

Energy Efficient ESP Permanent Magnet Motor

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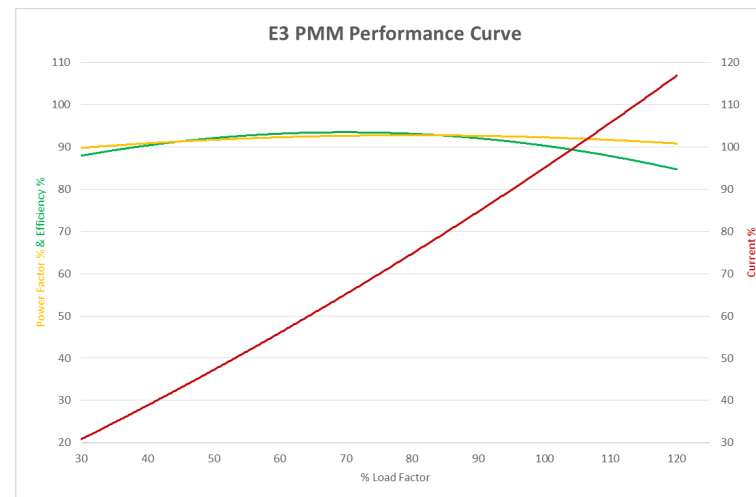
AILift designs and manufactures industry leading permanent magnet motors for use with electrical submersible pumps. Designed by an expert team with countless years of experience in the ESP industry, the E3 PMM solves many of the production challenges faced by operators while nullifying several industry misconceptions around permanent magnet technology.

Standard VSD – Lower Lifting Cost – Increased Reliability

AILift's mission is simple – deliver a robust permanent magnet motor at an economical price point that can reduce overall lifting cost to produce hydrocarbons. This objective was accomplished by creating the next generation permanent magnet motor – the E3 PMM. The E3 PMM offers similar advantages to conventional permanent magnet motors including a consistent power factor across the load curve and higher horsepower per rotor for an overall shorter motor. However, the patented E3 PMM establishes a new economic benchmark by eliminating the need for a special variable speed drive making it completely interchangeable with existing ESP surface equipment.

E3 PMM Advantages:

- Eliminate special VSD
- Reduce Power Costs
- Increase Efficiency
- Increase Power Factor
- Reduce Operating Temp
- Lower Voltage Drop
- Reduce Scale
- Handle Gas Slugs



- Lower Pump Set Depth
- Increase Production

E3 PMM Features:

- 4 Pole (120Hz = 3600RPM)
- 204C Rated
- 400 Series up to 432HP
- 500 Series up to 1000HP
- 0.92+ Power Factor
- 92+% Efficient
- Optional Corrosion Resistant
- Standard Bolt Pattern
- Any downhole gauge

| E3 PMM - 450 Series | | | | | | | | | | |
|---------------------|-----|--------|------|--------|-----|--------------------|------|------|------|------|
| Power | | Length | | Weight | | Voltage by Current | | | | |
| HP | kW | ft | m | lbs | kg | 28A | 43A | 54A | 61A | 73A |
| 48 | 36 | 5.18 | 1.68 | 183 | 83 | 969 | 671 | 521 | --- | --- |
| 72 | 54 | 6.38 | 2.07 | 243 | 110 | 1434 | 1010 | 795 | --- | --- |
| 96 | 72 | 7.58 | 2.46 | 302 | 137 | 1869 | 1331 | 1045 | --- | --- |
| 120 | 89 | 8.79 | 2.85 | 362 | 164 | 2350 | 1650 | 1301 | --- | --- |
| 144 | 107 | 9.99 | 3.24 | 421 | 191 | --- | 1924 | 1505 | --- | --- |
| 168 | 125 | 11.19 | 3.63 | 481 | 218 | --- | 2209 | 1745 | --- | --- |
| 192 | 143 | 12.36 | 4.01 | 540 | 245 | --- | 2450 | 1984 | --- | --- |
| 216 | 161 | 13.60 | 4.41 | 600 | 272 | --- | 2750 | 2236 | --- | --- |
| 240 | 179 | 14.77 | 4.79 | 659 | 299 | --- | 3050 | 2440 | --- | --- |
| 288 | 215 | 17.17 | 5.57 | 778 | 353 | --- | 2957 | 2534 | --- | --- |
| 336 | 251 | 19.58 | 6.35 | 897 | 407 | --- | --- | 3446 | 2956 | 2489 |
| 384 | 286 | 21.98 | 7.13 | 1016 | 461 | --- | --- | --- | 3370 | 2845 |
| 432 | 322 | 24.35 | 7.91 | 1135 | 515 | --- | --- | --- | --- | 3156 |

Table 1. 4 Pole Construction

204C° Rating

Standard Offering: Carbon Steel Head, Base & Housing

Corrosion Resistant: Stainless Steel Head & Base, 9Cr1Mo Housing

| E3 PMM - 562 Series | | | | | | | | | | | | |
|---------------------|-----|--------|------|--------|-----|--------------------|------|------|------|------|-------|-------|
| Power | | Length | | Weight | | Voltage by Current | | | | | | |
| HP | kW | ft | m | lbs. | kg | 41A | 50 A | 63 A | 72 A | 83 A | 105 A | 139 A |
| 100 | 75 | 4.69 | 1.52 | 287 | 130 | 1290 | 1055 | --- | --- | --- | --- | --- |
| 150 | 112 | 5.92 | 1.92 | 366 | 166 | 1933 | 1582 | --- | --- | --- | --- | --- |
| 200 | 149 | 7.15 | 2.32 | 445 | 202 | 2550 | 2087 | --- | --- | --- | --- | --- |
| 250 | 186 | 8.39 | 2.72 | 525 | 238 | --- | 2638 | 2052 | --- | --- | --- | --- |
| 300 | 224 | 9.62 | 3.12 | 604 | 274 | --- | 3165 | 2462 | --- | --- | --- | --- |
| 350 | 261 | 10.85 | 3.52 | 683 | 310 | --- | --- | 2813 | 2411 | --- | --- | --- |
| 400 | 298 | 12.08 | 3.92 | 763 | 346 | --- | --- | 3214 | 2755 | --- | --- | --- |
| 450 | 336 | 14.55 | 4.72 | 842 | 382 | --- | --- | --- | 3100 | --- | --- | --- |
| 500 | 373 | 15.75 | 5.11 | 922 | 418 | --- | --- | --- | 3440 | --- | --- | --- |
| 550 | 410 | 17.02 | 5.52 | 1001 | 454 | --- | --- | --- | --- | 3198 | --- | --- |
| 600 | 448 | 18.25 | 5.92 | 1076 | 488 | --- | --- | --- | --- | 3486 | --- | --- |
| 650 | 485 | 19.45 | 6.31 | 1151 | 522 | --- | --- | --- | --- | --- | 3020 | --- |
| 700 | 522 | 20.66 | 6.70 | 1226 | 556 | --- | --- | --- | --- | --- | 3250 | --- |
| 750 | 560 | 21.89 | 7.10 | 1301 | 590 | --- | --- | --- | --- | --- | 3488 | --- |
| 800 | 597 | 23.15 | 7.51 | 1376 | 624 | --- | --- | --- | --- | --- | 3720 | 2788 |
| 850 | 634 | 24.39 | 7.91 | 1451 | 658 | --- | --- | --- | --- | --- | --- | 2962 |
| 900 | 671 | 25.65 | 8.32 | 1526 | 692 | --- | --- | --- | --- | --- | --- | 3136 |
| 950 | 709 | 26.91 | 8.73 | 1601 | 726 | --- | --- | --- | --- | --- | --- | 3310 |
| 1000 | 746 | 28.18 | 9.14 | 1676 | 760 | --- | --- | --- | --- | --- | --- | 3485 |

Table 2. 4 Pole Construction, 204C° Rating, Standard Offering: Carbon Steel Head, Base & Housing
 Corrosion Resistant: Stainless Steel Head & Base, 9Cr1Mo Housing