

MOTOR PERFORMANCE		Winding codes	WD	WH	UP	WP
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	20200	20700	20600	20700
Ti	Intermittent torque	Nm	15300	15300	15000	15300
Tc	Continuous torque	Nm	11400	11400	11100	11400
Ts	Standstill torque	Nm	9200	9200	8970	9200
Ip	Peak current	Arms	152	321	442	641
Ii	Intermittent current	Arms	90.8	182	243	363
Ic	Continuous current	Arms	57.4	115	153	230
Is	Standstill current	Arms	43.5	87.0	116	174
ns	Rated low speed	rpm	0.045	0.045	0.046	0.045
nm	Maximum speed without flux weakening	rpm	28.5	57.1	78.8	114
nm,FW	Maximum speed with flux weakening	rpm	86.7	133	163	201
ton,p	Maximum ON time for peak cycle	s	8.4	7.0	6.1	7.0
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.8
Pp	Power dissipation @ Ip	W	109000	124000	132000	124000
Pi	Power dissipation @ Ii	W	48800	48800	48500	48800
Pc	Power dissipation @ Ic	W	19500	19500	19400	19500
Td	Max. detent torque (average to peak)	Nm	55	55	55	55

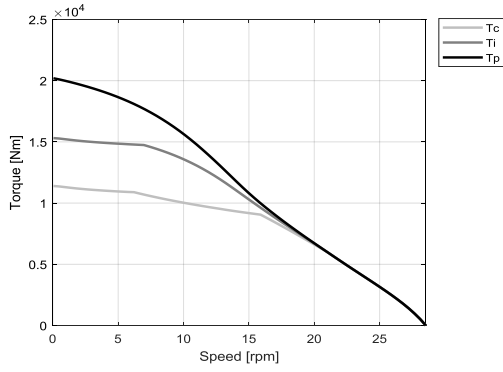
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	243	121	88.0	60.6
Ku	Back EMF constant (*)	Vrms/(rad/s)	139	69.6	50.5	34.8
Km	Motor constant	Nm/√W	118	118	115	118
R20	Electrical resistance at 20°C (*)	Ohm	2.81	0.702	0.392	0.176
Ld/Lq	Electrical inductance (*)	mH	45.4 / 38.3	11.4 / 9.58	5.97 / 5.11	2.84 / 2.40
Isc	Maximum short-circuit current	Arms	40.2	80.4	111	161
nb	Base speed	rpm	15.9	43.4	65.3	101
nb,i	Base speed at intermittent duty cycle	rpm	6.96	32.7	50.1	81.8
nb,p	Base speed at peak duty cycle	rpm	0.00	19.7	31.2	51.3
nn	Rated speed	rpm	13.0	37.8	58.4	92.5
Tn	Rated torque	Nm	9500	7080	5710	4570
In	Rated current	Arms	47.5	66.6	73.1	85.9
rth	Thermal time constant	s	152	152	149	152
Rth	Thermal resistance	K/W	0.00504	0.00504	0.00506	0.00504
2p	Number of poles	-	176	176	176	176
J	Rotor inertia	kg·m²	14.9	14.9	14.9	14.9
mr	Rotor mass	kg	74.4	74.4	74.4	74.4
ms	Stator mass	kg	235	235	233	235

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	0.950	0.950	0.950	0.950
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	10	10	10	10
qw	Minimum water flow for Δθw	l/min	30	30	30	30
Δpw	Max. pressure drop at qw	bar	1.7	1.7	1.7	1.7

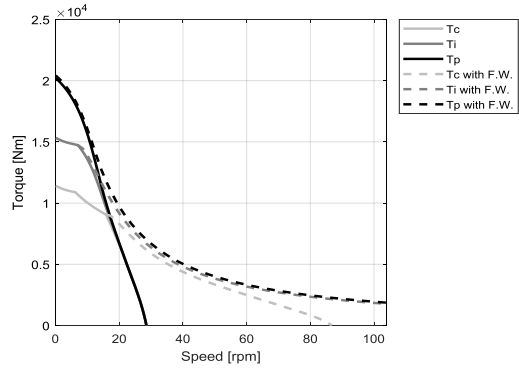
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

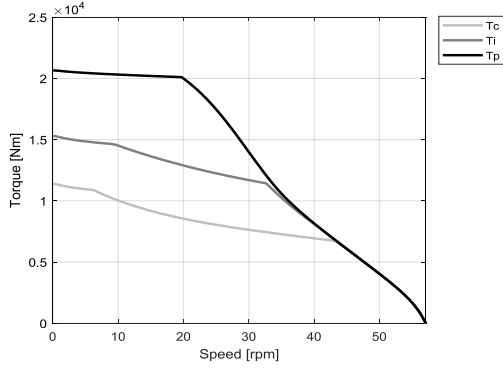
WD - WATER COOLING



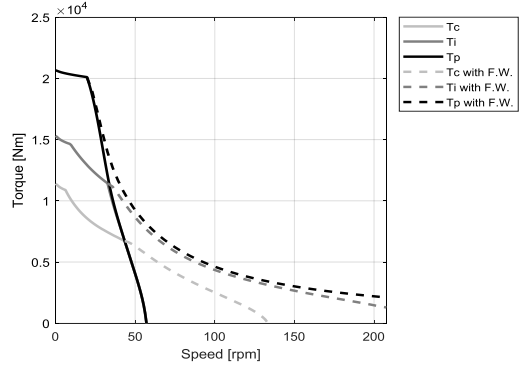
WD - WATER COOLING



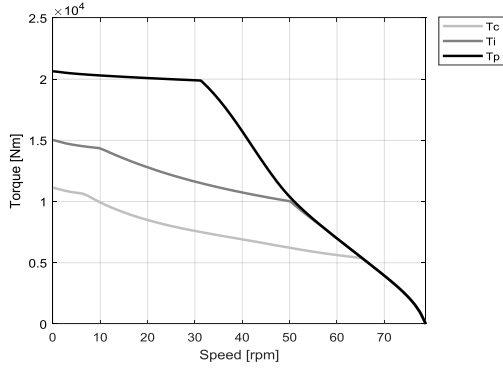
WH - WATER COOLING



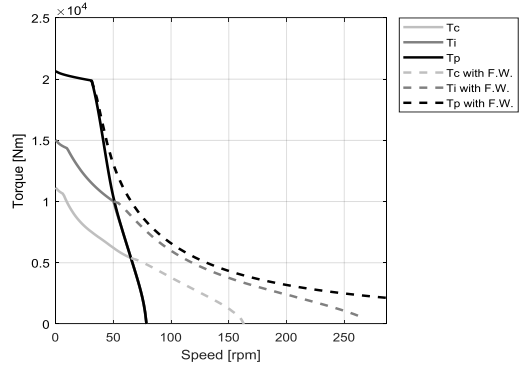
WH - WATER COOLING



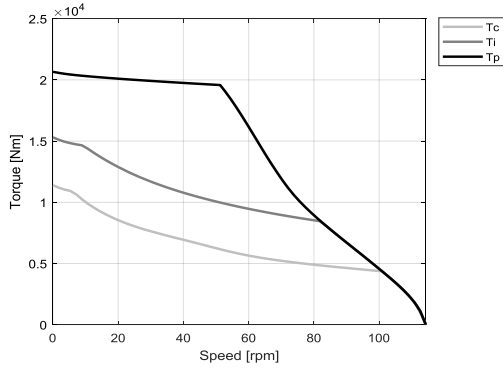
UP - WATER COOLING



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