

MOTOR PERFORMANCE		Winding codes	RA	TA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	460	461	461	460
Ti	Intermittent torque	Nm	370	386	386	371
Tc	Continuous torque	Nm	259	272	272	259
Ts	Standstill torque	Nm	202	213	213	202
Ip	Peak current	Arms	16.4	23.7	47.4	65.4
Ii	Intermittent current	Arms	12.4	19.0	38.0	49.6
Ic	Continuous current	Arms	7.82	12.0	24.0	31.3
Is	Standstill current	Arms	5.93	9.11	18.2	23.7
ns	Rated low speed	rpm	0.64	0.62	0.62	0.64
nm	Maximum speed without flux weakening	rpm	189	274	547	756
nm,FW	Maximum speed with flux weakening	rpm	430	583	962	1220
ton,p	Maximum ON time for peak cycle	s	6.5	8.0	8.0	6.4
ton,i	Maximum ON time for intermittent cycle	s	2.7	2.7	2.7	2.7
Pp	Power dissipation @ Ip	W	11300	10200	10200	11200
Pi	Power dissipation @ Ii	W	8400	8590	8590	8370
Pc	Power dissipation @ Ic	W	3360	3440	3440	3350
Td	Max. detent torque (average to peak)	Nm	2.1	2.1	2.1	2.1

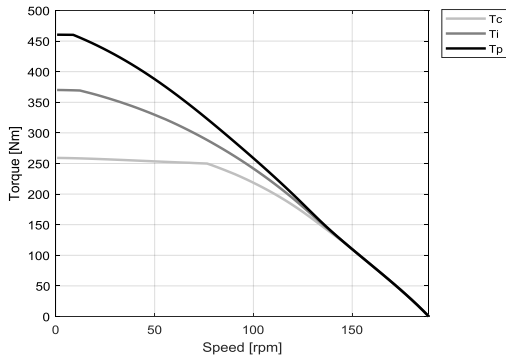
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	36.7	25.3	12.7	9.18
Ku	Back EMF constant (*)	Vrms/(rad/s)	21.0	14.5	7.25	5.25
Km	Motor constant	Nm/√W	5.85	6.14	6.14	5.87
R20	Electrical resistance at 20°C (*)	Ohm	26.2	11.3	2.84	1.63
Ld/Lq	Electrical inductance (*)	mH	120 / 108	57.2 / 50.6	14.3 / 12.7	7.49 / 6.72
Isc	Maximum short-circuit current	Arms	9.20	13.3	26.6	36.8
nb	Base speed	rpm	76.5	195	472	681
nb,i	Base speed at intermittent duty cycle	rpm	12.1	98.8	407	608
nb,p	Base speed at peak duty cycle	rpm	8.81	99.0	298	436
nn	Rated speed	rpm	58.3	160	431	627
Tn	Rated torque	Nm	252	218	149	124
In	Rated current	Arms	7.79	9.73	13.3	15.5
rth	Thermal time constant	s	42.5	44.0	44.0	42.7
Rth	Thermal resistance	K/W	0.0294	0.0288	0.0288	0.0294
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.0303	0.0303	0.0303	0.0303
mr	Rotor mass	kg	5.08	5.08	5.08	5.08
ms	Stator mass	kg	14.4	14.6	14.6	14.5

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	0.100	0.100	0.100	0.100
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	11	11	11	10
Δpw	Max. pressure drop at qw	bar	0.6	0.6	0.6	0.6

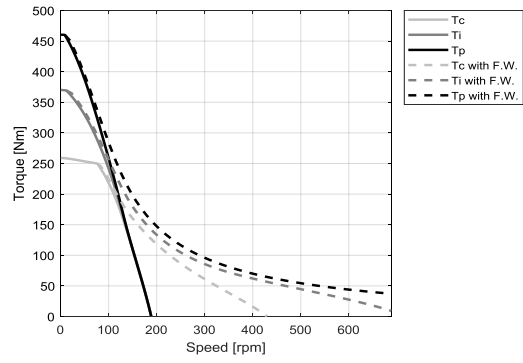
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

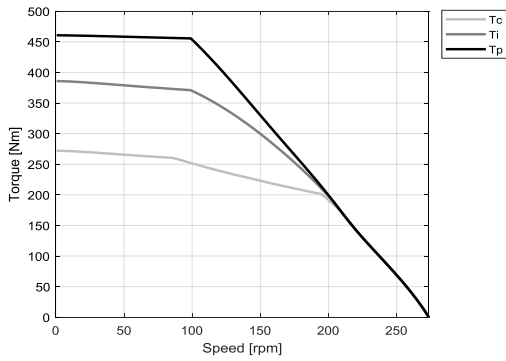
RA - WATER COOLING



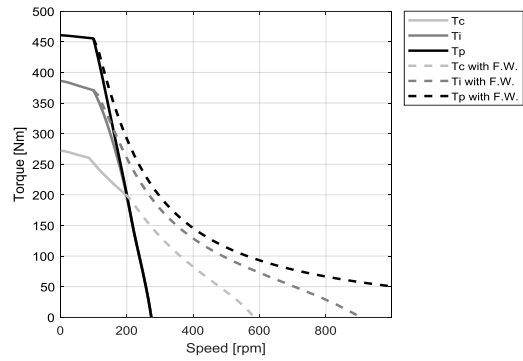
RA - WATER COOLING



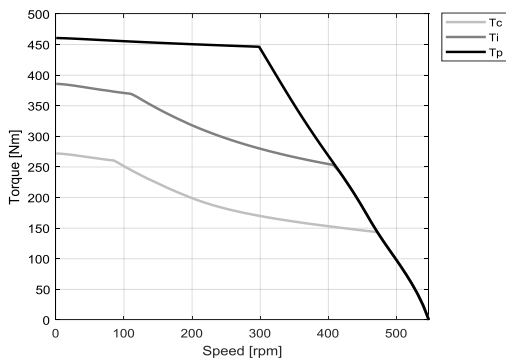
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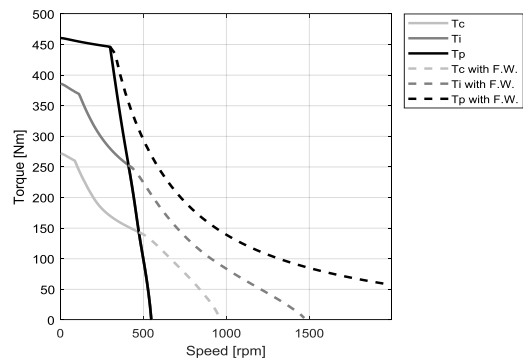
TA - WATER COOLING



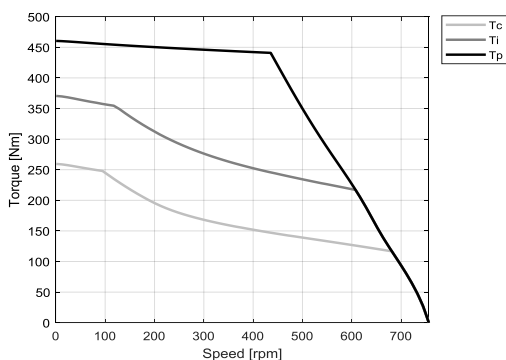
TB - WATER COOLING



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UB - WATER COOLING



UB - WATER COOLING

