

MOTOR PERFORMANCE		Winding codes	VB	VD		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	1750	1750		
Ti	Intermittent torque	Nm	1280	1280		
Tc	Continuous torque	Nm	914	914		
Ts	Standstill torque	Nm	723	723		
Ip	Peak current	Arms	59.8	120		
Ii	Intermittent current	Arms	37.7	75.5		
Ic	Continuous current	Arms	23.9	47.7		
Is	Standstill current	Arms	18.1	36.2		
ns	Rated low speed	rpm	0.19	0.19		
nm	Maximum speed without flux weakening	rpm	157	315		
nm,FW	Maximum speed with flux weakening	rpm	575	803		
ton,p	Maximum ON time for peak cycle	s	13	13		
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8		
Pp	Power dissipation @ Ip	W	22300	22300		
Pi	Power dissipation @ Ii	W	11300	11300		
Pc	Power dissipation @ Ic	W	4530	4530		
Td	Max. detent torque (average to peak)	Nm	5.5	5.5		

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	43.2	21.6		
Ku	Back EMF constant (*)	Vrms/(rad/s)	25.2	12.6		
Km	Motor constant	Nm/√W	18.2	18.2		
R20	Electrical resistance at 20°C (*)	Ohm	3.75	0.937		
Ld/Lq	Electrical inductance (*)	mH	51.2 / 47.2	12.8 / 11.8		
Isc	Maximum short-circuit current	Arms	28.5	56.9		
nb	Base speed	rpm	104	246		
nb,i	Base speed at intermittent duty cycle	rpm	78.8	199		
nb,p	Base speed at peak duty cycle	rpm	62.1	166		
nn	Rated speed	rpm	90.1	215		
Tn	Rated torque	Nm	894	854		
In	Rated current	Arms	23.7	45.9		
rth	Thermal time constant	s	158	158		
Rth	Thermal resistance	K/W	0.0228	0.0228		
2p	Number of poles	-	40	40		
J	Rotor inertia	kg·m²	0.197	0.197		
mr	Rotor mass	kg	10.7	10.7		
ms	Stator mass	kg	37.1	37.1		

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	0.191	0.191		
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	14	14		
Δpw	Max. pressure drop at qw	bar	0.6	0.6		

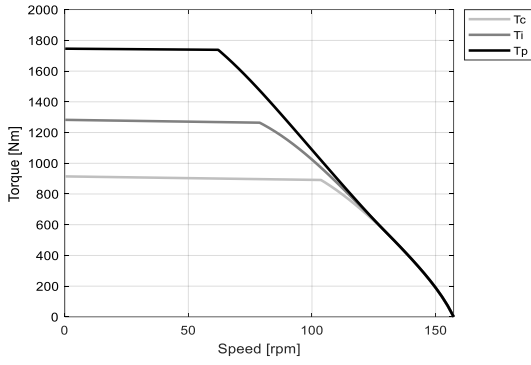
Notes: (*) terminal to terminal.

Hypotheses and tolerances are in ETEL Integration Manual.

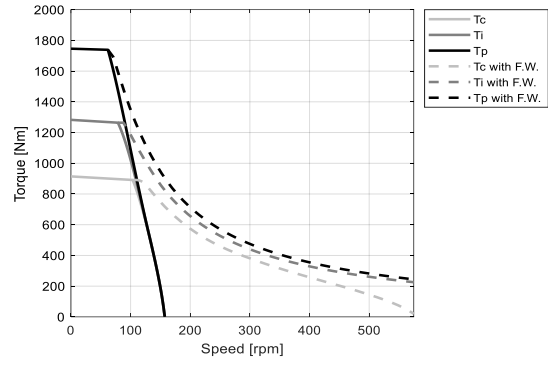
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

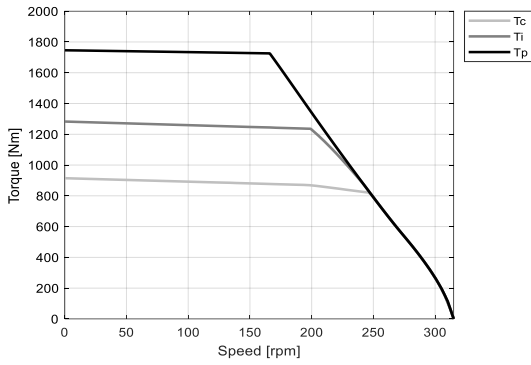
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