

MOTOR PERFORMANCE		Winding codes	RA	SA	SB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	39.6	39.6	39.6	39.5
Ti	Intermittent torque	Nm	29.5	29.1	29.1	28.0
Tc	Continuous torque	Nm	21.6	21.3	21.3	20.3
Ts	Standstill torque	Nm	17.3	17.0	17.0	16.2
Ip	Peak current	Arms	15.8	20.6	41.2	73.0
Ii	Intermittent current	Arms	9.57	12.2	24.4	40.8
Ic	Continuous current	Arms	6.06	7.73	15.5	25.8
Is	Standstill current	Arms	4.59	5.86	11.7	19.5
ns	Rated low speed	rpm	0.75	0.75	0.75	0.78
nm	Maximum speed without flux weakening	rpm	1570	2060	4120	4590
nm,FW	Maximum speed with flux weakening	rpm	3570	4010	4590	4590
ton,p	Maximum ON time for peak cycle	s	6.4	5.9	5.9	4.7
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.9	2.9	2.9
Pp	Power dissipation @ Ip	W	3480	3610	3610	4070
Pi	Power dissipation @ Ii	W	1630	1610	1610	1580
Pc	Power dissipation @ Ic	W	652	643	643	633
Td	Max. detent torque (average to peak)	Nm	0.32	0.32	0.32	0.32

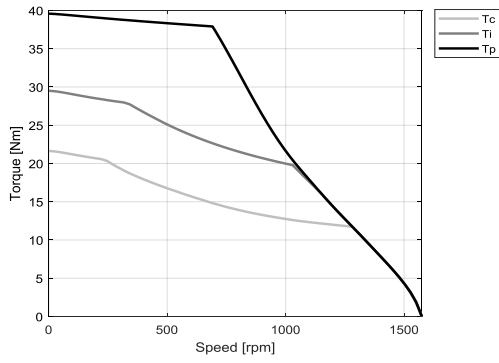
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	4.35	3.33	1.67	0.940
Ku	Back EMF constant (*)	Vrms/(rad/s)	2.52	1.93	0.965	0.545
Km	Motor constant	Nm/√W	1.23	1.21	1.21	1.15
R20	Electrical resistance at 20°C (*)	Ohm	8.32	5.03	1.26	0.446
Ld/Lq	Electrical inductance (*)	mH	56.6 / 49.3	33.2 / 29.1	8.29 / 7.29	2.64 / 2.37
Isc	Maximum short-circuit current	Arms	4.67	6.11	12.2	21.6
nb	Base speed	rpm	1280	1730	3950	N/A
nb,i	Base speed at intermittent duty cycle	rpm	1030	1430	3300	N/A
nb,p	Base speed at peak duty cycle	rpm	691	945	2030	3670
nn	Rated speed	rpm	1150	1570	2510	2470
Tn	Rated torque	Nm	12.2	10.9	8.32	8.32
In	Rated current	Arms	3.32	3.93	6.25	11.1
rth	Thermal time constant	s	72.9	72.3	72.3	69.9
Rth	Thermal resistance	K/W	0.163	0.165	0.165	0.167
2p	Number of poles	-	22	22	22	22
J	Rotor inertia	kg·m²	0.000993	0.000993	0.000993	0.000993
mr	Rotor mass	kg	0.708	0.708	0.708	0.708
ms	Stator mass	kg	4.73	4.71	4.71	4.67

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	0.018	0.018	0.018	0.018
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	2.0	2.0	2.0	2.0
Δpw	Max. pressure drop at qw	bar	0.1	0.1	0.1	0.1

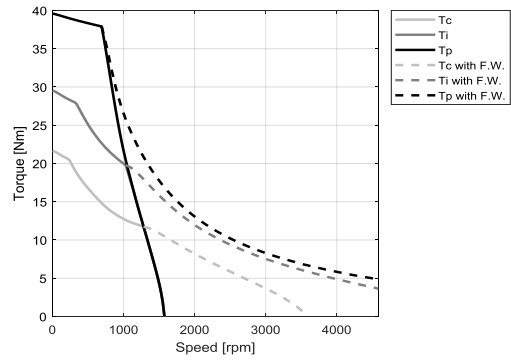
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

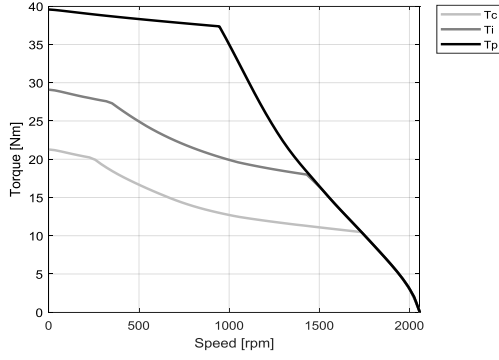
RA - WATER COOLING



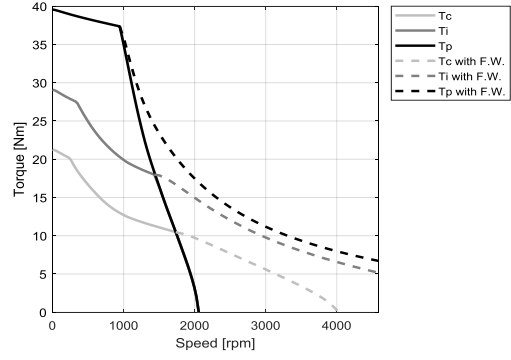
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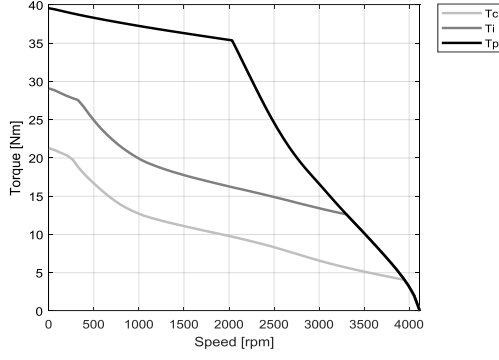
SA - WATER COOLING



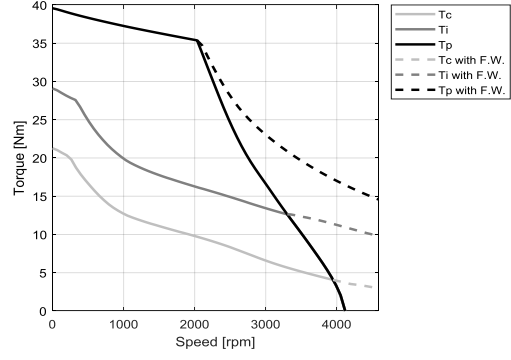
SA - WATER COOLING



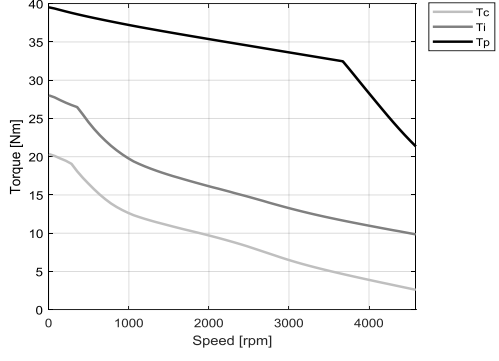
SB - WATER COOLING



SB - WATER COOLING



UB - WATER COOLING



UB - WATER COOLING

