

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

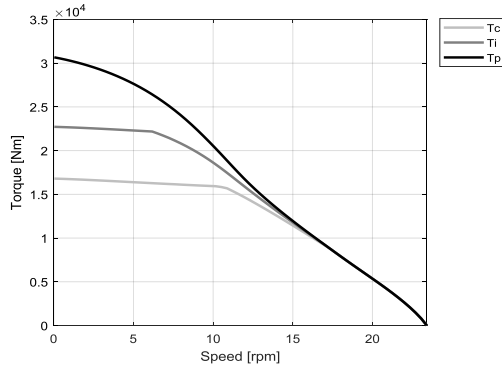
MOTOR SETTING		UNIT				
<b>Kt</b>	Torque constant	Nm/Arms	296	214	148	73.9
<b>Ku</b>	Back EMF constant (*)	Vrms/(rad/s)	170	123	84.8	42.4
<b>Km</b>	Motor constant	Nm/√W	161	156	161	161
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	2.25	1.25	0.562	0.140
<b>Ld/Lq</b>	Electrical inductance (*)	mH	36.3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

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600	600	600
<b>Di</b>	Intermittent duty cycle	%	40	40	40	40
<b>Dp</b>	Peak duty cycle	%	5.0	5.0	5.0	5.0
<b>Sr</b>	Rotor exchange surface	m²	1.300	1.300	1.300	1.300
<b>θamb</b>	Ambient temperature	°C	20	20	20	20
<b>θmax</b>	Maximum coil temperature	°C	130	130	130	130
<b>θw</b>	Inlet water temperature	°C	20	20	20	20
<b>Δθw</b>	Water temperature difference for Pc	K	10	10	10	10
<b>qw</b>	Minimum water flow for Δθw	l/min	34	34	34	34
<b>Δpw</b>	Max. pressure drop at qw	bar	1.9	1.9	1.9	1.9

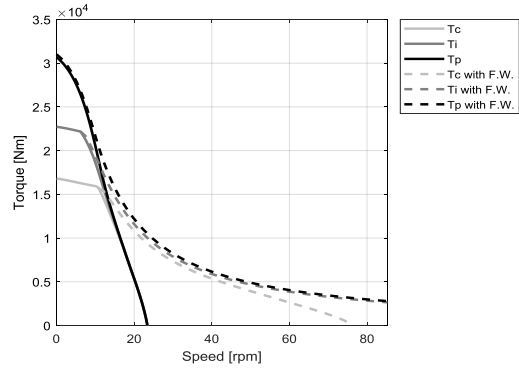
**Notes:** (\*) terminal to terminal.  
Hypotheses and tolerances are in ETEL Integration Manual.  
Please refer to ETEL Integration Manual for the mass of the optional cooling jacket and the possible additional pressure drop.

**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.

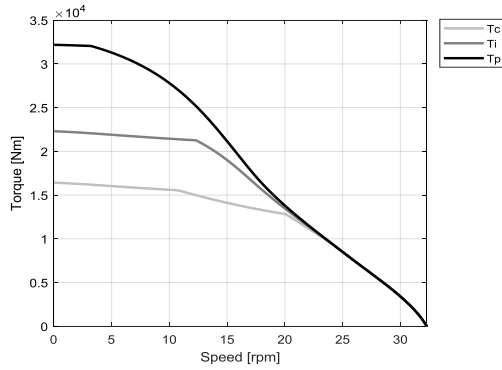
**WE - WATER COOLING**



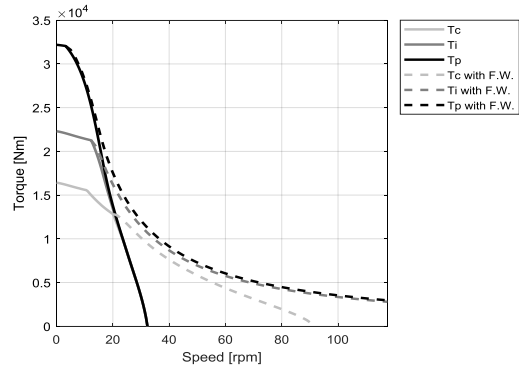
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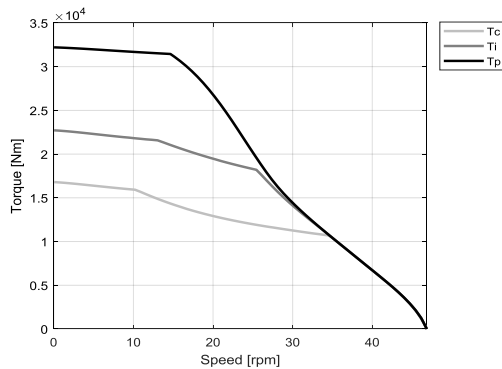
**UJ - WATER COOLING**



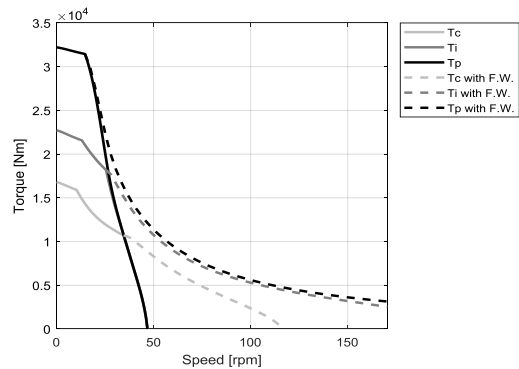
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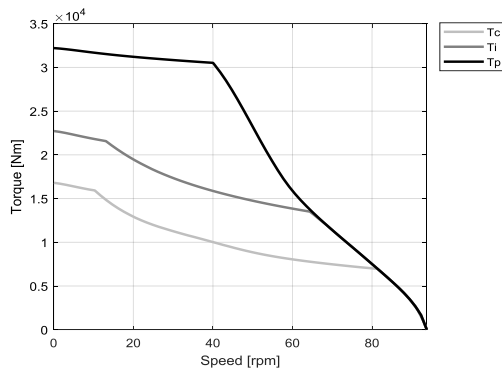
**WJ - WATER COOLING**



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**WT - WATER COOLING**



**WT - WATER COOLING**

