Fluid input temperature	(5)(6) °C	20		20		20		20		20		20
	Fluid temperature rise	°C	8		8		8		9		12		17
	Housing temperature	°C	41		31		31		28		30		32
	Fluid flow	l / mn	11		15		17		19		19		19
	Losse	W	5,508		7,128		8,410		9,690		13,040		17,590
	Pressure	Bar	0.29		1.3		2.6		4.4		6.8		10.4
	Power cable square section	nxmm <sup>2</sup>	4x1.5	4x16	4x4	4x35	4x6	4x70	4x10	4x95	4x16	4x16	
	Power cable diameter	mm	Ø10.2	4xØ11	Ø13.1	4xØ15.1	Ø15.9	4xØ20.1	Ø18.8	4xØ22.6	Ø24	4xØ11	

- (1) Thermal conditions:  
Ambient temperature 20°C  
Winding temperature rise 120°C  
Stator housing in contact with the ambient air or integral on all its peripheral area with a metallic armature in contact with the ambient air.  
Stator housing secured on a metallic frame having an area equal to twice the cross section of the housing.
- (2) Cold motor at 20°C.
- (3) See torque vs speed characteristics on :  
<http://www.alxion.com/CFN>
- (4) Torque at stall or low speed.
- (5) Fluid input temperature should not be lower for avoiding condensation inside the motor.
- (6) For cooling fluid, use softened glycol-added water or fluids approved for closed cooling circuits.
- (7) From 72 Amps continuous, motors are supplied through 4 single wire shielded cables.

Other speed characteristics are available, please contact us.