

MOTOR PERFORMANCE		Winding codes	WB	WD	WF	WL
		UNIT	WATER COOLING	WATER COOLING	WATER COOLING	WATER COOLING
Tp	Peak torque	Nm	7630	7770	7770	7770
Ti	Intermittent torque	Nm	5930	5930	5930	5930
Tc	Continuous torque	Nm	4430	4430	4430	4430
Ts	Standstill torque	Nm	3580	3580	3580	3580
Ip	Peak current	Arms	73.2	153	230	459
Ii	Intermittent current	Arms	46.5	92.9	139	279
Ic	Continuous current	Arms	29.4	58.8	88.2	176
Is	Standstill current	Arms	22.3	44.5	66.8	134
ns	Rated low speed	rpm	0.069	0.069	0.069	0.069
nm	Maximum speed without flux weakening	rpm	37.0	74.1	111	223
nm,FW	Maximum speed with flux weakening	rpm	118	180	237	352
ton,p	Maximum ON time for peak cycle	s	11	9.8	9.8	9.8
ton,i	Maximum ON time for intermittent cycle	s	2.9	2.9	2.9	2.9
Pp	Power dissipation @ Ip	W	52700	58000	58000	58000
Pi	Power dissipation @ Ii	W	27100	27100	27100	27100
Pc	Power dissipation @ Ic	W	10800	10800	10800	10800
Td	Max. detent torque (average to peak)	Nm	21	21	21	21

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	186	93.2	62.2	31.1
Ku	Back EMF constant (*)	Vrms/(rad/s)	107	53.6	35.7	17.9
Km	Motor constant	Nm/√W	62.6	62.6	62.6	62.6
R20	Electrical resistance at 20°C (*)	Ohm	5.91	1.48	0.657	0.164
Ld/Lq	Electrical inductance (*)	mH	91.6 / 76.0	22.9 / 19.0	10.2 / 8.44	2.54 / 2.11
Isc	Maximum short-circuit current	Arms	20.5	40.9	61.4	123
nb	Base speed	rpm	17.4	55.2	92.4	207
nb,i	Base speed at intermittent duty cycle	rpm	7.17	40.9	72.3	173
nb,p	Base speed at peak duty cycle	rpm	0.00	26.5	48.0	109
nn	Rated speed	rpm	12.8	47.7	82.8	188
Tn	Rated torque	Nm	4230	2890	2250	1420
In	Rated current	Arms	29.1	36.0	41.0	53.6
rth	Thermal time constant	s	132	132	132	132
Rth	Thermal resistance	K/W	0.00955	0.00955	0.00955	0.00955
2p	Number of poles	-	132	132	132	132
J	Rotor inertia	kg·m²	3.29	3.29	3.29	3.29
mr	Rotor mass	kg	29.4	29.4	29.4	29.4
ms	Stator mass	kg	124	124	124	124

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	0.490	0.490	0.490	0.490
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	34	34	34	34
Δpw	Max. pressure drop at qw	bar	2.2	2.2	2.2	2.2

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.

