

MOTOR PERFORMANCE		Winding codes	3VBN	3VDS		
		UNIT	WATER COOLING	WATER COOLING		
Tp	Peak torque	Nm	881	881		
Ti	Intermittent torque	Nm	720	720		
Tc	Continuous torque	Nm	555	555		
Ts	Standstill torque	Nm	456	456		
Ip	Peak current	Arms	75.6	151		
Ii	Intermittent current	Arms	53.5	107		
Ic	Continuous current	Arms	33.9	67.7		
Is	Standstill current	Arms	25.7	51.3		
ns	Rated low speed	rpm	0.27	0.27		
nm	Maximum speed without flux weakening	rpm	331	662		
nm,FW	Maximum speed with flux weakening	rpm	1210	2410		
ton,p	Maximum ON time for peak cycle	s	14	16		
ton,i	Maximum ON time for intermittent cycle	s	3.5	3.5		
Pp	Power dissipation @ Ip	W	20500	20500		
Pi	Power dissipation @ Ii	W	13500	13500		
Pc	Power dissipation @ Ic	W	5390	5390		
Td	Max. detent torque (average to peak)	Nm	4.0	4.0		

MOTOR SETTING		UNIT				
Kt	Torque constant	Nm/Arms	20.7	10.3		
Ku	Back EMF constant (*)	Vrms/(rad/s)	12.0	6.00		
Km	Motor constant	Nm/√W	11.4	11.4		
R20	Electrical resistance at 20°C (*)	Ohm	2.20	0.550		
Ld/Lq	Electrical inductance (*)	mH	25.0 / 19.4	6.24 / 4.86		
Isc	Maximum short-circuit current	Arms	25.2	50.4		
nb	Base speed	rpm	200	443		
nb,i	Base speed at intermittent duty cycle	rpm	151	350		
nb,p	Base speed at peak duty cycle	rpm	133	310		
nn	Rated speed	rpm	176	394		
Tn	Rated torque	Nm	555	549		
In	Rated current	Arms	33.8	66.6		
rth	Thermal time constant	s	103	103		
Rth	Thermal resistance	K/W	0.0197	0.0197		
2p	Number of poles	-	44	44		
J	Rotor inertia	kg·m²	0.185	0.185		
mr	Rotor mass	kg	21.0	21.0		
ms	Stator mass	kg	28.7	28.7		

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	0.090	0.090		
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	15	15		
Δpw	Max. pressure drop at qw	bar	0.9	0.9		

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.

