

MOTOR PERFORMANCE		Winding codes	UA	TB	UB	
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	
Tp	Peak torque	Nm	934	935	934	
Ti	Intermittent torque	Nm	729	761	729	
Tc	Continuous torque	Nm	507	533	507	
Ts	Standstill torque	Nm	394	416	394	
Ip	Peak current	Arms	32.6	47.2	65.1	
Ii	Intermittent current	Arms	23.7	36.4	47.3	
Ic	Continuous current	Arms	15.0	23.0	29.9	
Is	Standstill current	Arms	11.3	17.4	22.7	
ns	Rated low speed	rpm	0.63	0.61	0.63	
nm	Maximum speed without flux weakening	rpm	186	269	372	
nm,FW	Maximum speed with flux weakening	rpm	396	535	671	
ton,p	Maximum ON time for peak cycle	s	4.3	5.4	4.3	
ton,i	Maximum ON time for intermittent cycle	s	2.7	2.7	2.7	
Pp	Power dissipation @ Ip	W	21300	19400	21300	
Pi	Power dissipation @ Ii	W	14000	14500	14000	
Pc	Power dissipation @ Ic	W	5620	5810	5620	
Td	Max. detent torque (average to peak)	Nm	4.2	4.2	4.2	

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	37.3	25.7	18.6	
Ku	Back EMF constant (*)	Vrms/(rad/s)	21.3	14.7	10.7	
Km	Motor constant	Nm/√W	8.61	9.00	8.61	
R20	Electrical resistance at 20°C (*)	Ohm	12.5	5.45	3.12	
Ld/Lq	Electrical inductance (*)	mH	60.2 / 54.5	28.7 / 25.6	15.0 / 13.6	
Isc	Maximum short-circuit current	Arms	18.6	26.9	37.2	
nb	Base speed	rpm	89.8	206	305	
nb,i	Base speed at intermittent duty cycle	rpm	34.8	129	244	
nb,p	Base speed at peak duty cycle	rpm	18.8	103	171	
nn	Rated speed	rpm	70.8	175	273	
Tn	Rated torque	Nm	489	388	325	
In	Rated current	Arms	14.9	16.8	19.5	
rth	Thermal time constant	s	43.2	44.4	43.2	
Rth	Thermal resistance	K/W	0.0149	0.0147	0.0149	
2p	Number of poles	-	44	44	44	
J	Rotor inertia	kg·m²	0.0614	0.0614	0.0614	
mr	Rotor mass	kg	10.3	10.3	10.3	
ms	Stator mass	kg	27.0	27.3	27.0	

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	0.175	0.175	0.175	
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	18	18	18	
Δpw	Max. pressure drop at qw	bar	2.0	2.1	2.0	

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.

