

MOTOR PERFORMANCE		Winding codes	RA	RB	TB	VB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	67.7	67.7	67.8	67.8
Ti	Intermittent torque	Nm	46.3	46.3	46.7	47.7
Tc	Continuous torque	Nm	33.0	33.0	33.3	34.2
Ts	Standstill torque	Nm	26.1	26.1	26.4	27.1
Ip	Peak current	Arms	15.1	30.2	46.1	70.4
Ii	Intermittent current	Arms	8.23	16.5	25.4	40.2
Ic	Continuous current	Arms	5.20	10.4	16.1	25.4
Is	Standstill current	Arms	3.94	7.88	12.2	19.2
ns	Rated low speed	rpm	0.60	0.60	0.58	0.59
nm	Maximum speed without flux weakening	rpm	923	1850	2830	3370
nm,FW	Maximum speed with flux weakening	rpm	2140	3080	3370	3370
ton,p	Maximum ON time for peak cycle	s	6.6	6.6	7.1	7.6
ton,i	Maximum ON time for intermittent cycle	s	3.0	3.0	3.0	3.0
Pp	Power dissipation @ Ip	W	4710	4710	4530	4430
Pi	Power dissipation @ Ii	W	1740	1740	1720	1810
Pc	Power dissipation @ Ic	W	694	694	687	723
Td	Max. detent torque (average to peak)	Nm	0.50	0.50	0.50	0.50

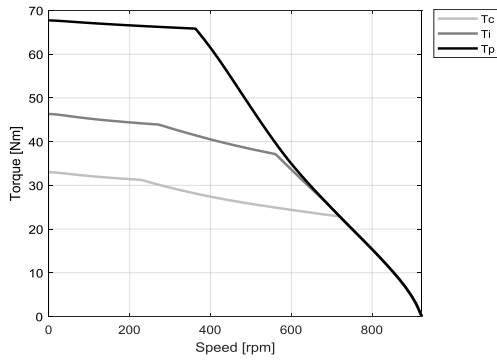
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	7.47	3.73	2.44	1.60
Ku	Back EMF constant (*)	Vrms/(rad/s)	4.30	2.15	1.41	0.922
Km	Motor constant	Nm/√W	1.76	1.76	1.79	1.80
R20	Electrical resistance at 20°C (*)	Ohm	12.0	3.00	1.24	0.525
Ld/Lq	Electrical inductance (*)	mH	90.3 / 84.4	22.6 / 21.1	9.67 / 9.01	4.14 / 3.83
Isc	Maximum short-circuit current	Arms	5.00	10.0	15.3	23.4
nb	Base speed	rpm	720	1640	2760	N/A
nb,i	Base speed at intermittent duty cycle	rpm	561	1380	2290	N/A
nb,p	Base speed at peak duty cycle	rpm	363	873	1400	2200
nn	Rated speed	rpm	629	1510	2010	2020
Tn	Rated torque	Nm	24.0	16.0	13.1	13.1
In	Rated current	Arms	3.80	5.07	6.51	9.93
rth	Thermal time constant	s	90.8	90.8	93.8	92.4
Rth	Thermal resistance	K/W	0.153	0.153	0.155	0.147
2p	Number of poles	-	22	22	22	22
J	Rotor inertia	kg·m²	0.00273	0.00273	0.00273	0.00273
mr	Rotor mass	kg	1.00	1.00	1.00	1.00
ms	Stator mass	kg	7.68	7.68	7.74	7.77

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600	600	600
Di	Intermittent duty cycle	%	40	40	40	40
Dp	Peak duty cycle	%	5.0	5.0	5.0	5.0
Sr	Rotor exchange surface	m²	0.026	0.026	0.026	0.026
θamb	Ambient temperature	°C	20	20	20	20
θmax	Maximum coil temperature	°C	130	130	130	130
θw	Inlet water temperature	°C	20	20	20	20
Δθw	Water temperature difference for Pc	K	5.0	5.0	5.0	5.0
qw	Minimum water flow for Δθw	l/min	2.2	2.2	2.1	2.3
Δpw	Max. pressure drop at qw	bar	0.1	0.1	0.1	0.1

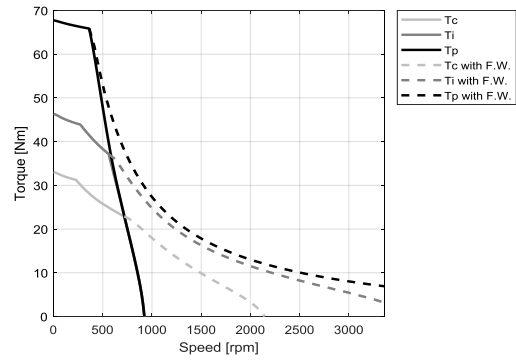
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

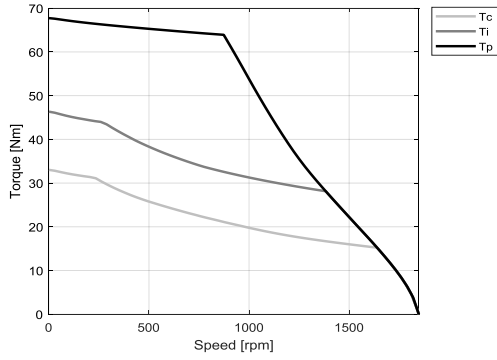
RA - WATER COOLING



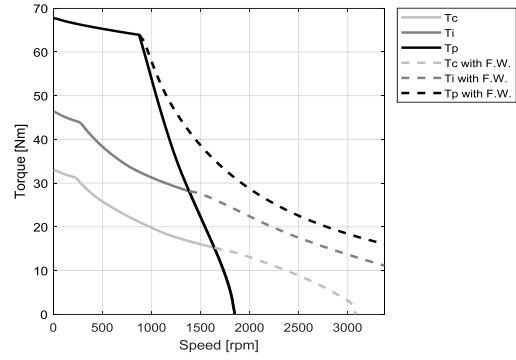
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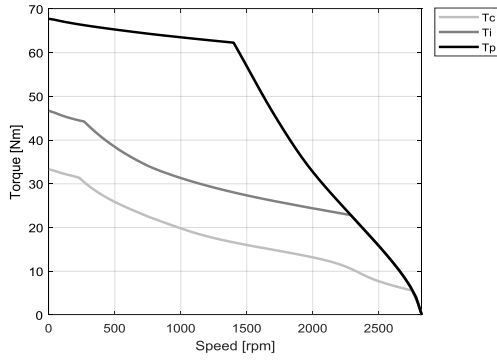
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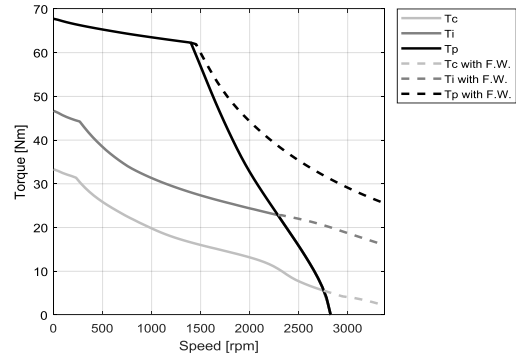
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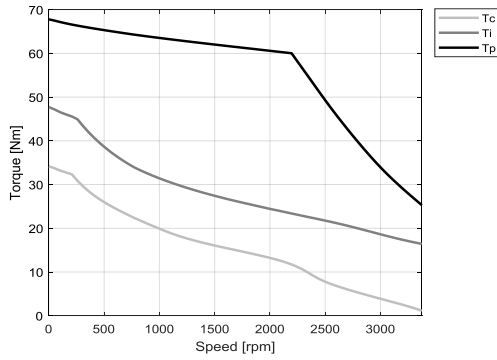
TB - WATER COOLING



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