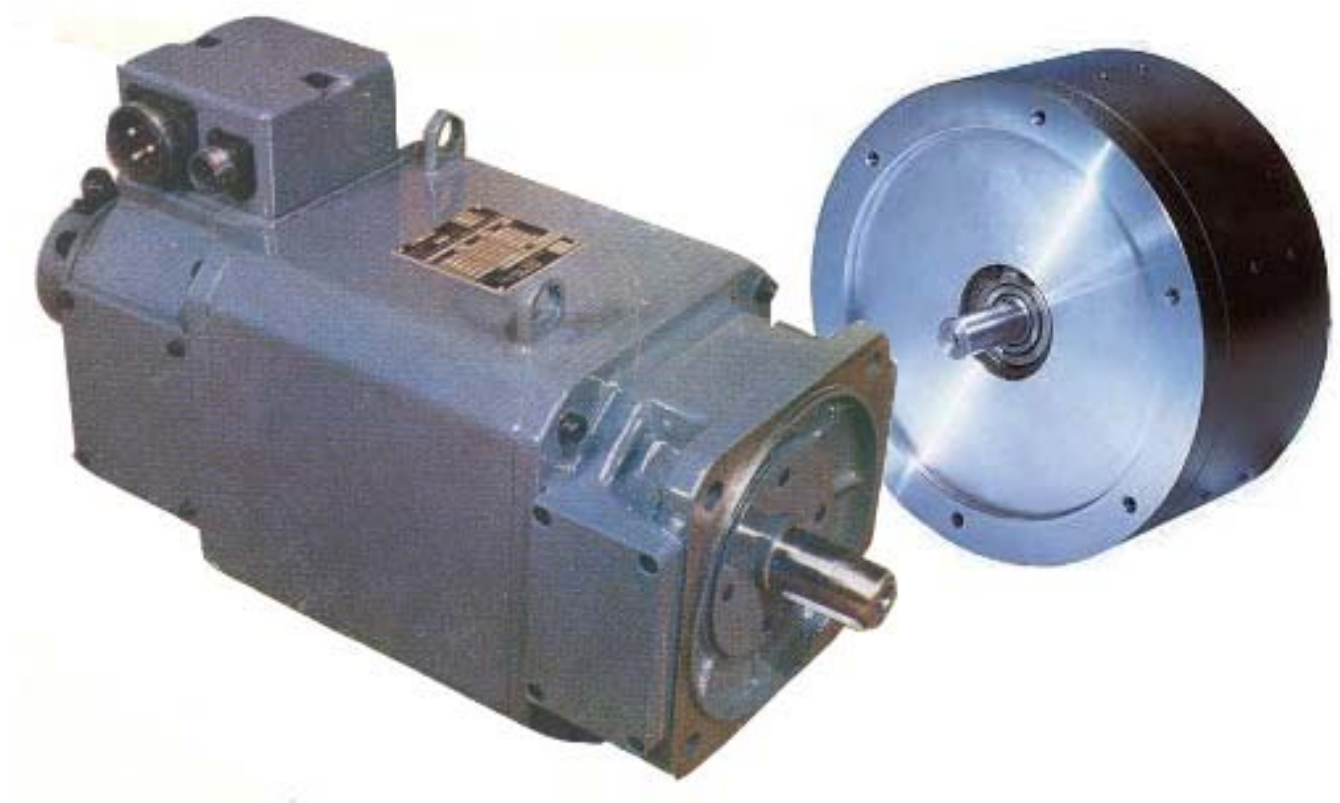


EM Brno Ltd.

DC MOTORS SERIES HG, SHZ



DC MOTORS – HG TYPE

The DC drives MEZOMATIC – K have been made since 1985. They were equipped with thyristor converter FORMIC and with AC motors – HG type with excitation by ferrite permanent magnets.

The drives MEZOMATIC –K were particularly designed for the drives of numerically controlled machine tools with continuous position control, for the drive of forming machines and for industrial robots and handling device.

GENERALLY:

- two type sizes – HG71 and HG 112
- range of stall torques in case of zero speed is between 4,2 and 42 Nm
- nominal speed 500 or 750 min⁻¹ according to motor size
- built – in DC tachogenerator 20 V/1000 min⁻¹, safety brake 5 Nm for HG71 and 20 Nm for HG112, power supply 24 V DC
- protection IP 44, cooling IC 410
- IM 3001 (flange mounting type)

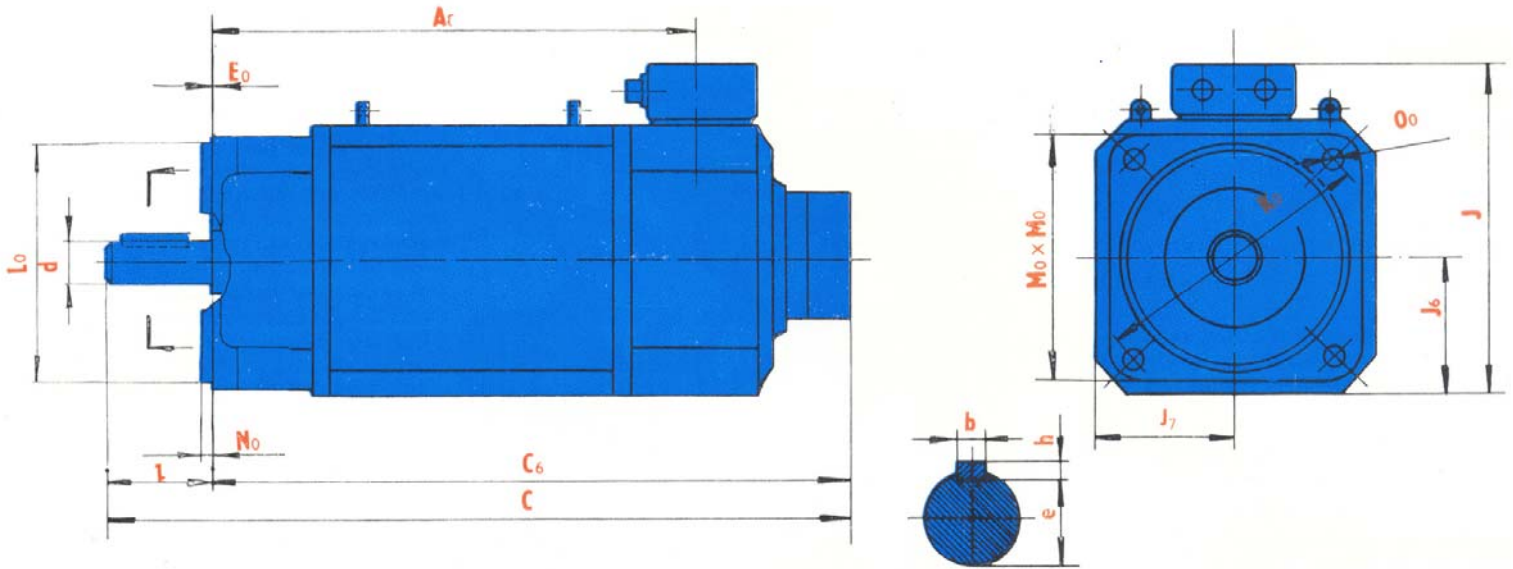


TECHNICAL DATA:

		HG 71 A		HG 71 B		HG 71 C		HG 71 D	
M'_{go}	Nm	4,2		5,6		8,4		12	
U	V	118	62,5	110	49	111	47	68	46
I	A	3,9	7,6	5,2	11,6	7,9	19,5	12,9	19,4
n 0,25	min ⁻¹	750		750		750		500	
M'_{go}	Nm	4,2		5,1	4,5	7,5	5,9	8,4	
U	V	155	112	132	87	142	82	116	76
I	A	4,1	8,4	5,1	9,8	6,8	14	9,2	14,2
n	min ⁻¹	1000	1500	1000	1500	1000	1500	1000	1000
M'_{gonmax}	Nm	4,2	1,3	4,5	1,7	5,9	2,5	6	3,6
U	V	210	203	206	160	198	153	165	146
I	A	4,2	3,1	4,2	4,5	5,8	7,1	6,6	6,9
n _{max}	min ⁻¹	1500	3000	1500	3000	1500	3000	1500	2000
$\frac{M_{max}}{M'_{go}}$	-	4		4		4		4	
R _k	Ω	4,7	1,12	2,64	0,425	1,65	0,243	0,71	0,31
J	kgm ² ·10 ⁻³	3,75		4,5		6,15		8	
C _e	Vs/rad	1,3	0,65	1,21	0,52	1,29	0,516	1,05	0,679
T _m	ms	12,7		12,5		11,4		6,8	
T _e	ms	5,5		6		10,5		13,3	
T _T	ms	40		45		50		60	
ε _{max}	rad/s ²	4480		4980		5460		6000	
		HG 112 A		HG 112 B		HG 112 C		HG 112 D	
M'_{go}	Nm	15,6		20,4		27,6		42	
U	V	74	56	67	46	57	57	72	58
I	A	13,8	18,4	20,6	30,5	34,2	34,2	36,3	47
n 0,25	min ⁻¹	500		500		500		500	
M'_{go}	Nm	10,9		14		19		29	
U	V	132	99	120	81	104	104	140	114
I	A	10,5	14	14,6	21,4	23,5	23,5	24	30
n	min ⁻¹	1000	1000	1000	1000	1000	1000	1000	1000
M'_{gonmax}	Nm	7,5	4,7	10,2	6	13,8	8,3	21	12,6
U	V	193	194	172	151	158	206	195	196
I	A	7,6	6,8	10,5	10,5	16	10,6	19,4	16
n _{max}	min ⁻¹	1500	2000	1500	2000	1500	2000	1500	2000
$\frac{M_{max}}{M'_{go}}$	-	4		4		4		4	
R _k	Ω	0,46	0,235	0,31	0,125	0,149	0,149	0,112	0,08
J	kgm ² ·10 ⁻³	26		30,4		37		55	
C _e	Vs/rad	1,28	0,96	1,16	0,77	1,02	1,02	1,08	0,86
T _m	ms	7,5		7,1		10,5		15,4	
T _e	ms	23		18		15		24	
T _T	ms	70		80		90		120	
ε _{max}	rad/s ²	2400		2680		2980		3060	

Side note: The torques are decreasing to 83,3% by powering from converter.

DIMENSIONS:



	A_8	C	C_6	E_0	J	J_6	K_0	L_0	M_0	N_0	O_0	I	d	e	h	b	m [kg]	J_7
HG 71 A	253	419	377	0	186	72,5	165	130	145	3,5	12	42	28	23,9	7	8	22	74
HG 71 B	278	444	402	0	186	72,5	165	130	145	3,5	12	42	28	23,9	7	8	25	74
HG 71 C	323	507	447	0	186	72,5	165	130	145	3,5	12	60	28	23,9	7	8	30	74
HG 71 D	371	555	495	0	186	72,5	165	130	145	3,5	12	60	28	23,9	7	8	38	74
HG 112 A	284	491,5	433,5	0	284	111	215	180	190	4	15	58	32	27,3	8	10	55	114
HG 112 B	309	516,5	458,5	0	284	111	215	180	190	4	15	58	32	27,3	8	10	64	114
HG 112 C	344	551,5	493,5	0	284	111	215	180	190	4	15	58	32	27,3	8	10	75	114
HG 112 D	436	665,5	585,5	0	284	111	215	180	190	4	15	80	32	27,3	8	10	95	114

DC MOTORS OF SERIES SHZ

DC servomotors with permanent magnets, series SHZ, are designed for the drives of small two-wheel vehicles (scooter, bicycle), drive of laboratory devices, fans and pumps.

TECHNICAL DATA:

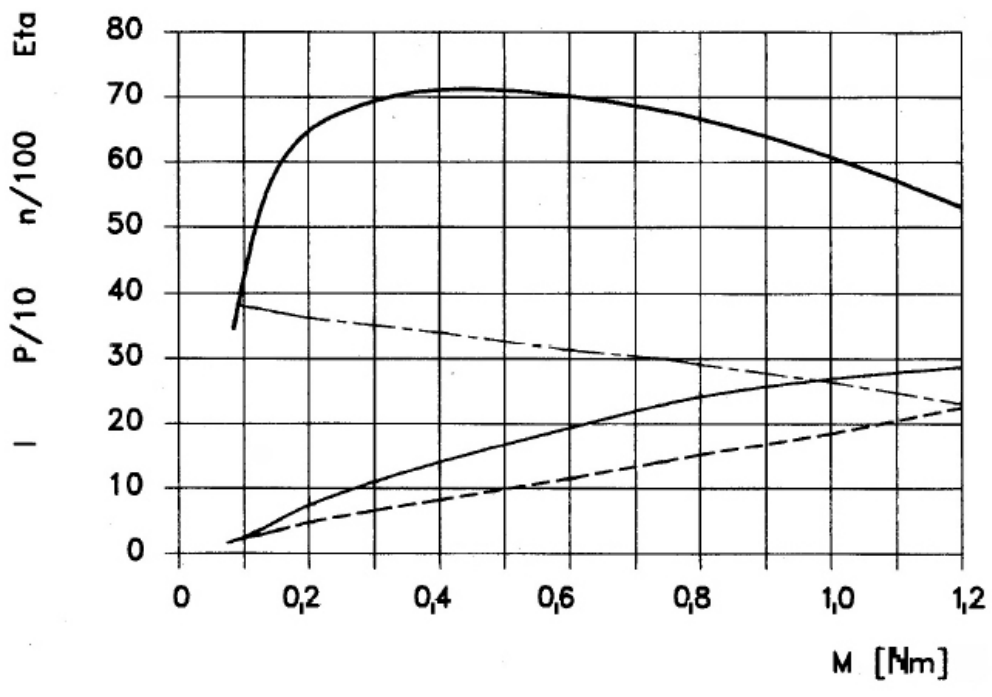
Nominal output:	170 W
Nominal voltage:	24 V DC (fed from battery)
Nominal current:	10 A
Nominal speed:	3250 rpm
Excitation:	permanent magnets
Sense of rotation:	in both directions – change by reversing of supply voltage polarities
Load:	S1 (continuous)
Protection/cooling:	IP 44/ IC 410
Operating conditions:	altitude up to 1000 m ambient temperature from -20 to +40 °C normal environment

The motor is designed with a face commutator with the goal to reduce both the dimensions and the mass.

Shape ^{*)} :	IM spec.
Dimensions ^{*)} :	max. length (without shaft extension): 60 to 66 mm
Shaft extension:	According to the design dia 12 mm, with M8 thread on the end
Mass:	2 kg

^{*)} marked parameters may be adapted to users requirements, for inst. modification of the shield and shaft extension for installation of gearboxes, etc.





- η [%]
- - - $n/100$ [min^{-1}]
- $P/10$ [W]
- - - I [A]

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