

MOTOR PERFORMANCE		Winding codes	RA	TA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	128	128	128	128
Ti	Intermittent torque	Nm	94.6	98.1	98.1	94.0
Tc	Continuous torque	Nm	66.2	69.1	69.1	65.7
Ts	Standstill torque	Nm	51.5	54.0	54.0	51.0
Ip	Peak current	Arms	17.3	25.0	50.1	69.1
Ii	Intermittent current	Arms	11.3	17.2	34.3	44.6
Ic	Continuous current	Arms	7.12	10.9	21.7	28.2
Is	Standstill current	Arms	5.40	8.23	16.5	21.4
ns	Rated low speed	rpm	0.53	0.51	0.51	0.53
nm	Maximum speed without flux weakening	rpm	678	983	1970	2330
nm,FW	Maximum speed with flux weakening	rpm	1690	2060	2330	2330
ton,p	Maximum ON time for peak cycle	s	5.9	7.0	7.0	5.7
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.9	2.9	2.8
Pp	Power dissipation @ Ip	W	4970	4550	4550	5060
Pi	Power dissipation @ Ii	W	2720	2790	2790	2720
Pc	Power dissipation @ Ic	W	1090	1110	1110	1090
Td	Max. detent torque (average to peak)	Nm	0.58	0.58	0.58	0.58

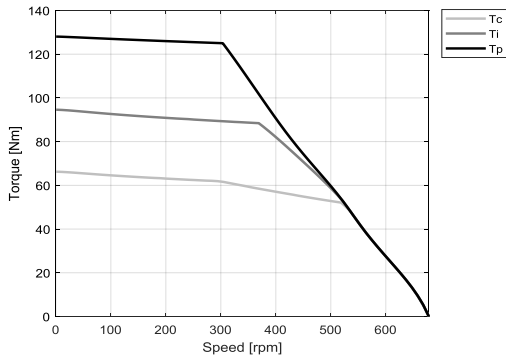
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	10.2	7.05	3.52	2.55
Ku	Back EMF constant (*)	Vrms/(rad/s)	5.85	4.04	2.02	1.46
Km	Motor constant	Nm/√W	2.63	2.73	2.73	2.61
R20	Electrical resistance at 20°C (*)	Ohm	10.0	4.43	1.11	0.639
Ld/Lq	Electrical inductance (*)	mH	39.7 / 35.9	18.9 / 16.9	4.73 / 4.24	2.48 / 2.25
Isc	Maximum short-circuit current	Arms	7.74	11.2	22.4	31.0
nb	Base speed	rpm	519	817	1850	N/A
nb,i	Base speed at intermittent duty cycle	rpm	369	644	1560	N/A
nb,p	Base speed at peak duty cycle	rpm	304	504	1100	1540
nn	Rated speed	rpm	447	734	1380	1370
Tn	Rated torque	Nm	55.0	46.0	32.7	32.4
In	Rated current	Arms	6.18	7.53	11.2	15.3
rth	Thermal time constant	s	51.5	53.6	53.6	51.9
Rth	Thermal resistance	K/W	0.0971	0.0948	0.0948	0.0972
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.00908	0.00908	0.00908	0.00908
mr	Rotor mass	kg	1.52	1.52	1.52	1.52
ms	Stator mass	kg	6.45	6.54	6.54	6.49

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	0.038	0.038	0.038	0.038
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	3.5	3.5	3.4
Δpw	Max. pressure drop at qw	bar	0.1	0.1	0.1	0.1

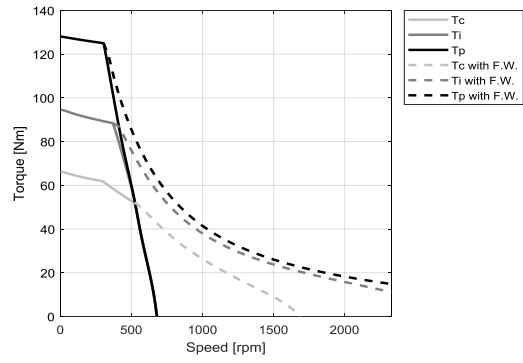
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

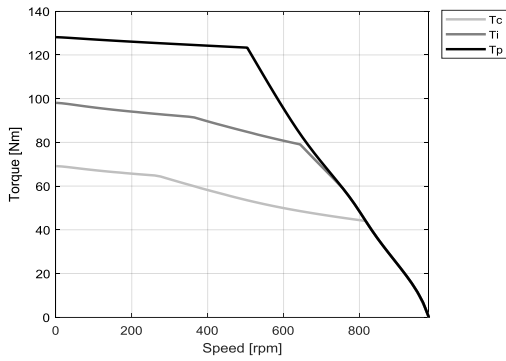
RA - WATER COOLING



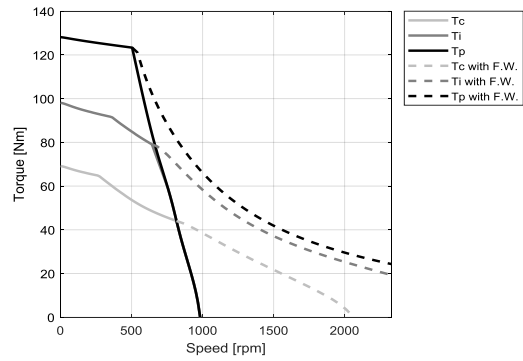
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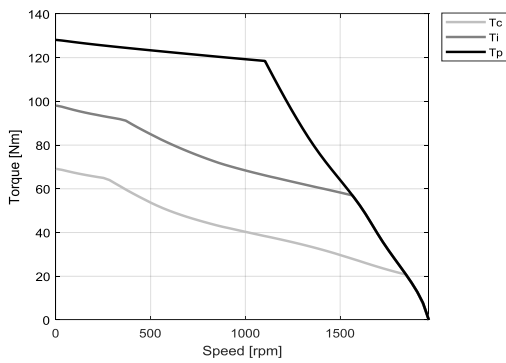
TA - WATER COOLING



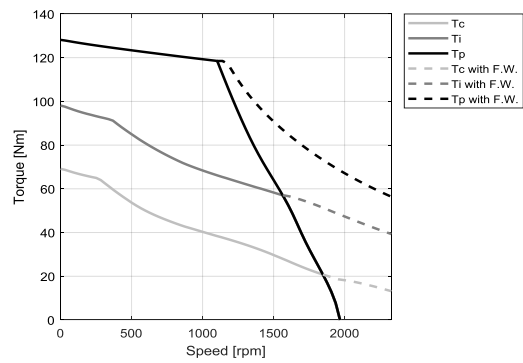
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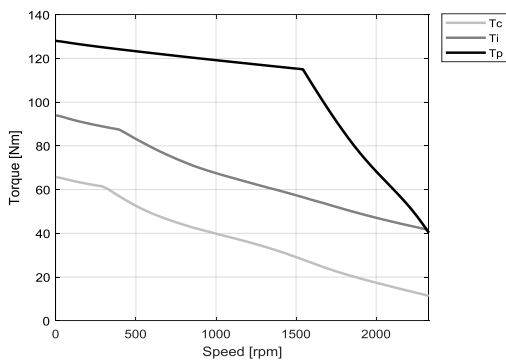
TB - WATER COOLING



TB - WATER COOLING



UB - WATER COOLING



UB - WATER COOLING

