		Winding codes	3SDN	3UHN	3UPN	
MOTOR PERFORMANCE		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	
Tp	Peak torque	Nm	5140	5280	5280	
Ti	Intermittent torque	Nm	4230	4210	4180	
Tc	Continuous torque	Nm	3250	3230	3200	
Ts	Standstill torque	Nm	2650	2630	2610	
Ip	Peak current	Arms	64.7	226	458	
Ii	Intermittent current	Arms	46.1	147	296	
Ic	Continuous current	Arms	29.2	93.1	187	
Is	Standstill current	Arms	22.1	70.6	142	
ns	Rated low speed	rpm	0.097	0.097	0.097	
nm	Maximum speed without flux weakening	rpm	50.3	163	330	
nm,FW	Maximum speed with flux weakening	rpm	184	592	1200	
τon,p	Maximum ON time for peak cycle	s	20	15	14	
τon,i	Maximum ON time for intermittent cycle	s	3.0	3.0	2.9	
Pp	Power dissipation @ Ip	W	46500	56100	57500	
Pi	Power dissipation @ Ii	W	31000	31000	31000	
Pc	Power dissipation @ Ic	W	12400	12400	12400	
Td	Max. detent torque (average to peak)	Nm	21	21	21	

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	136	42.3	20.8	
Ku	Back EMF constant (*)	Vrms/(rad/s)	78.8	24.4	12.0	
Km	Motor constant	Nm/√W	42.7	42.3	41.8	
R20	Electrical resistance at 20°C (*)	Ohm	6.80	0.665	0.165	
Ld/Lq	Electrical inductance (*)	mH	96.7 / 77.4	9.30 / 7.45	2.26 / 1.81	
Isc	Maximum short-circuit current	Arms	21.4	69.0	140	
nb	Base speed	rpm	18.1	100	223	
nb,i	Base speed at intermittent duty cycle	rpm	3.47	76.5	175	
nb,p	Base speed at peak duty cycle	rpm	0.00	63.2	145	
nn	Rated speed	rpm	14.1	88.4	198	
Tn	Rated torque	Nm	3250	3210	3120	
In	Rated current	Arms	29.1	92.2	181	
τth	Thermal time constant	s	141	141	140	
Rth	Thermal resistance	K/W	0.00866	0.00868	0.00868	
2p	Number of poles	-	88	88	88	
J	Rotor inertia	kg·m²	3.37	3.37	3.37	
mr	Rotor mass	kg	80.6	80.6	80.6	
ms	Stator mass	kg	108	108	108	

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600	600	
Di	Intermittent duty cycle	%	40	40	40	
Dp	Peak duty cycle	%	5.0	5.0	5.0	
Sr	Rotor exchange surface	m²	0.271	0.271	0.271	
θamb	Ambient temperature	°C	20	20	20	
θmax	Maximum coil temperature	°C	130	130	130	
θw	Inlet water temperature	°C	20	20	20	
Δθw	Water temperature difference for Pc	K	5.0	5.0	5.0	
qw	Minimum water flow for Δθw	l/min	36	36	36	
Δpw	Max. pressure drop at qw	bar	2.2	2.2	2.2	

Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.

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.

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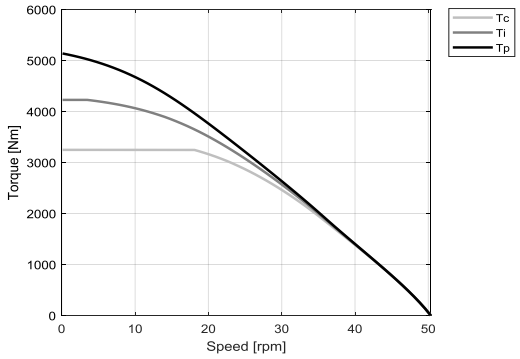
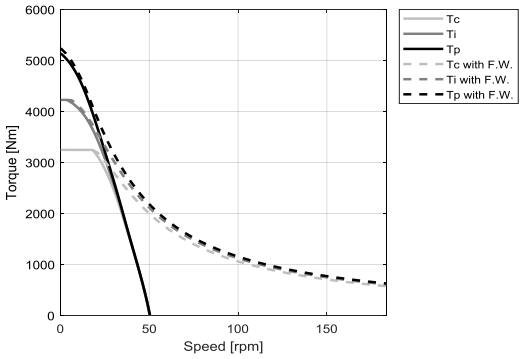
ETEL

HIGH SPEED TORQUE MOTOR TMK0530-150

3SDN - WATER COOLING



3SDN - WATER COOLING



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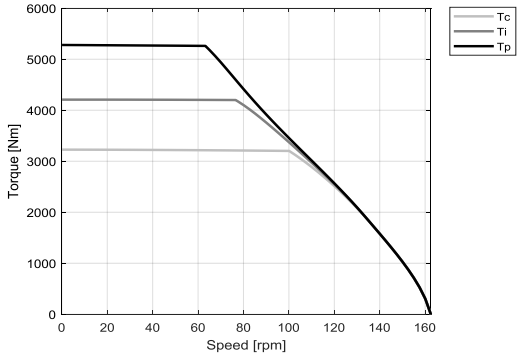

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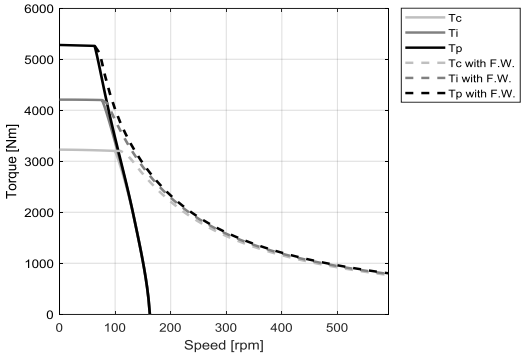

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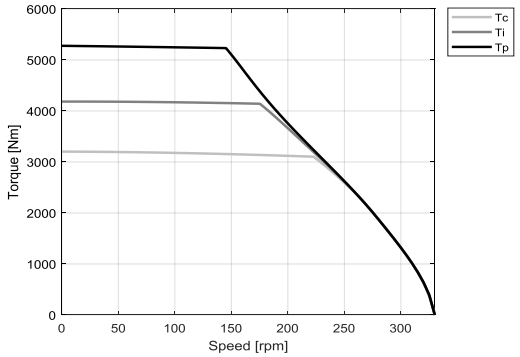
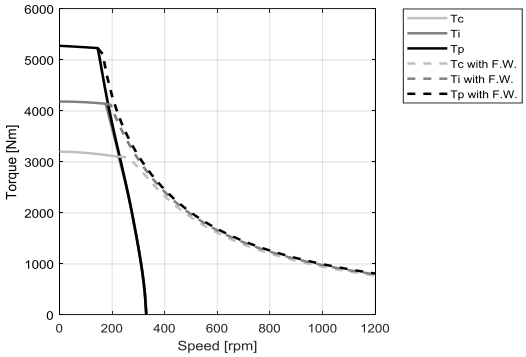


3UPN - WATER COOLING



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