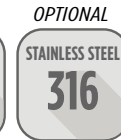


## 8" REWINDABLE MOTOR

Rewindable motors with best class winding wires



### FEATURES & BENEFITS

- 8" double flange NEMA mounting design
- Stainless steel splined shaft
- Factory filled with Franklin's FES93 motor fill solution, FES93 for frost protection down to -15 °C storage temperature
- Liquid lubricated radial bearings and High capacity Kingsbury type 45 kN thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm, spring pre-loaded
- SandFighter™ sealing system with SIC mechanical seal and sand slinger
- High efficiency electrical design for low operation costs
- Drinking water approvals

### STANDARD SPECIFICATION

- Ratings: 30 - 93 kW
- Max. storage temperature - 15 °C to + 60 °C
- Standard motor with PVC winding insulation
- Nominal ambient temperature: 30 °C with 0.2 m/s cooling flow for 30 - 52 kW motors with 0.5 m/s cooling flow for 55 - 93 kW motors
- Standard Voltage: 380 - 415 V (50 Hz), 460 V (60 Hz)
- Voltage Tolerance: 50 Hz: -10 % / +6 %  $U_N$  [380 - 415 V = (380 - 10 %) - (415 + 6 %)], 60 Hz:  $\pm 10 \% U_N$
- Protection IP68
- Motor protection: DIN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL /  $Y\Delta$  - start (pos. of cables 90 °)
- Motor lead length: 6 m
- Vertical and horizontal operation, shaft upwards (93 kW motors may not be installed in horizontal position)
- Rotation counter clock wise facing shaft end (rotation reversible)
- All motors with factory installed leads

### OPTIONS

- Higher-graded materials: 316SS and 904L
- Special voltages
- Retrofittable PT 100 temperature sensor
- PE2/PA winding insulation for max. ambient temperature of 50 °C (Standard cooling flows)
- Special lead lengths on request



## 8" Rewindable Motors - Model Numbers 50Hz / 60Hz \*

| P <sub>N</sub><br>[kW] | U <sub>N</sub> / f         | Model Number<br>Digit 1 – 6 |         | Model Number<br>Digit 7 – 10 |      |        |      |          |        |
|------------------------|----------------------------|-----------------------------|---------|------------------------------|------|--------|------|----------|--------|
|                        |                            | [V] / [Hz]                  | DOL     | YΔ                           | 304  | 316 SS | 904L | PE2/PA** |        |
|                        |                            |                             |         |                              |      |        |      | 304      | 316 SS |
| <b>30</b>              | 380 - 415 / 50<br>460 / 60 | 263 610                     | 263 710 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 660                     | 263 780 |                              |      |        |      |          |        |
| <b>37</b>              | 380 - 415 / 50<br>460 / 60 | 263 611                     | 263 711 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 661                     | 263 781 |                              |      |        |      |          |        |
| <b>45</b>              | 380 - 415 / 50<br>460 / 60 | 263 612                     | 263 712 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 662                     | 263 782 |                              |      |        |      |          |        |
| <b>52</b>              | 380 - 415 / 50<br>460 / 60 | 263 260                     | 263 270 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 310                     | 263 360 |                              |      |        |      |          |        |
| <b>55</b>              | 380 - 415 / 50<br>460 / 60 | 263 613                     | 263 713 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 663                     | 263 783 |                              |      |        |      |          |        |
| <b>60</b>              | 380 - 415 / 50<br>460 / 60 | 263 261                     | 263 271 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 311                     | 263 361 |                              |      |        |      |          |        |
| <b>67</b>              | 380 - 415 / 50<br>460 / 60 | 263 262                     | 263 272 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 312                     | 263 362 |                              |      |        |      |          |        |
| <b>75</b>              | 380 - 415 / 50<br>460 / 60 | 263 614                     | 263 714 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 664                     | 263 784 |                              |      |        |      |          |        |
| <b>83</b>              | 380 - 415 / 50<br>460 / 60 | 263 263                     | 263 273 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 313                     | 263 363 |                              |      |        |      |          |        |
| <b>93</b>              | 380 - 415 / 50<br>460 / 60 | 263 615                     | 263 715 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
|                        | 380 / 60                   | 263 665                     | 263 785 |                              |      |        |      |          |        |

| P <sub>N</sub><br>[kW] | U <sub>N</sub> / f | Model Number<br>Digit 1 – 6 |         | Model Number<br>Digit 7 – 10 |      |        |      |          |        |
|------------------------|--------------------|-----------------------------|---------|------------------------------|------|--------|------|----------|--------|
|                        |                    | [V] / [Hz]                  | DOL     | YΔ                           | 304  | 316 SS | 904L | PE2/PA** |        |
|                        |                    |                             |         |                              |      |        |      | 304      | 316 SS |
| <b>30</b>              | 500/ 50            | 263 620                     | 263 790 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>37</b>              | 500/ 50            | 263 621                     | 263 791 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>45</b>              | 500/ 50            | 263 622                     | 263 792 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>52</b>              | 500/ 50            | 263 240                     | 263 340 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>55</b>              | 500/ 50            | 263 623                     | 263 793 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>60</b>              | 500/ 50            | 263 241                     | 263 341 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>67</b>              | 500/ 50            | 263 242                     | 263 342 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>75</b>              | 500/ 50            | 263 624                     | 263 794 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>83</b>              | 500/ 50            | 263 243                     | 263 343 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |
| <b>93</b>              | 500/ 50            | 263 625                     | 263 795 | 5111                         | 6111 | 7111   | 5311 | 6311     | 7311   |

\* VFD operation is only allowed up to 460V supply voltage, for higher voltages please consult Franklin Electric Europa GmbH

\*\* For VFD Operation is PE2/PA mandatory!

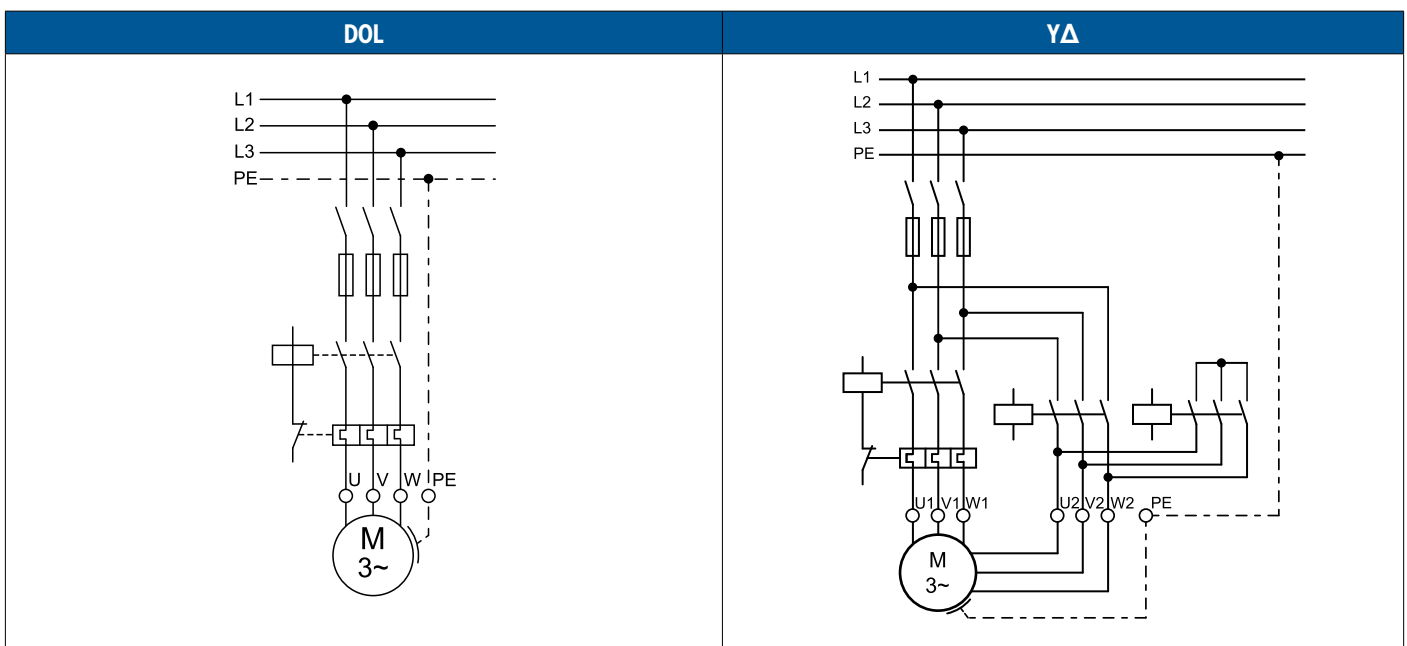
**8" Rewindable Motors - Performance Data 50Hz**

| P <sub>N</sub><br>[kW] | Thrust<br>F[N] | U <sub>N</sub><br>[V] | n <sub>N</sub><br>[min <sup>-1</sup> ] | I <sub>N</sub><br>[A] | I <sub>A</sub><br>[A] | η (Eff.) [%]<br>at % load |      |      | cosφ (PF)<br>at % load |      |      | T <sub>N</sub><br>[Nm] | T <sub>A</sub><br>[Nm] |
|------------------------|----------------|-----------------------|--|-----------------------|-----------------------|---------------------------|------|------|------------------------|------|------|------------------------|------------------------|
|                        |                |                       |  |                       |                       | 50                        | 75   | 100  | 50                     | 75   | 100  |                        |                        |
| 30                     | 45 000         | 380                   | 2880                                   | 63                    | 300                   | 83,5                      | 84,4 | 83,1 | 0,89                   | 0,88 | 0,89 | 99                     | 126                    |
|                        |                | 400                   | 2900                                   | 60                    | 318                   | 83,6                      | 85   | 84,3 | 0,80                   | 0,86 | 0,89 | 99                     | 141                    |
|                        |                | 415                   | 2910                                   | 58                    | 332                   | 83,5                      | 85,2 | 84,9 | 0,77                   | 0,89 | 0,88 | 98                     | 151                    |
|                        |                | 500                   | 2880                                   | 48                    | 228                   | 84                        | 84   | 83   | 0,84                   | 0,88 | 0,89 |                        |                        |
| 37                     | 45 000         | 380                   | 2890                                   | 79                    | 378                   | 84,6                      | 85,3 | 83,9 | 0,80                   | 0,86 | 0,88 | 122                    | 156                    |
|                        |                | 400                   | 2900                                   | 76                    | 400                   | 83,9                      | 85,2 | 84,6 | 0,74                   | 0,82 | 0,86 | 122                    | 176                    |
|                        |                | 415                   | 2910                                   | 75                    | 412                   | 82,6                      | 84,5 | 84,3 | 0,7                    | 0,80 | 0,84 | 121                    | 190                    |
|                        |                | 500                   | 2890                                   | 60                    | 287                   | 85                        | 85   | 84   | 0,80                   | 0,86 | 0,88 |                        |                        |
| 45                     | 45 000         | 380                   | 2900                                   | 93                    | 491                   | 85,8                      | 86,4 | 85,2 | 0,79                   | 0,86 | 0,88 | 149                    | 218                    |
|                        |                | 400                   | 2910                                   | 90                    | 520                   | 85,3                      | 86,5 | 85,9 | 0,74                   | 0,82 | 0,86 | 148                    | 241                    |
|                        |                | 415                   | 2910                                   | 89                    | 541                   | 84,5                      | 86,2 | 85,8 | 0,69                   | 0,79 | 0,84 | 148                    | 263                    |
|                        |                | 500                   | 2905                                   | 73                    | 393                   | 85                        | 87   | 86   | 0,74                   | 0,82 | 0,86 |                        |                        |
|                        |                | 1000                  | 2910                                   | 35                    | 208                   | 85                        | 88   | 87   | 0,81                   | 0,87 | 0,89 |                        |                        |
| 52                     | 45 000         | 380                   | 2900                                   | 107                   | 575                   | 86,5                      | 86,7 | 85,3 | 0,81                   | 0,87 | 0,89 | 175                    | 284                    |
|                        |                | 400                   | 2910                                   | 103                   | 608                   | 86,4                      | 87,1 | 86,2 | 0,76                   | 0,84 | 0,87 | 175                    | 318                    |
|                        |                | 415                   | 2920                                   | 101                   | 633                   | 85,6                      | 87   | 86,7 | 0,71                   | 0,80 | 0,85 | 174                    | 345                    |
|                        |                | 500                   | 2915                                   | 84                    | 437                   | 87                        | 87   | 85   | 0,81                   | 0,87 | 0,85 | 170                    | 338                    |
| 55                     | 45 000         | 380                   | 2900                                   | 114                   | 624                   | 86,5                      | 86,9 | 85,7 | 0,78                   | 0,85 | 0,88 | 182                    | 301                    |
|                        |                | 400                   | 2915                                   | 110                   | 660                   | 85,9                      | 87   | 86,4 | 0,72                   | 0,82 | 0,86 | 181                    | 340                    |
|                        |                | 415                   | 2920                                   | 109                   | 688                   | 84,8                      | 86,4 | 86,2 | 0,67                   | 0,78 | 0,83 | 181                    | 366                    |
|                        |                | 500                   | 2910                                   | 88                    | 474                   | 86                        | 87   | 86   | 0,78                   | 0,85 | 0,86 |                        |                        |
|                        |                | 1000                  | 2910                                   | 45                    | 250                   | 76                        | 87   | 86   | 0,76                   | 0,83 | 0,87 | 181                    | 301                    |
| 60                     | 45 000         | 380                   | 2900                                   | 122                   | 698                   | 87,2                      | 87,6 | 86,5 | 0,81                   | 0,87 | 0,89 | 198                    | 319                    |
|                        |                | 400                   | 2910                                   | 116                   | 725                   | 86,8                      | 87,7 | 87,0 | 0,77                   | 0,84 | 0,88 | 197                    | 357                    |
|                        |                | 415                   | 2920                                   | 115                   | 768                   | 86,1                      | 87,4 | 87,1 | 0,73                   | 0,82 | 0,86 | 197                    | 387                    |
|                        |                | 500                   | 2910                                   | 93                    | 530                   | 86                        | 87   | 86   | 0,78                   | 0,85 | 0,88 |                        |                        |
|                        |                | 1000                  | 2920                                   | 46                    | 300                   | 87                        | 88   | 87   | 0,77                   | 0,84 | 0,88 |                        |                        |
| 67                     | 45 000         | 380                   | 2900                                   | 137                   | 759                   | 87,2                      | 87,6 | 86,4 | 0,79                   | 0,86 | 0,89 | 220                    | 352                    |
|                        |                | 400                   | 2910                                   | 133                   | 797                   | 86,5                      | 87,5 | 86,9 | 0,74                   | 0,82 | 0,86 | 220                    | 395                    |
|                        |                | 415                   | 2920                                   | 131                   | 828                   | 85,6                      | 87   | 86,6 | 0,69                   | 0,79 | 0,84 | 219                    | 427                    |
|                        |                | 500                   | 2900                                   | 104                   | 576                   | 87                        | 88   | 86   | 0,79                   | 0,86 | 0,89 | 220                    | 392                    |
|                        |                | 1000                  | 2910                                   | 52                    | 330                   | 87                        | 88   | 87   | 0,74                   | 0,82 | 0,86 |                        |                        |
| 75                     | 45 000         | 380                   | 2900                                   | 154                   | 892                   | 86,7                      | 87,1 | 85,9 | 0,79                   | 0,86 | 0,89 | 247                    | 419                    |
|                        |                | 400                   | 2910                                   | 148                   | 942                   | 86,2                      | 87,3 | 86,7 | 0,74                   | 0,83 | 0,87 | 246                    | 472                    |
|                        |                | 415                   | 2920                                   | 147                   | 982                   | 85,4                      | 86,9 | 86,6 | 0,69                   | 0,79 | 0,84 | 245                    | 510                    |
|                        |                | 500                   | 2910                                   | 118                   | 678                   | 87                        | 87   | 86   | 0,79                   | 0,86 | 0,86 | 246                    | 472                    |
|                        |                | 1000                  | 2910                                   | 60                    | 377                   | 74                        | 83   | 87   | 0,86                   | 0,87 | 0,87 | 246                    | 472                    |
| 83                     | 45 000         | 380                   | 2910                                   | 166                   | 1019                  | 87,8                      | 88,3 | 87,2 | 0,81                   | 0,87 | 0,90 | 275                    | 483                    |
|                        |                | 400                   | 2920                                   | 160                   | 1077                  | 87,5                      | 88,4 | 87,6 | 0,77                   | 0,84 | 0,88 | 273                    | 544                    |
|                        |                | 415                   | 2925                                   | 156                   | 1120                  | 87,2                      | 88,4 | 88,0 | 0,73                   | 0,82 | 0,86 | 273                    | 586                    |
|                        |                | 500                   | 2915                                   | 128                   | 775                   | 88                        | 88   | 87   | 0,81                   | 0,87 | 0,88 |                        |                        |
| 93                     | 45 000         | 380                   | 2910                                   | 188                   | 1186                  | 87,8                      | 88,4 | 87,5 | 0,77                   | 0,85 | 0,88 | 306                    | 557                    |
|                        |                | 400                   | 2920                                   | 183                   | 1276                  | 87,2                      | 88,3 | 87,8 | 0,71                   | 0,81 | 0,86 | 305                    | 626                    |
|                        |                | 415                   | 2930                                   | 184                   | 1308                  | 86,2                      | 87,8 | 87,7 | 0,65                   | 0,76 | 0,83 | 305                    | 676                    |
|                        |                | 500                   | 2910                                   | 144                   | 902                   | 88                        | 88   | 87   | 0,77                   | 0,85 | 0,87 |                        |                        |
|                        |                | 1000                  | 2920                                   | 73,7                  | 508                   | 87                        | 88   | 88   | 0,72                   | 0,80 | 0,85 | 304                    | 622                    |

## 8" Rewindable Motors - Performance Data 60Hz

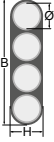

| P <sub>N</sub><br>[Kw] | P <sub>max</sub><br>[Kw] | Thrust<br>F [N] | U <sub>N</sub><br>[V] | n <sub>max</sub><br>[min <sup>-1</sup> ] | I <sub>max</sub><br>[A] | I <sub>A</sub><br>[A] | η <sub>max</sub> (Eff.) [%]<br>at % load |      |        | cos φ <sub>max</sub> (Pf.)<br>at % load |      |      | T <sub>max</sub><br>[Nm] | T <sub>A</sub><br>[Nm] |
|------------------------|--------------------------|-----------------|-----------------------|--|-------------------------|-----------------------|--|------|--------|---|------|------|--------------------------|------------------------|
|                        |                          |                 |                       |  |                         |                       | 50                                       | 75   | 100    | 50                                      | 75   | 100  |                          |                        |
|                        |                          |                 |                       |  |                         |                       | 30                                       | 34,5 | 45 000 | 380                                     | 3500 | 74   |                          |                        |
| 460                    | 3490                     | 61              | 324                   | 81,5                                     | 83,6                    | 83,5                  | 0,82                                     |      |        | 0,87                                    | 0,89 | 99   | 130                      |                        |
| 37                     | 42,6                     | 45 000          | 380                   | 3510                                     | 92                      | 514                   | 83,0                                     | 85,2 | 85,4   | 0,72                                    | 0,81 | 0,85 | 122                      | 178                    |
|                        |                          |                 | 460                   | 3490                                     | 75                      | 407                   | 83,8                                     | 85,3 | 84,8   | 0,77                                    | 0,84 | 0,87 | 123                      | 162                    |
| 45                     | 51,8                     | 45 000          | 380                   | 3500                                     | 108                     | 660                   | 83,6                                     | 85,7 | 85,8   | 0,73                                    | 0,81 | 0,86 | 149                      | 240                    |
|                        |                          |                 | 460                   | 3500                                     | 89                      | 524                   | 85,0                                     | 86,6 | 86,3   | 0,77                                    | 0,84 | 0,87 | 149                      | 221                    |
| 52                     | 59,5                     | 45 000          | 380                   | 3510                                     | 125                     | 765                   | 85,4                                     | 87,0 | 86,9   | 0,75                                    | 0,83 | 0,87 | 175                      | 300                    |
|                        |                          |                 | 460                   | 3505                                     | 102                     | 606                   | 85,0                                     | 86,6 | 86,2   | 0,79                                    | 0,86 | 0,88 | 175                      | 276                    |
| 55                     | 63                       | 45 000          | 380                   | 3510                                     | 132                     | 842                   | 84,4                                     | 86,5 | 86,5   | 0,71                                    | 0,80 | 0,87 | 182                      | 321                    |
|                        |                          |                 | 460                   | 3510                                     | 109                     | 657                   | 85,8                                     | 87,1 | 86,7   | 0,77                                    | 0,84 | 0,87 | 181                      | 287                    |
| 60                     | 69                       | 45 000          | 380                   | 3510                                     | 141                     | 931                   | 86,2                                     | 87,7 | 87,7   | 0,77                                    | 0,84 | 0,87 | 198                      | 362                    |
|                        |                          |                 | 460                   | 3510                                     | 116                     | 734                   | 85,4                                     | 86,9 | 86,7   | 0,80                                    | 0,86 | 0,88 | 198                      | 332                    |
| 67                     | 77                       | 45 000          | 380                   | 3520                                     | 142                     | 1037                  | 84,4                                     | 86,4 | 86,7   | 0,73                                    | 0,82 | 0,84 | 220                      | 396                    |
|                        |                          |                 | 460                   | 3510                                     | 131                     | 803                   | 85,7                                     | 87,2 | 86,9   | 0,77                                    | 0,85 | 0,87 | 220                      | 366                    |
| 75                     | 86                       | 45 000          | 380                   | 3510                                     | 175                     | 1143                  | 86,3                                     | 87,8 | 87,4   | 0,77                                    | 0,85 | 0,88 | 247                      | 427                    |
|                        |                          |                 | 460                   | 3510                                     | 145                     | 947                   | 86,3                                     | 87,8 | 87,4   | 0,77                                    | 0,85 | 0,88 | 247                      | 427                    |
| 83                     | 95                       | 45 000          | 380                   | 3510                                     | 191                     | 1377                  | 86,0                                     | 88,0 | 88,0   | 0,75                                    | 0,83 | 0,89 | 274                      | 532                    |
|                        |                          |                 | 460                   | 3510                                     | 158                     | 1090                  | 86,5                                     | 87,9 | 87,7   | 0,80                                    | 0,86 | 0,89 | 275                      | 489                    |
| 93                     | 107                      | 45 000          | 380                   | 3510                                     | 218                     | 1586                  | 88,0                                     | 88,6 | 88,4   | 0,77                                    | 0,83 | 0,87 | 306                      | 613                    |
|                        |                          |                 | 460                   | 3510                                     | 180                     | 1256                  | 86,7                                     | 88,3 | 88,3   | 0,76                                    | 0,83 | 0,87 | 306                      | 561                    |



## Electrical Connection




| U     | V    | W     | PE           |
|-------|------|-------|--------------|
| brown | grey | black | yellow/green |

### 8" Rewindable Motors - Motor Leads

| DOL   |                |                                   |               |      |                |      |                |                                       |                                    |
|---|----------------|-----------------------------------|---------------|------|----------------|------|----------------|---------------------------------------|------------------------------------|
| Lead  | $P_N$<br>[kW]  | $\emptyset$<br>(mm <sup>2</sup> ) | B / H<br>(mm) |      | Lengths<br>(m) | Qty. | Lead Mod.- Nr. | Lead seal Kit<br>304/316<br>Mod.- Nr. | Lead seal Kit<br>904L<br>Mod.- Nr. |
|  | 30 - 45        | 4G10                              | B             | 30,0 | 6              | 1    | 308 710 107    | 308 660 612                           | 308 660 619                        |
|   |                |                                   | H             | 10,5 |                |      |                |                                       |                                    |
|   | 52 - 93        | 4G16                              | B             | 38,0 | 6              | 1    | 308 710 108    | 308 660 618                           | 308 660 620                        |
|   |                |                                   | H             | 12,8 |                |      |                |                                       |                                    |
|  | 93<br>(PE2/PA) | 3X25                              | B             | 37,5 | 6              | 1    | 308 710 109    | 308 660 613                           | 308 660 621                        |
|   |                |                                   | H             | 16,0 |                |      |                |                                       |                                    |

| YΔ  |               |                                   |               |      |                |             |                |                                       |                                    |
|---|---------------|-----------------------------------|---------------|------|----------------|-------------|----------------|---------------------------------------|------------------------------------|
| Lead  | $P_N$<br>[kW] | $\emptyset$<br>(mm <sup>2</sup> ) | B / H<br>(mm) |      | Lengths<br>(m) | Qty.        | Lead Mod.- Nr. | Lead seal Kit<br>304/316<br>Mod.- Nr. | Lead seal Kit<br>904L<br>Mod.- Nr. |
|   | 30 - 60       | 3X6                               | B             | 19,5 | 6              | 1           | 308 710 110    | 308 660 614                           | 308 660 622                        |
|   |               |                                   | H             | 9,5  |                |             |                |                                       |                                    |
|   |               | 4G6                               | B             | 25,0 |                | 1           |                |                                       |                                    |
|   |               |                                   | H             | 9,0  |                |             |                |                                       |                                    |
|  | 65 - 83       | 3X10                              | B             | 24,5 | 6              | 1           | 308 710 111    | 308 660 615                           | 308 660 623                        |
|   |               |                                   | H             | 11,5 |                |             |                |                                       |                                    |
|   |               | 4G10                              | B             | 30,0 |                | 1           |                |                                       |                                    |
|   |               |                                   | H             | 10,5 |                |             |                |                                       |                                    |
| 93  | 3X16          | B                                 | 30,3          | 6    | 1              | 308 710 112 | 308 660 616    | 308 660 624                           |                                    |
|   |               | H                                 | 13,2          |      |                |             |                |                                       |                                    |
|   |               | 4G16                              | B             |      | 38,0           |             |                |                                       | 1                                  |
|   |               |                                   | H             |      | 12,8           |             |                |                                       |                                    |

For PE2/PA engines additionally the special Tape 700 541 688 is absolutely necessary

| Ground lead*<br>(optional)  | $P_N$<br>[kW]      | $\emptyset$<br>(mm <sup>2</sup> ) | D<br>(mm) | Lengths<br>(m) | Qty. | Mod.-Nr.    |
|---|--------------------|-----------------------------------|-----------|----------------|------|-------------|
|  | <b>all ratings</b> | 1G25                              | 13,0      | 8              | 1    | 308 053 080 |

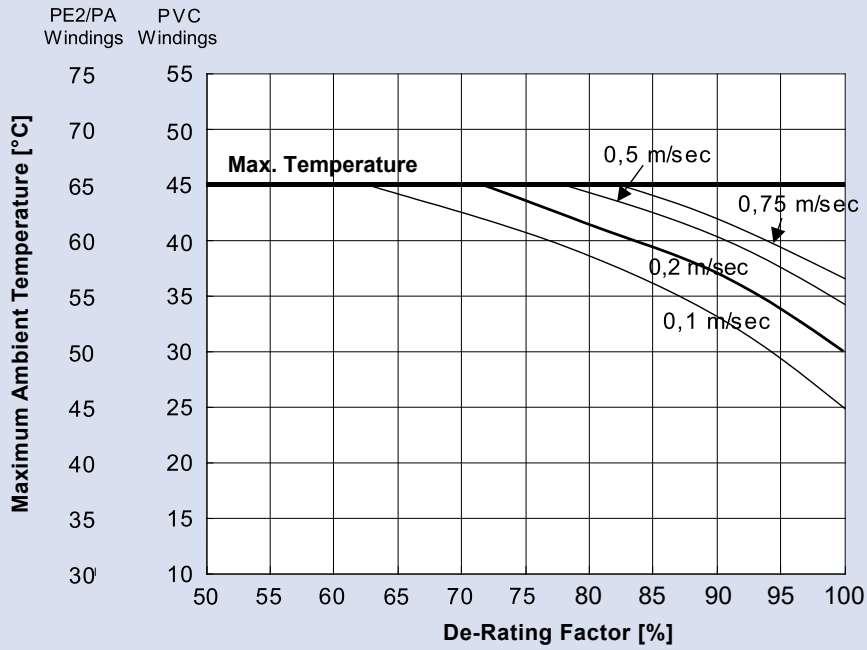
\*only for 304SS and 316SS Motors

| Lead opening seal kit | 30 - 93 kW DOL / YΔ | Mod.- Nr.: | 304/316 | 308 660 617 |
|-----------------------|---------------------|------------|---------|-------------|
|                       |                     |            | 904L    | 308 660 625 |

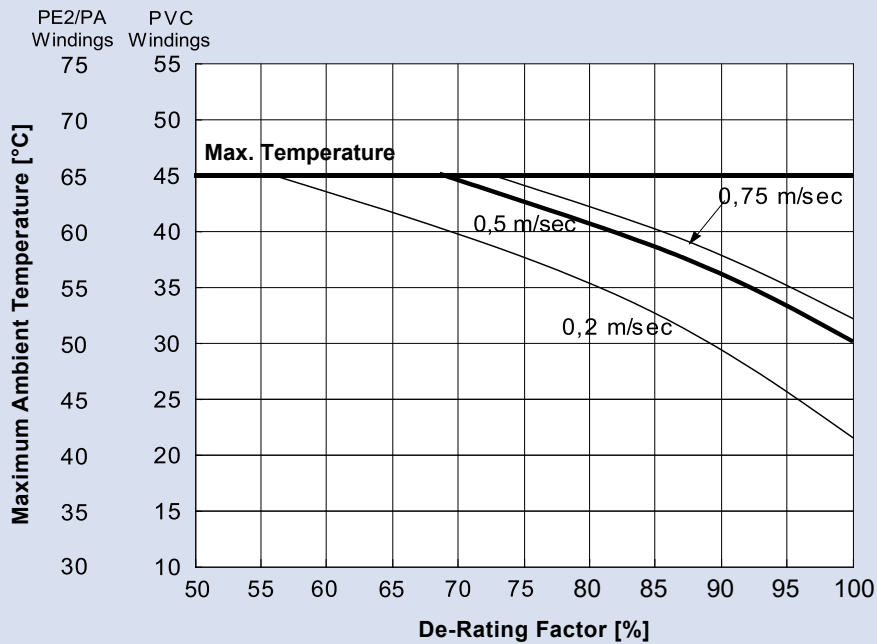
Cables are designed for submerged operation. For air operation please consult Franklin Electric.

## 8" Rewindable De-Rating Curves

### De-Rating of 8" Rewindable Motors 30 - 52 kW



### De-Rating of 8" Rewindable Motors 55 - 93 kW



**If these conditions are not met please contact Franklin Electric !**

**PVC Insulation Windings (380 – 415 V / 50 Hz)**

| P <sub>N</sub> [kW] | Mod.-No. Winding kits | Turns per coil | Wire diameter [mm] | Type of Isolation | Group connection | Total Wire length [m] | Resistance coil [Ω] | Resistance YD (U1-U2) [Ω] | Resistance DoI (U1-V1) [Ω] |
|---------------------|-----------------------|----------------|--------------------|-------------------|------------------|-----------------------|---------------------|---------------------------|----------------------------|
| 30                  | 326 349 999           | 9+10+9+10      | 2,2 / 3,1          | PVC               | Series           | 450,00                | 0,2640              | 0,5400                    | 0,3700                     |
| 37                  | 326 101 999           | 17+17+17+17    | 1,6 / 2,4          | PVC               | Parallel         | 630,00                | 0,8930              | 0,4750                    | 0,3110                     |
| 45                  | 326 110 999           | 14+14+14+14    | 1,8 / 2,6          | PVC               | Parallel         | 582,48                | 0,6545              | 0,3480                    | 0,2350                     |
| 52                  | 326 120 999           | 12+12+12+12    | 1,9 / 2,7          | PVC               | Parallel         | 655,00                | 0,5695              | 0,3130                    | 0,1900                     |
| 55                  | 326 119 999           | 11+12+11+12    | 2,0 / 2,9          | PVC               | Parallel         | 542,40                | 0,4925              | 0,2720                    | 0,1730                     |
| 60                  | 326 129 999           | 10+10+10+10    | 2,2 / 3,1          | PVC               | Parallel         | 536,40                | 0,4024              | 0,2170                    | 0,1430                     |
| 67                  | 326 128 999           | 9+10+9+10      | 2,2 / 3,1          | PVC               | Parallel         | 510,48                | 0,3823              | 0,2090                    | 0,1390                     |
| 75                  | 326 135 999           | 8+9+8+9        | 1,6 / 2,4 2DR.II   | PVC               | Parallel         | 990,72                | 0,3503              | 0,1930                    | 0,1240                     |
| 83                  | 326 142 999           | 7+8+7+8        | 1,7 / 2,5 2DR.II   | PVC               | Parallel         | 1008,00               | 0,3159              | 0,1670                    | 0,1053                     |
| 93                  | 326 141 999           | 7+7+7+7        | 1,8 / 2,6 2DR.II   | PVC               | Parallel         | 943,20                | 0,2630              | 0,1400                    | 0,0940                     |

**PE2/PA Insulation Windings (380 – 415 V / 50 Hz)**

| P <sub>N</sub> [kW] | Mod.-No. Winding kits | Turns per coil | Wire diameter [mm] | Type of Isolation | Group connection | Total Wire length [m] | Resistance coil [Ω] | Resistance YD (U1-U2) [Ω] | Resistance DoI (U1-V1) [Ω] |
|---------------------|-----------------------|----------------|--------------------|-------------------|------------------|-----------------------|---------------------|---------------------------|----------------------------|
| 30                  | 326 514 999           | 9+10+9+10      | 2,0 / 3,1          | PE2/PA            | Series           | 360                   | 0,3212              | 0,6424                    | 0,4282                     |
| 37                  | 326 239 999           | 8+9+8+9        | 2,0 / 3,1          | PE2/PA            | Series           | 315                   | 0,2874              | 0,5748                    | 0,3832                     |
| 45                  | 326 248 999           | 14+14+14+14    | 1,6 / 2,6          | PE2/PA            | Parallel         | 582                   | 0,8283              | 0,4141                    | 0,2761                     |
| 52                  | 326 259 999           | 12+12+12+12    | 1,7 / 2,7          | PE2/PA            | Parallel         | 565                   | 0,7113              | 0,3556                    | 0,2371                     |
| 55                  | 326 258 999           | 11+12+11+12    | 1,9 / 2,9          | PE2/PA            | Parallel         | 542                   | 0,5457              | 0,2728                    | 0,1819                     |
| 60                  | 326 269 999           | 10+10+10+10    | 2,0 / 3,1          | PE2/PA            | Parallel         | 536                   | 0,4868              | 0,2434                    | 0,1622                     |
| 67                  | 326 268 999           | 9+10+9+10      | 2,0 / 3,1          | PE2/PA            | Parallel         | 510                   | 0,4625              | 0,2312                    | 0,1541                     |
| 75                  | 326 275 999           | 8+9+8+9        | 2,0 / 3,1          | PE2/PA            | Parallel         | 495                   | 0,4483              | 0,2241                    | 0,1494                     |
| 83                  | 326 283 999           | 7+8+7+8        | 1,5 / 2,5 2DR.II   | PE2/PA            | Parallel         | 1008                  | 0,4057              | 0,2028                    | 0,1352                     |
| 93                  | 326 282 999           | 7+7+7+7        | 1,6 / 2,6 2DR.II   | PE2/PA            | Parallel         | 943                   | 0,3328              | 0,1664                    | 0,1109                     |

**PE2/PA Insulation Windings (500 V / 50 Hz)**

| P <sub>N</sub> [kW] | Mod.-No. Winding kits | Turns per coil | Wire diameter [mm] | Type of Isolation | Group connection | Total Wire length [m] | Resistance coil [Ω] |
|---------------------|-----------------------|----------------|--------------------|-------------------|------------------|-----------------------|---------------------|
| 37                  | 326 240 999           | 10+11+10+11    | 1,9 / 2,7 / 2,9    | PE2/PA            | Series           | 387                   | 0,3934              |
| 45                  | 326 250 999           | 9+9+9+9        | 2,0 / 2,9 / 3,1    | PE2/PA            | Series           | 371                   | 0,3408              |
| 55                  | 326 260 999           | 14+15+14+15    | 1,6 / 2,4 / 2,6    | PE2/PA            | Parallel         | 679                   | 0,9703              |
| 67                  | 326 270 999           | 12+12+12+12    | 1,7 / 2,5 / 2,7    | PE2/PA            | Parallel         | 640                   | 0,8087              |
| 75                  | 326 277 999           | 10+11+10+11    | 1,9 / 2,7 / 2,9    | PE2/PA            | Parallel         | 607                   | 0,6137              |
| 93                  | 326 284 999           | 9+9+9+9        | 2,0 / 2,9 / 3,1    | PE2/PA            | Parallel         | 601                   | 0,5478              |

**PE2/PA Insulation Windings (380 V / 60 Hz)**

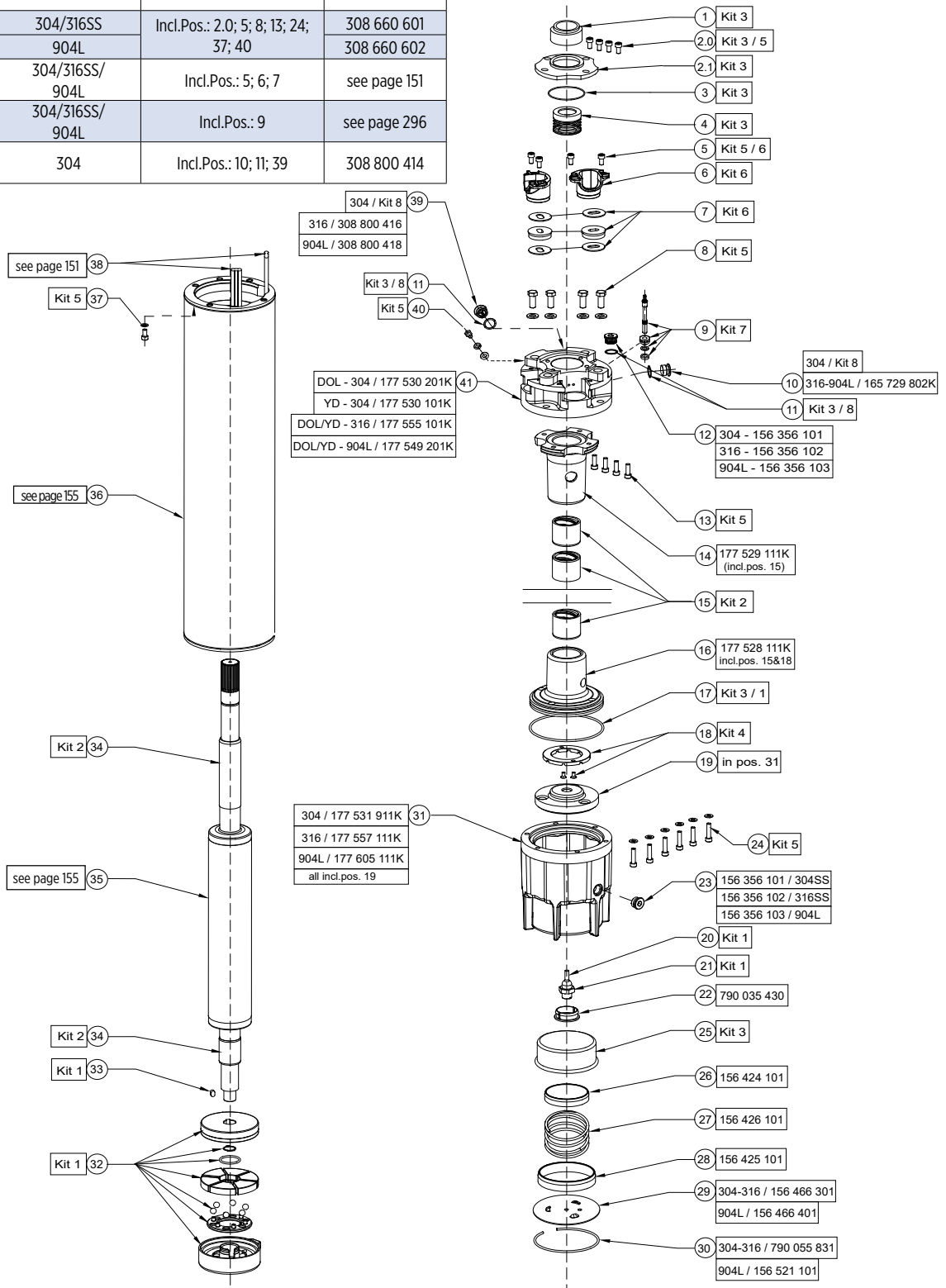
| P <sub>N</sub> [kW] | Mod.-No. Winding kits | Turns per coil | Wire diameter [mm] | Type of Isolation | Group connection | Total Wire length [m] | Resistance coil [Ω] |
|---------------------|-----------------------|----------------|--------------------|-------------------|------------------|-----------------------|---------------------|
| 37                  | 326 237 999           | 13+14+13+14    | 1,7 / 2,5 / 2,7    | PE2/PA            | Parallel         | 504                   | 0,6318              |
| 45                  | 326 246 999           | 11+11+11+11    | 1,9 / 2,7 / 2,9    | PE2/PA            | Parallel         | 461                   | 0,4616              |
| 52                  | 326 585 999           | 9+10+9+10      | 2,0 / 2,9 / 3,1    | PE2/PA            | Parallel         | 451                   | 0,4125              |
| 55                  | 326 256 999           | 9+9+9+9        | 2,0 / 2,9 / 3,1    | PE2/PA            | Parallel         | 428                   | 0,3855              |
| 60                  | 326 586 999           | 8+8+8+8        | 1,5 / 2,3 / 2,5    | PE2/PA            | Parallel         | 865                   | 0,3473              |
| 67                  | 326 266 999           | 7+8+7+8        | 1,5 / 2,3 / 2,5    | PE2/PA            | Parallel         | 813                   | 0,3246              |
| 75                  | 326 273 999           | 6+7+6+7        | 1,7 / 2,5 / 2,7    | PE2/PA            | Parallel         | 766                   | 0,2373              |
| 83                  | 326 153 999           | 6+6+6+6        | 1,8 / 2,6 / 2,8    | PE2/PA            | Parallel         | 994                   | 0,2240              |
| 93                  | 326 280 999           | 5+6+5+6        | 1,9 / 2,7 / 2,9    | PE2/PA            | Parallel         | 748                   | 0,1854              |

**Insulation resistance (20°C / 500 VDC)**

|                               |       |    |
|-------------------------------|-------|----|
| New motor without drop cable  | 400 > | MΩ |
| Used motor without drop cable | 20 >  | MΩ |
| New motor with drop cable     | 4 >   | MΩ |
| Used motor with drop cable    | 1     | MΩ |

## 8" Rewindable Spare Parts

|                                   |                    |   |              |
|-----------------------------------|--------------------|---|--------------|
| Kit 1<br>Thrust Bearing Kit       | WW/316SS/<br>904L  | Incl.Pos.: 17; 20; 21; 32; 33           | 308 750 601  |
| Kit 2<br>Radial Bearing Kit       | 304/316SS/<br>904L | Incl.Pos.: 15; 34                       | 308 751 601  |
| Kit 3<br>Seal Kit                 | 304/316SS          | Incl.Pos.: 1 - 4; 11; 17; 25            | 308 800 603  |
|                                   | 904L               |   | 308 800 604  |
| Kit 4<br>Up-Thrust<br>Bearing Kit | 304/316SS/<br>904L | Incl.Pos.: 18                           | 308 751 602  |
| Kit 5<br>Screw Kit                | 304/316SS          | Incl.Pos.: 2.0; 5; 8; 13; 24;<br>37; 40 | 308 660 601  |
|                                   | 904L               |   | 308 660 602  |
| Kit 6<br>Lead Seal Kit            | 304/316SS/<br>904L | Incl.Pos.: 5; 6; 7                      | see page 151 |
| Kit 7<br>PT100 Kit                | 304/316SS/<br>904L | Incl.Pos.: 9                            | see page 296 |
| Kit 8<br>Valve Kit                | 304                | Incl.Pos.: 10; 11; 39                   | 308 800 414  |





**304 / 316SS Stator and Rotor Model Number (380 - 415/ 460 Volts - 50 / 60Hz)**

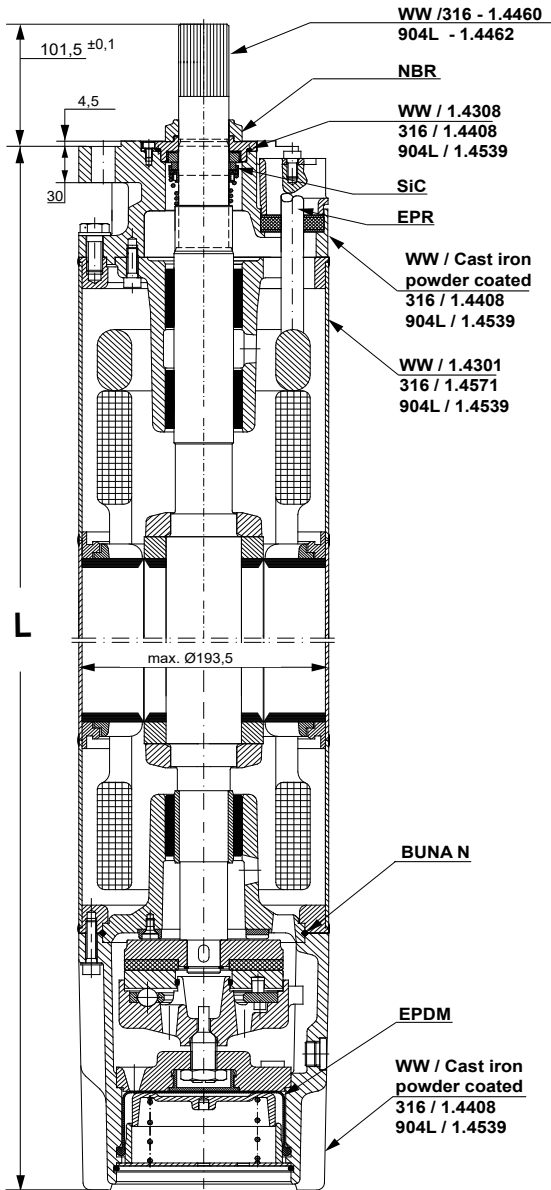
| P <sub>N</sub><br>[kW] | Stator<br>(incl. winding and 6m motor lead) |               |             |              | Rotor        |
|------------------------|---|---------------|-------------|--------------|--------------|
|                        | DOL<br>PVC                                  | DOL<br>PE2/PA | YΔ<br>PVC   | YΔ<br>PE2/PA |              |
| <b>30</b>              | 326 349 931                                 | 326 514 931   | 326 349 981 | 326 514 981  | 161 580 801K |
| <b>37</b>              | 326 101 931                                 | 326 239 931   | 326 101 981 | 326 239 981  | 161 580 801K |
| <b>45</b>              | 326 110 931                                 | 326 248 931   | 326 110 981 | 326 248 981  | 161 580 802K |
| <b>52</b>              | 326 120 931                                 | 326 259 931   | 326 120 981 | 326 259 981  | 161 580 803K |
| <b>55</b>              | 326 119 931                                 | 326 258 931   | 326 119 981 | 326 258 981  | 161 580 803K |
| <b>60</b>              | 326 129 931                                 | 326 269 931   | 326 129 981 | 326 269 981  | 161 580 804K |
| <b>67</b>              | 326 128 931                                 | 326 268 931   | 326 128 981 | 326 268 981  | 161 580 804K |
| <b>75</b>              | 326 135 931                                 | 326 275 931   | 326 135 981 | 326 275 981  | 161 580 805K |
| <b>83</b>              | 326 142 931                                 | 326 283 931   | 326 142 981 | 326 283 981  | 161 580 806K |
| <b>93</b>              | 326 141 931                                 | 326 282 931   | 326 141 981 | 326 282 981  | 161 580 806K |

**904L Stator and Rotor Model Number (380 - 415/ 460 Volts - 50 / 60Hz)**

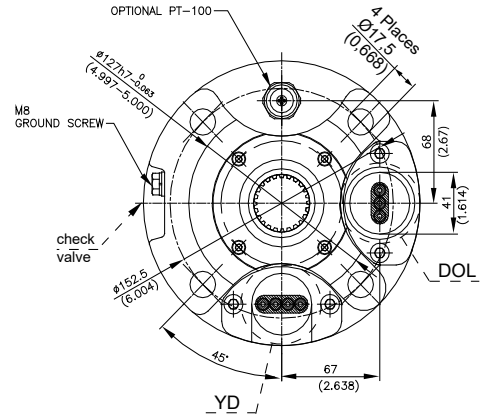
| P <sub>N</sub><br>[kW] | Stator<br>(incl. winding and 6m motor lead) |               |             |              | Rotor        |
|------------------------|---|---------------|-------------|--------------|--------------|
|                        | DOL<br>PVC                                  | DOL<br>PE2/PA | YΔ<br>PVC   | YΔ<br>PE2/PA |              |
| <b>30</b>              | 326 349 921                                 | 326 514 921   | 326 349 971 | 326 514 971  | 161 580 811K |
| <b>37</b>              | 326 101 921                                 | 326 239 921   | 326 101 971 | 326 239 971  | 161 580 811K |
| <b>45</b>              | 326 110 921                                 | 326 248 921   | 326 110 971 | 326 248 971  | 161 580 812K |
| <b>52</b>              | 326 120 921                                 | 326 259 921   | 326 120 971 | 326 259 971  | 161 580 813K |
| <b>55</b>              | 326 119 921                                 | 326 258 921   | 326 119 971 | 326 258 971  | 161 580 813K |
| <b>60</b>              | 326 129 921                                 | 326 269 921   | 326 129 971 | 326 269 971  | 161 580 814K |
| <b>67</b>              | 326 128 921                                 | 326 268 921   | 326 128 971 | 326 268 971  | 161 580 814K |
| <b>75</b>              | 326 135 921                                 | 326 275 921   | 326 135 971 | 326 275 971  | 161 580 815K |
| <b>83</b>              | 326 142 921                                 | 326 283 921   | 326 142 971 | 326 283 971  | 161 580 816K |
| <b>93</b>              | 326 141 921                                 | 326 282 921   | 326 141 971 | 326 282 971  | 161 580 816K |

## 8" Rew Motor Design

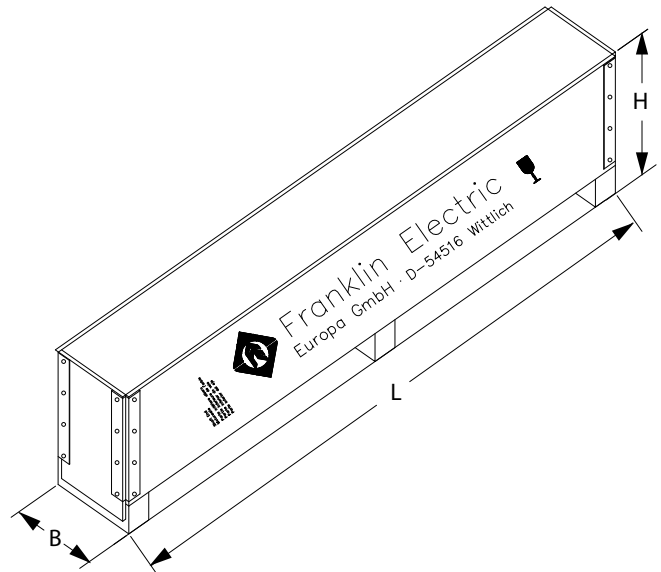
### Motor - WW/316SS/904L



### End Bell



### Motor Box



(sample Drawing)

| P <sub>N</sub><br>[kW] | Motor Lengths L [mm] | Motor Weights [kg] |                 | Motor Shipping Size [mm] |     |      |
|------------------------|----------------------|--------------------|-----------------|--------------------------|-----|------|
|                        | 304 / 316 / 904L     | 304 / 316 / 904L   | Incl. Pack [kg] | B                        | H   | L    |
| 30                     | 1140                 | 140                | 169             | 310                      | 472 | 1596 |
| 37                     | 1140                 | 140                | 169             |                          |     |      |
| 45                     | 1230                 | 156                | 185             |                          |     |      |
| 52                     | 1340                 | 179                | 208             |                          |     |      |
| 55                     | 1340                 | 179                | 208             |                          |     |      |
| 60                     | 1470                 | 198                | 235             | 310                      | 472 | 1996 |
| 67                     | 1470                 | 198                | 235             |                          |     |      |
| 75                     | 1560                 | 215                | 252             |                          |     |      |
| 83                     | 1740                 | 247                | 284             |                          |     |      |
| 93                     | 1740                 | 247                | 284             |                          |     |      |