

| MOTOR PERFORMANCE |                                     | Winding codes | 3RA              | 3TA              |  |  |
|-------------------|-------------------------------------|---------------|------------------|------------------|--|--|
|                   |                                     | UNIT          | FREE AIR COOLING | FREE AIR COOLING |  |  |
| <b>Fp</b>         | Peak force                          | N             | 857              | 857              |  |  |
| <b>Fc</b>         | Continuous force                    | N             | 249              | 250              |  |  |
| <b>Fs</b>         | Standstill force                    | N             | 194              | 195              |  |  |
| <b>Ip</b>         | Peak current                        | Arms          | 17.7             | 27.1             |  |  |
| <b>Ic</b>         | Continuous current                  | Arms          | 2.34             | 3.61             |  |  |
| <b>Is</b>         | Standstill current                  | Arms          | 1.77             | 2.73             |  |  |
| <b>vs</b>         | Rated low speed                     | mm/s          | 0.15             | 0.15             |  |  |
| <b>Pc</b>         | Power dissipation @ Ic              | W             | 120              | 120              |  |  |
| <b>Fd</b>         | Max. detent force (average to peak) | N             | 13               | 13               |  |  |
| <b>Fa</b>         | Attraction force                    | N             | 2110             | 2110             |  |  |

| MOTOR SETTING |                                   | UNIT       |       |       |  |  |
|---------------|-----------------------------------|------------|-------|-------|--|--|
| <b>Kt</b>     | Force constant                    | N/Arms     | 115   | 74.9  |  |  |
| <b>Ku</b>     | Back EMF constant (*)             | Vrms/(m/s) | 68.5  | 44.7  |  |  |
| <b>Km</b>     | Motor constant                    | N/√W       | 29.3  | 29.4  |  |  |
| <b>R20</b>    | Electrical resistance at 20°C (*) | Ohm        | 10.2  | 4.31  |  |  |
| <b>L</b>      | Electrical inductance (*)         | mH         | 83.4  | 35.5  |  |  |
| <b>rth</b>    | Thermal time constant             | s          | 2130  | 2140  |  |  |
| <b>Rth</b>    | Thermal resistance                | K/W        | 0.913 | 0.912 |  |  |
| <b>2tp</b>    | Magnetic period                   | mm         | 32    | 32    |  |  |
| <b>mw</b>     | Magnetic way mass                 | kg/m       | 3.51  | 3.51  |  |  |
| <b>mm</b>     | Motor mass                        | kg         | 2.19  | 2.23  |  |  |

| MOTOR ENVIRONMENT |                          | UNIT |      |      |  |  |
|-------------------|--------------------------|------|------|------|--|--|
| <b>Udc</b>        | Nominal DC bus voltage   | VDC  | 600  | 600  |  |  |
| <b>Gm</b>         | Mechanical gap           | mm   | 0.90 | 0.90 |  |  |
| <b>Ss</b>         | Stator exchange surface  | m²   | 0.03 | 0.03 |  |  |
| <b>x</b>          | Assumed stroke           | m    | 0.51 | 0.51 |  |  |
| <b>θamb</b>       | Ambient temperature      | °C   | 20   | 20   |  |  |
| <b>θmax</b>       | Maximum coil temperature | °C   | 130  | 130  |  |  |

**Notes:** (\*) terminal to terminal.  
 Hypotheses and tolerances are in ETEL Integration Manual.  
**Caution:** Any use of the motor beyond speed/force 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.

