

## APEC VMO-Series 4" Submersible Motor



VMO

### VMO 4" 60Hz

#### Feature

- > Removable waterproof cable connector
- > Non-toxic oil (FDA approved)
- > Motor casing & shaft made of SST
- > Special motor design for high starting torque & efficiency
- > Zinc-plated cast iron upper bracket
- > All motors 100% tested

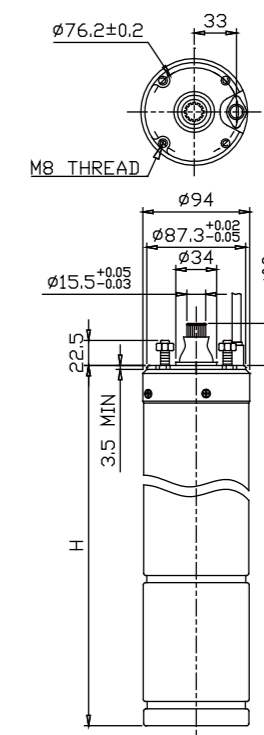
#### Application

- > Designed for a directly connected submersible pump for deep well.

### VMO4 Dimensions And Weights

| Single-Phase Motors 60HZ |      |      |     |        |
|--------------------------|------|------|-----|--------|
| Type                     | P2   |      | H   | Weight |
|                          | KW   | HP   |     |        |
| VMO4-6.05S               | 0.37 | 0.5  | 346 | 7.3    |
| VMO4-6.07S               | 0.55 | 0.75 | 365 | 8.2    |
| VMO4-6.10S               | 0.75 | 1    | 380 | 8.8    |
| VMO4-6.15S               | 1.1  | 1.5  | 405 | 10.0   |
| VMO4-6.20S               | 1.5  | 2    | 440 | 11.5   |
| VMO4-6.30S               | 2.2  | 3    | 495 | 14.0   |
| VMO4-6.50S               | 3.7  | 5    | 683 | 22.7   |

| Three-Phase Motors 60HZ |      |      |     |        |
|-------------------------|------|------|-----|--------|
| Type                    | P2   |      | H   | Weight |
|                         | KW   | HP   |     |        |
| VMO4-6.05T              | 0.37 | 0.5  | 330 | 6.7    |
| VMO4-6.07T              | 0.55 | 0.75 | 346 | 7.4    |
| VMO4-6.10T              | 0.75 | 1    | 365 | 8.2    |
| VMO4-6.15T              | 1.1  | 1.5  | 380 | 8.9    |
| VMO4-6.20T              | 1.5  | 2    | 405 | 10.0   |
| VMO4-6.30T              | 2.2  | 3    | 440 | 11.6   |
| VMO4-6.40T              | 3    | 4    | 516 | 15.2   |
| VMO4-6.55T              | 4    | 5.5  | 607 | 19.5   |
| VMO4-6.75T              | 5.5  | 7.5  | 683 | 23.1   |
| VMO4-6.100T             | 7.5  | 10   | 783 | 27.5   |



Unit(mm)

### 4" Oil Filled Submersible Motors

- > The new development of 4" APEC rewindable submersible motors has made a breakthrough in technology. It is a rewindable submersible motor including the characteristics of removable waterproof cable connectors for easy maintenance, an extremely long service life, good performance within wider voltage fluctuations. The components, such as mechanical seal, copper winding wires and insulations are of superior quality. All APEC submersible motors are tested under the most stringent quality control procedures.

#### General Specifications

|                      |   |
|----------------------|---|
| Mounting flange      | 4" NEMA standard                                  |
| Degree of protection | IP 68   |
| Insulation class     | F   |
| Single phase motors  | 0.37kw up to 3.7kw                                |
| Three phase motors   | 0.37kw up to 7.5kw                                |
| Standard voltages    | 1~110Vor230V<br>3~230V or 400V                    |
| Cable length         | 1.7M 0.37kw up to 1.5kw<br>2.5M 2.2kw up to 7.5kw |

#### Operating Parameters

|                        |  |
|------------------------|--|
| Max voltage variation  | ±10%   |
| Liquid characteristics | Clear water  |
| Max starts / h         | 40   |
| Max water temperature  | 35°C   |
| Flow rate              | 0.2m/sec   |
| Axial thrust           | 2000N from 0.37kw up to 1.5kw<br>3000N 2.2kw<br>5000N from 3kw up to 7.5kw |
| Max immersion depth    | 200m   |

#### Material Specifications

| Part               | Material              |
|--------------------|-----------------------|
| Motor Shell        | 304 Stainless steel   |
| Sand Guard         | NBR                   |
| Cable Connector    | EPDM                  |
| Upper end bracket  | 304 Stainless steel   |
| cover              | Zinc plated cast iron |
| Upper end bracket  | Ceremic/Carbon        |
| Mechanical seal    | 304 Stainless steel   |
| Shaft (0.5 - 3 HP) | 630 Stainless steel   |
| Shaft (4 - 10 HP)  | Aluminum              |
| Rotor (0.5 - 3 HP) | Copper                |
| Rotor (4 - 10 HP)  | PPS                   |
| Connector          | Copper                |
| Winding            | Aluminum              |
| Lower end bracket  | 304 Stainless steel   |
| Diaphragm          | NBR                   |



Option : Plastic control box  
For single phase(3wire)

### VMO4 Selection Chart

| VMO4 60Hz (Single-Phase) |      |      |         |      |          |                  |                    |            |      |        |                |                   |
|--------------------------|------|------|---------|------|----------|------------------|--------------------|------------|------|--------|----------------|-------------------|
| Type                     | P2   |      | Voltage | S.F  | In       | I <sub>max</sub> | I <sub>start</sub> | Efficiency | Nn   | Thrust | Load Capacitor | Cable             |
|                          | KW   | HP   | V       | A    | A        | A                | A                  | %          | RPM  | N      | μF             | mm <sup>2</sup> m |
| VMO4-6.05S               | 0.37 | 0.5  | 110/230 | 1.6  | 8.5/4.8  | 9.8/5.2          | 30/15              | 64         | 3440 | 2000   | 65/16          | 1.5 1.7           |
| VMO4-6.07S               | 0.55 | 0.75 | 110/230 | 1.5  | 10.9/5.6 | 12.8/6.6         | 38/19              | 65         | 3440 | 2000   | 80/20          | 1.5 1.7           |
| VMO4-6.10S               | 0.75 | 1    | 110/230 | 1.4  | 11.5/6.3 | 14.5/7.6         | 50/25              | 68         | 3430 | 2000   | 100/25         | 1.5 1.7           |
| VMO4-6.15S               | 1.1  | 1.5  | 230     | 1.3  | 8.7      | 10.3             | 34                 | 69         | 3440 | 2000   | 35             | 1.5 1.7           |
| VMO4-6.20S               | 1.5  | 2    | 230     | 1.25 | 10.6     | 12.2             | 41                 | 72         | 3420 | 2000   | 40             | 1.5 1.7           |
| VMO4-6.30S               | 2.2  | 3    | 230     | 1.15 | 14.4     | 16.1             | 45                 | 70         | 3420 | 3000   | 55             | 1.5 2.5           |
| VMO4-6.50S               | 3.7  | 5    | 230     | 1.15 | 24.2     | 27.2             | 64                 | 71         | 3450 | 5000   | 75             | 1.5 2.5           |

| VMO4 60Hz (Three-Phase) |      |      |         |      |      |                  |                    |            |      |        |                |                   |
|-------------------------|------|------|---------|------|------|------------------|--------------------|------------|------|--------|----------------|-------------------|
| Type                    | P2   |      | Voltage | S.F  | In   | I <sub>max</sub> | I <sub>start</sub> | Efficiency | Nn   | Thrust | Load Capacitor | Cable             |
|                         | KW   | HP   | V       | --   | A    | A                | A                  | %          | RPM  | N      | μF             | mm <sup>2</sup> m |
| VMO4-6.05T2             | 0.37 | 0.5  | 230     | 1.6  | 2.7  | 3.3              | 10                 | 68         | 3400 | 2000   |                | 1.5 1.7           |
| VMO4-6.07T2             | 0.55 | 0.75 | 230     | 1.5  | 3.8  | 4.3              | 17                 | 69         | 3400 | 2000   |                | 1.5 1.7           |
| VMO4-6.10T2             | 0.75 | 1    | 230     | 1.4  | 4.5  | 5.2              | 24                 | 72         | 3420 | 2000   |                | 1.5 1.7           |
| VMO4-6.15T2             | 1.1  | 1.5  | 230     | 1.3  | 5.7  | 6.6              | 33                 | 72         | 3430 | 2000   |                | 1.5 1.7           |
| VMO4-6.20T2             | 1.5  | 2    | 230     | 1.25 | 7.6  | 8.5              | 40                 | 74         | 3430 | 2000   |                | 1.5 1.7           |
| VMO4-6.30T2             | 2.2  | 3    | 230     | 1.15 | 10.3 | 11.2             | 48                 | 74         | 3440 | 3000   |                | 1.5 2.5           |
| VMO4-6.50T2             | 3.7  | 5    | 230     | 1.15 | 16.9 | 18               | 109                | 75         | 3450 | 5000   |                | 1.5 2.5           |
| VMO4-6.75T2             | 5.5  | 7.5  | 230     | 1.15 | 25.4 | 28.5             | 134                | 75         | 3450 | 5000   |                | 1.5 2.5           |
| VMO4-6.100T2            | 7.5  | 10   | 230     | 1.15 | 37   | 39               | 159                | 76         | 3470 | 5000   |                | 1.5 2.5           |
| VMO4-6.05T4             | 0.37 | 0.5  | 400     | 1.6  | 1.6  | 1.9              | 9                  | 68         | 3400 | 2000   |                | 1.5 1.7           |
| VMO4-6.07T4             | 0.55 | 0.75 | 400     | 1.5  | 2.2  | 2.5              | 11                 | 69         | 3400 | 2000   |                | 1.5 1.7           |
| VMO4-6.10T4             | 0.75 | 1    | 400     | 1.4  | 2.6  | 3                | 14                 | 72         | 3420 | 2000   |                | 1.5 1.7           |
| VMO4-6.15T4             | 1.1  | 1.5  | 400     | 1.3  | 3.3  | 3.8              | 19                 | 72         | 3430 | 2000   |                | 1.5 1.7           |
| VMO4-6.20T4             | 1.5  | 2    | 400     | 1.25 | 4.4  | 4.9              | 23                 | 74         | 3430 | 2000   |                | 1.5 1.7           |
| VMO4-6.30T4             | 2.2  | 3    | 400     | 1.15 | 6    | 6.5              | 28                 | 74         | 3440 | 3000   |                | 1.5 2.5           |
| VMO4-6.50T4             | 3.7  | 5    | 400     | 1.15 | 9.8  | 10.4             | 63                 | 75         | 3450 | 5000   |                | 1.5 2.5           |
| VMO4-6.75T4             | 5.5  | 7.5  | 400     | 1.15 | 14.7 | 16.5             | 78                 | 75         | 3450 | 5000   |                | 1.5 2.5           |
| VMO4-6.100T4            | 7.5  | 10   | 400     | 1.15 | 21.5 | 22.5             | 92                 | 76         | 3470 | 5000   |                | 1.5 2.5           |

All technical information is subject to change without notice.