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## Submersible motors for well diameters from 150 mm (6 inches)

### Applications

The **oddesse** submersible motors of the series **po-mo** are designed to drive submersible pumps. They are also applicable for other submersible machines and offshore operation.

### Design

The **oddesse** submersible motor is a three-phase asynchronous motor with a short circuit rotor. It is designed as a wet-running motor with a watertight insulated winding. All motors are rewindable. The motor connection for 6- and 8-inch motors are according to NEMA-standard, 10- and 12-inch motors are according to international standards. The bearings are lubricated by the motor filling. It is a mixture of glycerine and water. Glycerine is biodegradable and secures the anti freeze protection up to -25 °C. If necessary, it can be changed with pure drinking water.

Axial down thrusts will be absorbed by the axial thrust bearing with individual tilting pads.

Motors are encapsulated by a high quality mechanical seal. A reliable balance system grant the pressure compensation between motor and its environment.

The motors are completed with pressure-water tide cable. They are inside earthed.

Construction complies with VDE-regulations and the motors are conform to the EC declaration of conformity as defined by machinery directive 2006/42/EEC.

Motors are usable in horizontal and diagonal position depending of the nominal power. **oddesse** motors are working electrical clock- and anticlockwise.

A high efficiency guarantees lowest operating costs.

For all the motors **oddesse** hold a detailed supply of control and monitoring equipment available.

### Operating data

- Nominal power: up to 400 kW
- Voltage: up to 1000 V
- Kind of currency: 3 ~
- Frequency : 50 Hz and 60 Hz
- Degree of protection: IP 68
- Ambient temperature: up to 30 °C (50 °C with XLPE/PA-wire, higher temperatures on request)
- Switching frequency: max. 20 / h (po-mo12 max. 10 / h)
- Nominal speed: 2850 1/min and 3460 1/min

### Special design (on request)

- higher temperatures
- other quality of pumped medium, for example sea water use
- chemically polluted liquids
- other materials
- suction jacket
- temperature monitoring with PTC / Pt100 including reporting device
- microprocessor controlled motor monitoring

### Frequency transformer operation

Every **oddesse** motor is usable for frequency transformer operations. Following items should be considered:

- the frequency transformer must be conform to the nominal currency of the submersible motor,
- the maximal working range from 30 Hz up to 60 Hz, corresponding speed from 1.740 up to 3.460 1/min,
- the using of a sine-wave generator protect against high voltage peaks
- the minimum rate of flow must be 10 % of the nominal rate of flow of the pump.

### Soft starter operation

Soft starters are very qualified to start a submersible motor. It grants:

- reducing of starting current
- avoidance of water hammer while starting causing switch off of the pump.

Subject to alterations

**Material of construction**
**Submersible motor po-mo6, po-mo8, po-mo10, po-mo12**
**According to DIN**

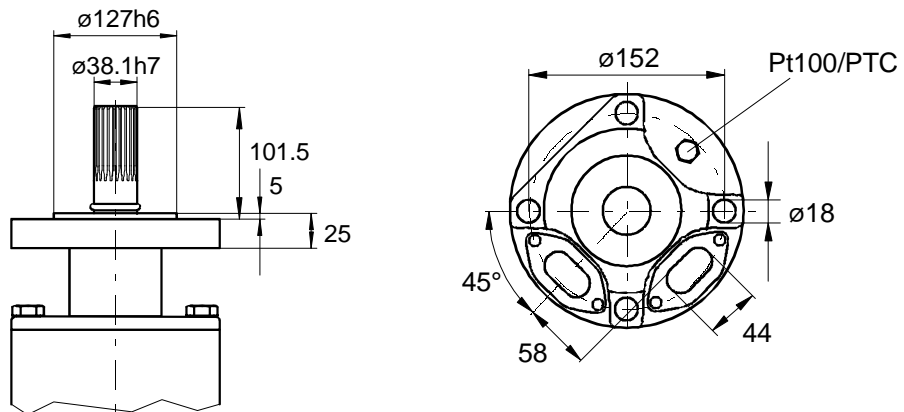
| components             | design                                       |                             |                              |                             |
|------------------------|--|-----------------------------|------------------------------|-----------------------------|
|                        | G-version<br>(GGG 40)                        | C-version<br>(AISI 304)     | X-version<br>(AISI 316)      | Y-version<br>(AISI 904L)    |
| shaft                  | stainless steel / 1.4301                     |                             | stainless steel / 1.4462     |                             |
| motor flange           | grey cast iron<br>GGG40 / 0.7040             | stainless steel /<br>1.4301 | stainless steel /<br>1.4571  | stainless steel /<br>1.4539 |
| motor jacket           | stainless steel / 1.4306                     |                             | stainless steel /<br>1.4571  | stainless steel /<br>1.4539 |
| radial bearing         | stainless steel / carbon                     |                             |                              |                             |
| thrust bearing         | stainless steel / carbon                     |                             |                              |                             |
| screws, nuts and bolts | stainless steel A2 1.4301 / 1.4303           |                             | stainless steel A4<br>1.4401 | stainless steel<br>1.4539   |
| mechanical seal        | carbon / ceramic                             |                             | SiC / SiC                    |                             |
|                        | optional: SiC / SiC available for all motors |                             |                              |                             |

**According to AISI**

| components             | design                                       |                               |                                 |                                 |
|------------------------|--|-------------------------------|---------------------------------|---------------------------------|
|                        | G-version<br>(GGG40)                         | C-version<br>(AISI 304)       | X-version<br>(AISI 316)         | Y-version<br>(AISI 904L)        |
| shaft                  | stainless steel / AISI 304                   |                               | duplex steel                    |                                 |
| motor flange           | grey cast iron<br>A563-72                    | stainless steel /<br>AISI 304 | stainless steel /<br>AISI 316Ti | stainless steel /<br>AISI 904L  |
| motor jacket           | stainless steel / AISI 304L                  |                               | stainless steel /<br>AISI 316Ti | stainless steel /<br>AISI 904L  |
| radial bearing         | stainless steel / carbon                     |                               |                                 |                                 |
| thrust bearing         | stainless steel / carbon                     |                               |                                 |                                 |
| screws, nuts and bolts | stainless steel A2 AISI 304 / 305            |                               | stainless steel A4<br>AISI 316  | stainless steel A4<br>AISI 904L |
| mechanical seal        | carbon / ceramic                             |                               | SiC / SiC                       |                                 |
|                        | optional: SiC / SiC available for all motors |                               |                                 |                                 |

**oddesse** reserve the right to employ construction materials following German (DIN) standard

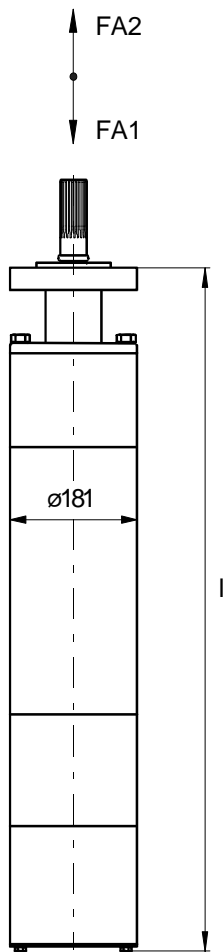
Subject to alterations



Pump connection acc. to NEMA-standards

**po-mo8.5 • 50 Hz • 3 ~ • S.F. 1.0**

| Power P |     | Length l |      | Weight m |     |
|---------|-----|----------|------|----------|-----|
| kW      | HP  | mm       | inch | kg       | lbs |
| 7.5     | 10  | 847      | 33.3 | 82       | 181 |
| 11      | 15  | 892      | 35.1 | 89       | 196 |
| 15      | 20  | 942      | 37.1 | 97       | 214 |
| 18.5    | 25  | 982      | 38.7 | 103      | 227 |
| 22      | 30  | 1022     | 40.2 | 109      | 240 |
| 30      | 40  | 1117     | 44.0 | 124      | 273 |
| 37      | 50  | 1202     | 47.3 | 138      | 304 |
| 45      | 60  | 1282     | 50.5 | 151      | 333 |
| 55      | 75  | 1362     | 53.6 | 163      | 359 |
| 63      | 85  | 1442     | 56.8 | 176      | 388 |
| 75      | 100 | 1542     | 60.7 | 192      | 423 |
| 90      | 125 | 1602     | 63.1 | 202      | 445 |
| 110     | 150 | 1652     | 65.0 | 210      | 463 |
| 132     | 175 | 1752     | 69.0 | 225      | 496 |



Main dimensions [mm]

**po-mo8.5 • 60 Hz • 3 ~ • S.F. 1.0**

| Power P |      | Length l |      | Weight m |     |
|---------|------|----------|------|----------|-----|
| kW      | HP   | mm       | inch | kg       | lbs |
| 8.5     | 11.5 | 847      | 33.3 | 82       | 181 |
| 13      | 17.5 | 892      | 35.1 | 89       | 196 |
| 17      | 23   | 942      | 37.1 | 97       | 214 |
| 22      | 30   | 982      | 38.7 | 103      | 227 |
| 26      | 35   | 1022     | 40.2 | 109      | 240 |
| 37      | 50   | 1117     | 44.0 | 124      | 273 |
| 45      | 60   | 1202     | 47.3 | 138      | 304 |
| 55      | 75   | 1282     | 50.5 | 151      | 333 |
| 63      | 85   | 1362     | 53.6 | 163      | 359 |
| 75      | 100  | 1442     | 56.8 | 176      | 388 |
| 90      | 125  | 1542     | 60.7 | 192      | 423 |
| 100     | 135  | 1602     | 63.1 | 202      | 445 |
| 110     | 150  | 1652     | 65.0 | 210      | 463 |

**FA1** Downthrust capacity: 45 kN / 10000 lbs

**FA2** Downthrust capacity: 1 kN / 220 lbs

Delivery voltages: 220 ... 1000 V (220 / 230 V up to 63 kW)

Subject to alterations

**po-mo8.5 • 400 V, 50 Hz • 3 ~ • S.F. 1.0 • Direct starting**

| P <sub>n</sub> |     | I <sub>n</sub> | I <sub>a</sub> /I <sub>n</sub> | η   |     |     | cos φ |     |     | Ma/M <sub>n</sub> | Mk/M <sub>n</sub> | n     | Flat cable      |
|----------------|-----|----------------|--------------------------------|-----|-----|-----|-------|-----|-----|-------------------|-------------------|-------|-----------------|
| kW             | HP  | A              |                                | 2/4 | 3/4 | 4/4 | 2/4   | 3/4 | 4/4 |                   |                   | 1/min | mm <sup>2</sup> |
| 7.5            | 10  | 17             | 4.5                            | 78  | 79  | 80  | 68    | 77  | 82  | 1.1               | 2.2               | 2870  | 1 fl 4 × 4      |
| 11             | 15  | 24             | 4.7                            | 79  | 80  | 81  | 68    | 78  | 83  | 1.1               | 2.4               | 2870  | 1 fl 4 × 4      |
| 15             | 20  | 31             | 4.7                            | 81  | 82  | 84  | 70    | 79  | 84  | 1.2               | 2.4               | 2870  | 1 fl 4 × 4      |
| 18.5           | 25  | 38             | 4.7                            | 81  | 82  | 84  | 71    | 80  | 85  | 1.2               | 2.5               | 2870  | 1 fl 4 × 4      |
| 22             | 30  | 45             | 5.1                            | 82  | 83  | 85  | 71    | 80  | 85  | 1.3               | 2.6               | 2870  | 1 fl 4 × 4      |
| 30             | 40  | 58             | 4.9                            | 84  | 85  | 86  | 72    | 82  | 87  | 1.1               | 2.6               | 2870  | 1 fl 4 × 6      |
| 37             | 50  | 72             | 5.4                            | 85  | 86  | 87  | 72    | 81  | 86  | 1.4               | 2.7               | 2870  | 1 fl 4 × 10     |
| 45             | 60  | 88             | 5.5                            | 85  | 86  | 87  | 71    | 81  | 86  | 1.5               | 2.9               | 2870  | 1 fl 4 × 10     |
| 55             | 75  | 108            | 5.4                            | 84  | 85  | 87  | 72    | 81  | 87  | 1.5               | 2.7               | 2870  | 1 fl 4 × 16     |
| 63             | 85  | 127            | 5.3                            | 83  | 84  | 86  | 72    | 82  | 87  | 1.4               | 2.7               | 2850  | 1 fl 4 × 25     |
| 75             | 100 | 145            | 4.9                            | 84  | 85  | 87  | 73    | 83  | 88  | 1.3               | 2.6               | 2850  | 1 fl 4 × 25     |
| 90             | 125 | 172            | 4.6                            | 84  | 85  | 87  | 74    | 83  | 89  | 1.3               | 2.4               | 2830  | 2 fl 4 × 16     |
| 110            | 150 | 225            | 4.0                            | 84  | 85  | 84  | 74    | 83  | 85  | 1.2               | 2.2               | 2830  | 2 fl 4 × 16     |
| 132            | 175 | 292            | 5.0                            | 85  | 86  | 85  | 62    | 74  | 82  | 1.4               | 2.7               | 2830  | 2 fl 4 × 25     |

**po-mo8.5 • 380 V, 60 Hz • 3 ~ • S.F. 1.0 • Direct starting**

| P <sub>n</sub> |      | I <sub>n</sub> | I <sub>a</sub> /I <sub>n</sub> | η   |     |     | cos φ |     |     | Ma/M <sub>n</sub> | Mk/M <sub>n</sub> | n     | Flat cable      |
|----------------|------|----------------|--------------------------------|-----|-----|-----|-------|-----|-----|-------------------|-------------------|-------|-----------------|
| kW             | HP   | A              |                                | 2/4 | 3/4 | 4/4 | 2/4   | 3/4 | 4/4 |                   |                   | 1/min | mm <sup>2</sup> |
| 8.5            | 11.5 | 21             | 6.4                            | 78  | 79  | 80  | 66    | 74  | 79  | 1.1               | 2.2               | 3460  | 1 fl 4 × 4      |
| 13             | 17.5 | 30             | 6.4                            | 79  | 80  | 81  | 68    | 77  | 82  | 1.1               | 2.4               | 3460  | 1 fl 4 × 4      |
| 17             | 23   | 38             | 6.2                            | 81  | 81  | 83  | 69    | 78  | 83  | 1.2               | 2.4               | 3460  | 1 fl 4 × 4      |
| 22             | 30   | 48             | 5.8                            | 81  | 82  | 84  | 70    | 80  | 85  | 1.2               | 2.5               | 3460  | 1 fl 4 × 4      |
| 26             | 35   | 57             | 6.6                            | 82  | 83  | 85  | 68    | 78  | 83  | 1.3               | 2.6               | 3460  | 1 fl 4 × 6      |
| 37             | 50   | 83             | 6.1                            | 81  | 81  | 83  | 68    | 78  | 83  | 1.1               | 2.6               | 3460  | 1 fl 4 × 10     |
| 45             | 60   | 93             | 6.1                            | 85  | 86  | 87  | 71    | 81  | 86  | 1.4               | 2.7               | 3460  | 1 fl 4 × 16     |
| 55             | 75   | 114            | 6.3                            | 85  | 86  | 88  | 71    | 80  | 85  | 1.5               | 2.9               | 3460  | 1 fl 4 × 16     |
| 63             | 85   | 130            | 6.3                            | 84  | 85  | 87  | 72    | 81  | 86  | 1.5               | 2.7               | 3460  | 1 fl 4 × 25     |
| 75             | 100  | 155            | 6.3                            | 84  | 85  | 87  | 72    | 81  | 86  | 1.4               | 2.7               | 3460  | 1 fl 4 × 25     |
| 90             | 125  | 190            | 6.3                            | 83  | 84  | 85  | 72    | 82  | 86  | 1.3               | 2.6               | 3460  | 2 fl 4 × 16     |
| 100            | 135  | 212            | 6.3                            | 84  | 85  | 85  | 73    | 83  | 86  | 1.3               | 2.4               | 3460  | 2 fl 4 × 16     |
| 110            | 150  | 228            | 6.3                            | 86  | 87  | 85  | 72    | 82  | 86  | 1.2               | 2.2               | 3460  | 2 fl 4 × 16     |

|                                    |                                  |                         |                                 |
|------------------------------------|----------------------------------|-------------------------|---------------------------------|
| <b>P<sub>n</sub></b>               | Rated output                     | <b>cos φ</b>            | Power factor                    |
| <b>I<sub>n</sub></b>               | Rated current                    | <b>Ma/M<sub>n</sub></b> | Starting torque / rated torque  |
| <b>I<sub>a</sub>/I<sub>n</sub></b> | Starting current / rated current | <b>Mk/M<sub>n</sub></b> | Breakdown torque / rated torque |
| <b>η</b>                           | Efficiency                       | <b>n</b>                | Rated speed                     |

- Connection 8" NEMA
- Cable length 4 m
- Degree of protection IP68 (EN60034)
- Tolerances DIN VDE 0530 / IEC 34
- Voltage tolerances +6 % / -10 % (DIN IEC 38)
- Star-delta-version I<sub>a</sub>/I<sub>n</sub>×0.33, Ma/M<sub>n</sub>×0.33
- Horizontal use up to 63 kW
- Switch frequency max. 20/h
- Ambient temperature max. 30 °C (50 °C with XLPE/PA-wire)
- Cooling flow min. 0.5 m/s

Special design on request

Subject to alterations

**po-mo8.5 • 50 Hz • 3 ~ • S.F. 1.0 • Direct starting**

| P <sub>n</sub> |     | 220 V          |                 | 230 V          |                 | 380 V          |                 | 415 V          |                 |
|----------------|-----|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
|                |     | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      |
| kW             | HP  | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> |
| 7.5            | 10  | 30.5           | 1 fl 4 × 4      | 29             | 1 fl 4 × 4      | 17.5           | 1 fl 4 × 4      | 16             | 1 fl 4 × 4      |
| 11             | 15  | 44             | 1 fl 4 × 4      | 42             | 1 fl 4 × 4      | 25             | 1 fl 4 × 4      | 23             | 1 fl 4 × 4      |
| 15             | 20  | 57             | 1 fl 4 × 6      | 54             | 1 fl 4 × 6      | 33             | 1 fl 4 × 4      | 30             | 1 fl 4 × 4      |
| 18.5           | 25  | 69             | 1 fl 4 × 10     | 66             | 1 fl 4 × 10     | 40             | 1 fl 4 × 4      | 36             | 1 fl 4 × 4      |
| 22             | 30  | 81             | 1 fl 4 × 10     | 77             | 1 fl 4 × 10     | 47             | 1 fl 4 × 4      | 43             | 1 fl 4 × 4      |
| 30             | 40  | 107            | 1 fl 4 × 16     | 101            | 1 fl 4 × 16     | 62             | 1 fl 4 × 10     | 56             | 1 fl 4 × 6      |
| 37             | 50  | 131            | 1 fl 4 × 25     | 125            | 1 fl 4 × 25     | 76             | 1 fl 4 × 10     | 69             | 1 fl 4 × 10     |
| 45             | 60  | 161            | 2 fl 4 × 10     | 153            | 1 fl 4 × 25     | 93             | 1 fl 4 × 16     | 85             | 1 fl 4 × 10     |
| 55             | 75  | 196            | 2 fl 4 × 16     | 186            | 2 fl 4 × 16     | 113            | 1 fl 4 × 16     | 104            | 1 fl 4 × 16     |
| 63             | 85  | 226            | 2 fl 4 × 16     | 215            | 2 fl 4 × 16     | 130            | 1 fl 4 × 25     | 119            | 1 fl 4 × 16     |
| 75             | 100 | 263            | 2 fl 4 × 25     | 251            | 2 fl 4 × 25     | 152            | 1 fl 4 × 25     | 139            | 1 fl 4 × 25     |
| 90             | 125 | 314            | 2 fl 4 × 25     | 298            | 2 fl 4 × 25     | 181            | 2 fl 4 × 16     | 166            | 1 fl 4 × 25     |
| 110            | 150 |                |                 |                |                 | 236            | 2 fl 4 × 16     | 220            | 2 fl 4 × 16     |
| 132            | 175 |                |                 |                |                 | 295            | 2 fl 4 × 25     | 235            | 2 fl 4 × 25     |

| P <sub>n</sub> |     | 500 V          |                 | 660 V          |                 | 690 V          |                 |
|----------------|-----|----------------|-----------------|----------------|-----------------|----------------|-----------------|
|                |     | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      |
| kW             | HP  | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> |
| 7.5            | 10  | 13.5           | 1 fl 4 × 4      | 10             | 1 fl 4 × 4      | 10             | 1 fl 4 × 4      |
| 11             | 15  | 19             | 1 fl 4 × 4      | 15             | 1 fl 4 × 4      | 14             | 1 fl 4 × 4      |
| 15             | 20  | 25             | 1 fl 4 × 4      | 19             | 1 fl 4 × 4      | 18             | 1 fl 4 × 4      |
| 18.5           | 25  | 30             | 1 fl 4 × 4      | 23             | 1 fl 4 × 4      | 22             | 1 fl 4 × 4      |
| 22             | 30  | 36             | 1 fl 4 × 4      | 27             | 1 fl 4 × 4      | 26             | 1 fl 4 × 4      |
| 30             | 40  | 47             | 1 fl 4 × 4      | 36             | 1 fl 4 × 4      | 34             | 1 fl 4 × 4      |
| 37             | 50  | 58             | 1 fl 4 × 10     | 44             | 1 fl 4 × 4      | 42             | 1 fl 4 × 4      |
| 45             | 60  | 70             | 1 fl 4 × 10     | 54             | 1 fl 4 × 6      | 51             | 1 fl 4 × 6      |
| 55             | 75  | 86             | 1 fl 4 × 16     | 65             | 1 fl 4 × 10     | 62             | 1 fl 4 × 6      |
| 63             | 85  | 99             | 1 fl 4 × 16     | 75             | 1 fl 4 × 10     | 72             | 1 fl 4 × 10     |
| 75             | 100 | 116            | 1 fl 4 × 16     | 88             | 1 fl 4 × 10     | 83             | 1 fl 4 × 10     |
| 90             | 125 | 137            | 1 fl 4 × 25     | 104            | 1 fl 4 × 16     | 99             | 1 fl 4 × 16     |
| 110            | 150 | 180            | 1 fl 4 × 25     | 136            | 1 fl 4 × 25     | 130            | 1 fl 4 × 25     |
| 132            | 175 | 234            | 2 fl 4 × 16     | 170            | 2 fl 4 × 10     | 169            | 2 fl 4 × 10     |

P<sub>n</sub>      Rated output  
I<sub>n</sub>      Rated current

Subject to alterations

**po-mo8.5 • 60 Hz • 3 ~ • S.F. 1.0 • Direct starting**

| P <sub>n</sub> |      | 220 V          |                 | 230 V          |                 | 400 V          |                 | 415 V          |                 |
|----------------|------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
|                |      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      |
| kW             | HP   | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> |
| 8.5            | 11.5 | 36             | 1 fl 4 × 4      | 34             | 1 fl 4 × 4      | 20             | 1 fl 4 × 4      | 19             | 1 fl 4 × 4      |
| 13             | 17.5 | 52             | 1 fl 4 × 6      | 50             | 1 fl 4 × 6      | 29             | 1 fl 4 × 4      | 28             | 1 fl 4 × 4      |
| 17             | 23   | 66             | 1 fl 4 × 10     | 63             | 1 fl 4 × 6      | 36             | 1 fl 4 × 4      | 35             | 1 fl 4 × 4      |
| 22             | 30   | 83             | 1 fl 4 × 10     | 79             | 1 fl 4 × 10     | 45             | 1 fl 4 × 4      | 44             | 1 fl 4 × 4      |
| 26             | 35   | 99             | 1 fl 4 × 16     | 95             | 1 fl 4 × 16     | 55             | 1 fl 4 × 6      | 53             | 1 fl 4 × 6      |
| 37             | 50   | 144            | 1 fl 4 × 16     | 138            | 1 fl 4 × 16     | 79             | 1 fl 4 × 10     | 76             | 1 fl 4 × 10     |
| 45             | 60   | 161            | 1 fl 4 × 25     | 153            | 1 fl 4 × 25     | 88             | 1 fl 4 × 16     | 85             | 1 fl 4 × 16     |
| 55             | 75   | 196            | 2 fl 4 × 16     | 187            | 2 fl 4 × 16     | 108            | 1 fl 4 × 16     | 104            | 1 fl 4 × 16     |
| 63             | 85   | 225            | 2 fl 4 × 16     | 215            | 2 fl 4 × 16     | 124            | 1 fl 4 × 25     | 119            | 1 fl 4 × 25     |
| 75             | 100  | 269            | 2 fl 4 × 25     | 255            | 2 fl 4 × 25     | 147            | 1 fl 4 × 25     | 142            | 1 fl 4 × 25     |
| 90             | 125  | 339            | 2 fl 4 × 25     | 322            | 2 fl 4 × 25     | 186            | 2 fl 4 × 16     | 179            | 2 fl 4 × 16     |
| 100            | 135  |                |                 |                |                 | 193            | 2 fl 4 × 16     | 186            | 2 fl 4 × 16     |
| 110            | 150  |                |                 |                |                 | 210            | 2 fl 4 × 16     | 202            | 2 fl 4 × 16     |

| P <sub>n</sub> |      | 440 V          |                 | 460 V          |                 |
|----------------|------|----------------|-----------------|----------------|-----------------|
|                |      | I <sub>n</sub> | Flat cable      | I <sub>n</sub> | Flat cable      |
| kW             | HP   | A              | mm <sup>2</sup> | A              | mm <sup>2</sup> |
| 8.5            | 11.5 | 18             | 1 fl 4 × 4      | 17             | 1 fl 4 × 4      |
| 13             | 17.5 | 26             | 1 fl 4 × 4      | 25             | 1 fl 4 × 4      |
| 17             | 23   | 33             | 1 fl 4 × 4      | 31             | 1 fl 4 × 4      |
| 22             | 30   | 41             | 1 fl 4 × 4      | 40             | 1 fl 4 × 4      |
| 26             | 35   | 50             | 1 fl 4 × 6      | 47             | 1 fl 4 × 6      |
| 37             | 50   | 72             | 1 fl 4 × 10     | 69             | 1 fl 4 × 10     |
| 45             | 60   | 80             | 1 fl 4 × 10     | 77             | 1 fl 4 × 10     |
| 55             | 75   | 98             | 1 fl 4 × 16     | 94             | 1 fl 4 × 16     |
| 63             | 85   | 112            | 1 fl 4 × 16     | 108            | 1 fl 4 × 16     |
| 75             | 100  | 134            | 1 fl 4 × 25     | 128            | 1 fl 4 × 25     |
| 90             | 125  | 169            | 2 fl 4 × 10     | 162            | 1 fl 4 × 25     |
| 100            | 135  | 175            | 2 fl 4 × 16     | 168            | 2 fl 4 × 16     |
| 110            | 150  | 191            | 2 fl 4 × 16     | 182            | 2 fl 4 × 16     |

P<sub>n</sub> Rated output  
 I<sub>n</sub> Rated current

Subject to alterations