

TECHNICAL CHARACTERISTICS

Windings for 400V / 460Vac drives (See Application note)

			500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
NATURAL CONVECTION	Rated speed	rpm	50	600	50	600	50	600	50	600	50	-	50	-
	Continuous torque at stall	(1)(4) N.m	210		365		520		640		878	-	1185	-
	Current at continuous torque	(1) A	7.3	37.4	9.2	58.3	13	82.3	14.8	91.8	18.8	-	23.1	-
	Peak torque	(2)(3) N.m	768		1536		2304		3072		4608	-	6912	-
	Current at peak torque	(2) A	32.4	166.3	46.7	295.6	70	443	85.8	532	120.9	-	166.3	-
	Rated power	(1) kW	1.05	9.95	1.8	19	2.6	24.3	3.3	27.3	4.6	-	6.22	-
	Inertia	10 ⁻³ kg.m ²	216		433		649		865		1296	-	1944	-
	Weight	kg	27.4		43		58		73		103	-	148	-
	Thermal time constant	(1) s	1036		1593		2153		2710		3830	-	4670	-
	Thermal resistance	(1) °C / W	0.084		0.078		0.072		0.068		0.059	-	0.05	-
	Phase resistance at 20°C	(2) Ω	5.66	0.218	3.46	0.086	1.83	0.046	1.44	0.038	0.927	-	0.665	-
	Phase inductance at I continuous	mH	26.2	1	25.3	0.63	17	0.42	15.1	0.4	11.5	-	9.2	-
	Electrical time constant	(2) ms	4.6		7.3		9.3		10.5		12.4	-	13.8	-
	Back emf constant (line to line)	(2) V/rad.s	18.91	3.69	26.23	4.15	26.28	4.15	28.59	4.61	30.43	-	33.2	-
	Power cable square section	(7) nxmm ²	4x1.5	4x6	4x1.5	4x10	4x1.5	4x16	4x1.5	4x16	4x2.5	-	4x4	-
	Power cable diameter	(7) mm	Ø8.6	Ø14	Ø8.6	4x Ø9.5	Ø8.6	4x Ø11	Ø8.6	4x Ø11	Ø10.8	-	Ø12.2	-
Number of poles		36												

			500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 60°C	Continuous torque at stall	(4) N.m	285		588		831		1122		1731	-	2530	-
	Current at continuous torque	A	9.9	50.7	14.8	93.7	20.7	131	25.9	160.6	37.3	-	50	-
	Fluid input temperature	(5)(6) °C	20		20		20		20		20	-	20	-
	Fluid temperature rise	°C	6		6		6		5		6	-	8	-
	Housing temperature	°C	< 30		< 30		< 30		< 30		< 30	-	< 30	-
	Fluid flow	l / mn	5		8		9		12		14	-	14	-
	Losses	W	2090		2790		2970		3570		4870	-	6190	-
	Pressure drop	Bar	0.1		0.4		0.3		0.4		0.4	-	0.6	-
	Power cable square section	(7) nxmm ²	4x1.5	4x10	4x1.5	4x16	4x2.5	4x35	4x4	4x50	4x6	-	4x10	-
	Power cable diameter	(7) mm	Ø8.6	Ø17.6	Ø8.6	4x Ø11	Ø10.8	4x Ø15	Ø12.2	4x Ø17	Ø14	-	Ø17.6	-

			500STK1M		500STK2M		500STK3M		500STK4M		500STK6M		500STK9M	
COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 140°C	Continuous torque at stall	(4) N.m	380		785		1180		1550		2394	-	3590	-
	Current at continuous torque	A	13.5	69.2	20.3	130	30.7	194	37.2	230.5	54	-	73.4	-
	Fluid input temperature	(5)(6) °C	20		20		20		20		20	-	20	-
	Fluid temperature rise	°C	6		6		6		6		6	-	8	-
	Housing temperature	°C	25		25		25		< 25		25	-	< 30	-
	Fluid flow	l / mn	14		18		23		25		35	-	35	-
	Losses	W	4620		6260		7760		8770		12160	-	15890	-
	Pressure drop	Bar	0.4		1.8		1.3		1.6		2	-	3	-
	Power cable square section	(7) nxmm ²	4x1.5	4x10	4x2.5	4x35	4x6	4x50	4x6	4x70	4x10	-	4x16	-
	Power cable diameter	(7) mm	Ø8.6	4x Ø9.5	Ø10.8	4x Ø15	Ø14	4x Ø17	Ø14	4x Ø20	4x Ø9.5	-	4x Ø11	-

- 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.
- Cold motor at 20°C.
- See torque vs speed characteristics on :
<http://www.alxion.com/>
- Torque at stall or low speed.
- Fluid input temperature should not be lower for avoiding condensation inside the motor.
- For cooling fluid, use softened glycol-added water or fluids approved for closed cooling circuits.
- For currents lower than 53 Amps, one shielded cable
For currents over 53 Amps, four single shielded wires output (highlighted in the table)

Other speed characteristics are available, please contact us.