

MOTOR PERFORMANCE		Winding codes	RA	TA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
<b>Tp</b>	Peak torque	Nm	318	318	318	318
<b>Ti</b>	Intermittent torque	Nm	252	263	263	252
<b>Tc</b>	Continuous torque	Nm	176	185	185	176
<b>Ts</b>	Standstill torque	Nm	137	145	145	137
<b>Ip</b>	Peak current	Arms	16.4	23.8	47.6	65.7
<b>Ii</b>	Intermittent current	Arms	12.2	18.7	37.3	48.7
<b>Ic</b>	Continuous current	Arms	7.70	11.8	23.6	30.8
<b>Is</b>	Standstill current	Arms	5.83	8.94	17.9	23.3
<b>ns</b>	Rated low speed	rpm	0.60	0.58	0.58	0.60
<b>nm</b>	Maximum speed without flux weakening	rpm	273	396	793	1100
<b>nm,FW</b>	Maximum speed with flux weakening	rpm	626	820	1290	1590
<b>ton,p</b>	Maximum ON time for peak cycle	s	6.8	8.3	8.3	6.7
<b>ton,i</b>	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.7
<b>Pp</b>	Power dissipation @ Ip	W	8370	7580	7580	8370
<b>Pi</b>	Power dissipation @ Ii	W	6020	6150	6150	6000
<b>Pc</b>	Power dissipation @ Ic	W	2410	2460	2460	2400
<b>Td</b>	Max. detent torque (average to peak)	Nm	1.4	1.4	1.4	1.4

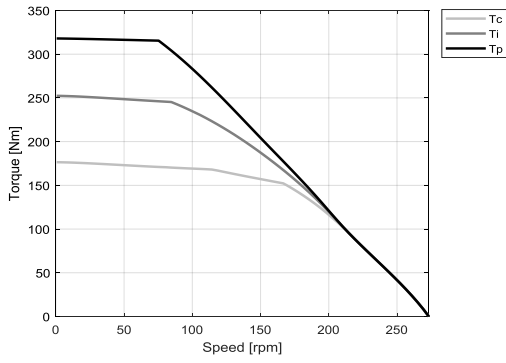
MOTOR SETTING		UNIT				
<b>Kt</b>	Torque constant	Nm/Arms	25.3	17.5	8.75	6.34
<b>Ku</b>	Back EMF constant (*)	Vrms/(rad/s)	14.5	10.0	5.01	3.63
<b>Km</b>	Motor constant	Nm/√W	4.72	4.95	4.95	4.73
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	19.2	8.34	2.09	1.20
<b>Ld/Lq</b>	Electrical inductance (*)	mH	87.4 / 78.2	41.7 / 36.8	10.4 / 9.21	5.46 / 4.89
<b>Isc</b>	Maximum short-circuit current	Arms	8.71	12.6	25.2	34.9
<b>nb</b>	Base speed	rpm	167	313	710	1040
<b>nb,i</b>	Base speed at intermittent duty cycle	rpm	84.6	222	621	918
<b>nb,p</b>	Base speed at peak duty cycle	rpm	75.3	179	450	644
<b>nn</b>	Rated speed	rpm	129	273	651	731
<b>Tn</b>	Rated torque	Nm	163	129	88.1	79.1
<b>In</b>	Rated current	Arms	7.39	8.27	11.6	14.5
<b>rth</b>	Thermal time constant	s	45.2	46.9	46.9	45.4
<b>Rth</b>	Thermal resistance	K/W	0.0425	0.0416	0.0416	0.0424
<b>2p</b>	Number of poles	-	44	44	44	44
<b>J</b>	Rotor inertia	kg·m²	0.0214	0.0214	0.0214	0.0214
<b>mr</b>	Rotor mass	kg	3.60	3.60	3.60	3.60
<b>ms</b>	Stator mass	kg	11.3	11.4	11.4	11.3

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600	600	600
<b>Di</b>	Intermittent duty cycle	%	40	40	40	40
<b>Dp</b>	Peak duty cycle	%	5.0	5.0	5.0	5.0
<b>Sr</b>	Rotor exchange surface	m²	0.074	0.074	0.074	0.074
<b>θamb</b>	Ambient temperature	°C	20	20	20	20
<b>θmax</b>	Maximum coil temperature	°C	130	130	130	130
<b>θw</b>	Inlet water temperature	°C	20	20	20	20
<b>Δθw</b>	Water temperature difference for Pc	K	5.0	5.0	5.0	5.0
<b>qw</b>	Minimum water flow for Δθw	l/min	7.5	7.7	7.7	7.5
<b>Δpw</b>	Max. pressure drop at qw	bar	0.3	0.3	0.3	0.3

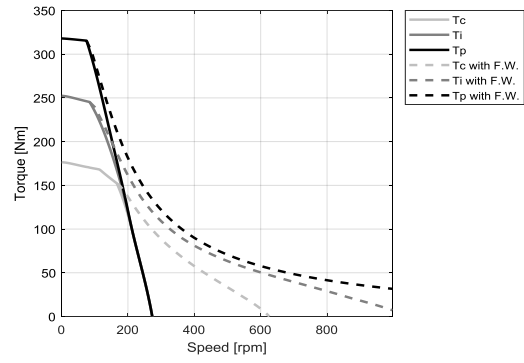
**Notes:** (\*) terminal to terminal.  
Hypotheses and tolerances are in ETEL Integration Manual.  
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

**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.

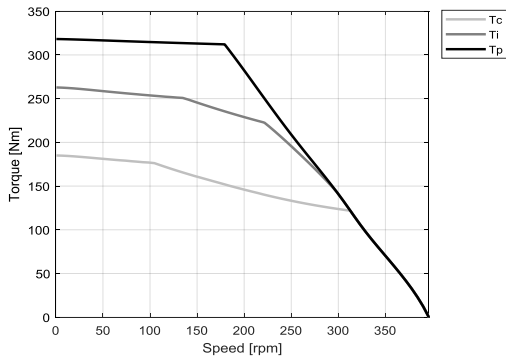
**RA - WATER COOLING**



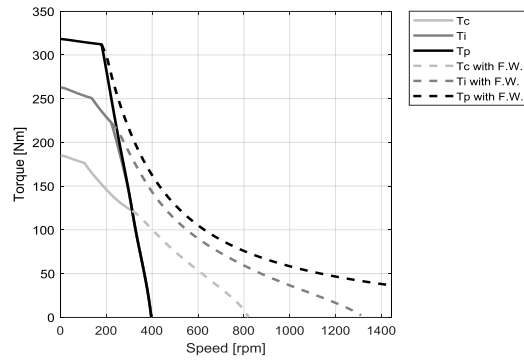
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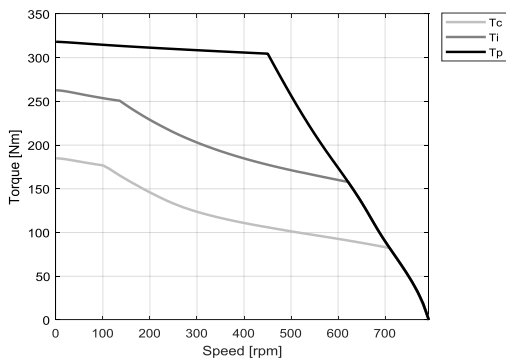
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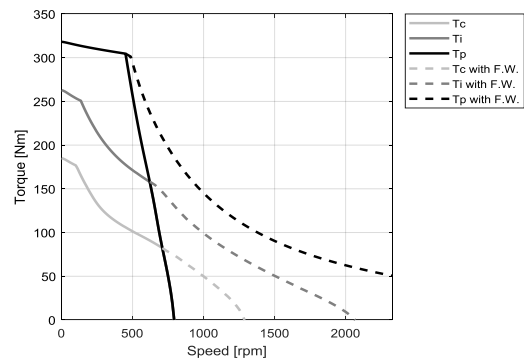
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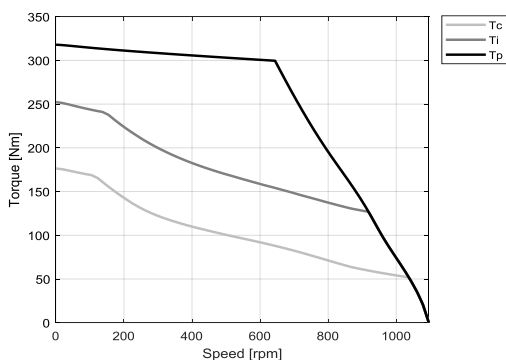
**TB - WATER COOLING**



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**UB - WATER COOLING**



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