

MOTOR PERFORMANCE		Winding codes	TA	VA	VB	TF
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	990	1030	1030	1030
Ti	Intermittent torque	Nm	811	770	770	811
Tc	Continuous torque	Nm	596	560	560	596
Ts	Standstill torque	Nm	478	447	447	478
Ip	Peak current	Arms	20.3	39.7	79.4	132
Ii	Intermittent current	Arms	14.9	24.7	49.5	89.6
Ic	Continuous current	Arms	9.45	15.6	31.3	56.7
Is	Standstill current	Arms	7.16	11.9	23.7	42.9
ns	Rated low speed	rpm	0.21	0.22	0.22	0.21
nm	Maximum speed without flux weakening	rpm	89.7	162	323	540
nm,FW	Maximum speed with flux weakening	rpm	279	405	637	839
ton,p	Maximum ON time for peak cycle	s	11	6.5	6.5	9.0
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.8	2.8	2.9
Pp	Power dissipation @ Ip	W	14600	20400	20400	17400
Pi	Power dissipation @ Ii	W	10300	10100	10100	10300
Pc	Power dissipation @ Ic	W	4140	4040	4040	4140
Td	Max. detent torque (average to peak)	Nm	2.7	2.7	2.7	2.7

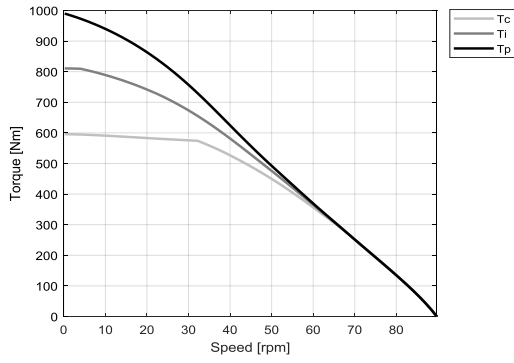
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	76.7	42.6	21.3	12.8
Ku	Back EMF constant (*)	Vrms/(rad/s)	44.2	24.6	12.3	7.37
Km	Motor constant	Nm/√W	13.4	12.5	12.5	13.4
R20	Electrical resistance at 20°C (*)	Ohm	21.8	7.77	1.94	0.606
Ld/Lq	Electrical inductance (*)	mH	207 / 180	63.7 / 57.2	15.9 / 14.3	5.74 / 5.01
Isc	Maximum short-circuit current	Arms	7.49	13.5	27.0	44.9
nb	Base speed	rpm	32.2	106	271	499
nb,i	Base speed at intermittent duty cycle	rpm	4.01	62.7	215	417
nb,p	Base speed at peak duty cycle	rpm	0.00	41.2	143	273
nn	Rated speed	rpm	24.6	89.2	244	432
Tn	Rated torque	Nm	580	453	306	225
In	Rated current	Arms	9.40	12.6	16.4	20.6
rth	Thermal time constant	s	84.9	81.5	81.5	84.9
Rth	Thermal resistance	K/W	0.0251	0.0256	0.0256	0.0251
2p	Number of poles	-	66	66	66	66
J	Rotor inertia	kg·m²	0.152	0.152	0.152	0.152
mr	Rotor mass	kg	7.66	7.66	7.66	7.66
ms	Stator mass	kg	32.2	31.7	31.7	32.2

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	0.150	0.150	0.150	0.150
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	13	13	13	13
Δpw	Max. pressure drop at qw	bar	0.5	0.5	0.5	0.5

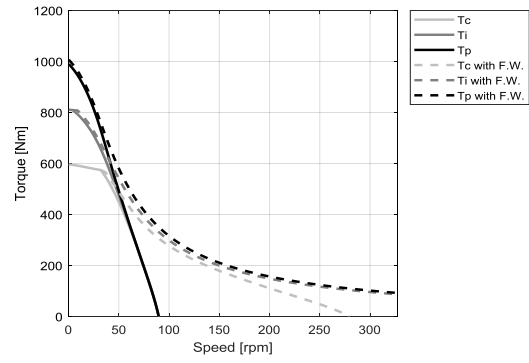
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

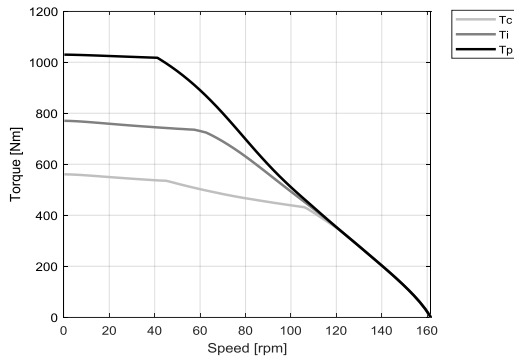
TA - WATER COOLING



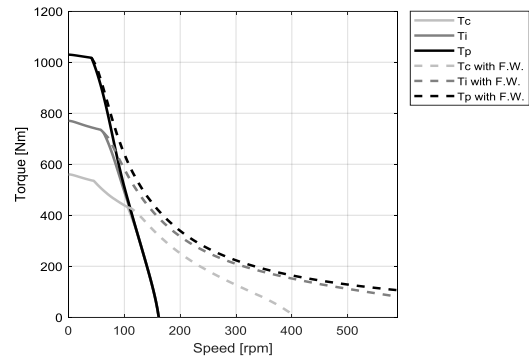
TA - WATER COOLING



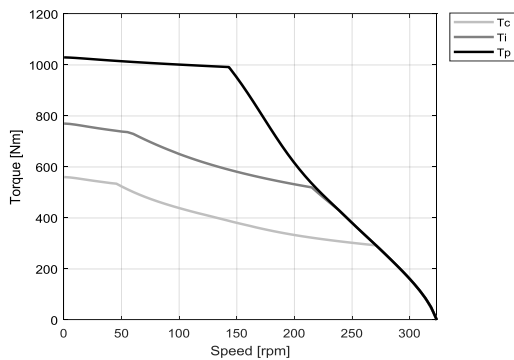
VA - WATER COOLING



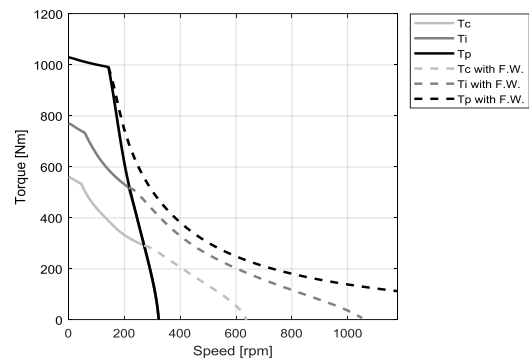
VA - WATER COOLING



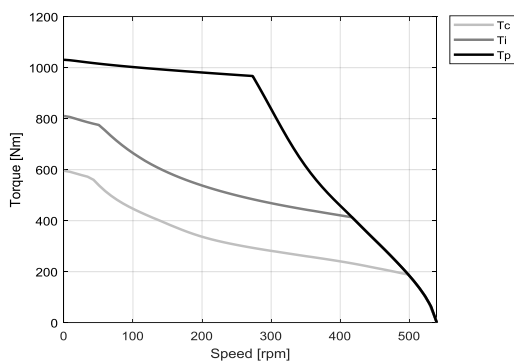
VB - WATER COOLING



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