

# 111 Models Electromagnetic Brakes

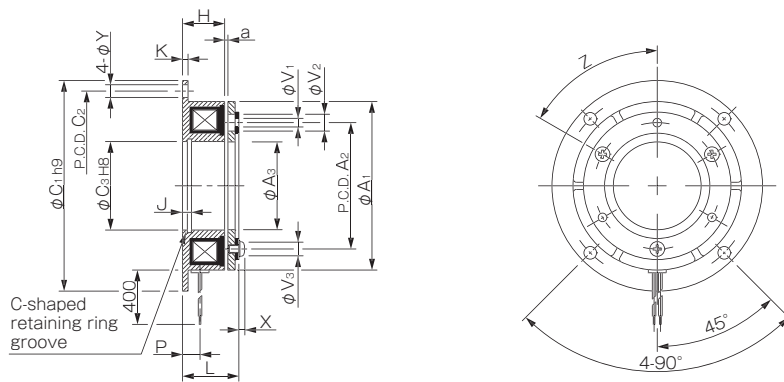
## Specifications

| Model      | Size | Dynamic friction torque $T_d$ [N·m] | Static friction torque $T_s$ [N·m] | Coil (at 20°C) |             |             |                         | Heat resistance class | Max. rotation speed [min <sup>-1</sup> ] | Armature Moment of inertia J [kg·m <sup>2</sup> ] | Total work performed until readjustment of the air gap $E_T$ [J] | Armature pull-in time $t_a$ [s] | Torque rise time $t_p$ [s] | Torque extinction time $t_d$ [s] | Mass [kg] |      |
|------------|------|-------------------------------------|------------------------------------|----------------|-------------|-------------|-------------------------|-----------------------|--|---|--|---------------------------------|----------------------------|----------------------------------|-----------|------|
|            |      |                                     |                                    | Voltage [V]    | Wattage [W] | Current [A] | Resistance [ $\Omega$ ] |                       |  |   |  |                                 |                            |                                  |           |      |
| 111-06-13G | 06   | 5                                   | 5.5                                | DC24           | 11          | 0.46        | 52                      | B                     | 8000                                     | $4.23 \times 10^{-5}$                             | $36 \times 10^6$   | 0.015                           | 0.033                      | 0.015                            | 0.28      |      |
| 111-06-12G |      |                                     |                                    |                |             |             |                         |                       |  | $6.03 \times 10^{-5}$                             |  |                                 |                            |                                  |           | 0.32 |
| 111-06-11G |      |                                     |                                    |                |             |             |                         |                       |  | $6.03 \times 10^{-5}$                             |  |                                 |                            |                                  |           |      |
| 111-08-13G | 08   | 10                                  | 11                                 | DC24           | 15          | 0.63        | 38                      | B                     | 6000                                     | $1.18 \times 10^{-4}$                             | $60 \times 10^6$   | 0.016                           | 0.042                      | 0.025                            | 0.5       |      |
| 111-08-12G |      |                                     |                                    |                |             |             |                         |                       |  | $1.71 \times 10^{-4}$                             |  |                                 |                            |                                  |           | 0.58 |
| 111-08-11G |      |                                     |                                    |                |             |             |                         |                       |  | $1.71 \times 10^{-4}$                             |  |                                 |                            |                                  |           |      |
| 111-10-13G | 10   | 20                                  | 22                                 | DC24           | 20          | 0.83        | 29                      | B                     | 5000                                     | $4.78 \times 10^{-4}$                             | $130 \times 10^6$  | 0.018                           | 0.056                      | 0.030                            | 0.91      |      |
| 111-10-12G |      |                                     |                                    |                |             |             |                         |                       |  | $6.63 \times 10^{-4}$                             |  |                                 |                            |                                  |           | 1.07 |
| 111-10-11G |      |                                     |                                    |                |             |             |                         |                       |  | $6.63 \times 10^{-4}$                             |  |                                 |                            |                                  |           |      |
| 111-12-13G | 12   | 40                                  | 45                                 | DC24           | 25          | 1.09        | 23                      | B                     | 4000                                     | $1.31 \times 10^{-3}$                             | $250 \times 10^6$  | 0.027                           | 0.090                      | 0.050                            | 1.68      |      |
| 111-12-12G |      |                                     |                                    |                |             |             |                         |                       |  | $1.81 \times 10^{-3}$                             |  |                                 |                            |                                  |           | 1.97 |
| 111-12-11G |      |                                     |                                    |                |             |             |                         |                       |  | $1.81 \times 10^{-3}$                             |  |                                 |                            |                                  |           |      |
| 111-16-13G | 16   | 80                                  | 90                                 | DC24           | 35          | 1.46        | 16                      | B                     | 3000                                     | $4.80 \times 10^{-3}$                             | $470 \times 10^6$  | 0.035                           | 0.127                      | 0.055                            | 3.15      |      |
| 111-16-12G |      |                                     |                                    |                |             |             |                         |                       |  | $6.35 \times 10^{-3}$                             |  |                                 |                            |                                  |           | 3.45 |
| 111-16-11G |      |                                     |                                    |                |             |             |                         |                       |  | $6.35 \times 10^{-3}$                             |  |                                 |                            |                                  |           |      |
| 111-20-13G | 20   | 160                                 | 175                                | DC24           | 45          | 1.88        | 13                      | B                     | 2500                                     | $1.37 \times 10^{-2}$                             | $10 \times 10^8$   | 0.065                           | 0.200                      | 0.070                            | 5.9       |      |
| 111-20-12G |      |                                     |                                    |                |             |             |                         |                       |  | $1.90 \times 10^{-2}$                             |  |                                 |                            |                                  |           | 7.1  |
| 111-20-11G |      |                                     |                                    |                |             |             |                         |                       |  | $1.90 \times 10^{-2}$                             |  |                                 |                            |                                  |           |      |
| 111-25-13G | 25   | 320                                 | 350                                | DC24           | 60          | 2.5         | 9.6                     | B                     | 2000                                     | $3.58 \times 10^{-2}$                             | $20 \times 10^8$   | 0.085                           | 0.275                      | 0.125                            | 10.5      |      |
| 111-25-12G |      |                                     |                                    |                |             |             |                         |                       |  | $4.83 \times 10^{-2}$                             |  |                                 |                            |                                  |           | 12.2 |
| 111-25-11G |      |                                     |                                    |                |             |             |                         |                       |  | $4.83 \times 10^{-2}$                             |  |                                 |                            |                                  |           |      |

\* The dynamic friction torque,  $T_d$  is measured at a relative speed of 100 min<sup>-1</sup>.

\* The rotating part moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions (111-□-13G)



Unit [mm]

| Size | Radial direction dimensions |                |                |                |                |                |                |                |                |      | Axial direction dimensions |    |     |     |      |      |      |            |
|------|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------------------|----|-----|-----|------|------|------|------------|
|      | A <sub>1</sub>              | A <sub>2</sub> | A <sub>3</sub> | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | V <sub>1</sub> | V <sub>2</sub> | V <sub>3</sub> | Y    | Z                          | H  | J   | K   | L    | P    | X    | a          |
| 06   | 63                          | 46             | 34.5           | 80             | 72             | 35             | 3-3.1          | 3-6.3          | 3-5.5          | 5    | 6-60°                      | 18 | 3.5 | 2.1 | 22   | 7.3  | 2.5  | 0.2 ± 0.05 |
| 08   | 80                          | 60             | 41.5           | 100            | 90             | 42             | 3-4.1          | 3-8            | 3-7            | 6    | 6-60°                      | 20 | 4.3 | 2.6 | 24.5 | 8.3  | 2.85 | 0.2 ± 0.05 |
| 10   | 100                         | 76             | 51.5           | 125            | 112            | 52             | 3-5.1          | 3-10.5         | 3-9            | 7    | 6-60°                      | 22 | 5   | 3.1 | 28   | 9    | 3.3  | 0.2 ± 0.05 |
| 12   | 125                         | 95             | 61.5           | 150            | 137            | 62             | 3-6.1          | 3-12           | 3-11           | 7    | 6-60°                      | 24 | 5.5 | 3.6 | 31   | 9.3  | 3.3  | 0.3 ± 0.05 |
| 16   | 160                         | 120            | 79.5           | 190            | 175            | 80             | 3-8.1          | 3-15           | 3-13           | 9.5  | 6-60°                      | 26 | 6   | 4.1 | 35   | 11.7 | 3.5  | 0.3 ± 0.05 |
| 20   | 200                         | 158            | 99.5           | 230            | 215            | 100            | 3-10.2         | 3-18           | 3-17           | 9.5  | 6-60°                      | 30 | 7   | 5.1 | 41.5 | 13.4 | 4.9  | 0.5 ± 0.1  |
| 25   | 250                         | 210            | 124.5          | 290            | 270            | 125            | 4-12.2         | 4-22           | 4-20           | 11.5 | 8-45°                      | 35 | 8   | 6.1 | 48   | 16   | 5.5  | 0.5 ± 0.2  |

How to Place an Order

111-06-13G 24V

Size