

MOTOR PERFORMANCE		Winding codes	RA	UA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	685	710	711	710
Ti	Intermittent torque	Nm	528	518	534	518
Tc	Continuous torque	Nm	363	354	368	354
Ts	Standstill torque	Nm	279	272	284	272
Ip	Peak current	Arms	17.7	38.5	56.7	77.0
Ii	Intermittent current	Arms	12.8	25.6	39.4	51.3
Ic	Continuous current	Arms	8.09	16.2	24.9	32.4
Is	Standstill current	Arms	6.13	12.3	18.9	24.6
ns	Rated low speed	rpm	0.45	0.45	0.44	0.45
nm	Maximum speed without flux weakening	rpm	141	290	427	581
nm,FW	Maximum speed with flux weakening	rpm	310	530	685	858
ton,p	Maximum ON time for peak cycle	s	5.6	4.4	5.2	4.4
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.7	2.8	2.7
Pp	Power dissipation @ Ip	W	12700	14900	13700	14900
Pi	Power dissipation @ Ii	W	8630	8430	8510	8430
Pc	Power dissipation @ Ic	W	3450	3370	3400	3370
Td	Max. detent torque (average to peak)	Nm	1.8	1.8	1.8	1.8

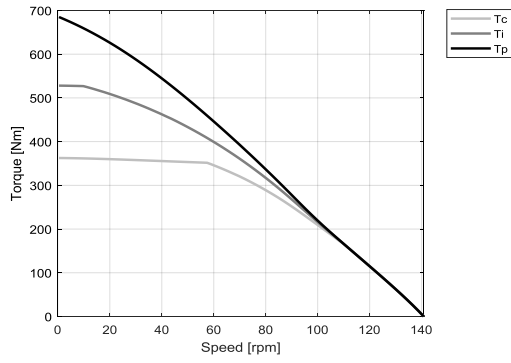
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	49.0	23.8	16.2	11.9
Ku	Back EMF constant (*)	Vrms/(rad/s)	28.1	13.7	9.29	6.84
Km	Motor constant	Nm/√W	8.01	7.88	8.19	7.88
R20	Electrical resistance at 20°C (*)	Ohm	25.0	6.09	2.60	1.52
Ld/Lq	Electrical inductance (*)	mH	93.8 / 86.3	22.2 / 20.5	10.2 / 9.38	5.55 / 5.13
Isc	Maximum short-circuit current	Arms	10.5	21.6	31.8	43.2
nb	Base speed	rpm	57.5	231	372	538
nb,i	Base speed at intermittent duty cycle	rpm	9.84	166	320	472
nb,p	Base speed at peak duty cycle	rpm	0.00	115	220	318
nn	Rated speed	rpm	43.8	200	338	444
Tn	Rated torque	Nm	355	255	207	168
In	Rated current	Arms	8.06	12.1	14.7	16.4
rth	Thermal time constant	s	40.3	40.1	41.2	40.1
Rth	Thermal resistance	K/W	0.0294	0.0299	0.0298	0.0299
2p	Number of poles	-	66	66	66	66
J	Rotor inertia	kg·m²	0.0887	0.0887	0.0887	0.0887
mr	Rotor mass	kg	6.36	6.36	6.36	6.36
ms	Stator mass	kg	15.3	15.4	15.5	15.4

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	0.110	0.110	0.110	0.110
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	11
Δpw	Max. pressure drop at qw	bar	0.5	0.5	0.5	0.5

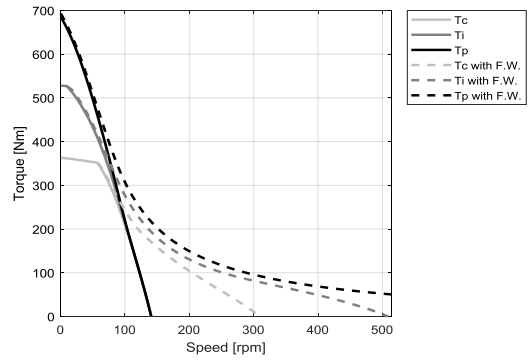
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

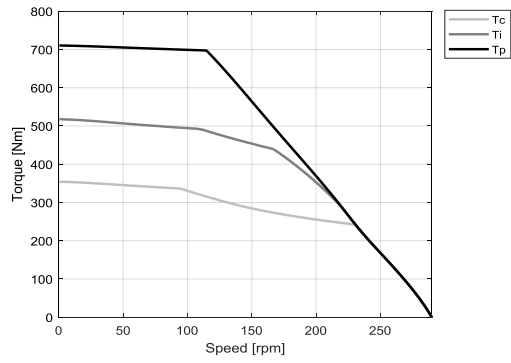
RA - WATER COOLING



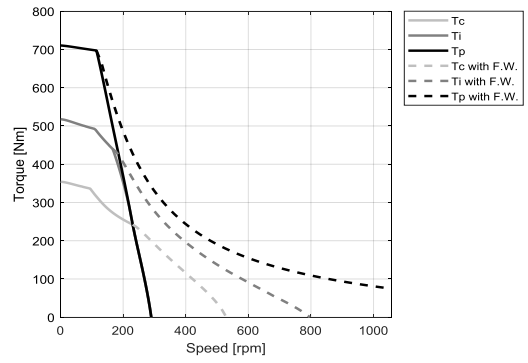
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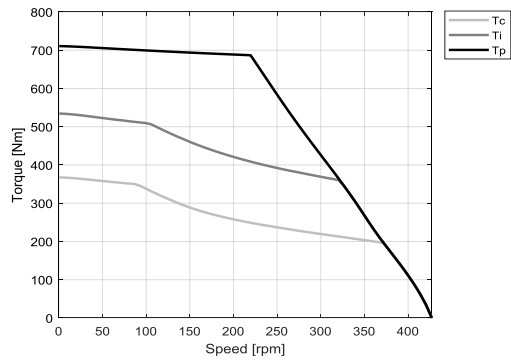
UA - WATER COOLING



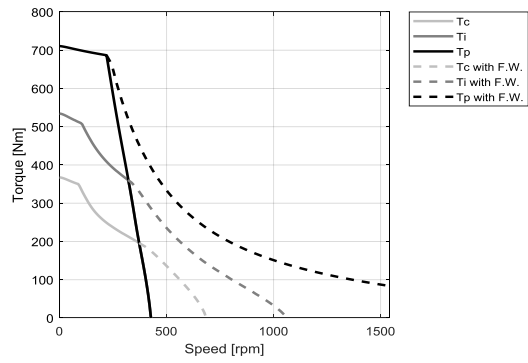
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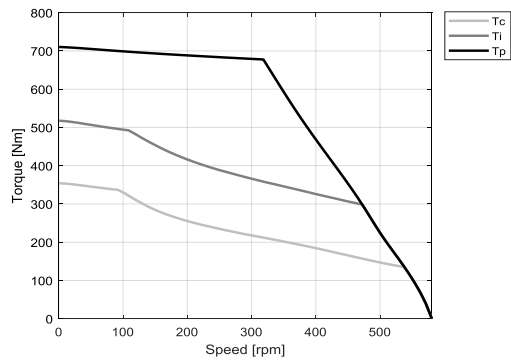
TB - WATER COOLING



TB - WATER COOLING



UB - WATER COOLING



UB - WATER COOLING

