

# 4GG - 4GX

## 4" SUBMERSIBLE MOTOR



### TECHNICAL DATA

**Flanging:** NEMA 4".  
**Insulation class:** F.  
**Protection class:** IP68.  
**Cooling flow speed:** min. 0,3 m/s 35 °C.  
**Power supply tolerance:** + 6 % / -10 %.  
**Max. starts:** 20/h.  
**Max operating depth:** 300 m.  
**Horizontal operation:** 0,5 HP - 10 HP.

### GENERAL DATA

4" submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel for the parts in contact with water. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Kingsbury self-centring thrust block designed to withstand significant axial loads. Stator housed in an airtight AISI 304L stainless steel casing with internal sleeve and outer casing and flanges.

The 4GX version completely in AISI 316 stainless steel is available on request.

The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50 Hz). For the 50 Hz single-phase version, the capacitor and manually resettable overload protection are in the electrical control box provided separately. Overload protection to be provided by the user for the three-phase version.

On request: cables of a different length, different voltage supply, thermal protection device (50 Hz - PSC - of 0,5 HP to 1,5 HP).

### CONSTRUCTION FEATURES



Stator housed in an outer casing and flanges in AISI 304L. The stator has 24 slots to ensure better elasticity and smooth operation; the copper conductors have a double layer of Class H insulating enamel.



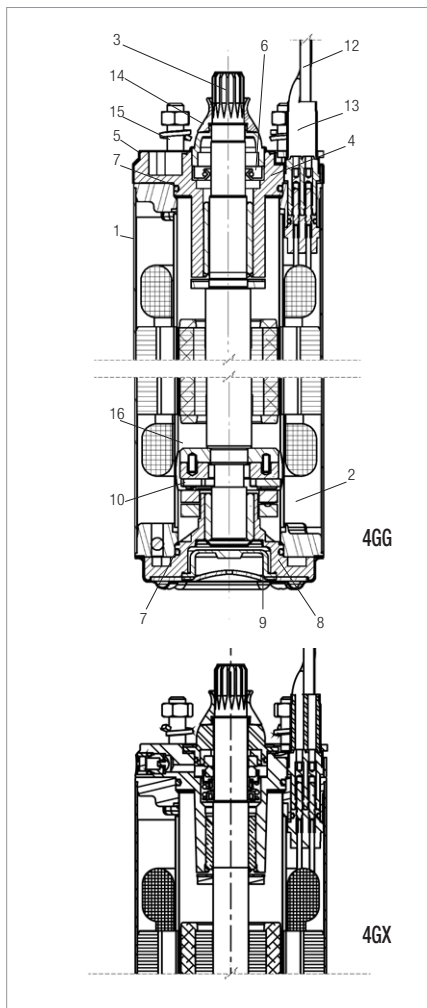
Kingsbury thrust block equipped with carbon clearance ring and oscillating pads in high-strength stainless steel machined by Tesla with a spherical lapping process.  
From 0,5 HP to 1.5 HP: 2000 N  
From 2 HP to 3 HP: 3000 N  
From 4 HP to 10 HP: 6000 N



Shafts with terminal in AISI 304/Duplex, with special surface hardening and polishing in the work area of the bushings. Squirrel cage rotor in aluminium for power ratings up to 3 HP and in copper for motors of power above 4 HP.

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### MATERIALS

| N. | PARTS                            | VERSION 4GG             | VERSION 4GX        |
|----|----------------------------------|-------------------------|--------------------|
| 1  | INTERNAL SLEEVE AND OUTER CASING | AISI 304                | AISI 316           |
| 2  | STATOR                           | AISI 304L               | AISI 316 TI        |
| 3  | SHAFT EXTENSION                  | AISI 304 / DUPLEX       | DUPLEX             |
| 4  | UPPER SUPPORT                    | TEFLON COATED CAST IRON | AISI 316           |
| 5  | SUPPORT COVER                    | AISI 304                | -                  |
| 6  | LIP SEAL                         | NBR                     | -                  |
| 7  | GASKETS                          | NBR                     | VITON              |
| 8  | LOWER SUPPORT                    | TEFLON COATED CAST IRON | AISI 316           |
| 9  | BELLOW SEAL                      | EPDM                    | EPDM               |
| 10 | THRUST BLOCK                     | STEEL - GRAPHITE        | STEEL - GRAPHITE   |
| 11 | VALVE                            | AISI 303                | AISI 316           |
| 12 | CABLE                            | EPDM                    | EPDM               |
| 13 | CONNECTOR PLUG                   | AISI 316                | AISI 316           |
| 14 | SAND GUARD                       | NBR                     | EPDM               |
| 15 | SCREWS                           | AISI 304                | AISI 316           |
| 16 | COOLANT                          | ANTIFREEZE + WATER      | ANTIFREEZE + WATER |
| 17 | MECHANICAL SEAL                  | -                       | SIC/SIC            |

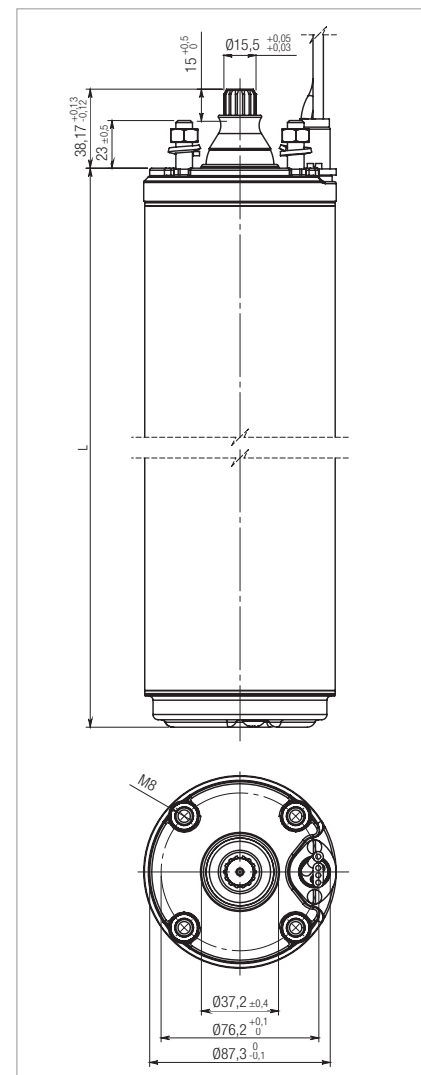
SUBMERSIBLE MOTORS

### DIMENSIONS - SINGLE-PHASE MOTORS

| TYPE  | P2   |      | LENGTH<br>mm | WEIGHT<br>4GG | WEIGHT<br>4GX | AXIAL<br>THRUST<br>N |
|-------|------|------|--------------|---------------|---------------|----------------------|
|       | hp   | kW   |              |               |               |                      |
| 50 Hz | 0,5  | 0,37 | 236          | 6,9           | 7,3           | 2000                 |
|       | 0,75 | 0,55 | 266          | 8,1           | 8,5           | 2000                 |
|       | 1    | 0,75 | 286          | 9,1           | 9,4           | 2000                 |
|       | 1,5  | 1,1  | 331          | 11            | 11,4          | 2000                 |
|       | 2    | 1,5  | 393          | 13,2          | 13,6          | 3000                 |
| 50 Hz | 3    | 2,2  | 413          | 13,9          | 14,2          | 3000                 |
| 50 Hz | 5    | 3,7  | 684          | 27            | 26,7          | 6000                 |

### DIMENSIONS - THREE-PHASE MOTORS

| TYPE  | P2   |      | LENGTH<br>mm | WEIGHT<br>4GG | WEIGHT<br>4GX | AXIAL<br>THRUST<br>N |
|-------|------|------|--------------|---------------|---------------|----------------------|
|       | hp   | kW   |              |               |               |                      |
| 50 Hz | 0,5  | 0,37 | 216          | 6,2           | 6,6           | 2000                 |
|       | 0,75 | 0,55 | 236          | 6,9           | 7,3           | 2000                 |
|       | 1    | 0,75 | 266          | 8,1           | 8,5           | 2000                 |
|       | 1,5  | 1,1  | 286          | 9,1           | 9,4           | 2000                 |
|       | 2    | 1,5  | 348          | 11            | 11,4          | 3000                 |
|       | 3    | 2,2  | 393          | 13,2          | 13,6          | 3000                 |
| 50 Hz | 4    | 3    | 544          | 19,9          | 20            | 6000                 |
|       | 5,5  | 4    | 614          | 22,9          | 23            | 6000                 |
|       | 7,5  | 5,5  | 684          | 26,8          | 27            | 6000                 |
|       | 10   | 7,5  | 764          | 30,6          | 30,7          | 6000                 |



# 4GG - 4GX

## 4" SUBMERSIBLE MOTOR

### ELECTRICAL DATA - SINGLE-PHASE MOTORS

| MODEL                            | P2   |      | POWER INPUT<br>50 Hz | I <sub>n</sub><br>A | I <sub>s</sub> /I <sub>n</sub> | C <sub>s</sub> /C <sub>n</sub> | P1<br>W | N<br>min <sup>-1</sup> | Cos φ | η<br>% | C<br>μF | CABLE                |         |
|----------------------------------|------|------|----------------------|---------------------|--------------------------------|--------------------------------|---------|------------------------|-------|--------|---------|----------------------|---------|
|                                  | hp   | kW   |                      |                     |                                |                                |         |                        |       |        |         | Ø<br>mm <sup>2</sup> | LC<br>m |
| 4GG / 4 GX - 0,37 kW - 230 V - M | 0,5  | 0,37 | 230                  | 3,3                 | 2,7                            | 0,69                           | 740     | 2820                   | 0,97  | 50     | 16      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,55 kW - 230 V - M | 0,75 | 0,55 | 230                  | 4,6                 | 3,3                            | 0,68                           | 1000    | 2820                   | 0,94  | 56     | 20      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,75 kW - 230 V - M | 1    | 0,75 | 230                  | 6,2 W               | 3,2                            | 0,66                           | 1300    | 2820                   | 0,92  | 58     | 25      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,1 kW - 230 V - M  | 1,5  | 1,1  | 230                  | 8,6                 | 3,6                            | 0,68                           | 1820    | 2830                   | 0,90  | 62     | 35      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,5 kW - 230 V - M  | 2    | 1,5  | 230                  | 11                  | 3,7                            | 0,62                           | 2320    | 2830                   | 0,91  | 65     | 40      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 2,2 kW - 230 V - M  | 3    | 2,2  | 230                  | 16                  | 3,1                            | 0,6                            | 3460    | 2810                   | 0,89  | 65     | 60      | 4x1,5                | 1,7     |
| 4GG / 4 GX - 3,7 kW - 230 V - M  | 5    | 3,7  | 230                  | 25                  | 3,6                            | 0,51                           | 5500    | 2850                   | 0,95  | 65     | 90      | 4x2                  | 2,7     |

### ELECTRICAL DATA - THREE-PHASE MOTORS

| MODEL                            | P2   |      | POWER INPUT<br>50 Hz | I <sub>n</sub><br>A | I <sub>s</sub> /I <sub>n</sub> | C <sub>s</sub> /C <sub>n</sub> | P1<br>W | N<br>min <sup>-1</sup> | η<br>% | C<br>μF | CABLE                |         |
|----------------------------------|------|------|----------------------|---------------------|--------------------------------|--------------------------------|---------|------------------------|--------|---------|----------------------|---------|
|                                  | hp   | kW   |                      |                     |                                |                                |         |                        |        |         | Ø<br>mm <sup>2</sup> | LC<br>m |
| 4GG / 4 GX - 0,37 kW - 230 V - T | 0,5  | 0,37 | 230                  | 2,7                 | 3,7                            | 3                              | 710     | 2820                   | 53     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,37 kW - 400 V - T |      |      | 400                  | 1,4                 | 3,8                            | 3                              | 710     | 2820                   | 53     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,55 kW - 230 V - T | 0,75 | 0,55 | 230                  | 3,3                 | 4,2                            | 3,1                            | 920     | 2830                   | 60     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,55 kW - 400 V - T |      |      | 400                  | 1,9                 | 4,2                            | 3,1                            | 920     | 2830                   | 60     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,75 kW - 230 V - T | 1    | 0,75 | 230                  | 4,1                 | 5,1                            | 3,2                            | 1190    | 2830                   | 63     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 0,75 kW - 400 V - T |      |      | 400                  | 2,4                 | 5,0                            | 3,2                            | 1190    | 2830                   | 63     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,1 kW - 230 V - T  | 1,5  | 1,1  | 230                  | 5,7                 | 4,2                            | 3,3                            | 1720    | 2830                   | 64     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,1 kW - 400 V - T  |      |      | 400                  | 3,4                 | 4,1                            | 3,3                            | 1720    | 2830                   | 64     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,5 kW - 230 V - T  | 2    | 1,5  | 230                  | 7,6                 | 4,3                            | 3,4                            | 2200    | 2830                   | 68     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 1,5 kW - 400 V - T  |      |      | 400                  | 4,4                 | 4,3                            | 3,4                            | 2200    | 2830                   | 68     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 2,2 kW - 230 V - T  | 3    | 2,2  | 230                  | 10,2                | 4,4                            | 3,2                            | 3170    | 2820                   | 71     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 2,2 kW - 400 V - T  |      |      | 400                  | 5,9                 | 4,4                            | 3,2                            | 3170    | 2820                   | 71     | -       | 4x1,5                | 1,7     |
| 4GG / 4 GX - 3,0 kW - 230 V - T  | 4    | 3    | 230                  | 14,3                | 4,6                            | 3,3                            | 4050    | 2840                   | 74     | -       | 4x1,5                | 2,7     |
| 4GG / 4 GX - 3,0 kW - 400 V - T  |      |      | 400                  | 8,3                 | 4,6                            | 3,3                            | 4050    | 2840                   | 74     | -       | 4x1,5                | 2,7     |
| 4GG / 4 GX - 4,0 kW - 230 V - T  | 5,5  | 4    | 230                  | 17,3                | 5,6                            | 3,4                            | 5340    | 2850                   | 75     | -       | 4x2                  | 2,7     |
| 4GG / 4 GX - 4,0 kW - 400 V - T  |      |      | 400                  | 10                  | 5,6                            | 3,4                            | 5340    | 2850                   | 75     | -       | 4x1,5                | 2,7     |
| 4GG / 4 GX - 5,5 kW - 230 V - T  | 7,5  | 5,5  | 230                  | 24,2                | 5,5                            | 3,4                            | 7110    | 2850                   | 77     | -       | 4x2                  | 2,7     |
| 4GG / 4 GX - 5,5 kW - 400 V - T  |      |      | 400                  | 14                  | 5,5                            | 3,4                            | 7110    | 2850                   | 77     | -       | 4x1,5                | 2,7     |
| 4GG / 4 GX - 7,5 kW - 400 V - T  | 10   | 7,5  | 400                  | 17,4                | 4,8                            | 2,9                            | 9520    | 2850                   | 79     | -       | 4x2                  | 3,5     |

**P2:** Nominal power  
**V:** Nominal voltage  
**I<sub>n</sub>:** Nominal current  
**I<sub>s</sub>/I<sub>n</sub>:** Starting current/Nominal current  
**C<sub>s</sub>/C<sub>n</sub>:** Starting torque/Nominal torque  
**P1:** Absorbed power  
**N:** Rotations per minute - R.p.m

**Cos φ:** Power factor  
**η:** Yield  
**C:** Capacitor  
**Ø:** Cable cross section  
**LC:** Cable length

Winding resistance: see technical appendix on page 251