

MOTOR PERFORMANCE		Winding codes	3UCN	3UFS		
		UNIT	WATER COOLING	WATER COOLING		
<b>Tp</b>	Peak torque	Nm	1060	1060		
<b>Ti</b>	Intermittent torque	Nm	958	958		
<b>Tc</b>	Continuous torque	Nm	732	732		
<b>Ts</b>	Standstill torque	Nm	598	598		
<b>Ip</b>	Peak current	Arms	71.1	142		
<b>Ii</b>	Intermittent current	Arms	65.2	130		
<b>Ic</b>	Continuous current	Arms	41.3	82.5		
<b>Is</b>	Standstill current	Arms	31.3	62.5		
<b>ns</b>	Rated low speed	rpm	0.15	0.15		
<b>nm</b>	Maximum speed without flux weakening	rpm	309	618		
<b>nm,FW</b>	Maximum speed with flux weakening	rpm	1120	1820		
<b>ton,p</b>	Maximum ON time for peak cycle	s	39	39		
<b>ton,i</b>	Maximum ON time for intermittent cycle	s	2.9	2.9		
<b>Pp</b>	Power dissipation @ Ip	W	11500	11500		
<b>Pi</b>	Power dissipation @ Ii	W	13200	13200		
<b>Pc</b>	Power dissipation @ Ic	W	5260	5260		
<b>Td</b>	Max. detent torque (average to peak)	Nm	4.2	4.2		

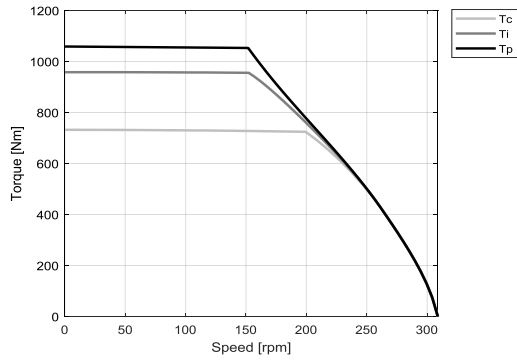
MOTOR SETTING		UNIT				
<b>Kt</b>	Torque constant	Nm/Arms	22.2	11.1		
<b>Ku</b>	Back EMF constant (*)	Vrms/(rad/s)	12.9	6.43		
<b>Km</b>	Motor constant	Nm/√W	15.1	15.1		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	1.44	0.360		
<b>Ld/Lq</b>	Electrical inductance (*)	mH	13.8 / 10.9	3.44 / 2.72		
<b>Isc</b>	Maximum short-circuit current	Arms	32.7	65.3		
<b>nb</b>	Base speed	rpm	199	437		
<b>nb,i</b>	Base speed at intermittent duty cycle	rpm	152	342		
<b>nb,p</b>	Base speed at peak duty cycle	rpm	152	329		
<b>nn</b>	Rated speed	rpm	176	388		
<b>Tn</b>	Rated torque	Nm	726	705		
<b>In</b>	Rated current	Arms	40.8	78.8		
<b>rth</b>	Thermal time constant	s	118	118		
<b>Rth</b>	Thermal resistance	K/W	0.0204	0.0204		
<b>2p</b>	Number of poles	-	66	66		
<b>J</b>	Rotor inertia	kg·m²	0.347	0.347		
<b>mr</b>	Rotor mass	kg	21.1	21.1		
<b>ms</b>	Stator mass	kg	32.7	32.7		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Di</b>	Intermittent duty cycle	%	40	40		
<b>Dp</b>	Peak duty cycle	%	5.0	5.0		
<b>Sr</b>	Rotor exchange surface	m²	0.102	0.102		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		
<b>θw</b>	Inlet water temperature	°C	20	20		
<b>Δθw</b>	Water temperature difference for Pc	K	5.0	5.0		
<b>qw</b>	Minimum water flow for Δθw	l/min	15	15		
<b>Δpw</b>	Max. pressure drop at qw	bar	0.6	0.6		

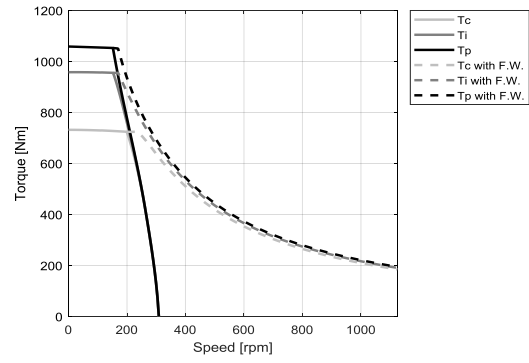
**Notes:** (\*) terminal to terminal.  
Hypotheses and tolerances are in ETEL Integration Manual.

**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.

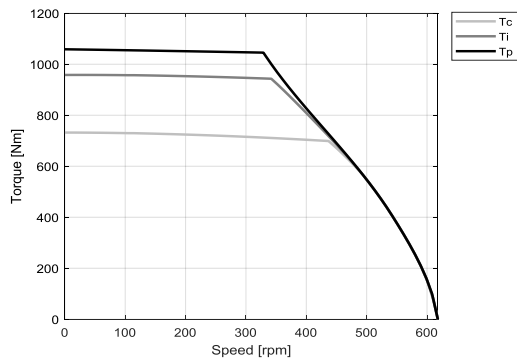
**3UCN - WATER COOLING**



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