

MOTOR PERFORMANCE		Winding codes	TA	UA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	698	697	698	697
Ti	Intermittent torque	Nm	578	554	578	554
Tc	Continuous torque	Nm	406	387	406	387
Ts	Standstill torque	Nm	317	301	317	301
Ip	Peak current	Arms	23.6	32.6	47.2	65.2
Ii	Intermittent current	Arms	18.7	24.3	37.3	48.7
Ic	Continuous current	Arms	11.8	15.4	23.6	30.8
Is	Standstill current	Arms	8.94	11.7	17.9	23.3
ns	Rated low speed	rpm	0.61	0.62	0.61	0.62
nm	Maximum speed without flux weakening	rpm	180	249	361	499
nm,FW	Maximum speed with flux weakening	rpm	403	515	683	850
ton,p	Maximum ON time for peak cycle	s	6.8	5.4	6.8	5.4
ton,i	Maximum ON time for intermittent cycle	s	2.7	2.7	2.7	2.7
Pp	Power dissipation @ Ip	W	14700	16200	14700	16200
Pi	Power dissipation @ Ii	W	11800	11500	11800	11500
Pc	Power dissipation @ Ic	W	4740	4600	4740	4600
Td	Max. detent torque (average to peak)	Nm	3.2	3.2	3.2	3.2

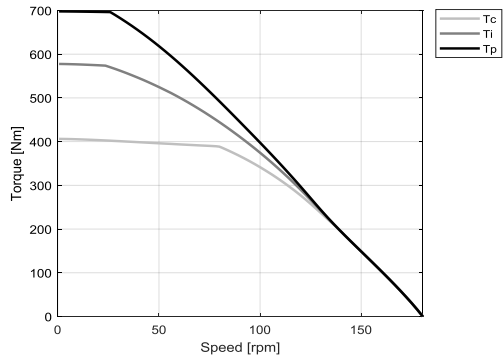
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	38.4	27.8	19.2	13.9
Ku	Back EMF constant (*)	Vrms/(rad/s)	22.0	15.9	11.0	7.96
Km	Motor constant	Nm/√W	7.72	7.38	7.72	7.38
R20	Electrical resistance at 20°C (*)	Ohm	16.5	9.46	4.12	2.36
Ld/Lq	Electrical inductance (*)	mH	86.0 / 76.4	45.1 / 40.6	21.5 / 19.1	11.3 / 10.1
Isc	Maximum short-circuit current	Arms	13.4	18.5	26.8	37.1
nb	Base speed	rpm	79.8	171	294	428
nb,i	Base speed at intermittent duty cycle	rpm	23.5	84.7	229	367
nb,p	Base speed at peak duty cycle	rpm	26.0	73.5	170	260
nn	Rated speed	rpm	62.3	138	262	389
Tn	Rated torque	Nm	393	324	258	221
In	Rated current	Arms	11.7	13.1	15.0	18.0
rth	Thermal time constant	s	45.0	43.7	45.0	43.7
Rth	Thermal resistance	K/W	0.0196	0.0200	0.0196	0.0200
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.0457	0.0457	0.0457	0.0457
mr	Rotor mass	kg	7.67	7.67	7.67	7.67
ms	Stator mass	kg	21.2	21.0	21.2	21.0

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	0.140	0.140	0.140	0.140
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	15	14	15	14
Δpw	Max. pressure drop at qw	bar	1.1	1.0	1.1	1.0

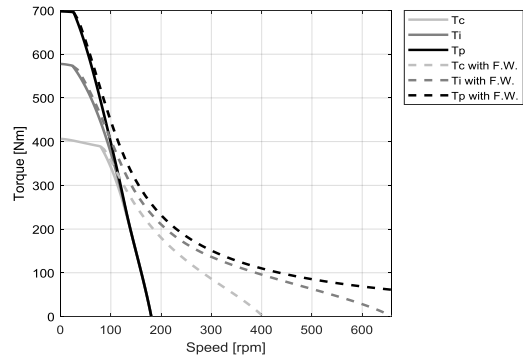
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

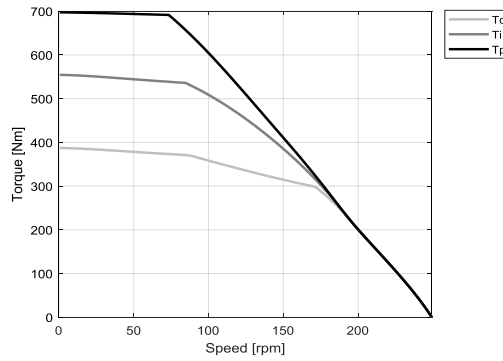
TA - WATER COOLING



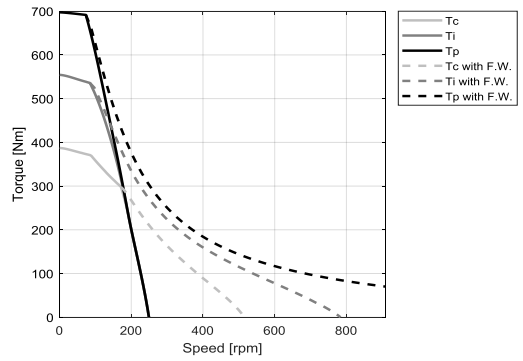
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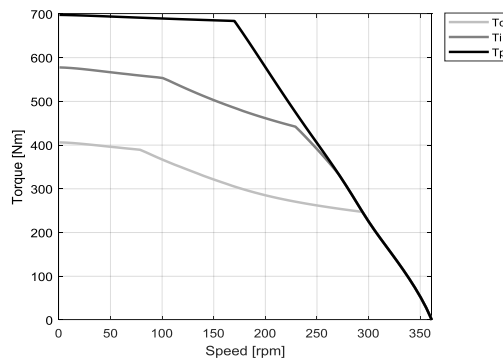
UA - WATER COOLING



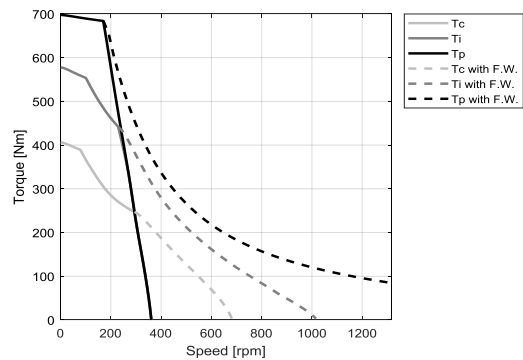
UA - WATER COOLING



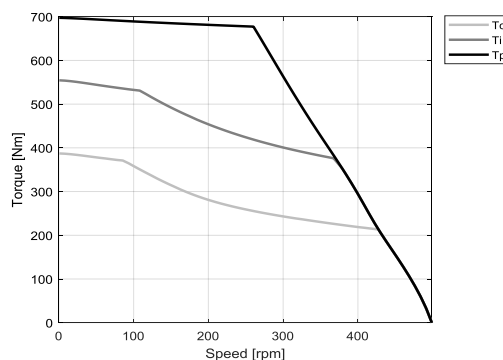
TB - WATER COOLING



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UB - WATER COOLING



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