

# Submersible Rewindable Motor

# 4" OF Standard

## Quality for your borewell :

These motors are rewindable oil filled submersible motors which are designed and sized for installation in 4" diameter or larger water wells. They are also available in complete stainless steel construction.

## Product Features :

- 4" Oil filled submersible motor.
- Completely rewindable.
- Cooling and lubrication by non toxic fluid.
- Stainless steel outer shell and shaft.
- Maintenance free lubricated ball bearings.
- Mechanical shaft seal (Carbon/Ceramic) provided.
- High efficiency electrical design (lower operating cost).
- Tropicalized design (lower winding temperature).
- All single phase motors will require control box.
- 4" NEMA coupling flange.
- Pressure compensation diaphragm.

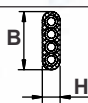
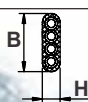
## Specifications :

- Ratings: Single phase - 0.37 to 4 kW  
Three phase - 0.37 to 7.5 kW
- Supply voltages (Tolerance +6% / -10%):  
50 Hz, 1 phase, 220 V, 230 V  
50 Hz, 3 phase, 380 V, 400 V, 415 V  
60 Hz, 1 phase, 115 V, 230 V  
60 Hz, 3 phase, 230 V, 380 V, 460 V
- Insulation class: F
- Degree of protection: IP 68
- Continuous duty
- Ambient temperature: 45°C
- Rotation: Single phase - CCW  
Three phase - CCW and CW
- Maximum nos. of starts/hour:  
0.37 to 2.2 kW - 30  
3 to 7.5 kW - 20
- Water pH: 6.5 - 8
- Minimum cooling flow along the motor: 8 cm/sec
- Motor protection: Select thermal overload protection with trip time < 10 sec. at 5 x I<sub>n</sub>
- Maximum submerged depth: 350 metres
- Mounting: vertical / horizontal.

## On Request :

- AISI 304/316 stainless steel construction.
- Special voltages.

## Cable Data :

| HP                  | Type of start | Cable x Leads x Size (mm <sup>2</sup> ) | Length [m] | H x B [mm] |                                                                                      |
|---------------------|---------------|-----------------------------------------|------------|------------|--------------------------------------------------------------------------------------|
| <b>Single phase</b> |               |                                         |            |            |                                                                                      |
| 0.5 to 5.5          | DOL           | 1 x 4 x 1.5                             | 2.5        | 6 x 15.8   |  |
| <b>Three phase</b>  |               |                                         |            |            |                                                                                      |
| 0.5 to 5.5          | DOL           | 1 x 4 x 1.5                             | 2.5        | 6 x 15.8   |  |
| 7.5 to 10           |               | 1 x 4 x 2.5                             | 2.5        | 6.5 x 18   |                                                                                      |



# Submersible Rewindable Motor

Motors that are top class in Performance & Reliability

# 4" OF Standard

## Cable

Cable safe for drinking water.

## Earth cable

Outside earth cable provided.

## Windings

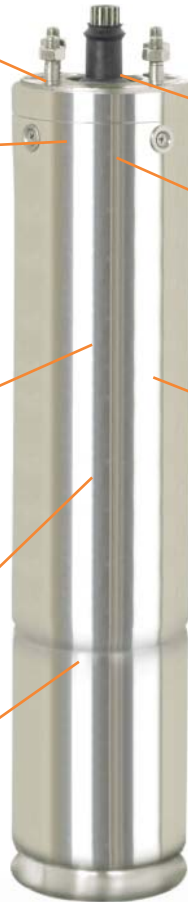
Rewindable motor construction allows for low – cost motor repair that can be done locally.

## Efficiency

High efficiency provides energy saving.

## Thrust

Thrust bearing is larger than the competition and is rated to take much more thrust load than what would be subjected by the pump.



## Shaft Extension

Stainless steel splined shaft extension to NEMA

## Shaft seal

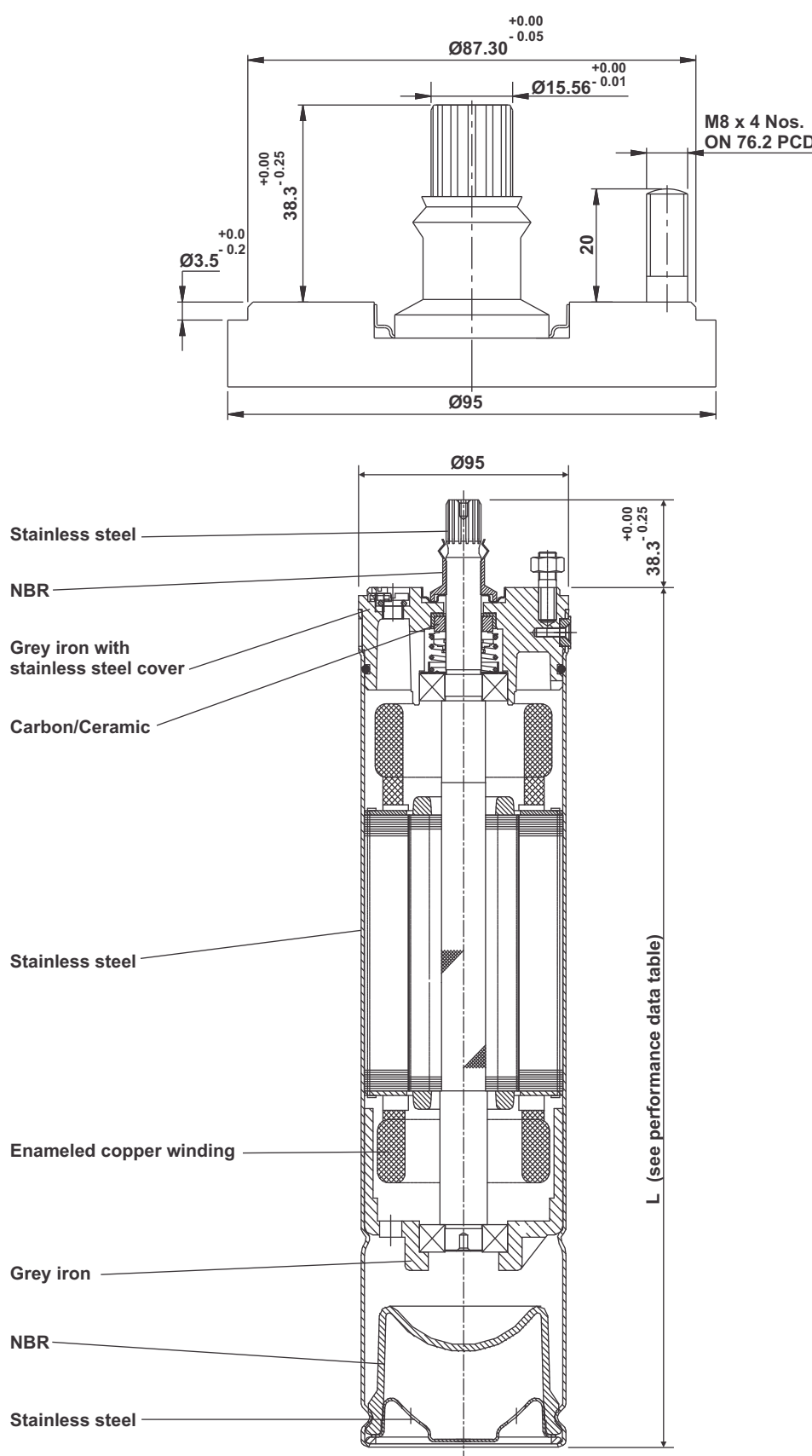
Carbon v/s ceramic Mech. Shaft seal is standard. Available with high sand resistance sic/sic mechanical shaft seal.

## Easy Maintenance

Designed for easy disassembly & repair

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**Shaft :**

Spline shaft: 14 teeth, 24/48 pitch, 30° pressure angle, coupling tolerance 5 as per ANSI B.92.1, confirming with NEMA 4".

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4" OF  
Standard

## 4" Submersible Rewindable Motor Performance Data 50 Hz

### Performance data

| Motor type   | Pn   |      | Ka<br>[N] | Un<br>[V] | In    | Ist/In | n<br>[min <sup>-1</sup> ] | η<br>[%] |      |      | COS φ |      |      | Tn<br>[Nm] | L<br>[mm] | Gross weight<br>[kg] | Gross volume<br>[m³] |
|--------------|------|------|-----------|-----------|-------|--------|---------------------------|----------|------|------|-------|------|------|------------|-----------|----------------------|----------------------|
|              | kW   | HP   |           |           |       |        |                           |          | 50%  | 75%  | 100%  | 50%  | 75%  |            |           |                      |                      |
| Single phase |      |      |           |           |       |        |                           |          |      |      |       |      |      |            |           |                      |                      |
| H4505        | 0.37 | 0.50 | 1500      | 220       | 4.50  | 3.25   | 2850                      | 53.0     | 54.0 | 56.0 | 0.79  | 0.81 | 0.83 | 1.24       | 301       | 8.9                  | 0.0094               |
|              |      |      |           | 230       | 4.60  | 3.30   | 2850                      | 53.0     | 54.0 | 56.0 | 0.80  | 0.82 | 0.84 | 1.24       |           |                      |                      |
| H4507        | 0.55 | 0.75 | 1500      | 220       | 4.90  | 3.45   | 2850                      | 55.0     | 59.0 | 61.0 | 0.81  | 0.82 | 0.84 | 1.84       | 331       | 10.5                 | 0.0094               |
|              |      |      |           | 230       | 5.00  | 3.40   | 2850                      | 55.0     | 59.0 | 61.0 | 0.82  | 0.83 | 0.85 | 1.84       |           |                      |                      |
| H4510        | 0.75 | 1.00 | 1500      | 220       | 5.90  | 3.48   | 2850                      | 57.0     | 61.0 | 63.0 | 0.82  | 0.84 | 0.85 | 2.51       | 346       | 11.0                 | 0.0094               |
|              |      |      |           | 230       | 6.02  | 3.50   | 2850                      | 57.0     | 61.0 | 63.0 | 0.83  | 0.85 | 0.86 | 2.51       |           |                      |                      |
| H4515        | 1.10 | 1.50 | 3000      | 220       | 7.90  | 3.52   | 2850                      | 60.0     | 65.0 | 67.0 | 0.83  | 0.86 | 0.87 | 3.67       | 381       | 12.6                 | 0.0094               |
|              |      |      |           | 230       | 8.00  | 3.55   | 2850                      | 60.0     | 65.0 | 67.0 | 0.84  | 0.87 | 0.88 | 3.67       |           |                      |                      |
| H4520        | 1.50 | 2.00 | 3000      | 220       | 10.90 | 3.50   | 2850                      | 63.0     | 68.0 | 70.0 | 0.85  | 0.88 | 0.89 | 5.01       | 421       | 14.2                 | 0.0094               |
|              |      |      |           | 230       | 11.00 | 3.60   | 2850                      | 63.0     | 68.0 | 70.0 | 0.86  | 0.89 | 0.90 | 5.01       |           |                      |                      |
| H4530        | 2.20 | 3.00 | 3000      | 220       | 14.90 | 3.65   | 2850                      | 66.0     | 70.0 | 72.0 | 0.87  | 0.89 | 0.91 | 7.38       | 481       | 19.6                 | 0.0094               |
|              |      |      |           | 230       | 15.00 | 3.70   | 2850                      | 66.0     | 70.0 | 72.0 | 0.88  | 0.90 | 0.92 | 7.38       |           |                      |                      |
| H4555        | 4.00 | 5.50 | 5000      | 220       | 24.50 | 3.65   | 2850                      | 67.0     | 71.0 | 73.0 | 0.88  | 0.90 | 0.91 | 7.10       | 665       | 22.5                 | 0.0147               |
|              |      |      |           | 230       | 24.60 | 3.70   | 2850                      | 67.0     | 71.0 | 73.0 | 0.89  | 0.91 | 0.92 | 7.10       |           |                      |                      |
| Three phase  |      |      |           |           |       |        |                           |          |      |      |       |      |      |            |           |                      |                      |
| H4505-T      | 0.37 | 0.50 | 1500      | 380       | 1.17  | 4.28   | 2840                      | 59.0     | 62.0 | 65.0 | 0.67  | 0.72 | 0.74 | 1.23       | 301       | 9.1                  | 0.0094               |
|              |      |      |           | 415       | 1.03  | 4.30   | 2840                      | 60.0     | 63.0 | 66.0 | 0.70  | 0.74 | 0.76 | 1.23       |           |                      |                      |
| H4507-T      | 0.55 | 0.75 | 1500      | 380       | 2.04  | 4.35   | 2840                      | 60.0     | 65.0 | 67.0 | 0.68  | 0.73 | 0.75 | 1.84       | 316       | 10.0                 | 0.0094               |
|              |      |      |           | 415       | 1.84  | 4.42   | 2840                      | 62.0     | 66.0 | 68.0 | 0.70  | 0.75 | 0.77 | 1.84       |           |                      |                      |
| H4510-T      | 0.75 | 1.00 | 1500      | 380       | 2.30  | 4.56   | 2840                      | 63.0     | 67.0 | 69.0 | 0.72  | 0.76 | 0.78 | 2.51       | 331       | 10.8                 | 0.0094               |
|              |      |      |           | 415       | 2.12  | 4.60   | 2840                      | 62.0     | 66.0 | 68.0 | 0.72  | 0.76 | 0.79 | 2.51       |           |                      |                      |
| H4515-T      | 1.10 | 1.50 | 1500      | 380       | 3.68  | 4.66   | 2850                      | 65.0     | 70.0 | 72.0 | 0.73  | 0.77 | 0.79 | 3.68       | 351       | 12.0                 | 0.0094               |
|              |      |      |           | 415       | 3.40  | 4.72   | 2850                      | 65.0     | 70.0 | 73.0 | 0.73  | 0.75 | 0.80 | 3.68       |           |                      |                      |
| H4520-T      | 1.50 | 2.00 | 3000      | 380       | 5.19  | 4.70   | 2840                      | 66.0     | 70.0 | 73.0 | 0.71  | 0.75 | 0.79 | 5.01       | 371       | 13.8                 | 0.0094               |
|              |      |      |           | 415       | 4.77  | 4.78   | 2840                      | 68.0     | 72.0 | 74.0 | 0.71  | 0.75 | 0.80 | 5.01       |           |                      |                      |
| H4530-T      | 2.20 | 3.00 | 3000      | 380       | 6.30  | 4.74   | 2830                      | 71.0     | 76.0 | 75.0 | 0.72  | 0.76 | 0.81 | 7.38       | 431       | 17.2                 | 0.0094               |
|              |      |      |           | 415       | 6.20  | 4.82   | 2830                      | 72.0     | 76.0 | 76.0 | 0.74  | 0.80 | 0.82 | 7.38       |           |                      |                      |
| H4540-T      | 3.00 | 4.00 | 4400      | 380       | 7.21  | 4.85   | 2820                      | 71.0     | 76.0 | 78.0 | 0.74  | 0.80 | 0.81 | 10.02      | 481       | 18.5                 | 0.0094               |
|              |      |      |           | 415       | 6.61  | 4.95   | 2820                      | 72.0     | 76.0 | 78.0 | 0.74  | 0.80 | 0.81 | 10.02      |           |                      |                      |
| H4555-T      | 4.00 | 5.50 | 4400      | 380       | 10.0  | 5.00   | 2820                      | 72.0     | 76.0 | 78.0 | 0.73  | 0.79 | 0.82 | 13.46      | 615       | 21.4                 | 0.0117               |
|              |      |      |           | 415       | 9.80  | 5.12   | 2820                      | 73.0     | 76.0 | 78.0 | 0.75  | 0.80 | 0.82 | 13.46      |           |                      |                      |
| H4575-T      | 5.50 | 7.50 | 4400      | 380       | 12.91 | 5.10   | 2820                      | 72.0     | 76.0 | 78.0 | 0.74  | 0.81 | 0.83 | 18.50      | 705       | 26.5                 | 0.0147               |
|              |      |      |           | 415       | 11.82 | 5.25   | 2820                      | 73.0     | 76.0 | 78.0 | 0.76  | 0.81 | 0.83 | 18.50      |           |                      |                      |
| H45100-T     | 7.50 | 10.0 | 6500      | 380       | 20.40 | 5.10   | 2800                      | 72.0     | 76.0 | 78.0 | 0.74  | 0.80 | 0.81 | 22.10      | 805       | 31.6                 | 0.0147               |
|              |      |      |           | 415       | 18.90 | 5.25   | 2800                      | 73.0     | 76.0 | 78.0 | 0.76  | 0.80 | 0.81 | 22.10      |           |                      |                      |

Pn: Rated output  
 Ka: Thrust load  
 Un: Rated voltage  
 In: Rated current  
 Ist/In: Locked rotor current/Rated amperage  
 n: Rated speed  
 $\eta$ : Efficiency  
 cos  $\phi$ : Power factor  
 Tn: Rated torque  
 L: Motor length

# Submersible Rewindable Motor

# 4" OF Standard

4" Submersible Rewindable Motor Performance Data 60 Hz

## Performance data

| Motor type   | Pn   |      | Ka<br>[N] | Un<br>[V] | In    | Ist/In<br>[A] | n<br>[min <sup>-1</sup> ] | η<br>[%] |      |      | COS φ |      |      | Tn<br>[Nm] | L<br>[mm] | Gross weight<br>[kg] | Gross volume<br>[m³] |
|--------------|------|------|-----------|-----------|-------|---------------|---------------------------|----------|------|------|-------|------|------|------------|-----------|----------------------|----------------------|
|              | kW   | HP   |           |           |       |               |                           | 50%      | 75%  | 100% | 50%   | 75%  | 100% |            |           |                      |                      |
| Single phase |      |      |           |           |       |               |                           |          |      |      |       |      |      |            |           |                      |                      |
| H4605        | 0.37 | 0.50 | 1500      | 115       | 6.40  | 3.25          | 3400                      | 52.0     | 53.0 | 53.0 | 0.81  | 0.86 | 0.89 | 1.24       | 385       | 10.0                 | 0.0094               |
|              |      |      |           | 230       | 3.20  | 3.30          | 3460                      | 53.0     | 54.0 | 54.0 | 0.82  | 0.87 | 0.90 | 1.24       |           |                      |                      |
| H4607        | 0.55 | 0.75 | 1500      | 115       | 9.00  | 3.45          | 3410                      | 54.0     | 56.0 | 58.0 | 0.81  | 0.86 | 0.89 | 1.84       | 410       | 11.0                 | 0.0094               |
|              |      |      |           | 230       | 4.50  | 3.40          | 3460                      | 55.0     | 57.0 | 59.0 | 0.82  | 0.87 | 0.90 | 1.84       |           |                      |                      |
| H4610        | 0.75 | 1.00 | 1500      | 115       | 11.60 | 3.48          | 3410                      | 56.0     | 60.0 | 62.0 | 0.81  | 0.86 | 0.89 | 2.51       | 425       | 12.0                 | 0.0094               |
|              |      |      |           | 230       | 5.75  | 3.50          | 3460                      | 57.0     | 61.0 | 63.0 | 0.82  | 0.87 | 0.90 | 2.51       |           |                      |                      |
| H4615        | 1.10 | 1.50 | 3000      | 230       | 7.84  | 3.55          | 3450                      | 60.0     | 65.0 | 67.0 | 0.84  | 0.87 | 0.91 | 3.67       | 465       | 13.4                 | 0.0094               |
| H4620        | 1.50 | 2.00 | 3000      | 230       | 10.42 | 3.60          | 3450                      | 61.0     | 66.0 | 68.0 | 0.86  | 0.89 | 0.92 | 5.01       | 505       | 15.5                 | 0.0117               |
| H4630        | 2.20 | 3.00 | 5000      | 230       | 15.23 | 3.70          | 3450                      | 63.0     | 68.0 | 69.0 | 0.85  | 0.88 | 0.91 | 7.38       | 565       | 20.0                 | 0.0117               |
| H4655        | 4.00 | 5.50 | 5000      | 230       | 23.95 | 3.70          | 3440                      | 67.0     | 71.0 | 73.0 | 0.89  | 0.91 | 0.92 | 7.10       | 665       | 22.5                 | 0.0147               |
| Three phase  |      |      |           |           |       |               |                           |          |      |      |       |      |      |            |           |                      |                      |
| H4605-T      | 0.37 | 0.50 | 1500      | 230       | 2.04  | 4.28          | 3440                      | 60.0     | 63.0 | 66.0 | 0.63  | 0.66 | 0.69 | 1.23       | 375       | 9.9                  | 0.0094               |
|              |      |      |           | 380       | 1.22  | 4.30          | 3440                      | 60.0     | 63.0 | 66.0 | 0.64  | 0.67 | 0.70 | 1.23       |           |                      |                      |
|              |      |      |           | 460       | 1.02  | 4.30          | 3440                      | 60.0     | 63.0 | 66.0 | 0.63  | 0.66 | 0.69 | 1.23       |           |                      |                      |
| H4607-T      | 0.55 | 0.75 | 1500      | 230       | 2.90  | 4.35          | 3440                      | 62.0     | 65.0 | 67.0 | 0.67  | 0.68 | 0.71 | 1.84       | 395       | 10.5                 | 0.0094               |
|              |      |      |           | 380       | 1.73  | 4.40          | 3440                      | 62.0     | 65.0 | 67.0 | 0.68  | 0.69 | 0.72 | 1.84       |           |                      |                      |
|              |      |      |           | 460       | 1.45  | 4.42          | 3440                      | 62.0     | 65.0 | 67.0 | 0.67  | 0.68 | 0.71 | 1.84       |           |                      |                      |
| H4610-T      | 0.75 | 1.00 | 1500      | 230       | 3.85  | 4.56          | 3440                      | 62.0     | 66.0 | 68.0 | 0.68  | 0.70 | 0.72 | 2.51       | 410       | 11.0                 | 0.0094               |
|              |      |      |           | 380       | 2.30  | 4.60          | 3440                      | 62.0     | 66.0 | 68.0 | 0.69  | 0.71 | 0.73 | 2.51       |           |                      |                      |
|              |      |      |           | 460       | 1.92  | 4.60          | 3440                      | 62.0     | 66.0 | 68.0 | 0.68  | 0.70 | 0.72 | 2.51       |           |                      |                      |
| H4615-T      | 1.10 | 1.50 | 1500      | 230       | 5.25  | 4.66          | 3450                      | 65.0     | 69.0 | 72.0 | 0.68  | 0.71 | 0.73 | 3.68       | 425       | 12.0                 | 0.0094               |
|              |      |      |           | 380       | 3.01  | 4.70          | 3450                      | 65.0     | 69.0 | 72.0 | 0.70  | 0.74 | 0.77 | 3.68       |           |                      |                      |
|              |      |      |           | 460       | 2.63  | 4.72          | 3450                      | 65.0     | 69.0 | 72.0 | 0.68  | 0.71 | 0.73 | 3.68       |           |                      |                      |
| H4620-T      | 1.50 | 2.00 | 3000      | 230       | 7.16  | 4.70          | 3440                      | 66.0     | 69.0 | 72.0 | 0.69  | 0.70 | 0.73 | 5.01       | 465       | 14.6                 | 0.0094               |
|              |      |      |           | 380       | 3.90  | 4.75          | 3440                      | 66.0     | 69.0 | 73.0 | 0.70  | 0.72 | 0.75 | 5.01       |           |                      |                      |
|              |      |      |           | 460       | 3.58  | 4.78          | 3440                      | 66.0     | 69.0 | 72.0 | 0.69  | 0.70 | 0.73 | 5.01       |           |                      |                      |
| H4630-T      | 2.20 | 3.00 | 3000      | 230       | 9.82  | 4.74          | 3420                      | 69.0     | 72.0 | 75.0 | 0.71  | 0.72 | 0.75 | 7.38       | 505       | 16.2                 | 0.0117               |
|              |      |      |           | 380       | 5.40  | 4.80          | 3420                      | 70.0     | 73.0 | 76.0 | 0.73  | 0.74 | 0.77 | 7.38       |           |                      |                      |
|              |      |      |           | 460       | 4.91  | 4.82          | 3420                      | 69.0     | 72.0 | 75.0 | 0.71  | 0.72 | 0.75 | 7.38       |           |                      |                      |
| H4640-T      | 3.00 | 4.00 | 5000      | 230       | 13.04 | 4.85          | 3420                      | 71.0     | 76.0 | 76.0 | 0.74  | 0.75 | 0.76 | 10.02      | 565       | 19.3                 | 0.0117               |
|              |      |      |           | 380       | 7.00  | 4.90          | 3420                      | 72.0     | 75.0 | 77.0 | 0.74  | 0.75 | 0.76 | 10.02      |           |                      |                      |
|              |      |      |           | 460       | 6.52  | 4.95          | 3420                      | 72.0     | 74.0 | 76.0 | 0.74  | 0.75 | 0.76 | 10.02      |           |                      |                      |
| H4655-T      | 4.00 | 5.50 | 5000      | 230       | 17.50 | 5.00          | 3430                      | 70.0     | 74.0 | 76.0 | 0.71  | 0.76 | 0.78 | 13.46      | 615       | 21.4                 | 0.0117               |
|              |      |      |           | 380       | 9.50  | 5.10          | 3430                      | 70.0     | 74.0 | 76.0 | 0.72  | 0.76 | 0.78 | 13.46      |           |                      |                      |
|              |      |      |           | 460       | 8.58  | 5.12          | 3430                      | 70.0     | 74.0 | 76.0 | 0.71  | 0.75 | 0.77 | 13.46      |           |                      |                      |
| H4675-T      | 5.50 | 7.50 | 5000      | 230       | 23.90 | 5.10          | 3430                      | 70.0     | 74.0 | 76.0 | 0.71  | 0.74 | 0.76 | 18.50      | 665       | 24.8                 | 0.0147               |
|              |      |      |           | 380       | 13.70 | 5.20          | 3430                      | 70.0     | 74.0 | 76.0 | 0.72  | 0.75 | 0.77 | 18.50      |           |                      |                      |
|              |      |      |           | 460       | 11.95 | 5.25          | 3430                      | 70.0     | 74.0 | 76.0 | 0.71  | 0.74 | 0.76 | 18.50      |           |                      |                      |
| H46100-T     | 7.50 | 10.0 | 6500      | 230       | 33.47 | 5.10          | 3430                      | 73.0     | 74.0 | 75.0 | 0.72  | 0.73 | 0.75 | 22.10      | 805       | 31.6                 | 0.0147               |
|              |      |      |           | 380       | 18.50 | 5.20          | 3430                      | 73.0     | 74.0 | 75.0 | 0.73  | 0.74 | 0.76 | 22.10      |           |                      |                      |
|              |      |      |           | 460       | 16.74 | 5.25          | 3430                      | 73.0     | 74.0 | 75.0 | 0.72  | 0.73 | 0.75 | 22.10      |           |                      |                      |

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 Ka: Thrust load  
 Un: Rated voltage  
 In: Rated current  
 Ist/In: Locked rotor current/Rated amperage  
 n: Rated speed  
 $\eta$ : Efficiency  
 cos  $\phi$ : Power factor  
 Tn: Rated torque  
 L: Motor length

## NOTE