

MOTOR PERFORMANCE		Winding codes	WB	UD	WD	WH
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
<b>Tp</b>	Peak torque	Nm	5190	5190	5190	5190
<b>Ti</b>	Intermittent torque	Nm	4240	4150	4130	4130
<b>Tc</b>	Continuous torque	Nm	3190	3110	3090	3090
<b>Ts</b>	Standstill torque	Nm	2600	2530	2610	2610
<b>Ip</b>	Peak current	Arms	70.7	97.5	141	283
<b>Ii</b>	Intermittent current	Arms	49.8	66.2	94.6	189
<b>Ic</b>	Continuous current	Arms	31.5	41.9	59.8	120
<b>Is</b>	Standstill current	Arms	23.9	31.7	47.8	95.5
<b>ns</b>	Rated low speed	rpm	0.11	0.11	0.11	0.11
<b>nm</b>	Maximum speed without flux weakening	rpm	54.1	74.6	108	217
<b>nm,FW</b>	Maximum speed with flux weakening	rpm	156	190	244	386
<b>ton,p</b>	Maximum ON time for peak cycle	s	12	10	12	12
<b>ton,i</b>	Maximum ON time for intermittent cycle	s	2.8	2.8	9.4	9.4
<b>Pp</b>	Power dissipation @ Ip	W	45700	48800	45700	45700
<b>Pi</b>	Power dissipation @ Ii	W	29300	28800	25400	25400
<b>Pc</b>	Power dissipation @ Ic	W	11700	11500	10100	10100
<b>Td</b>	Max. detent torque (average to peak)	Nm	15	15	15	15

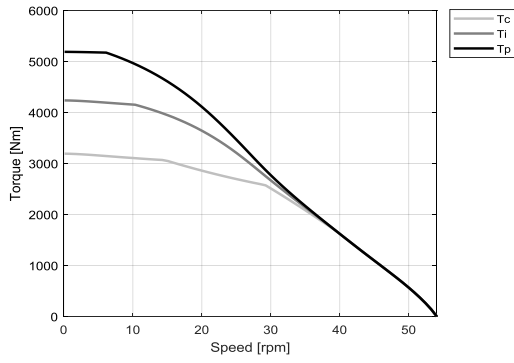
MOTOR SETTING		UNIT				
<b>Kt</b>	Torque constant	Nm/Arms	128	92.8	63.9	32.0
<b>Ku</b>	Back EMF constant (*)	Vrms/(rad/s)	73.4	53.2	36.7	18.3
<b>Km</b>	Motor constant	Nm/√W	44.1	42.8	44.1	44.1
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	5.62	3.14	1.40	0.351
<b>Ld/Lq</b>	Electrical inductance (*)	mH	90.7 / 72.8	47.7 / 39.0	22.7 / 18.7	5.67 / 4.66
<b>Isc</b>	Maximum short-circuit current	Arms	21.2	29.3	42.5	85.0
<b>nb</b>	Base speed	rpm	29.0	49.8	83.4	192
<b>nb,i</b>	Base speed at intermittent duty cycle	rpm	10.3	31.3	64.1	161
<b>nb,p</b>	Base speed at peak duty cycle	rpm	6.13	20.2	43.8	107
<b>nn</b>	Rated speed	rpm	22.7	42.1	73.0	177
<b>Tn</b>	Rated torque	Nm	2770	2280	1900	1220
<b>In</b>	Rated current	Arms	27.1	29.1	34.0	43.5
<b>rth</b>	Thermal time constant	s	127	125	127	127
<b>Rth</b>	Thermal resistance	K/W	0.00847	0.00859	0.00847	0.00847
<b>2p</b>	Number of poles	-	88	88	88	88
<b>J</b>	Rotor inertia	kg·m²	1.41	1.41	1.41	1.41
<b>mr</b>	Rotor mass	kg	29.2	29.2	29.2	29.2
<b>ms</b>	Stator mass	kg	110	109	110	110

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	0.450	0.450	0.450	0.450
<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	37	36	32	32
<b>Δpw</b>	Max. pressure drop at qw	bar	2.9	2.8	2.3	2.3

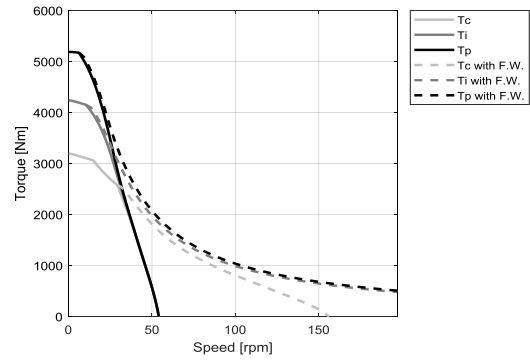
**Notes:** (\*) terminal to terminal.  
Hypotheses and tolerances are in ETEL Integration Manual.  
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

**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.

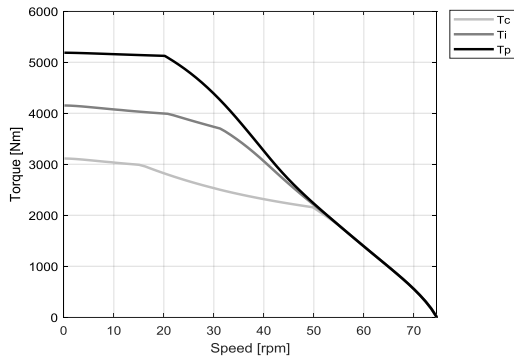
**WB - WATER COOLING**



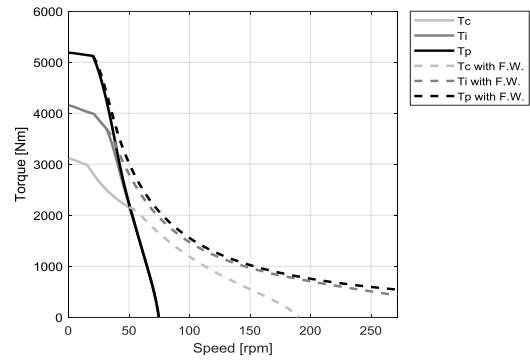
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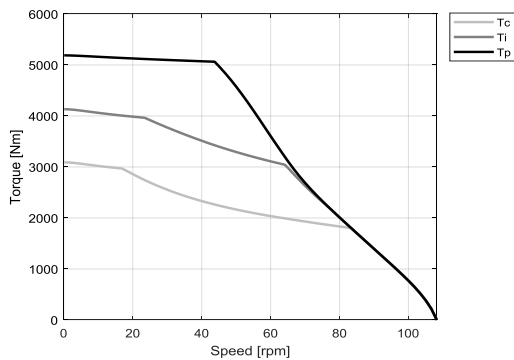
**UD - WATER COOLING**



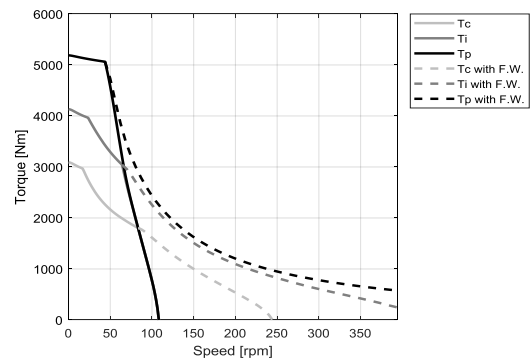
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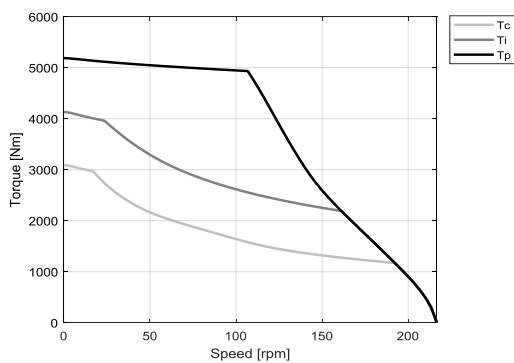
**WD - WATER COOLING**



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**WH - WATER COOLING**



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