

MOTOR PERFORMANCE		Winding codes	SA	UA	UB	UD
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	434	434	434	434
Ti	Intermittent torque	Nm	342	346	346	346
Tc	Continuous torque	Nm	248	251	251	251
Ts	Standstill torque	Nm	198	201	201	201
Ip	Peak current	Arms	15.3	23.9	47.8	95.6
Ii	Intermittent current	Arms	10.6	17.0	33.9	67.8
Ic	Continuous current	Arms	6.73	10.7	21.4	42.9
Is	Standstill current	Arms	5.10	8.12	16.2	32.5
ns	Rated low speed	rpm	0.28	0.28	0.28	0.28
nm	Maximum speed without flux weakening	rpm	155	243	486	973
nm,FW	Maximum speed with flux weakening	rpm	466	601	959	1290
ton,p	Maximum ON time for peak cycle	s	12	13	13	13
ton,i	Maximum ON time for intermittent cycle	s	3.0	2.9	2.9	2.9
Pp	Power dissipation @ Ip	W	8810	8610	8610	8610
Pi	Power dissipation @ Ii	W	5560	5660	5660	5660
Pc	Power dissipation @ Ic	W	2220	2270	2270	2270
Td	Max. detent torque (average to peak)	Nm	1.9	1.9	1.9	1.9

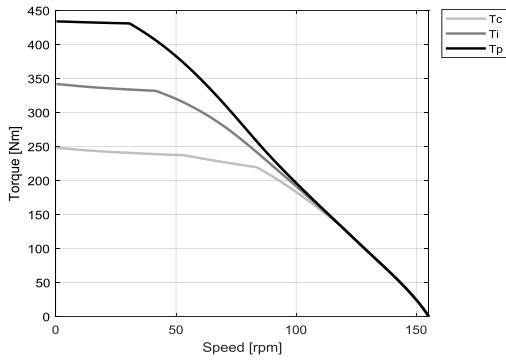
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	44.5	28.5	14.2	7.12
Ku	Back EMF constant (*)	Vrms/(rad/s)	25.6	16.4	8.18	4.09
Km	Motor constant	Nm/√W	7.58	7.65	7.65	7.65
R20	Electrical resistance at 20°C (*)	Ohm	23.0	9.25	2.31	0.578
Ld/Lq	Electrical inductance (*)	mH	234 / 204	95.8 / 83.0	24.0 / 20.7	5.99 / 5.19
Isc	Maximum short-circuit current	Arms	5.74	8.97	17.9	35.9
nb	Base speed	rpm	83.5	172	414	943
nb,i	Base speed at intermittent duty cycle	rpm	41.5	123	339	795
nb,p	Base speed at peak duty cycle	rpm	30.6	94.5	244	532
nn	Rated speed	rpm	66.4	148	373	726
Tn	Rated torque	Nm	229	193	136	87.7
In	Rated current	Arms	6.39	8.08	11.0	14.7
rth	Thermal time constant	s	97.7	98.1	98.1	98.1
Rth	Thermal resistance	K/W	0.0473	0.0464	0.0464	0.0464
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.0405	0.0405	0.0405	0.0405
mr	Rotor mass	kg	3.54	3.54	3.54	3.54
ms	Stator mass	kg	17.5	17.5	17.5	17.5

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	0.082	0.082	0.082	0.082
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	6.9	7.1	7.1	7.1
Δpw	Max. pressure drop at qw	bar	0.3	0.3	0.3	0.3

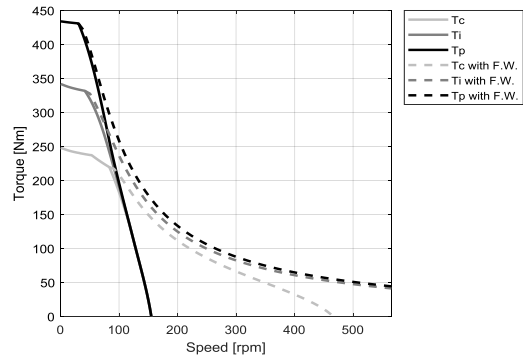
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

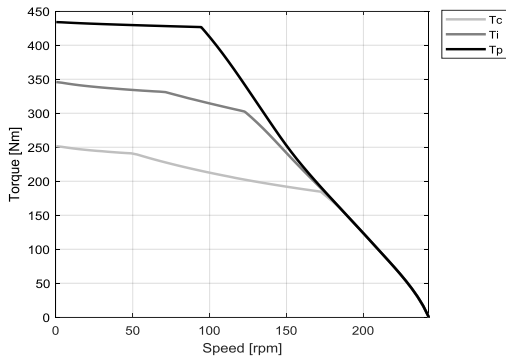
SA - WATER COOLING



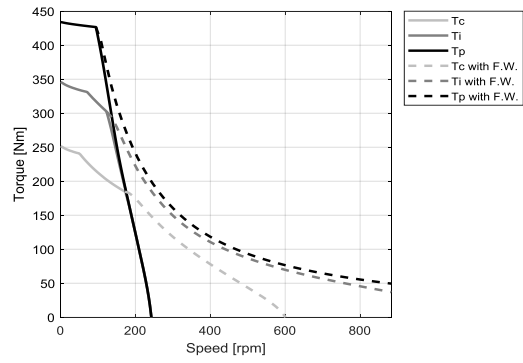
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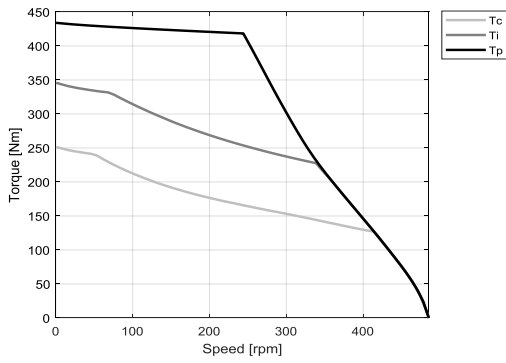
UA - WATER COOLING



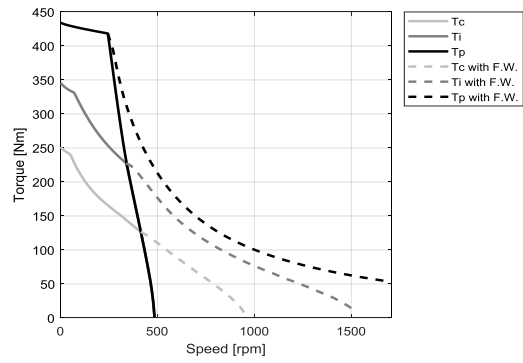
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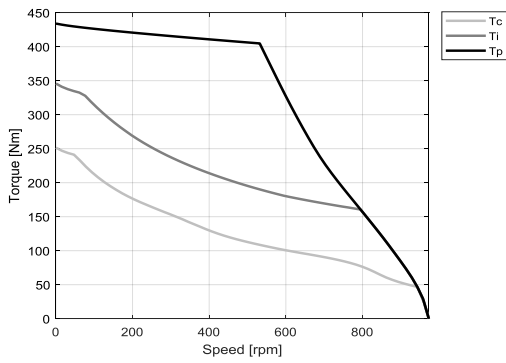
UB - WATER COOLING



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UD - WATER COOLING



UD - WATER COOLING

