



Full Stainless Steel  
**3S SUBMERSIBLE MOTORS**





Export to  
**80 Countries**  
in 6 Continents

## WE PRODUCE WATER TECHNOLOGIES SINCE 1964

Vansan was established at a 200 m<sup>2</sup> workshop in 1964 by Mech. Eng. A. Özden ERTÖZ and develops rapidly on the path of becoming a global trademark by bringing together its expert engineering, importance given on R&D activities and its customer-oriented working policy with its approximately **600 employees** working in **42.000 m<sup>2</sup> open and 27.500 m<sup>2</sup> closed area**. Vansan achieves to export its products to **80 countries** around the world.

Vansan offers a wide range of pumps and motors for the water and other fluid solutions in local, agricultural and industrial areas. We produce Submersible Pumps and Motors, Vertical Multistage Inline Pumps, Centrifugal Pumps, Fire Fighting Pump Systems, Double Suction Split Case Pumps, Special Design Vertical Turbine Pumps, Geothermal Pumps and Oil Pumps that are able to offer customized solutions to your needs.





### FULL STAINLESS STEEL 3S MOTORS

3S motors construction is completely manufactured of stainless steel. 3S Motors, which are wound with PE2+PA insulated wires, provide superior performance compared to the other types of submersible motors.

The 3S motors can reach much higher powers (about %20 more) than other submersible pump motors. These motors also demonstrate excellent performance at well water of 50 °C.

### PRODUCT CODE SYSTEM

**VSM 3S 8 / 150**



## Full Stainless Steel 3S SUBMERSIBLE MOTORS



# COMPLETELY STAINLESS STEEL

CW & CCW direction of rotation ■

High efficiency provides operation cost savings ■

Max. ambient water temperature 50°C (70°C is optional) ■

Variable operation revolutions by frequency convertor ■

Standard voltage 380/460V - 50/60Hz ■  
(Allowable voltage tolerance  $\pm 10\%$ )

Filter Check Valve ■

Water coolant system ■

## Applications

Excellent choice for submersible motor applications, including:

- ▶ *Water Wells (Domestic, Agricultural, Municipal)*
- ▶ *Sea Water and Fountains*
- ▶ *Mining and Industrial*
- ▶ *Drinking Water Applications*



# STEEL (AISI 304) CONSTRUCTION (AISI 316 opt.)



- High quality PE2+PA winding wires
- Availability to be operated by Soft-Starter
- Rewindable Vansan Motors provides long service life
- Vansan motors can be operated horizontally
- Flange with NEMA standards  
(Key type flange for 10" is optional)
- Standard and dual flange options
- Stainless steel shaft

## Special Features

- Corrosion Resistant Construction* ◀
- Meets Drinking Water Regulations* ◀
- Enhanced Cooling Properties* ◀
- Reasonable price difference with Standard Version* ◀

## PT100 Overheating Protection

By connecting the PT100 thermal sensors to the slot that is standardly placed on upper bearing body, motor temperature can be easily measured.



## Up-Thrust Ring

Provides safe operation conditions for motor by absorbing Up-Thrust loads with its machined surface and water channels on it.



## Cable Connection

Preventing the water inside the motor to run through the cable and reach connection parts of power cables by specially designed cable seals.



## Adjustment Screw

Standard shaft height can be precisely adjusted by the adjustment screw on the thrust bearing base.



## Membrane

Membrane minimizes the expansion pressure that is caused by heating of cooling water's inside the motor



## Slinger (Sand Guard)

Slinger helps to prevent the sand inside the water of the well entering in mechanical seal and through mechanical seal to inside of the motor.





### Heavy Duty Bearings With High Thrust Capacity

Heavy duty bearings provides the option to revolve both sides, has the capacity to carry high thrust load.



### Water Lubricated Radial Carbon Bearings

Radial carbon bearings, which have channels in its structure that makes it possible to get lubricated by water easily, provides precise bearing of rotor shaft at up and down.



### Chrome-plated Bearing Collet

Chrome-plated and precisely machined bearing collets which are located in the radial bearings operating area, have great importance for bearing the rotor.



### Mechanical Sealing For High Sand Resistance (IP68)

Although mechanical seal is optionally used by other brands, it is always used by Vansan as a standard, to prevent sand and other particles to get into motors to provide long bearing life.



### Practical And Easy-to-Mount Output Power Cable

Connection of the power cable to body is made practically by cable seal and seal cover. Power cables can be changed easily without any damage.



### Pressure Balancing Checkvalve

Checkvalve controls the pressure changes inside the motor. When the pressure increases, it throws water out of the motor. When the pressure drops, it filtrates the water inside well and gets it inside the motor by the help of this checkvalve to balance the pressure inside. Thus why pressure differences inside motor never causes membrane under motor to blow up.



PH2

A standard of HT Motors:

## “PE2 + PA Winding Wire”

- ✓ Perfect performance up to 50°C ambient temp.,
- ✓ Longer Life
- ✓ High resistance against voltage fluctuation,
- ✓ Gives more safety factor than standard motors

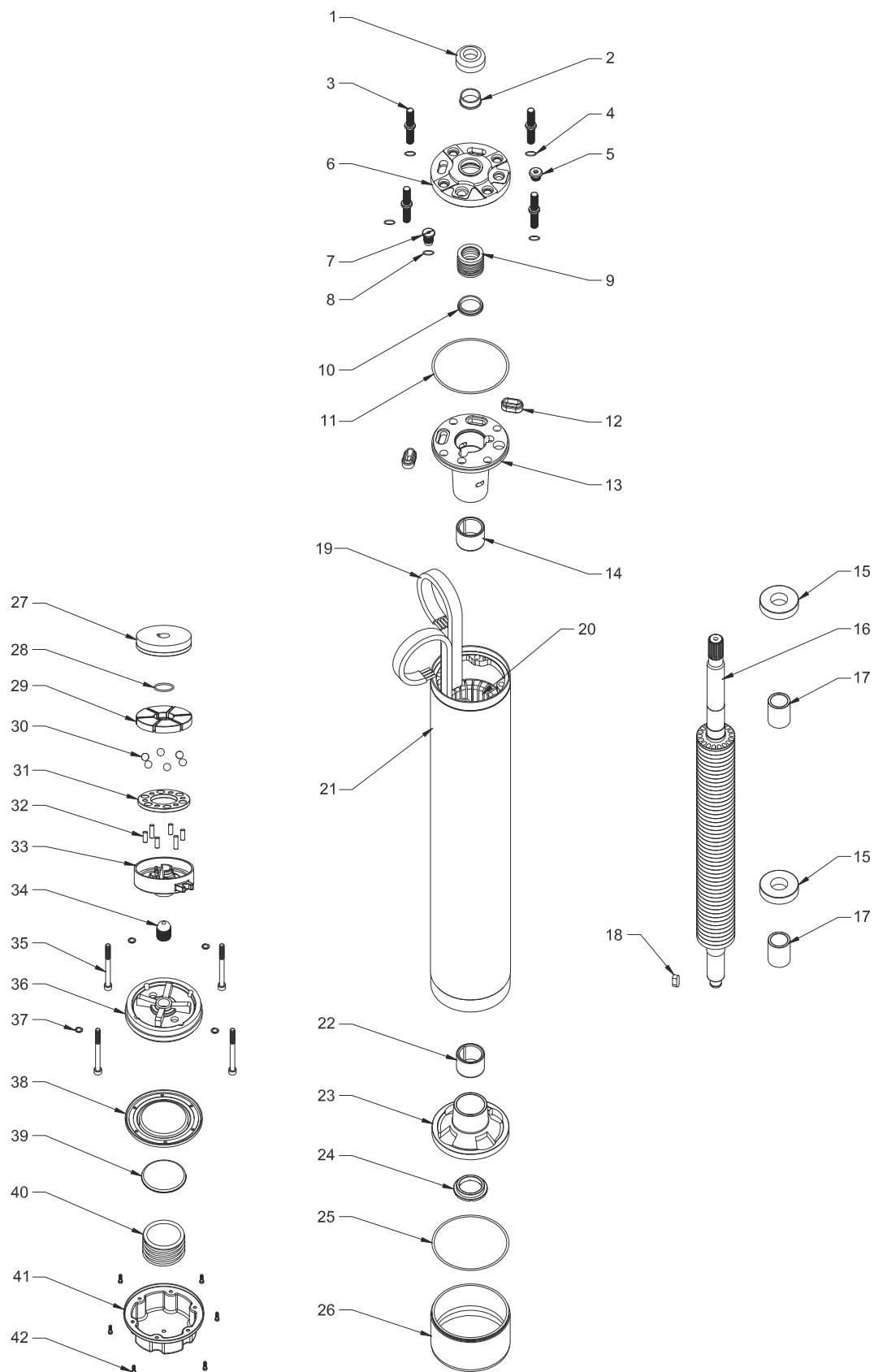
*Vansan submersible motors get their power from the PE2 + PA winding wire used as standard. This wire, consisting of a single copper conductor, has a very high insulation resistance. PE2 (Polyethylene) provides electrical isolation, PA (Polyamide) provides mechanical protection. Increased heat resistance is achieved by cross-linking of polyethylene. In this way, Vansan submersible motors offer superior performance at high voltage and temperatures up to 50 °C. At the same time it ensures trouble-free operation and a long service life of the motors for many years.*

### Technical Data

|                                        |                           |                  |                        |
|----------------------------------------|---------------------------|------------------|------------------------|
| <b>Tensile Strength</b>                | Standard: IEC 60811-1-1   | 23°C (±5)        | ≥ 10 N/mm <sup>2</sup> |
| <b>Elongation</b>                      | Standard: IEC 60811-1-1   | 23°C (±5)        | ≥ %100                 |
| <b>Dielectric constant</b>             | Standard: DIN 53483       | 20°C / 800 Hz    | 2,3                    |
| <b>Specific insulation resistance</b>  | Standard: IEC 60093       | 20°C             | 10 Ω cm                |
| <b>Dielectric breakdown strength</b>   | Standard: DIN VDE 0303-21 | 20°C/50 Hz       | 70 kV/mm               |
| <b>Tensile strength after aging</b>    |                           | 80°C / 7x24 hour | ≥ 10 N/mm <sup>2</sup> |
| <b>Elongation at break after aging</b> |                           | 80°C / 7x24 hour | ≥ %100                 |

| Nr | PART NAME                    | MATERIAL              |
|----|------------------------------|-----------------------|
| 1  | Slinger (Sand Guard)         | NBR_EPDM              |
| 2  | Inner Ring                   | Bronz                 |
| 3  | Stud                         | AISI 304              |
| 4  | O-ring                       | NBR                   |
| 5  | Plug                         | AISI 304              |
| 6  | Upper Connection Flange      | AISI 304              |
| 7  | Check Valve                  | AISI 304              |
| 8  | O-ring                       | NBR                   |
| 9  | Mechanical Seal              | SiC-SiC               |
| 10 | Support Ring                 | -                     |
| 11 | O-ring                       | NBR                   |
| 12 | Cable Seal                   | NBR                   |
| 13 | Upper Bearing Body           | GG25                  |
| 14 | Radial Bearing               | Carbon                |
| 15 | Balance Ring                 | CK 45                 |
| 16 | Rotor                        | -                     |
| 17 | Shaft Sleeve                 | St 37 ( Coated CrNi ) |
| 18 | Key                          | AISI 420              |
| 19 | Energy Cable (Lead)          | PVC                   |
| 20 | Stator Stack                 | M530/Magnetic Steel   |
| 21 | Stator                       | -                     |
| 22 | Radial Bearing               | Carbon                |
| 23 | Lower Bearing Body           | GG25                  |
| 24 | Up Thrust Bearing            | Bronze                |
| 25 | O-ring                       | NBR                   |
| 26 | Axial Bearing Sheet          | AISI 304              |
| 27 | Thrust Disc                  | Carbon With Antimony  |
| 28 | O-ring                       | NBR                   |
| 29 | Axial Thrust Segments        | AISI 420              |
| 30 | Ball                         | Inox                  |
| 31 | Ball Holder                  | St 37 ( Coated Cr+3 ) |
| 32 | Pins                         | Inox                  |
| 33 | Axial Thrust Bearing Support | GG25                  |
| 34 | Screw                        | Inox                  |
| 35 | Bolt                         | AISI 304              |
| 36 | Axial Bearing Body Flange    | GG25                  |
| 37 | Copper Ring                  | Copper                |
| 38 | Membrane                     | NBR                   |
| 39 | Support Sheet                | AISI 304              |
| 40 | Spring                       | AISI 304              |
| 41 | Membrane Cover               | AISI 304              |
| 42 | Bolt                         | AISI 304              |

PART LIST



## POWER CABLE INFO

### D.O.L.

| HP   | CABLE SIZES |       |     |     |      |      |      |      |      |      |      |       |
|------|-------------|-------|-----|-----|------|------|------|------|------|------|------|-------|
|      | 3x1,5       | 3x2,5 | 3x4 | 3x6 | 3x10 | 3x16 | 3x25 | 3x35 | 3x50 | 3x70 | 3x95 | 3x120 |
| 5,5  | 65          | 108   | 172 | 258 | 431  | 689  |      |      |      |      |      |       |
| 7,5  | 48          | 80    | 129 | 193 | 322  | 515  |      |      |      |      |      |       |
| 10   | 38          | 64    | 102 | 153 | 256  | 409  | 639  |      |      |      |      |       |
| 12,5 |             | 52    | 83  | 125 | 209  | 334  | 522  | 730  |      |      |      |       |
| 15   |             | 45    | 72  | 109 | 181  | 289  | 452  | 633  |      |      |      |       |
| 17,5 |             |       | 61  | 92  | 153  | 245  | 383  | 536  | 765  |      |      |       |
| 20   |             |       | 52  | 79  | 131  | 210  | 327  | 458  | 655  |      |      |       |
| 25   |             |       |     |     | 106  | 170  | 266  | 372  | 531  | 744  |      |       |
| 30   |             |       |     |     | 90   | 145  | 226  | 316  | 452  | 633  |      |       |
| 35   |             |       |     |     | 76   | 122  | 190  | 266  | 380  | 532  | 722  |       |
| 40   |             |       |     |     | 67   | 107  | 168  | 235  | 336  | 470  | 638  |       |
| 50   |             |       |     |     |      | 89   | 139  | 195  | 279  | 390  | 529  |       |
| 60   |             |       |     |     |      |      | 115  | 160  | 229  | 321  | 434  | 548   |
| 70   |             |       |     |     |      |      |      | 139  | 198  | 278  | 377  | 476   |
| 75   |             |       |     |     |      |      |      | 131  | 187  | 262  | 356  | 450   |
| 80   |             |       |     |     |      |      |      | 120  | 172  | 241  | 326  | 411   |
| 90   |             |       |     |     |      |      |      |      | 154  | 215  | 292  | 368   |
| 100  |             |       |     |     |      |      |      |      | 132  | 192  | 261  | 329   |
| 110  |             |       |     |     |      |      |      |      | 127  | 178  | 242  | 305   |
| 125  |             |       |     |     |      |      |      |      |      | 157  | 213  | 269   |
| 135  |             |       |     |     |      |      |      |      |      | 145  | 197  | 249   |
| 150  |             |       |     |     |      |      |      |      |      |      | 182  | 230   |
| 175  |             |       |     |     |      |      |      |      |      |      | 155  | 196   |
| 200  |             |       |     |     |      |      |      |      |      |      |      | 171   |
| 210  |             |       |     |     |      |      |      |      |      |      |      |       |
| 225  |             |       |     |     |      |      |      |      |      |      |      |       |
| 250  |             |       |     |     |      |      |      |      |      |      |      |       |
| 300  |             |       |     |     |      |      |      |      |      |      |      |       |

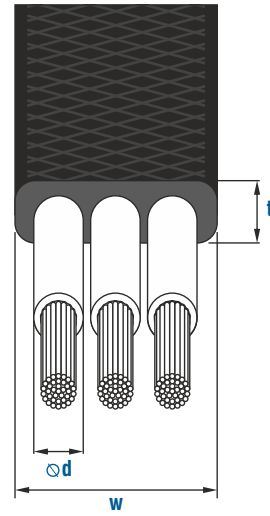
### WYE - DELTA

| HP   | CABLE SIZES |       |     |     |      |      |      |      |      |      |      |       |
|------|-------------|-------|-----|-----|------|------|------|------|------|------|------|-------|
|      | 3x1,5       | 3x2,5 | 3x4 | 3x6 | 3x10 | 3x16 | 3x25 | 3x35 | 3x50 | 3x70 | 3x95 | 3x120 |
| 5,5  | 97          | 161   | 258 | 388 | 646  |      |      |      |      |      |      |       |
| 7,5  | 72          | 121   | 193 | 290 | 483  | 773  |      |      |      |      |      |       |
| 10   | 57          | 96    | 153 | 230 | 383  | 613  | 958  |      |      |      |      |       |
| 12,5 | 47          | 78    | 125 | 188 | 313  | 501  | 783  |      |      |      |      |       |
| 15   | 41          | 68    | 109 | 163 | 271  | 434  | 678  | 949  |      |      |      |       |
| 17,5 | 34          | 57    | 92  | 138 | 230  | 367  | 574  | 803  | 982  |      |      |       |
| 20   | 29          | 49    | 79  | 118 | 196  | 314  | 491  | 688  | 797  |      |      |       |
| 25   |             | 40    | 64  | 96  | 159  | 255  | 398  | 558  | 678  |      |      |       |
| 30   |             |       | 54  | 81  | 136  | 217  | 339  | 475  | 570  | 949  |      |       |
| 35   |             |       | 46  | 68  | 114  | 182  | 285  | 399  | 503  | 798  |      |       |
| 40   |             |       |     | 60  | 101  | 161  | 252  | 352  | 418  | 705  |      |       |
| 50   |             |       |     |     | 84   | 134  | 209  | 293  | 344  | 585  | 794  |       |
| 60   |             |       |     |     | 69   | 110  | 172  | 241  | 297  | 481  | 653  |       |
| 70   |             |       |     |     | 59   | 95   | 149  | 208  | 281  | 416  | 565  |       |
| 75   |             |       |     |     |      | 90   | 141  | 197  | 258  | 394  | 534  | 675   |
| 80   |             |       |     |     |      | 82   | 129  | 180  | 231  | 361  | 490  | 619   |
| 90   |             |       |     |     |      | 74   | 115  | 162  | 206  | 323  | 439  | 554   |
| 100  |             |       |     |     |      |      | 103  | 144  | 191  | 289  | 392  | 495   |
| 110  |             |       |     |     |      |      | 95   | 134  | 168  | 267  | 363  | 458   |
| 125  |             |       |     |     |      |      |      | 118  | 144  | 235  | 319  | 402   |
| 135  |             |       |     |     |      |      |      | 109  | 133  | 218  | 295  | 371   |
| 150  |             |       |     |     |      |      |      |      | 123  | 201  | 273  | 344   |
| 175  |             |       |     |     |      |      |      |      |      | 172  | 233  | 294   |
| 200  |             |       |     |     |      |      |      |      |      | 152  | 207  | 261   |
| 210  |             |       |     |     |      |      |      |      |      | 145  | 196  | 247   |
| 225  |             |       |     |     |      |      |      |      |      | 136  | 184  | 232   |
| 250  |             |       |     |     |      |      |      |      |      |      | 164  | 210   |
| 300  |             |       |     |     |      |      |      |      |      |      | 130  | 164   |

## CABLE INFO

50/60 Hz - 380/400/415/440/460 V

| Type          | Size | Power |      | D.O.L.          | Wye-Delta       | Ax.Thrust | Start   | Length |
|---------------|------|-------|------|-----------------|-----------------|-----------|---------|--------|
|               |      | kW    | HP   | mm <sup>2</sup> | mm <sup>2</sup> | kN        | start/h | m      |
| VSM 3S 6/5.5  | 6"   | 4     | 5,5  | 4x2,5           | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/7.5  | 6"   | 5,5   | 7,5  | 4x2,5           | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/10   | 6"   | 7,5   | 10   | 4x2,5           | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/12.5 | 6"   | 9,3   | 12,5 | 4x2,5           | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/15   | 6"   | 11    | 15   | 4x4             | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/17.5 | 6"   | 13    | 17,5 | 4x4             | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/20   | 6"   | 15    | 20   | 4x4             | 4x2,5 + 3x2,5   | 20        | 20      | 4      |
| VSM 3S 6/25   | 6"   | 18,5  | 25   | 4x6             | 4x4 + 3x4       | 20        | 20      | 4      |
| VSM 3S 6/30   | 6"   | 22    | 30   | 4x6             | 4x4 + 3x4       | 20        | 20      | 4      |
| VSM 3S 6/35   | 6"   | 26,5  | 35   | 4x10            | 4x6 + 3x6       | 26,5      | 15      | 4      |
| VSM 3S 6/40   | 6"   | 30    | 40   | 4x10            | 4x6 + 3x6       | 26,5      | 15      | 4      |
| VSM 3S 6/50   | 6"   | 37    | 50   | 3x16            | 4x10 + 3x10     | 26,5      | 15      | 4      |
| VSM 3S 6/60   | 6"   | 45    | 60   | 3x16            | 4x10 + 3x10     | 26,5      | 15      | 4      |
| VSM 3S 7/30   | 7"   | 22    | 30   | 4x6             | 4x4 + 3x4       | 45        | 17      | 4      |
| VSM 3S 7/35   | 7"   | 26,5  | 35   | 4x10            | 4x6 + 3x6       | 45        | 17      | 4      |
| VSM 3S 7/40   | 7"   | 30    | 40   | 4x10            | 4x6 + 3x6       | 45        | 17      | 4      |
| VSM 3S 7/50   | 7"   | 37    | 50   | 3x16            | 4x6 + 3x6       | 45        | 17      | 4      |
| VSM 3S 7/60   | 7"   | 45    | 60   | 3x16            | 4x10 + 3x10     | 45        | 17      | 4      |
| VSM 3S 7/70   | 7"   | 52    | 70   | 3x16            | 4x10 + 3x10     | 45        | 17      | 4      |
| VSM 3S 7/75   | 7"   | 55    | 75   | 3x16            | 4x10 + 3x10     | 45        | 17      | 4      |
| VSM 3S 7/80   | 7"   | 60    | 80   | 3x16            | 4x10 + 3x10     | 45        | 17      | 4      |
| VSM 3S 7/90   | 7"   | 67    | 90   | 3x16            | 4x10 + 3x10     | 45        | 17      | 4      |
| VSM 3S 8/40   | 8"   | 30    | 40   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/50   | 8"   | 37    | 50   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/60   | 8"   | 45    | 60   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/70   | 8"   | 52    | 70   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/75   | 8"   | 55    | 75   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/80   | 8"   | 60    | 80   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/90   | 8"   | 67    | 90   | 4x16            | 4x10 + 3x10     | 45        | 15      | 4      |
| VSM 3S 8/100  | 8"   | 75    | 100  | 3x25            | 4x16 + 3x16     | 45        | 15      | 4      |
| VSM 3S 8/110  | 8"   | 81    | 110  | 3x25            | 4x16 + 3x16     | 55        | 15      | 4      |
| VSM 3S 8/125  | 8"   | 92    | 125  | 3x25            | 4x16 + 3x16     | 55        | 10      | 4      |
| VSM 3S 8/150  | 8"   | 110   | 150  | 3x35            | 3x25 + 3x25     | 55        | 10      | 4      |
| VSM 3S 10/110 | 10"  | 81    | 110  | 3x25            | 4x16 + 3x16     | 75        | 10      | 5      |
| VSM 3S 10/125 | 10"  | 92    | 125  | 3x25            | 4x16 + 3x16     | 75        | 10      | 5      |
| VSM 3S 10/150 | 10"  | 110   | 150  | 3x35            | 3x25 + 3x25     | 75        | 10      | 5      |
| VSM 3S 10/175 | 10"  | 129   | 175  | 3x35            | 3x25 + 3x25     | 75        | 10      | 5      |
| VSM 3S 10/200 | 10"  | 147   | 200  | 3x35            | 3x25 + 3x25     | 75        | 10      | 5      |
| VSM 3S 10/225 | 10"  | 166   | 225  | -               | 3x35 + 3x35     | 75        | 10      | 5      |
| VSM 3S 10/250 | 10"  | 185   | 250  | -               | 3x35 + 3x35     | 75        | 10      | 5      |
| VSM 3S 10/300 | 10"  | 220   | 300  | -               | 3x35 + 3x35     | 75        | 10      | 5      |



## Flat Cable Dimensions

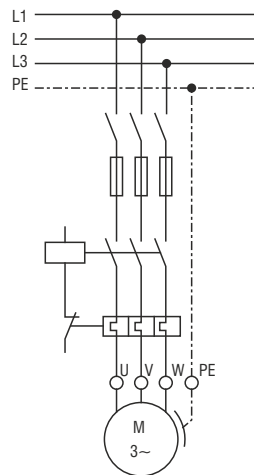
| Type            | Thickness | Width    | Diameter |
|-----------------|-----------|----------|----------|
| mm <sup>2</sup> | (t) mm    | (w) mm   | (d) mm   |
| 3x2,5           | 6,4±0,2   | 15,0±0,3 | 3,6      |
| 3x4             | 7,1±0,5   | 16,5±0,5 | 4,1      |
| 3x6             | 8,0±0,5   | 18,3±0,5 | 4,6      |
| 3x10            | 8,8±0,5   | 21,8±0,5 | 6        |
| 3x16            | 10,5±0,5  | 25,4±0,5 | 7        |
| 3x25            | 12,0±0,5  | 33,0±0,5 | 9        |
| 3x35            | 13,5±1,0  | 34,5±1,0 | 10,1     |
| 4x2,5           | 6,4±0,2   | 18,0±0,3 | 3,6      |
| 4x4             | 7,1±0,5   | 20,2±0,5 | 4,1      |
| 4x6             | 8,0±0,5   | 22,4±0,5 | 4,6      |
| 4x10            | 8,8±0,5   | 28,0±0,5 | 6        |
| 4x16            | 10,5±0,5  | 33,7±0,5 | 7        |

220-230V cable sizes may vary / 220-230V kablo ölçüleri değişkenlik gösterebilir.

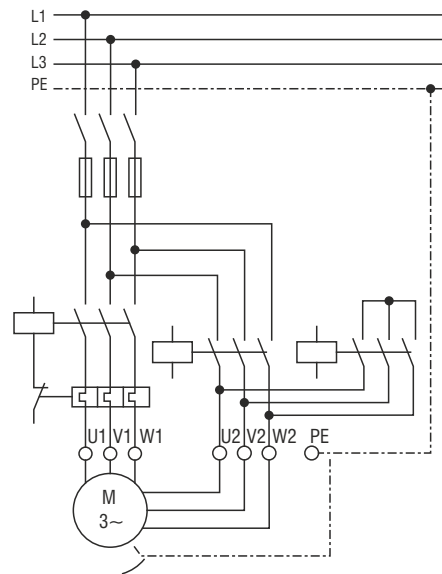
## POWER CABLE INFO

### ENERGY CONNECTION SCHEMA

D.O.L CONNECTION



Y/Δ CONNECTION



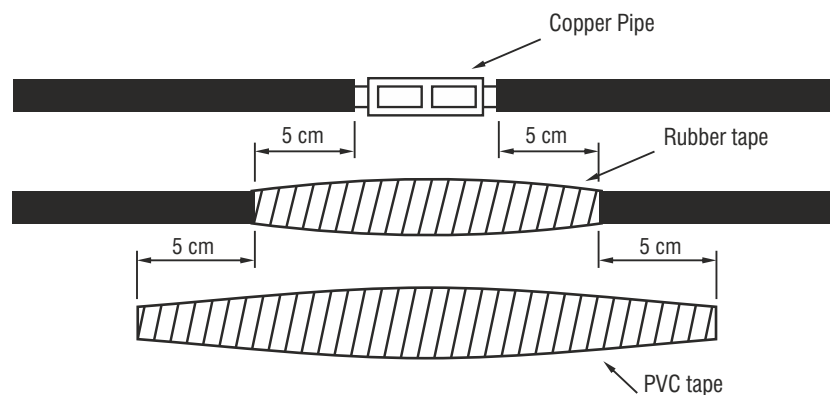
### POWER CABLE CONNECTION

Connection of the power cable that will be used along the well and until the control panel with the power cable on the motor must be done very carefully and by the professionals only. If the insulation after connection is not done properly; short circuit might happen during the connection area is in the water.

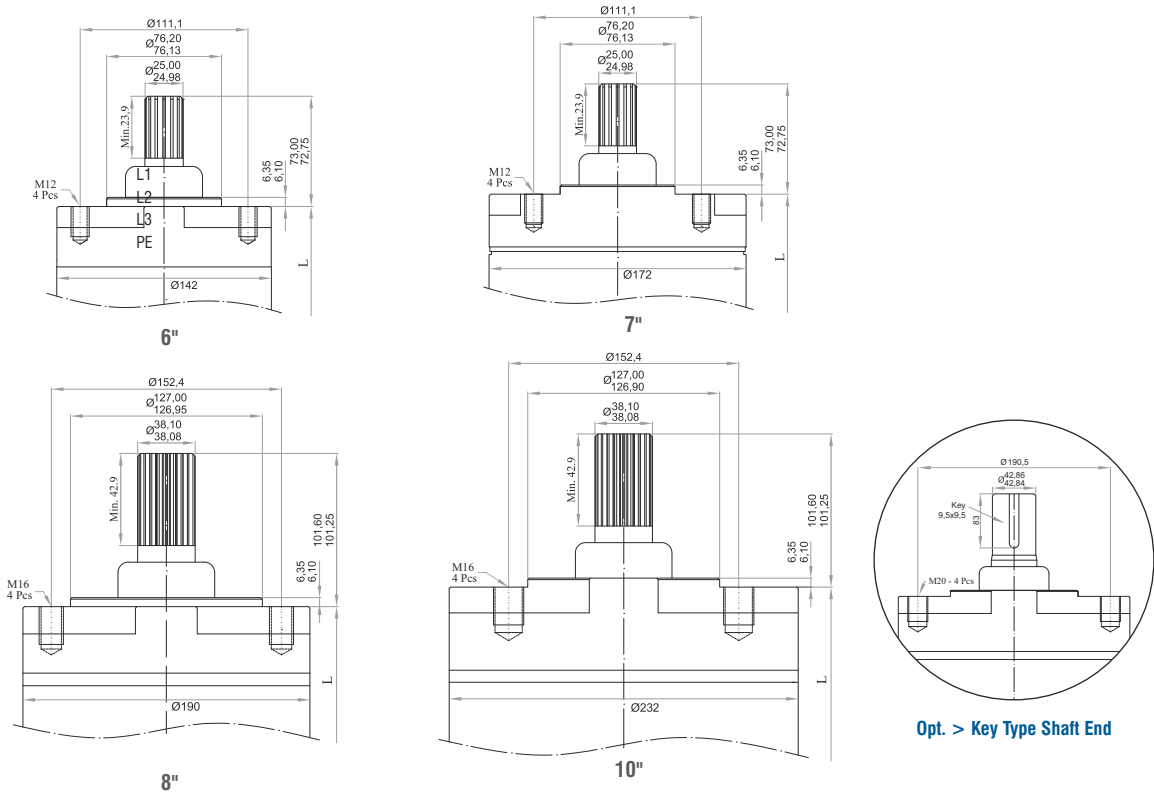
Insulation of each cable should be stripped only as far as necessary to

provide room for a stake type connector. Each individual joint should be taped with PVC tape, using two layers by wrapping tightly for eliminating airspaces as much as possible.

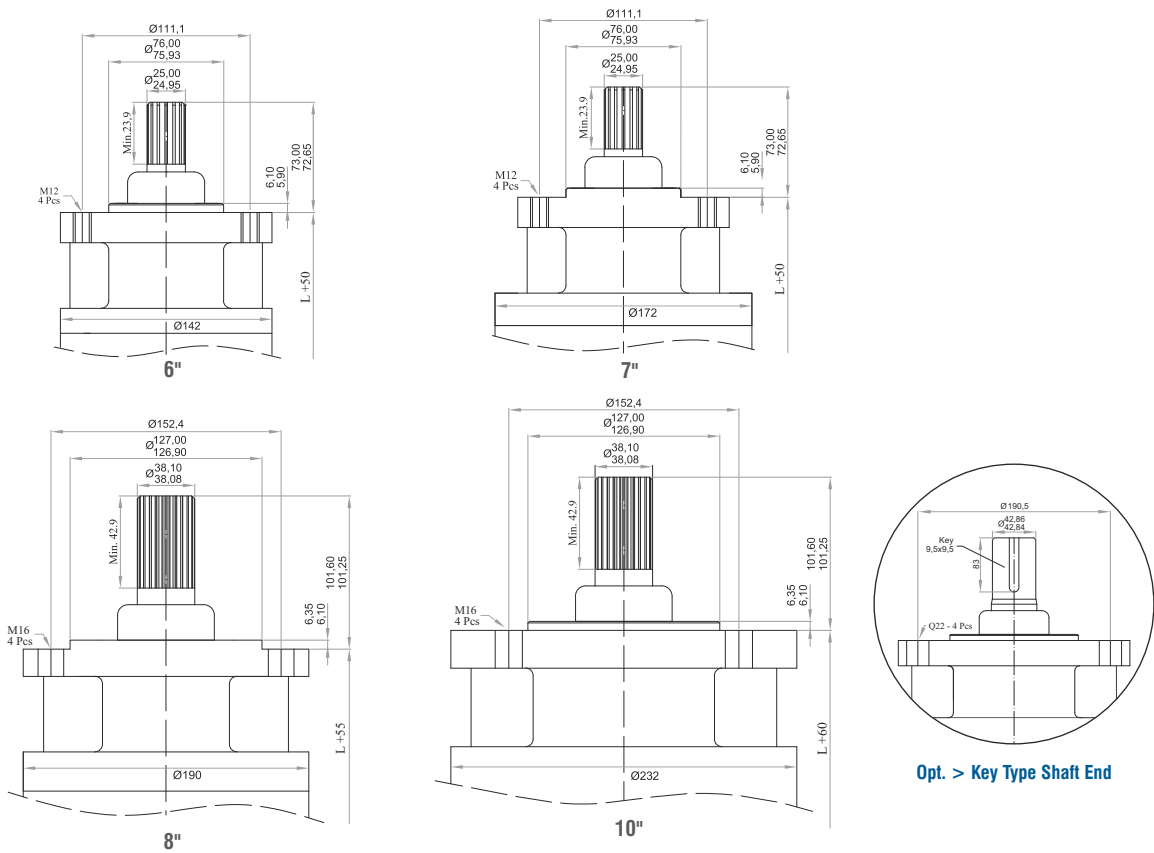
Total thickness of tape should be no less than the thickness of the cable insulation in order to prevent the smashing of the cables when the pump is lowered in the well.



STANDARD FLANGE



DOUBLE FLANGE



| Type          | Power |      | Axial Load | Voltage | n <sub>N</sub> | I <sub>N</sub> | I <sub>A</sub> | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length | Weight |
|---------------|-------|------|------------|---------|----------------|----------------|----------------|--------------------|----|-----|----------------|----|-----|--------|--------|
|               | HP    | kW   |            |         |                |                |                | 50                 | 75 | 100 | 50             | 75 | 100 |        |        |
| VSM 3S 6/5.5  | 5,5   | 4    | 20         | 380     | 2770           | 10,2           | 39,4           | 67                 | 71 | 71  | 63             | 71 | 84  | 594    | 38     |
|               |       |      |            | 400     | 2785           | 9,8            | 37,8           | 68                 | 72 | 72  | 59             | 67 | 82  |        |        |
|               |       |      |            | 415     | 2795           | 9,5            | 36,9           | 68                 | 72 | 72  | 58             | 66 | 81  |        |        |
| VSM 3S 6/7.5  | 7,5   | 5,5  | 20         | 380     | 2780           | 13,3           | 52,7           | 70                 | 73 | 75  | 63             | 71 | 84  | 623    | 42     |
|               |       |      |            | 400     | 2795           | 12,8           | 50,6           | 71                 | 74 | 76  | 59             | 67 | 82  |        |        |
|               |       |      |            | 415     | 2805           | 12,3           | 48,7           | 72                 | 75 | 77  | 58             | 66 | 81  |        |        |
| VSM 3S 6/10   | 10    | 7,5  | 20         | 380     | 2790           | 17,2           | 66,4           | 77                 | 79 | 79  | 63             | 71 | 84  | 703    | 48     |
|               |       |      |            | 400     | 2805           | 16,5           | 63,8           | 79                 | 80 | 80  | 59             | 67 | 82  |        |        |
|               |       |      |            | 415     | 2815           | 16,1           | 62,2           | 79                 | 80 | 80  | 58             | 66 | 81  |        |        |
| VSM 3S 6/12.5 | 12,5  | 9,3  | 20         | 380     | 2850           | 20,8           | 80,3           | 80                 | 81 | 81  | 63             | 71 | 84  | 743    | 53     |
|               |       |      |            | 400     | 2855           | 20,2           | 78,1           | 80                 | 81 | 81  | 59             | 67 | 82  |        |        |
|               |       |      |            | 415     | 2865           | 19,5           | 75,3           | 81                 | 82 | 82  | 58             | 66 | 81  |        |        |
| VSM 3S 6/15   | 15    | 11   | 20         | 380     | 2810           | 23,7           | 91,6           | 81                 | 82 | 82  | 67             | 75 | 86  | 796    | 58     |
|               |       |      |            | 400     | 2825           | 22,8           | 88,0           | 82                 | 83 | 83  | 63             | 71 | 84  |        |        |
|               |       |      |            | 415     | 2835           | 22,2           | 85,9           | 82                 | 83 | 83  | 61             | 69 | 83  |        |        |
| VSM 3S 6/17.5 | 17,5  | 13   | 20         | 380     | 2820           | 28,7           | 110,9          | 80                 | 81 | 81  | 65             | 73 | 85  | 856    | 63     |
|               |       |      |            | 400     | 2835           | 27,6           | 106,6          | 81                 | 82 | 82  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2845           | 26,6           | 102,7          | 82                 | 83 | 83  | 59             | 67 | 82  |        |        |
| VSM 3S 6/20   | 20    | 15   | 20         | 380     | 2850           | 33,1           | 127,9          | 80                 | 81 | 81  | 65             | 73 | 85  | 918    | 70     |
|               |       |      |            | 400     | 2855           | 32,2           | 124,5          | 80                 | 81 | 81  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2865           | 31,0           | 120,0          | 81                 | 82 | 82  | 59             | 67 | 82  |        |        |
| VSM 3S 6/25   | 25    | 18,5 | 20         | 380     | 2850           | 41,8           | 161,6          | 80                 | 81 | 81  | 61             | 69 | 83  | 951    | 74     |
|               |       |      |            | 400     | 2865           | 40,2           | 155,4          | 81                 | 82 | 82  | 58             | 66 | 81  |        |        |
|               |       |      |            | 415     | 2875           | 38,8           | 149,8          | 82                 | 83 | 83  | 57             | 65 | 80  |        |        |
| VSM 3S 6/30   | 30    | 22   | 20         | 380     | 2860           | 48,5           | 187,6          | 81                 | 82 | 82  | 63             | 71 | 84  | 1051   | 85     |
|               |       |      |            | 400     | 2875           | 46,7           | 180,3          | 82                 | 83 | 83  | 59             | 67 | 82  |        |        |
|               |       |      |            | 415     | 2885           | 45,0           | 173,9          | 83                 | 84 | 84  | 58             | 66 | 81  |        |        |
| VSM 3S 6/35   | 35    | 26,5 | 26,5       | 380     | 2870           | 56,4           | 217,9          | 83                 | 84 | 84  | 65             | 73 | 85  | 1166   | 96     |
|               |       |      |            | 400     | 2885           | 54,9           | 212,0          | 83                 | 84 | 84  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2895           | 52,9           | 204,4          | 84                 | 85 | 85  | 59             | 67 | 82  |        |        |
| VSM 3S 6/40   | 40    | 30   | 26,5       | 380     | 2880           | 64,6           | 249,7          | 82                 | 83 | 83  | 65             | 73 | 85  | 1196   | 101    |
|               |       |      |            | 400     | 2895           | 62,1           | 240,0          | 83                 | 84 | 84  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2905           | 59,9           | 231,4          | 84                 | 85 | 85  | 59             | 67 | 82  |        |        |
| VSM 3S 6/50   | 50    | 37   | 26,5       | 380     | 2890           | 79,7           | 315,6          | 80                 | 81 | 83  | 65             | 73 | 85  | 1296   | 108    |
|               |       |      |            | 400     | 2905           | 76,7           | 303,3          | 81                 | 82 | 84  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2915           | 74,7           | 288,8          | 83                 | 84 | 84  | 59             | 67 | 82  |        |        |
| VSM 3S 6/60   | 60    | 45   | 26,5       | 380     | 2890           | 96,9           | 374,7          | 82                 | 81 | 83  | 65             | 73 | 85  | 1296   | 108    |
|               |       |      |            | 400     | 2905           | 93,2           | 360,2          | 81                 | 82 | 84  | 61             | 69 | 83  |        |        |
|               |       |      |            | 415     | 2915           | 87,7           | 339,0          | 83                 | 84 | 84  | 59             | 67 | 85  |        |        |

## MOTOR SPECIFICATIONS

**Motor Power** : 5,5-60 HP  
**Outside Diameter** : 142 mm  
**Flange Standard** : 6" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type        | Power |      | Axial Load<br>kN | Voltage<br>V | n <sub>N</sub><br>rpm | I <sub>N</sub><br>A | I <sub>A</sub><br>A | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length<br>mm | Weight<br>kg |
|-------------|-------|------|------------------|--------------|-----------------------|---------------------|---------------------|--------------------|----|-----|----------------|----|-----|--------------|--------------|
|             | HP    | kW   |                  |              |                       |                     |                     | 50                 | 75 | 100 | 50             | 75 | 100 |              |              |
| VSM 3S 7/30 | 30    | 22   | 45               | 380          | 2880                  | 46,3                | 235                 | 83                 | 84 | 84  | 76             | 82 | 86  | 842          | 83           |
|             |       |      |                  | 400          | 2900                  | 44,5                | 225                 | 82                 | 84 | 85  | 75             | 81 | 85  |              |              |
|             |       |      |                  | 415          | 2910                  | 43,4                | 219                 | 81                 | 84 | 85  | 70             | 77 | 83  |              |              |
| VSM 3S 7/35 | 35    | 26,5 | 45               | 380          | 2880                  | 55,1                | 279                 | 84                 | 85 | 85  | 76             | 82 | 86  | 882          | 88           |
|             |       |      |                  | 400          | 2900                  | 52,9                | 269                 | 83                 | 85 | 85  | 75             | 81 | 85  |              |              |
|             |       |      |                  | 415          | 2910                  | 51,6                | 262                 | 82                 | 85 | 86  | 70             | 77 | 83  |              |              |
| VSM 3S 7/40 | 40    | 30   | 45               | 380          | 2880                  | 62,4                | 312                 | 85                 | 86 | 85  | 76             | 82 | 86  | 922          | 100          |
|             |       |      |                  | 400          | 2900                  | 59,2                | 300                 | 84                 | 86 | 86  | 75             | 81 | 85  |              |              |
|             |       |      |                  | 415          | 2910                  | 57,8                | 294                 | 83                 | 86 | 87  | 70             | 77 | 83  |              |              |
| VSM 3S 7/50 | 50    | 37   | 45               | 380          | 2880                  | 74,3                | 377                 | 85                 | 86 | 86  | 78             | 85 | 88  | 1001         | 110          |
|             |       |      |                  | 400          | 2900                  | 72,2                | 366                 | 84                 | 86 | 86  | 75             | 82 | 86  |              |              |
|             |       |      |                  | 415          | 2910                  | 70,4                | 358                 | 83                 | 86 | 87  | 71             | 80 | 84  |              |              |
| VSM 3S 7/60 | 60    | 45   | 45               | 380          | 2870                  | 90,3                | 459                 | 85                 | 86 | 86  | 76             | 84 | 88  | 1081         | 124          |
|             |       |      |                  | 400          | 2890                  | 87,8                | 446                 | 84                 | 86 | 86  | 75             | 83 | 86  |              |              |
|             |       |      |                  | 415          | 2900                  | 85,7                | 435                 | 83                 | 86 | 87  | 74             | 80 | 84  |              |              |
| VSM 3S 7/70 | 70    | 52   | 45               | 380          | 2860                  | 105,6               | 537                 | 85                 | 86 | 86  | 78             | 83 | 87  | 1160         | 135          |
|             |       |      |                  | 400          | 2880                  | 102,7               | 522                 | 85                 | 86 | 86  | 76             | 82 | 85  |              |              |
|             |       |      |                  | 415          | 2890                  | 100,2               | 509                 | 84                 | 86 | 87  | 73             | 79 | 83  |              |              |
| VSM 3S 7/75 | 75    | 55   | 45               | 380          | 2900                  | 112,9               | 554                 | 85                 | 85 | 84  | 76             | 84 | 88  | 1160         | 135          |
|             |       |      |                  | 400          | 2905                  | 109,8               | 540                 | 84                 | 85 | 84  | 75             | 83 | 86  |              |              |
|             |       |      |                  | 415          | 2910                  | 107,1               | 518                 | 83                 | 85 | 85  | 74             | 80 | 84  |              |              |
| VSM 3S 7/80 | 80    | 60   | 45               | 380          | 2900                  | 123,3               | 596                 | 85                 | 85 | 84  | 76             | 84 | 88  | 1248         | 157          |
|             |       |      |                  | 400          | 2905                  | 119,9               | 580                 | 84                 | 85 | 84  | 75             | 83 | 86  |              |              |
|             |       |      |                  | 415          | 2905                  | 116,9               | 565                 | 83                 | 85 | 85  | 74             | 80 | 84  |              |              |
| VSM 3S 7/90 | 90    | 67   | 45               | 380          | 2895                  | 137,7               | 666                 | 85                 | 85 | 84  | 76             | 84 | 88  | 1279         | 168          |
|             |       |      |                  | 400          | 2900                  | 133,9               | 647                 | 84                 | 85 | 84  | 75             | 83 | 86  |              |              |
|             |       |      |                  | 415          | 2905                  | 130,5               | 631                 | 83                 | 85 | 85  | 74             | 80 | 84  |              |              |

## MOTOR SPECIFICATIONS

**Motor Power** : 30-90 HP  
**Outside Diameter** : 172 mm  
**Flange Standard** : 6" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type         | Power |     | Axial Load | Voltage | n <sub>N</sub> | I <sub>N</sub> | I <sub>A</sub> | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length | Weight |
|--------------|-------|-----|------------|---------|----------------|----------------|----------------|--------------------|----|-----|----------------|----|-----|--------|--------|
|              | HP    | kW  |            |         |                |                |                | 50                 | 75 | 100 | 50             | 75 | 100 |        |        |
| VSM 3S 8/40  | 40    | 30  | 45         | 380     | 2880           | 63,2           | 239            | 82                 | 83 | 83  | 73             | 78 | 87  | 948    | 125    |
|              |       |     |            | 400     | 2895           | 60,7           | 229            | 83                 | 84 | 84  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2905           | 59,2           | 223            | 83                 | 84 | 84  | 65             | 73 | 84  |        |        |
| VSM 3S 8/50  | 50    | 37  | 45         | 380     | 2890           | 76,1           | 287            | 84                 | 85 | 85  | 73             | 78 | 87  | 1008   | 134    |
|              |       |     |            | 400     | 2905           | 73,1           | 276            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2915           | 72,2           | 269            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/60  | 60    | 45  | 45         | 380     | 2890           | 92,6           | 349            | 84                 | 85 | 85  | 73             | 78 | 87  | 1093   | 148    |
|              |       |     |            | 400     | 2905           | 89,0           | 336            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2915           | 86,8           | 327            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/70  | 70    | 52  | 45         | 380     | 2890           | 105,7          | 399            | 84                 | 85 | 85  | 75             | 81 | 88  | 1178   | 166    |
|              |       |     |            | 400     | 2905           | 101,6          | 383            | 85                 | 86 | 86  | 70             | 76 | 86  |        |        |
|              |       |     |            | 415     | 2915           | 99,1           | 374            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
| VSM 3S 8/75  | 75    | 55  | 45         | 380     | 2890           | 113,2          | 427            | 83                 | 84 | 84  | 75             | 81 | 88  | 1178   | 166    |
|              |       |     |            | 400     | 2905           | 110,0          | 415            | 83                 | 84 | 84  | 70             | 76 | 86  |        |        |
|              |       |     |            | 415     | 2915           | 106,0          | 400            | 84                 | 85 | 85  | 67             | 74 | 85  |        |        |
| VSM 3S 8/80  | 80    | 60  | 45         | 380     | 2890           | 122,0          | 460            | 85                 | 86 | 86  | 73             | 78 | 87  | 1233   | 181    |
|              |       |     |            | 400     | 2905           | 118,6          | 447            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2915           | 115,7          | 436            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/90  | 90    | 67  | 45         | 380     | 2890           | 137,8          | 520            | 84                 | 85 | 85  | 73             | 78 | 87  | 1258   | 186    |
|              |       |     |            | 400     | 2905           | 132,4          | 499            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2915           | 129,2          | 487            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/100 | 100   | 75  | 45         | 380     | 2890           | 154,3          | 582            | 83                 | 84 | 84  | 75             | 81 | 88  | 1283   | 191    |
|              |       |     |            | 400     | 2905           | 148,3          | 559            | 84                 | 85 | 85  | 70             | 76 | 86  |        |        |
|              |       |     |            | 415     | 2915           | 144,6          | 545            | 84                 | 85 | 85  | 67             | 74 | 85  |        |        |
| VSM 3S 8/110 | 110   | 81  | 55         | 380     | 2895           | 166,6          | 629            | 84                 | 85 | 85  | 73             | 78 | 87  | 1363   | 201    |
|              |       |     |            | 400     | 2900           | 160,1          | 604            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2905           | 156,2          | 589            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/125 | 125   | 92  | 55         | 380     | 2860           | 189,2          | 714            | 84                 | 85 | 85  | 73             | 78 | 87  | 1428   | 208    |
|              |       |     |            | 400     | 2875           | 181,9          | 686            | 85                 | 86 | 86  | 67             | 74 | 85  |        |        |
|              |       |     |            | 415     | 2890           | 177,4          | 669            | 85                 | 86 | 86  | 65             | 73 | 84  |        |        |
| VSM 3S 8/150 | 150   | 110 | 55         | 380     | 2940           | 223,7          | 844            | 84                 | 85 | 85  | 72             | 78 | 88  | 1574   | 229    |
|              |       |     |            | 400     | 2950           | 212,5          | 802            | 85                 | 86 | 86  | 67             | 74 | 87  |        |        |
|              |       |     |            | 415     | 2955           | 204,8          | 773            | 85                 | 86 | 86  | 65             | 73 | 87  |        |        |

## MOTOR SPECIFICATIONS

**Motor Power** : 40-150 HP  
**Outside Diameter** : 192 mm  
**Flange Standard** : 8" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type          | Power |     | Axial Load<br>kN | Voltage<br>V | n <sub>N</sub><br>rpm | I <sub>N</sub><br>A | I <sub>A</sub><br>A | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length<br>mm | Weight<br>kg |
|---------------|-------|-----|------------------|--------------|-----------------------|---------------------|---------------------|--------------------|----|-----|----------------|----|-----|--------------|--------------|
|               | HP    | kW  |                  |              |                       |                     |                     | 50                 | 75 | 100 | 50             | 75 | 100 |              |              |
| VSM 3S 10/110 | 110   | 81  | 75               | 380          | 2890                  | 164,7               | 615                 | 84                 | 84 | 85  | 76             | 81 | 88  | 1282         | 188          |
|               |       |     |                  | 400          | 2905                  | 158,3               | 590                 | 85                 | 85 | 86  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2915                  | 152,6               | 569                 | 86                 | 86 | 87  | 69             | 75 | 85  |              |              |
| VSM 3S 10/125 | 125   | 92  | 75               | 380          | 2900                  | 184,9               | 690                 | 85                 | 85 | 86  | 76             | 81 | 88  | 1342         | 201          |
|               |       |     |                  | 400          | 2915                  | 179,8               | 671                 | 85                 | 85 | 86  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2925                  | 175,3               | 654                 | 85                 | 85 | 86  | 69             | 75 | 85  |              |              |
| VSM 3S 10/150 | 150   | 110 | 75               | 380          | 2900                  | 223,6               | 835                 | 85                 | 85 | 86  | 74             | 80 | 87  | 1422         | 249          |
|               |       |     |                  | 400          | 2915                  | 217,5               | 811                 | 85                 | 85 | 86  | 69             | 75 | 85  |              |              |
|               |       |     |                  | 415          | 2925                  | 212,1               | 791                 | 85                 | 85 | 86  | 66             | 73 | 84  |              |              |
| VSM 3S 10/175 | 175   | 129 | 75               | 380          | 2920                  | 256,3               | 957                 | 86                 | 86 | 87  | 76             | 81 | 88  | 1522         | 249          |
|               |       |     |                  | 400          | 2935                  | 246,3               | 919                 | 87                 | 87 | 88  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2945                  | 240,2               | 896                 | 87                 | 87 | 88  | 69             | 75 | 85  |              |              |
| VSM 3S 10/200 | 200   | 147 | 75               | 380          | 2910                  | 292,1               | 1090                | 86                 | 86 | 87  | 76             | 81 | 88  | 1652         | 272          |
|               |       |     |                  | 400          | 2925                  | 283,9               | 1059                | 86                 | 86 | 87  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2935                  | 273,7               | 1020                | 87                 | 87 | 88  | 69             | 75 | 85  |              |              |
| VSM 3S 10/225 | 225   | 166 | 75               | 380          | 2900                  | 333,7               | 1245                | 85                 | 85 | 86  | 76             | 81 | 88  | 1732         | 279          |
|               |       |     |                  | 400          | 2915                  | 320,6               | 1196                | 86                 | 86 | 87  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2925                  | 312,7               | 1165                | 86                 | 86 | 87  | 69             | 75 | 85  |              |              |
| VSM 3S 10/250 | 250   | 185 | 75               | 380          | 2905                  | 371,8               | 1388                | 85                 | 85 | 86  | 76             | 81 | 88  | 1732         | 287          |
|               |       |     |                  | 400          | 2915                  | 361,5               | 1348                | 85                 | 85 | 86  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2925                  | 348,4               | 1299                | 86                 | 86 | 87  | 69             | 75 | 85  |              |              |
| VSM 3S 10/300 | 300   | 220 | 75               | 380          | 2905                  | 442,2               | 1651                | 85                 | 85 | 86  | 76             | 81 | 88  | 1922         | 302          |
|               |       |     |                  | 400          | 2915                  | 429,9               | 1604                | 85                 | 85 | 86  | 72             | 77 | 86  |              |              |
|               |       |     |                  | 415          | 2925                  | 414,4               | 1546                | 86                 | 86 | 87  | 69             | 75 | 85  |              |              |

## MOTOR SPECIFICATIONS

**Motor Power** : 110-300 HP  
**Outside Diameter** : 232 mm  
**Flange Standard** : 8" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type          | Power |      | Axial Load | Voltage | n <sub>N</sub> | I <sub>N</sub> | I <sub>A</sub> | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length | Weight |
|---------------|-------|------|------------|---------|----------------|----------------|----------------|--------------------|----|-----|----------------|----|-----|--------|--------|
|               | HP    | kW   |            |         |                |                |                | 50                 | 75 | 100 | 50             | 75 | 100 |        |        |
| VSM 3S 6/5.5  | 5,5   | 4    | 20         | 220     | 3510           | 19,2           | 102            | 69                 | 74 | 76  | 51             | 63 | 72  | 594    | 38     |
|               |       |      |            | 380     | 3540           | 11,4           | 61             | 65                 | 71 | 76  | 50             | 62 | 70  |        |        |
|               |       |      |            | 460     | 3530           | 8,8            | 47             | 69                 | 75 | 77  | 55             | 66 | 74  |        |        |
| VSM 3S 6/7.5  | 7,5   | 5,5  | 20         | 220     | 3480           | 23,8           | 126            | 73                 | 77 | 77  | 60             | 72 | 79  | 623    | 42     |
|               |       |      |            | 380     | 3490           | 13,6           | 72             | 75                 | 77 | 77  | 63             | 74 | 80  |        |        |
|               |       |      |            | 460     | 3490           | 11,7           | 62             | 73                 | 76 | 75  | 64             | 75 | 79  |        |        |
| VSM 3S 6/10   | 10    | 7,5  | 20         | 220     | 3480           | 32,8           | 174            | 74                 | 78 | 78  | 57             | 70 | 77  | 703    | 48     |
|               |       |      |            | 380     | 3490           | 18,3           | 97             | 75                 | 78 | 78  | 63             | 74 | 80  |        |        |
|               |       |      |            | 460     | 3480           | 15,1           | 80             | 74                 | 77 | 77  | 66             | 76 | 81  |        |        |
| VSM 3S 6/12.5 | 12,5  | 9,3  | 20         | 220     | 3480           | 40,7           | 216            | 74                 | 78 | 78  | 58             | 70 | 77  | 743    | 53     |
|               |       |      |            | 380     | 3480           | 22,4           | 119            | 76                 | 79 | 79  | 63             | 74 | 80  |        |        |
|               |       |      |            | 460     | 3470           | 18,3           | 97             | 77                 | 79 | 79  | 66             | 77 | 81  |        |        |
| VSM 3S 6/15   | 15    | 11   | 20         | 220     | 3480           | 46,3           | 245            | 76                 | 79 | 80  | 59             | 71 | 78  | 796    | 58     |
|               |       |      |            | 380     | 3500           | 26,5           | 140            | 76                 | 80 | 80  | 61             | 73 | 79  |        |        |
|               |       |      |            | 460     | 3490           | 21,3           | 113            | 77                 | 80 | 79  | 67             | 76 | 82  |        |        |
| VSM 3S 6/17.5 | 17,5  | 13   | 20         | 220     | 3490           | 56,9           | 302            | 75                 | 79 | 80  | 54             | 67 | 75  | 856    | 63     |
|               |       |      |            | 380     | 3510           | 31,7           | 168            | 76                 | 80 | 81  | 58             | 70 | 77  |        |        |
|               |       |      |            | 460     | 3500           | 25,2           | 134            | 77                 | 80 | 80  | 64             | 75 | 81  |        |        |
| VSM 3S 6/20   | 20    | 15   | 20         | 220     | 3490           | 60,1           | 318            | 79                 | 82 | 82  | 62             | 73 | 80  | 918    | 70     |
|               |       |      |            | 380     | 3500           | 34,4           | 182            | 80                 | 82 | 82  | 65             | 76 | 81  |        |        |
|               |       |      |            | 460     | 3500           | 28,4           | 150            | 79                 | 81 | 81  | 67             | 77 | 82  |        |        |
| VSM 3S 6/25   | 25    | 18,5 | 20         | 220     | 3480           | 77,9           | 413            | 76                 | 80 | 81  | 58             | 70 | 77  | 951    | 74     |
|               |       |      |            | 380     | 3500           | 46,3           | 245            | 75                 | 79 | 80  | 57             | 69 | 76  |        |        |
|               |       |      |            | 460     | 3490           | 35,9           | 190            | 79                 | 81 | 81  | 64             | 75 | 80  |        |        |
| VSM 3S 6/30   | 30    | 22   | 20         | 220     | 3500           | 91,6           | 495            | 81                 | 83 | 83  | 64             | 73 | 76  | 1051   | 85     |
|               |       |      |            | 380     | 3520           | 52,4           | 283            | 81                 | 83 | 83  | 66             | 74 | 77  |        |        |
|               |       |      |            | 460     | 3510           | 41,1           | 222            | 82                 | 83 | 83  | 71             | 78 | 81  |        |        |
| VSM 3S 6/35   | 35    | 26,5 | 26,5       | 220     | 3500           | 110,5          | 597            | 82                 | 84 | 84  | 62             | 71 | 75  | 1166   | 96     |
|               |       |      |            | 380     | 3510           | 60,0           | 324            | 82                 | 84 | 84  | 61             | 73 | 80  |        |        |
|               |       |      |            | 460     | 3510           | 48,9           | 264            | 82                 | 83 | 83  | 63             | 75 | 82  |        |        |
| VSM 3S 6/40   | 40    | 30   | 26,5       | 220     | 3500           | 124,8          | 674            | 77                 | 81 | 82  | 57             | 70 | 77  | 1196   | 101    |
|               |       |      |            | 380     | 3520           | 68,7           | 371            | 78                 | 82 | 83  | 61             | 73 | 80  |        |        |
|               |       |      |            | 460     | 3510           | 56,1           | 303            | 80                 | 83 | 83  | 63             | 74 | 81  |        |        |
| VSM 3S 6/50   | 50    | 37   | 26,5       | 220     | 3500           | 155,9          | 842            | 76                 | 80 | 81  | 58             | 70 | 77  | 1296   | 108    |
|               |       |      |            | 380     | 3520           | 90,2           | 487            | 76                 | 80 | 81  | 58             | 70 | 77  |        |        |
|               |       |      |            | 460     | 3510           | 69,2           | 374            | 81                 | 83 | 84  | 62             | 74 | 80  |        |        |
| VSM 3S 6/60   | 60    | 45   | 26,5       | 220     | 3500           | 189,5          | 1023           | 75                 | 79 | 80  | 58             | 71 | 78  | 1296   | 108    |
|               |       |      |            | 380     | 3520           | 109,7          | 592            | 75                 | 79 | 80  | 58             | 71 | 78  |        |        |
|               |       |      |            | 460     | 3510           | 84,1           | 454            | 80                 | 82 | 83  | 62             | 75 | 81  |        |        |

## MOTOR SPECIFICATIONS

**Motor Power** : 5,5-60 HP  
**Outside Diameter** : 142 mm  
**Flange Standard** : 6" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type        | Power |      | Axial Load<br>kN | Voltage<br>V | n <sub>N</sub><br>rpm | I <sub>N</sub><br>A | I <sub>A</sub><br>A | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length<br>mm | Weight<br>kg |
|-------------|-------|------|------------------|--------------|-----------------------|---------------------|---------------------|--------------------|----|-----|----------------|----|-----|--------------|--------------|
|             | HP    | kW   |                  |              |                       |                     |                     | 50                 | 75 | 100 | 50             | 75 | 100 |              |              |
| VSM 3S 7/30 | 30    | 22   | 45               | 220          | 3480                  | 86,0                | 456                 | 81                 | 82 | 82  | 72             | 78 | 82  | 842          | 83           |
|             |       |      |                  | 380          | 3490                  | 49,8                | 264                 | 81                 | 82 | 82  | 72             | 78 | 82  |              |              |
|             |       |      |                  | 460          | 3500                  | 41,1                | 218                 | 81                 | 82 | 82  | 72             | 78 | 82  |              |              |
| VSM 3S 7/35 | 35    | 26,5 | 45               | 220          | 3480                  | 102,3               | 542                 | 82                 | 83 | 83  | 72             | 78 | 82  | 882          | 88           |
|             |       |      |                  | 380          | 3490                  | 59,2                | 314                 | 82                 | 83 | 83  | 72             | 78 | 82  |              |              |
|             |       |      |                  | 460          | 3500                  | 48,9                | 259                 | 82                 | 83 | 83  | 72             | 78 | 82  |              |              |
| VSM 3S 7/40 | 40    | 30   | 45               | 220          | 3485                  | 115,8               | 614                 | 83                 | 84 | 83  | 72             | 78 | 82  | 922          | 100          |
|             |       |      |                  | 380          | 3495                  | 67,1                | 355                 | 83                 | 84 | 83  | 72             | 78 | 82  |              |              |
|             |       |      |                  | 460          | 3505                  | 55,4                | 294                 | 83                 | 84 | 83  | 72             | 78 | 82  |              |              |
| VSM 3S 7/50 | 50    | 37   | 45               | 220          | 3480                  | 137,8               | 730                 | 83                 | 84 | 84  | 74             | 81 | 84  | 1001         | 110          |
|             |       |      |                  | 380          | 3490                  | 79,8                | 423                 | 83                 | 84 | 84  | 74             | 81 | 84  |              |              |
|             |       |      |                  | 460          | 3500                  | 65,9                | 349                 | 83                 | 84 | 84  | 74             | 81 | 84  |              |              |
| VSM 3S 7/60 | 60    | 45   | 45               | 220          | 3470                  | 167,6               | 888                 | 83                 | 84 | 84  | 72             | 80 | 84  | 1081         | 124          |
|             |       |      |                  | 380          | 3480                  | 97,0                | 514                 | 83                 | 84 | 84  | 72             | 80 | 84  |              |              |
|             |       |      |                  | 460          | 3490                  | 80,1                | 425                 | 83                 | 84 | 84  | 72             | 80 | 84  |              |              |
| VSM 3S 7/70 | 70    | 52   | 45               | 380          | 3495                  | 113,5               | 601                 | 83                 | 84 | 84  | 74             | 79 | 83  | 1160         | 135          |
|             |       |      |                  | 460          | 3505                  | 93,7                | 497                 | 83                 | 84 | 84  | 74             | 79 | 83  |              |              |
| VSM 3S 7/75 | 75    | 55   | 45               | 380          | 3495                  | 120,0               | 636                 | 83                 | 84 | 84  | 74             | 79 | 83  | 1160         | 135          |
|             |       |      |                  | 460          | 3505                  | 99,1                | 525                 | 83                 | 84 | 84  | 74             | 79 | 83  |              |              |
| VSM 3S 7/80 | 80    | 60   | 45               | 380          | 3470                  | 130,9               | 694                 | 83                 | 84 | 84  | 74             | 79 | 83  | 1248         | 157          |
|             |       |      |                  | 460          | 3480                  | 108,1               | 573                 | 83                 | 84 | 84  | 74             | 79 | 83  |              |              |
| VSM 3S 7/90 | 90    | 67   | 45               | 380          | 3475                  | 146,2               | 775                 | 83                 | 84 | 84  | 74             | 79 | 83  | 1279         | 168          |
|             |       |      |                  | 460          | 3485                  | 120,8               | 640                 | 83                 | 84 | 84  | 74             | 79 | 83  |              |              |

## MOTOR SPECIFICATIONS

**Motor Power** : 30-90 HP  
**Outside Diameter** : 172 mm  
**Flange Standard** : 6" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type         | Power |     | Axial Load | Voltage | n <sub>N</sub> | I <sub>N</sub> | I <sub>A</sub> | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length | Weight |
|--------------|-------|-----|------------|---------|----------------|----------------|----------------|--------------------|----|-----|----------------|----|-----|--------|--------|
|              | HP    | kW  |            |         |                |                |                | 50                 | 75 | 100 | 50             | 75 | 100 |        |        |
| VSM 3S 8/40  | 40    | 30  | 45         | 220     | 3480           | 115,1          | 612            | 81                 | 84 | 84  | 77             | 78 | 82  | 948    | 125    |
|              |       |     |            | 380     | 3490           | 66,3           | 352            | 82                 | 84 | 84  | 77             | 78 | 82  |        |        |
|              |       |     |            | 460     | 3480           | 54,1           | 288            | 81                 | 83 | 83  | 79             | 81 | 84  |        |        |
| VSM 3S 8/50  | 50    | 37  | 45         | 220     | 3490           | 139,5          | 742            | 82                 | 85 | 85  | 77             | 78 | 82  | 1008   | 134    |
|              |       |     |            | 380     | 3500           | 80,7           | 430            | 82                 | 85 | 85  | 77             | 78 | 82  |        |        |
|              |       |     |            | 460     | 3480           | 65,9           | 351            | 83                 | 84 | 84  | 79             | 81 | 84  |        |        |
| VSM 3S 8/60  | 60    | 45  | 45         | 220     | 3480           | 167,6          | 892            | 83                 | 85 | 85  | 70             | 78 | 83  | 1093   | 148    |
|              |       |     |            | 380     | 3490           | 97,0           | 516            | 83                 | 85 | 85  | 70             | 78 | 83  |        |        |
|              |       |     |            | 460     | 3490           | 79,2           | 421            | 84                 | 85 | 85  | 74             | 81 | 84  |        |        |
| VSM 3S 8/70  | 70    | 52  | 45         | 220     | 3490           | 189,1          | 1000           | 84                 | 86 | 86  | 72             | 80 | 84  | 1178   | 166    |
|              |       |     |            | 380     | 3500           | 109,5          | 583            | 84                 | 86 | 86  | 72             | 80 | 84  |        |        |
|              |       |     |            | 460     | 3495           | 90,4           | 481            | 84                 | 85 | 85  | 76             | 83 | 85  |        |        |
| VSM 3S 8/75  | 75    | 55  | 45         | 220     | 3490           | 200,0          | 1064           | 84                 | 86 | 86  | 68             | 77 | 84  | 1178   | 166    |
|              |       |     |            | 380     | 3500           | 115,8          | 616            | 84                 | 86 | 86  | 68             | 77 | 84  |        |        |
|              |       |     |            | 460     | 3500           | 95,7           | 509            | 85                 | 86 | 86  | 74             | 81 | 84  |        |        |
| VSM 3S 8/80  | 80    | 60  | 45         | 220     | 3490           | 215,7          | 1148           | 85                 | 87 | 87  | 74             | 81 | 84  | 1233   | 181    |
|              |       |     |            | 380     | 3500           | 124,9          | 664            | 85                 | 87 | 87  | 74             | 81 | 84  |        |        |
|              |       |     |            | 460     | 3500           | 103,1          | 549            | 85                 | 86 | 86  | 77             | 83 | 85  |        |        |
| VSM 3S 8/90  | 90    | 67  | 45         | 220     | 3500           | 252,7          | 1344           | 84                 | 86 | 86  | 70             | 79 | 81  | 1258   | 186    |
|              |       |     |            | 380     | 3510           | 146,3          | 778            | 84                 | 86 | 86  | 70             | 79 | 81  |        |        |
|              |       |     |            | 460     | 3500           | 116,5          | 620            | 85                 | 86 | 86  | 74             | 82 | 84  |        |        |
| VSM 3S 8/100 | 100   | 75  | 45         | 220     | 3490           | 266,5          | 1418           | 85                 | 87 | 87  | 74             | 82 | 85  | 1283   | 191    |
|              |       |     |            | 380     | 3500           | 154,3          | 821            | 85                 | 87 | 87  | 74             | 82 | 85  |        |        |
|              |       |     |            | 460     | 3500           | 127,4          | 678            | 85                 | 87 | 87  | 74             | 82 | 85  |        |        |
| VSM 3S 8/110 | 110   | 81  | 55         | 380     | 3500           | 166,6          | 886            | 85                 | 87 | 87  | 72             | 80 | 85  | 1363   | 201    |
|              |       |     |            | 460     | 3500           | 137,6          | 732            | 86                 | 87 | 87  | 77             | 83 | 85  |        |        |
|              |       |     |            |         |                |                |                |                    |    |     |                |    |     |        |        |
| VSM 3S 8/125 | 125   | 92  | 55         | 380     | 3500           | 191,5          | 1019           | 86                 | 87 | 87  | 74             | 80 | 84  | 1428   | 208    |
|              |       |     |            | 460     | 3500           | 158,2          | 842            | 86                 | 87 | 87  | 73             | 80 | 84  |        |        |
|              |       |     |            |         |                |                |                |                    |    |     |                |    |     |        |        |
| VSM 3S 8/150 | 150   | 110 | 55         | 380     | 3490           | 231,6          | 1232           | 86                 | 86 | 86  | 74             | 80 | 84  | 1574   | 229    |
|              |       |     |            | 460     | 3490           | 191,3          | 1018           | 86                 | 86 | 86  | 73             | 80 | 84  |        |        |
|              |       |     |            |         |                |                |                |                    |    |     |                |    |     |        |        |

## MOTOR SPECIFICATIONS

**Motor Power** : 40-150 HP  
**Outside Diameter** : 192 mm  
**Flange Standard** : 8" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

| Type          | Power |     | Axial Load<br>kN | Voltage<br>V | n <sub>N</sub><br>rpm | I <sub>N</sub><br>A | I <sub>A</sub><br>A | Efficiency (%load) |    |     | Cos φ (% load) |    |     | Length<br>mm | Weight<br>kg |
|---------------|-------|-----|------------------|--------------|-----------------------|---------------------|---------------------|--------------------|----|-----|----------------|----|-----|--------------|--------------|
|               | HP    | kW  |                  |              |                       |                     |                     | 50                 | 75 | 100 | 50             | 75 | 100 |              |              |
| VSM 3S 10/110 | 110   | 81  | 75               | 380          | 3500                  | 170,5               | 904                 | 85                 | 85 | 85  | 80             | 83 | 85  | 1282         | 188          |
|               |       |     |                  | 460          | 3510                  | 137,6               | 729                 | 85                 | 85 | 85  | 82             | 85 | 87  |              |              |
| VSM 3S 10/125 | 125   | 92  | 75               | 380          | 3510                  | 193,7               | 1.027               | 85                 | 85 | 85  | 80             | 83 | 85  | 1342         | 201          |
|               |       |     |                  | 460          | 3520                  | 156,3               | 829                 | 85                 | 85 | 85  | 82             | 85 | 87  |              |              |
| VSM 3S 10/150 | 150   | 110 | 75               | 380          | 3515                  | 234,3               | 1242                | 85                 | 86 | 85  | 79             | 82 | 84  | 1422         | 249          |
|               |       |     |                  | 460          | 3520                  | 189,1               | 1002                | 85                 | 86 | 85  | 81             | 84 | 86  |              |              |
| VSM 3S 10/175 | 175   | 129 | 75               | 380          | 3520                  | 268,4               | 1423                | 86                 | 87 | 86  | 80             | 83 | 85  | 1522         | 249          |
|               |       |     |                  | 460          | 3530                  | 216,7               | 1148                | 86                 | 87 | 86  | 82             | 85 | 87  |              |              |
| VSM 3S 10/200 | 200   | 147 | 75               | 380          | 3515                  | 305,9               | 1621                | 86                 | 86 | 86  | 80             | 83 | 85  | 1652         | 272          |
|               |       |     |                  | 460          | 3520                  | 246,9               | 1308                | 86                 | 86 | 86  | 82             | 85 | 87  |              |              |
| VSM 3S 10/225 | 225   | 166 | 75               | 380          | 3505                  | 345,4               | 1831                | 86                 | 86 | 86  | 80             | 83 | 85  | 1732         | 279          |
|               |       |     |                  | 460          | 3510                  | 278,8               | 1478                | 86                 | 86 | 86  | 82             | 85 | 87  |              |              |
| VSM 3S 10/250 | 250   | 185 | 75               | 380          | 3505                  | 385,0               | 2040                | 86                 | 86 | 86  | 80             | 83 | 85  | 1732         | 287          |
|               |       |     |                  | 460          | 3510                  | 310,7               | 1647                | 86                 | 86 | 86  | 82             | 85 | 87  |              |              |
| VSM 3S 10/300 | 300   | 220 | 75               | 380          | 3505                  | 457,8               | 2426                | 86                 | 86 | 86  | 80             | 83 | 85  | 1922         | 302          |
|               |       |     |                  | 460          | 3510                  | 369,5               | 1958                | 86                 | 86 | 86  | 82             | 85 | 87  |              |              |

## MOTOR SPECIFICATIONS

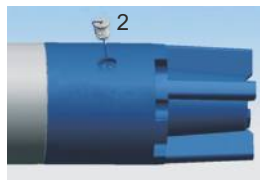
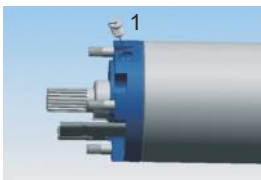
**Motor Power** : 110-300 HP  
**Outside Diameter** : 232 mm  
**Flange Standard** : 8" NEMA  
**Winding Wire** : PE2-PA

**Working Position** : Vertical & Horizontal  
**Ambient Water Temp.** : Max 50°C (70°C opt.)  
**Rotation Direction** : CW & CCW  
**Motor Shaft** : Stainless steel

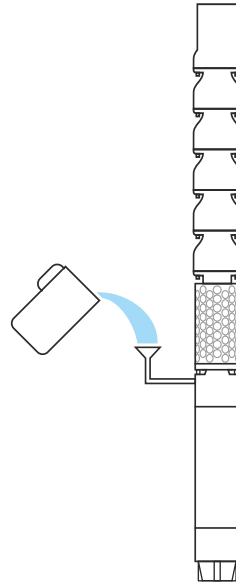
## OTHER INFORMATIONS

### MOTOR WATER FILLING

During the storage and delivery period, antifreeze is used not to cause any freezing. VANSAN submersible motors are filled with water+antifreeze mix before shipment to protect motor till  $-10^{\circ}\text{C}$  freezing temperature.



Before the installation of the motor to the well, water level inside the motor should be checked. Position the motor horizontally and remove the screw 1 and 2, fill the motor with clean water if it is not full. After waiting 30 minutes with the filling screw open, fill the water completely again and tight with a screw providing no leakage.



### INSULATION RESISTANCE TEST

All Vansan motors are applied insulation test under 3.000 V before shipment. Motors which have at least 2.000 megaohm test results are shipped. Insulation test results should be controlled before the installation and after connecting power cables as it is explained below. Megger tester's one probe should be touched to motor body and the other probe should be touched to tip of each power cable to measure the insulation of each phase. If there is any short circuit in a phase, insulation value is 0 megaohm.

Under the normal operating conditions, a motor inside the well should have 2 megaohm insulation resistance. When the insulation resistance drops under 0.5 megaohm, there might be an insulation problem in winding. Test voltage should be at least 500 V DC.

After extending power cables with a joint, same test procedures should be also applied for insulation control while power cables are inside water. If insulation test results for any winding is lower than 100 megaohm, cable joint should be done again.



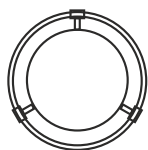
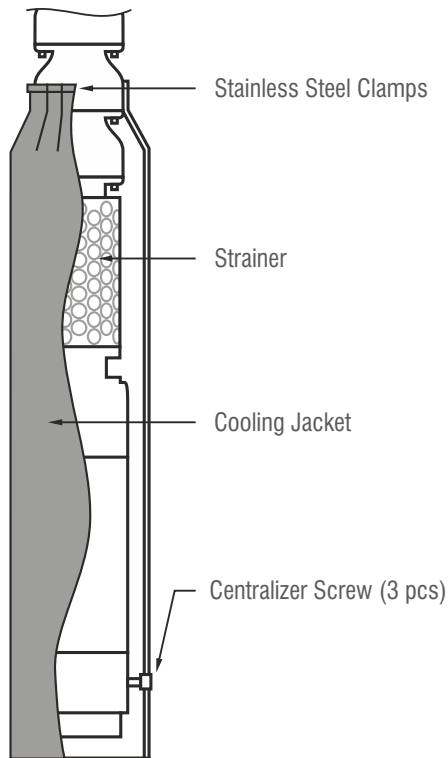
### USE COOLING JACKET / SOĞUTMA CEKETİ KULLANIMI

Cooling of submersible motors is provided with the flow of the water around it. That's allows water flow around motors has vital importance during submersible pump installation. This flow rate depends on diameter and power of motor.

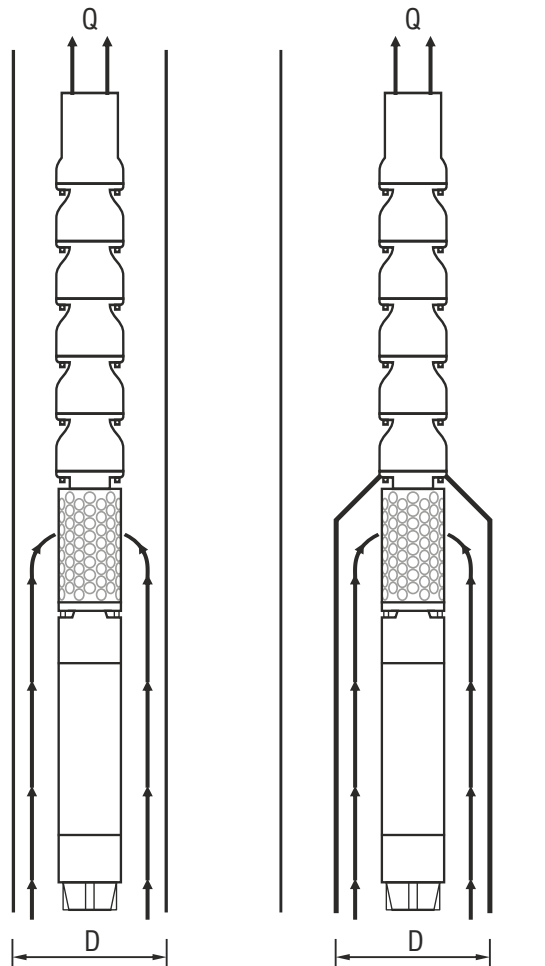
The most important factor of submersible motors' long service life is that the motor has to be cooled well. Required flow velocity around the motor is given in the table below for motors being cooled well enough.

If the motor will be installed in an open body of water (i.e pool) or diameter of the well is much bigger than the diameter of the motor, Flow Inducer Sleeve must be used to provide the flow velocities that are given in the table below, around the motor.

| Motor Type | Motor Rating  | Min. Water Flow (m/s) |
|------------|---------------|-----------------------|
| 6"         | 5.5 - 18.5 kW | 0.2                   |
|            | 22 - 37 kW    | 0.5                   |
| 7"         | 22 - 55 kW    | 0.2                   |
| 8"         | 30 - 55 kW    | 0.2                   |
|            | 60 - 92 kW    | 0.5                   |
| 10"        | 81 - 220 kW   | 0.5                   |



Centralizer Screw must be rotate to alignment of casting surface. Not rotate to stator shell.



## OTHER INFORMATIONS

### USE FREQUENCY CONVERTOR AND SOFT STARTER

These points listed below should be taken into consideration while operating submersible motors with frequency convertor and soft starter.

- Needed precautions should have been taken to protect your frequency convertor from voltage fluctuations.
- Flow rate around motor must be at least 0,15 m/s. If flow rate is not enough, flow inducer sleeve must be used to provide the needed flow rate.
- In systems which are operated by frequency convertor and soft starter, motor selection should be done as choosing next higher motor rate for pumps will provide long service life for motors.
- Motors should be operated between 30-50 Hz with frequency convertors. As the protective water layer can't be formed on thrust bearing at the lower frequencies, motor would get damaged.
- Dual slope frequency convertors should be used while using soft starter too.



### VOLTAGE DROP AND CABLE POWER LOSS

To determine the cable section it should be considered that the voltage drop must not exceed %3. The formulas used for voltage drop calculation are given below.

#### Direct Starter

|                      |                                                                   |                                                                      |
|----------------------|-------------------------------------------------------------------|----------------------------------------------------------------------|
| 1 cable              | $U_v = \frac{3,1 \times L \times I \times \cos\phi}{q \times U}$  | $q = \frac{3,1 \times L \times I \times \cos\phi}{U_v \% \times U}$  |
| 2 cables in parallel | $U_v = \frac{1,55 \times L \times I \times \cos\phi}{q \times U}$ | $q = \frac{1,55 \times L \times I \times \cos\phi}{U_v \% \times U}$ |

#### Delta Star Starter

$$U_v = \frac{2,1 \times L \times I \times \cos\phi}{q \times U} \quad q = \frac{2,1 \times L \times I \times \cos\phi}{U_v \% \times U}$$

**L** : Cable length (m)  
**I** : Current at nominal vol. (A)  
**q** : Conductor section (mm<sup>2</sup>)  
**cosφ** : Power factor  
**P<sub>v</sub>** : Power loss (%)  
**U<sub>v</sub>** : Voltage drop (%)  
**U** : Nominal voltage (V)

The power loss along the feeling cable has to be calculated adjacent to

$$P_v = \frac{U_v}{\cos^2\phi}$$

**MOTOR DOES NOT START**

| Possible Cause                          | Remedy                                                                     |
|-----------------------------------------|----------------------------------------------------------------------------|
| No power or incorrect voltage           | Check voltage at lines. Contact power company if voltage is incorrect      |
| Fuses blown or circuit breakers tripped | Replace with proper fuse or reset circuit breakers                         |
| Control box malfunction                 | Repair or replace                                                          |
| Defective wiring                        | Correct faulty wiring or connections                                       |
| Bound pump                              | Pull pump and correct problem. Run new installation until the water cleans |
| Defective cable or motor                | Repair or replace                                                          |

**MOTOR STARTS TOO OFTEN**

| Possible Cause         | Remedy                                |
|------------------------|---------------------------------------|
| Check valve stuck open | Replace if defective                  |
| Waterlogged tank       | Repair or replace                     |
| Leak in system         | Replace damaged pipes or repair leaks |

**MOTOR RUNS CONTINUOUSLY**

| Possible Cause                       | Remedy                                                                                 |
|--------------------------------------|----------------------------------------------------------------------------------------|
| Low water level in well              | Throttle pump outlet or reset pump to lower level. Do not lower if sand may block pump |
| Worn pump                            | Pull pump and replace worn parts                                                       |
| Loose coupling or broken motor shaft | Replace worn or damaged parts                                                          |
| Pump screen blocked                  | Clean screen and reset pump depth                                                      |
| Check valve stuck closed             | Replace if defective                                                                   |
| Control box malfunction              | Repair or replace                                                                      |

**MOTOR RUNS BUT OVERLOAD PROTECTOR TRIPS**

| Possible Cause           | Remedy                                                          |
|--------------------------|-----------------------------------------------------------------|
| Incorrect voltage        | Contact power company if voltage is incorrect                   |
| Overheated protectors    | Shade the box, provide ventilation or move box away from source |
| Defective control box    | Repair or replace                                               |
| Defective motor or cable | Repair or replace                                               |
| Worn pump or motor       | Replace pump and/or motor                                       |

NOTES

Handwriting practice lines consisting of 20 horizontal dashed lines.

# The secret of our success is **VANSAN QUALITY POLICY**

We know very well that being a trusted business partner is not an easy process. We are following changes in the industry and offer high-efficiency innovative products with well-planned details in order to offer customized solutions to the evolving needs. We produce each product in exceptional quality standards without exception.

We design our products and technologies not with the logic of “build and then sell” but with the philosophy of “understand and then find a solution” and we carry out our productions in accordance with the requirements of TS EN ISO 9001: 2000 Quality Management System Standards. The secret of Vansan’s success is hidden in high-quality

policy that has been followed since its establishment. “Always manufacturing the best” is essential for Vansan. From design to after sales period, “Creating value” is always a part of our service policy to keep customer satisfaction in the highest level.

The 17025 standard is primarily concerned with technical competence and ability to generate technically valid results within a laboratory. VANSAN Pump Test Laboratory has been assessed against the requirements of EN ISO IEC 17025 by the Turkish Accreditation Service (TURKAK) and is accredited to undertake specified tests.



## EASY SERVICE

Vansan, which is developing on the way of becoming a global brand; knows the importance of providing fast and just on time service. That’s why we expand our organisation to provide perfect service in every location our products are used.



## ENVIRONMENT

With the awareness of 20% of produced electricity in the world is consumed by pumps ; VANSAN always aim to design pumps with higher efficiencies. Enviromental friendly materials are used during production as much as possible and wastes are minimized.



## INNOVATION

Vansan follows new techonolgies closely. Tests and analysis are done in order to improve our products in the fastest way and create new production lines. VANSAN always shows effort on developing its products and systems in order to be the followed one in its proffession. That’s why high budget is allocated on R&D and have expert staff on their proffession.

powered by engineering

Submersible  
Pump & Motor  
Vertical Axial Flow  
Turbine Pumps  
Fire Fighting Systems  
Geothermal Pumps  
Double Suction Pumps  
Motor  
Pump  
Oil Pumps  
HIGH EFFICIENCY  
Encapsulated  
Submersible  
Motors  
Industrial Applications  
Vertical Multistage  
In-line Pumps  
Centrifugal  
Pumps  
Solar Pumps  
4" Pumps & Motors

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