Contract nr. 125 / 2020, Project Code EUROSTARS-2019-E!12367-iTorque
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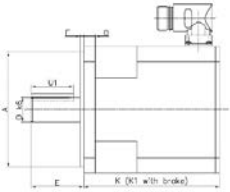
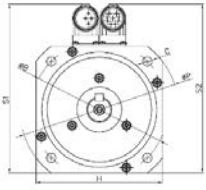
MOTOR SINCRON FARA PERII CU MAGNETI PERMANENTI SI STATORUL SEGMENTAT

Servo-motorul electric de tipul tip SBM este un tip de motor sincron, fara perii, cu rotor cilindric cu magneti din pamanturi rare dispusi direct in intrefier. Rotorul este realizat din otel magnetic. Pe suprafata acestuia sunt fixati magneti permanenti cu polaritati alternante. Statorul este realizat din segmente laminate. In crestaturi este pozitionata o infasurare trifazata.

Se remarca printr-o constructie compacta, randament ridicat si densitate de cuplu ridicata.





Type	Size	A (j6)	B	C	D (k6)	E	F	H	K	K1	M	O	P	R	T1	T2 (h9)	U (h9)	U1
SBM-071-062-023	71	60	75	5,5	11	23	2,5	71	100	130	94	8,5	94	M4x10	12,5	3	4	16
SBM-071-062-046	71	60	75	5,5	11	23	2,5	71	123	153	94	8,5	94	M4x10	12,5	3	4	16
SBM-071-062-069	71	60	75	5,5	11	23	2,5	71	146	176	71	8,5	94	M4x10	12,5	3	4	16
SBM-121-111-030	121	110	130	9	24	50	3,5	121	130	170	121	11	152	M8·20	27	3	8	40
SBM-121-111-060	121	110	130	9	24	50	3,5	121	160	200	121	11	152	M8·20	27	3	8	40
SBM-121-111-090	121	110	130	9	24	50	3,5	121	190	230	121	11	152	M8·20	27	3	8	40
SBM-190-170-060	190	180	215	13,5	32	60	4	190	200	240	190	11	253	M4·16	7,2	3	3	40
SBM-190-170-090	190	180	215	13,5	32	60	4	190	230	270	190	11	253	M4·16	7,2	3	3	40
SBM-190-170-120	190	180	215	13,5	32	60	4	190	260	300	190	11	253	M4·16	7,2	3	3	40

No.	Characteristic	Symbol	Unit	SBM-071-062-023-325	SBM-071-062-046-325	SBM-071-062-069-325	SBM-121-111-030-325	SBM-121-111-060-325	SBM-121-111-090-325	SBM-190-170-060-325	SBM-190-170-090-325	SBM-190-170-120-325
1.	Rated power ±10% [1]	P_n	kW	0.377	0.71	0.88	1.26	1.95	2.2	1.4	2.5	6.8
2.	Rated torque ±10%[1]	M_n	Nm	0.9	1.7	2.1	4	6.2	7	9	16	26
3.	Static torque ±10% [1]	M_0	Nm	1	2	2.7	5.2	10	14	25	38	50
4.	Motor constant	K_M	N/√W	0.18	0.29	0.38	0.68	1.03	1.38	11.72	51.1	134.78
5.	Electrical time constant	T_E	msec	2.13	2.47	2.7	4.93	5.5	6.56	50	57.8	65.2
6.	Maximum cogging torque	M_p	mNm	40	80	108	208	400	560	1	1.52	2
7.	Motor inertia	J	$kg \cdot cm^2$	0.16	0.3	0.6	1.6	2.6	4	27.2	52	77
8.	Motor weight	W_t	kg	1.4	2	2.6	3.6	4.7	7	15	21	27
9.	Number of poles	N_p		10	10	10	10	10	10	20	20	20
10.	Insulation class			F	F	F	F	F	F	F	F	F
11.	Rated voltage	U_n	Vcc	325	325	325	325	325	325	565	565	565
12.	Rated current ±10% [1]	I_n	A	2.2	2.1	1.7	4.8	7.8	6.5	2.9	3.5	8.4
13.	Static current ±10% [1]	I_0	A	2.5	2.6	2.2	6.3	12.5	13	8.1	11	16.1
14.	Maximum static torque	M_{0_max}	Nm	4.6	4.8	10.8	20.8	40	56	56	108	200
15.	Torque constant ±10% [1]	K_T	Nm/A	0.4	0.81	1.24	0.83	0.8	1.08	3.1	4.6	3.1
16.	Back EMF constant ±10% [2]	K_E	V/krpm	26	50	76	51	50.2	68	186	280	187
17.	Rated speed ±10%	n_o	rpm	4000	4000	4000	3000	3000	3000	1500	1500	1500
18.	Line to line resistance ±8% [2]	R_L	Ω	4.7	7.7	10.4	1.5	0.6	0.61	0.07	0.09	0.023
19.	Line to line inductance ±20% [2]	L_L	mH	10	19	28	7.4	3.3	4	3.5	5.2	1.5

1) Motor mounted on a metallic flange with an area equal to twice the cross section of the housing; ambient temperature 40 °C
2) Measured at 25 °C