

MOTOR PERFORMANCE		Winding codes	UA	SB	UB	UD
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	869	868	869	869
Ti	Intermittent torque	Nm	726	717	726	726
Tc	Continuous torque	Nm	529	521	529	529
Ts	Standstill torque	Nm	424	416	424	424
Ip	Peak current	Arms	22.8	29.2	45.6	91.3
Ii	Intermittent current	Arms	17.7	22.2	35.5	70.9
Ic	Continuous current	Arms	11.2	14.1	22.4	44.9
Is	Standstill current	Arms	8.50	10.7	17.0	34.0
ns	Rated low speed	rpm	0.31	0.31	0.31	0.31
nm	Maximum speed without flux weakening	rpm	121	155	243	486
nm,FW	Maximum speed with flux weakening	rpm	300	352	485	806
ton,p	Maximum ON time for peak cycle	s	15	14	15	15
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.9	2.9	2.9
Pp	Power dissipation @ Ip	W	13200	13600	13200	13200
Pi	Power dissipation @ Ii	W	10500	10300	10500	10500
Pc	Power dissipation @ Ic	W	4190	4120	4190	4190
Td	Max. detent torque (average to peak)	Nm	3.8	3.8	3.8	3.8

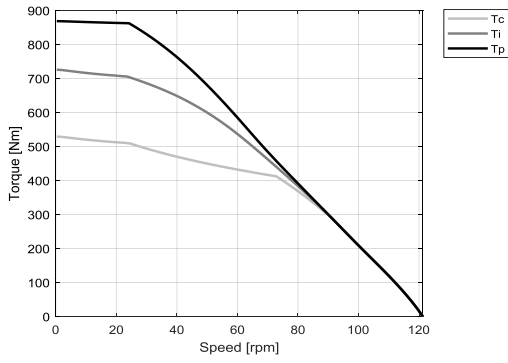
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	57.1	44.6	28.6	14.3
Ku	Back EMF constant (*)	Vrms/(rad/s)	32.7	25.6	16.4	8.18
Km	Motor constant	Nm/√W	11.7	11.6	11.7	11.7
R20	Electrical resistance at 20°C (*)	Ohm	15.8	9.85	3.94	0.986
Ld/Lq	Electrical inductance (*)	mH	172 / 148	105 / 91.2	43.1 / 37.1	10.8 / 9.26
Isc	Maximum short-circuit current	Arms	9.96	12.8	19.9	39.8
nb	Base speed	rpm	72.7	109	197	443
nb,i	Base speed at intermittent duty cycle	rpm	23.5	69.9	159	389
nb,p	Base speed at peak duty cycle	rpm	24.2	49.8	113	272
nn	Rated speed	rpm	58.6	92.0	175	411
Tn	Rated torque	Nm	434	387	320	210
In	Rated current	Arms	9.10	10.1	12.8	16.9
rth	Thermal time constant	s	88.4	88.0	88.4	88.4
Rth	Thermal resistance	K/W	0.0243	0.0247	0.0243	0.0243
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.0804	0.0804	0.0804	0.0804
mr	Rotor mass	kg	7.02	7.02	7.02	7.02
ms	Stator mass	kg	28.8	28.7	28.8	28.8

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	13	13	13	13
Δpw	Max. pressure drop at qw	bar	0.9	0.9	0.9	0.9

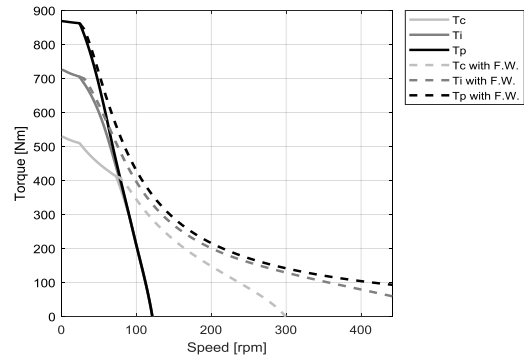
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

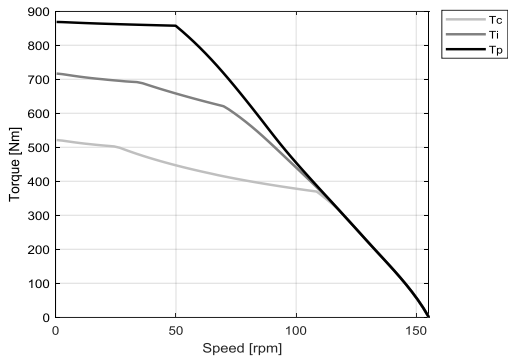
UA - WATER COOLING



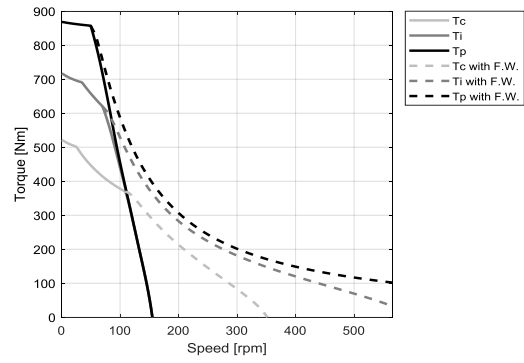
UA - WATER COOLING



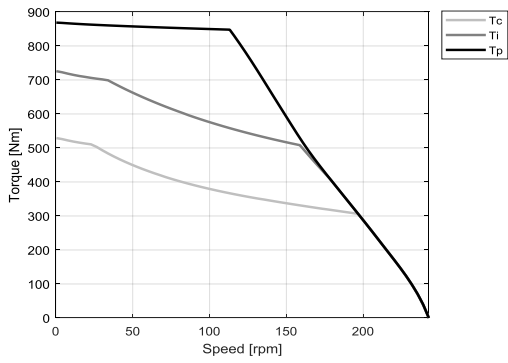
SB - WATER COOLING



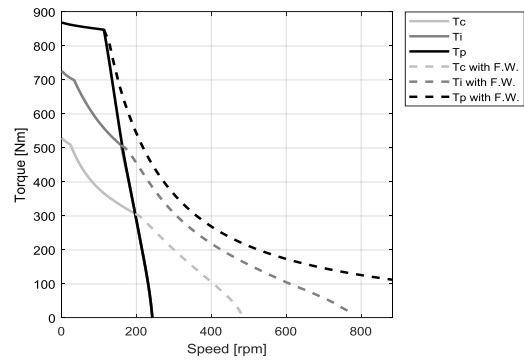
SB - WATER COOLING



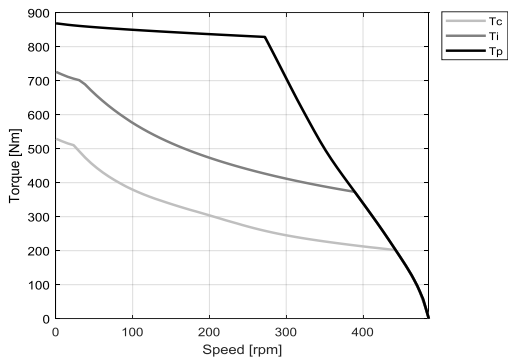
UB - WATER COOLING



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UD - WATER COOLING



UD - WATER COOLING

