

# SS SUBMERSIBLE PUMPS

50Hz Catalogue

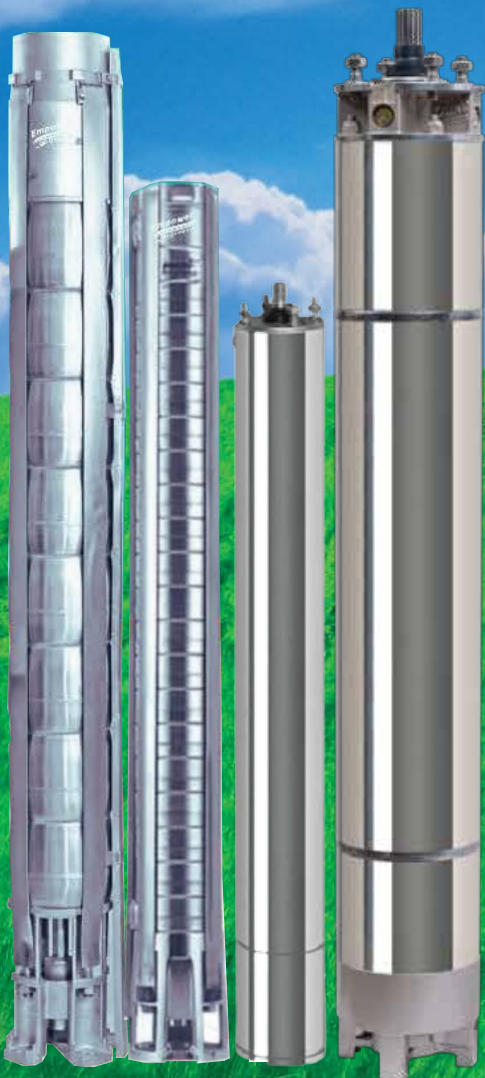
**Empower**  
go green

MADE IN INDIA



PUMPS | PIPES | CABLES | SOLAR PUMPS | CONTROL PANELS

**Empower**  
go green



EMPOWER  
SUBMERSIBLE  
PUMPS & MOTORS



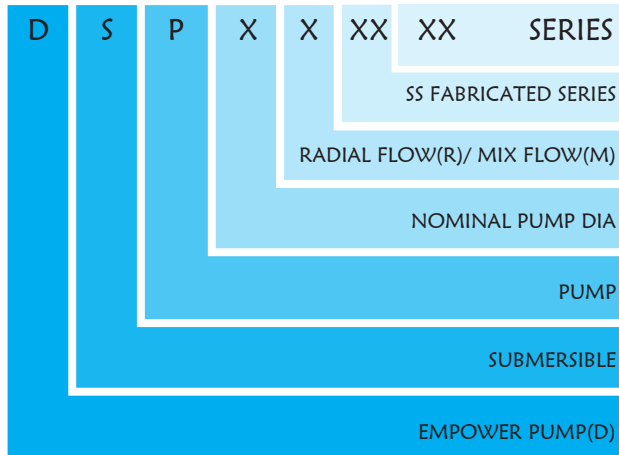
MADE IN INDIA

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# GENERAL INFORMATION

## Model Identification Code



## Liquid Characteristics

|                                 |                               |
|---------------------------------|-------------------------------|
| Max. Liquid Temperature         | 33°C                          |
| Max. Water Hardness             | 300 ppm                       |
| Max. Permissible amount of sand | 50 g/m <sup>3</sup>           |
| Max. Allowable Solids           | 3000 ppm                      |
| pH Range                        | 6.5 - 8.5                     |
| Max. Specific Gravity           | 1.004                         |
| General Characteristics         | Non-Aggressive, Non-Explosive |

## Technical Specification

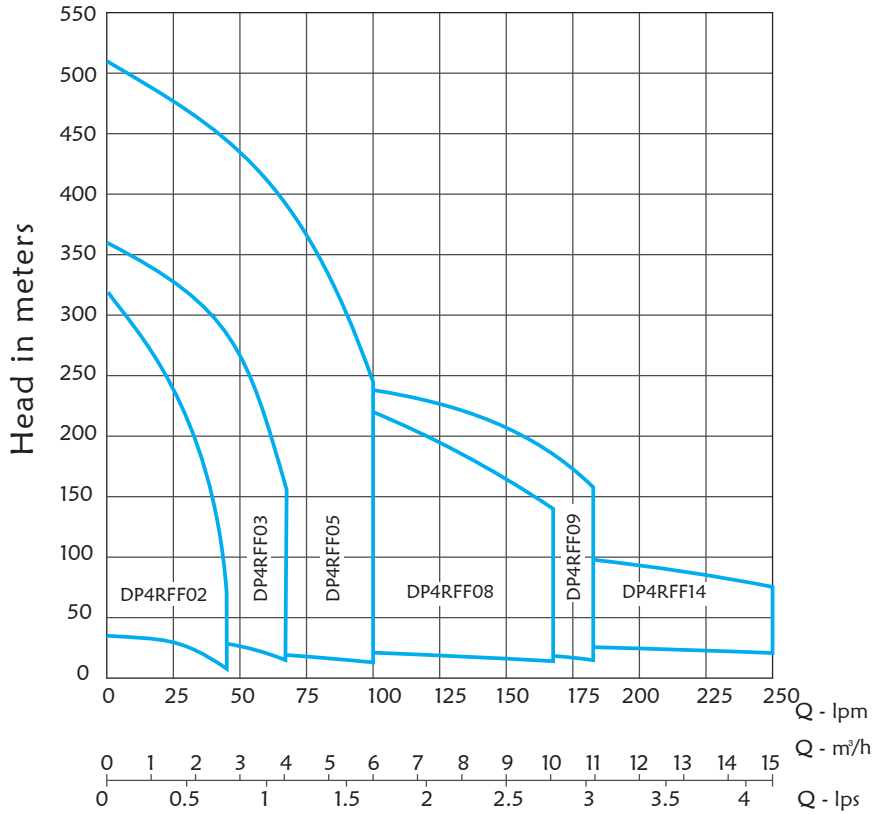
| Nominal Diameter      | 4" (100 mm)                | 6" (150mm)                 | 8" (200mm)                   | 10" (250mm)                |
|-----------------------|----------------------------|----------------------------|------------------------------|----------------------------|
| Power Range           | 0.37 - 5.5 kW              | 0.55 - 63 kW               | 5.5 - 75 kW                  | 7.5 - 185 kW               |
|                       | 0.5 - 7.5 HP               | 0.75 - 85 HP               | 7.5 - 100 HP                 | 10 - 250 HP                |
| Nominal Speed         | 2900 rpm                   | 2900 rpm                   | 2900 rpm                     | 2900 rpm                   |
| Flow Range            | 1 - 18.0 m <sup>3</sup> /h | 6 - 72.0 m <sup>3</sup> /h | 48 - 120.0 m <sup>3</sup> /h | 48 - 276 m <sup>3</sup> /h |
| Shut-off Head         | 510 m                      | 650 m                      | 400 m                        | 485 m                      |
| Outlet sizes          | 1.5", 2"                   | 2", 2.5", 3", 4"           | 5"                           | 6"                         |
| Shaft Coupling        | Splines                    | Splines                    | Splines                      | Splines/Keyway             |
| Mounting Standard     | NEMA                       | NEMA                       | NEMA                         | NEMA/INT'L STD             |
| Max. Operating Press. | 50 bar                     | 65 bar                     | 40 bar                       | 48 bar                     |
| Outlet Thread Std     | BSP                        | BSP                        | BSP                          | BSP                        |

Position of operations

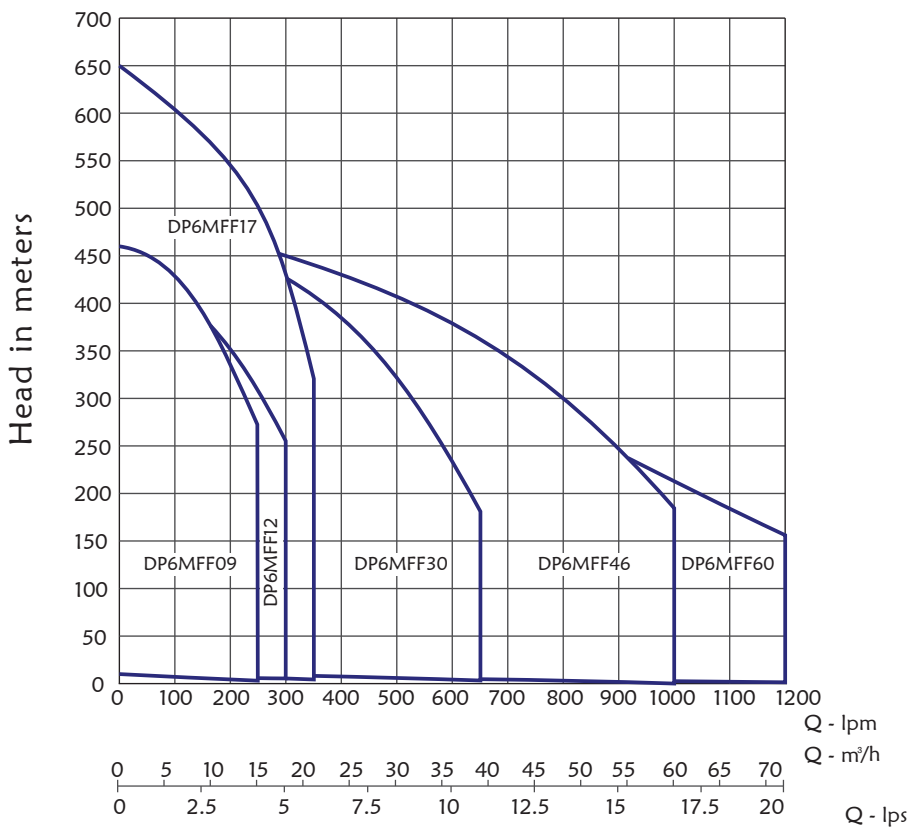


# GROUP CURVES

## 4" Group Curves



## 6" Group Curves





DP SERIES

## DP PUMPS 50Hz

### MULTISTAGE CENTRIFUGAL BOREHOLE PUMPS

## INTRODUCTION

### PUMP

Empower DP4,6,8 & 10 are fully Stainless Steel, Borehole Deep Well pumps suitable for clear water, high head applications. These Pumps are of Multistage Centrifugal types accommodating Radial flow impellers according to the required Head & Flow. All parts are made from AISI 304 Stainless Steel with the shaft made of SS 431 and having an anti-friction rubber bearing bush to provide wear resistance against sand.

### MOTOR

The pump is coupled to a sealed liquid cooled, 2 pole asynchronous squirrel cage motor constructed of Stainless Steel. The Motors are of; High performance, specially designed, with well lubricated thrust bearings to provided high axial thrust loads exerted by whole bore well water column and pumping systems. The mounting dimensions are as per NEMA Standards.

### OPERATING CONDITIONS

**Pumped liquids:** Clean, thin, chemically non-aggressive liquids without solid particles or fibres.

**Max Liquid Temp:** +40°C

**Minimum Borehole Diameter:** 110mm

**Max Immersion Depth:** 200m

**Enclosure Class:** IP68

**Insulation Class:** F

**Speed:** 2900rpm

**Voltage:** 1PH-240V, 3PH-415V

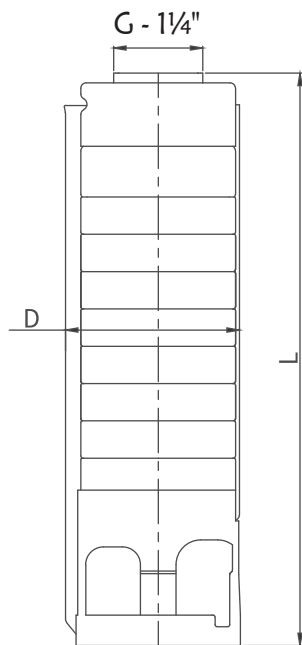
**Pipe Connector:** BSP connector

**Shaft Coupling:** Splines

# PUMP DP4RFF02 50Hz DATA

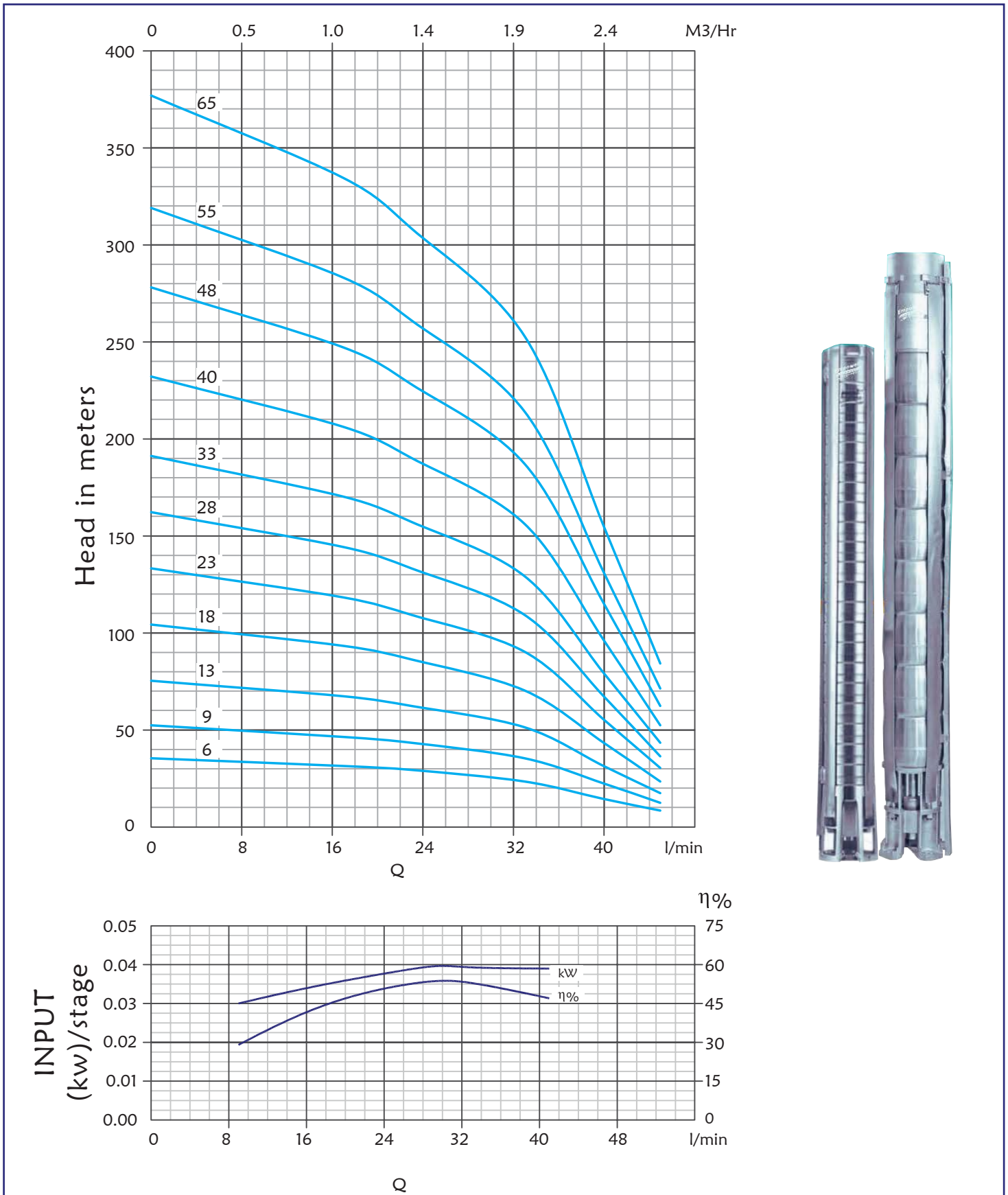
| DP4RFF02 50Hz |      |       |                |             |               | Discharge         |     |     |     |     |     |
|---------------|------|-------|----------------|-------------|---------------|-------------------|-----|-----|-----|-----|-----|
| kW            | HP   | Stage | Motor Joinings | Outlet Size | Head in Mtrs. | 0                 | 1   | 1.4 | 2   | 2.4 | 2.7 |
|               |      |       |                |             |               | m <sup>3</sup> /h | lpm | 0   | 17  | 23  | 33  |
| 0.37          | 0.5  | 6     | V4             | 1 1/4" BSP  | 35            | 31                | 29  | 23  | 14  | 8   |     |
| 0.37          | 0.5  | 9     | V4             | 1 1/4" BSP  | 52            | 46                | 43  | 35  | 22  | 12  |     |
| 0.55          | 0.75 | 13    | V4             | 1 1/4" BSP  | 75            | 67                | 62  | 51  | 31  | 17  |     |
| 0.75          | 1    | 18    | V4             | 1 1/4" BSP  | 104           | 93                | 86  | 70  | 43  | 23  |     |
| 1.1           | 1.5  | 23    | V4             | 1 1/4" BSP  | 133           | 118               | 109 | 90  | 55  | 30  |     |
| 1.5           | 2    | 28    | V4             | 1 1/4" BSP  | 162           | 144               | 133 | 109 | 67  | 36  |     |
| 1.5           | 2    | 33    | V4             | 1 1/4" BSP  | 191           | 170               | 157 | 129 | 79  | 43  |     |
| 2.2           | 3    | 40    | V4             | 1 1/4" BSP  | 232           | 206               | 190 | 156 | 96  | 52  |     |
| 2.2           | 3    | 48    | V4             | 1 1/4" BSP  | 278           | 247               | 228 | 187 | 115 | 62  |     |
| 3             | 4    | 55    | V4             | 1 1/4" BSP  | 319           | 283               | 261 | 214 | 131 | 71  |     |
| 4             | 5    | 65    | V4             | 1 1/4" BSP  | 377           | 335               | 309 | 254 | 156 | 85  |     |

## Dimensions & Weights



| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP4RFF02 -06 | 98            | 280    | 3.2             | 3.8                     |
| DP4RFF02 -09 | 98            | 343    | 4.2             | 5.1                     |
| DP4RFF02 -13 | 98            | 427    | 5.4             | 6.7                     |
| DP4RFF02 -18 | 98            | 532    | 7.2             | 9.0                     |
| DP4RFF02 -23 | 98            | 668    | 8.9             | 11.2                    |
| DP4RFF02 -28 | 98            | 773    | 10.6            | 13.4                    |
| DP4RFF02 -33 | 98            | 878    | 12.2            | 15.5                    |
| DP4RFF02 -40 | 98            | 1097   | 13.0            | 17.0                    |
| DP4RFF02 -48 | 98            | 1296   | 14.6            | 19.44                   |
| DP4RFF02 -55 | 98            | 1443   | 16.2            | 21.7                    |
| DP4RFF02-65  | 98            | 1729   | 19.1            | 24.7                    |

# DP4RFF02 50Hz SERIES PERFORMANCE CURVES



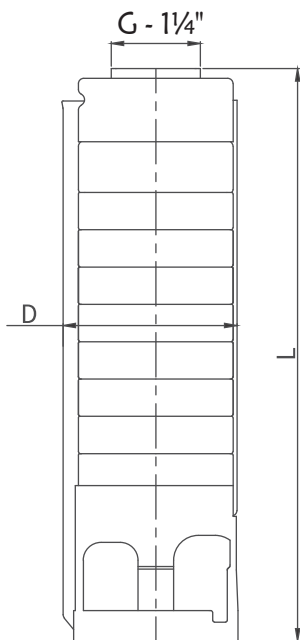


# PUMP DP4RFF03 50Hz DATA

## DP4RFF03 50Hz

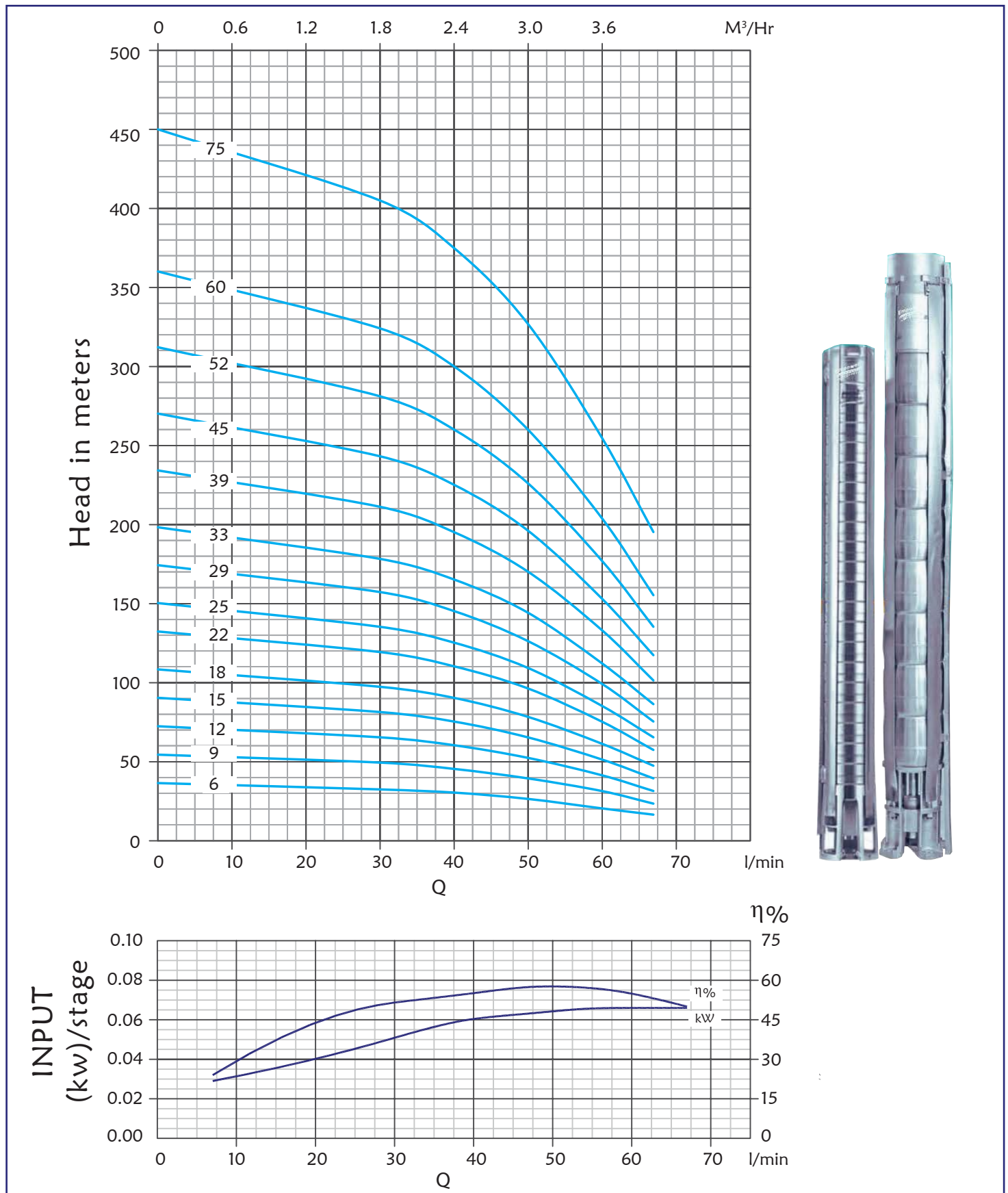
| kW   | HP   | Stage | Motor Joinings | Outlet Size | Discharge         |     |     |     |     |     |     |
|------|------|-------|----------------|-------------|-------------------|-----|-----|-----|-----|-----|-----|
|      |      |       |                |             | m <sup>3</sup> /h | 0   | 1.8 | 2.4 | 3   | 3.6 | 4   |
|      |      |       |                |             | lpm               | 0   | 30  | 40  | 50  | 60  | 67  |
| 0.37 | 0.5  | 6     | V4             | 1 1/4" BSP  | Head in Mtrs.     | 36  | 32  | 30  | 26  | 20  | 16  |
| 0.55 | 0.75 | 9     | V4             | 1 1/4" BSP  |                   | 54  | 49  | 45  | 39  | 31  | 23  |
| 0.75 | 1    | 12    | V4             | 1 1/4" BSP  |                   | 72  | 65  | 60  | 52  | 41  | 31  |
| 1.1  | 1.5  | 15    | V4             | 1 1/4" BSP  |                   | 90  | 81  | 75  | 65  | 51  | 39  |
| 1.1  | 1.5  | 18    | V4             | 1 1/4" BSP  |                   | 108 | 97  | 90  | 78  | 61  | 47  |
| 1.5  | 2    | 22    | V4             | 1 1/4" BSP  |                   | 132 | 119 | 110 | 96  | 75  | 57  |
| 1.5  | 2    | 25    | V4             | 1 1/4" BSP  |                   | 150 | 135 | 125 | 109 | 85  | 65  |
| 2.2  | 3    | 29    | V4             | 1 1/4" BSP  |                   | 174 | 157 | 145 | 126 | 99  | 75  |
| 2.2  | 3    | 33    | V4             | 1 1/4" BSP  |                   | 198 | 178 | 165 | 144 | 112 | 86  |
| 3    | 4    | 39    | V4             | 1 1/4" BSP  |                   | 234 | 211 | 195 | 170 | 133 | 101 |
| 3    | 4    | 45    | V4             | 1 1/4" BSP  |                   | 270 | 243 | 225 | 196 | 153 | 117 |
| 4    | 5    | 52    | V4             | 1 1/4" BSP  |                   | 312 | 281 | 260 | 226 | 177 | 135 |
| 4    | 5    | 60    | V4             | 1 1/4" BSP  |                   | 360 | 324 | 300 | 260 | 204 | 155 |
| 5.5  | 7.5  | 75    | V4             | 1 1/4" BSP  |                   | 450 | 405 | 375 | 327 | 255 | 195 |

### Dimensions & Weights



| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP4RFF03 -06 | 98            | 280    | 3.4             | 4.0                     |
| DP4RFF03 -09 | 98            | 343    | 4.4             | 5.3                     |
| DP4RFF03 -12 | 98            | 406    | 5.4             | 6.6                     |
| DP4RFF03 -15 | 98            | 469    | 6.4             | 7.9                     |
| DP4RFF03 -18 | 98            | 532    | 7.4             | 9.2                     |
| DP4RFF03 -22 | 98            | 647    | 8.7             | 10.9                    |
| DP4RFF03 -25 | 98            | 710    | 9.7             | 12.2                    |
| DP4RFF03 -29 | 98            | 794    | 10.9            | 13.8                    |
| DP4RFF03 -33 | 98            | 878    | 12.2            | 15.5                    |
| DP4RFF03 -39 | 98            | 1076   | 12.7            | 16.6                    |
| DP4RFF03 -45 | 98            | 1233   | 14.0            | 18.5                    |
| DP4RFF03 -52 | 98            | 1380   | 15.5            | 20.7                    |
| DP4RFF03 -60 | 98            | 1548   | 17.3            | 23.3                    |
| DP4RFF03-75  | 98            | 1910   | 21.6            | 28.1                    |

# DP4RFF03 50Hz SERIES PERFORMANCE CURVES

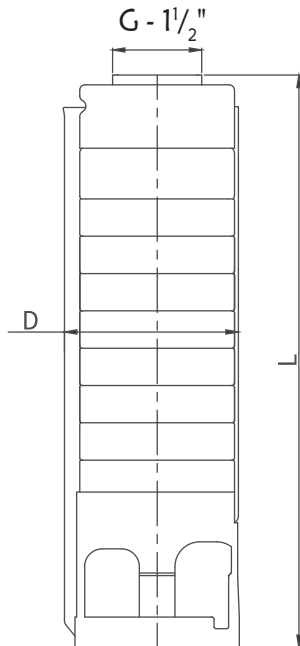


# PUMP DP4RFF05 50Hz DATA

## DP4RFF05 50Hz

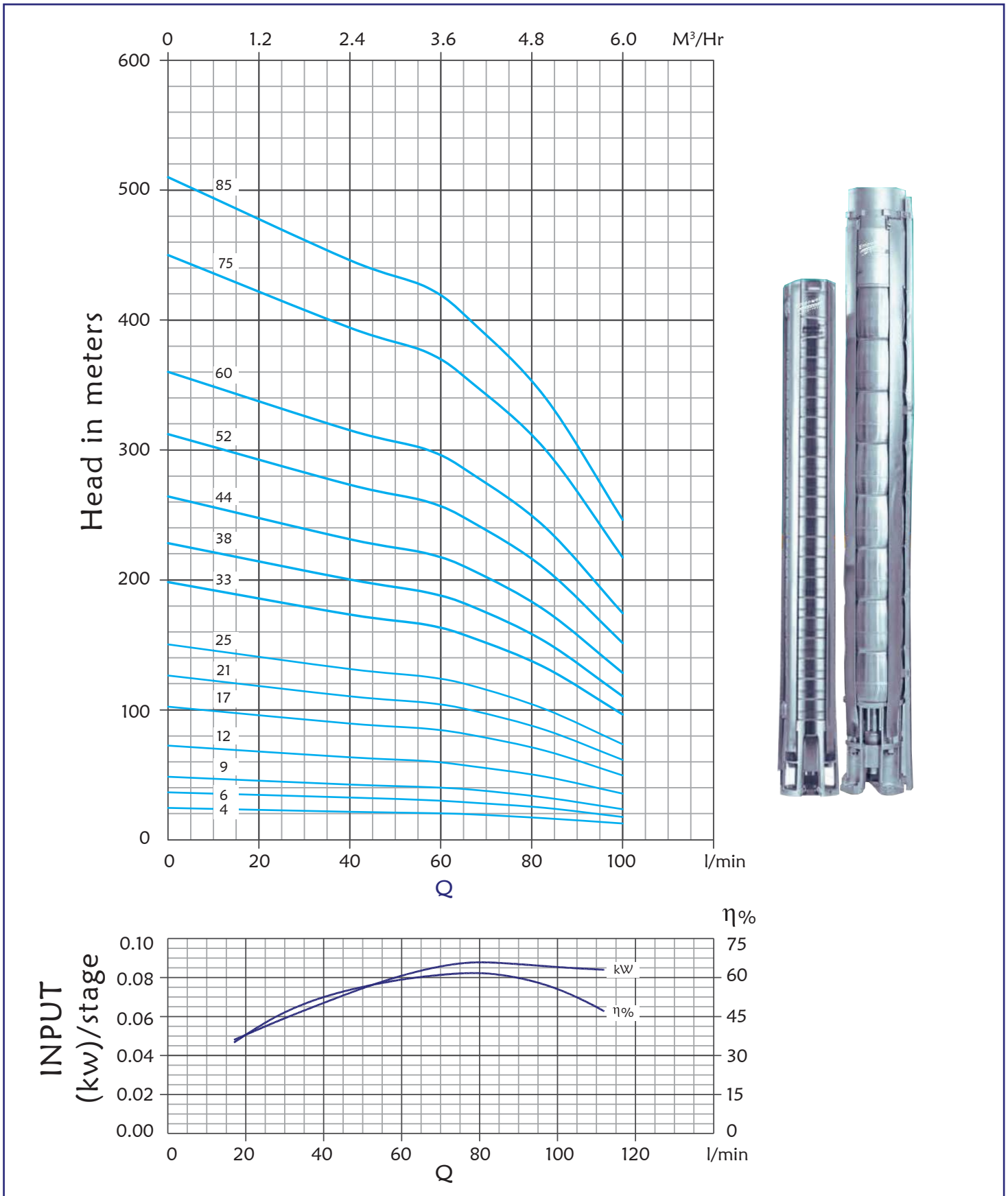
| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h<br>lpm | Discharge |     |     |     |     |   |
|------|------|-------|----------------|-------------|--------------------------|-----------|-----|-----|-----|-----|---|
|      |      |       |                |             |                          | 0         | 2.4 | 3.4 | 4   | 5   | 6 |
| 0.37 | 0.5  | 4     | V4             | 1½" BSP     | 24                       | 21        | 20  | 19  | 16  | 12  |   |
| 0.55 | 0.75 | 6     | V4             | 1½" BSP     | 36                       | 32        | 30  | 28  | 24  | 17  |   |
| 0.75 | 1    | 9     | V4             | 1½" BSP     | 48                       | 42        | 40  | 38  | 32  | 23  |   |
| 1.1  | 1.5  | 12    | V4             | 1½" BSP     | 72                       | 63        | 60  | 56  | 48  | 35  |   |
| 1.5  | 2    | 17    | V4             | 1½" BSP     | 102                      | 89        | 85  | 80  | 68  | 49  |   |
| 2.2  | 3    | 21    | V4             | 1½" BSP     | 126                      | 110       | 105 | 99  | 84  | 61  |   |
| 2.2  | 3    | 25    | V4             | 1½" BSP     | 150                      | 131       | 125 | 118 | 100 | 73  |   |
| 3    | 4    | 33    | V4             | 1½" BSP     | 198                      | 173       | 165 | 155 | 132 | 96  |   |
| 3    | 4    | 38    | V4             | 1½" BSP     | 228                      | 200       | 190 | 179 | 152 | 110 |   |
| 4    | 5.5  | 44    | V4             | 1½" BSP     | 264                      | 231       | 220 | 207 | 176 | 128 |   |
| 5.5  | 7.5  | 52    | V4             | 1½" BSP     | 312                      | 273       | 260 | 244 | 208 | 151 |   |
| 5.5  | 7.5  | 60    | V4             | 1½" BSP     | 360                      | 315       | 300 | 281 | 240 | 174 |   |
| 7.5  | 10   | 75    | V4             | 1½" BSP     | 450                      | 394       | 375 | 351 | 300 | 217 |   |
| 7.5  | 10   | 85    | V4             | 1½" BSP     | 510                      | 446       | 425 | 398 | 340 | 246 |   |

### Dimensions & Weights



| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP4RFF05 -04 | 98            | 238    | 3.2             | 3.4                     |
| DP4RFF05 -06 | 98            | 280    | 3.6             | 3.9                     |
| DP4RFF05 -08 | 98            | 322    | 4.0             | 4.4                     |
| DP4RFF05 -12 | 98            | 406    | 5.6             | 6.2                     |
| DP4RFF05 -15 | 98            | 469    | 6.6             | 7.4                     |
| DP4RFF05 -17 | 98            | 511    | 7.0             | 7.9                     |
| DP4RFF05 -21 | 98            | 626    | 8.4             | 9.5                     |
| DP4RFF05 -25 | 98            | 710    | 9.7             | 11.0                    |
| DP4RFF05 -33 | 98            | 878    | 12.5            | 14.2                    |
| DP4RFF05 -38 | 98            | 1169   | 13.0            | 14.7                    |
| DP4RFF05 -44 | 98            | 1344   | 14.0            | 16.0                    |
| DP4RFF05 -52 | 98            | 1536   | 16.3            | 18.6                    |
| DP4RFF05 -60 | 119           | 1820   | 27.0            | 29.4                    |
| DP4RFF05 -75 | 144           | 2423   | 43.5            | 46.1                    |
| DP4RFF05 -85 | 144           | 2694   | 47.5            | 50.5                    |

# DP4RFF05 50Hz SERIES PERFORMANCE CURVES

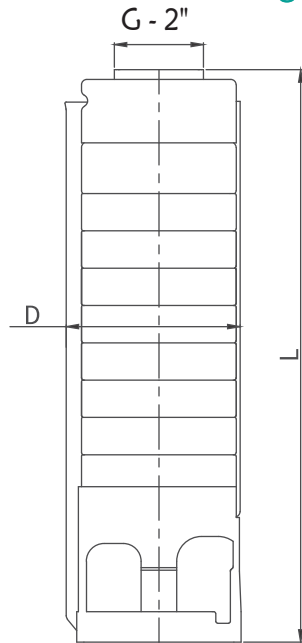


# PUMP DP4RFF08 50Hz DATA

## DP4RFF08 50Hz

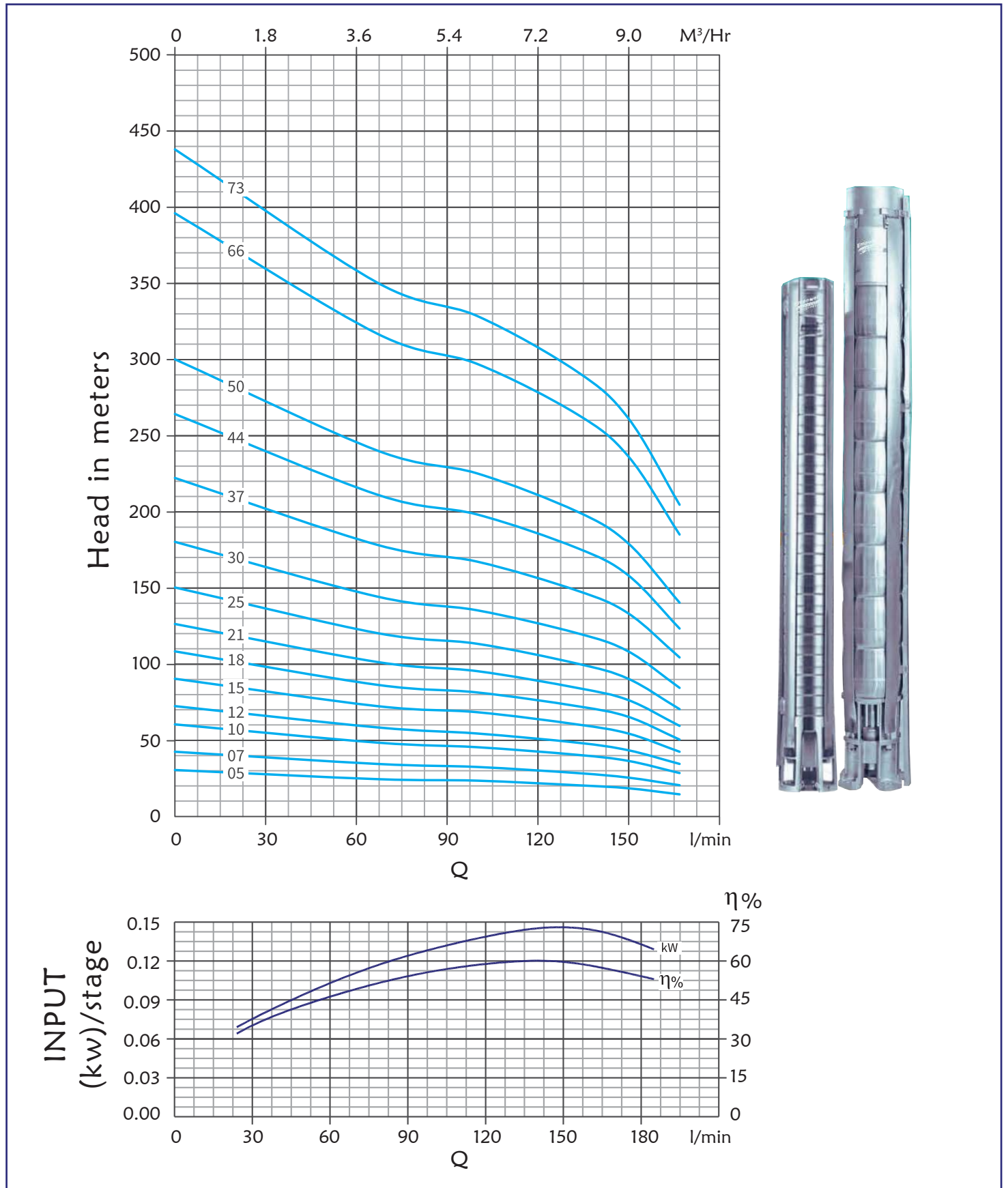
| kW   | HP  | Stage | Motor Joinings | Outlet Size | Discharge         |     |     |     |     |     |     |
|------|-----|-------|----------------|-------------|-------------------|-----|-----|-----|-----|-----|-----|
|      |     |       |                |             | m <sup>3</sup> /h | 0   | 4   | 6   | 8   | 9   | 10  |
|      |     |       |                |             | lpm               | 0   | 67  | 100 | 133 | 150 | 167 |
| 0.75 | 1   | 5     | V4             | 2" BSP      | Head in Mtrs.     | 30  | 24  | 23  | 20  | 18  | 14  |
| 1.1  | 1.5 | 7     | V4             | 2" BSP      |                   | 42  | 34  | 32  | 28  | 25  | 20  |
| 1.5  | 2   | 10    | V4             | 2" BSP      |                   | 60  | 48  | 45  | 40  | 36  | 28  |
| 2.2  | 3   | 12    | V4             | 2" BSP      |                   | 72  | 58  | 54  | 48  | 43  | 34  |
| 2.2  | 3   | 15    | V4             | 2" BSP      |                   | 90  | 72  | 68  | 60  | 54  | 42  |
| 3    | 4   | 18    | V4             | 2" BSP      |                   | 108 | 86  | 81  | 72  | 65  | 50  |
| 4    | 5.5 | 21    | V4             | 2" BSP      |                   | 126 | 101 | 95  | 84  | 76  | 59  |
| 4    | 5.5 | 25    | V4             | 2" BSP      |                   | 150 | 120 | 113 | 100 | 90  | 70  |
| 5.5  | 7.5 | 30    | V4             | 2" BSP      |                   | 180 | 144 | 135 | 120 | 108 | 84  |
| 5.5  | 7.5 | 37    | V4             | 2" BSP      |                   | 222 | 178 | 167 | 148 | 133 | 104 |
| 7.5  | 10  | 44    | V4             | 2" BSP      |                   | 264 | 211 | 198 | 176 | 158 | 123 |
| 7.5  | 10  | 50    | V4             | 2" BSP      |                   | 300 | 240 | 225 | 200 | 179 | 140 |
| 11   | 15  | 66    | V6             | 2" BSP      |                   | 396 | 317 | 297 | 264 | 236 | 185 |
| 11   | 15  | 73    | V6             | 2" BSP      |                   | 438 | 350 | 329 | 292 | 261 | 204 |

### Dimensions & Weights



| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP4RFF08 -05 | 98            | 410    | 7.2             | 10.2                    |
| DP4RFF08 -07 | 98            | 494    | 7.7             | 10.7                    |
| DP4RFF08 -10 | 98            | 620    | 8.4             | 11.4                    |
| DP4RFF08 -12 | 98            | 704    | 8.9             | 11.9                    |
| DP4RFF08 -15 | 98            | 830    | 9.7             | 12.7                    |
| DP4RFF08 -18 | 98            | 956    | 10.5            | 13.5                    |
| DP4RFF08 -21 | 98            | 1082   | 11.2            | 14.2                    |
| DP4RFF08 -25 | 98            | 1250   | 12.3            | 15.3                    |
| DP4RFF08 -30 | 98            | 1460   | 13.5            | 16.5                    |
| DP4RFF08 -37 | 98            | 1754   | 15.3            | 18.3                    |
| DP4RFF08 -44 | 98            | 2048   | 17.1            | 20.1                    |
| DP4RFF08 -50 | 98            | 2300   | 18.8            | 21.8                    |
| DP4RFF08-66  | 98            | 2972   | 24.8            | 27.9                    |
| DP4RFF08-73  | 98            | 3266   | 26.6            | 29.9                    |

## DP4RFF08 50Hz SERIES PERFORMANCE CURVES

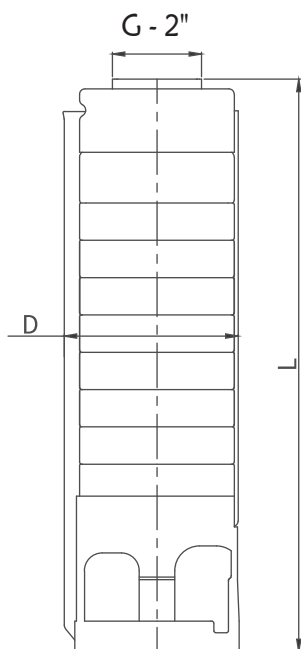


## PUMP DP4RFF14 50Hz DATA

### DP4RFF14 50Hz

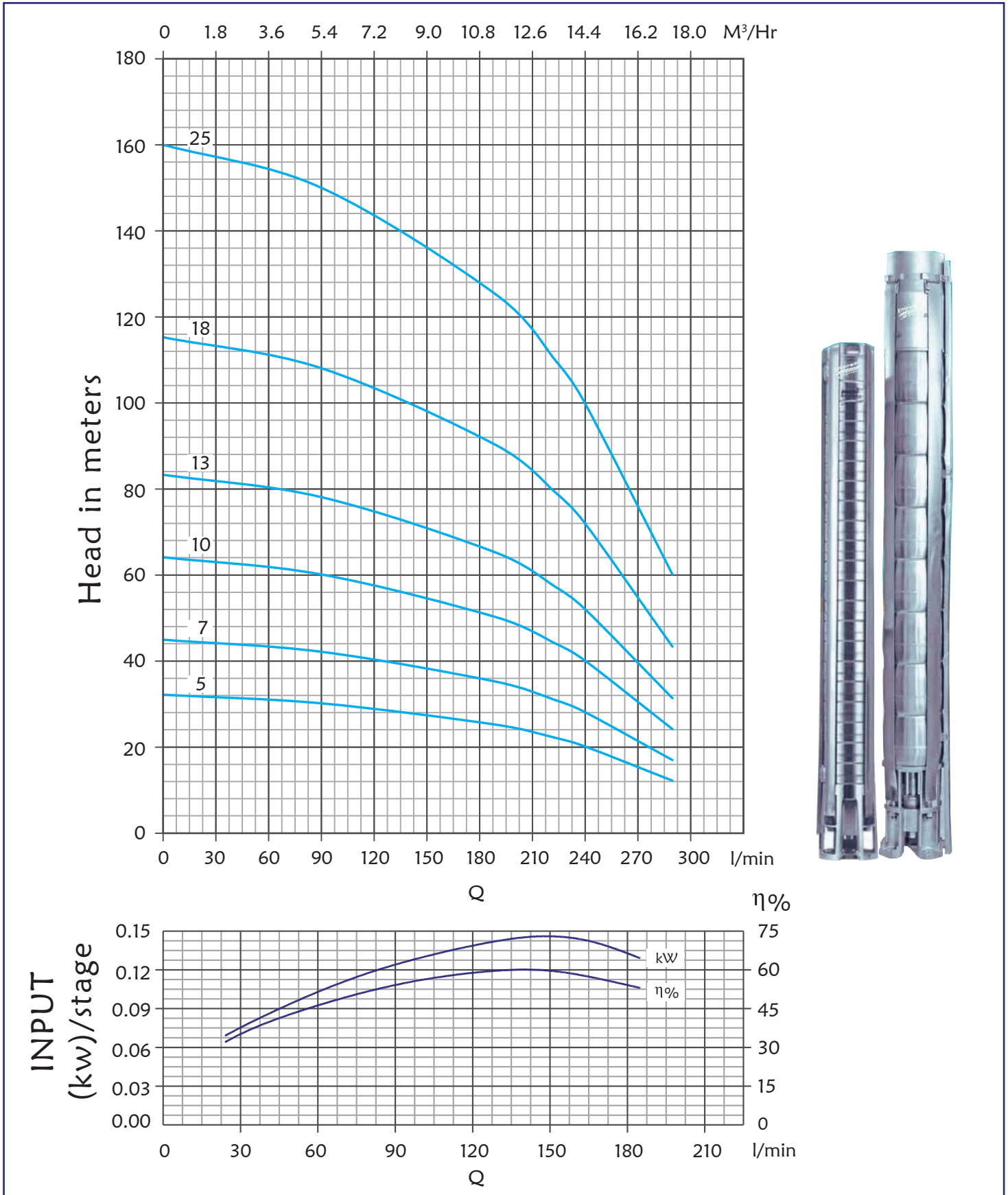
| kW  | HP  | Stage | Motor Joinings | Outlet Size | Discharge         |     |     |      |      |      |      |
|-----|-----|-------|----------------|-------------|-------------------|-----|-----|------|------|------|------|
|     |     |       |                |             | m <sup>3</sup> /h | 0   | 5.4 | 11.4 | 13.4 | 14.4 | 17.4 |
|     |     |       |                |             | lpm               | 0   | 90  | 190  | 223  | 240  | 290  |
| 1.5 | 2   | 5     | V4             | 2"BSP       | Head in Mtrs.     | 32  | 30  | 25   | 22   | 20   | 12   |
| 2.2 | 3   | 7     | V4             | 2"BSP       |                   | 45  | 42  | 35   | 31   | 28   | 17   |
| 3   | 4   | 10    | V4             | 2"BSP       |                   | 64  | 60  | 50   | 44   | 40   | 24   |
| 4   | 5.5 | 13    | V4             | 2"BSP       |                   | 83  | 78  | 65   | 57   | 52   | 31   |
| 5.5 | 7.5 | 18    | V4             | 2"BSP       |                   | 115 | 108 | 90   | 79   | 72   | 43   |
| 7.5 | 10  | 25    | V4             | 2"BSP       |                   | 160 | 150 | 125  | 110  | 100  | 60   |

### Dimensions & Weights



| Model Name    | Specification |        |                 |                         |
|---------------|---------------|--------|-----------------|-------------------------|
|               | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP4RFF14 - 05 | 98            | 410    | 7.2             | 10.2                    |
| DP4RFF14 - 07 | 98            | 494    | 7.7             | 10.7                    |
| DP4RFF14 - 10 | 98            | 620    | 8.4             | 11.4                    |
| DP4RFF14 - 13 | 98            | 704    | 8.9             | 11.9                    |
| DP4RFF14 - 18 | 98            | 956    | 10.5            | 13.5                    |
| DP4RFF14 - 25 | 98            | 1292   | 14.5            | 17.5                    |

# DP4RFF14 50Hz SERIES PERFORMANCE CURVES





## PUMP DP6MFF17 50Hz DATA

### DP6MFF17 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h<br>lpm | Discharge |     |     |     |     |     |
|------|------|-------|----------------|-------------|--------------------------|-----------|-----|-----|-----|-----|-----|
|      |      |       |                |             |                          | 0         | 6   | 12  | 15  | 18  | 21  |
|      |      |       |                |             |                          | 0         | 100 | 200 | 250 | 300 | 350 |
| 0.55 | 0.75 | 1     | V6             | 2½" BSP     |                          | 11        | 10  | 9   | 8   | 7   | 5   |
| 1.1  | 1.5  | 2     | V6             | 2½" BSP     |                          | 22        | 22  | 20  | 18  | 15  | 11  |
| 2.2  | 3    | 3     | V6             | 2½" BSP     |                          | 34        | 33  | 29  | 26  | 22  | 17  |
| 2.2  | 3    | 4     | V6             | 2½" BSP     |                          | 45        | 44  | 39  | 35  | 30  | 23  |
| 3    | 4    | 5     | V6             | 2½" BSP     |                          | 56        | 55  | 49  | 44  | 37  | 29  |
| 4    | 5.5  | 6     | V6             | 2½" BSP     |                          | 67        | 66  | 59  | 53  | 44  | 34  |
| 4    | 5.5  | 7     | V6             | 2½" BSP     |                          | 78        | 77  | 69  | 62  | 52  | 40  |
| 5.5  | 7.5  | 8     | V6             | 2½" BSP     |                          | 90        | 88  | 78  | 70  | 59  | 46  |
| 5.5  | 7.5  | 9     | V6             | 2½" BSP     |                          | 101       | 99  | 88  | 79  | 67  | 51  |
| 5.5  | 7.5  | 10    | V6             | 2½" BSP     |                          | 112       | 110 | 98  | 88  | 74  | 57  |
| 7.5  | 10   | 11    | V6             | 2½" BSP     |                          | 123       | 121 | 108 | 97  | 81  | 63  |
| 7.5  | 10   | 12    | V6             | 2½" BSP     |                          | 134       | 132 | 118 | 106 | 89  | 68  |
| 7.5  | 10   | 13    | V6             | 2½" BSP     |                          | 146       | 143 | 127 | 114 | 96  | 74  |
| 9.3  | 12.5 | 14    | V6             | 2½" BSP     |                          | 157       | 154 | 137 | 123 | 104 | 80  |
| 9.3  | 12.5 | 15    | V6             | 2½" BSP     |                          | 168       | 165 | 147 | 132 | 111 | 86  |
| 9.3  | 12.5 | 16    | V6             | 2½" BSP     |                          | 179       | 176 | 157 | 141 | 118 | 91  |
| 9.3  | 12.5 | 17    | V6             | 2½" BSP     |                          | 190       | 187 | 167 | 150 | 126 | 97  |
| 9.3  | 12.5 | 18    | V6             | 2½" BSP     |                          | 202       | 198 | 176 | 158 | 133 | 103 |
| 11   | 15   | 19    | V6             | 2½" BSP     |                          | 213       | 209 | 186 | 167 | 141 | 108 |
| 11   | 15   | 20    | V6             | 2½" BSP     |                          | 224       | 220 | 196 | 176 | 148 | 114 |
| 13   | 17.5 | 21    | V6             | 2½" BSP     |                          | 235       | 231 | 206 | 185 | 155 | 120 |
| 13   | 17.5 | 22    | V6             | 2½" BSP     |                          | 246       | 242 | 216 | 194 | 163 | 125 |
| 13   | 17.5 | 23    | V6             | 2½" BSP     |                          | 258       | 253 | 225 | 202 | 170 | 131 |
| 13   | 17.5 | 24    | V6             | 2½" BSP     |                          | 269       | 264 | 235 | 211 | 178 | 137 |
| 15   | 20   | 25    | V6             | 2½" BSP     |                          | 280       | 275 | 245 | 220 | 185 | 143 |
| 15   | 20   | 26    | V6             | 2½" BSP     |                          | 291       | 286 | 255 | 229 | 192 | 148 |
| 15   | 20   | 27    | V6             | 2½" BSP     |                          | 302       | 297 | 265 | 238 | 200 | 154 |
| 18.5 | 25   | 28    | V6             | 2½" BSP     |                          | 314       | 308 | 274 | 246 | 207 | 160 |
| 18.5 | 25   | 29    | V6             | 2½" BSP     |                          | 325       | 319 | 284 | 255 | 215 | 165 |
| 18.5 | 25   | 30    | V6             | 2½" BSP     |                          | 336       | 330 | 294 | 264 | 222 | 171 |
| 18.5 | 25   | 31    | V6             | 2½" BSP     |                          | 347       | 341 | 304 | 273 | 229 | 177 |
| 18.5 | 25   | 32    | V6             | 2½" BSP     |                          | 358       | 352 | 314 | 282 | 237 | 182 |
| 18.5 | 25   | 33    | V6             | 2½" BSP     |                          | 370       | 363 | 323 | 290 | 244 | 188 |
| 22   | 30   | 34    | V6             | 2½" BSP     |                          | 381       | 374 | 333 | 299 | 252 | 194 |
| 22   | 30   | 35    | V6             | 2½" BSP     |                          | 392       | 385 | 343 | 308 | 259 | 200 |
| 22   | 30   | 36    | V6             | 2½" BSP     |                          | 403       | 396 | 353 | 317 | 266 | 205 |
| 22   | 30   | 37    | V6             | 2½" BSP     |                          | 414       | 407 | 363 | 326 | 274 | 211 |
| 22   | 30   | 38    | V6             | 2½" BSP     |                          | 426       | 418 | 372 | 334 | 281 | 217 |
| 22   | 30   | 39    | V6             | 2½" BSP     |                          | 437       | 429 | 382 | 343 | 289 | 222 |
| 22   | 30   | 40    | V6             | 2½" BSP     |                          | 448       | 440 | 392 | 352 | 296 | 228 |
| 26   | 35   | 43    | V6             | 2½" BSP     |                          | 466       | 433 | 394 | 350 | 288 | 229 |
| 26   | 35   | 45    | V6             | 2½" BSP     |                          | 487       | 453 | 412 | 366 | 302 | 240 |
| 26   | 35   | 48    | V8             | 2½" BSP     |                          | 520       | 483 | 440 | 390 | 322 | 256 |

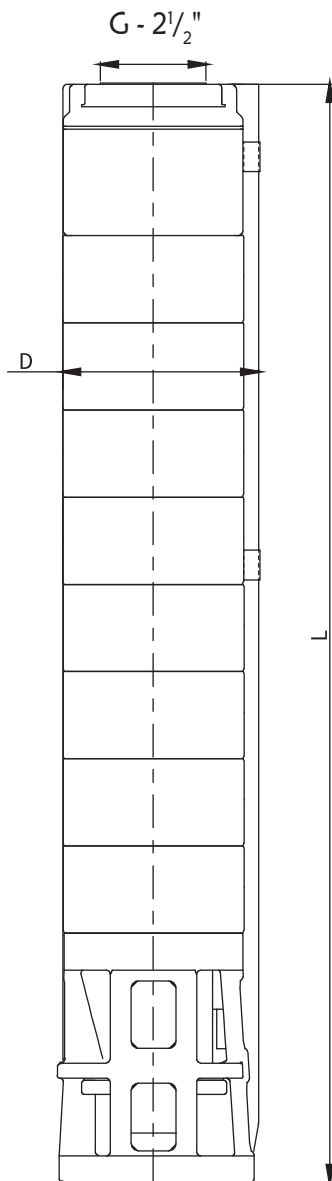
Head in Mtrs.

# DP6MFF17 PUMP DATA

## DP6MFF17 50Hz

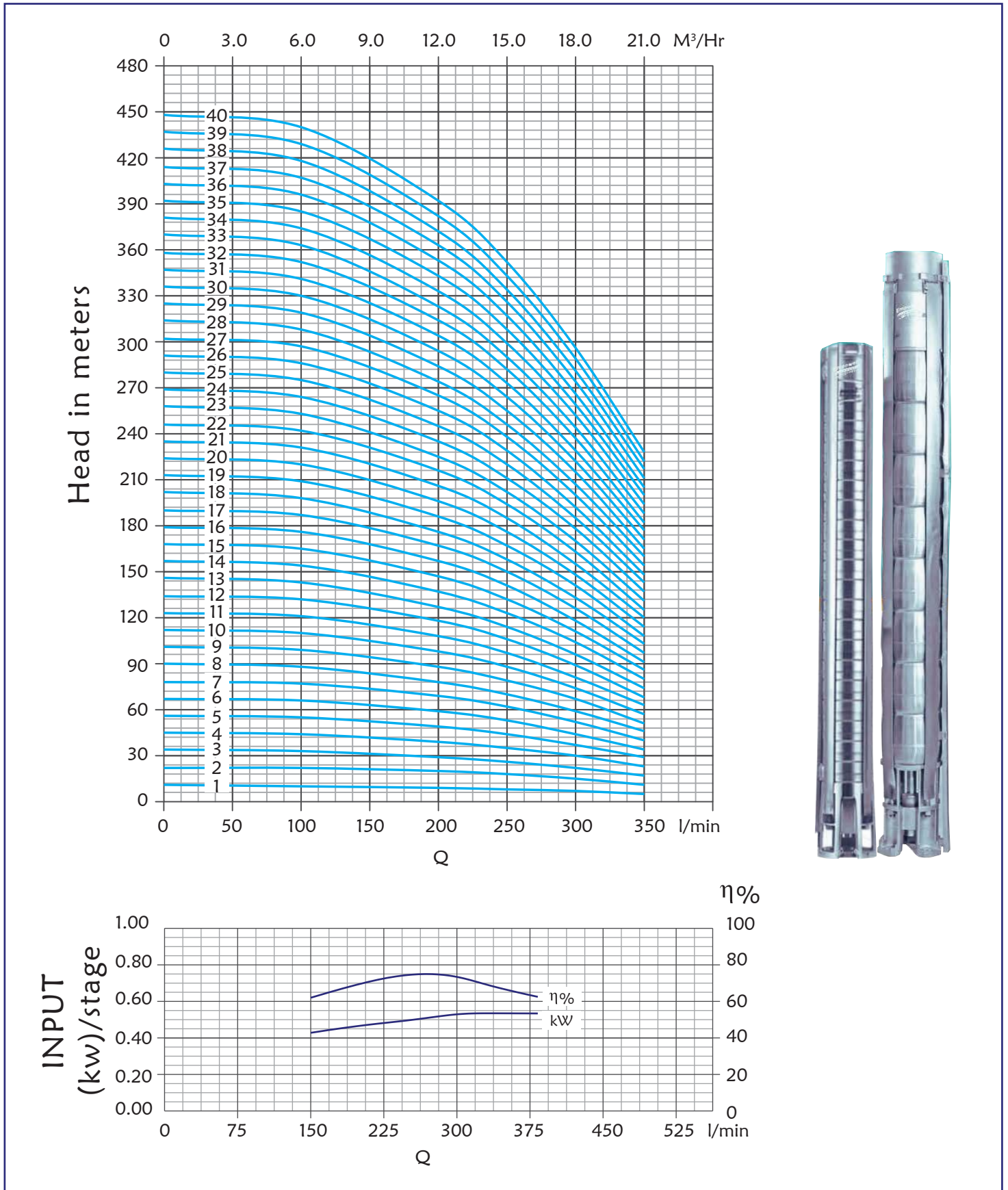
| kW | HP | Stage | Motor Joinings | Outlet Size | Discharge         |     |     |     |     |     |     |
|----|----|-------|----------------|-------------|-------------------|-----|-----|-----|-----|-----|-----|
|    |    |       |                |             | m <sup>3</sup> /h | 0   | 6   | 12  | 15  | 18  | 21  |
|    |    |       |                |             | lpm               | 0   | 100 | 200 | 250 | 300 | 350 |
| 30 | 40 | 51    | V-8            | 2½" BSP     | 552               | 513 | 467 | 415 | 342 | 272 |     |
| 30 | 40 | 53    | V-8            | 2½" BSP     | 574               | 533 | 485 | 431 | 355 | 282 |     |
| 37 | 50 | 55    | V-8            | 2½" BSP     | 596               | 553 | 504 | 447 | 368 | 293 |     |
| 37 | 50 | 58    | V-8            | 2½" BSP     | 628               | 583 | 531 | 472 | 389 | 309 |     |
| 37 | 50 | 60    | V-8            | 2½" BSP     | 650               | 604 | 550 | 488 | 402 | 320 |     |

### Dimensions & Weights

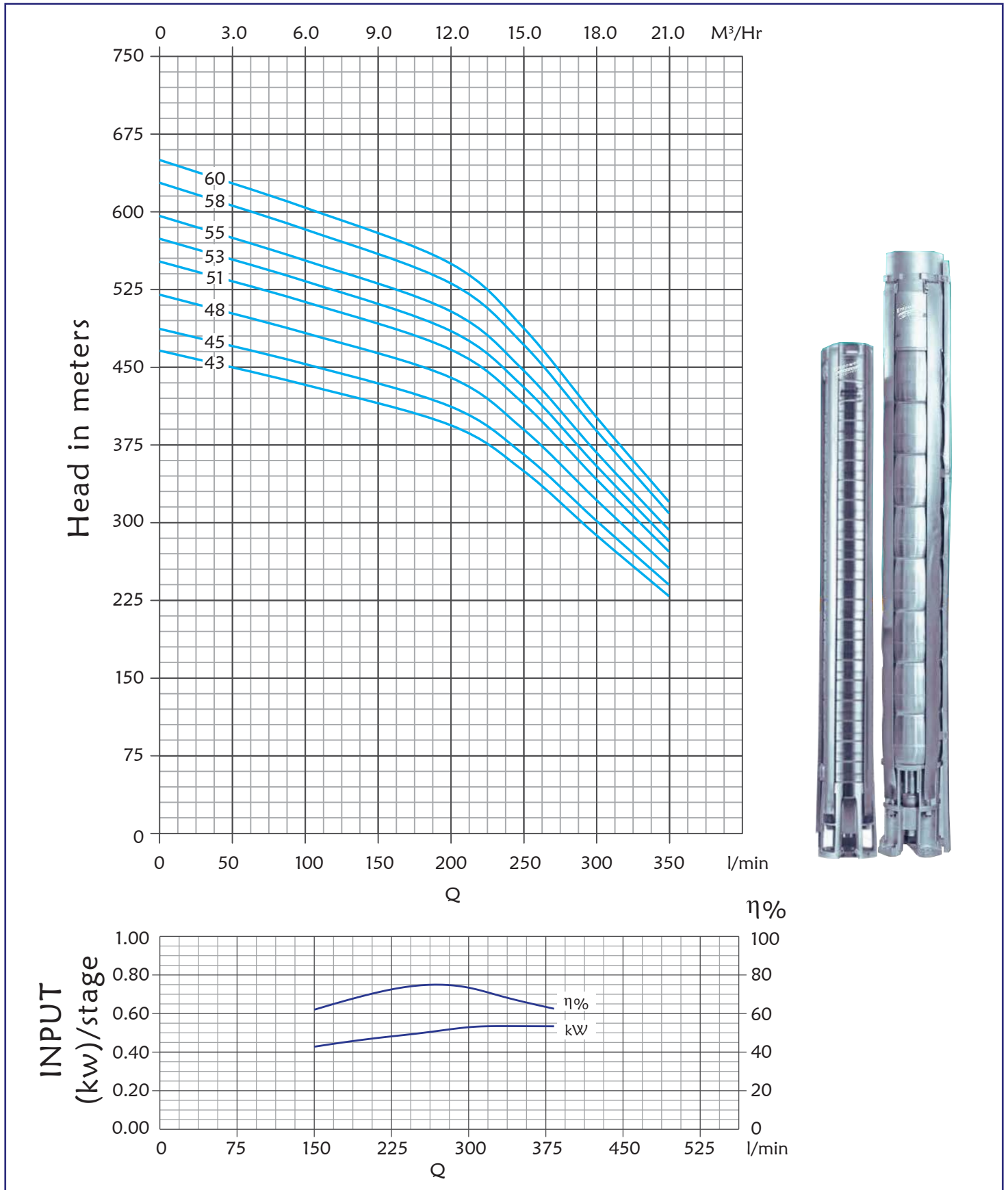


| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP6MFF17 -01 | 144           | 331    | 8               | 10                      |
| DP6MFF17 -02 | 144           | 392    | 9               | 11                      |
| DP6MFF17 -03 | 144           | 452    | 11              | 12                      |
| DP6MFF17 -04 | 144           | 513    | 12              | 13                      |
| DP6MFF17 -05 | 144           | 573    | 13              | 15                      |
| DP6MFF17 -06 | 144           | 634    | 14              | 16                      |
| DP6MFF17 -07 | 144           | 694    | 16              | 18                      |
| DP6MFF17 -08 | 144           | 755    | 17              | 19                      |
| DP6MFF17 -09 | 144           | 815    | 18              | 20                      |
| DP6MFF17 -10 | 144           | 876    | 19              | 21                      |
| DP6MFF17 -11 | 144           | 936    | 21              | 23                      |
| DP6MFF17 -12 | 144           | 997    | 22              | 24                      |
| DP6MFF17 -13 | 144           | 1057   | 23              | 26                      |
| DP6MFF17 -14 | 144           | 1118   | 24              | 27                      |
| DP6MFF17 -15 | 144           | 1178   | 26              | 28                      |
| DP6MFF17 -16 | 144           | 1239   | 27              | 30                      |
| DP6MFF17 -17 | 144           | 1299   | 28              | 31                      |
| DP6MFF17 -18 | 144           | 1360   | 29              | 32                      |
| DP6MFF17 -19 | 144           | 1420   | 31              | 34                      |
| DP6MFF17 -20 | 144           | 1481   | 32              | 35                      |
| DP6MFF17 -21 | 144           | 1541   | 33              | 37                      |
| DP6MFF17 -22 | 144           | 1602   | 34              | 38                      |
| DP6MFF17 -23 | 144           | 1662   | 36              | 39                      |
| DP6MFF17 -24 | 144           | 1723   | 37              | 40                      |
| DP6MFF17 -25 | 144           | 1783   | 38              | 42                      |
| DP6MFF17 -26 | 144           | 1844   | 39              | 43                      |
| DP6MFF17 -27 | 144           | 1904   | 41              | 44                      |
| DP6MFF17 -28 | 144           | 1965   | 42              | 45                      |
| DP6MFF17 -29 | 144           | 2025   | 43              | 47                      |
| DP6MFF17 -30 | 144           | 2086   | 44              | 48                      |
| DP6MFF17 -31 | 144           | 2146   | 46              | 50                      |
| DP6MFF17 -32 | 144           | 2207   | 47              | 51                      |
| DP6MFF17 -33 | 144           | 2267   | 48              | 52                      |
| DP6MFF17 -34 | 144           | 2328   | 49              | 53                      |
| DP6MFF17 -35 | 144           | 2388   | 51              | 55                      |
| DP6MFF17 -36 | 144           | 2449   | 52              | 56                      |
| DP6MFF17 -37 | 144           | 2509   | 53              | 57                      |
| DP6MFF17 -38 | 144           | 2570   | 54              | 58                      |
| DP6MFF17 -39 | 144           | 2630   | 56              | 60                      |
| DP6MFF17 -40 | 144           | 2691   | 57              | 61                      |

## DP6MFF17 50Hz SERIES PERFORMANCE CURVES



## DP6MFF17 50Hz SERIES PERFORMANCE CURVES



## PUMP DP6MFF30 50Hz DATA

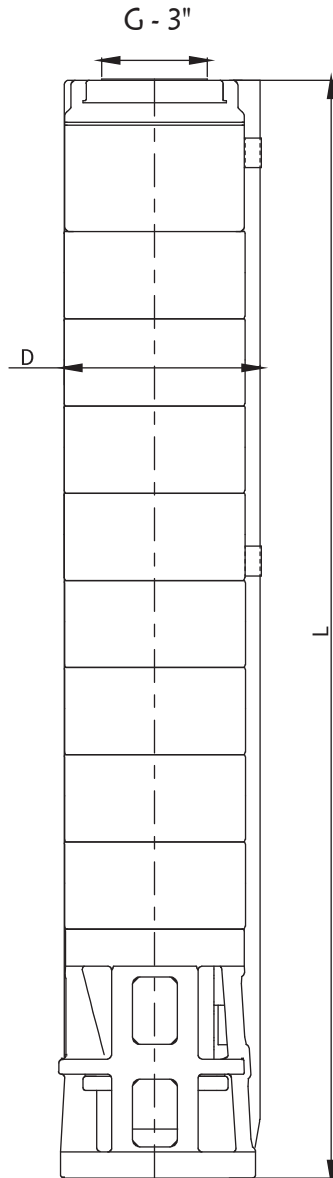
### DP6MFF30 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h<br>lpm | Discharge |     |     |     |     |     |
|------|------|-------|----------------|-------------|--------------------------|-----------|-----|-----|-----|-----|-----|
|      |      |       |                |             |                          | 0         | 12  | 24  | 30  | 36  | 39  |
|      |      |       |                |             |                          | 0         | 200 | 400 | 500 | 600 | 650 |
| 1.1  | 1.5  | 1     | V6             | 3" BSP      | 11                       | 10        | 8   | 7   | 5   | 4   |     |
| 2.2  | 3    | 2     | V6             | 3" BSP      | 23                       | 21        | 18  | 15  | 11  | 8   |     |
| 3    | 4    | 3     | V6             | 3" BSP      | 34                       | 32        | 26  | 23  | 16  | 13  |     |
| 4    | 5    | 4     | V6             | 3" BSP      | 46                       | 42        | 35  | 30  | 22  | 17  |     |
| 5.5  | 7.5  | 5     | V6             | 3" BSP      | 57                       | 53        | 44  | 38  | 27  | 21  |     |
| 5.5  | 7.5  | 6     | V6             | 3" BSP      | 68                       | 64        | 53  | 45  | 32  | 25  |     |
| 7.5  | 10   | 7     | V6             | 3" BSP      | 80                       | 74        | 62  | 53  | 38  | 29  |     |
| 7.5  | 10   | 8     | V6             | 3" BSP      | 91                       | 85        | 70  | 60  | 43  | 34  |     |
| 9.3  | 12.5 | 9     | V6             | 3" BSP      | 103                      | 95        | 79  | 68  | 49  | 38  |     |
| 9.3  | 12.5 | 10    | V6             | 3" BSP      | 114                      | 106       | 88  | 75  | 54  | 42  |     |
| 9.3  | 12.5 | 11    | V6             | 3" BSP      | 125                      | 117       | 97  | 83  | 59  | 46  |     |
| 11   | 15   | 12    | V6             | 3" BSP      | 137                      | 127       | 106 | 90  | 65  | 50  |     |
| 11   | 15   | 13    | V6             | 3" BSP      | 148                      | 138       | 114 | 98  | 70  | 55  |     |
| 13   | 17.5 | 14    | V6             | 3" BSP      | 160                      | 148       | 123 | 105 | 76  | 59  |     |
| 13   | 17.5 | 15    | V6             | 3" BSP      | 171                      | 159       | 132 | 113 | 81  | 63  |     |
| 15   | 20   | 16    | V6             | 3" BSP      | 182                      | 170       | 141 | 120 | 86  | 67  |     |
| 15   | 20   | 17    | V6             | 3" BSP      | 194                      | 180       | 150 | 128 | 92  | 71  |     |
| 18.5 | 25   | 18    | V6             | 3" BSP      | 205                      | 191       | 158 | 135 | 97  | 76  |     |
| 18.5 | 25   | 19    | V6             | 3" BSP      | 217                      | 201       | 167 | 143 | 103 | 80  |     |
| 18.5 | 25   | 20    | V6             | 3" BSP      | 228                      | 212       | 176 | 150 | 108 | 84  |     |
| 18.5 | 25   | 21    | V6             | 3" BSP      | 239                      | 223       | 185 | 158 | 113 | 88  |     |
| 22   | 30   | 22    | V6             | 3" BSP      | 251                      | 233       | 194 | 165 | 119 | 92  |     |
| 22   | 30   | 23    | V6             | 3" BSP      | 262                      | 244       | 202 | 173 | 124 | 97  |     |
| 22   | 30   | 24    | V6             | 3" BSP      | 274                      | 254       | 211 | 180 | 130 | 101 |     |
| 22   | 30   | 25    | V6             | 3" BSP      | 285                      | 265       | 220 | 188 | 135 | 105 |     |
| 22   | 30   | 26    | V6             | 3" BSP      | 296                      | 276       | 229 | 195 | 140 | 109 |     |
| 26   | 35   | 27    | V6             | 3" BSP      | 308                      | 286       | 238 | 203 | 146 | 113 |     |
| 26   | 35   | 28    | V6             | 3" BSP      | 319                      | 297       | 246 | 210 | 151 | 118 |     |
| 26   | 35   | 29    | V6             | 3" BSP      | 331                      | 307       | 255 | 218 | 157 | 122 |     |
| 26   | 35   | 30    | V6             | 3" BSP      | 342                      | 318       | 264 | 225 | 162 | 126 |     |
| 30   | 40   | 31    | V6             | 3" BSP      | 353                      | 329       | 273 | 233 | 167 | 130 |     |
| 30   | 40   | 32    | V6             | 3" BSP      | 365                      | 339       | 282 | 240 | 173 | 134 |     |
| 30   | 40   | 33    | V6             | 3" BSP      | 376                      | 350       | 290 | 248 | 178 | 139 |     |
| 30   | 40   | 34    | V6             | 3" BSP      | 388                      | 360       | 299 | 255 | 184 | 143 |     |
| 30   | 40   | 35    | V6             | 3" BSP      | 399                      | 371       | 308 | 263 | 189 | 147 |     |
| 37   | 50   | 39    | V6             | 3" BSP      | 444                      | 413       | 343 | 293 | 211 | 164 |     |
| 37   | 50   | 43    | V6             | 3" BSP      | 489                      | 455       | 378 | 323 | 252 | 181 |     |

Head in Mtrs.

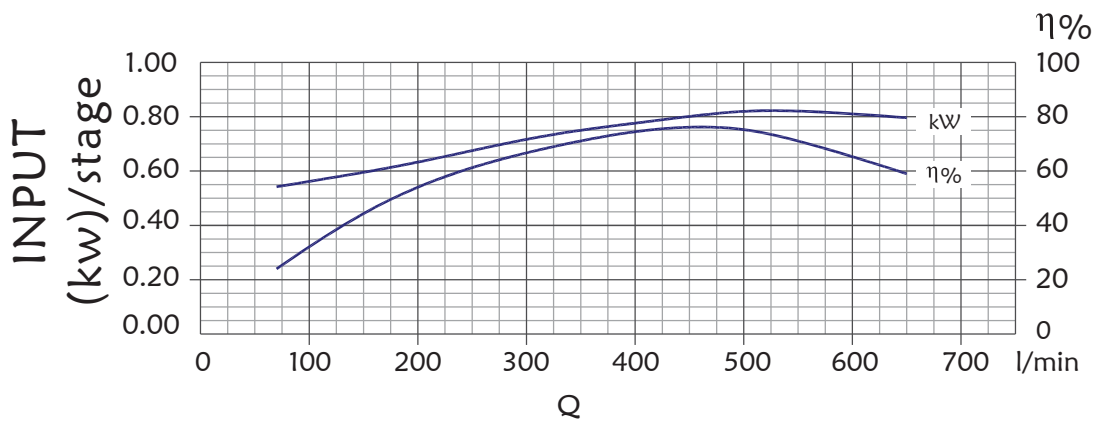
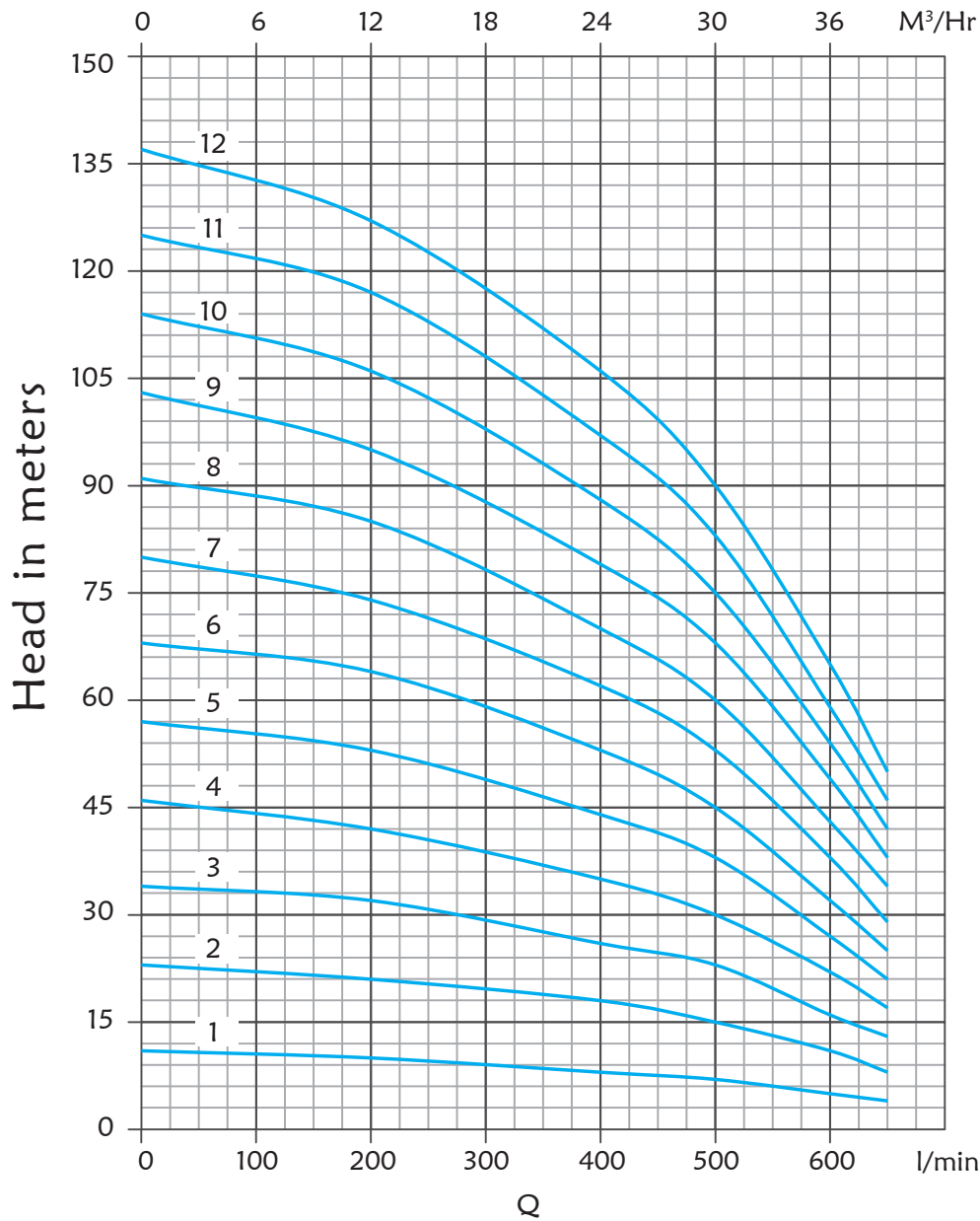
## DP6MFF30 PUMP DATA

### Dimensions & Weights

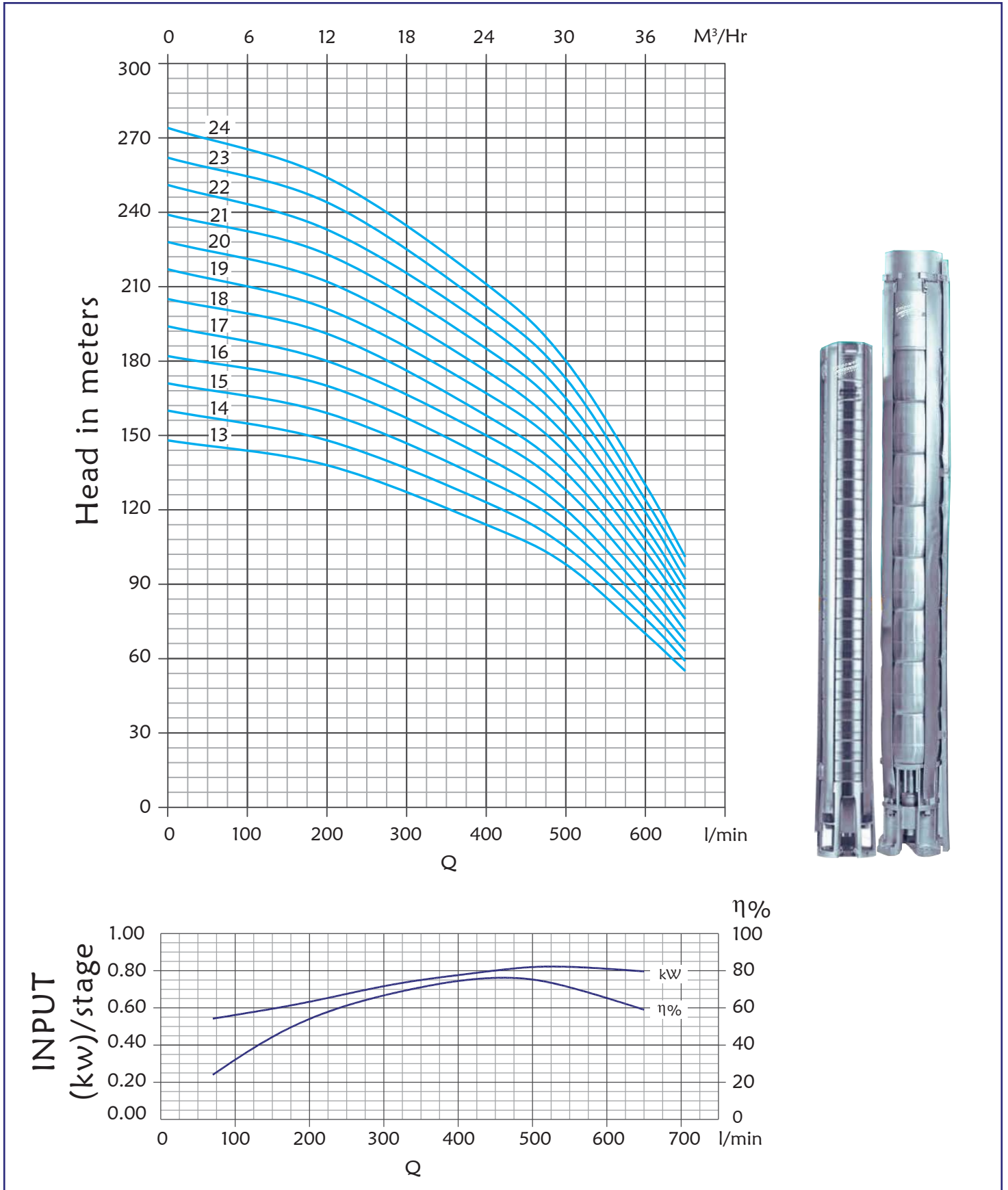


| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP6MFF30 -01 | 144           | 367    | 9               | 14                      |
| DP6MFF30 -02 | 144           | 463    | 11              | 16                      |
| DP6MFF30 -03 | 144           | 559    | 13              | 18                      |
| DP6MFF30 -04 | 144           | 655    | 15              | 20                      |
| DP6MFF30 -05 | 144           | 751    | 11              | 16                      |
| DP6MFF30 -06 | 144           | 847    | 19              | 24                      |
| DP6MFF30 -07 | 144           | 943    | 21              | 26                      |
| DP6MFF30 -08 | 144           | 1039   | 23              | 28                      |
| DP6MFF30 -09 | 144           | 1135   | 25              | 30                      |
| DP6MFF30 -10 | 144           | 1231   | 27              | 32                      |
| DP6MFF30 -11 | 144           | 1327   | 29              | 34                      |
| DP6MFF30 -12 | 144           | 1423   | 31              | 36                      |
| DP6MFF30 -13 | 144           | 1519   | 33              | 38                      |
| DP6MFF30 -14 | 144           | 1615   | 35              | 40                      |
| DP6MFF30 -15 | 144           | 1711   | 37              | 47                      |
| DP6MFF30 -16 | 144           | 1807   | 39              | 49                      |
| DP6MFF30 -17 | 144           | 1903   | 41              | 51                      |
| DP6MFF30 -18 | 144           | 1999   | 43              | 53                      |
| DP6MFF30 -19 | 144           | 2095   | 45              | 55                      |
| DP6MFF30 -20 | 144           | 2191   | 47              | 57                      |
| DP6MFF30 -21 | 144           | 2287   | 49              | 59                      |
| DP6MFF30 -22 | 144           | 2383   | 51              | 63                      |
| DP6MFF30 -23 | 144           | 2479   | 53              | 65                      |
| DP6MFF30 -24 | 144           | 2575   | 55              | 67                      |
| DP6MFF30 -25 | 144           | 2671   | 57              | 69                      |
| DP6MFF30 -26 | 144           | 2767   | 59              | 71                      |
| DP6MFF30 -27 | 144           | 2863   | 61              | 73                      |
| DP6MFF30 -28 | 144           | 2959   | 63              | 75                      |
| DP6MFF30 -29 | 144           | 3055   | 65              | 77                      |
| DP6MFF30 -30 | 144           | 3151   | 67              | 79                      |
| DP6MFF30 -31 | 144           | 3247   | 69              | 81                      |
| DP6MFF30 -32 | 144           | 3343   | 71              | 83                      |
| DP6MFF30 -33 | 144           | 3439   | 73              | 85                      |
| DP6MFF30 -34 | 144           | 3535   | 75              | 87                      |
| DP6MFF30 -35 | 144           | 3631   | 77              | 89                      |
| DP6MFF30 -39 | 144           | 4450   | 105             | 117                     |
| DP6MFF30 -43 | 144           | 4834   | 113             | 125                     |

## DP6MFF30 50Hz SERIES PERFORMANCE CURVES

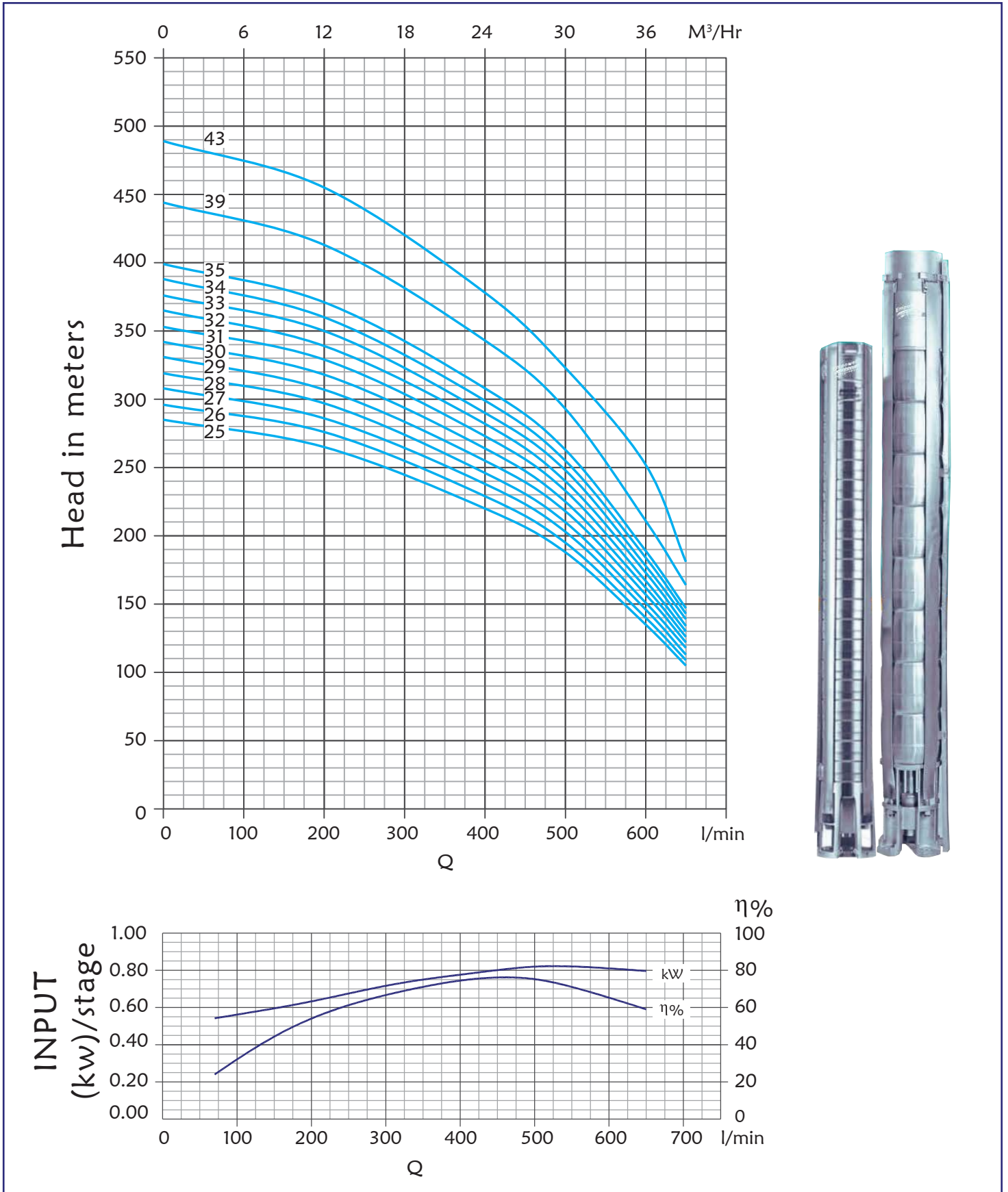


## DP6MFF30 50Hz SERIES PERFORMANCE CURVES





## DP6MFF30 50Hz SERIES PERFORMANCE CURVES



## PUMP DP6MFF46 50Hz DATA

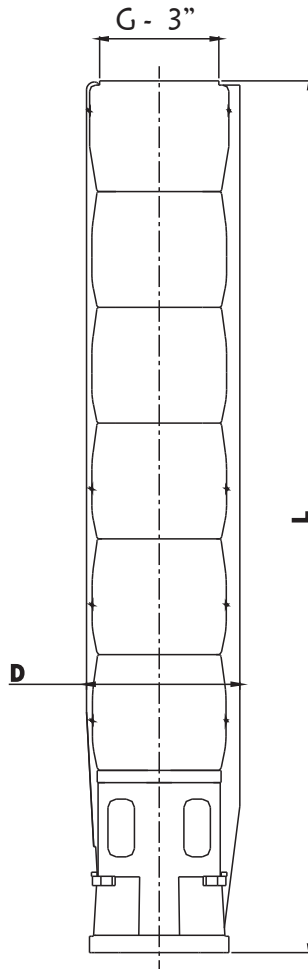
### DP6MFF46 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m³/h<br>lpm | Discharge |     |     |     |      |
|------|------|-------|----------------|-------------|-------------|-----------|-----|-----|-----|------|
|      |      |       |                |             |             | 0         | 24  | 36  | 48  | 60   |
|      |      |       |                |             |             | 0         | 400 | 600 | 800 | 1000 |
| 1.1  | 1.5  | 1-B   | V-6            | 3"BSP       | 9           | 8         | 7   | 4   | 1   |      |
| 2.2  | 3    | 1     | V-6            | 3"BSP       | 13          | 11        | 10  | 8   | 5   |      |
| 2.2  | 3    | 2-BB  | V-6            | 3"BSP       | 19          | 16        | 14  | 9   | 1   |      |
| 3    | 4    | 2     | V-6            | 3"BSP       | 27          | 23        | 20  | 16  | 10  |      |
| 4    | 5    | 3-C   | V-6            | 3"BSP       | 36          | 30        | 26  | 19  | 10  |      |
| 5.5  | 7.5  | 3     | V-6            | 3"BSP       | 40          | 35        | 30  | 24  | 15  |      |
| 5.5  | 7.5  | 4C    | V-6            | 3"BSP       | 49          | 42        | 36  | 27  | 15  |      |
| 7.5  | 10   | 4     | V-6            | 3"BSP       | 54          | 46        | 40  | 32  | 20  |      |
| 7.5  | 10   | 5     | V-6            | 3"BSP       | 67          | 58        | 50  | 41  | 25  |      |
| 9.3  | 12.5 | 6     | V-6            | 3"BSP       | 80          | 70        | 60  | 49  | 30  |      |
| 11   | 15   | 7     | V-6            | 3"BSP       | 94          | 81        | 70  | 57  | 35` |      |
| 11   | 15   | 8-C   | V-6            | 3"BSP       | 103         | 88        | 76  | 60  | 35  |      |
| 13   | 17.5 | 8     | V-6            | 3"BSP       | 107         | 93        | 80  | 65  | 38  |      |
| 13   | 17.5 | 9-C   | V-6            | 3"BSP       | 116         | 100       | 86  | 68  | 40  |      |
| 15   | 20   | 9     | V-6            | 3"BSP       | 121         | 104       | 90  | 73  | 45  |      |
| 15   | 20   | 10    | V-6            | 3"BSP       | 134         | 116       | 100 | 81  | 50  |      |
| 18.5 | 25   | 11    | V-6            | 3"BSP       | 147         | 128       | 110 | 89  | 55  |      |
| 18.5 | 25   | 12    | V-6            | 3"BSP       | 161         | 139       | 120 | 97  | 60  |      |
| 22   | 30   | 13    | V-6            | 3"BSP       | 174         | 151       | 130 | 105 | 65  |      |
| 22   | 30   | 14    | V-6            | 3"BSP       | 188         | 162       | 140 | 113 | 70  |      |
| 22   | 30   | 15    | V-6            | 3"BSP       | 201         | 174       | 150 | 122 | 75  |      |
| 26   | 35   | 16    | V-6            | 3"BSP       | 214         | 186       | 160 | 130 | 80  |      |
| 26   | 35   | 17    | V-6            | 3"BSP       | 228         | 197       | 170 | 138 | 85  |      |
| 30   | 40   | 18    | V-6            | 3"BSP       | 241         | 209       | 180 | 146 | 90  |      |
| 30   | 40   | 19    | V-6            | 3"BSP       | 255         | 220       | 190 | 154 | 95  |      |
| 30   | 40   | 20    | V-6            | 3"BSP       | 268         | 232       | 200 | 162 | 100 |      |
| 37   | 50   | 21    | V-6            | 3"BSP       | 281         | 244       | 210 | 170 | 105 |      |
| 37   | 50   | 22    | V-6            | 3"BSP       | 295         | 255       | 220 | 178 | 110 |      |
| 37   | 50   | 23    | V-6            | 3"BSP       | 308         | 267       | 230 | 186 | 115 |      |
| 37   | 50   | 24    | V-8            | 3"BSP       | 322         | 278       | 240 | 194 | 120 |      |
| 45   | 60   | 26    | V-8            | 3"BSP       | 349         | 301       | 260 | 210 | 130 |      |
| 45   | 60   | 28    | V-8            | 3"BSP       | 376         | 324       | 280 | 226 | 140 |      |
| 45   | 60   | 30    | V-8            | 3"BSP       | 403         | 347       | 300 | 242 | 150 |      |
| 55   | 75   | 33    | V-8            | 3"BSP       | 443         | 382       | 330 | 266 | 165 |      |
| 55   | 75   | 35    | V-8            | 3"BSP       | 470         | 405       | 350 | 282 | 175 |      |
| 63   | 85   | 37    | V-8            | 3"BSP       | 497         | 428       | 370 | 298 | 185 |      |

Head in Mtrs .

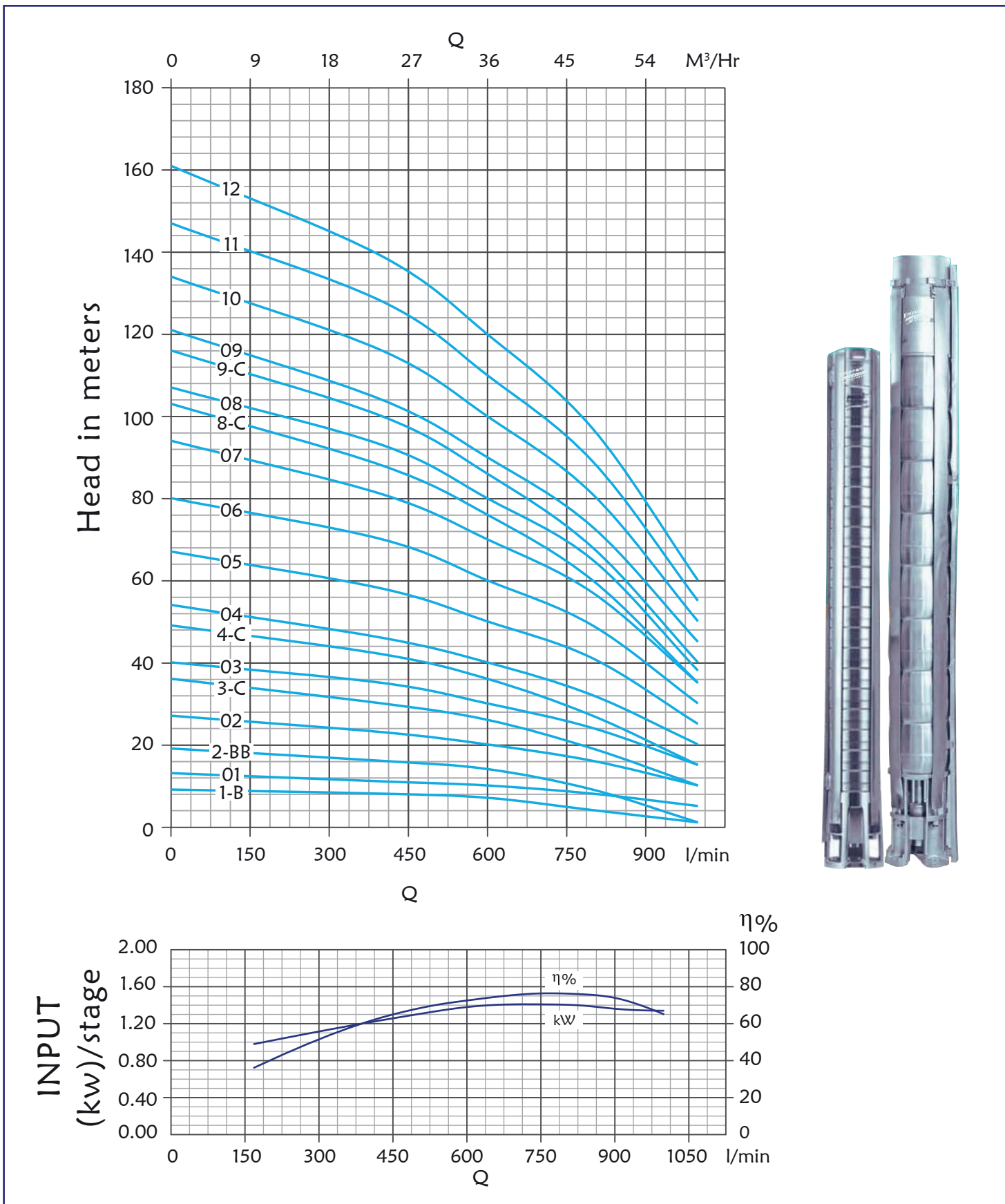
## DP6MFF46 PUMP DATA

### Dimensions & Weights

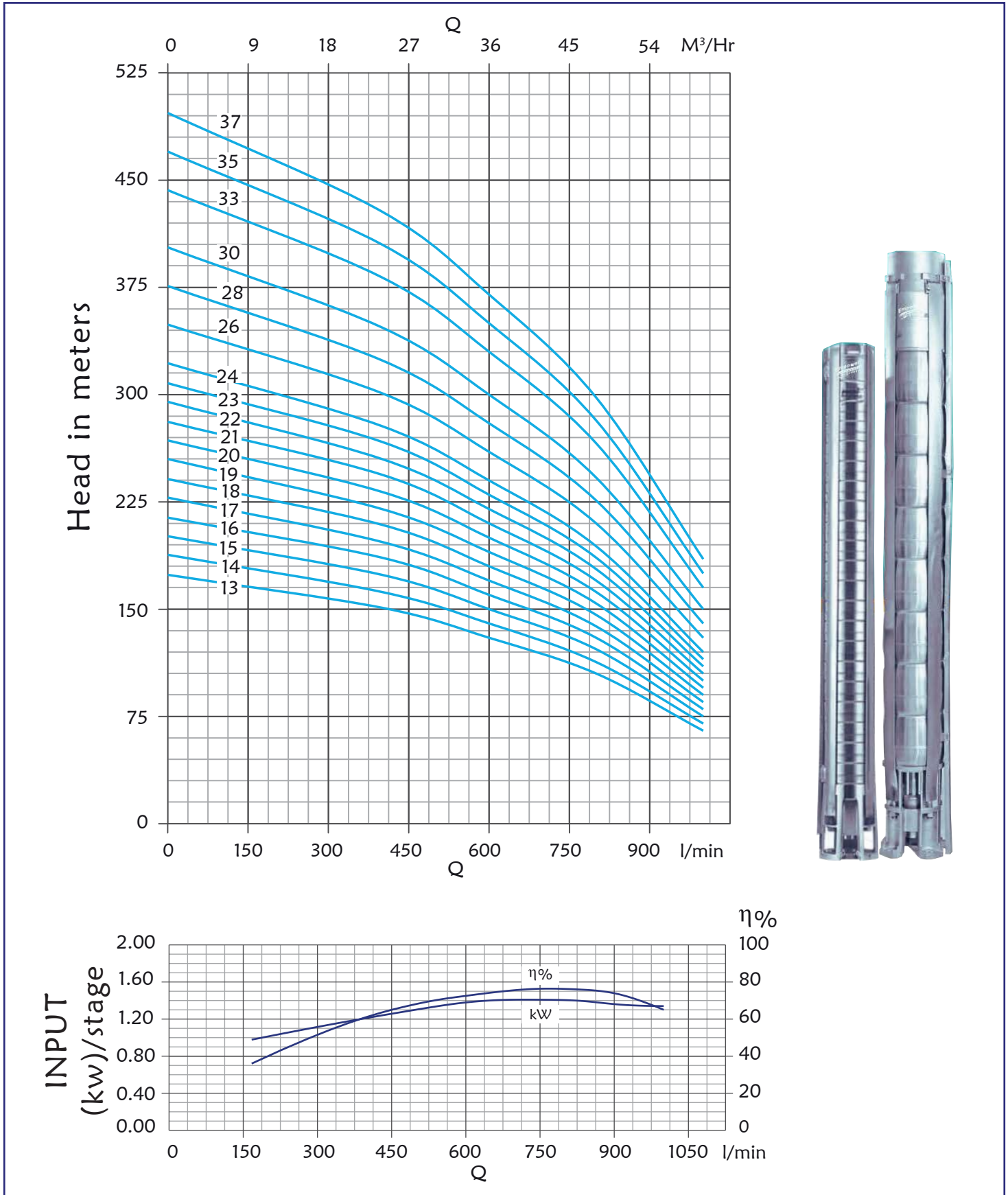


| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP6MFF46 -01 | 147           | 113    | 12              | 14                      |
| DP6MFF46 -02 | 147           | 509    | 14              | 15                      |
| DP6MFF46 -03 | 147           | 622    | 16              | 17                      |
| DP6MFF46 -04 | 147           | 735    | 18              | 21                      |
| DP6MFF46 -05 | 147           | 848    | 20              | 23                      |
| DP6MFF46 -06 | 147           | 961    | 18              | 24                      |
| DP6MFF46 -07 | 147           | 1074   | 20              | 25                      |
| DP6MFF46 -08 | 147           | 1187   | 22              | 28                      |
| DP6MFF46 -09 | 147           | 1300   | 24              | 29                      |
| DP6MFF46 -10 | 147           | 1413   | 26              | 34                      |
| DP6MFF46 -11 | 147           | 1526   | 28              | 36                      |
| DP6MFF46 -12 | 147           | 1639   | 32              | 42                      |
| DP6MFF46 -13 | 147           | 1752   | 34              | 44                      |
| DP6MFF46 -14 | 147           | 1865   | 36              | 46                      |
| DP6MFF46 -15 | 147           | 1978   | 38              | 48                      |
| DP6MFF46 -16 | 147           | 2091   | 40              | 50                      |
| DP6MFF46 -17 | 147           | 2204   | 42              | 52                      |
| DP6MFF46 -18 | 147           | 2317   | 44              | 54                      |
| DP6MFF46 -19 | 147           | 2430   | 46              | 56                      |
| DP6MFF46 -20 | 147           | 2543   | 48              | 58                      |
| DP6MFF46 -21 | 147           | 2656   | 55              | 60                      |
| DP6MFF46 -22 | 147           | 2769   | 57              | 62                      |
| DP6MFF46 -23 | 147           | 2882   | 60              | 65                      |
| DP6MFF46 -24 | 147           | 2995   | 62              | 67                      |

# DP6MFF46 50Hz SERIES PERFORMANCE CURVES



# DP6MFF46 50Hz SERIES PERFORMANCE CURVES



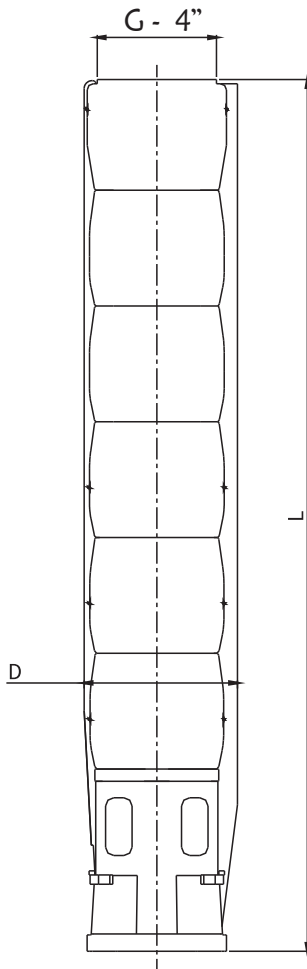
## PUMP DP6MFF60 50Hz DATA

### DP6MFF60 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h<br>lpm | Discharge |     |     |     |      |      |
|------|------|-------|----------------|-------------|--------------------------|-----------|-----|-----|-----|------|------|
|      |      |       |                |             |                          | 0         | 24  | 36  | 48  | 60   | 72   |
|      |      |       |                |             |                          | 0         | 400 | 600 | 800 | 1000 | 1200 |
| 1.5  | 2    | 1-A   | V-6            | 4" BSP      | Head in Mtrs.            | 11        | 9   | 7   | 6   | 4    | 0    |
| 2.2  | 3    | 1     | V-6            | 4" BSP      |                          | 14        | 12  | 11  | 9   | 7    | 5    |
| 3    | 4    | 2-B   | V-6            | 4" BSP      |                          | 21        | 20  | 16  | 14  | 10   | 6    |
| 4    | 5    | 2     | V-6            | 4" BSP      |                          | 28        | 26  | 22  | 19  | 15   | 11   |
| 5.5  | 7.5  | 3     | V-6            | 4" BSP      |                          | 43        | 38  | 33  | 28  | 23   | 17   |
| 7.5  | 10   | 4     | V-6            | 4" BSP      |                          | 57        | 51  | 44  | 38  | 31   | 22   |
| 9.3  | 12.5 | 5     | V-6            | 4" BSP      |                          | 71        | 64  | 55  | 47  | 39   | 28   |
| 11   | 15   | 6     | V-6            | 4" BSP      |                          | 85        | 77  | 66  | 56  | 46   | 33   |
| 13   | 17.5 | 7     | V-6            | 4" BSP      |                          | 85        | 77  | 66  | 56  | 46   | 33   |
| 13   | 17.5 | 8-B   | V-6            | 4" BSP      |                          | 99        | 90  | 77  | 66  | 54   | 39   |
| 15   | 20   | 8     | V-6            | 4" BSP      |                          | 106       | 97  | 82  | 70  | 56   | 39   |
| 15   | 20   | 9-B   | V-6            | 4" BSP      |                          | 114       | 102 | 88  | 75  | 62   | 44   |
| 18.5 | 25   | 9     | V-6            | 4" BSP      |                          | 121       | 109 | 93  | 79  | 64   | 44   |
| 18.5 | 25   | 10    | V-6            | 4" BSP      |                          | 128       | 115 | 99  | 85  | 69   | 50   |
| 22   | 30   | 11    | V-6            | 4" BSP      |                          | 142       | 128 | 110 | 94  | 77   | 55   |
| 22   | 30   | 12    | V-6            | 4" BSP      |                          | 156       | 141 | 121 | 103 | 85   | 61   |
| 26   | 35   | 13    | V-6            | 4" BSP      |                          | 170       | 154 | 132 | 113 | 92   | 66   |
| 26   | 35   | 14    | V-6            | 4" BSP      |                          | 185       | 166 | 143 | 122 | 100  | 72   |
| 26   | 35   | 15    | V-6            | 4" BSP      |                          | 199       | 179 | 154 | 132 | 108  | 77   |
| 30   | 40   | 16    | V-6            | 4" BSP      |                          | 213       | 192 | 165 | 141 | 116  | 83   |
| 30   | 40   | 17    | V-6            | 4" BSP      |                          | 227       | 205 | 176 | 150 | 123  | 88   |
| 30   | 40   | 18    | V-8            | 4" BSP      |                          | 241       | 218 | 187 | 160 | 131  | 94   |
| 37   | 50   | 19    | V-8            | 4" BSP      |                          | 256       | 230 | 198 | 169 | 139  | 99   |
| 37   | 50   | 20    | V-8            | 4" BSP      |                          | 270       | 243 | 209 | 179 | 146  | 105  |
| 37   | 50   | 21    | V-8            | 4" BSP      |                          | 284       | 256 | 220 | 188 | 154  | 110  |
| 45   | 60   | 22    | V-8            | 4" BSP      |                          | 298       | 269 | 231 | 197 | 162  | 116  |
| 45   | 60   | 23    | V-8            | 4" BSP      |                          | 312       | 282 | 242 | 207 | 169  | 121  |
| 45   | 60   | 24    | V-8            | 4" BSP      |                          | 327       | 294 | 253 | 216 | 177  | 127  |
| 55   | 75   | 26    | V-8            | 4" BSP      |                          | 354       | 318 | 274 | 234 | 192  | 137  |
| 55   | 75   | 28    | V-8            | 4" BSP      |                          | 381       | 342 | 295 | 252 | 207  | 147  |
| 55   | 75   | 30    | V-8            | 4" BSP      | 408                      | 366       | 316 | 270 | 222 | 157  |      |

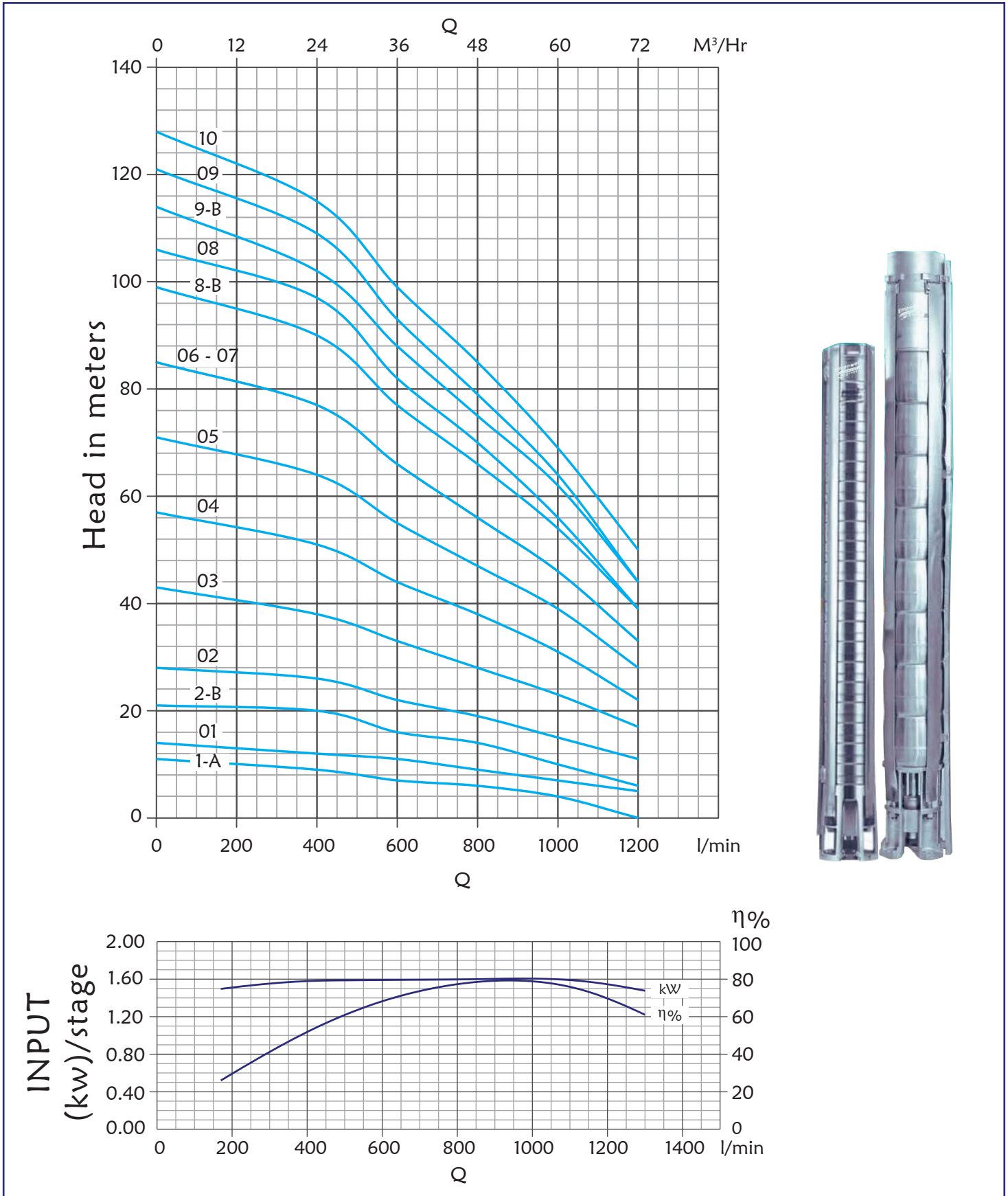
## DP6MFF60 PUMP DATA

### Dimensions & Weights



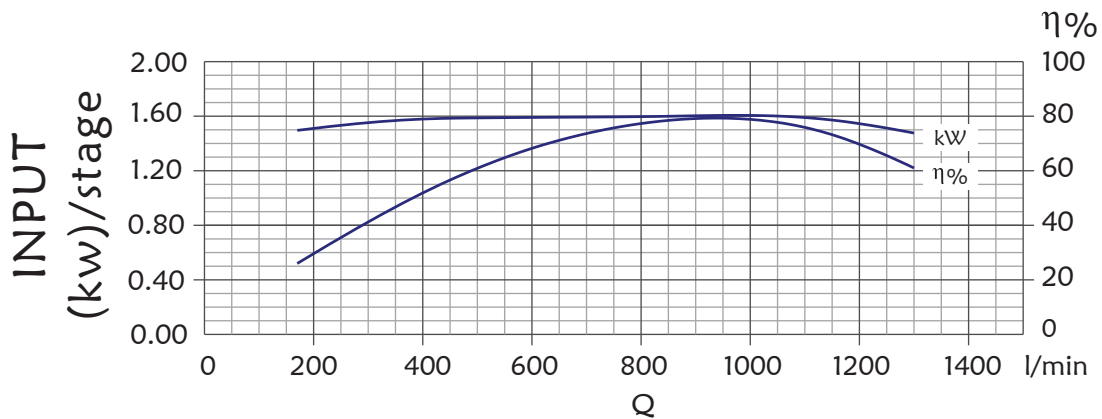
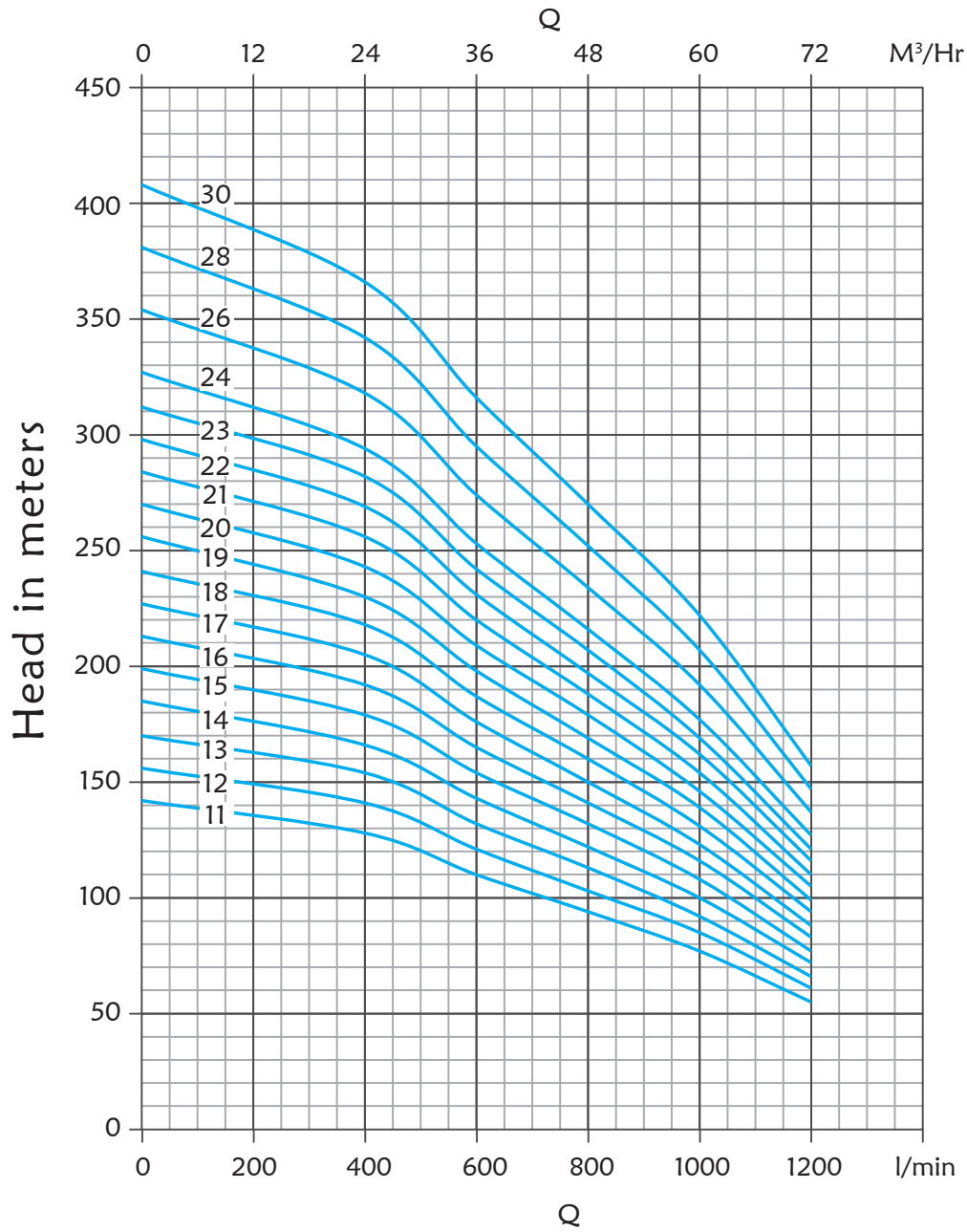
| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP6MFF60 -01 | 147           | 113    | 12              | 14                      |
| DP6MFF60 -02 | 147           | 509    | 14              | 15                      |
| DP6MFF60 -03 | 147           | 622    | 16              | 17                      |
| DP6MFF60 -04 | 147           | 735    | 18              | 21                      |
| DP6MFF60 -05 | 147           | 848    | 20              | 23                      |
| DP6MFF60 -06 | 147           | 961    | 18              | 24                      |
| DP6MFF60 -07 | 147           | 1074   | 20              | 25                      |
| DP6MFF60 -08 | 147           | 1187   | 22              | 28                      |
| DP6MFF60 -09 | 147           | 1300   | 24              | 29                      |
| DP6MFF60 -10 | 147           | 1413   | 26              | 34                      |
| DP6MFF60 -11 | 147           | 1526   | 28              | 36                      |
| DP6MFF60 -12 | 147           | 1639   | 32              | 42                      |
| DP6MFF60 -13 | 147           | 1752   | 34              | 44                      |
| DP6MFF60 -14 | 147           | 1865   | 36              | 46                      |
| DP6MFF60 -15 | 147           | 1978   | 38              | 48                      |
| DP6MFF60 -16 | 147           | 2091   | 40              | 50                      |
| DP6MFF60 -17 | 147           | 2204   | 42              | 52                      |
| DP6MFF60 -18 | 147           | 2317   | 44              | 54                      |
| DP6MFF60 -19 | 147           | 2430   | 46              | 56                      |
| DP6MFF60 -20 | 147           | 2543   | 48              | 58                      |
| DP6MFF60 -21 | 147           | 2656   | 50              | 60                      |

# DP6MFF60 50Hz SERIES PERFORMANCE CURVES





# DP6MFF60 50Hz SERIES PERFORMANCE CURVES



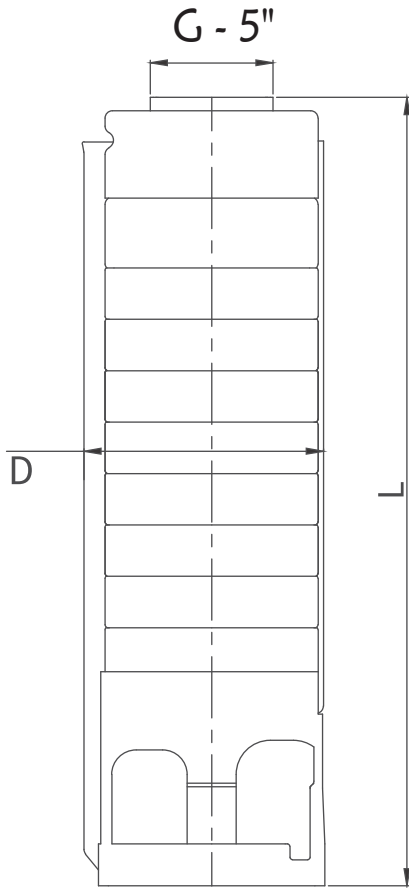
## PUMP DP8MFF77 50Hz DATA

### DP8MFF77 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h<br>lpm | Discharge |     |      |      |      |      |
|------|------|-------|----------------|-------------|--------------------------|-----------|-----|------|------|------|------|
|      |      |       |                |             |                          | 0         | 48  | 60   | 72   | 84   | 96   |
|      |      |       |                |             |                          | 0         | 800 | 1000 | 1200 | 1400 | 1600 |
| 5.5  | 7.5  | 1     | V-6            | 5" BSP      | Head in Mtrs.            | 20        | 15  | 14   | 12   | 10   | 7    |
| 5.5  | 7.5  | 2-B   | V-6            | 5" BSP      |                          | 33        | 29  | 25   | 19   | 17   | 15   |
| 7.5  | 10   | 2     | V-8            | 5" BSP      |                          | 40        | 32  | 29   | 26   | 22   | 16   |
| 9.3  | 12.5 | 3     | V-8            | 5" BSP      |                          | 53        | 41  | 37   | 32   | 26   | 16   |
| 11   | 15   | 3-B   | V-8            | 5" BSP      |                          | 60        | 48  | 43   | 38   | 32   | 23   |
| 13   | 17.5 | 4-B   | V-8            | 5" BSP      |                          | 73        | 57  | 51   | 44   | 36   | 23   |
| 15   | 20   | 4     | V-8            | 5" BSP      |                          | 80        | 64  | 58   | 51   | 43   | 31   |
| 18.5 | 25   | 5     | V-8            | 5" BSP      |                          | 100       | 80  | 72   | 64   | 54   | 39   |
| 22   | 30   | 6     | V-8            | 5" BSP      |                          | 120       | 95  | 86   | 77   | 65   | 47   |
| 26   | 35   | 7     | V-8            | 5" BSP      |                          | 140       | 111 | 101  | 90   | 76   | 55   |
| 26   | 35   | 8-B   | V-8            | 5" BSP      |                          | 153       | 120 | 109  | 96   | 80   | 55   |
| 30   | 40   | 8     | V-8            | 5" BSP      |                          | 160       | 127 | 115  | 102  | 86   | 62   |
| 30   | 40   | 9     | V-8            | 5" BSP      |                          | 180       | 143 | 130  | 115  | 97   | 70   |
| 37   | 50   | 10    | V-8            | 5" BSP      |                          | 200       | 159 | 144  | 128  | 108  | 78   |
| 37   | 50   | 11    | V-8            | 5" BSP      |                          | 220       | 175 | 158  | 141  | 119  | 86   |
| 45   | 60   | 12    | V-8            | 5" BSP      |                          | 240       | 191 | 173  | 154  | 130  | 94   |
| 55   | 75   | 13    | V-8            | 5" BSP      |                          | 260       | 207 | 187  | 166  | 140  | 101  |
| 55   | 75   | 14    | V-8            | 5" BSP      |                          | 280       | 223 | 202  | 179  | 151  | 109  |
| 55   | 75   | 15    | V-8            | 5" BSP      |                          | 300       | 239 | 216  | 192  | 162  | 117  |
| 67   | 90   | 16    | V-8            | 5" BSP      |                          | 320       | 254 | 230  | 205  | 173  | 125  |
| 67   | 90   | 17    | V-8            | 5" BSP      | 340                      | 270       | 245 | 218  | 184  | 133  |      |
| 67   | 90   | 18    | V-8            | 5" BSP      | 360                      | 286       | 259 | 230  | 194  | 140  |      |
| 75   | 100  | 19    | V-8            | 5" BSP      | 380                      | 302       | 274 | 243  | 205  | 148  |      |
| 75   | 100  | 20    | V-8            | 5" BSP      | 400                      | 318       | 288 | 256  | 216  | 156  |      |

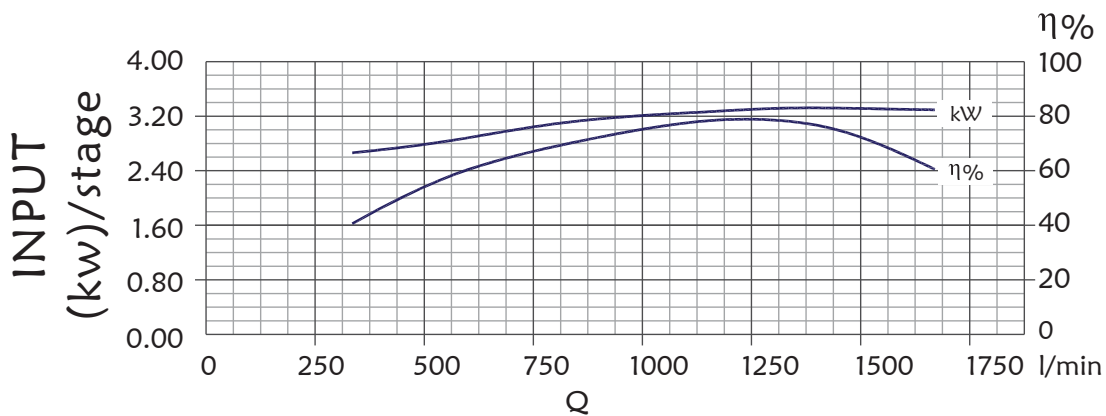
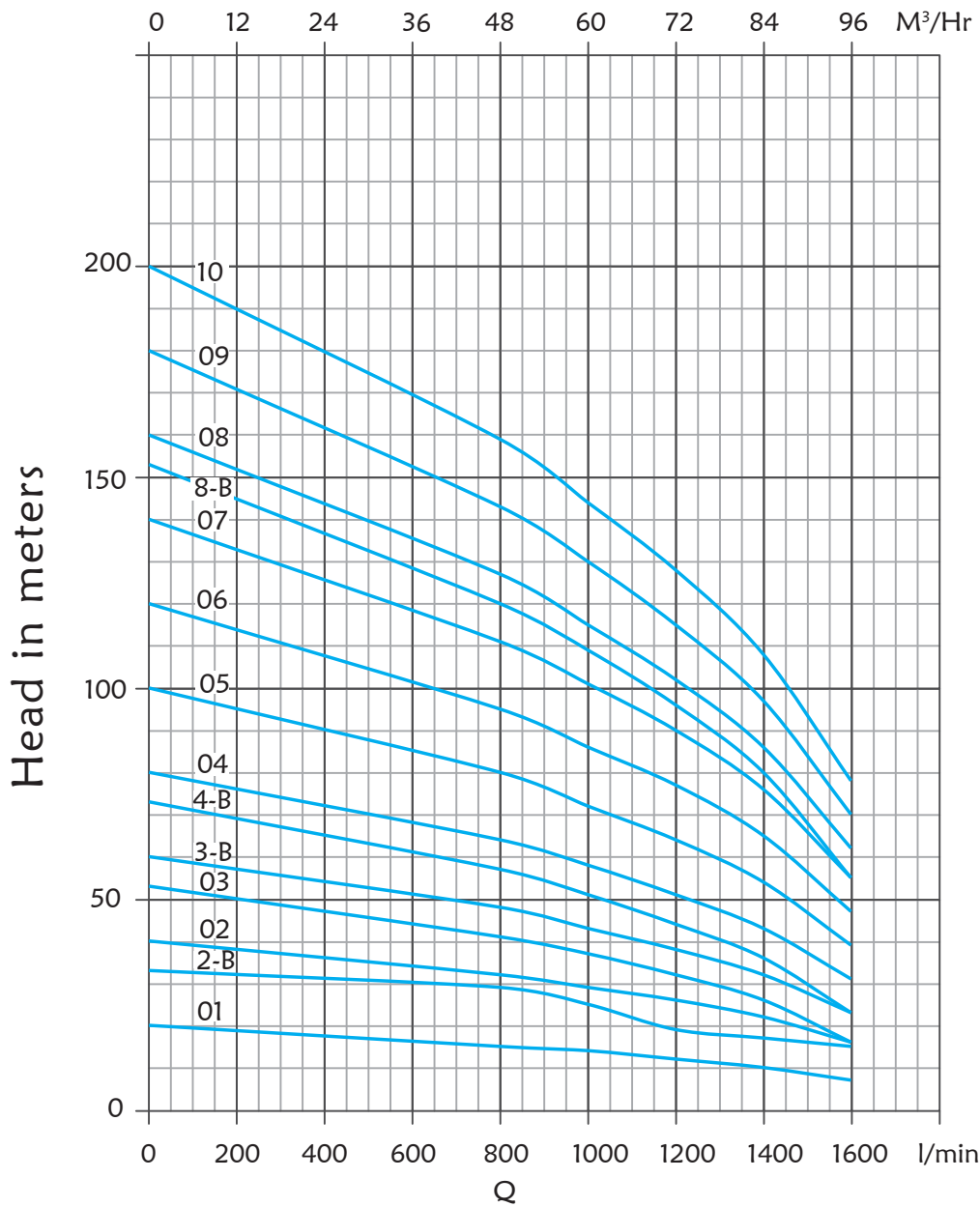
## DP8MFF77 PUMP DATA

### Dimensions & Weights

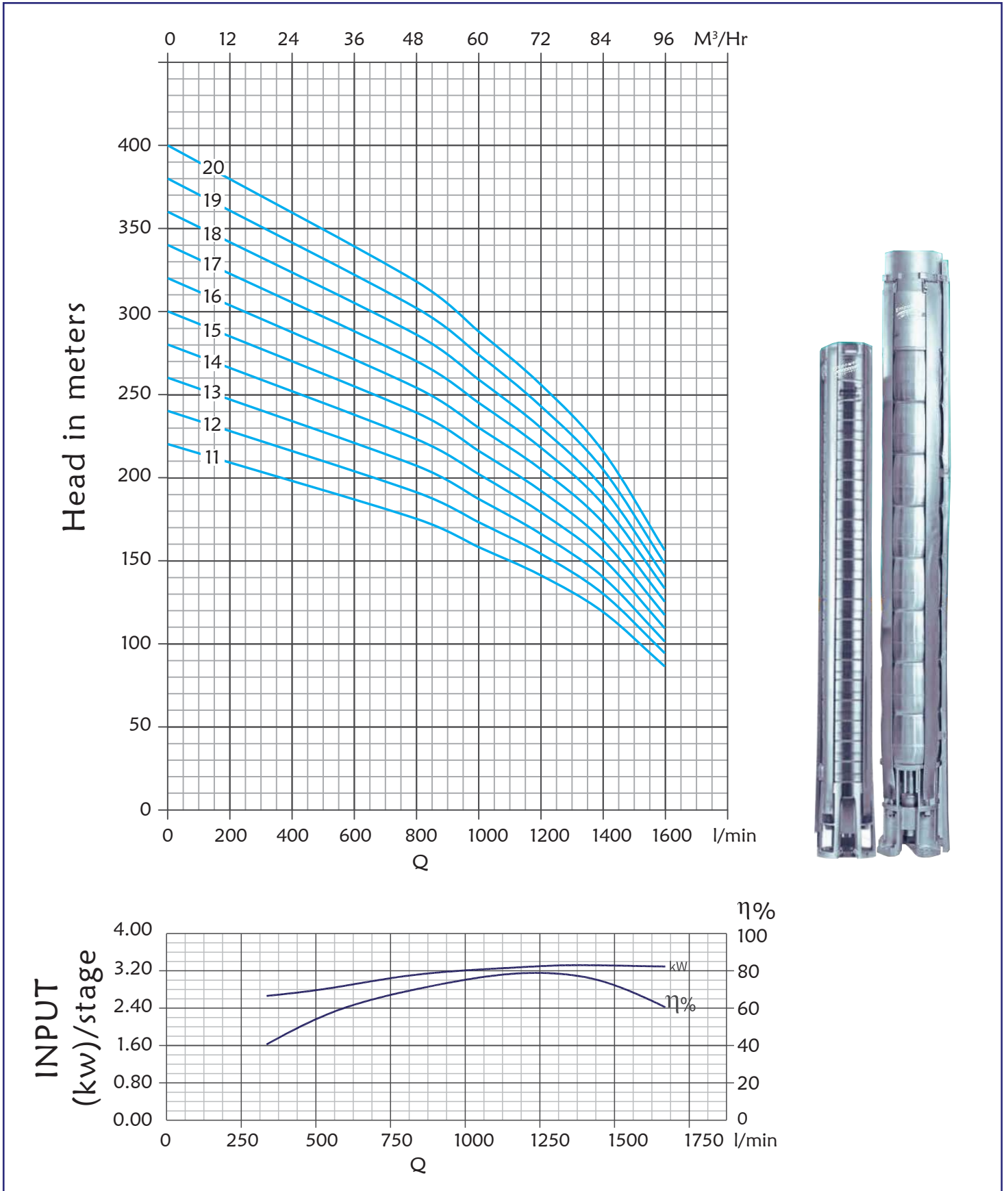


| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP8MFF77 -01 | 188           | 620    | 21              | 24                      |
| DP8MFF77 -02 | 188           | 748    | 25              | 28                      |
| DP8MFF77 -03 | 188           | 876    | 29              | 32                      |
| DP8MFF77 -04 | 188           | 1004   | 33              | 36                      |
| DP8MFF77 -05 | 188           | 1132   | 37              | 40                      |
| DP8MFF77 -06 | 188           | 1260   | 41              | 44                      |
| DP8MFF77 -07 | 188           | 1388   | 45              | 48                      |
| DP8MFF77 -08 | 188           | 1516   | 49              | 52                      |
| DP8MFF77 -09 | 188           | 1644   | 53              | 56                      |
| DP8MFF77 -10 | 196           | 1772   | 55              | 58                      |
| DP8MFF77 -11 | 196           | 1900   | 59              | 62                      |
| DP8MFF77 -12 | 196           | 2028   | 63              | 66                      |
| DP8MFF77 -13 | 196           | 2156   | 67              | 70                      |
| DP8MFF77 -14 | 196           | 2284   | 71              | 74                      |
| DP8MFF77 -15 | 196           | 2412   | 75              | 78                      |
| DP8MFF77 -16 | 196           | 2540   | 79              | 82                      |
| DP8MFF77 -17 | 196           | 2668   | 83              | 86                      |
| DP8MFF77 -18 | 196           | 2796   | 87              | 90                      |
| DP8MFF77 -19 | 196           | 2924   | 91              | 94                      |
| DP8MFF77 -20 | 196           | 3052   | 95              | 98                      |

# DP8MFF77 50Hz SERIES PERFORMANCE CURVES



## DP8MFF77 50Hz SERIES PERFORMANCE CURVES



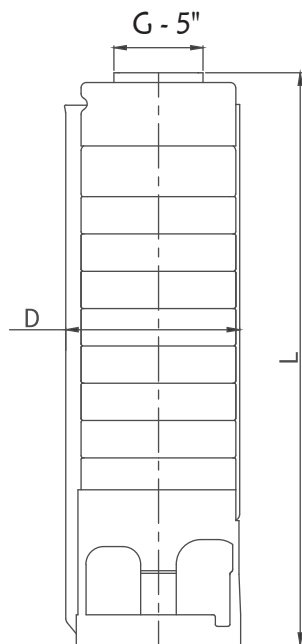
# PUMP DP8MFF95 50Hz DATA

## DP8MFF95 50Hz

| kW   | HP   | Stage | Motor Joinings | Outlet Size | m <sup>3</sup> /h | Discharge |     |      |      |      |      |
|------|------|-------|----------------|-------------|-------------------|-----------|-----|------|------|------|------|
|      |      |       |                |             |                   | 0         | 48  | 72   | 96   | 108  | 120  |
|      |      |       |                |             |                   | lpm       | 800 | 1200 | 1600 | 1800 | 2000 |
| 5.5  | 7.5  | 1     | V-6            | 5" BSP      | 21                | 17        | 14  | 11   | 9    | 6    |      |
| 5.5  | 7.5  | 2-BB  | V-6            | 5" BSP      | 27                | 22        | 19  | 12   | 6    | 2    |      |
| 7.5  | 10   | 2-A   | V-8            | 5" BSP      | 39                | 29        | 25  | 20   | 15   | 9    |      |
| 9.3  | 12.5 | 2     | V-8            | 5" BSP      | 43                | 35        | 30  | 24   | 19   | 13   |      |
| 9.3  | 12.5 | 3-BB  | V-8            | 5" BSP      | 48                | 39        | 34  | 24   | 16   | 7    |      |
| 11   | 15   | 3-B   | V-8            | 5" BSP      | 57                | 46        | 40  | 30   | 22   | 13   |      |
| 13   | 17.5 | 3     | V-8            | 5" BSP      | 64                | 52        | 44  | 35   | 29   | 20   |      |
| 15   | 20   | 4-B   | V-8            | 5" BSP      | 78                | 63        | 54  | 41   | 32   | 20   |      |
| 18.5 | 25   | 4     | V-8            | 5" BSP      | 86                | 69        | 59  | 47   | 39   | 27   |      |
| 18.5 | 25   | 5-AB  | V-8            | 5" BSP      | 95                | 75        | 64  | 49   | 37   | 20   |      |
| 22   | 30   | 5     | V-8            | 5" BSP      | 107               | 87        | 74  | 59   | 49   | 34   |      |
| 26   | 35   | 6     | V-8            | 5" BSP      | 128               | 104       | 89  | 71   | 58   | 40   |      |
| 30   | 40   | 7     | V-8            | 5" BSP      | 150               | 121       | 104 | 83   | 68   | 47   |      |
| 37   | 50   | 8     | V-8            | 5" BSP      | 171               | 138       | 118 | 94   | 78   | 54   |      |
| 37   | 50   | 9     | V-8            | 5" BSP      | 193               | 156       | 133 | 106  | 87   | 60   |      |
| 45   | 60   | 10    | V-8            | 5" BSP      | 214               | 173       | 148 | 118  | 97   | 67   |      |
| 55   | 75   | 11    | V-8            | 5" BSP      | 235               | 190       | 163 | 130  | 107  | 74   |      |
| 55   | 75   | 12    | V-8            | 5" BSP      | 257               | 208       | 178 | 142  | 116  | 80   |      |
| 55   | 75   | 13    | V-8            | 5" BSP      | 278               | 225       | 192 | 153  | 126  | 87   |      |
| 67   | 90   | 14    | V-8            | 5" BSP      | 300               | 242       | 207 | 165  | 136  | 94   |      |
| 75   | 100  | 15    | V-8            | 5" BSP      | 321               | 260       | 222 | 177  | 146  | 101  |      |
| 75   | 100  | 16    | V-8            | 5" BSP      | 342               | 277       | 237 | 189  | 155  | 107  |      |
| 75   | 100  | 17    | V-8            | 5" BSP      | 364               | 294       | 252 | 201  | 165  | 114  |      |

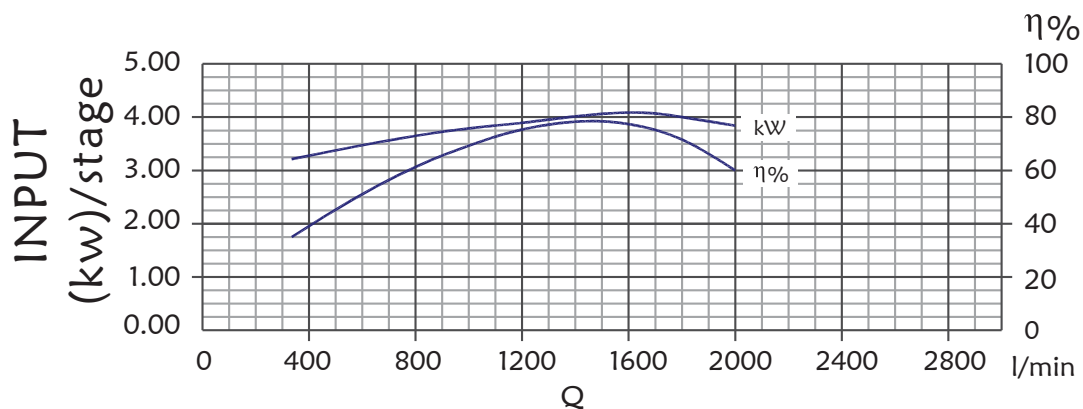
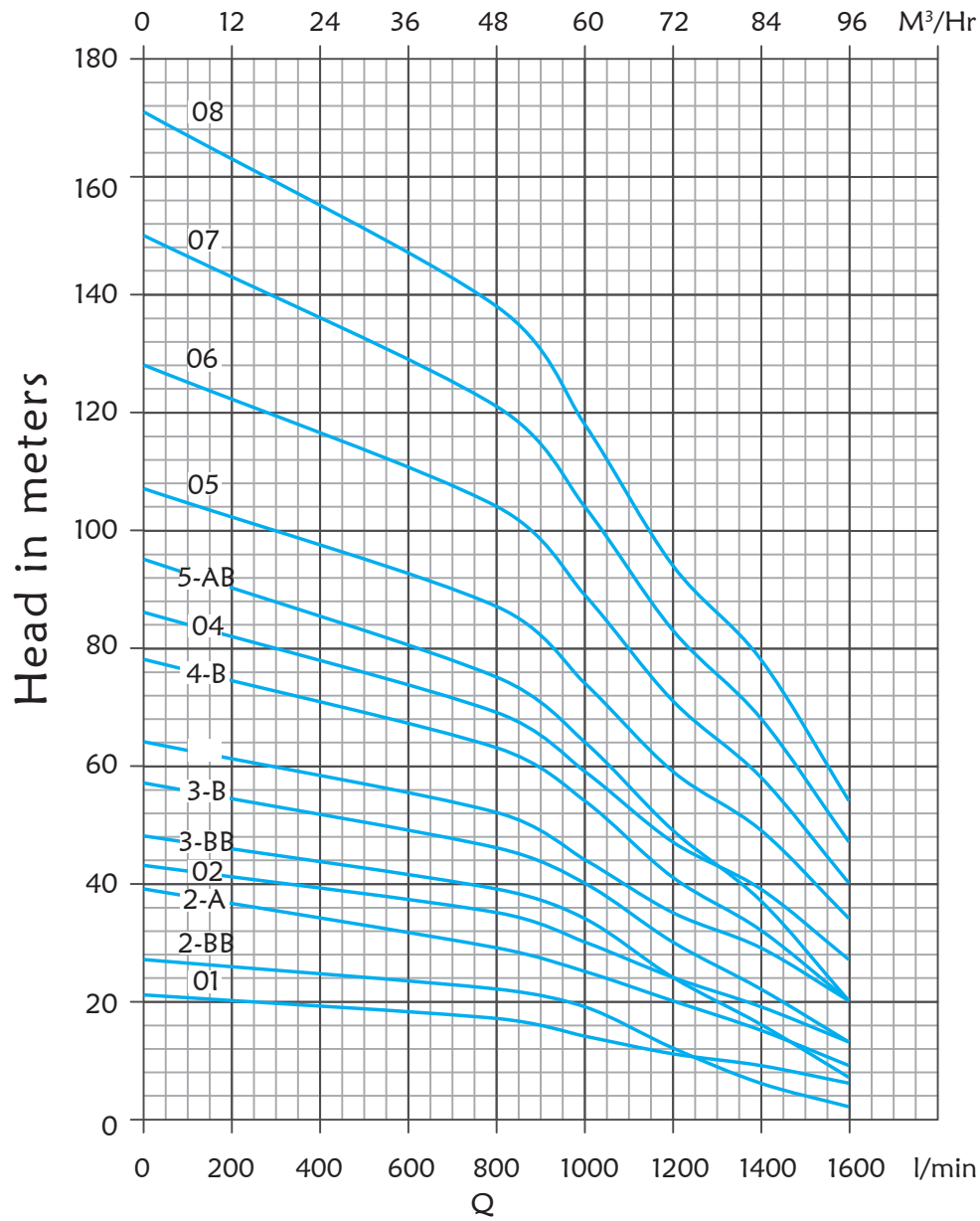
Head in Mtrs.

### Dimensions & Weights

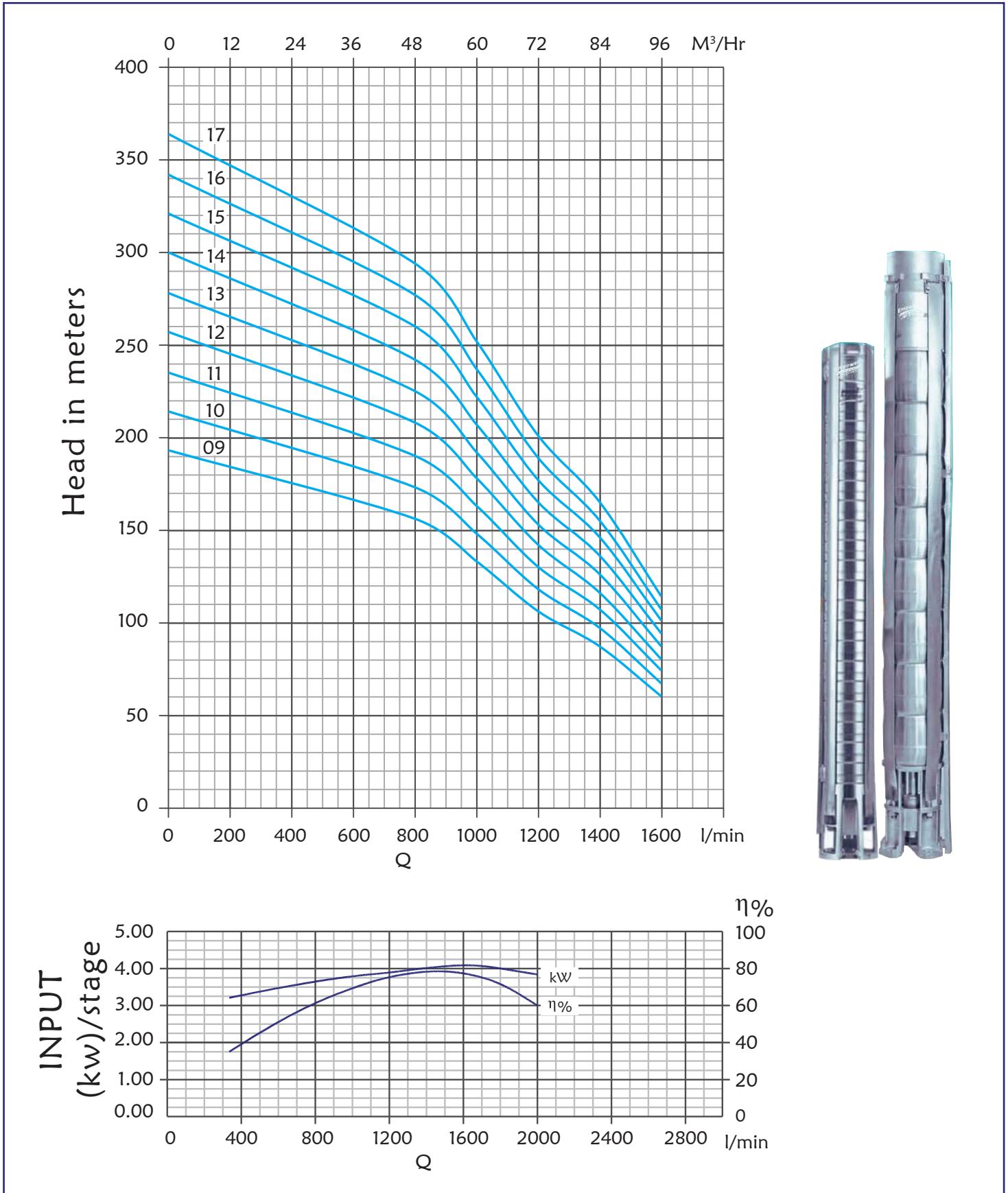


| Model Name   | Specification |        |                 |                         |
|--------------|---------------|--------|-----------------|-------------------------|
|              | D (mm)        | L (mm) | Pump Weight Kg. | Weight (incl. pkg.) Kg. |
| DP8MFF95 -01 | 188           | 620    | 21              | 24                      |
| DP8MFF95 -02 | 188           | 748    | 25              | 28                      |
| DP8MFF95 -03 | 188           | 876    | 29              | 32                      |
| DP8MFF95 -04 | 188           | 1004   | 33              | 36                      |
| DP8MFF95 -05 | 188           | 1132   | 37              | 40                      |
| DP8MFF95 -06 | 188           | 1260   | 41              | 44                      |
| DP8MFF95 -07 | 188           | 1388   | 45              | 48                      |
| DP8MFF95 -08 | 188           | 1516   | 49              | 52                      |
| DP8MFF95 -09 | 188           | 1644   | 53              | 56                      |
| DP8MFF95 -10 | 196           | 1772   | 55              | 58                      |
| DP8MFF95 -11 | 196           | 1900   | 59              | 62                      |
| DP8MFF95 -12 | 196           | 2028   | 63              | 66                      |
| DP8MFF95 -13 | 196           | 2156   | 67              | 70                      |
| DP8MFF95 -14 | 196           | 2284   | 71              | 74                      |
| DP8MFF95 -15 | 196           | 2412   | 75              | 78                      |
| DP8MFF95 -16 | 196           | 2540   | 79              | 82                      |
| DP8MFF95 -17 | 196           | 2668   | 83              | 86                      |

## DP8MFF95 50Hz SERIES PERFORMANCE CURVES



## DP8MFF95 50Hz SERIES PERFORMANCE CURVES







# Empower DSM Submersible Motors

## INTRODUCTION

EMPOWER DSM Submersible motors are highly designed with quality and efficiency for sustainable borehole applications. These motors are rewindable with their windings made up of EC grade copper conductor and insulation & Sheath of excellent insulation and water proof property.

### Salient Features

- ✓ Heavy duty bearings with high thrust capacity.
- ✓ Oil sealing system for high sand resistance and degree of protection : IP68.
- ✓ Mechanical sealing system for high sand resistance and degree of protection.
- ✓ Water lubricated radial carbon bearings.
- ✓ Motor Base with Magnet.
- ✓ Nitrile rubber grommet with inbuilt washer.
- ✓ Pressure balancing check valves.
- ✓ Cooling diaphragms.

**Protection:** IP68

**Insulation Class:** F

**Voltage:** 1PH-220/240V,50Hz/ 3PH-380/415V,Hz

#### OPERATING PARAMETERS

**Max Voltage variation:** 10%.

**Max Starts/Hr:** 20.

**Max Water Temperature:** 35°C(Oil Filled), 70°C(Water Filled).

**Min Water pass Flow Rate:** 0.2m/sec .

**Max Immersion Depth:** 200m-4" and 300m-6" .

**Installation:** vertical/horizontal with a tilt angle >50.

## Motors Data

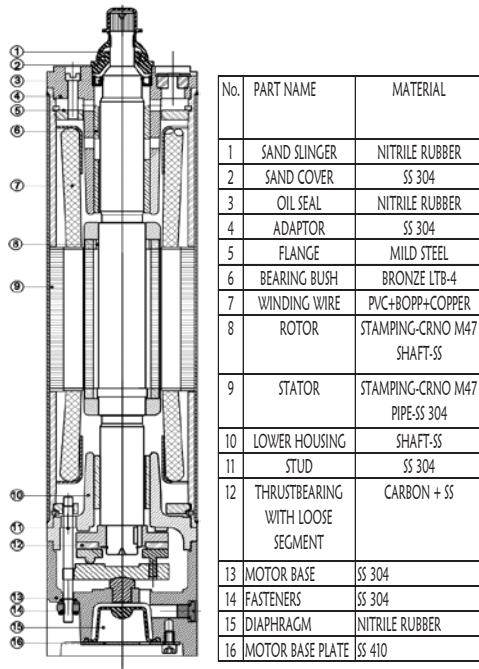
### SINGLE PHASE

| POWER     |     | Full Load Current (A) | Istart (A) | Full Load Efficiency % | PF Cos $\phi$ | Max. Down thrust Load (N) | Capacitor $\mu$ f | Tail Cable      |     | Height (mm) | Weight (Kg) |
|-----------|-----|-----------------------|------------|------------------------|---------------|---------------------------|-------------------|-----------------|-----|-------------|-------------|
| KW        | HP  |                       |            |                        |               |                           |                   | mm <sup>2</sup> | m   |             |             |
| 0.75      | 1   | 6                     | 20         | 60                     | 0.93          | 1500                      | 36                | 1.5             | 1.5 | 386         | 8.7         |
| 1.1       | 1.5 | 8                     | 32         | 63                     |               | 1500                      | 50                | 1.5             | 1.5 | 426         | 10.6        |
| 1.1 (W.F) | 1.5 | 10                    | 25         | 60                     | 0.90          | 3000                      | 50                | 2.5             | 2.7 | 551         | 19.0        |
| 1.5       | 2   | 11                    | 38         | 65                     | 0.93          | 2500                      | 61                | 2.0             | 1.5 | 476         | 12.9        |
| 2.2       | 3   | 15                    | 46         | 66                     |               | 2500                      | 72                | 2.3             | 2.0 | 581         | 17.7        |
| 2.2(W.F)  | 3   | 18                    | 50         | 66                     | 0.90          | 6500                      | 72                | 4.0             | 2.0 | 671         | 25.0        |

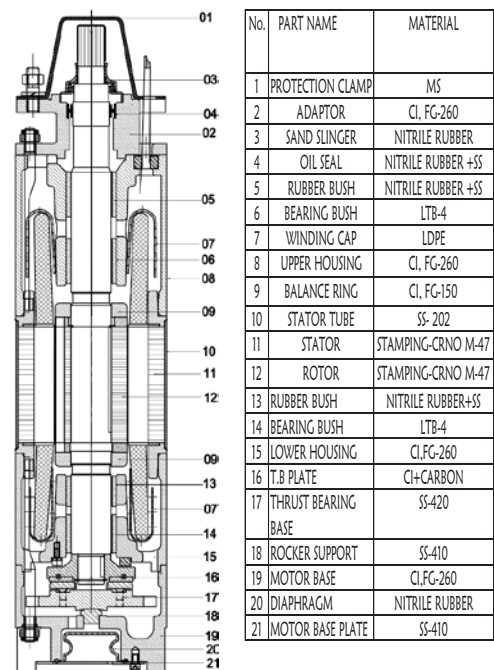
### THREE PHASE

| POWER     |      | Full Load Current (A) | Istart (A) | Full Load Efficiency % | Full Load PF Cos $\phi$ | Max. Down thrust Load (N) | Starting Torque (Nm) | Torque (Nm) | Tail Cable      |      | Height (mm) | Weight (Kg) |
|-----------|------|-----------------------|------------|------------------------|-------------------------|---------------------------|----------------------|-------------|-----------------|------|-------------|-------------|
| KW        | HP   |                       |            |                        |                         |                           |                      |             | mm <sup>2</sup> | m    |             |             |
| 1.1       | 1.5  | 3.9                   | 12         | 68                     | 0.70                    | 3000                      | 6.7                  | 3.7         | 1.5             | 2.7  | 551         | 19.0        |
| 1.5       | 2    | 4.5                   | 16         | 70                     | 0.70                    | 3000                      | 9                    | 5           | 1.5             | 2.7  | 601         | 22.0        |
| 2.2       | 3    | 6.6                   | 24         | 70                     | 0.70                    | 6500                      | 14.1                 | 7.5         | 2.5             | 2.7  | 671         | 25.0        |
| 3         | 4    | 8.2                   | 27         | 72                     | 0.70                    | 6500                      | 19                   | 10          | 2.5             | 2.7  | 741         | 28          |
| 4         | 5.5  | 10                    | 34         | 72                     | 0.70                    | 6500                      | 22                   | 12.4        | 2.5             | 2.7  | 781         | 31          |
| 5.5       | 7.5  | 14.2                  | 46         | 72                     | 0.70                    | 6500                      | 33.7                 | 18.7        | 4.0             | 3.1  | 841         | 34          |
| 7.5 - 4"  | 10   | 17                    | 73         | 72                     | 0.70                    | 6500                      | 35.9                 | 19.8        | 4.0             | 3.1  | 951         | 38          |
| 7.5 - 6"  | 10   | 18                    | 79         | 81                     | 0.74                    | 15500                     | 27                   | 25          | 2.5             | 2.7  | 762         | 60          |
| 9.3 - 6"  | 12.5 | 23                    | 99         | 81.5                   | 0.74                    | 15500                     | 35                   | 31          | 4.0             | 2.7  | 807         | 65          |
| 11 - 6"   | 15   | 27                    | 116        | 82                     | 0.73                    | 15500                     | 43                   | 37          | 4.0             | 2.7  | 857         | 70          |
| 13 - 6"   | 17.5 | 31                    | 131        | 82                     | 0.76                    | 15500                     | 51                   | 43          | 4.0             | 2.7  | 877         | 73          |
| 15 - 6"   | 20   | 35                    | 144        | 82.5                   | 0.72                    | 15500                     | 62                   | 49          | 4.0             | 3.15 | 932         | 80          |
| 18.5 - 6" | 25   | 42                    | 169        | 83                     | 0.71                    | 15500                     | 98                   | 61          | 4.0             | 3.15 | 987         | 89          |
| 22 - 6"   | 30   | 52                    | 206        | 83                     | 0.73                    | 15500                     | 118                  | 74          | 6.0             | 3.15 | 1057        | 95          |

DSM4 CROSS SECTIONAL DRAWING



DSM6 CROSS SECTIONAL DRAWING



## 4" Water Filled Motors

### TECHNICAL DATA

#### 4" 1Phase 230V, 50Hz Water Filled Motor

| kW   | HP   | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load(N) | Starting Torque (Nm) | Torque (Nm) | Cable Size (sq.mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|------|------|-----------------------|----------------------|------------------------|------------------------|--------------------------|----------------------|-------------|--------------------|------------------|-------------|-----------------|
| 0.37 | 0.5  | 5                     | 11                   | 43                     | 0.90                   | 3000                     | 2.0                  | 1.2         | 1.5                | 2.3              | 481         | 15              |
| 0.55 | 0.75 | 6                     | 15                   | 50                     | 0.90                   | 3000                     | 2.9                  | 1.8         | 1.5                | 2.3              | 501         | 16              |
| 0.75 | 1.0  | 6.8                   | 18                   | 55                     | 0.90                   | 3000                     | 4.1                  | 2.5         | 2.5                | 2.3              | 521         | 17              |
| 1.1  | 1.5  | 9.9                   | 25                   | 60                     | 0.90                   | 3000                     | 6.1                  | 3.7         | 2.5                | 2.7              | 551         | 19              |
| 1.5  | 2    | 13                    | 34                   | 63                     | 0.90                   | 3000                     | 8.3                  | 4.9         | 4                  | 3.1              | 601         | 21              |
| 2.2  | 3    | 18                    | 50                   | 66                     | 0.90                   | 6500                     | 13.3                 | 7.4         | 4                  | 3.1              | 671         | 25              |
| 3.7  | 5    | 27                    | 63                   | 68                     | 0.90                   | 6500                     | 15.5                 | 8.6         | 6                  | 3.1              | 781         | 31              |

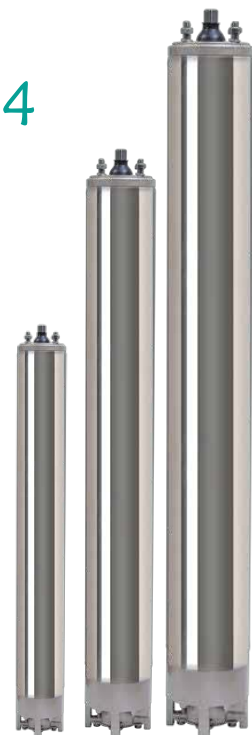
#### 4" 3Phase 380 - 415V, 50Hz Water Filled Motor

| kW   | HP  | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load(N) | Starting Torque (Nm) | Torque (Nm) | Cable Size (sq. mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|------|-----|-----------------------|----------------------|------------------------|------------------------|--------------------------|----------------------|-------------|---------------------|------------------|-------------|-----------------|
| 0.75 | 1   | 2.3                   | 8                    | 65                     | 0.60                   | 3000                     | 4.5                  | 2.5         | 1.5                 | 2.3              | 521         | 17              |
| 1.1  | 1.5 | 3.1                   | 12                   | 68                     | 0.70                   | 3000                     | 6.7                  | 3.7         | 1.5                 | 2.7              | 551         | 19              |
| 1.5  | 2   | 4.0                   | 16                   | 70                     | 0.70                   | 3000                     | 9                    | 5           | 1.5                 | 2.7              | 601         | 22              |
| 2.2  | 3   | 6.0                   | 24                   | 70                     | 0.70                   | 6500                     | 14.1                 | 7.5         | 2.5                 | 2.7              | 671         | 25              |
| 3    | 4   | 8.1                   | 27                   | 72                     | 0.70                   | 6500                     | 19                   | 10          | 2.5                 | 2.7              | 741         | 28              |
| 3.7  | 5   | 9.8                   | 34                   | 72                     | 0.70                   | 6500                     | 22                   | 12.4        | 2.5                 | 2.7              | 781         | 31              |
| 5.5  | 7.5 | 12.8                  | 46                   | 72                     | 0.70                   | 6500                     | 33.7                 | 18.7        | 4                   | 3.1              | 841         | 34              |
| 7.5  | 10  | 17.5                  | 73                   | 72                     | 0.70                   | 6500                     | 35.9                 | 19.8        | 4                   | 3.1              | 951         | 38              |

### TECHNICAL DETAILS

| Nominal Diameter      | 4" Motor (100 mm)   |
|-----------------------|---|
| Max. Outer Diameter   | 95 mm   |
| Power Range           | 1Ph: 0.37 kW to 3.7 kW Single Phase<br>3Ph: 0.75 kW to 5.5 kW Three Phase                       |
| Speed                 | 2800 RPM  |
| Voltage range         | 1Ph: Single Phase 220 V, 60 Hz, A.C Supply<br>3Ph: Three Phase 220 V & 380 V, 60 Hz, A.C Supply |
| Class of Insulation   | F   |
| Degree of protection  | IP 58   |
| Direction of rotation | Anti-Clock wise   |
| Type of duty          | S1 (Continues)  |
| Minimum cooling flow  | 0.15 m/sec  |
| Max. Liquid temp.     | 33° C   |
| Starts per hour       | 20 Times  |
| Method of starting    | Single Phase - Capacitor Start<br>Capacitor Run<br>Three Phase - Direct On Line (DOL)           |
| Cable leadout type    | 3 Core Flat Cable   |

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## 5" Water Filled Motors

### TECHNICAL DATA

#### 5" IE3 1Phase 230V, 50Hz Water Filled Motor

| kW  | HP  | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load (N) | Cable Size (sq. mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|-----|-----|-----------------------|----------------------|------------------------|------------------------|---------------------------|---------------------|------------------|-------------|-----------------|
| 2.2 | 3   | 16                    | 42                   | 60                     | 0.90                   | 10000                     | 2.5                 | 2.7              | 626         | 35              |
| 3   | 4   | 19                    | 48                   | 61                     | 0.90                   | 10000                     | 4                   | 2.7              | 656         | 36              |
| 3.7 | 5   | 26                    | 64                   | 65                     | 0.91                   | 10000                     | 4                   | 2.7              | 681         | 38              |
| 4.5 | 6   | 31                    | 75                   | 66                     | 0.92                   | 10000                     | 6                   | 2.7              | 721         | 45              |
| 5.5 | 7.5 | 35                    | 79                   | 68                     | 0.93                   | 10000                     | 6                   | 2.7              | 761         | 47              |
| 7.5 | 10  | 45                    | 93                   | 69                     | 0.94                   | 10000                     | 8                   | 2.7              | 801         | 49              |

#### 5" IE3 3Phase 380-415V, 50Hz Water Filled Motor

| kW   | HP   | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load (N) | Cable Size (sq. mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|------|------|-----------------------|----------------------|------------------------|------------------------|---------------------------|---------------------|------------------|-------------|-----------------|
| 0.75 | 1    | 2.9                   | 15                   | 66                     | 0.68                   | 10000                     | 1.5                 | 2.7              | 551         | 31              |
| 1.1  | 1.5  | 3.5                   | 18                   | 70                     | 0.69                   | 10000                     | 1.5                 | 2.7              | 566         | 32              |
| 1.5  | 2    | 4.3                   | 21                   | 74                     | 0.70                   | 10000                     | 1.5                 | 2.7              | 596         | 33              |
| 2.2  | 3    | 6.3                   | 31                   | 75                     | 0.72                   | 10000                     | 1.5                 | 2.7              | 626         | 35              |
| 3    | 4    | 7.9                   | 38                   | 76                     | 0.72                   | 10000                     | 1.5                 | 2.7              | 656         | 36              |
| 3.7  | 5    | 9                     | 41                   | 76                     | 0.74                   | 10000                     | 2.5                 | 2.7              | 681         | 38              |
| 4.5  | 6    | 11                    | 50                   | 76                     | 0.72                   | 10000                     | 2.5                 | 2.7              | 721         | 45              |
| 5.5  | 7.5  | 13.8                  | 60                   | 77                     | 0.73                   | 10000                     | 2.5                 | 2.7              | 761         | 47              |
| 7.5  | 10   | 17                    | 73                   | 78                     | 0.73                   | 10000                     | 4.0                 | 2.7              | 801         | 49              |
| 9.3  | 12.5 | 21                    | 86                   | 81                     | 0.72                   | 10000                     | 4.0                 | 2.7              | 846         | 53              |
| 11   | 15   | 27                    | 110                  | 81                     | 0.73                   | 10000                     | 4.0                 | 2.7              | 876         | 49              |

### TECHNICAL DETAILS

| Nominal Diameter      | 5" Motor(125 mm)   |
|-----------------------|--|
| Max. Outer Diameter   | 122 mm   |
| Power Range           | 1Ph 2.2 kW to 7.5 kW Single Phase<br>3Ph 0.75 kW to 11.0 kW Three Phase                      |
| Speed                 | 2880 RPM   |
| Voltage range         | 1Ph Single Phase 230 V, 50 Hz, A.C Supply<br>3Ph Three Phase 380-415 V, 50 Hz, A.C Supply    |
| Class of Insulation   | F  |
| Degree of protection  | IP 58  |
| Direction of rotation | Anti-Clock wise  |
| Type of duty          | S1 (Continues)   |
| Minimum cooling flow  | 0.15 m/sec   |
| Max. Liquid temp.     | 33° C  |
| Starts per hour       | 20 Times   |
| Method of starting    | Single Phase - Capacitor Start<br>Capacitor Run (CSCR)<br>Three Phase - Direct On Line (DOL) |
| Cable lead out type   | 3 Core Flat Cable  |

DSM5



## 6" Water Filled Motors

### TECHNICAL DATA

#### 6" IE3 1Phase 230V, 50Hz Water Filled Motor

| kW  | HP  | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load (N) | Starting Torque (Nm) | Torque (Nm) | Cable Size (sq. mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|-----|-----|-----------------------|----------------------|------------------------|------------------------|---------------------------|----------------------|-------------|---------------------|------------------|-------------|-----------------|
| 2.2 | 3   | 15                    | 36                   | 64                     | 0.85                   | 15500                     | 17                   | 10          | 4                   | 2.7              | 617         | 44              |
| 3   | 4   | 21                    | 50                   | 64                     | 0.86                   | 15500                     | 19                   | 12          | 6                   | 2.7              | 642         | 46              |
| 3.7 | 5   | 26                    | 62                   | 65                     | 0.88                   | 15500                     | 20                   | 14          | 6                   | 2.7              | 657         | 47              |
| 4.5 | 6   | 30                    | 70                   | 66                     | 0.9                    | 15500                     | 21                   | 15          | 6                   | 2.7              | 677         | 50              |
| 5.5 | 7.5 | 38                    | 87                   | 67                     | 0.9                    | 15500                     | 24                   | 18          | 8.0                 | 2.7              | 727         | 55              |
| 7.5 | 10  | 47                    | 105                  | 70                     | 0.91                   | 15500                     | 27                   | 25          | 8.0                 | 2.7              | 762         | 60              |

#### 6" IE3 3Phase 380 - 415V, 50Hz Water Filled Motor

| kW   | HP   | Full Load Current (A) | Starting Current (A) | Full Load Efficiency % | Full Load Power Factor | Max. Down Thrust Load (N) | Starting Torque (Nm) | Torque (Nm) | Cable Size (sq. mm) | Cable Length (m) | Height (mm) | Net Weight (kg) |
|------|------|-----------------------|----------------------|------------------------|------------------------|---------------------------|----------------------|-------------|---------------------|------------------|-------------|-----------------|
| 2.2  | 3    | 6.4                   | 30                   | 74                     | 0.72                   | 15500                     | 17                   | 10          | 1.5                 | 2.7              | 617         | 44              |
| 3    | 4    | 8                     | 37                   | 76                     | 0.70                   | 15500                     | 19                   | 12          | 1.5                 | 2.7              | 642         | 46              |
| 4    | 5    | 8.5                   | 39                   | 78                     | 0.73                   | 15500                     | 20                   | 14          | 2.5                 | 2.7              | 657         | 47              |
| 4.5  | 6    | 11                    | 50                   | 79                     | 0.73                   | 15500                     | 21                   | 15          | 2.5                 | 2.7              | 677         | 50              |
| 5.5  | 7.5  | 14                    | 62                   | 80                     | 0.74                   | 15500                     | 24                   | 18          | 2.5                 | 2.7              | 727         | 55              |
| 7.5  | 10   | 18                    | 79                   | 81                     | 0.74                   | 15500                     | 27                   | 25          | 2.5                 | 2.7              | 762         | 60              |
| 9.3  | 12.5 | 23                    | 99                   | 81.5                   | 0.74                   | 15500                     | 35                   | 31          | 4.0                 | 2.7              | 807         | 65              |
| 11   | 15   | 27                    | 116                  | 82                     | 0.73                   | 15500                     | 43                   | 37          | 4.0                 | 2.7              | 857         | 70              |
| 13   | 17.5 | 31                    | 131                  | 82                     | 0.76                   | 15500                     | 51                   | 43          | 4.0                 | 2.7              | 877         | 73              |
| 15   | 20   | 35                    | 144                  | 82.5                   | 0.72                   | 15500                     | 62                   | 49          | 4.0                 | 3.15             | 932         | 80              |
| 18.5 | 25   | 42                    | 169                  | 83                     | 0.71                   | 15500                     | 98                   | 61          | 4.0                 | 3.15             | 987         | 89              |
| 22   | 30   | 52                    | 206                  | 83                     | 0.73                   | 15500                     | 118                  | 74          | 6.0                 | 3.15             | 1057        | 95              |
| 26   | 35   | 60                    | 231                  | 83.5                   | 0.74                   | 15500                     | 146                  | 84          | 6.0                 | 3.15             | 1132        | 117             |

### TECHNICAL DETAILS

| Nominal Diameter      | 6" Motor(150 mm)   |
|-----------------------|--|
| Max. Outer Diameter   | 144 mm   |
| Power Range           | 1Ph: 2.2 kW to 7.5 kW Single Phase<br>3Ph: 2.2 kW to 45 kW Three Phase   |
| Speed                 | 2880 RPM   |
| Voltage Range         | 1Ph: Single Phase - 230 V, 50 Hz, A.C Supply<br>3Ph: Three Phase - 380-415 V, 50 Hz, A.C Supply  |
| Class of Insulation   | F  |
| Degree of protection  | IP 58 / 68   |
| Direction of rotation | Anti-Clock wise  |
| Type of duty          | S1 (Continues)   |
| Minimum cooling flow  | 0.15 m/sec   |
| Max. Liquid temp.     | 33° C / 50° C  |
| Starts per hour       | 20 Times   |
| Method of starting    | Single Phase - Capacitor Start Capacitor Run (CSCR)<br>Three Phase - 2.2 kW to 7.5 kW Direct On Line (DOL)<br>4 kW to 45 kW Star Delta ( DOL/S.D.) |
| Cable lead out type   | 3 Core Flat Cable  |

DSM6



## Submersible Motors Cable Selection Chart

### 220 Voltage - Single Phase - 50 Hz

INSTALLATION DEPTH IN MTR

| HP   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 128 | 140 | 180 | 200 | 220 | 270 | 320 | 370 | 420 | 470 | 500 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.5  | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 4   | 6   | 6   | 6   | 6   |
| 0.75 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 4   | 6   | 6   | 10  | 10  | 10  | 10  |
| 1    | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 4   | 6   | 6   | 6   | 10  | 10  | 10  | 10  | 16  |
| 1.5  | 1.5 | 1.5 | 1.5 | 1.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 4   | 4   | 6   | 6   | 6   | 10  | 10  | 10  | 16  | 16  | 16  | 16  | 25  |
| 2    | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 4   | 4   | 6   | 6   | 6   | 10  | 10  | 10  | 16  | 16  | 16  | 25  | 25  | 25  |
| 3    | 2.5 | 2.5 | 2.5 | 2.5 | 4   | 4   | 6   | 6   | 6   | 6   | 10  | 10  | 10  | 16  | 16  | 16  | 25  | 25  | 25  | 35  | 35  | 35  |
| 4    | 4   | 4   | 4   | 4   | 4   | 6   | 6   | 6   | 6   | 10  | 10  | 10  | 16  | 16  | 16  | 25  | 25  | 35  | 35  | 35  | 35  | 35  |
| 5    | 4   | 4   | 4   | 4   | 6   | 6   | 10  | 10  | 10  | 10  | 10  | 16  | 16  | 25  | 25  | 25  | 35  | 35  | 35  | 50  | 50  | 50  |
| 6    | 6   | 6   | 6   | 6   | 10  | 10  | 10  | 10  | 10  | 16  | 16  | 16  | 25  | 25  | 25  | 35  | 35  | 35  | 50  | 50  | 50  | 50  |
| 7.5  | 6   | 6   | 6   | 10  | 10  | 10  | 10  | 10  | 10  | 16  | 16  | 25  | 25  | 25  | 35  | 35  | 35  | 50  | 50  | 50  | 50  | 50  |
| 10   | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 16  | 25  | 25  | 25  | 35  | 35  | 35  | 50  | 50  | 50  | 50  | 50  | 50  | 50  |

### 3P - 400V, 50Hz, Direct on Line (D.O.L)

Cable Size sq.mm, copper wire - 70°C rated insulation

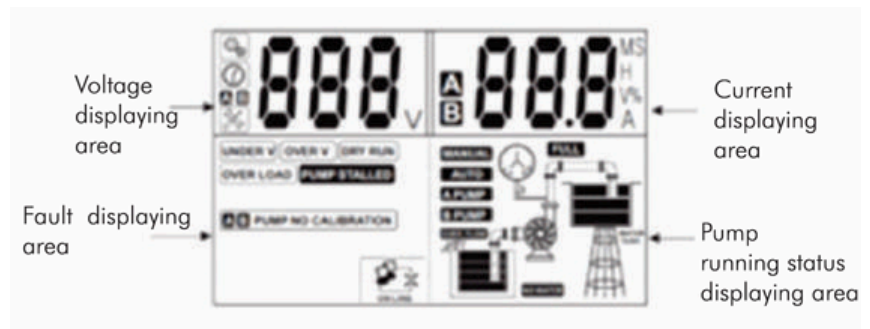
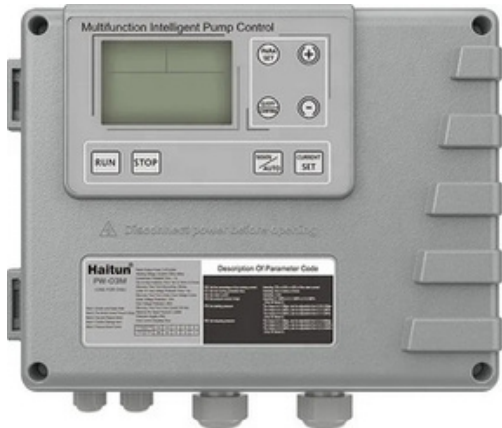
| kW   | HP   | 2.5 | 4   | 6   | 10  | 16  | 25   | 35   | 50   | 70   | 95   | 120  | 150 | 185  | 240 | 300  | 400  |
|------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-----|------|-----|------|------|
| 4    | 5.5  | 180 | 290 | 430 | 710 |     |      |      |      |      |      |      |     |      |     |      |      |
| 5.5  | 7.5  | 130 | 210 | 320 | 530 | 830 |      |      |      |      |      |      |     |      |     |      |      |
| 7.5  | 10   | 80  | 150 | 230 | 390 | 610 | 940  |      |      |      |      |      |     |      |     |      |      |
| 9.3  | 12.5 | 80  | 130 | 190 | 320 | 510 | 770  |      |      |      |      |      |     |      |     |      |      |
| 11   | 15   | 60  | 100 | 160 | 270 | 430 | 650  | 890  |      |      |      |      |     |      |     |      |      |
| 13   | 17.5 |     | 90  | 140 | 230 | 370 | 560  | 770  |      |      |      |      |     |      |     |      |      |
| 15   | 20   |     | 80  | 120 | 200 | 320 | 490  | 880  | 920  |      |      |      |     |      |     |      |      |
| 18.5 | 25   |     |     | 100 | 160 | 260 | 400  | 540  | 740  | 980  |      |      |     |      |     |      |      |
| 22   | 30   |     |     |     | 140 | 220 | 340  | 470  | 630  | 840  |      |      |     |      |     |      |      |
| 26   | 35   |     |     |     | 120 | 190 | 290  | 380  | 540  | 720  | 920  |      |     |      |     |      |      |
| 30   | 40   |     |     |     |     | 150 | 250  | 340  | 470  | 520  | 790  | 940  |     |      |     |      |      |
| 37   | 50   |     |     |     |     | 130 | 200  | 280  | 380  | 600  | 640  | 760  | 890 | 1020 |     |      |      |
| 45   | 60   |     |     |     |     |     | 170  | 240  | 330  | 440  | 570  | 890  | 810 | 940  |     |      |      |
| 52   | 70   |     |     |     |     |     | 150* | 210  | 290  | 390  | 500  | 800  | 710 | 820  | 980 |      |      |
| 55   | 75   |     |     |     |     |     | 140* | 190  | 270  | 360  | 470  | 5600 | 660 | 770  | 910 |      |      |
| 60   | 80   |     |     |     |     |     |      | 180  | 250  | 340  | 440  | 530  | 630 | 730  | 870 | 1010 |      |
| 67   | 90   |     |     |     |     |     |      | 160* | 220  | 300  | 390  | 460  | 550 | 630  | 750 | 860  | 1000 |
| 75   | 100  |     |     |     |     |     |      |      | 200* | 270  | 350  | 420  | 490 | 570  | 680 | 780  | 910  |
| 83   | 111  |     |     |     |     |     |      |      | 180* | 250  | 320  | 390  | 450 | 530  | 630 | 730  | 850  |
| 85   | 114  |     |     |     |     |     |      |      |      | 230  | 290  | 350  | 410 | 480  | 570 | 650  | 750  |
| 93   | 125  |     |     |     |     |     |      |      |      | 220* | 280  | 340  | 390 | 460  | 550 | 620  | 720  |
| 110  | 150  |     |     |     |     |     |      |      |      |      | 220  | 270  | 310 | 360  | 420 | 480  | 550  |
| 130  | 175  |     |     |     |     |     |      |      |      |      | 200* | 240  | 280 | 330  | 390 | 440  | 520  |
| 150  | 200  |     |     |     |     |     |      |      |      |      |      | 200* | 240 | 280  | 330 | 380  | 440  |
| 185  | 250  |     |     |     |     |     |      |      |      |      |      |      |     | 210* | 250 | 280  | 330  |

### 3P - 400V, 50Hz, Star Delta (S.D.)

Cable Size sq.mm, copper wire - 70°C rated insulation

| kW   | HP   | 2.5 | 4   | 6   | 10  | 16  | 25   | 35   | 50   | 70  | 95   | 120 | 150 | 185 | 240 | 300  | 400 |
|------|------|-----|-----|-----|-----|-----|------|------|------|-----|------|-----|-----|-----|-----|------|-----|
| 4    | 5.5  | 270 | 430 | 640 |     |     |      |      |      |     |      |     |     |     |     |      |     |
| 5.5  | 7.5  | 190 | 310 | 480 | 790 |     |      |      |      |     |      |     |     |     |     |      |     |
| 7.5  | 10   | 130 | 220 | 340 | 580 | 910 |      |      |      |     |      |     |     |     |     |      |     |
| 9.3  | 12.5 | 120 | 180 | 280 | 480 | 760 |      |      |      |     |      |     |     |     |     |      |     |
| 11   | 15   | 80  | 150 | 240 | 400 | 640 | 970  |      |      |     |      |     |     |     |     |      |     |
| 13   | 17.5 | 70  | 130 | 210 | 340 | 550 | 840  |      |      |     |      |     |     |     |     |      |     |
| 15   | 20   | 70  | 120 | 180 | 300 | 480 | 730  | 1020 |      |     |      |     |     |     |     |      |     |
| 18.5 | 25   | 60  | 90  | 150 | 240 | 390 | 600  | 810  |      |     |      |     |     |     |     |      |     |
| 22   | 30   |     | 70  | 120 | 210 | 330 | 510  | 700  | 940  |     |      |     |     |     |     |      |     |
| 26   | 35   |     | 60* | 100 | 180 | 280 | 430  | 580  | 810  |     |      |     |     |     |     |      |     |
| 30   | 40   |     |     | 90  | 150 | 240 | 370  | 610  | 700  | 930 |      |     |     |     |     |      |     |
| 37   | 50   |     |     |     | 120 | 190 | 300  | 420  | 570  | 750 | 950  |     |     |     |     |      |     |
| 45   | 60   |     |     |     | 100 | 160 | 250  | 360  | 490  | 550 | 850  |     |     |     |     |      |     |
| 52   | 70   |     |     |     | 90* | 150 | 220  | 310  | 430  | 580 | 750  | 800 |     |     |     |      |     |
| 55   | 75   |     |     |     |     | 130 | 210  | 280  | 400  | 540 | 700  | 840 | 890 |     |     |      |     |
| 60   | 80   |     |     |     |     | 120 | 190  | 270  | 370  | 510 | 660  | 790 | 940 |     |     |      |     |
| 67   | 90   |     |     |     |     | 100 | 180  | 240  | 330  | 450 | 580  | 690 | 820 | 940 |     |      |     |
| 75   | 100  |     |     |     |     |     | 90*  | 150  | 210  | 300 | 400  | 520 | 630 | 730 | 850 | 1020 |     |
| 83   | 111  |     |     |     |     |     | 130  | 190  | 270  | 370 | 480  | 580 | 670 | 790 | 940 |      |     |
| 85   | 114  |     |     |     |     |     | 180* | 180  | 250  | 340 | 430  | 520 | 610 | 720 | 850 | 870  |     |
| 93   | 125  |     |     |     |     |     | 120* | 160  | 240  | 330 | 420  | 510 | 580 | 690 | 820 | 830  |     |
| 110  | 150  |     |     |     |     |     |      | 130* | 190  | 250 | 330  | 400 | 460 | 540 | 630 | 720  | 820 |
| 130  | 175  |     |     |     |     |     |      |      | 160* | 220 | 300  | 360 | 420 | 490 | 580 | 660  | 780 |
| 150  | 200  |     |     |     |     |     |      |      | 150* | 190 | 250  | 300 | 360 | 420 | 490 | 570  | 660 |
| 185  | 250  |     |     |     |     |     |      |      |      |     | 180* | 240 | 270 | 310 | 370 | 420  | 490 |

# Benax Eguard Intelligent Pump Controller



**BENAX EGUARD** is a multifunctional intelligent controller designed for a wide variety of operating conditions ranging from; borehole pumping systems, water boosting systems and general water supply applications. They are fitted with a digital display that indicates system operation and fault parameters and can be programmed using panel buttons for various functions.

The particular features of these controllers include:-

- Multifunction LCD display indicating pump operating status, voltage , current value, fault indication and running hours.
- Built in AC Contactor and Air Breakers Protection.
- Inbuilt protection for; motor current overload, phase loss, voltage im-balancing, over/under voltage, phase reversal and pump short cycling.
- In built protection for dry-running or level sensor connections for electrodes, float-switch and pressure switches.
- Pump start and stop determination by different current levels and pressure settings.
- Digital connectivity interface for BMS application - Connection via (MODBUS RS485 Communication port).
- Five working modes; with pressure sensors, with float switch, liquid level sensor with mechanical pressure switch and electrical contact pressure gauge.

## OPERATING CONDITIONS

**Enclosure Class:** IP54

**Relative Humidity:** 20% - 90%

**Temperature Range:** 25 °C - +55 °C

**Power Supply:** 415 V±15% - 3PH

## CONTROLLER DATA

| Controller Model                  | Motor Size (KW) |     | Working Voltage Range | Dimensions (mm) |       |       | Weight (Kg) |
|-----------------------------------|-----------------|-----|-----------------------|-----------------|-------|-------|-------------|
|                                   | Min             | Max |                       | Height          | Width | Depth |             |
| BENAX EGUARD T5 0.75KW- 2.2KW 3PH | 0.75            | 2.2 | 220-240v              | 302             | 240   | 120   | 3           |
| BENAX EGUARD T5 0.75KW- 4KW 3PH   | 0.75            | 4   | 380-415v              |                 |       |       |             |
| BENAX EGUARD T10 5.5KW- 7.5KW 3PH | 5.5             | 7.5 | 380-415v              |                 |       |       |             |
| BENAX EGUARD T5 2.2KW- 11KW 3PH   | 2.2             | 11  | 380-415v              |                 |       |       |             |
| BENAX EGUARD T5 2.2KW- 15KW 3PH   | 2.2             | 15  | 380-415v              |                 |       |       |             |

## SALIENT FEATURES

- It is applicable for automatic level float switch, pressure control and protection of three phase deep well pump and pipeline pump etc. started directly by 0.37-3KW
- Auto/ Manual control
- Five working modes: with pressure sensor; with float switch; with liquid level sensor; with mechanical pressure switch and with electric contact pressure gauge, suitable for various working condition;
- Under/ Over voltage protection
- Over circuit protection
- Short circuit protection
- Built-in start capacitor
- Built-in air breaker protector
- Current one key set automatically or manually
- Dry-running protection acting time adjustable (10 seconds, 3mins, 5mins), suitable for various pump and working condition
- Dry-running current value adjustable (70%, 80%, 85%, of rated current)
- PW-03MP option available for single phase controller with built-in ac contactor, suitable for deep well pump with 2.2-3KW and motor line within 400 meters.
- Dry-running protection with sensor free
- LCD screen displays voltage, current value;
- LCD displays fault information and alarm;
- It can be configured according to user's requirements.

## TECHNICAL DATA

|  |   |   |   |
|--|---|---|---|
| <b>Working voltage</b>                   | AC2415V/50Hz/60Hz                       | <b>Under-voltage operating voltage</b>  | 304v  |
| <b>Rated output power</b>                | 0.75 - 22kw                             | <b>Over-voltage operating voltage</b>   | 437V  |
| <b>Locked-rotor Protection Time</b>      | 1 second                                | <b>Over-current fault recovery time</b> | 30minutes   |
| <b>Dry-running Protection Time</b>       | 10Seconds/3minutes/5 minuitees optional | <b>Distance for signal Transmit</b>     | 200m  |
| <b>Recovery Time from Dry-running</b>    | 30minutes                               | <b>Protection Degree</b>                | IP54  |
| <b>Under/Over Voltage Operating Time</b> | 5minutes                                | <b>Adaptive Pressure Sensor</b>         | DC5V working voltage/ 0.5-4.5V signal output type, range 0-1.0mpa, 0-1.6mpa, 0-2.5mpa can be selected |
| <b>Under/Over Voltage Recovery time</b>  | 5minutes                                |   |   |



# Borehole Accessories

## Borehole Adaptor sets

Our Borehole Adaptor sets are made with state-of-the-art technology from cast scrap and help to reduce waste through sand casting.

**APPLICATION:** Connection of Submersible Pumps Set and Column Pipe

**TECHNICAL DETAILS:**

**Metal :** Cast Iron or Stainless Steel

**Diameter :** 1" to 4"

**Finishing :** Colour Coated

**Thickness :** 7 mm to 12 mm

**Connection:** Square Thread / Pipe Thread

**DESCRIPTION:**

- Cast Iron Adaptor sets are very compact fittings for all column pipes with special square thread design for use in non-aggressive water.
- Stainless Steel Adaptor sets are high grade adapters for all column pipes with special square thread design in medium to highly aggressive water.

**WHY CHOOSE OUR ADAPTOR SETS:** Easy to Use, Excellent Quality, Robust and Tensile



## Floatswitch

A float switch detects the liquid level in a tank or container. The switch floats on top of or within the liquid and acts as a mechanical switch as the liquid level goes up or down. Float switches control devices like pumps (by pumping the water in or out), valves (by opening/closing the inlet/outlets), or alarms to notify users. Float switches are cost effective and reliable, and they are suitable for applications with various liquids.



**How a Floatswitch Works**

A float switch moves up and down with the liquid level. Depending on the counterweight and pre-set trigger, the mechanical switch opens or closes when it rises or lowers to specific levels. When the switch closes, an electrical current passes through the switch to the connected device. For example, when an electrical current is sent to a pump, the pump turns on.

A float switch consists of a hollow floating body and an internal switch, also called a sensor. The most common internal switch is a reed switch that has a magnet inside the body. There are other internal switch types, but all of these switches use the same working principle. The mechanical switch creates an open or closed electrical circuit depending on the water level within a tank or pond.

**Rated current/voltage:** AC 10(8A) 250V~10(4A) 380V

**Working temperature:** 0°C~60°C

**Cable length:** 3m

## Borehole Cover

Benax Borehole Covers are complete units to close the top of a borehole. They comprise a strong steel borehole cover plates with piezometric (airline) tubes access, drop cable/surface cable junction box and pump outlet with a non-return-valve, inspection tee, hex nipples and a union. They are available ex-stock in sizes from 1¼" to 3" pipe outlets for 4", 6", 8" and 10" boreholes.

Specifications for other non-standard borehole sizes are available to special order.

Borehole covers are supplied complete with crane/steam socket, GI socket, Gi Bend, GI Hex-Nipples, GI Tee with Cap, GI Union and Junction Box with Sundries. Non-returns and Adaptor sets are sold separately.





# uPVC Borehole Column/Drop Pipes



**EMPOWER** Borehole Drop pipes are high quality uPVC Column/ borehole pipes made of high quality virgin PVC Material. They are non-corrosive, Hi-tech and Hi-tensile pipes with a successful installation track record across the country. Their construction technology has been greatly maintained to ensure that the full torque produced from the motor is well absorbed while the jointing arrangement is well secured, thus resulting in long life of the pipes.

The pipes come in various specifications; Standard, Heavy and Super Heavy. They measure 3m in length.

The pipes joints have been specially designed with square threads to ensure proper gripping and no chance of slippage. These threads are high friction threads which do not open even on constant forward and reverse torque generated by starting and stopping of the pump. They are made on special CNC machines with high accuracy tools to ensure perfect dimensions and easy fitting. All threads are checked thoroughly with fitment gauges to ensure 100% accuracy.

**The particular features and benefits of EMPOWER PIPES include:**

- Cheaper than Gi Pipes by over 50%
- Light-weight and easy to handle.
- Smooth internal pipe finish resulting in low friction loss and reduced power consumption by upto 30%.
- Inkjet printing & Hallmark to prevent duplication in market
- Provision of outer seal ring to prevent leakage & over tightening
- Ultimate locking system ensures a trouble free and a longer life for the Borehole and the Pump
- CNC Deep Square threads to ensure proper gripping and no chance of slippage when loaded.
- Provision of inside seal ring and a stop ring to prevent friction loss & over tightening
- Suitable for water temperatures up to 70°C.

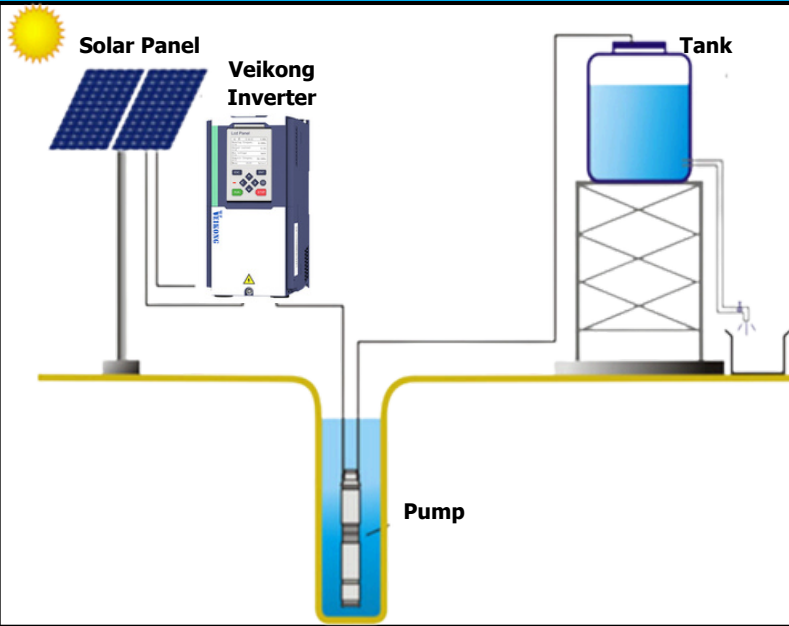
**SPECIFICATIONS**

| SIZE   |       | PIPE OUTER DIAMETER (MM) | COUPLER OUTER DIAMETER (MM) | WALL THICKNESS (MM) | ULTIMATE BREAKING LOAD (KG) | SAFE PULLING LOAD (KG) | MAX ALLOWABLE PRESSURE (BAR) | DELIVERY HEAD (M) | WEIGHT (3M PIPE) |                   |
|--------|-------|--------------------------|-----------------------------|---------------------|-----------------------------|------------------------|------------------------------|-------------------|------------------|-------------------|
| (MM)   | (IN)  |                          |                             |                     |                             |                        |                              |                   | PIPE ONLY (KG)   | PIPE + WATER (KG) |
| 32     | 1 1/4 | 42                       | 55.5                        | 5                   | 2300                        | 1533                   | 26                           | 260               | 2                | 5                 |
| 32 SHD |       | 42                       | 55.5                        | 5                   | 3300                        | 2200                   | 35                           | 350               | 2                | 5                 |
| 38     | 1 1/2 | 48                       | 63.7                        | 5.2                 | 3600                        | 2000                   | 26                           | 260               | 3                | 6                 |
| 38 SHD |       | 48                       | 63.7                        | 5.2                 | 4700                        | 2800                   | 35                           | 350               | 3                | 6                 |
| 50     | 2     | 60                       | 84.5                        | 6.4                 | 3800                        | 2533                   | 21                           | 210               | 4                | 10                |
| 50 HD  |       | 60                       | 84.5                        | 7.3                 | 4750                        | 3167                   | 27                           | 270               | 5                | 11                |
| 50 SHD |       | 60                       | 84.5                        | 8.0                 | 6200                        | 3600                   | 35                           | 350               | 6                | 12                |
| 65     | 2 1/2 | 73                       | 92                          | 6.6                 | 4800                        | 3600                   | 18                           | 180               | 5                | 15                |
| 65 HD  |       | 73                       | 94.5                        | 8.7                 | 9000                        | 4000                   | 27                           | 270               | 6                | 16                |
| 65 SHD |       | 73                       | 94.5                        | 10                  | 12500                       | 4250                   | 35                           | 350               | 8                | 18                |
| 80     | 3     | 89                       | 115                         | 10.5                | 9190                        | 5800                   | 18                           | 180               | 10               | 25                |
| 80 SHD | 3     | 89                       | 115                         | 10.5                | 12500                       | 6500                   | 35                           | 350               | 10               | 25                |

HD - Heavy Duty Pipe SHD - Super Heavy Duty Pipe

# Veikong

## AC Solar Pump Controllers



**Veikong** are AC/DC inverters specially designed for solar-powering of AC motors in various water pumping applications in irrigation, community water supply, fish farming, and agriculture. As a leading solar pump inverter manufacturer, Veikong provides drives equipped with solar-specific and pump control functions, including maximum power point tracking (MPPT), dry run detection, and flow evaluation. It is adaptable to all AC motor types and can be retro fitted to existing AC supply installations in solarisation projects.

The **Veikong** Solar Pumping Inverter is a specialized device designed to optimize the performance of solar-powered water pumping systems.

### Key features include:

- **Hybrid Power Blending capability:** Dual supply capability with inbuilt solar and grid compatibility.
- **High Efficiency:** Integrated advanced MPPT control technology ensures optimal operation of the solar panels, maximizing energy harvesting throughout varying sunlight conditions.
- **Wide Voltage Range:** Supports a broad input voltage range, allowing for compatibility with various solar panel configurations.
- **Automatic Control:** Includes automatic start/stop functions, water level detection, and protection features to prevent dry running, overload, and overheating.
- **LCD Display:** Advanced calculation for Pump flow and LCD monitoring display for upto 4 parameters at a go.
- **Remote Monitoring and Control:** With additional GPRS remote control, it offers remote monitoring and control capabilities via mobile apps or cloud platforms, providing real-time data and diagnostics.
- **Robust Design:** Built to withstand harsh environmental conditions, with protection against dust, water, and other external factors.
- **Automatic hibernation and wake up:** Hibernate at high water level and wake up at low water lever, Hibernate at sunrise and sunset and wake up at strong sunlight

### SITE DETAILS

**VEIKONG** controllers are surface mounted and should be provided with a housing for water and heat protection. They must also be provided with a circuit breaker between the PV modules and controller. Due to the high operating voltages proper earthing is essential, which must be done by a qualified electrician. As a rule, all PV powered solar pumping systems should be provided with a solar module array with a nominal output of 1.3 times the motor size. Solar arrays should be wired in a combination of series and parallel connections to ensure that the correct voltage is available into the inverter without exceeding the allowed maximum voltage. It is important that the connection arrangement is approved by the pump supplier.

### SPECIFICATIONS

| Model Number           | Applicable Motor Rated Power | Rated Voltage | Max DC input Voltage | Rated Current (A) | Voltage Working Range, VDC | MPP Voltage Solar, VDC | Height mm | Width mm | Depth, mm |
|------------------------|------------------------------|---------------|----------------------|-------------------|----------------------------|------------------------|-----------|----------|-----------|
| VFD500-20T00220-PV LCD | 2.2                          | 1x220v        | 450                  | 10.6              | 160-450                    | 250-400                | 215       | 100      | 170       |
| VFD500-40T00220-PV LCD | 2.2                          | 3x380v        | 800                  | 6                 | 250-800                    | 450-600                |           |          |           |
| VFD500-40T00400-PV LCD | 4                            |               | 800                  | 9.4               | 250-800                    | 450-600                |           |          |           |
| VFD500-40T00550-PV LCD | 5.5                          |               | 800                  | 13                | 250-800                    | 450-600                |           |          |           |
| VFD500-40T00750-PV LCD | 7.5                          |               | 800                  | 17                | 250-800                    | 450-600                | 250       | 130      | 180       |
| VFD500-40T01100-PV LCD | 11                           |               | 800                  | 25                | 250-800                    | 450-600                | 370       | 170      | 193       |
| VFD500-40T01500-PV LCD | 15                           |               | 800                  | 32                | 250-800                    | 450-600                |           |          |           |
| VFD500-40T01800-PV LCD | 18                           |               | 800                  | 37                | 250-800                    | 450-600                | 370       | 210      | 196       |
| VFD500-40T02200-PV LCD | 22                           |               | 800                  | 45                | 250-800                    | 450-600                |           |          |           |

### OPERATING CONDITIONS

**Ambient Temperature:** -20 to 50 Degrees Celcius

**Altitude:** below 1000m, Derate 1% for every 100m rise

**Relative Humidity:** 0-95% (non-condensing)

**Frequency:** from 0-60 Degrees Celcius

# Empower Intelligent Pump Controller



EMPOWER EMP DOL is a multifunctional intelligent controller designed for a wide variety of operating conditions ranging from; borehole pumping systems, water boosting systems and general water supply applications. They are fitted with a digital display that indicates system operation and fault parameters and can be programmed using panel buttons for various functions.

The particular features of these controllers include:-

- Multifunction LCD display indicating pump operating status, voltage , current value, fault indication and running hours.
- Built in AC Contactor and Air Breakers Protection.
- Inbuilt protection for; motor current overload, phase loss, voltage im-balancing, over/under voltage, phase reversal and pump short cycling.
- In built protection for dry-running or level sensor connections for electrodes, float-switch and pressure switches.
- Pump start and stop determination by different current levels and pressure settings.

## OPERATING CONDITIONS

**Enclosure Class:** IP54

**Relative Humidity:** 20% - 90%

**Temperature Range:** 25 °C - +55 °C

**Power Supply:** 220V V $\pm$ 15% - 1PH, 415 V $\pm$ 15% - 3PH

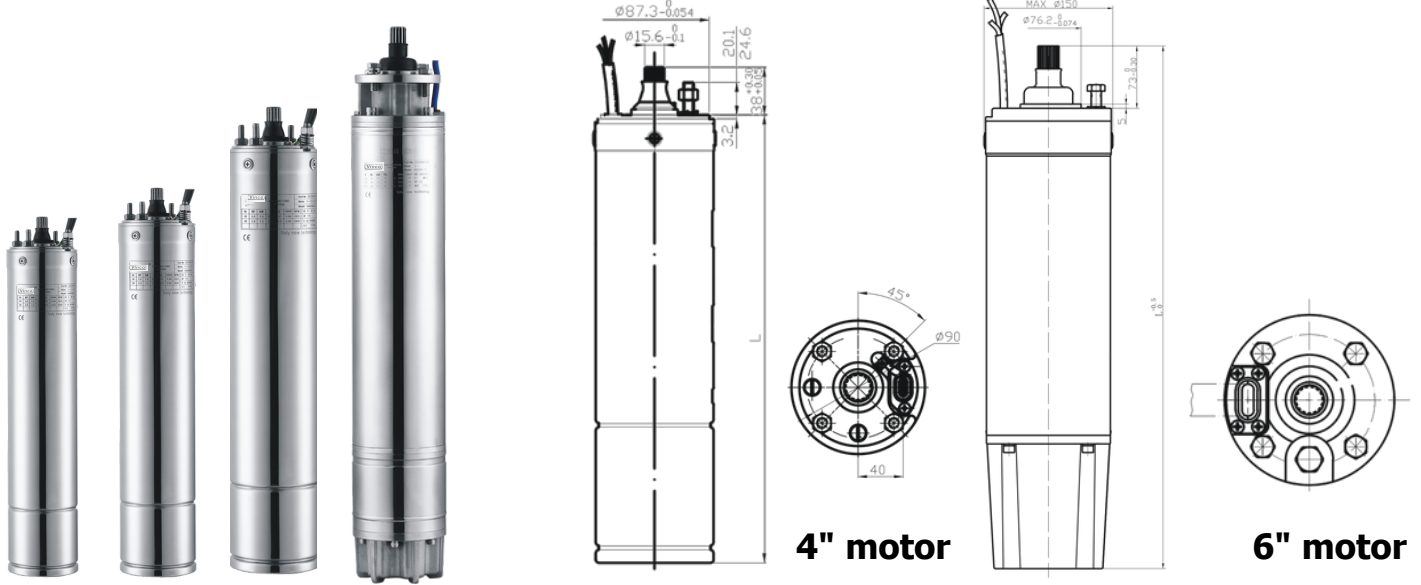
## CONTROLLER DATA

| Controller Model         | Motor Size (KW) |     | Working Voltage Range | Dimensions (mm) |       |       | Weight (Kg) |
|--------------------------|-----------------|-----|-----------------------|-----------------|-------|-------|-------------|
|                          | Min             | Max |                       | Height          | Width | Depth |             |
| EMPOWER EMP3SP 2.2KW DOL | 0.75            | 2.2 | 220-240v              | 302             | 240   | 120   | 3           |
| EMPOWER EMP7.5 5.5KW DOL | 2.2             | 5.5 | 380-415v              |                 |       |       |             |
| EMPOWER EMP10 7.5KW DOL  | 4               | 7.5 | 380-415v              |                 |       |       |             |
| EMPOWER EMP20 15KW DOL   | 7.5             | 15  | 380-415v              |                 |       |       |             |
| EMPOWER EMP30 22KW DOL   | 11              | 22  | 380-415v              |                 |       |       |             |



MADE IN ITALY

# Borehole Submersible Motors



Vinco Submersible motors are high specification motors made from quality materials, high specifications, workmanship and efficiency offering reliability for all borehole and well applications. They are liquid-cooled, 2-pole asynchronous squirrel-cage type, constructed from stainless steel and may be coupled to any borehole pump with NEMA standard splines.

Single phase motors should be supplied with purpose designed control boxes for operation and protection against overload, dry running and over/under voltage. The controller boxes come with capacitors. Three phase motors require a remote DOL starter; An Empower EMP DOL Pump Controller is recommended for detailed pump control including low level, motor overload, dry well, full tank and irregular power supply protection.

### Salient Features

- The motor windings are made up of 220°C-lacquer coated copper wires offering excellent insulation and water-proof property.
- The outer motor shell is coated with high quality cold-rolled silicon steel lamination.
- Heavy duty bearings with high thrust capacity.
- Oil sealing system for high sand resistance and degree of protection : IP68.
- Mechanical sealing system for high sand resistance.
- High Quality bearings undertaking high thrust loads.
- Reinforced butyl rubber diaphragm for Pressure balancing

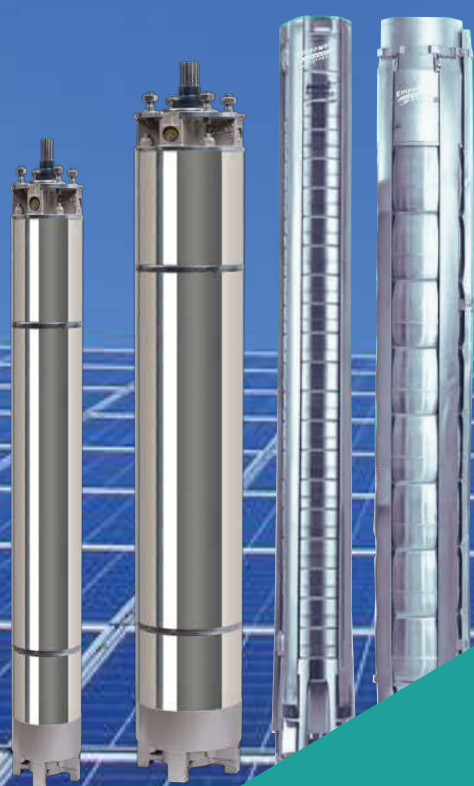
Frequency: 50hz Maximum Ambient Temperature: 35°C

Max. Voltage Variation = 10°C

Max. Starts per Hour= 20

### SPECIFICATIONS

| SIZE |      | Voltage | Motor Diameter | Current | Cos φ | RPM   | Thrust Load (N) | Length (mm) | Weight (Kg) |      |
|------|------|---------|----------------|---------|-------|-------|-----------------|-------------|-------------|------|
| (KW) | (HP) |         |                |         |       |       |                 |             |             |      |
| 1.1  | 1.5  | 1*220V  | 4"             | 7.8     | 0.96  | 2850  | 2500            | 390         | 11          |      |
| 1.5  | 2.2  |         |                | 10      | 0.97  | 2850  |                 | 435         | 12          |      |
| 2.2  | 3    |         |                | 15      | 0.97  | 2850  |                 | 480         | 14          |      |
| 1.1  | 1.5  | 3*380   |                | 4"      | 3.0   | 0.82  | 2850            | 4500        | 425         | 10   |
| 1.5  | 2.2  |         |                |         | 3.9   | 0.82  | 2850            |             | 432         | 11   |
| 2.2  | 3.0  |         |                |         | 5.6   | 0.83  | 2850            |             | 492         | 14   |
| 3.0  | 4.0  |         |                |         | 7.3   | 0.83  | 2850            |             | 581         | 19   |
| 4.0  | 5.5  |         |                |         | 10.3  | 0.83  | 2850            |             | 621         | 21   |
| 5.5  | 7.5  |         |                |         | 13    | 0.85  | 2850            |             | 740         | 25   |
| 7.5  | 10   |         |                |         | 17.6  | 0.85  | 2850            |             | 880         | 31   |
| 9.2  | 12.5 |         |                |         | 21.1  | 0.81  | 2850            |             | 753         | 38   |
| 11   | 15   |         |                |         | 25    | 0.82  | 2860            |             | 788         | 41.4 |
| 13   | 17.5 |         | 29.1           | 0.82    | 2860  | 818   | 44              |             |             |      |
| 15   | 20   |         | 33             | 0.83    | 2860  | 868   | 58.3            |             |             |      |
| 18.5 | 25   |         | 40             | 0.83    | 2860  | 30000 | 898             | 61.4        |             |      |
| 22   | 30   |         | 47.2           | 0.83    | 2860  |       | 938             | 69          |             |      |
| 26   | 35   |         | 55.4           | 0.84    | 2860  |       | 993             | 77          |             |      |
| 30   | 40   |         | 64             | 0.84    | 2860  |       | 1053            | 84          |             |      |



**PUMPS | MOTORS | BOREHOLE PIPES | CABLES | SOLAR PUMPS**

**VEIKONG PUMPING INVERTERS**

**EGUARD CONTROLLERS**

**CONTROL PANELS**

**VINCO BOREHOLE MOTORS**

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