

MOTOR PERFORMANCE		Winding codes	WD	WH		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	6920	6920		
Ti	Intermittent torque	Nm	5520	5520		
Tc	Continuous torque	Nm	4130	4130		
Ts	Standstill torque	Nm	3450	3450		
Ip	Peak current	Arms	140	280		
Ii	Intermittent current	Arms	94.6	189		
Ic	Continuous current	Arms	59.8	120		
Is	Standstill current	Arms	47.1	94.3		
ns	Rated low speed	rpm	0.11	0.11		
nm	Maximum speed without flux weakening	rpm	81.2	162		
nm,FW	Maximum speed with flux weakening	rpm	193	308		
ton,p	Maximum ON time for peak cycle	s	10	10		
ton,i	Maximum ON time for intermittent cycle	s	6.7	6.7		
Pp	Power dissipation @ Ip	W	58500	58500		
Pi	Power dissipation @ Ii	W	33100	33100		
Pc	Power dissipation @ Ic	W	13200	13200		
Td	Max. detent torque (average to peak)	Nm	20	20		

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	85.3	42.7		
Ku	Back EMF constant (*)	Vrms/(rad/s)	48.9	24.5		
Km	Motor constant	Nm/√W	51.4	51.4		
R20	Electrical resistance at 20°C (*)	Ohm	1.84	0.459		
Ld/Lq	Electrical inductance (*)	mH	30.1 / 24.8	7.53 / 6.20		
Isc	Maximum short-circuit current	Arms	42.6	85.3		
nb	Base speed	rpm	58.5	140		
nb,i	Base speed at intermittent duty cycle	rpm	41.9	115		
nb,p	Base speed at peak duty cycle	rpm	27.5	76.5		
nn	Rated speed	rpm	50.5	128		
Tn	Rated torque	Nm	2790	1810		
In	Rated current	Arms	37.8	48.0		
rth	Thermal time constant	s	127	127		
Rth	Thermal resistance	K/W	0.00642	0.00642		
2p	Number of poles	-	88	88		
J	Rotor inertia	kg·m²	1.89	1.89		
mr	Rotor mass	kg	39.2	39.2		
ms	Stator mass	kg	140	140		

MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600		
Di	Intermittent duty cycle	%	40	40		
Dp	Peak duty cycle	%	5.0	5.0		
Sr	Rotor exchange surface	m²	0.580	0.580		
θamb	Ambient temperature	°C	20	20		
θmax	Maximum coil temperature	°C	130	130		
θw	Inlet water temperature	°C	20	20		
Δθw	Water temperature difference for Pc	K	5.0	5.0		
qw	Minimum water flow for Δθw	l/min	41	41		
Δpw	Max. pressure drop at qw	bar	4.0	4.0		

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.

