

Technical Data Summary, SBMAX Frame Sizes 70 mm							
Winding selection for 3800 rpm with 220 Vac 3 phase drive							
Issue 1, 19/7/93							
		Frame 70	Volt.220				Units
Reference data:	SBM	38005	3801	38015	3802	38025	
Nominal torque, cont. duty, zero speed (DT=65oC, in air) 1)	Tn	0,50268	0,99574	1,54874	2,00168	2,49756	Nmrms
Nominal torque, cont. duty, zero speed (DT=105oC, flange mount) 2)	Tl05	0,88208	1,60152	2,15662	2,64138	3,05452	Nmrms
Base speed	wn	400	400	400	400	400	rad/s
Nominal power,1)	Pn	178,066	337,764	542,085	684,375	841,474	W
Nominal power,2)	P105	282,43	504,776	693,344	833,012	940,363	W
Torque at max. speed 1)	Tw	0,44516	0,84441	1,35521	1,71094	2,10368	Nmrms
Torque at max. speed 2)	Tw105	0,70607	1,26194	1,73336	2,08253	2,35091	Nmrms
Peak torque,zero speed S.I.R.10% 2)	Tpk	2,7894	5,06445	6,81984	8,35277	9,65923	Nmrms
Physical data:							
Maximum speed	wmax	700	700	700	700	700	rad/s
Rotor inertia	Jm	0,02625	0,04	0,05375	0,0675	0,08125	mkgm2
Acceleration at peak torque	apk	106263	126611	126881	123745	118883	rad/s2
Max. shock on motor, any direction	S	200	200	200	200	200	m/s2
Max. vibration, radial	Vr	200	200	200	200	200	m/s2
Max. vibration, axial	Va	40	40	40	40	40	m/s2
Shaft torsional resonance frequency 3)	fm	N.A.	N.A.	N.A.	N.A.	N.A.	Hz
Mass	M	2	2,75	3,5	4,25	4,25	kg
Thermal data:							
Motor losses at nominal power	Ln	31	41	57	67	78	W
Thermal impedance, motor to air	Rtha	2,09677	1,58537	1,14035	0,97015	0,83333	oC/W
Thermal impedance, motor to air+flange	Rthf	1,1	0,99	0,95	0,9	0,9	oC/W
Thermal capacity	Cth	1255,8	1726,73	2197,65	2668,58	2668,58	J/oC
Thermal time constant in air	ta	2633,13	2737,49	2506,09	2588,92	2223,81	s
No load losses at base speed	L0	4,6207	9,24141	13,8621	18,4828	23,1035	W
Treshold of built-in PTC	PTCt	130	130	130	130	130	oC
Electrical data:							
Pole number	PN	4	4	4	4	4	
Connection		Y	Y	Y	Y	Y	
Back E.M.F. between phases	Ke	0,40775	0,41658	0,41834	0,4307	0,42364	Vs
Torque constant	Kt	0,70624	0,72153	0,72459	0,74599	0,73376	Nm/Arms
Temperature coefficient of E.M.F. and Kt	dKe/dT	-0,09	-0,09	-0,09	-0,09	-0,09	%/oC
Winding resistance, 20oC	Rw	37,7643	13,1529	7,01934	5,23539	3,78763	Ohm
Winding inductance	Lw	50,225	26,2114	17,6227	16,4011	13,5537	mH
Nominal voltage	Vn	189,878	184,567	183,164	187,53	183,75	Vrms
EMF at 1000 rpm	Vl000	42,6914	43,6155	43,8003	45,094	44,3547	Vrms
Nominal current, zero speed	In0	0,71534	1,39398	2,24991	2,82448	3,5601	Arms
Nominal current at rated power 1)	In	0,65988	1,22686	1,9573	2,40353	3,00583	Arms
Peak current	Ipk	3,94962	7,01903	9,41204	11,1969	13,5042	Arms
Frequency	fn	127,324	127,324	127,324	127,324	127,324	Hz
Efficiency at rated power	n	0,85172	0,89175	0,90485	0,91083	0,91517	
Min. demagnetization current, 125oC	Idm	3,98268	7,79661	11,6456	15,082	19,1667	Apk