

MOTOR PERFORMANCE		Winding codes	RA	TA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	318	318	318	318
Ti	Intermittent torque	Nm	252	263	263	252
Tc	Continuous torque	Nm	176	185	185	176
Ts	Standstill torque	Nm	137	145	145	137
Ip	Peak current	Arms	16.4	23.8	47.6	65.7
Ii	Intermittent current	Arms	12.2	18.7	37.3	48.7
Ic	Continuous current	Arms	7.70	11.8	23.6	30.8
Is	Standstill current	Arms	5.83	8.94	17.9	23.3
ns	Rated low speed	rpm	0.60	0.58	0.58	0.60
nm	Maximum speed without flux weakening	rpm	273	396	793	1100
nm,FW	Maximum speed with flux weakening	rpm	626	820	1290	1590
ton,p	Maximum ON time for peak cycle	s	6.8	8.3	8.3	6.7
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.7
Pp	Power dissipation @ Ip	W	8370	7580	7580	8370
Pi	Power dissipation @ Ii	W	6020	6150	6150	6000
Pc	Power dissipation @ Ic	W	2410	2460	2460	2400
Td	Max. detent torque (average to peak)	Nm	1.4	1.4	1.4	1.4

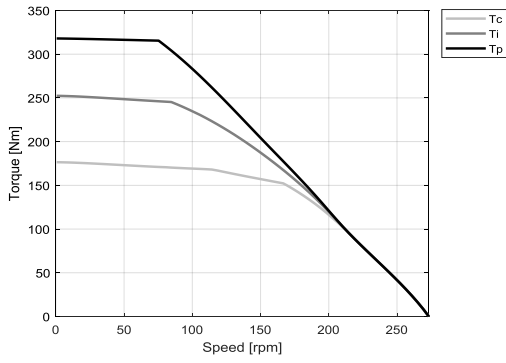
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	25.3	17.5	8.75	6.34
Ku	Back EMF constant (*)	Vrms/(rad/s)	14.5	10.0	5.01	3.63
Km	Motor constant	Nm/√W	4.72	4.95	4.95	4.73
R20	Electrical resistance at 20°C (*)	Ohm	19.2	8.34	2.09	1.20
Ld/Lq	Electrical inductance (*)	mH	87.4 / 78.2	41.7 / 36.8	10.4 / 9.21	5.46 / 4.89
Isc	Maximum short-circuit current	Arms	8.71	12.6	25.2	34.9
nb	Base speed	rpm	167	313	710	1040
nb,i	Base speed at intermittent duty cycle	rpm	84.6	222	621	918
nb,p	Base speed at peak duty cycle	rpm	75.3	179	450	644
nn	Rated speed	rpm	129	273	651	731
Tn	Rated torque	Nm	163	129	88.1	79.1
In	Rated current	Arms	7.39	8.27	11.6	14.5
rth	Thermal time constant	s	45.2	46.9	46.9	45.4
Rth	Thermal resistance	K/W	0.0425	0.0416	0.0416	0.0424
2p	Number of poles	-	44	44	44	44
J	Rotor inertia	kg·m²	0.0214	0.0214	0.0214	0.0214
mr	Rotor mass	kg	3.60	3.60	3.60	3.60
ms	Stator mass	kg	11.3	11.4	11.4	11.3

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	0.074	0.074	0.074	0.074
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	7.5	7.7	7.7	7.5
Δpw	Max. pressure drop at qw	bar	0.3	0.3	0.3	0.3

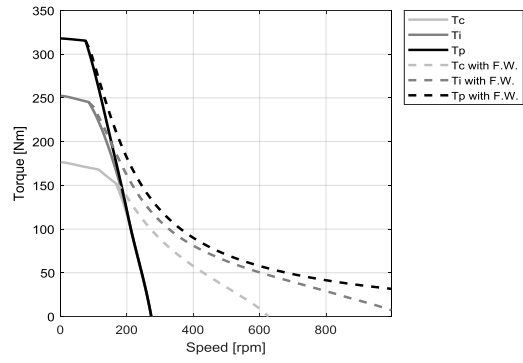
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

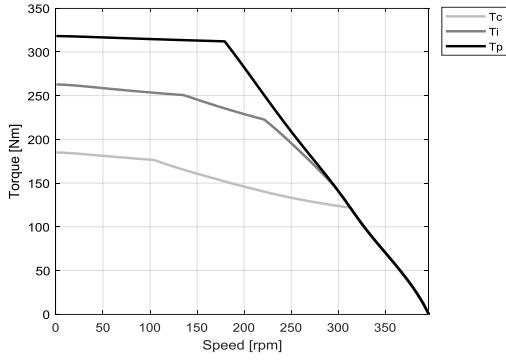
RA - WATER COOLING



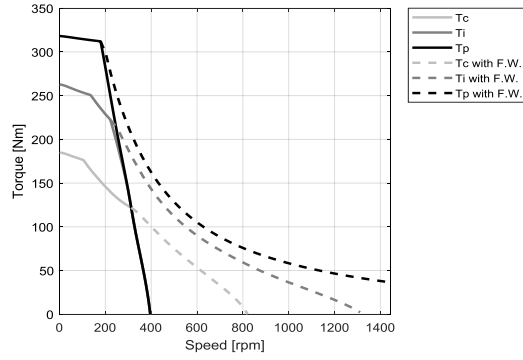
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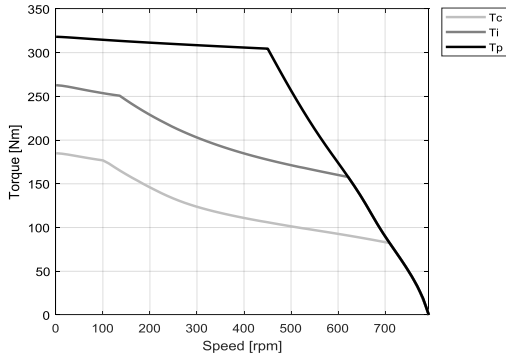
TA - WATER COOLING



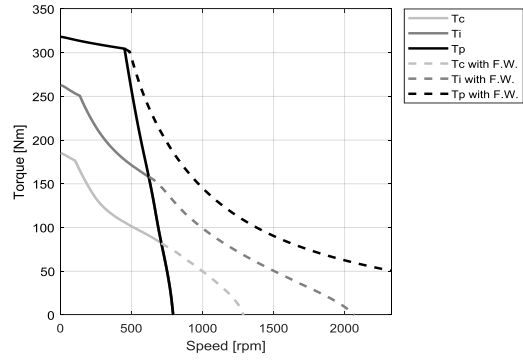
TA - WATER COOLING



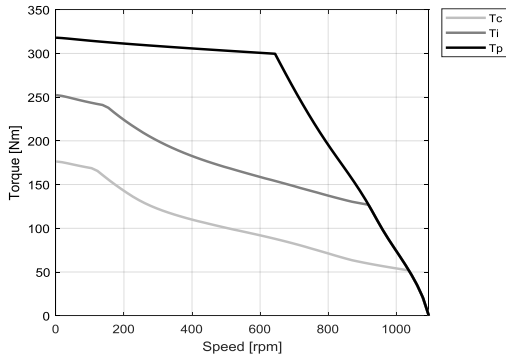
TB - WATER COOLING



TB - WATER COOLING



UB - WATER COOLING



UB - WATER COOLING

