

MOTOR PERFORMANCE		Winding codes	VB	VD	WD	WH
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	3510	3630	3620	3620
Ti	Intermittent torque	Nm	2790	2790	2730	2730
Tc	Continuous torque	Nm	2110	2110	2060	2060
Ts	Standstill torque	Nm	1730	1730	1680	1680
Ip	Peak current	Arms	63.1	137	183	365
Ii	Intermittent current	Arms	41.8	83.5	107	215
Ic	Continuous current	Arms	26.4	52.8	67.9	136
Is	Standstill current	Arms	20.0	40.0	51.4	103
ns	Rated low speed	rpm	0.12	0.12	0.12	0.12
nm	Maximum speed without flux weakening	rpm	66.6	133	178	357
nm,FW	Maximum speed with flux weakening	rpm	189	299	359	567
ton,p	Maximum ON time for peak cycle	s	8.8	6.8	5.7	5.7
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.8
Pp	Power dissipation @ Ip	W	45400	54000	58000	58000
Pi	Power dissipation @ Ii	W	25300	25300	24900	24900
Pc	Power dissipation @ Ic	W	10100	10100	9970	9970
Td	Max. detent torque (average to peak)	Nm	9.8	9.8	9.8	9.8

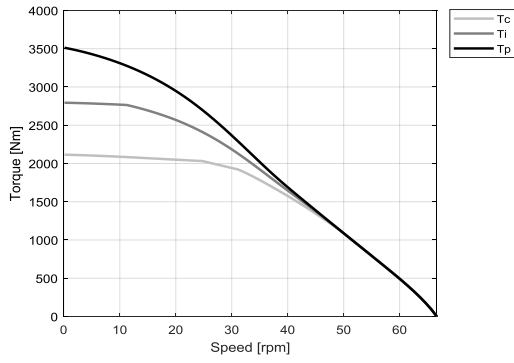
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	104	51.9	38.8	19.4
Ku	Back EMF constant (*)	Vrms/(rad/s)	59.5	29.8	22.3	11.1
Km	Motor constant	Nm/√W	32.2	32.2	31.2	31.2
R20	Electrical resistance at 20°C (*)	Ohm	6.93	1.73	1.03	0.258
Ld/Lq	Electrical inductance (*)	mH	82.7 / 66.8	20.7 / 16.7	11.6 / 9.50	2.89 / 2.37
Isc	Maximum short-circuit current	Arms	18.9	37.8	50.5	101
nb	Base speed	rpm	31.1	105	149	332
nb,i	Base speed at intermittent duty cycle	rpm	11.2	78.6	119	285
nb,p	Base speed at peak duty cycle	rpm	0.00	47.8	73.2	177
nn	Rated speed	rpm	22.5	91.2	134	281
Tn	Rated torque	Nm	2040	1300	1080	744
In	Rated current	Arms	26.2	29.3	31.8	44.3
rth	Thermal time constant	s	114	114	113	113
Rth	Thermal resistance	K/W	0.00977	0.00977	0.00989	0.00989
2p	Number of poles	-	88	88	88	88
J	Rotor inertia	kg·m²	0.805	0.805	0.805	0.805
mr	Rotor mass	kg	24.3	24.3	24.3	24.3
ms	Stator mass	kg	88.1	88.1	87.4	87.4

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	0.370	0.370	0.370	0.370
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	32	32	31	31
Δpw	Max. pressure drop at qw	bar	2.8	2.8	2.7	2.7

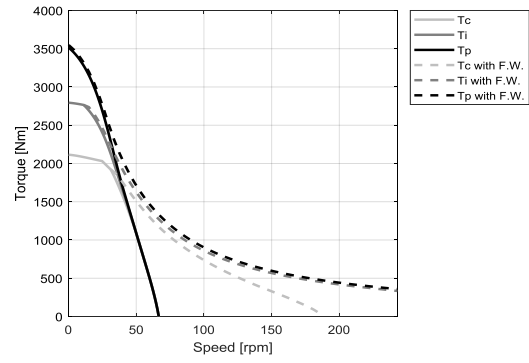
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

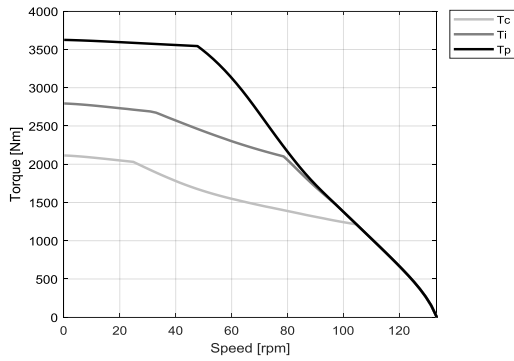
VB - WATER COOLING



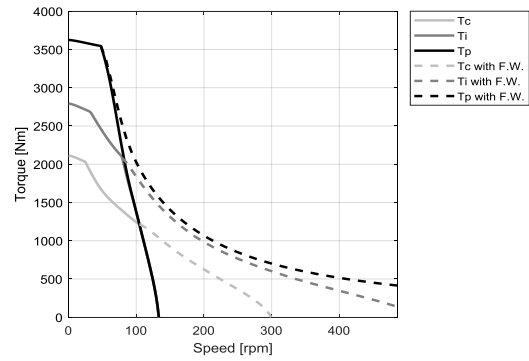
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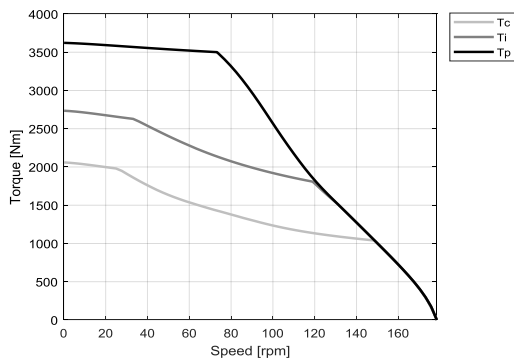
VD - WATER COOLING



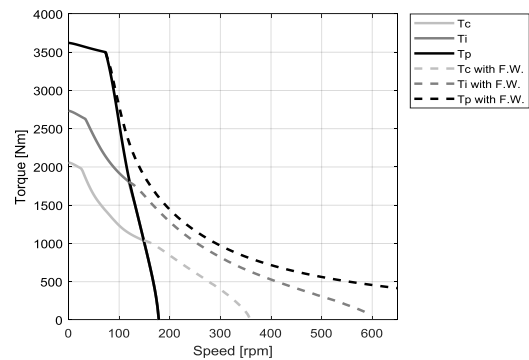
VD - WATER COOLING



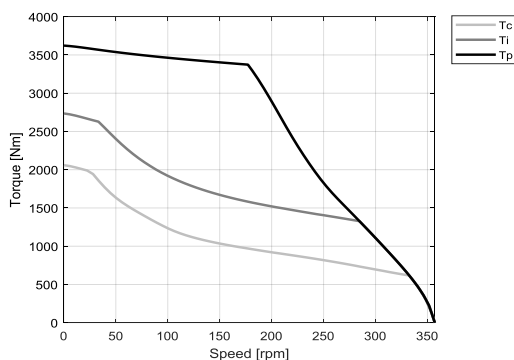
WD - WATER COOLING



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WH - WATER COOLING



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