

# TECHNICAL CHARACTERISTICS - FC MOTORS VERSION 400 Vac / 460 Vac

## Specific characteristics:

|   |     |                   | 170 FC<br>H05 | 170 FC<br>H1 | 170 FC<br>H4 | 290 FC<br>H1 | 290 FC<br>H4 | 390 FC<br>H2 | 390 FC<br>H6 |
|---|-----|-------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Continuous torque at stall              | (1) | N.m               | 14.3          | 26           | 48           | 93           | 175          | 248          | 461          |
| Current at continuous torque            | (1) | A                 | 3.2           | 2.9          | 4.4          | 7.8          | 10           | 14           | 22.1         |
| Peak torque                             | (2) | N.m               | 43.8          | 83           | 169          | 272          | 544          | 885          | 1,745        |
| Current at peak torque                  | (2) | A                 | 10.6          | 10.2         | 17           | 25.3         | 34.1         | 49.8         | 83.2         |
| Rated speed                             | (1) | rpm               | 800           | 420          | 350          | 320          | 220          | 220          | 190          |
| Rated power                             | (1) | W                 | 1,080         | 1,147        | 1,764        | 3,124        | 4,040        | 5,730        | 9,200        |
| Inertia                                 |     | kg.m <sup>2</sup> | 0.0079        | 0.0136       | 0.025        | 0.151        | 0.274        | 0.830        | 1.525        |
| Weight                                  |     | kg                | 14.5          | 20           | 31           | 70           | 87           | 124          | 204          |
| Thermal time constant housing - ambient | (1) | s                 | 4,050         | 4,270        | 4,610        | 5,375        | 6,130        | 7,920        | 8,850        |
| Thermal resistance housing - ambient    | (1) | °C/W              | 0.254         | 0.225        | 0.178        | 0.105        | 0.085        | 0.067        | 0.054        |
| Phase resistance at 20°C                |     | Ω                 | 8.83          | 11.68        | 6.50         | 3.40         | 2.62         | 1.75         | 0.84         |
| Phase inductance at I contin.           |     | mH                | 37.6          | 75.24        | 56.1         | 36.8         | 40.7         | 28.5         | 19.7         |
| Electrical time constant                |     | ms                | 4.3           | 6.4          | 8.6          | 10.8         | 15.6         | 16.3         | 23.4         |
| No load phase emf at 60 RPM             | (1) | V                 | 10.8          | 21.6         | 26.4         | 30.5         | 45.2         | 45.7         | 53.6         |

## Characteristics with recommended drives:

|   |     |     |      |      |      |       |       |       |        |
|---|-----|-----|------|------|------|-------|-------|-------|--------|
| Range single-axis DS 2000 / DBS / multi-axis DBM 04 | (3) |     | 3/9  | 3/9  | 6/15 | 8/22  | 15/42 | 15/42 | 25/70  |
| - Peak torque                                       | (2) | N.m | 30   | 60   | 121  | 190   | 497   | 580   | 1,137  |
| - Peak current                                      |     | A   | 6.4  | 6.4  | 10.6 | 15.5  | 29.7  | 29.7  | 49.5   |
| Range single-axis DS 2000 / DBS / multi-axis DBM 04 | (3) |     | 6/15 | 6/15 | 8/22 | 15/42 |       | 25/70 | 50/140 |
| - Peak torque                                       | (2) | N.m | 43.8 | 83   | 162  | 272   |       | 881   | 1,745  |
| - Peak current                                      |     | A   | 10.6 | 10.2 | 15.5 | 25.3  |       | 49.5  | 83     |
| - Limitation of drive current                       |     | %   | 100  | 95   | 100  | 85    |       | 100   | 84     |

1 - Ambient 20°C

- Winding temperature rise 120°C

- Motor in natural convection mounted on flange:

- range 170: square of 180 mm

- range 290: square of 340 mm

- range 390: square of 410 mm

2 - Cold motor at 20°C

3 - Drives adjusted in plant for FC range motors. See our catalogue and the DS 2000 / DBS / DBM 04 Manuals