

hamotic system direct drive



Technical data



High performance direct drives for mobile robotic platforms / Outer rotor motor

Description	Specification			
Model type	HTM-142/30	HTM-142/50	HTM-142/70	HTM-142/80
Performance specifications				
Continuous torque [Nm]	10.0	16.7	23.3	26.7
Peak torque [Nm]	28	47	65	75
Thermal resistance encapsulated [°C/W]	0.63	0.60	0.55	0.51
Thermal resistance with cooling plate [°C/W]	0.45	0.43	0.39	0.37
Maximum ambient temperature [°C]	40	40	40	40
Stator outer diameter [mm]	142	142	142	142
Stator inner diameter [mm]	65	65	65	65
Rotor outer diameter [mm]	157	157	157	157
Rotor inner diameter [mm]	143	143	143	143
Stator length [mm]	30	50	70	80
Number of poles	60	60	60	60

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Model type	HTM-142/30	HTM-142/50	HTM-142/70	HTM-142/80
Rotor inertia [kg/m ²]	0.0095	0.0118	0.0141	0.0153
Weight [kg] (without brake and encoder)	7	~11.6	~13.9	~15.1
Weight [kg] (with brake and encoder)	9.1	~15.3	~18.7	~19.9
Maximum operation voltage [VAC]	32	32	32	32
Continuous current [A]	10.4	17.4	24.3	27.9
Phase resistance [Ω]	0.105	0.058	0.038	0.03
Phase inductance [mH]	0.75	0.44	0.32	0.28
Back EMF constant [V/krpm]	63.0	62.6	62.6	62.6
Motor torque constant [Nm/A]	0.97	0.96	0.96	0.96
Motor constant [Nm/W 0.5]	2.11	2.81	3.48	3.91
Rated load [W]	157	262	366	419
Rated speed [rpm]	150	150	150	150
Efficiency rated load [-]	75%	76%	77%	79%
Losses [W]	52.7	83.3	107.6	114.5
Max speed [rpm]	400	400	400	400
Magnet wire diameter [mm]	0.6	0.75	0.9	1.0
Area Lead Wires [mm ²]	1.7	2.7	3.8	4.7
AWG Lead Wires [-]	14	12	10	10
Encoders	Optionally SIL3			
Brake	Yes			

Notes

