

MOTOR PERFORMANCE		Winding codes	RA	RB	TB	VB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	118	118	118	118
Ti	Intermittent torque	Nm	84.9	84.9	85.7	87.7
Tc	Continuous torque	Nm	60.0	60.0	60.7	62.4
Ts	Standstill torque	Nm	47.1	47.1	47.7	49.2
Ip	Peak current	Arms	14.3	28.5	43.6	66.6
Ii	Intermittent current	Arms	8.76	17.5	27.1	42.9
Ic	Continuous current	Arms	5.54	11.1	17.2	27.1
Is	Standstill current	Arms	4.20	8.39	13.0	20.6
ns	Rated low speed	rpm	0.68	0.68	0.66	0.67
nm	Maximum speed without flux weakening	rpm	554	1110	1690	2590
nm,FW	Maximum speed with flux weakening	rpm	1250	2050	2480	2770
ton,p	Maximum ON time for peak cycle	s	8.0	8.0	8.7	9.2
ton,i	Maximum ON time for intermittent cycle	s	3.0	3.0	3.0	2.9
Pp	Power dissipation @ Ip	W	5640	5640	5410	5280
Pi	Power dissipation @ Ii	W	2710	2710	2680	2820
Pc	Power dissipation @ Ic	W	1080	1080	1070	1130
Td	Max. detent torque (average to peak)	Nm	0.84	0.84	0.84	0.84

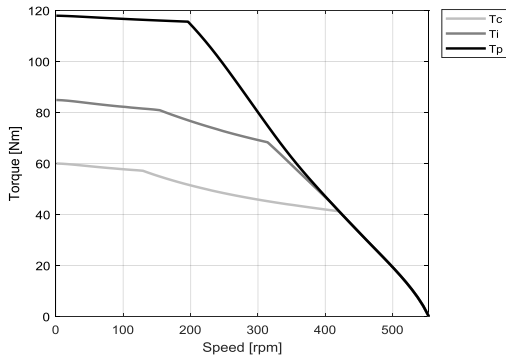
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	12.5	6.24	4.08	2.67
Ku	Back EMF constant (*)	Vrms/(rad/s)	7.17	3.59	2.35	1.54
Km	Motor constant	Nm/√W	2.50	2.50	2.55	2.58
R20	Electrical resistance at 20°C (*)	Ohm	16.6	4.14	1.71	0.718
Ld/Lq	Electrical inductance (*)	mH	139 / 129	34.8 / 32.1	14.9 / 13.7	6.38 / 5.82
Isc	Maximum short-circuit current	Arms	5.41	10.8	16.5	25.3
nb	Base speed	rpm	419	977	1570	2570
nb,i	Base speed at intermittent duty cycle	rpm	314	834	1370	2260
nb,p	Base speed at peak duty cycle	rpm	196	532	874	1390
nn	Rated speed	rpm	362	897	1460	1530
Tn	Rated torque	Nm	43.3	28.7	22.2	21.4
In	Rated current	Arms	4.00	5.31	6.48	9.59
rth	Thermal time constant	s	79.7	79.7	82.1	81.0
Rth	Thermal resistance	K/W	0.0969	0.0969	0.0980	0.0929
2p	Number of poles	-	22	22	22	22
J	Rotor inertia	kg·m²	0.00458	0.00458	0.00458	0.00458
mr	Rotor mass	kg	1.69	1.69	1.69	1.69
ms	Stator mass	kg	10.1	10.1	10.2	10.2

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	0.037	0.037	0.037	0.037
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	3.4	3.4	3.3	3.5
Δpw	Max. pressure drop at qw	bar	0.1	0.1	0.1	0.1

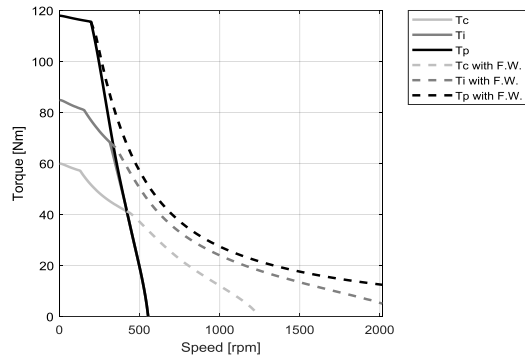
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

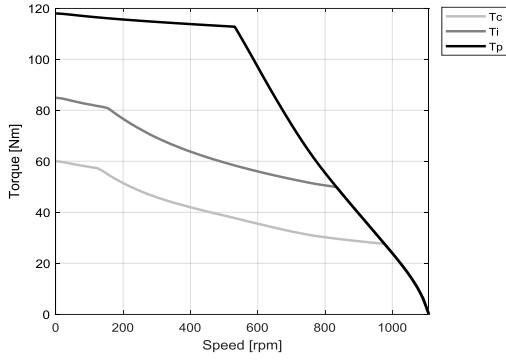
RA - WATER COOLING



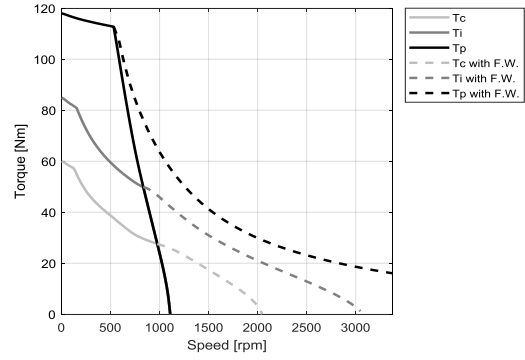
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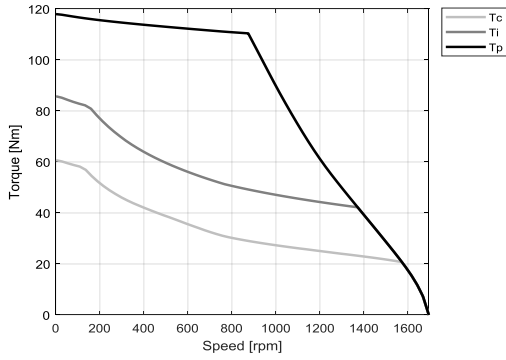
RB - WATER COOLING



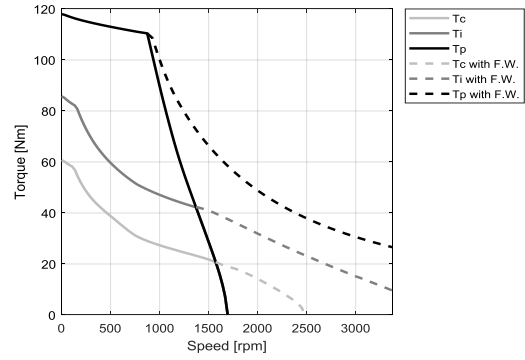
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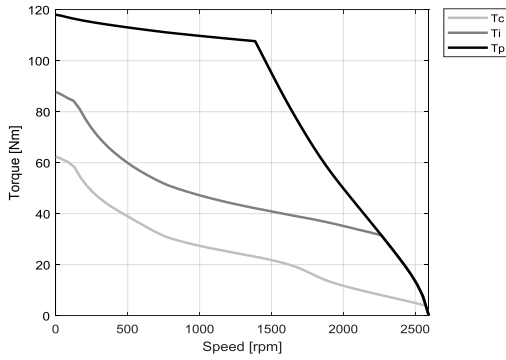
TB - WATER COOLING



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