

RPM4500

Technical Data Summary, SBMAX Frame Sizes 105 mm						
Winding selection for 4500 rpm with 380 Vac 3 phase drive						
Issue 3, 22/10/98						
		Frame 105				Units
Reference data:	SBM	4502	4504	4506	4508	
Nominal torque, cont. duty, zero speed (DT=65oC, in air) 1)	Tn	2,2	4,0	6,0	8,0	Nmrms
Nominal torque, cont. duty, zero speed (DT=105oC, flange mount) 2)	T105	3,6	6,3	8,5	10,2	Nmrms
Base speed	wn	472	472	472	472	rad/s
Nominal power,1)	Pn	910	1399	1918	2474	W
Nominal power,2)	P105	1446	2404	3040	3480	W
Torque at max. speed 1)	Tw	1,9	3,0	4,1	5,2	Nmrms
Torque at max. speed 2)	Tw105	3,1	5,1	6,4	7,4	Nmrms
Peak torque,zero speed S.I.R.10% 2)	Tpk	11,4	20,0	26,8	32,4	Nmrms
Physical data:						
Maximum speed	wmax	700	700	700	700	rad/s
Rotor inertia	Jm	0,19	0,335	0,48	0,6205	mkgm2
Acceleration at peak torque	apk	60164	59601	55750	52190	rad/s2
Max. shock on motor, any direction	S	200	200	200	200	m/s2
Max. vibration, radial	Vr	200	200	200	200	m/s2
Max. vibration, axial	Va	50	40	40	40	m/s2
Shaft torsional resonance frequency 3)	fm	N.A.	N.A.	N.A.	N.A.	Hz
Mass	M	4,9	7,0	9,1	11,2	kg
Thermal data:						
Motor losses at nominal power	Ln	65	73	95	120	W
Thermal impedance, motor to air	Rtha	1	0,8904	0,6842	0,5417	oC/W
Thermal impedance, motor to air+flange	Rthf	0,6	0,57	0,55	0,53	oC/W
Thermal capacity	Cth	3077	4395	5714	7032	J/oC
Thermal time constant in air	ta	3077	3914	3910	3809	s
No load losses at base speed	L0	16,53	33,06	51,426	68,569	W
Treshold of built-in PTC	PTCt	130	130	130	130	oC
Electrical data:						
Pole number	PN	8	8	8	8	
Connection		Y	Y	Y	Y	
Back E.M.F. between phases	Ke	0,6405	0,651	0,6615	0,6615	Vs
Torque constant	Kt	1,1094	1,1276	1,1458	1,1458	Nm/Arms
Temperature coefficient of E.M.F. and	dKe/dT	-0,09	-0,09	-0,09	-0,09	%/oC
Winding resistance, 20oC	Rw	8,6397	3,0795	1,8345	1,2999	Ohm
Winding inductance	Lw	22,326	11,532	7,938	5,9535	mH
Nominal voltage	Vn	328	322	324	323	Vrms
EMF at 1000 rpm	V1000	67	68	69	69	Vrms
Nominal current, zero speed	In0	2,1	3,8	5,6	7,5	Arms
Nominal current at rated power 1)	In	1,8	2,8	3,8	4,9	Arms
Peak current	Ipk	10	18	23	28	Arms
Frequency	fn	300	300	300	300	Hz
Efficiency at rated power	n	0,933	0,950	0,953	0,954	
Min. demagnetization current, 125oC	Idm	19	38	56	75	Apk