

MOTOR PERFORMANCE		Winding codes	WE	UJ	WJ	WT
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	30700	32200	32200	32200
Ti	Intermittent torque	Nm	22700	22300	22700	22700
Tc	Continuous torque	Nm	16800	16400	16800	16800
Ts	Standstill torque	Nm	13500	13100	13500	13500
Ip	Peak current	Arms	188	293	426	851
Ii	Intermittent current	Arms	108	144	216	432
Ic	Continuous current	Arms	68.2	91.1	136	273
Is	Standstill current	Arms	51.7	69.0	103	207
ns	Rated low speed	rpm	0.028	0.029	0.028	0.028
nm	Maximum speed without flux weakening	rpm	23.4	32.3	46.9	93.8
nm,FW	Maximum speed with flux weakening	rpm	76.4	91.7	116	175
ton,p	Maximum ON time for peak cycle	s	8.2	4.5	5.2	5.2
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.8
Pp	Power dissipation @ Ip	W	135000	193000	180000	180000
Pi	Power dissipation @ Ii	W	55200	54900	55200	55200
Pc	Power dissipation @ Ic	W	22100	22000	22100	22100
Td	Max. detent torque (average to peak)	Nm	81	81	81	81

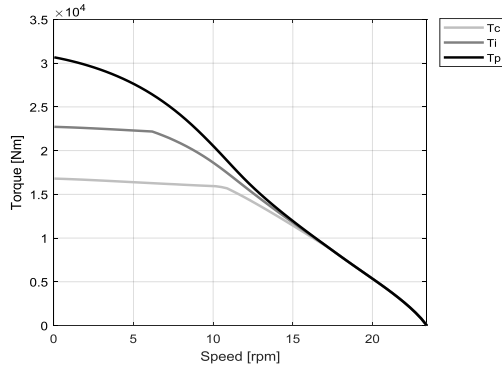
MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	296	214	148	73.9
Ku	Back EMF constant (*)	Vrms/(rad/s)	170	123	84.8	42.4
Km	Motor constant	Nm/√W	161	156	161	161
R20	Electrical resistance at 20°C (*)	Ohm	2.25	1.25	0.562	0.140
Ld/Lq	Electrical inductance (*)	mH	36.3 / 31.4	19.1 / 16.7	9.09 / 7.86	2.27 / 1.96
Isc	Maximum short-circuit current	Arms	49.0	67.6	98.0	196
nb	Base speed	rpm	10.9	20.0	34.5	81.4
nb,i	Base speed at intermittent duty cycle	rpm	6.18	12.3	25.4	64.4
nb,p	Base speed at peak duty cycle	rpm	0.00	3.22	14.6	40.0
nn	Rated speed	rpm	8.87	16.7	29.9	74.2
Tn	Rated torque	Nm	16000	13600	11300	7270
In	Rated current	Arms	67.4	75.7	87.4	112
rth	Thermal time constant	s	192	188	192	192
Rth	Thermal resistance	K/W	0.00449	0.00450	0.00449	0.00449
2p	Number of poles	-	220	220	220	220
J	Rotor inertia	kg·m²	48.5	48.5	48.5	48.5
mr	Rotor mass	kg	158	158	158	158
ms	Stator mass	kg	399	397	399	399

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	1.300	1.300	1.300	1.300
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	34	34	34	34
Δpw	Max. pressure drop at qw	bar	1.9	1.9	1.9	1.9

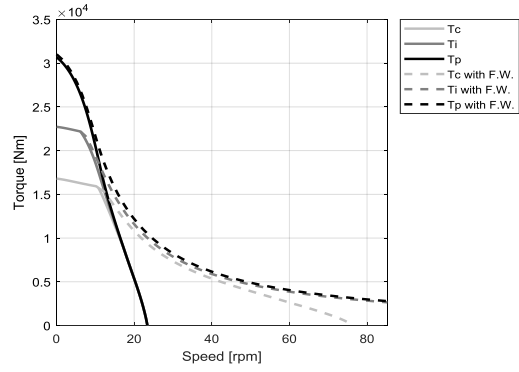
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

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.

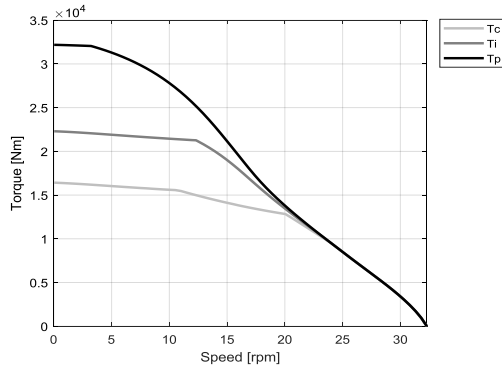
WE - WATER COOLING



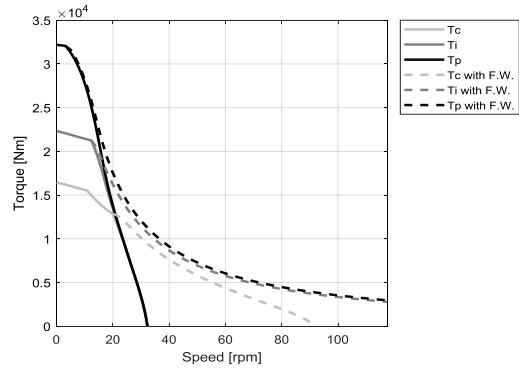
WE - WATER COOLING



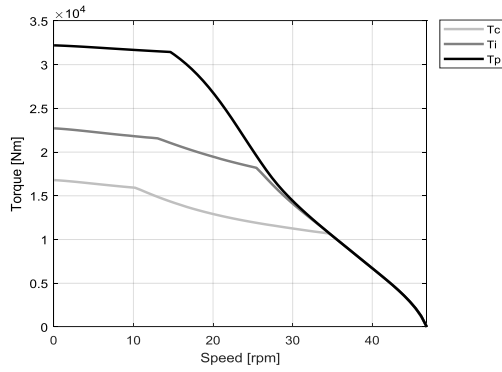
UJ - WATER COOLING



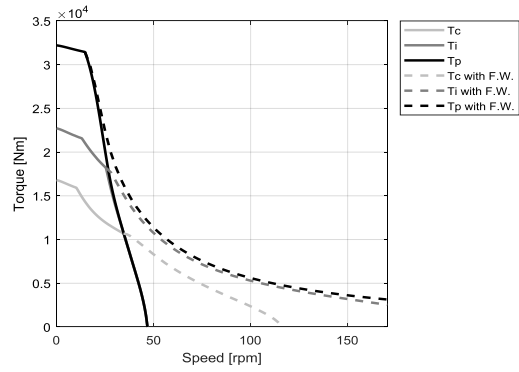
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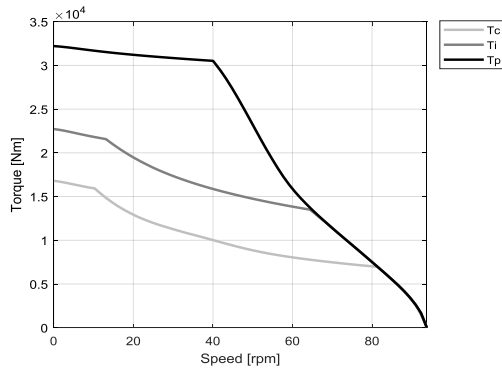
WJ - WATER COOLING



WJ - WATER COOLING



WT - WATER COOLING



WT - WATER COOLING

