

MOTOR PERFORMANCE		Winding codes	WB	WD	UJ	WT
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	9840	10500	10500	10500
Ti	Intermittent torque	Nm	7440	7440	7310	7440
Tc	Continuous torque	Nm	5530	5530	5410	5530
Ts	Standstill torque	Nm	4460	4460	4350	4460
Ip	Peak current	Arms	73.7	173	298	865
Ii	Intermittent current	Arms	43.8	87.6	146	438
Ic	Continuous current	Arms	27.7	55.4	92.6	277
Is	Standstill current	Arms	21.0	42.0	70.2	210
ns	Rated low speed	rpm	0.032	0.032	0.032	0.032
nm	Maximum speed without flux weakening	rpm	28.1	56.2	96.8	282
nm,FW	Maximum speed with flux weakening	rpm	102	199	261	334
ton,p	Maximum ON time for peak cycle	s	11	6.5	5.7	6.5
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.9	2.9	2.9
Pp	Power dissipation @ Ip	W	53000	76400	81200	76400
Pi	Power dissipation @ Ii	W	23700	23700	23500	23700
Pc	Power dissipation @ Ic	W	9490	9490	9380	9490
Td	Max. detent torque (average to peak)	Nm	27	27	27	27

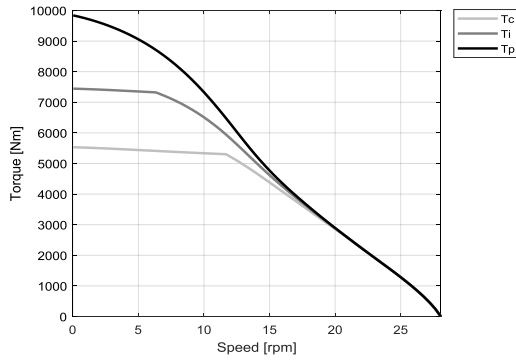
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	245	123	71.2	24.5
Ku	Back EMF constant (*)	Vrms/(rad/s)	141	70.7	41.0	14.1
Km	Motor constant	Nm/√W	83.3	83.3	81.2	83.3
R20	Electrical resistance at 20°C (*)	Ohm	5.79	1.45	0.512	0.0579
Ld/Lq	Electrical inductance (*)	mH	85.1 / 71.7	21.3 / 17.9	7.16 / 6.12	0.851 / 0.717
Isc	Maximum short-circuit current	Arms	17.4	34.9	60.1	174
nb	Base speed	rpm	11.7	33.5	69.5	274
nb,i	Base speed at intermittent duty cycle	rpm	6.32	24.3	52.4	206
nb,p	Base speed at peak duty cycle	rpm	0.00	15.9	36.0	123
nn	Rated speed	rpm	9.68	28.8	60.5	177
Tn	Rated torque	Nm	5340	4700	3720	1970
In	Rated current	Arms	27.5	47.9	62.0	96.8
rth	Thermal time constant	s	172	172	169	172
Rth	Thermal resistance	K/W	0.0112	0.0112	0.0113	0.0112
2p	Number of poles	-	220	220	220	220
J	Rotor inertia	kg·m²	17.0	17.0	17.0	17.0
mr	Rotor mass	kg	55.5	55.5	55.5	55.5
ms	Stator mass	kg	203	203	202	203

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	0.600	0.600	0.600	0.600
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	30	30	29	30
Δpw	Max. pressure drop at qw	bar	1.5	1.5	1.4	1.5

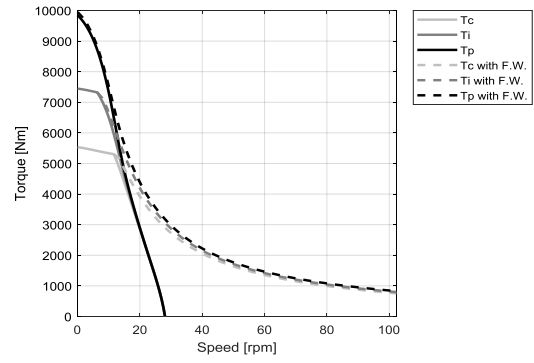
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

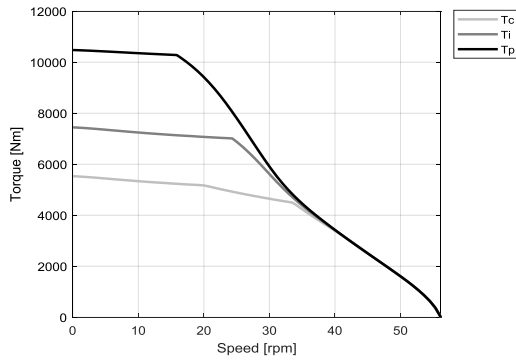
WB - WATER COOLING



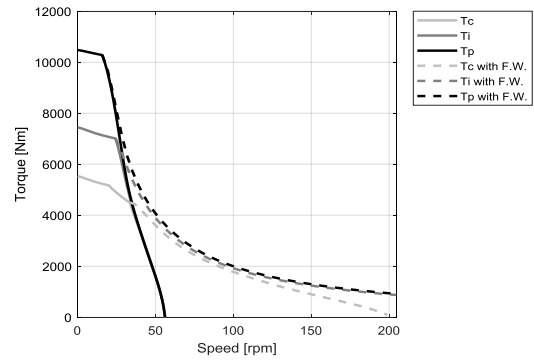
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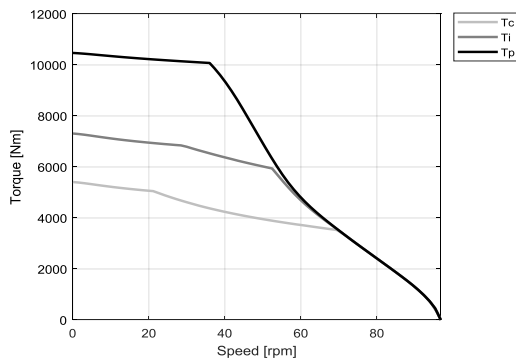
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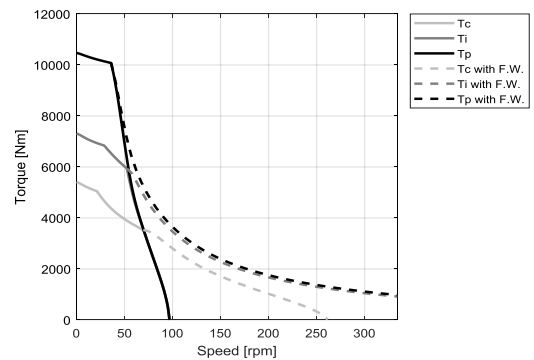
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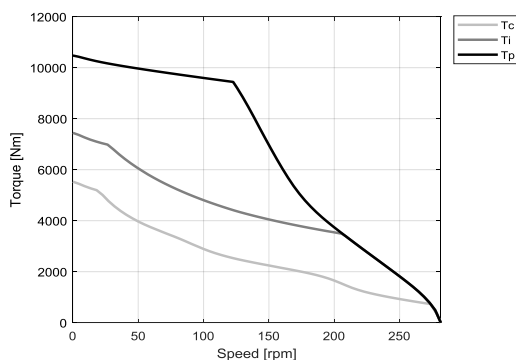
UJ - WATER COOLING



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