

# TORQUE MOTOR

# TML0530-070

PERFORMANCE		Winding codes	3VBN	3VDN
		UNIT	FREE AIR CONVECTION	FREE AIR CONVECTION
Tp	Peak torque	Nm	2330	2330
Tc	Continuous torque	Nm	500	500
Ts	Stall torque	Nm	382	382
Kt	Torque constant	Nm/Arms	56.4	28.2
Ku	Back EMF constant (*)	Vrms/(rad/s)	32.6	16.3
Km	Motor constant	Nm/√W	21.8	21.8
R20	Electrical resistance at 20°C (*)	Ohm	4.48	1.12
L1	Electrical inductance (*)	mH	53.9	13.5
Ip	Peak current	Arms	79.6	159
Ic	Continuous current	Arms	8.99	18.0
Is	Stall current	Arms	6.81	13.6
Pc	Max. continuous power dissipation	W	778	778

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	3360	3360
Rth	Thermal resistance	K/W	0.141	0.141
2p	Number of poles	-	88	88
J	Rotor inertia	kg.m <sup>2</sup>	0.645	0.645
Mr	Rotor mass	kg	13.4	13.4
Ms	Stator mass	kg	33.0	33.0
Td	Max. detent torque (average to peak)	Nm	20	20
ns	Stall speed	rpm	0.0041	0.0041

Notes: (\*) terminal to terminal. Ambient temperature = 20 °C. Max. coil temperature = 130 °C.  
 Hypothesis and tolerances are in ETEL's Handbook. Stator connected to a total surface of 0.35 m<sup>2</sup> and rotor to a total surface of 0.240 m<sup>2</sup>

Caution: Any use of the motor beyond speed/force limit could lead to hazardous voltage and serious injuries. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the motor is used in an improper way.

