

# TORQUE MOTOR

# TMM0450-030

PERFORMANCE		Winding codes	3VBS	3VDS
		UNIT	FREE AIR CONVECTION (with glued stator)	FREE AIR CONVECTION (with glued stator)
Tp	Peak torque	Nm	699	699
Tc	Continuous torque	Nm	187	187
Ts	Stall torque	Nm	144	144
Kt	Torque constant	Nm/Arms	15.5	7.76
Ku	Back EMF constant (*)	Vrms/(rad/s)	8.98	4.49
Km	Motor constant	Nm/√W	9.61	9.61
R20	Electrical resistance at 20°C (*)	Ohm	1.74	0.435
L1	Electrical inductance (*)	mH	11.5	2.87
Ip	Peak current	Arms	92.2	184
Ic	Continuous current	Arms	12.7	25.3
Is	Stall current	Arms	9.58	19.2
Pc	Max. continuous power dissipation	W	598	598

SPECIFICATIONS		UNIT		
Udc	Nominal input voltage	VDC	600	600
τth	Thermal time constant	s	2360	2360
Rth	Thermal resistance	K/W	0.184	0.184
2p	Number of poles	-	88	88
J	Rotor inertia	kg.m <sup>2</sup>	0.162	0.162
Mr	Rotor mass	kg	4.89	4.89
Ms	Stator mass	kg	13.7	13.7
Td	Max. detent torque (average to peak)	Nm	4.5	4.5
ns	Stall speed	rpm	0.0058	0.0058

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 0.13 m<sup>2</sup> and rotor to a total surface of 0.110 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.

