

MOTOR PERFORMANCE		Winding codes	VB	VD		
		UNIT	WATER COOLING	WATER COOLING		
<b>Tp</b>	Peak torque	Nm	4150	4350		
<b>Ti</b>	Intermittent torque	Nm	3180	3180		
<b>Tc</b>	Continuous torque	Nm	2260	2260		
<b>Ts</b>	Standstill torque	Nm	1780	1780		
<b>Ip</b>	Peak current	Arms	54.8	120		
<b>Ii</b>	Intermittent current	Arms	37.8	75.6		
<b>Ic</b>	Continuous current	Arms	23.9	47.8		
<b>Is</b>	Standstill current	Arms	18.1	36.2		
<b>ns</b>	Rated low speed	rpm	0.20	0.20		
<b>nm</b>	Maximum speed without flux weakening	rpm	64.3	129		
<b>nm,FW</b>	Maximum speed with flux weakening	rpm	235	414		
<b>ton,p</b>	Maximum ON time for peak cycle	s	12	8.8		
<b>ton,i</b>	Maximum ON time for intermittent cycle	s	2.8	2.8		
<b>Pp</b>	Power dissipation @ Ip	W	39400	47500		
<b>Pi</b>	Power dissipation @ Ii	W	23800	23800		
<b>Pc</b>	Power dissipation @ Ic	W	9500	9500		
<b>Td</b>	Max. detent torque (average to peak)	Nm	14	14		

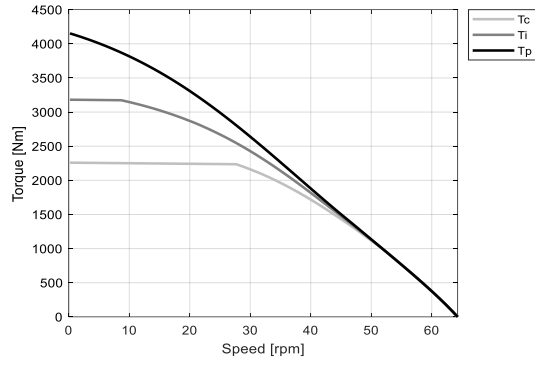
MOTOR SETTING		UNIT				
<b>Kt</b>	Torque constant	Nm/Arms	106	53.1		
<b>Ku</b>	Back EMF constant (*)	Vrms/(rad/s)	61.7	30.8		
<b>Km</b>	Motor constant	Nm/√W	30.6	30.6		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	8.05	2.01		
<b>Ld/Lq</b>	Electrical inductance (*)	mH	122 / 111	30.5 / 27.7		
<b>Isc</b>	Maximum short-circuit current	Arms	29.2	58.4		
<b>nb</b>	Base speed	rpm	27.7	84.7		
<b>nb,i</b>	Base speed at intermittent duty cycle	rpm	8.69	63.6		
<b>nb,p</b>	Base speed at peak duty cycle	rpm	0.0	48.5		
<b>nn</b>	Rated speed	rpm	21.8	73.4		
<b>Tn</b>	Rated torque	Nm	2240	2200		
<b>In</b>	Rated current	Arms	23.9	47.5		
<b>rth</b>	Thermal time constant	s	153	153		
<b>Rth</b>	Thermal resistance	K/W	0.00985	0.00985		
<b>2p</b>	Number of poles	-	40	40		
<b>J</b>	Rotor inertia	kg·m²	0.481	0.481		
<b>mr</b>	Rotor mass	kg	26.3	26.3		
<b>ms</b>	Stator mass	kg	81.3	81.3		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Di</b>	Intermittent duty cycle	%	40	40		
<b>Dp</b>	Peak duty cycle	%	5.0	5.0		
<b>Sr</b>	Rotor exchange surface	m²	0.451	0.451		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		
<b>θw</b>	Inlet water temperature	°C	20	20		
<b>Δθw</b>	Water temperature difference for Pc	K	5.0	5.0		
<b>qw</b>	Minimum water flow for Δθw	l/min	30	30		
<b>Δpw</b>	Max. pressure drop at qw	bar	3.8	3.8		

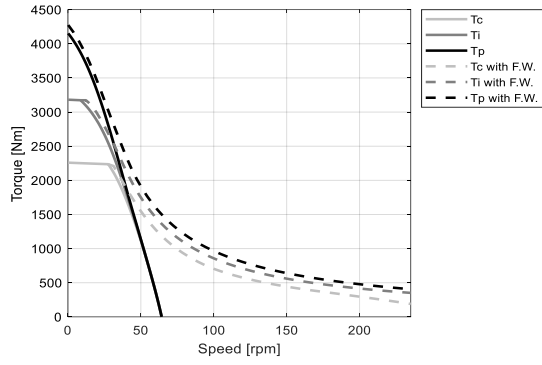
**Notes:** (\*) terminal to terminal.  
Hypotheses and tolerances are in ETEL Integration Manual.  
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

**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.

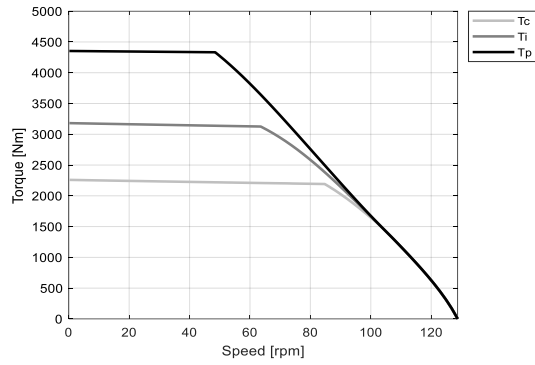
**VB - WATER COOLING**



**VB - WATER COOLING**



**VD - WATER COOLING**



**VD - WATER COOLING**

