

| MOTOR PERFORMANCE | | Winding codes | 3VBS | 3VDS | | |
|-------------------|--|---------------|---------------|---------------|--|--|
| | | UNIT | WATER COOLING | WATER COOLING | | |
| Tp | Peak torque | Nm | 441 | 441 | | |
| Ti | Intermittent torque | Nm | 354 | 354 | | |
| Tc | Continuous torque | Nm | 271 | 271 | | |
| Ts | Standstill torque | Nm | 222 | 222 | | |
| Ip | Peak current | Arms | 75.6 | 151 | | |
| Ii | Intermittent current | Arms | 51.3 | 103 | | |
| Ic | Continuous current | Arms | 32.5 | 64.9 | | |
| Is | Standstill current | Arms | 24.6 | 49.2 | | |
| ns | Rated low speed | rpm | 0.22 | 0.22 | | |
| nm | Maximum speed without flux weakening | rpm | 662 | 1320 | | |
| nm,FW | Maximum speed with flux weakening | rpm | 2410 | 2730 | | |
| ton,p | Maximum ON time for peak cycle | s | 14 | 18 | | |
| ton,i | Maximum ON time for intermittent cycle | s | 3.0 | 3.0 | | |
| Pp | Power dissipation @ Ip | W | 12400 | 12400 | | |
| Pi | Power dissipation @ Ii | W | 7470 | 7470 | | |
| Pc | Power dissipation @ Ic | W | 2990 | 2990 | | |
| Td | Max. detent torque (average to peak) | Nm | 2.0 | 2.0 | | |

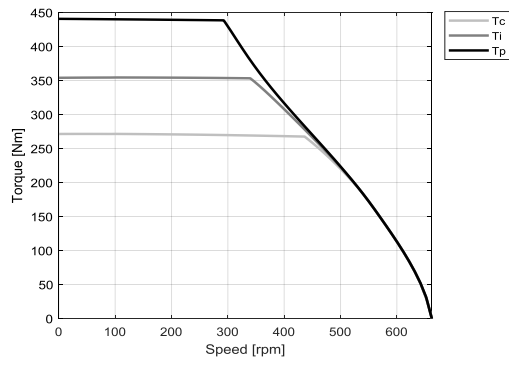
| MOTOR SETTING | | UNIT | | | | |
|---------------|---------------------------------------|--------------|-------------|-------------|--|--|
| Kt | Torque constant | Nm/Arms | 10.3 | 5.17 | | |
| Ku | Back EMF constant (*) | Vrms/(rad/s) | 6.00 | 3.00 | | |
| Km | Motor constant | Nm/√W | 7.35 | 7.35 | | |
| R20 | Electrical resistance at 20°C (*) | Ohm | 1.32 | 0.330 | | |
| Ld/Lq | Electrical inductance (*) | mH | 13.0 / 10.1 | 3.25 / 2.53 | | |
| Isc | Maximum short-circuit current | Arms | 24.2 | 48.4 | | |
| nb | Base speed | rpm | 436 | 944 | | |
| nb,i | Base speed at intermittent duty cycle | rpm | 340 | 735 | | |
| nb,p | Base speed at peak duty cycle | rpm | 293 | 628 | | |
| nn | Rated speed | rpm | 387 | 838 | | |
| Tn | Rated torque | Nm | 268 | 257 | | |
| In | Rated current | Arms | 31.9 | 60.5 | | |
| rth | Thermal time constant | s | 124 | 124 | | |
| Rth | Thermal resistance | K/W | 0.0360 | 0.0360 | | |
| 2p | Number of poles | - | 44 | 44 | | |
| J | Rotor inertia | kg·m² | 0.104 | 0.104 | | |
| mr | Rotor mass | kg | 11.9 | 11.9 | | |
| ms | Stator mass | kg | 17.7 | 17.7 | | |

| 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 | 0.064 | 0.064 | | |
| 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 | 8.6 | 8.6 | | |
| Δpw | Max. pressure drop at qw | bar | 0.3 | 0.3 | | |

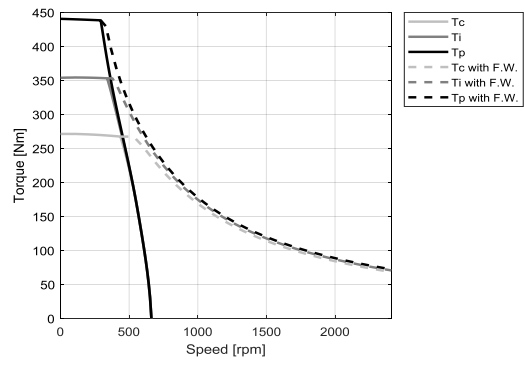
Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.

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.

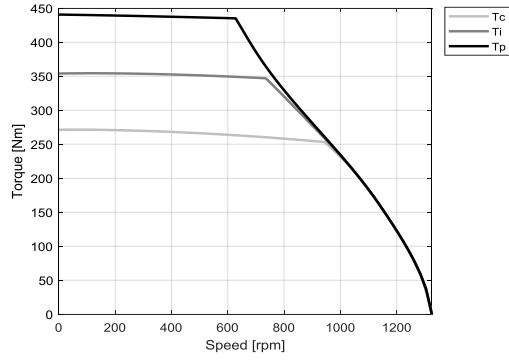
3VBS - WATER COOLING



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