TECHNICAL CHARACTERISTICS

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

NATURAL CONVECTION

			145STK1M		145STK2M		145STK3M		145STK4M		145STK6M		145STK8M	
Rated speed		rpm	500	1500	500	1500	500	1500	500	1500	500	1500	500	1500
Continuous torque at stall	(1)(4)	N.m	8		14.6		20.5		26.4		37.3		47.4	
Current at continuous torque	(1)	A	1.6	2.9	2.3	5.2	2.9	6.7	3.7	9.2	5	12.7	6.4	15.7
Peak torque	(2)(3)	N.m	27.5		55		83		110		165		220	
Current at peak torque	(2)	A	6.9	11.1	10.2	23.1	14.9	34.2	17.8	45.5	27.3	68.3	35.6	91.1
Rated power	(1)	W	390	866	710	1850	992	2504	1260	3080	1770	3830	2230	4580
Inertia		10^{-3}kg.m²	0.80		1.28		1.76		2.24		3.19		4.14	
Weight		kg	4.1		6.2		8.5		10.4		14.5		18.7	
Thermal time constant	(1)	s	850		1012		1206		1399		1667		1866	
Thermal resistance	(1)	°C / W	0.447		0.394		0.36		0.324		0.275		0.239	
Phase resistance at 20°C	(2)	Ω	21.6	7.9	12.9	2.55	7.52	1.43	6.2	0.95	3.46	0.55	2.51	0.38
Phase inductance at I continuous		mH	72	25.8	66.7	12.4	47.8	9.1	44.5	6.8	28.2	4.5	22.2	3.4
Electrical time constant	(2)	ms	3.4		5.1		6.4		7.2		8.2		8.9	
Back emf constant (line to line)	(2)	V/rad.s	3.13	1.86	4.25	1.91	4.38	1.91	4.88	1.91	4.78	1.91	4.88	1.91
Power cable square section		nxmm²	4x1.5		4x1.5		4x1.5		4x1.5		4x1.5		4x1.5	
Power cable diameter		mm	Ø8.6		Ø8.6		Ø8.6		Ø8.6		Ø8.6		Ø8.6	
Number of poles			12											

COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 60°C

			145STK1M		145STK2M		145STK3M		145STK4M		145STK6M		145STK8M	
Continuous torque at stall	(4)	N.m	11		22.8		33.8		45.3		67.6		90	
Current at continuous torque		A	2.4	4	3.5	8	5.2	12	6.3	15.6	9	22.8	12.1	29.8
Fluid input temperature	(5)(6)	°C	20		20		20		20		20		20	
Fluid temperature rise		°C	3		5		4		5		7		8	
Housing temperature		°C	< 30		< 30		< 30		< 30		< 30		< 30	
Fluid flow		l / mn	2		3		3		3		3		3	
Losses		W	490		620		780		930		1220		1510	
Pressure drop		Bar	0.1		0.2		0.2		0.3		0.4		0.5	
Power cable square section		nxmm²	4x1.5		4x1.5		4x1.5		4x1.5		4x1.5	4x4	4x1.5	4x4
Power cable diameter		mm	Ø8.6		Ø8.6		Ø8.6		Ø8.6		Ø8.6	Ø12.2	Ø8.6	Ø12.2

COMPLEMENTARY DATA FOR FLUID-COOLED MOTORS WINDING AT 140°C

			145STK1M		145STK2M		145STK3M		145STK4M		145STK6M		145STK8M	
Continuous torque at stall	(4)	N.m	15		29.9		46		59.8		90		120	
Current at continuous torque		A	3.4	5.7	5.4	12.3	7.5	17.1	9.7	24	14	35.5	19	46.8
Fluid input temperature	(5)(6)	°C	20		20		20		20		20		20	
Fluid temperature rise		°C	5		8		8		8		10		12	
Housing temperature		°C	< 30		33		< 30		< 30		< 30		31	
Fluid flow		l / mn	4		3		4		5		5		5	
Losses		W	1187		1532		1855		2240		2950		3660	
Pressure drop		Bar	0.2		0.2		0.4		0.7		1		1.3	
Power cable square section		nxmm²	4x1.5		4x1.5		4x1.5	4x2.5	4x1.5	4x4	4x1.5	4x6	4x2.5	4x10
Power cable diameter		mm	Ø8.6		Ø8.6		Ø8.6	Ø10.8	Ø8.6	Ø12.2	Ø8.6	Ø14	Ø10.8	Ø17.6

(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/

(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 gycol-added water or fluids approved for closed cooling circuits.

Other speed characteristics are available, please contact us.