

MOTOR PERFORMANCE		Winding codes	VB	VE		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	2750	2750		
Ti	Intermittent torque	Nm	2050	2050		
Tc	Continuous torque	Nm	1480	1480		
Ts	Standstill torque	Nm	1180	1180		
Ip	Peak current	Arms	57.8	144		
Ii	Intermittent current	Arms	36.5	91.4		
Ic	Continuous current	Arms	23.1	57.8		
Is	Standstill current	Arms	17.5	43.8		
ns	Rated low speed	rpm	0.14	0.14		
nm	Maximum speed without flux weakening	rpm	91.2	228		
nm,FW	Maximum speed with flux weakening	rpm	333	550		
ton,p	Maximum ON time for peak cycle	s	13	13		
ton,i	Maximum ON time for intermittent cycle	s	2.7	2.7		
Pp	Power dissipation @ Ip	W	28500	28500		
Pi	Power dissipation @ Ii	W	14600	14600		
Pc	Power dissipation @ Ic	W	5830	5830		
Td	Max. detent torque (average to peak)	Nm	13	13		

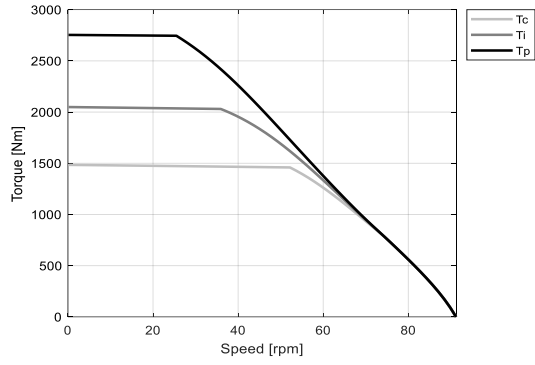
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	74.4	29.8		
Ku	Back EMF constant (*)	Vrms/(rad/s)	43.5	17.4		
Km	Motor constant	Nm/√W	26.8	26.8		
R20	Electrical resistance at 20°C (*)	Ohm	5.14	0.823		
Ld/Lq	Electrical inductance (*)	mH	83.7 / 76.7	13.4 / 12.3		
Isc	Maximum short-circuit current	Arms	24.0	60.0		
nb	Base speed	rpm	52.2	172		
nb,i	Base speed at intermittent duty cycle	rpm	35.9	136		
nb,p	Base speed at peak duty cycle	rpm	25.5	114		
nn	Rated speed	rpm	44.6	150		
Tn	Rated torque	Nm	1460	1360		
In	Rated current	Arms	23.0	53.6		
rth	Thermal time constant	s	175	175		
Rth	Thermal resistance	K/W	0.0178	0.0178		
2p	Number of poles	-	50	50		
J	Rotor inertia	kg·m²	0.469	0.469		
mr	Rotor mass	kg	15.3	15.3		
ms	Stator mass	kg	58.7	58.7		

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600		
Di	Intermittent duty cycle	%	40	40		
Dp	Peak duty cycle	%	5.0	5.0		
Sr	Rotor exchange surface	m²	0.252	0.252		
θamb	Ambient temperature	°C	20	20		
θmax	Maximum coil temperature	°C	130	130		
θw	Inlet water temperature	°C	20	20		
Δθw	Water temperature difference for Pc	K	5.0	5.0		
qw	Minimum water flow for Δθw	l/min	18	18		
Δpw	Max. pressure drop at qw	bar	0.9	0.9		

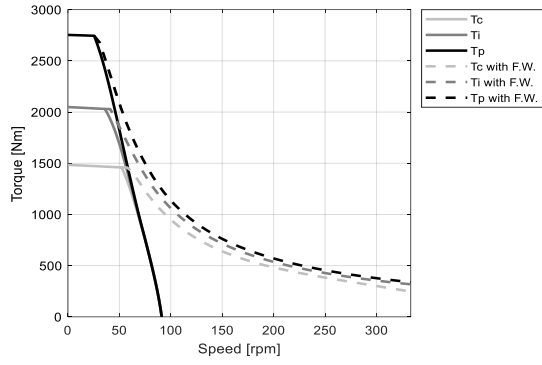
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

Caution: Any use of the motor beyond speed/torque 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.

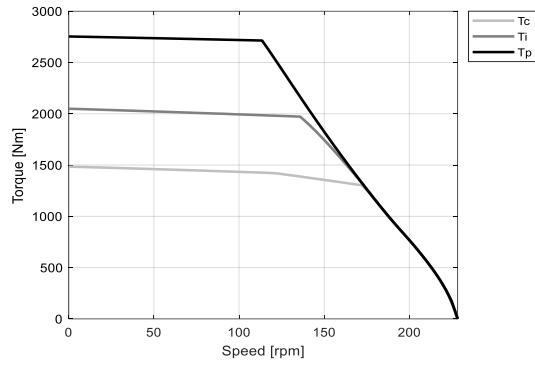
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