## 5.4 Electrical data

### 5.4.1 Electrical data BR03

| BR motor – Without servo-ventilation – 3000 rpm | | | Drive 3-phase supply 230 Vac | | | | Drive 3-phase supply 400 Vac | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 032302 | 034302 | 036302 | 038302 | 032304 | 034304 | 036304 | 038304 |
| Stall torque [1) 3)] | $T_0$ | Nm | 0.8 | 1.6 | 2.4 | 3 | 0.8 | 1.6 | 2.4 | 3 |
| Nominal power [1)] | $P_N$ | W | 201 | 408 | 597 | 723 | 201 | 408 | 597 | 723 |
| Nominal torque [1)] | $T_N$ | Nm | 0.64 | 1.3 | 1.9 | 2.3 | 0.64 | 1.3 | 1.9 | 2.3 |
| Nominal speed | $n_N$ | rpm | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Peak torque 20°C | $T_{max}$ | Nm | 2.4 | 4.8 | 7.2 | 9 | 2.4 | 4.8 | 7.2 | 9 |
| Nominal current [1)] | $I_N$ | Arms | 0.78 | 1.43 | 2.15 | 2.58 | 0.54 | 0.88 | 1.37 | 1.49 |
| Stall current [1) 3)] | $I_0$ | Arms | 0.94 | 1.7 | 2.61 | 3.25 | 0.65 | 1.05 | 1.66 | 1.87 |
| Peak current | $I_{max}$ | Arms | 2.75 | 4.95 | 7.61 | 9.46 | 1.9 | 3.05 | 4.85 | 5.46 |
| Rotor inertia | Jm | kgcm² | 0.4 | 0.75 | 1.1 | 1.45 | 0.4 | 0.75 | 1.1 | 1.45 |
| Voltage constant 20°C [2)] | ke | Vs/rad | 0.53 | 0.59 | 0.57 | 0.58 | 0.77 | 0.95 | 0.90 | 1.00 |
| Torque constant 20°C with stall rotor [2)] | kt | Nm/Arms | 0.89 | 0.99 | 0.97 | 0.97 | 1.29 | 1.6 | 1.51 | 1.68 |
| Ke and kt reduction coeff. over temperature | dk/dt | [%/°C] | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 |
| Winding resistance 20°C [2)] | Rc | Ohm | 23.7 | 9.34 | 4.8 | 3.3 | 49 | 24.1 | 12 | 10 |
| Winding inductance [2)] | Lc | mH | 53 | 24 | 14 | 6.3 | 160 | 67 | 40 | 18 |
| E.M.F at 1000 rpm 20°C [2)] | V1000 | V/krpm | 55.5 | 61.7 | 60.2 | 60.5 | 80.2 | 100 | 94.4 | 105 |
| Nominal voltage [1)] | Vn | Vrms | 181 | 191 | 182 | 180 | 266 | 309 | 287 | 312 |
| Weight | m | kg | 2.3 | 3.3 | 4.3 | 5.3 | 2.3 | 3.3 | 4.3 | 5.3 |
| Number of poles | 2p | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

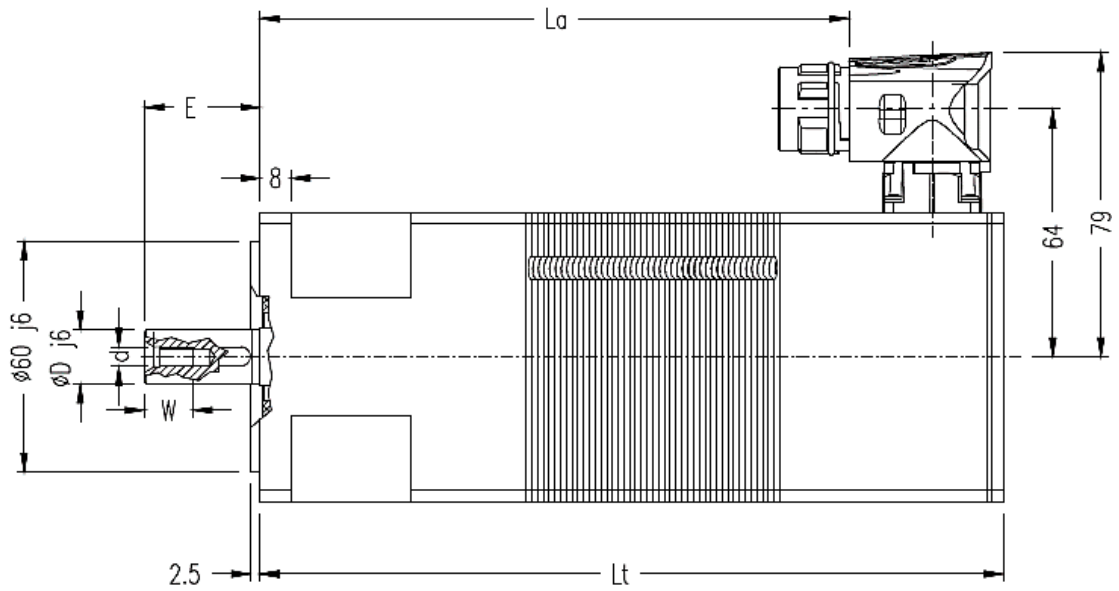
| BR motor – Without servo-ventilation – 4000 rpm | | | Drive 3-phase supply 230 Vac | | | | Drive 3-phase supply 400 Vac | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 032402 | 034402 | 036402 | 038402 | 032404 | 034404 | 036404 | 038404 |
| Stall torque [1) 3)] | $T_0$ | Nm | 0.8 | 1.6 | 2.4 | 3 | 0.8 | 1.6 | 2.4 | 3 |
| Nominal power [1)] | $P_N$ | W | 268 | 545 | 796 | 963 | 268 | 545 | 796 | 963 |
| Nominal torque [1)] | $T_N$ | Nm | 0.64 | 1.3 | 1.9 | 2.3 | 0.64 | 1.3 | 1.9 | 2.3 |
| Nominal speed | $n_N$ | rpm | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| Peak torque 20°C | $T_{max}$ | Nm | 2.4 | 4.8 | 7.2 | 9 | 2.4 | 4.8 | 7.2 | 9 |
| Nominal current [1)] | $I_N$ | Arms | 1.08 | 1.91 | 2.79 | 3.33 | 0.68 | 1.15 | 1.64 | 1.95 |
| Stall current [1) 3)] | $I_0$ | Arms | 1.3 | 2.26 | 3.39 | 4.19 | 0.82 | 1.36 | 2 | 2.45 |
| Peak current | $I_{max}$ | Arms | 3.78 | 6.59 | 9.89 | 12.2 | 2.38 | 3.96 | 5.82 | 7.13 |
| Rotor inertia | Jm | kgcm² | 0.4 | 0.75 | 1.1 | 1.45 | 0.4 | 0.75 | 1.1 | 1.45 |
| Voltage constant 20°C [2)] | ke | Vs/rad | 0.39 | 0.44 | 0.44 | 0.45 | 0.61 | 0.74 | 0.75 | 0.77 |
| Torque constant 20°C with stall rotor [2)] | kt | Nm/Arms | 0.65 | 0.74 | 0.74 | 0.75 | 1.03 | 1.24 | 1.26 | 1.29 |
| Ke and kt reduction coeff. over temperature | dk/dt | [%/°C] | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 |
| Winding resistance 20°C [2)] | Rc | Ohm | 12.3 | 5.2 | 2.82 | 1.97 | 30.6 | 14.8 | 8.42 | 5.73 |
| Winding inductance [2)] | Lc | mH | 30 | 14 | 8.3 | 3.7 | 80 | 36 | 24 | 11 |
| E.M.F at 1000 rpm 20°C [2)] | V1000 | V/krpm | 40.4 | 46.3 | 46.3 | 46.9 | 64.2 | 77.1 | 78.7 | 80.2 |
| Nominal voltage [1)] | Vn | Vrms | 170 | 187 | 184 | 183 | 271 | 311 | 313 | 313 |
| Weight | m | kg | 2.3 | 3.3 | 4.3 | 5.3 | 2.3 | 3.3 | 4.3 | 5.3 |
| Number of poles | 2p | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

| BR motor – Without servo-ventilation – 6000 rpm | | | Drive 3-phase supply 230 Vac | | | | Drive 3-phase supply 400 Vac | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 032602 | 034602 | 036602 | 038602 | 032604 | 034604 | 036604 | 038604 |
| Stall torque [1) 3)] | $T_0$ | Nm | 0.8 | 1.6 | 2.4 | 3 | 0.8 | 1.6 | 2.4 | 3 |
| Nominal power [1)] | $P_N$ | W | 402 | 817 | 1194 | 1445 | 402 | 817 | 1194 | 1445 |
| Nominal torque [1)] | $T_N$ | Nm | 0.64 | 1.3 | 1.9 | 2.3 | 0.64 | 1.3 | 1.9 | 2.3 |
| Nominal speed | $n_N$ | rpm | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 | 6000 |
| Peak torque 20°C | $T_{max}$ | Nm | 2.4 | 4.8 | 7.2 | 9 | 2.4 | 4.8 | 7.2 | 9 |
| Nominal current [1)] | $I_N$ | Arms | 1.62 | 2.98 | 4.23 | 5.28 | 0.88 | 1.68 | 2.49 | 2.94 |
| Stall current [1) 3)] | $I_0$ | Arms | 1.95 | 3.54 | 5.14 | 6.63 | 1.06 | 2 | 3.03 | 3.7 |
| Peak current | $I_{max}$ | Arms | 5.68 | 10.3 | 15 | 19.3 | 3.09 | 5.82 | 8.83 | 10.8 |
| Rotor inertia | Jm | kgcm² | 0.4 | 0.75 | 1.1 | 1.45 | 0.4 | 0.75 | 1.1 | 1.45 |
| Voltage constant 20°C [2)] | ke | Vs/rad | 0.26 | 0.28 | 0.29 | 0.28 | 0.47 | 0.50 | 0.49 | 0.51 |
| Torque constant 20°C with stall rotor [2)] | kt | Nm/Arms | 0.43 | 0.48 | 0.49 | 0.48 | 0.79 | 0.84 | 0.83 | 0.85 |
| Ke and kt reduction coeff. over temperature | dk/dt | [%/°C] | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 | -0.11 |
| Winding resistance 20°C [2)] | Rc | Ohm | 5.42 | 2.17 | 1.26 | 0.78 | 18.9 | 6.86 | 3.7 | 2.5 |
| Winding inductance [2)] | Lc | mH | 13.3 | 6 | 3.6 | 1.52 | 42 | 19 | 12 | 5.4 |
| E.M.F at 1000 rpm 20°C [2)] | V1000 | V/krpm | 26.8 | 29.6 | 30.5 | 29.6 | 49.4 | 52.4 | 51.8 | 53.1 |
| Nominal voltage [1)] | Vn | Vrms | 164 | 176 | 179 | 171 | 302 | 311 | 304 | 328 |
| Weight | m | kg | 2.3 | 3.3 | 4.3 | 5.3 | 2.3 | 3.3 | 4.3 | 5.3 |
| Number of poles | 2p | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

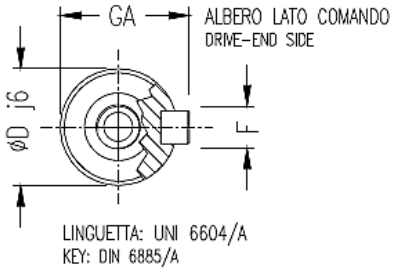
Torque and power values refer to motor flanged and suspended in horizontal positions (aluminium flange 200x250x25 mm)
Minimum PWM 8kHz, DC bus test voltage 590 Vdc, tested with resolver
[1)] Continuous service S1 (dT=105°C)
[2)] Tolerance ± 10%
[3)] Value referred to 100 rpm

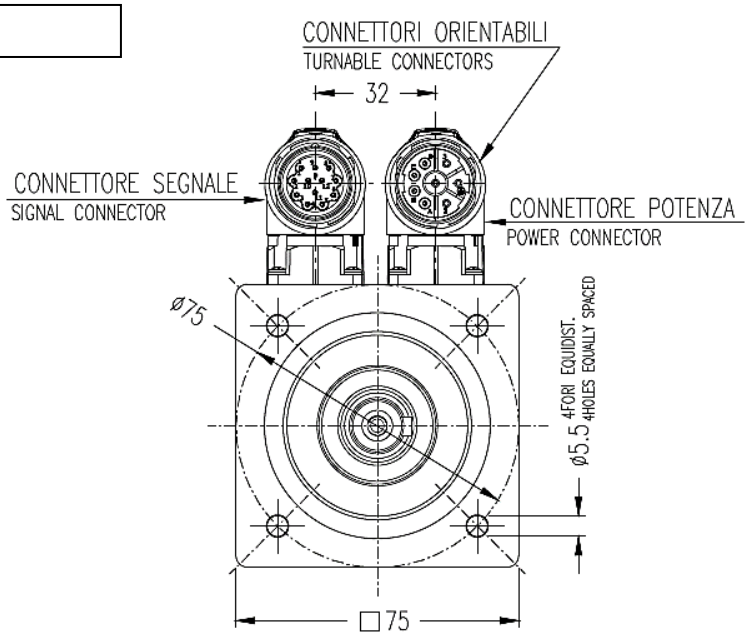
## 5.5 Overall dimensions

### 5.5.1 Overall dimensions – BR03




VENTILATION: FREE CONVECTION **IC410**




| | With and without brake - Shaft *Standard* / *(Oversize)* | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Lt** | **La** | **ØD J6** | **E** | **d x W** | **F** | **GA** |
| **BR032** | 151 | 111 | 11<br>(14) | 23<br>(30) | M4x10<br>(M5x12.5) | 4<br>(5) | 12.5<br>(16) |
| **BR034** | 172 | 132 | | | | | |
| **BR036** | 193 | 153 | | | | | |
| **BR038** | 214 | 174 | | | | | |