

MOTOR PERFORMANCE		Winding codes	RA	TA	TB	UB
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	498	499	499	498
Ti	Intermittent torque	Nm	363	366	366	354
Tc	Continuous torque	Nm	249	252	252	242
Ts	Standstill torque	Nm	192	194	194	186
Ip	Peak current	Arms	19.0	28.8	57.7	78.4
Ii	Intermittent current	Arms	12.6	19.3	38.6	50.3
Ic	Continuous current	Arms	7.97	12.2	24.4	31.8
Is	Standstill current	Arms	6.04	9.25	18.5	24.1
ns	Rated low speed	rpm	0.45	0.43	0.43	0.45
nm	Maximum speed without flux weakening	rpm	200	303	607	825
nm,FW	Maximum speed with flux weakening	rpm	461	625	993	1220
ton,p	Maximum ON time for peak cycle	s	4.7	5.0	5.0	4.3
ton,i	Maximum ON time for intermittent cycle	s	2.8	2.8	2.8	2.7
Pp	Power dissipation @ Ip	W	11400	10900	10900	11900
Pi	Power dissipation @ Ii	W	6400	6310	6310	6250
Pc	Power dissipation @ Ic	W	2560	2520	2520	2500
Td	Max. detent torque (average to peak)	Nm	1.2	1.2	1.2	1.2

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	34.3	22.7	11.3	8.34
Ku	Back EMF constant (*)	Vrms/(rad/s)	19.8	13.1	6.54	4.82
Km	Motor constant	Nm/√W	6.43	6.56	6.56	6.31
R20	Electrical resistance at 20°C (*)	Ohm	19.0	7.97	1.99	1.17
Ld/Lq	Electrical inductance (*)	mH	69.4 / 63.7	30.3 / 27.7	7.57 / 6.93	4.10 / 3.79
Isc	Maximum short-circuit current	Arms	9.99	15.1	30.2	41.1
nb	Base speed	rpm	107	232	538	772
nb,i	Base speed at intermittent duty cycle	rpm	58.0	152	467	679
nb,p	Base speed at peak duty cycle	rpm	34.6	119	325	460
nn	Rated speed	rpm	88.5	197	491	590
Tn	Rated torque	Nm	239	200	138	118
In	Rated current	Arms	7.91	10.0	14.1	16.6
rth	Thermal time constant	s	40.7	41.8	41.8	40.6
Rth	Thermal resistance	K/W	0.0404	0.0410	0.0410	0.0412
2p	Number of poles	-	66	66	66	66
J	Rotor inertia	kg·m²	0.0633	0.0633	0.0633	0.0633
mr	Rotor mass	kg	4.54	4.54	4.54	4.54
ms	Stator mass	kg	11.9	12.0	12.0	11.9

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	0.082	0.082	0.082	0.082
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	8.0	7.9	7.9	7.8
Δpw	Max. pressure drop at qw	bar	0.3	0.3	0.3	0.3

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.

