



12-INCH
DEEP WELL
SUBMERSIBLE
MOTORS

RX12

4-POLE
50/60 Hz



“ Deep well electric submersible motors with compact design – silent powerhouses operating smoothly beneath the surface. Pumping from the depths, they outperform deep well turbine pumps and surface centrifugal pumps.

Say goodbye to maintenance hassles; these motors thrive submerged, ensuring a noise-free, vibration-free experience. Submerge the competition, embrace the ease! ”



DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz

RX12

RX12

12-Inch Deep Well Water Cooled Rewindable Submersible Motors

Power Range

From: 100 HP (75 kW)

To: 300 HP (223 kW)

Voltage Range

460 Volts @ 60 Hertz

415 Volts @ 50 Hertz

Speed Range

4 Poles - 1800 RPM @ 60 Hertz

4 Poles - 1500 RPM @ 50 Hertz

Construction Material

Standard: Cast Iron with NSF Certified Epoxy

Optional: Complete 316L Stainless Steel

Specification Overview

| | |
|-------------------------|----------------------------|
| Mounting Position | Vertical/Horizontal |
| Degree of Protection | IP68 |
| Insulation Class | Y* |
| Working Temperature | 122 ° F |
| Voltage Tolerance | +6% to -10% |
| Req: Cooling Flow Speed | 0.5 ~ 12 ft/sec |
| Max. Immersion Depth | 650 Feet |
| Max. Starts per Hour | 10 Nrs |

* Higher insulation class wire available





DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Key Features

The RX12 series of 12" deep well submersible electric motors are precisely engineered for optimal performance. Featuring an asynchronous three-phase rewindable stator and a squirrel cage rotor filled with water for cooling and lubrication, these motors are designed to deliver enduring efficiency. Ideal for borehole diameters of 12 inches and larger, they ensure reliable and long-lasting performance in diverse applications.

Developed through extensive market assessment and continuous customer feedback, the RX12 series of submersible electric motors addresses dynamic market demands. Key design priorities are energy efficiency and durability, achieved through the utilization of high-quality materials and precise engineering calculations. These motors embody a customer-centric approach, ensuring optimal performance and longevity in response to evolving industry needs.

The RX12 Series redefines excellence with a host of advanced features, starting with its innovative Wet Stator Design, ensuring superior cooling efficiency. Made of high-grade materials, these motors not only exhibit exceptional quality and durability but also boast a high thermal endurance capacity. This versatility extends to resisting sand intrusion, guaranteeing longevity and efficiency in diverse applications.

With high efficiency, zero-maintenance attributes, and a rewindable stator for extended service life, the RX12 Series stands as a testament to precision engineering. Backed by certifications, these motors offer a comprehensive solution that seamlessly blends durability, efficiency, and adaptability for optimal performance in diverse applications.



Applications

Due to their exceptional efficiency and dependability, these motors prove to be highly fitting for an array of applications.

These include residential and municipal water supplies, industrial cooling operations, firefighting setups, shower and irrigation systems, agriculture, drip irrigation, sprinkler systems, mining, drainage, dewatering, and many more.



Specifications

Winding: Winding comprises Electrolytic Solid Copper wire wrapped in BOPET+BOPP Insulation, designed to withstand temperatures exceeding 212°F. This innovative configuration enables lower fill factor of the stator slots. As a result, this technology facilitates superior heat dissipation by allowing better coolant contact, enabling the motor to operate at lower temperatures and attain horsepower ratings beyond the usual standards for standard frame sizes.

Stator: Rotex motors have an extended stator stack length, with stator lamination made of low-loss electrical magnetic sheet, resulting in reduced heat generation within the stator, thus ensuring cooler operational temperatures.

Rotor: Characterized by an augmented stack length, the rotor is lamination is precisely engineered and made of low-loss electrical magnetic sheet. This design is further complemented by the utilization of high-grade copper bars, ensuring optimal performance. The rotor is dynamically balanced using the latest technology.

Motor Shaft: The over-sized design of the shaft, use of superior quality stainless steel AISI 431, and special post machining process including induction hardening and precise grinding guarantee dependable performance, even in the most demanding environments. Its dimensions are designed to meet the specifications for both spline and keyway shaft types, emphasizing its exceptional compatibility and top-notch quality.

Radial Bearing / Bush: Enhancing operational efficiency in sandy well environments and facilitating effective pump vibration control, the upper and lower brackets host pairs of dual water-lubricated carbon bushes. Constructed from high-grade carbon, these bearings ensure robust performance and durability.

Thrust Bearings: Rotex motor employs an exclusively engineered and manufactured Tilting Pad Thrust Bearing. Developed and manufactured entirely in-house, these bearings undergo rigorous testing in Rotex's dedicated thrust bearing testing facility. Lubricated by water, they effectively counter the thrust load generated by the pump, ensuring optimal performance and longevity. Available with an axial load capacity up to 27000 Lbs.

Sealing System: Rotex motors feature a robust 3-layer sealing system, incorporating two outer lip seals arranged in a back-to-back configuration, complemented by an internal mechanical seal made of silicon/tungsten carbide. This strategic combination provides an unparalleled level of protection, especially in sandy well environments.

Pressure Equalizing System: Rotex motors employ a precisely dimensioned and shaped NBR bellows to adeptly manage pressure fluctuations. This specialized bellows accommodates the expansion of internal water due to temperature increases and adjusts to external pressure variations resulting from the depth of submergence.

Filler Fluid: Rotex Motors are filled with a blend of water and non-toxic antifreeze to deliver both cooling and lubrication benefits. Additionally, this mixture serves to safeguard internal components against corrosion and deterioration.

Cable and Connection: Using premium-grade PVC/XLPE sheathed copper cable for connections. Offered in both Delta and WYE (Star) configurations.



DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Technical Data - 4 Pole - Three Phase - 460V - 60 Hz

| Motor Type | Motor Size | | Thrust Load (Lbs) | RPM | Full Load Current (Azmp.) | SF Load Current (Amp.) | Starting Current (Amp.) | Cos. Φ at Full Load | Efficiency at Full Load (%) | Service Factor |
|------------|------------|-----|-------------------|------|---------------------------|------------------------|-------------------------|--------------------------|-----------------------------|----------------|
| | HP | KW | | | | | | | | |
| RX12-100-4 | 100 | 75 | 27000 | 1720 | 122.2 | 139.7 | 753.2 | 0.86 | 89.4 | 1.15 |
| RX12-125-4 | 125 | 93 | 27000 | 1720 | 152.4 | 174.8 | 946.5 | 0.86 | 89.3 | 1.15 |
| RX12-150-4 | 150 | 112 | 27000 | 1725 | 185.5 | 210.9 | 1169.7 | 0.84 | 89.7 | 1.15 |
| RX12-175-4 | 175 | 130 | 27000 | 1725 | 214.9 | 246.0 | 1378.6 | 0.85 | 90.0 | 1.15 |
| RX12-200-4 | 200 | 150 | 27000 | 1720 | 242.5 | 278.3 | 1603.0 | 0.86 | 90.1 | 1.15 |
| RX12-225-4 | 225 | 168 | 27000 | 1720 | 273.1 | 312.6 | 1763.1 | 0.86 | 89.9 | 1.15 |
| RX12-250-4 | 250 | 186 | 27000 | 1725 | 304.6 | 347.5 | 1980.8 | 0.86 | 89.8 | 1.15 |
| RX12-270-4 | 270 | 201 | 27000 | 1730 | 340.9 | 390.2 | 2261.4 | 0.82 | 90.7 | 1.15 |
| RX12-300-4 | 300 | 223 | 27000 | 1725 | 372.2 | 424.4 | 2485.1 | 0.84 | 90.2 | 1.15 |

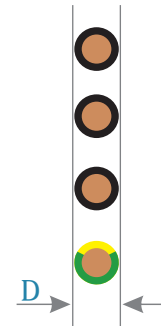
Technical Data - 4 Pole - Three Phase - 415V - 50 Hz

| Motor Type | Motor Size | | Thrust Load (Lbs) | RPM | Full Load Current (Azmp.) | SF Load Current (Amp.) | Starting Current (Amp.) | Cos. Φ at Full Load | Efficiency at Full Load (%) | Service Factor |
|------------|------------|-----|-------------------|------|---------------------------|------------------------|-------------------------|--------------------------|-----------------------------|----------------|
| | HP | KW | | | | | | | | |
| RX12-100-4 | 100 | 75 | 27000 | 1440 | 143.3 | | 787.9 | 0.82 | 88.2 | 1 |
| RX12-125-4 | 125 | 93 | 27000 | 1430 | 172.2 | | 981.5 | 0.85 | 88.4 | 1 |
| RX12-150-4 | 150 | 112 | 27000 | 1425 | 205.2 | | 1210.6 | 0.86 | 88.1 | 1 |
| RX12-175-4 | 175 | 130 | 27000 | 1435 | 243.9 | | 1439.1 | 0.84 | 88.4 | 1 |
| RX12-200-4 | 200 | 150 | 27000 | 1430 | 278.7 | | 1672.2 | 0.84 | 88.9 | 1 |
| RX12-225-4 | 225 | 168 | 27000 | 1415 | 303.8 | | 1823.0 | 0.87 | 88.1 | 1 |
| RX12-250-4 | 250 | 186 | 27000 | 1420 | 339.9 | | 2039.3 | 0.87 | 88.1 | 1 |

Motor Leads Size & Dimensions

4 Pole, Three Phase, 460 Volt - 60 Hz / 415 Volt - 50 Hz

| Connection Type | Motor Size | | Lead Size Nos. x Cross Section (mm ²) | Diameter D (inch) | Cable Length (Feet) | Qty (Nr.) |
|-----------------|------------|-----------|---|-------------------|---------------------|-----------|
| | HP | KW | | | | |
| DOL | 100 | 75 | 1 x 25 | 0.46 | 16 | 3 |
| | 125 - 150 | 93 - 112 | 1 x 35 | 0.50 | 16 | 3 |
| | 175 - 225 | 130 - 168 | 1 x 70 | 0.68 | 16 | 3 |
| | 250 - 300 | 186 - 223 | 1 x 90 | | 16 | 3 |
| SD | 100 - 125 | 75 - 93 | 1 x 16 | 0.41 | 16 | 6 |
| | 150 - 200 | 112 - 150 | 1 x 35 | 0.50 | 16 | 6 |
| | 225 - 300 | 168 - 223 | 1 x 50 | | 16 | 6 |



Additional core 1 x 10 mm² 16 feet for earthing.



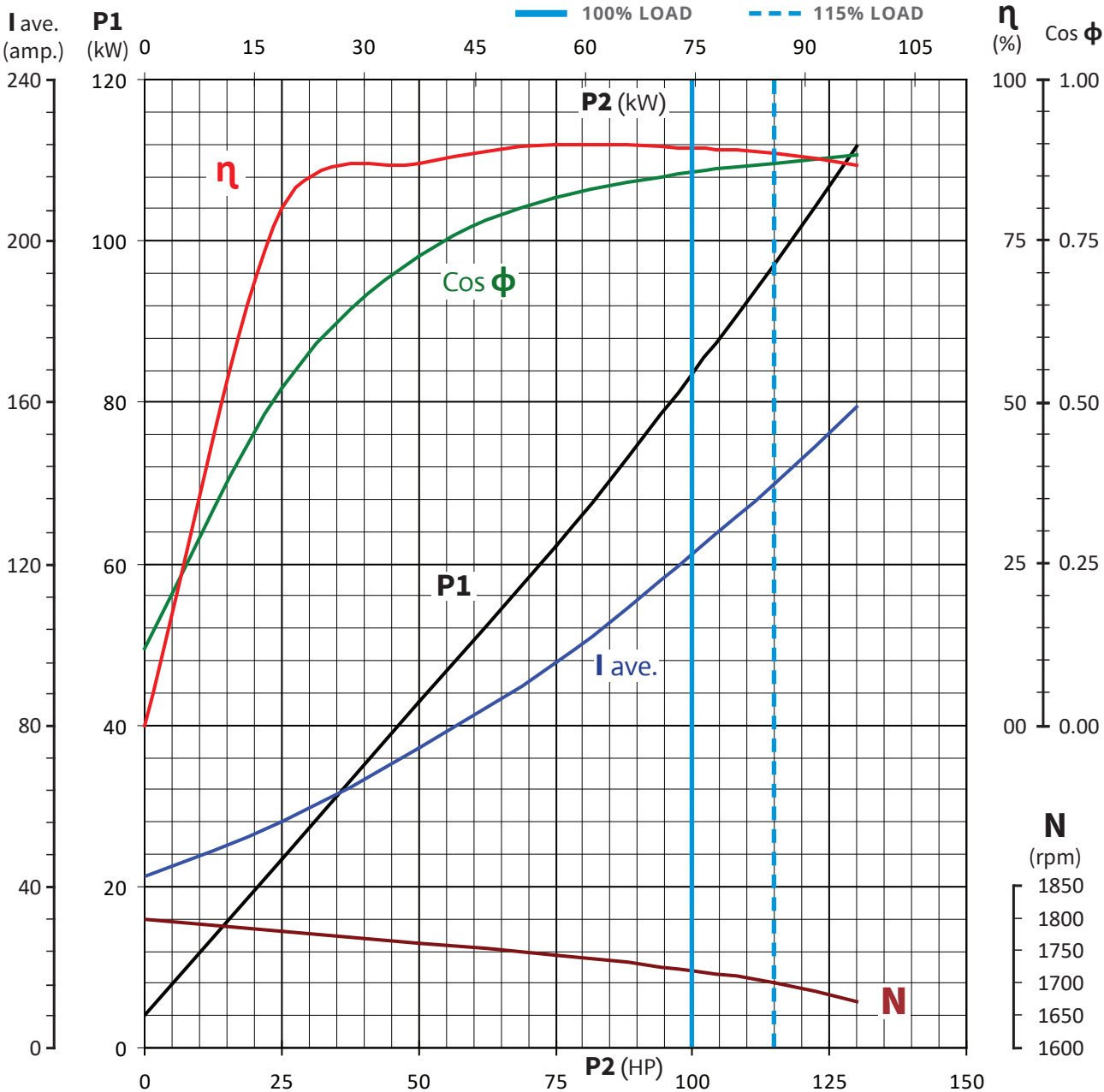
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-100-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 25.0 | 50.0 | 75.0 | 100.0 | 115.0 | 130.0 | Motor Size (HP) | 100 |
| P2 (kW) | 0.0 | 18.7 | 37.3 | 56.0 | 74.6 | 85.8 | 97.0 | Motor Size (kW) | 75 |
| P1 (kW) | 4.0 | 23.3 | 42.9 | 62.3 | 83.4 | 97.0 | 111.7 | Voltage (V) | 460 |
| Current (Amp) | 42.7 | 56.2 | 74.2 | 95.6 | 122.2 | 139.7 | 158.8 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 80.0 | 86.9 | 89.8 | 89.4 | 88.5 | 86.8 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.118 | 0.521 | 0.726 | 0.818 | 0.857 | 0.871 | 0.883 | | |
| Speed (RPM) | 1799 | 1782 | 1762 | 1743 | 1720 | 1701 | 1672 | | |
| Torque (Nm) | 0.0 | 100.0 | 202.1 | 306.6 | 414.1 | 481.6 | 553.8 | | |

Tolerances according to IEC 60034-1, Table-20.





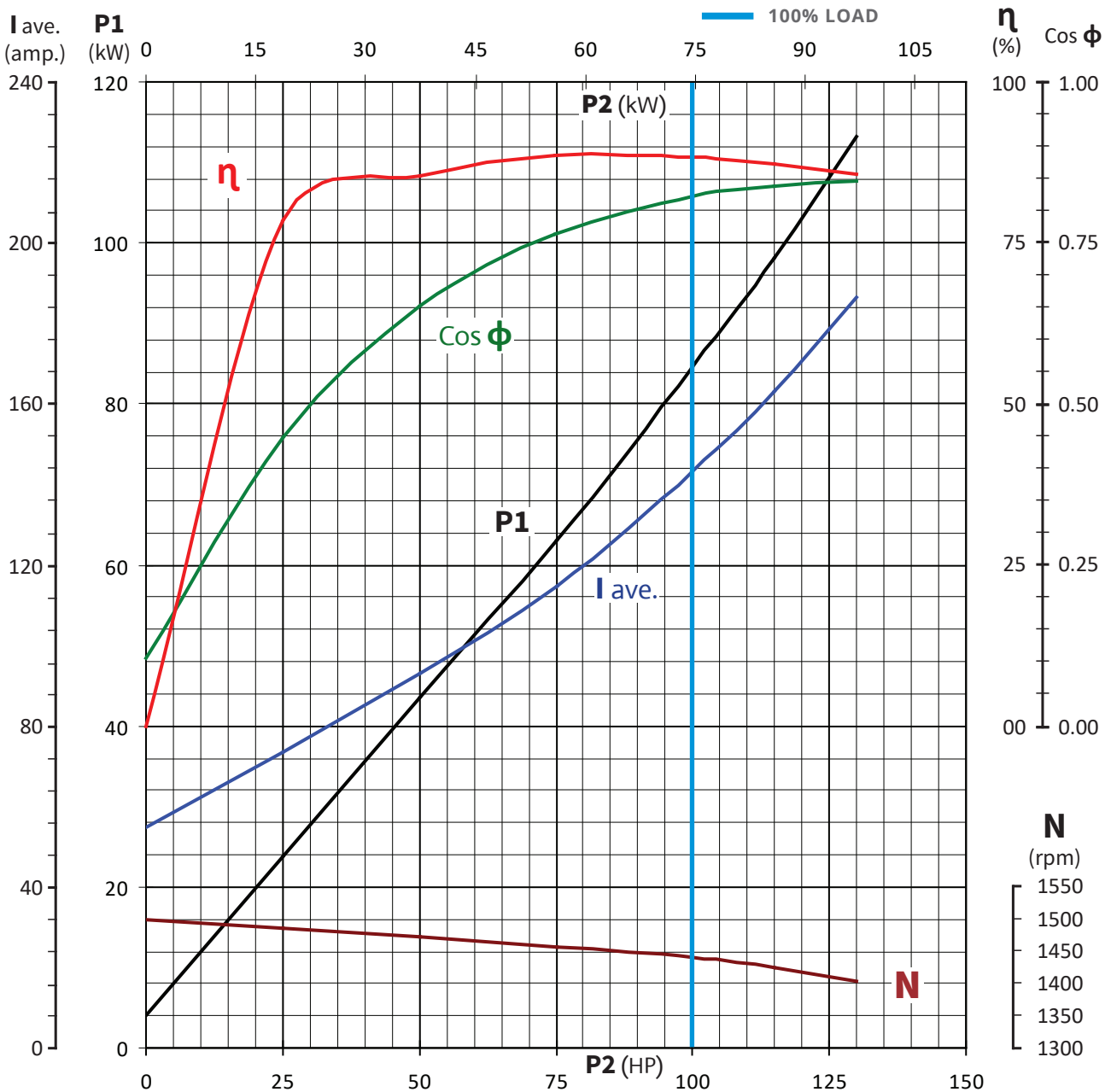
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-100-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 25.0 | 50.0 | 75.0 | 100.0 | 115.0 | 130.0 | Motor Size (HP) | 100 |
| P2 (kW) | 0.0 | 18.7 | 37.3 | 56.0 | 74.6 | 85.8 | 97.0 | Motor Size (kW) | 75 |
| P1 (kW) | 4.1 | 23.7 | 43.6 | 63.1 | 84.5 | 98.2 | 113.1 | Voltage (V) | 415 |
| Current (Amp) | 54.6 | 73.7 | 92.9 | 114.8 | 143.3 | 163.3 | 186.3 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 78.6 | 85.5 | 88.6 | 88.2 | 87.3 | 85.7 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.105 | 0.448 | 0.653 | 0.765 | 0.821 | 0.837 | 0.845 | | |
| Speed (RPM) | 1500 | 1486 | 1471 | 1457 | 1440 | 1425 | 1404 | | |
| Torque (Nm) | 0.0 | 119.8 | 242.1 | 366.8 | 494.8 | 574.7 | 659.8 | | |

Tolerances according to IEC 60034-1, Table-20.





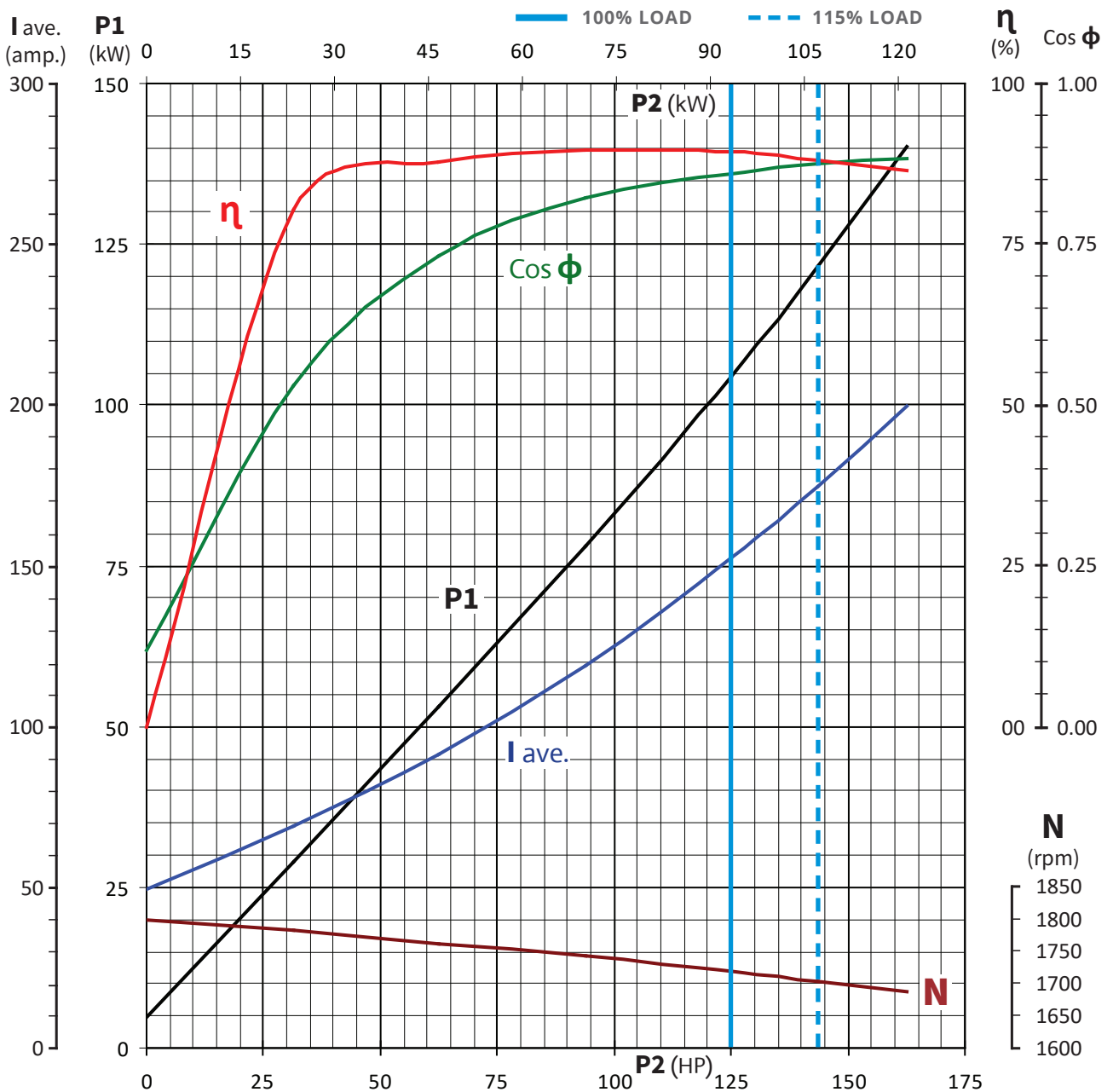
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-125-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 31.3 | 62.5 | 93.8 | 125.0 | 143.8 | 162.5 | Motor Size (HP) | 125 |
| P2 (kW) | 0.0 | 23.3 | 46.6 | 69.9 | 93.3 | 107.2 | 121.2 | Motor Size (kW) | 93 |
| P1 (kW) | 4.7 | 29.1 | 53.1 | 78.0 | 104.4 | 121.7 | 140.1 | Voltage (V) | 460 |
| Current (Amp) | 49.5 | 68.9 | 91.2 | 119.0 | 152.4 | 174.8 | 199.4 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 80.2 | 87.7 | 89.7 | 89.3 | 88.1 | 86.5 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.118 | 0.529 | 0.731 | 0.822 | 0.860 | 0.874 | 0.882 | | |
| Speed (RPM) | 1799 | 1782 | 1762 | 1742 | 1720 | 1704 | 1688 | | |
| Torque (Nm) | 0.0 | 124.9 | 252.6 | 383.3 | 517.7 | 601.0 | 685.7 | | |

Tolerances according to IEC 60034-1, Table-20.





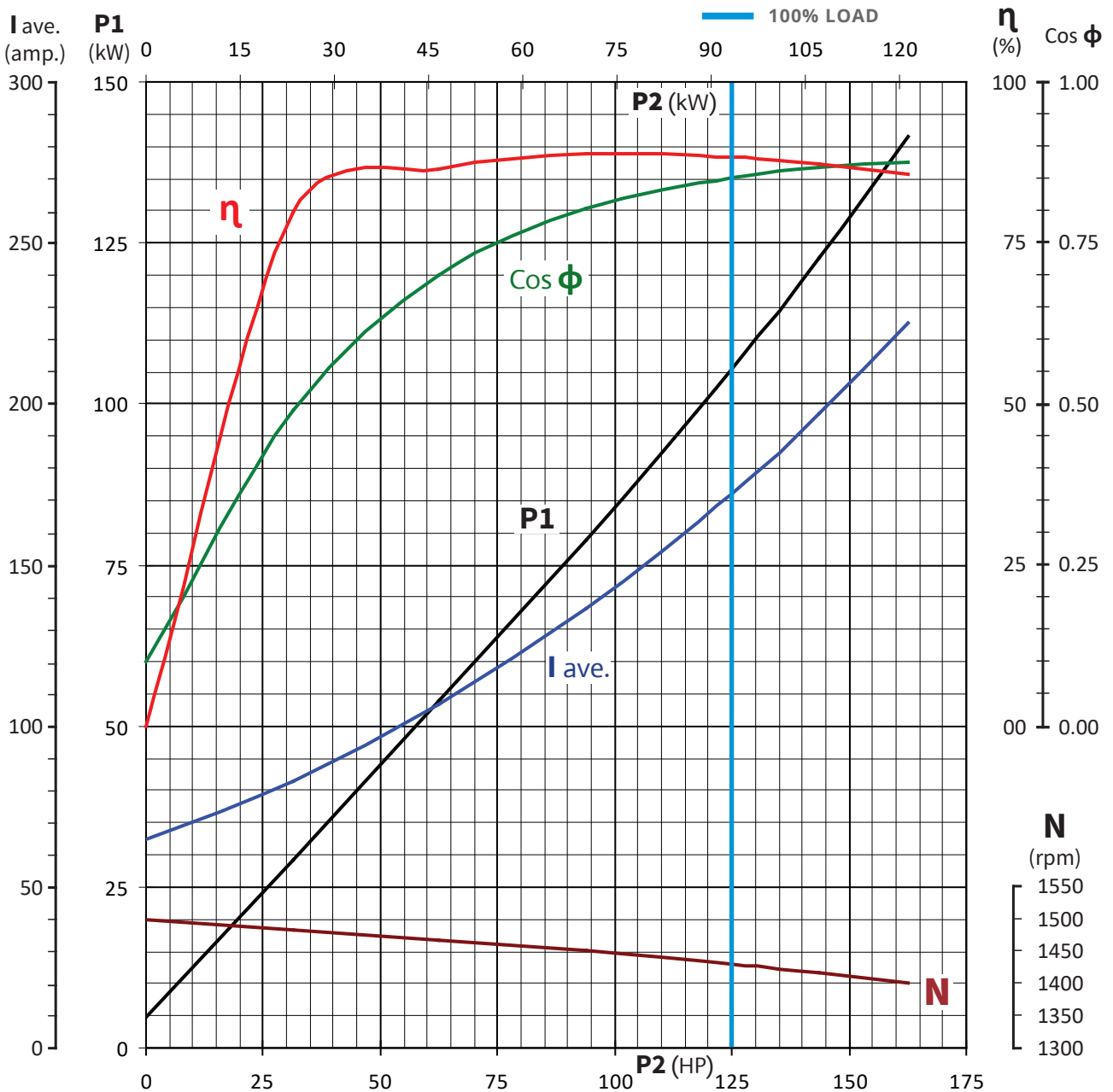
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-125-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 31.3 | 62.5 | 93.8 | 125.0 | 143.8 | 162.5 | Motor Size (HP) | 125 |
| P2 (kW) | 0.0 | 23.3 | 46.6 | 69.9 | 93.3 | 107.2 | 121.2 | Motor Size (kW) | 93 |
| P1 (kW) | 4.7 | 29.2 | 53.9 | 78.7 | 105.5 | 122.8 | 141.4 | Voltage (V) | 415 |
| Current (Amp) | 65.0 | 82.9 | 106.9 | 136.4 | 172.2 | 197.2 | 225.1 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 79.9 | 86.6 | 88.8 | 88.4 | 87.3 | 85.7 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.101 | 0.490 | 0.701 | 0.803 | 0.852 | 0.866 | 0.874 | | |
| Speed (RPM) | 1499 | 1484 | 1468 | 1451 | 1430 | 1416 | 1402 | | |
| Torque (Nm) | 0.0 | 150.0 | 303.4 | 460.3 | 622.6 | 723.0 | 826.0 | | |

Tolerances according to IEC 60034-1, Table-20.





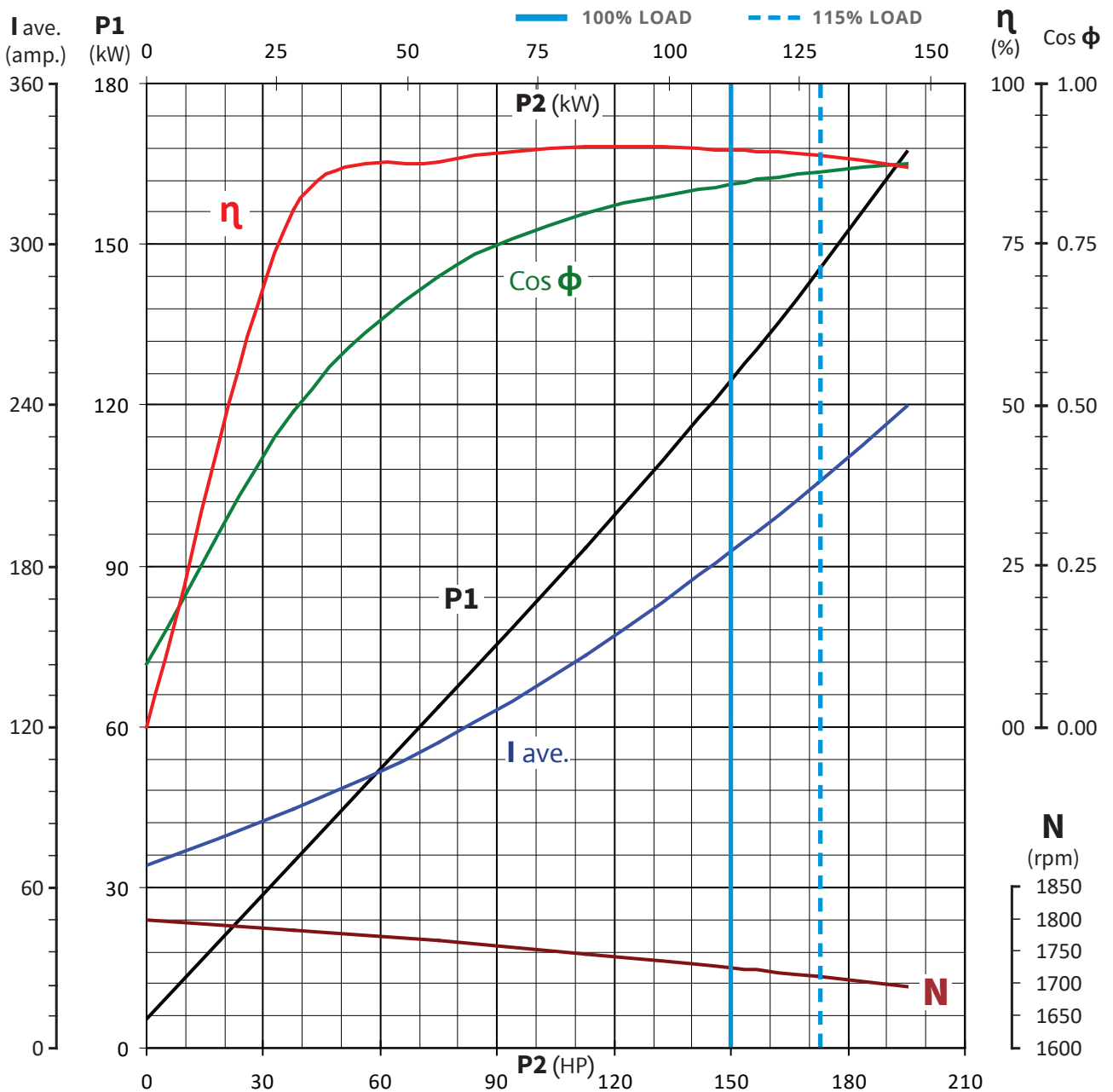
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-150-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 37.5 | 75.0 | 112.5 | 150.0 | 172.5 | 195.0 | Motor Size (HP) | 150 |
| P2 (kW) | 0.0 | 28.0 | 56.0 | 83.9 | 111.9 | 128.7 | 145.5 | Motor Size (kW) | 112 |
| P1 (kW) | 5.3 | 34.8 | 63.8 | 93.2 | 124.7 | 144.9 | 167.1 | Voltage (V) | 460 |
| Current (Amp) | 68.3 | 89.1 | 114.4 | 146.6 | 185.5 | 210.9 | 239.5 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 80.3 | 87.7 | 90.0 | 89.7 | 88.8 | 87.0 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.097 | 0.491 | 0.700 | 0.798 | 0.844 | 0.862 | 0.876 | | |
| Speed (RPM) | 1800 | 1784 | 1767 | 1747 | 1725 | 1712 | 1697 | | |
| Torque (Nm) | 0.0 | 149.8 | 302.4 | 458.8 | 619.4 | 717.9 | 818.7 | | |

Tolerances according to IEC 60034-1, Table-20.





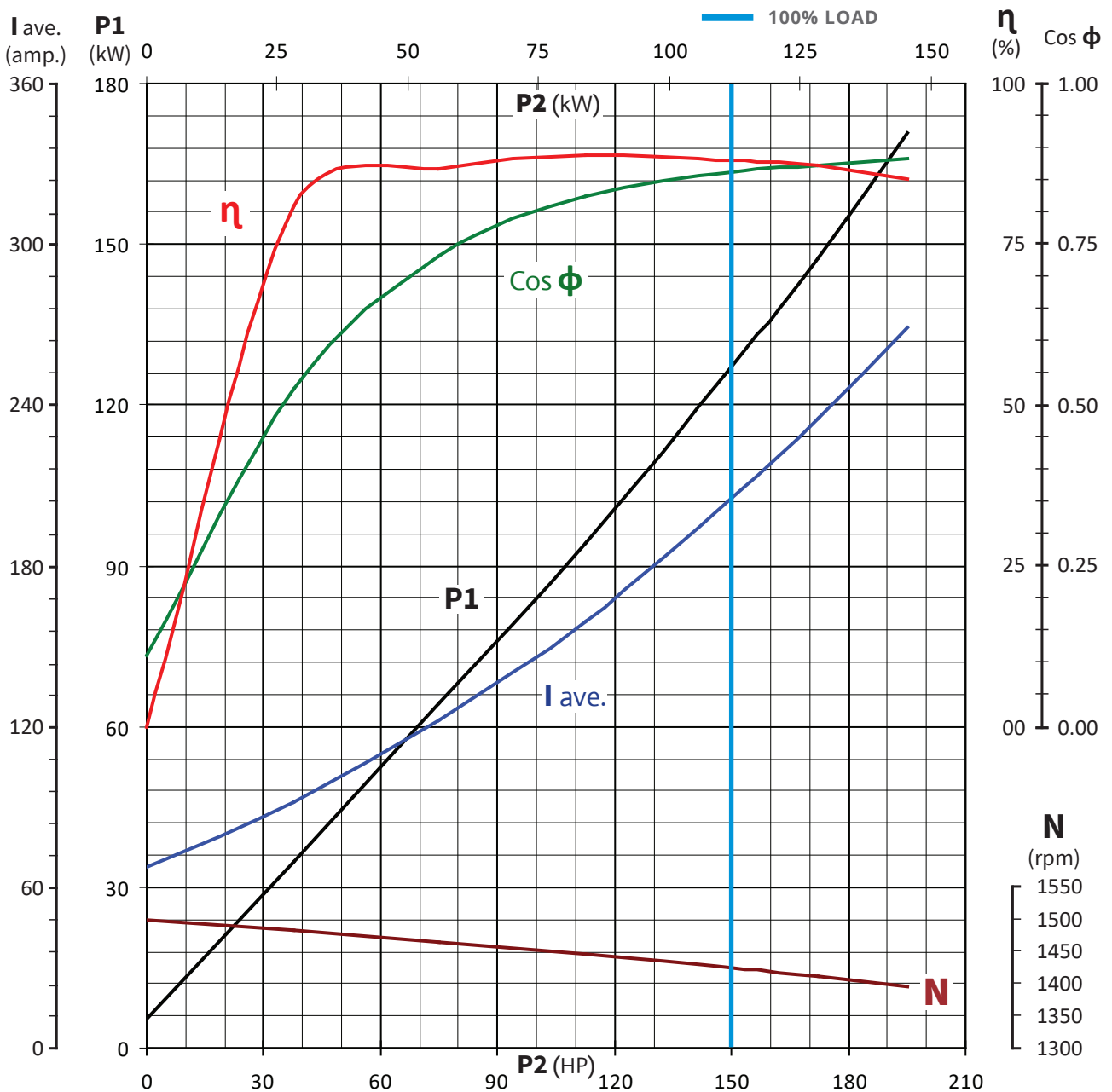
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-150-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 37.5 | 75.0 | 112.5 | 150.0 | 172.5 | 195.0 | Motor Size (HP) | 150 |
| P2 (kW) | 0.0 | 28.0 | 56.0 | 83.9 | 111.9 | 128.7 | 145.5 | Motor Size (kW) | 112 |
| P1 (kW) | 5.4 | 34.6 | 64.4 | 94.4 | 127.0 | 147.6 | 170.7 | Voltage (V) | 415 |
| Current (Amp) | 67.7 | 91.9 | 122.3 | 159.5 | 205.2 | 235.2 | 269.0 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 80.8 | 86.9 | 88.9 | 88.1 | 87.2 | 85.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.110 | 0.524 | 0.733 | 0.824 | 0.861 | 0.873 | 0.883 | | |
| Speed (RPM) | 1499 | 1483 | 1465 | 1447 | 1425 | 1410 | 1394 | | |
| Torque (Nm) | 0.0 | 180.2 | 364.6 | 553.7 | 749.7 | 871.3 | 996.2 | | |

Tolerances according to IEC 60034-1, Table-20.





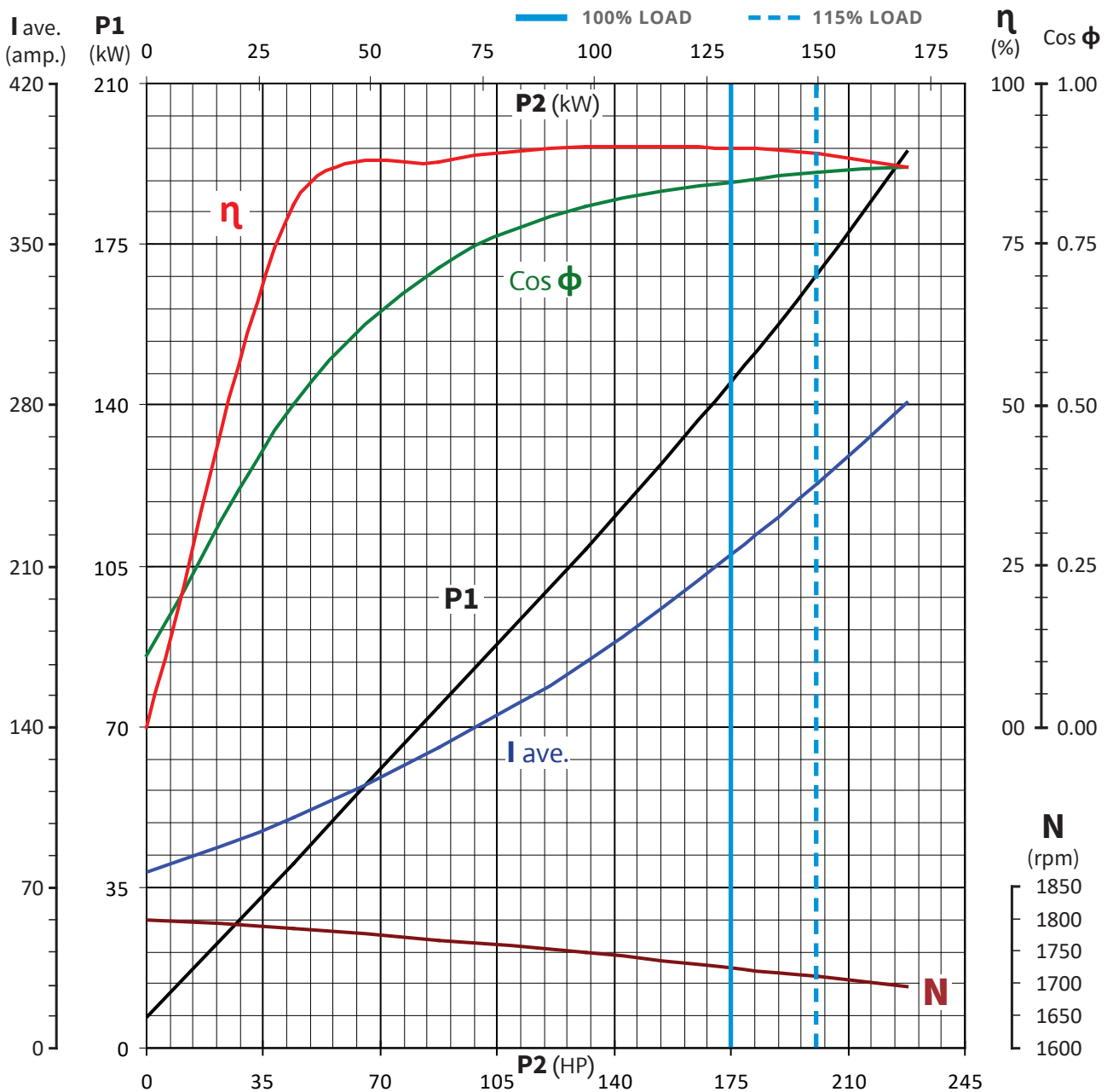
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-175-4 |
|----------------|-------|-------|-------|-------|--------------|-------|-------|-----------------|------------|
| P2 (HP) | 0.0 | 43.8 | 87.5 | 131.3 | 175.0 | 201.3 | 227.5 | Motor Size (HP) | 175 |
| P2 (kW) | 0.0 | 32.6 | 65.3 | 97.9 | 130.6 | 150.1 | 169.7 | Motor Size (kW) | 130 |
| P1 (kW) | 6.7 | 40.2 | 74.3 | 108.7 | 145.0 | 168.7 | 195.0 | Voltage (V) | 460 |
| Current (Amp) | 76.7 | 100.7 | 131.0 | 168.4 | 214.9 | 246.0 | 280.9 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 81.2 | 87.8 | 90.1 | 90.0 | 89.0 | 87.1 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.110 | 0.501 | 0.712 | 0.810 | 0.847 | 0.861 | 0.871 | | |
| Speed (RPM) | 1799 | 1785 | 1768 | 1749 | 1725 | 1711 | 1696 | | |
| Torque (Nm) | 0.0 | 174.6 | 352.5 | 534.6 | 722.8 | 838.1 | 955.4 | | |

Tolerances according to IEC 60034-1, Table-20.





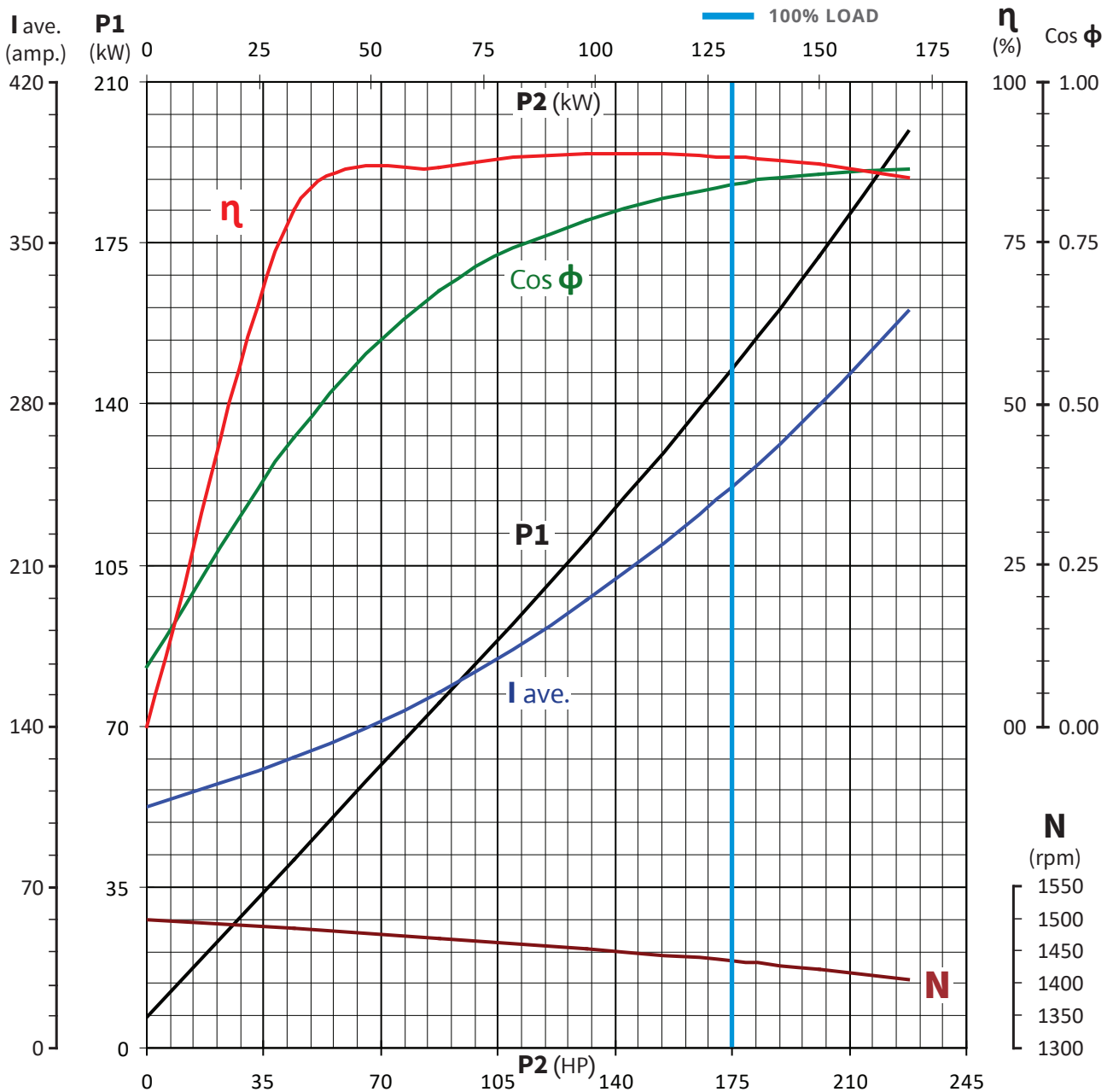
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-175-4 |
|----------------|-------|-------|-------|-------|--------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 43.8 | 87.5 | 131.3 | 175.0 | 201.3 | 227.5 | Motor Size (HP) | 175 |
| P2 (kW) | 0.0 | 32.6 | 65.3 | 97.9 | 130.6 | 150.1 | 169.7 | Motor Size (kW) | 130 |
| P1 (kW) | 6.9 | 40.8 | 75.2 | 110.1 | 147.6 | 172.2 | 199.2 | Voltage (V) | 415 |
| Current (Amp) | 104.7 | 126.6 | 154.5 | 195.0 | 243.9 | 279.8 | 320.7 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 80.0 | 86.8 | 88.9 | 88.4 | 87.2 | 85.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.091 | 0.448 | 0.677 | 0.786 | 0.842 | 0.856 | 0.864 | | |
| Speed (RPM) | 1500 | 1485 | 1470 | 1454 | 1435 | 1422 | 1406 | | |
| Torque (Nm) | 0.0 | 209.9 | 424.1 | 643.1 | 868.5 | 1008.1 | 1153.0 | | |

Tolerances according to IEC 60034-1, Table-20.





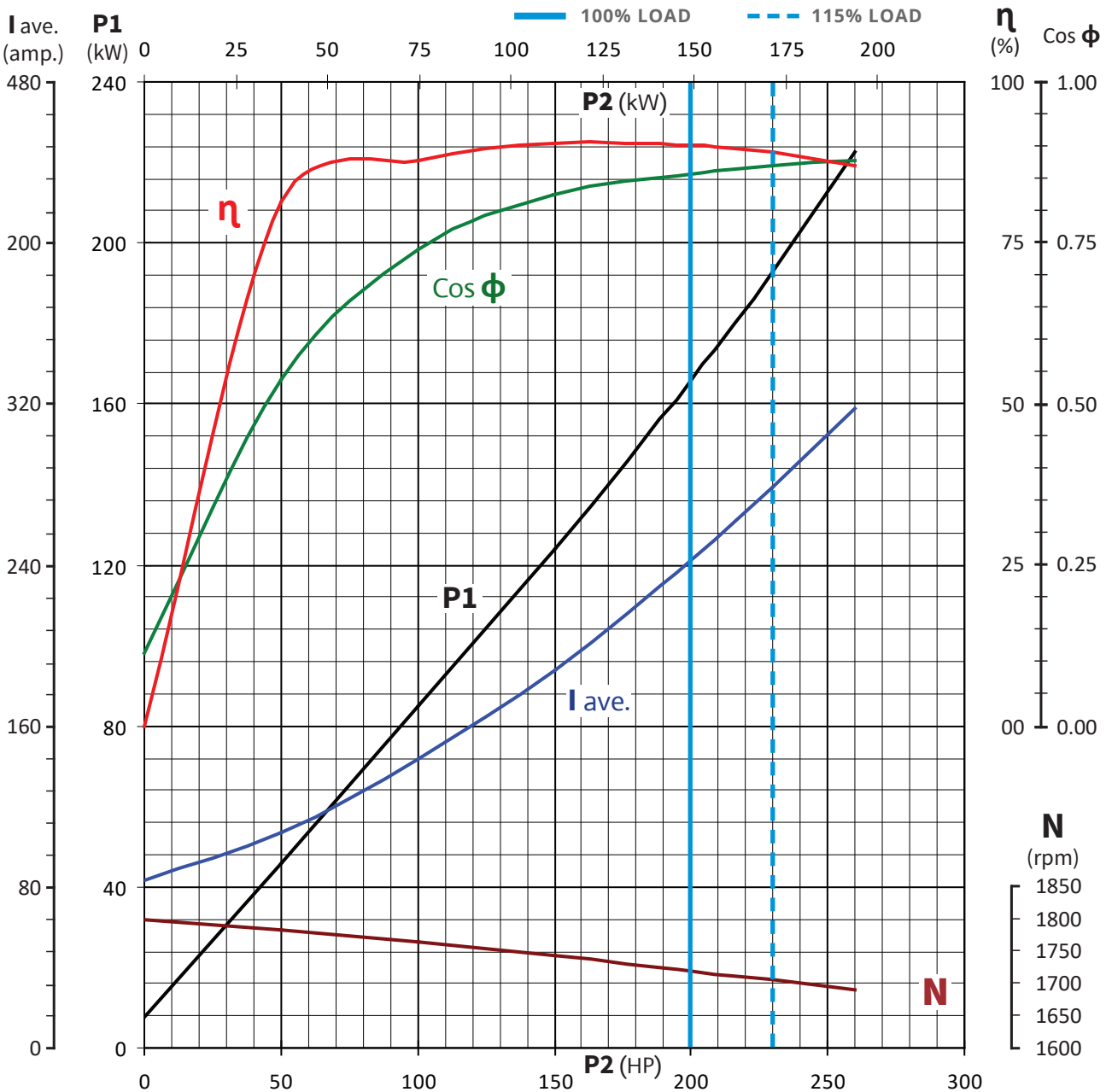
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-200-4 |
|----------------|-------|-------|-------|-------|--------------|-------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 50.0 | 100.0 | 150.0 | 200.0 | 230.0 | 260.0 | Motor Size (HP) | 200 |
| P2 (kW) | 0.0 | 37.3 | 74.6 | 111.9 | 149.2 | 171.6 | 194.0 | Motor Size (kW) | 150 |
| P1 (kW) | 7.5 | 45.8 | 84.9 | 123.8 | 165.6 | 192.7 | 222.6 | Voltage (V) | 460 |
| Current (Amp) | 83.0 | 107.0 | 143.9 | 188.2 | 242.5 | 278.3 | 317.9 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 81.5 | 87.8 | 90.4 | 90.1 | 89.0 | 87.1 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.114 | 0.537 | 0.741 | 0.826 | 0.857 | 0.869 | 0.879 | | |
| Speed (RPM) | 1799 | 1784 | 1765 | 1744 | 1720 | 1706 | 1691 | | |
| Torque (Nm) | 0.0 | 199.6 | 403.6 | 612.5 | 828.3 | 960.5 | 1095.6 | | |

Tolerances according to IEC 60034-1, Table-20.





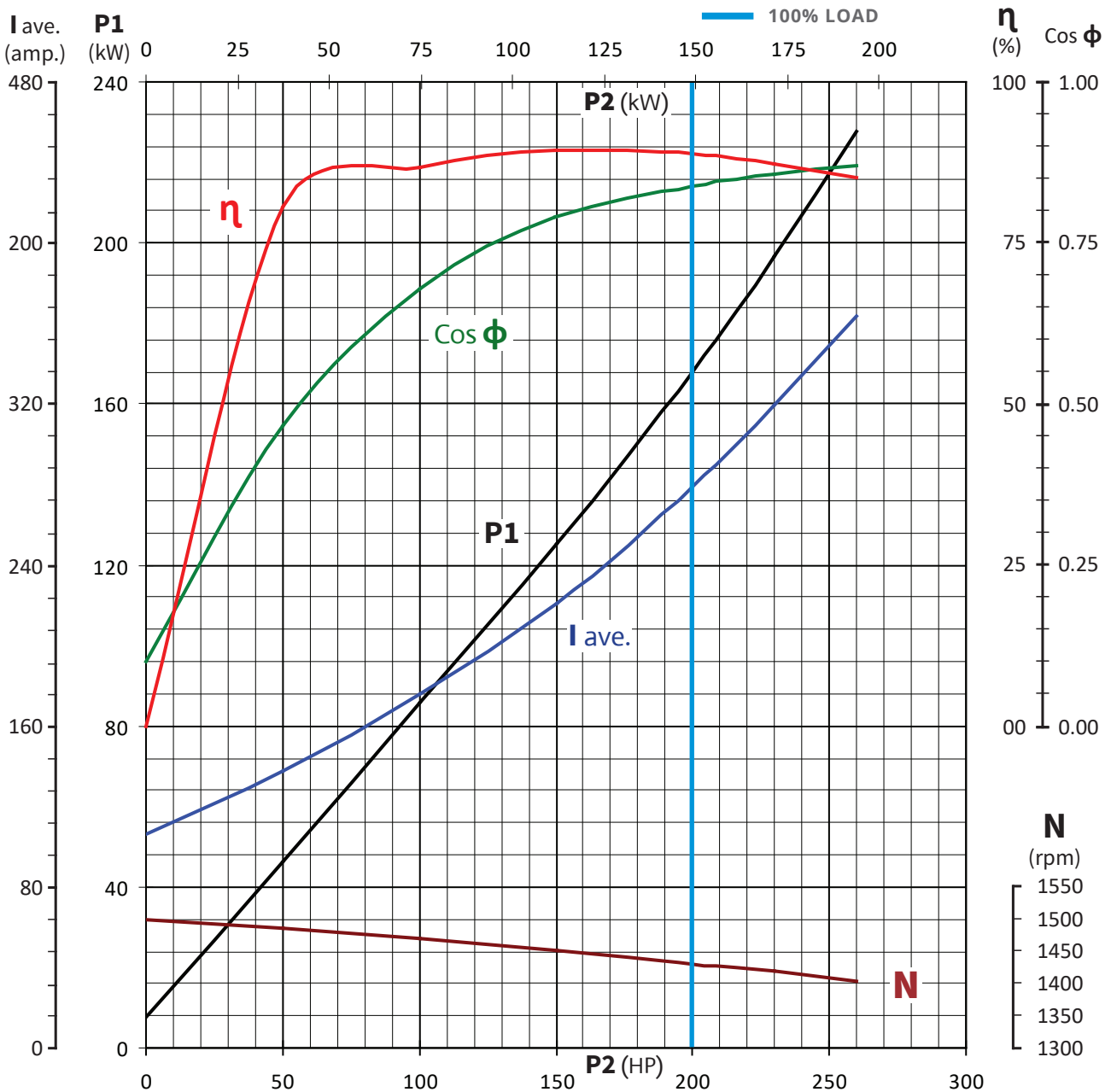
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-200-4 |
|----------------|-------|-------|-------|-------|--------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 50.0 | 100.0 | 150.0 | 200.0 | 230.0 | 260.0 | Motor Size (HP) | 200 |
| P2 (kW) | 0.0 | 37.3 | 74.6 | 111.9 | 149.2 | 171.6 | 194.0 | Motor Size (kW) | 150 |
| P1 (kW) | 7.7 | 46.3 | 85.9 | 125.3 | 167.9 | 196.8 | 227.6 | Voltage (V) | 415 |
| Current (Amp) | 106.3 | 137.8 | 175.7 | 220.9 | 278.7 | 319.4 | 363.6 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 80.6 | 86.9 | 89.3 | 88.9 | 87.2 | 85.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.101 | 0.467 | 0.680 | 0.789 | 0.838 | 0.857 | 0.871 | | |
| Speed (RPM) | 1499 | 1485 | 1469 | 1451 | 1430 | 1418 | 1402 | | |
| Torque (Nm) | 0.0 | 239.9 | 484.8 | 736.4 | 996.2 | 1155.2 | 1320.8 | | |

Tolerances according to IEC 60034-1, Table-20.





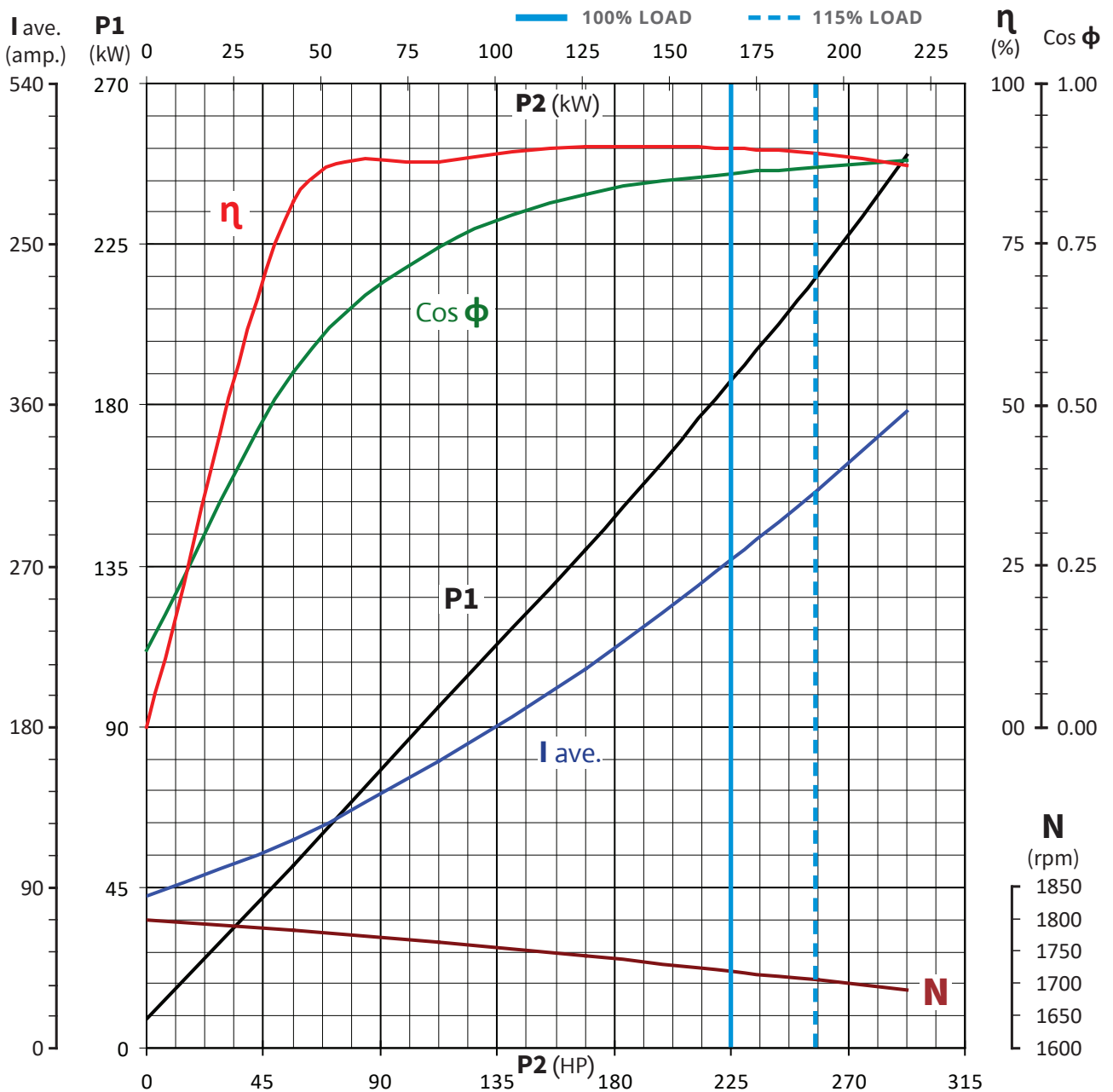
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-225-4 |
|----------------|-------|-------|-------|-------|--------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 56.3 | 112.5 | 168.8 | 225.0 | 258.8 | 292.5 | Motor Size (HP) | 225 |
| P2 (kW) | 0.0 | 42.0 | 83.9 | 125.9 | 167.9 | 193.0 | 218.2 | Motor Size (kW) | 168 |
| P1 (kW) | 8.1 | 51.4 | 95.6 | 139.6 | 186.7 | 216.7 | 250.1 | Voltage (V) | 460 |
| Current (Amp) | 84.9 | 116.8 | 160.8 | 211.9 | 273.1 | 312.6 | 356.7 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 81.7 | 87.8 | 90.2 | 89.9 | 89.1 | 87.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.119 | 0.552 | 0.746 | 0.827 | 0.858 | 0.870 | 0.880 | | |
| Speed (RPM) | 1799 | 1784 | 1765 | 1744 | 1720 | 1705 | 1690 | | |
| Torque (Nm) | 0.0 | 224.6 | 454.1 | 689.2 | 932.0 | 1080.8 | 1232.9 | | |

Tolerances according to IEC 60034-1, Table-20.





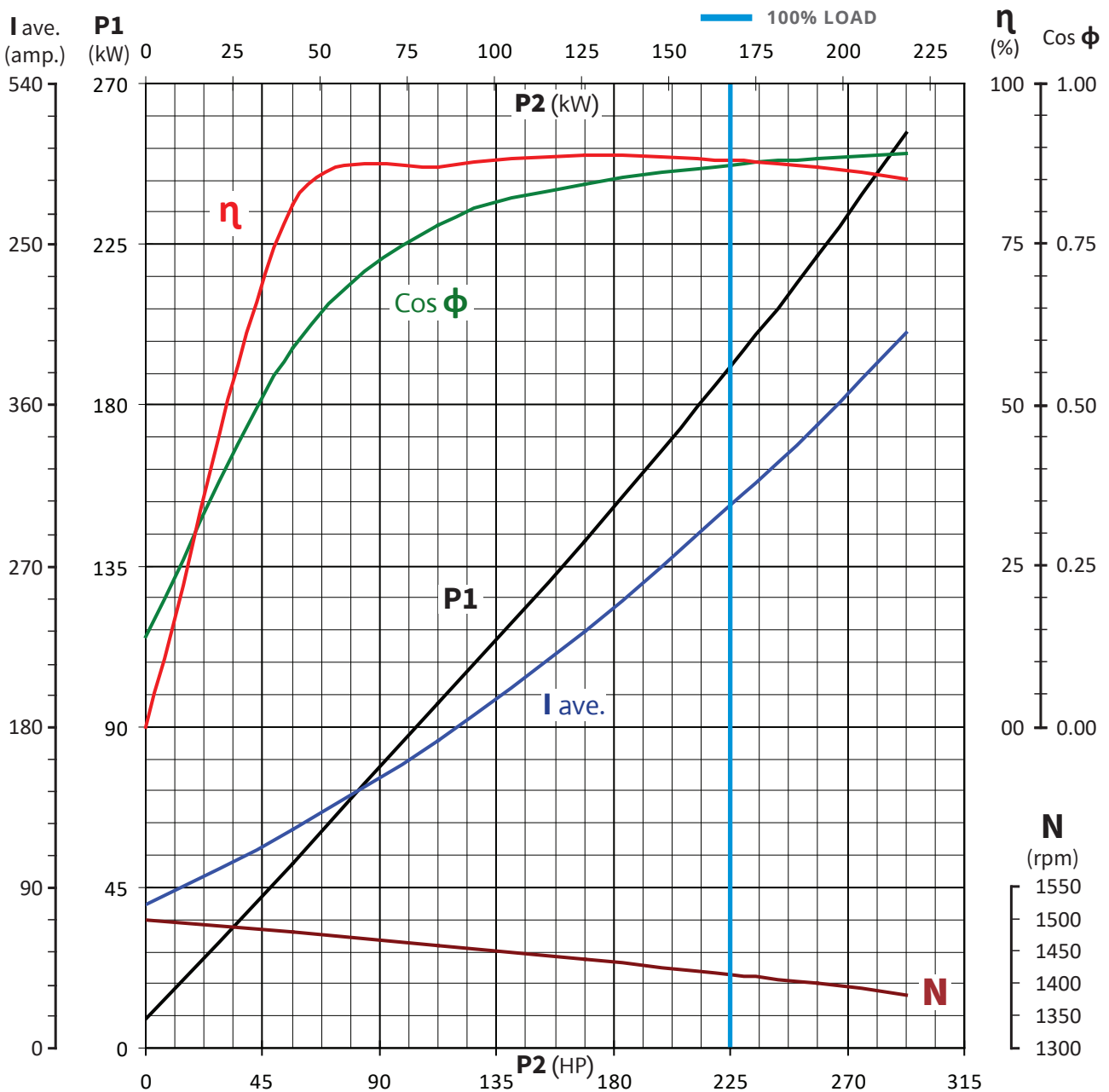
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-225-4 |
|----------------|-------|-------|-------|-------|---------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 56.3 | 112.5 | 168.8 | 225.0 | 258.8 | 292.5 | Motor Size (HP) | 225 |
| P2 (kW) | 0.0 | 42.0 | 83.9 | 125.9 | 167.9 | 193.0 | 218.2 | Motor Size (kW) | 168 |
| P1 (kW) | 8.2 | 51.8 | 96.6 | 141.7 | 190.4 | 221.6 | 256.1 | Voltage (V) | 415 |
| Current (Amp) | 80.7 | 122.3 | 172.3 | 233.6 | 303.8 | 349.1 | 400.4 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 81.0 | 86.9 | 88.8 | 88.1 | 87.1 | 85.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.141 | 0.589 | 0.780 | 0.844 | 0.872 | 0.883 | 0.890 | | |
| Speed (RPM) | 1499 | 1481 | 1460 | 1439 | 1415 | 1401 | 1382 | | |
| Torque (Nm) | 0.0 | 270.6 | 548.8 | 835.6 | 1132.4 | 1315.9 | 1507.4 | | |

Tolerances according to IEC 60034-1, Table-20.





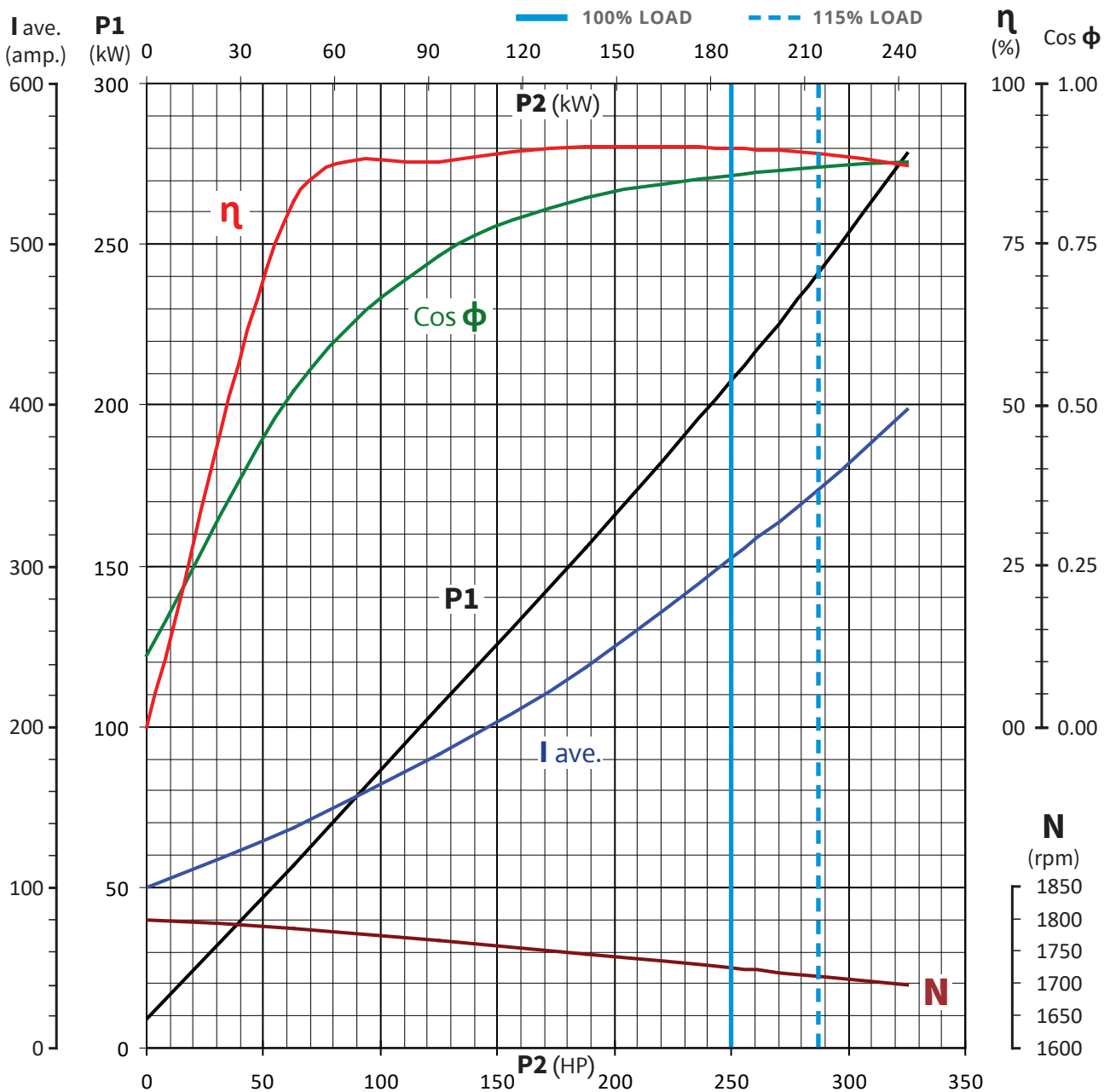
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-250-4 |
|----------------|-------|-------|-------|-------|---------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 62.5 | 125.0 | 187.5 | 250.0 | 287.5 | 325.0 | Motor Size (HP) | 250 |
| P2 (kW) | 0.0 | 46.6 | 93.3 | 139.9 | 186.5 | 214.5 | 242.5 | Motor Size (kW) | 186 |
| P1 (kW) | 8.8 | 57.1 | 106.1 | 155.3 | 207.7 | 240.9 | 278.1 | Voltage (V) | 460 |
| Current (Amp) | 100.2 | 136.9 | 182.2 | 237.2 | 304.6 | 347.5 | 397.1 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 81.7 | 87.9 | 90.1 | 89.8 | 89.0 | 87.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.110 | 0.523 | 0.731 | 0.822 | 0.856 | 0.870 | 0.879 | | |
| Speed (RPM) | 1799 | 1785 | 1767 | 1747 | 1725 | 1712 | 1697 | | |
| Torque (Nm) | 0.0 | 249.5 | 503.9 | 764.7 | 1032.3 | 1196.1 | 1364.0 | | |

Tolerances according to IEC 60034-1, Table-20.





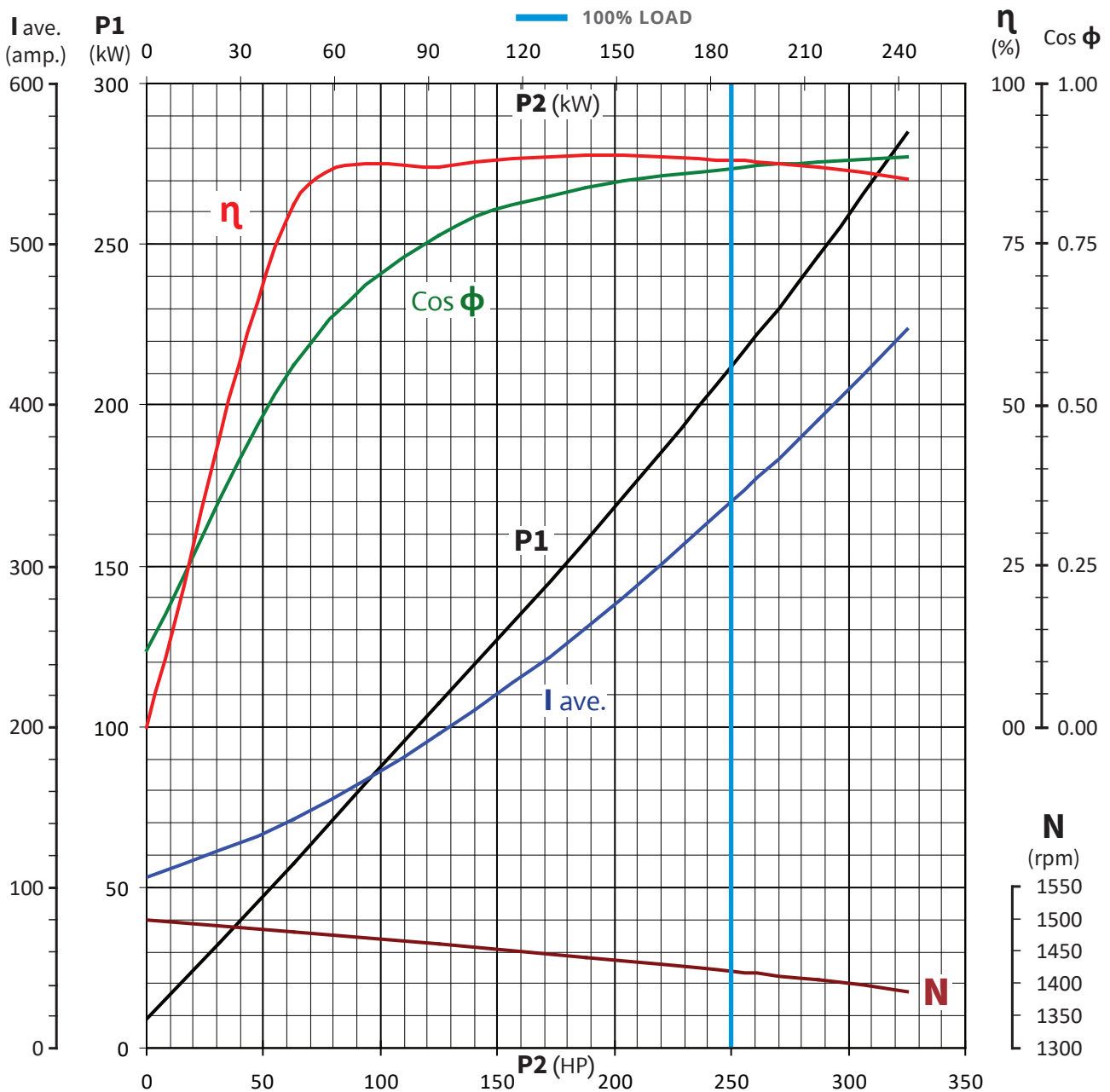
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-250-4 |
|----------------|-------|-------|-------|-------|---------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 62.5 | 125.0 | 187.5 | 250.0 | 287.5 | 325.0 | Motor Size (HP) | 250 |
| P2 (kW) | 0.0 | 46.6 | 93.3 | 139.9 | 186.5 | 214.5 | 242.5 | Motor Size (kW) | 186 |
| P1 (kW) | 9.1 | 57.5 | 107.2 | 157.7 | 211.8 | 246.4 | 284.5 | Voltage (V) | 415 |
| Current (Amp) | 106.7 | 142.0 | 195.2 | 261.4 | 339.9 | 390.4 | 446.7 | Frequency (Hz) | 50 |
| Efficiency (%) | 0.0 | 81.2 | 87.0 | 88.7 | 88.1 | 87.1 | 85.2 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.118 | 0.563 | 0.764 | 0.839 | 0.867 | 0.878 | 0.886 | | |
| Speed (RPM) | 1499 | 1481 | 1462 | 1442 | 1420 | 1406 | 1389 | | |
| Torque (Nm) | 0.0 | 300.5 | 608.9 | 926.3 | 1254.1 | 1456.3 | 1667.1 | | |

Tolerances according to IEC 60034-1, Table-20.





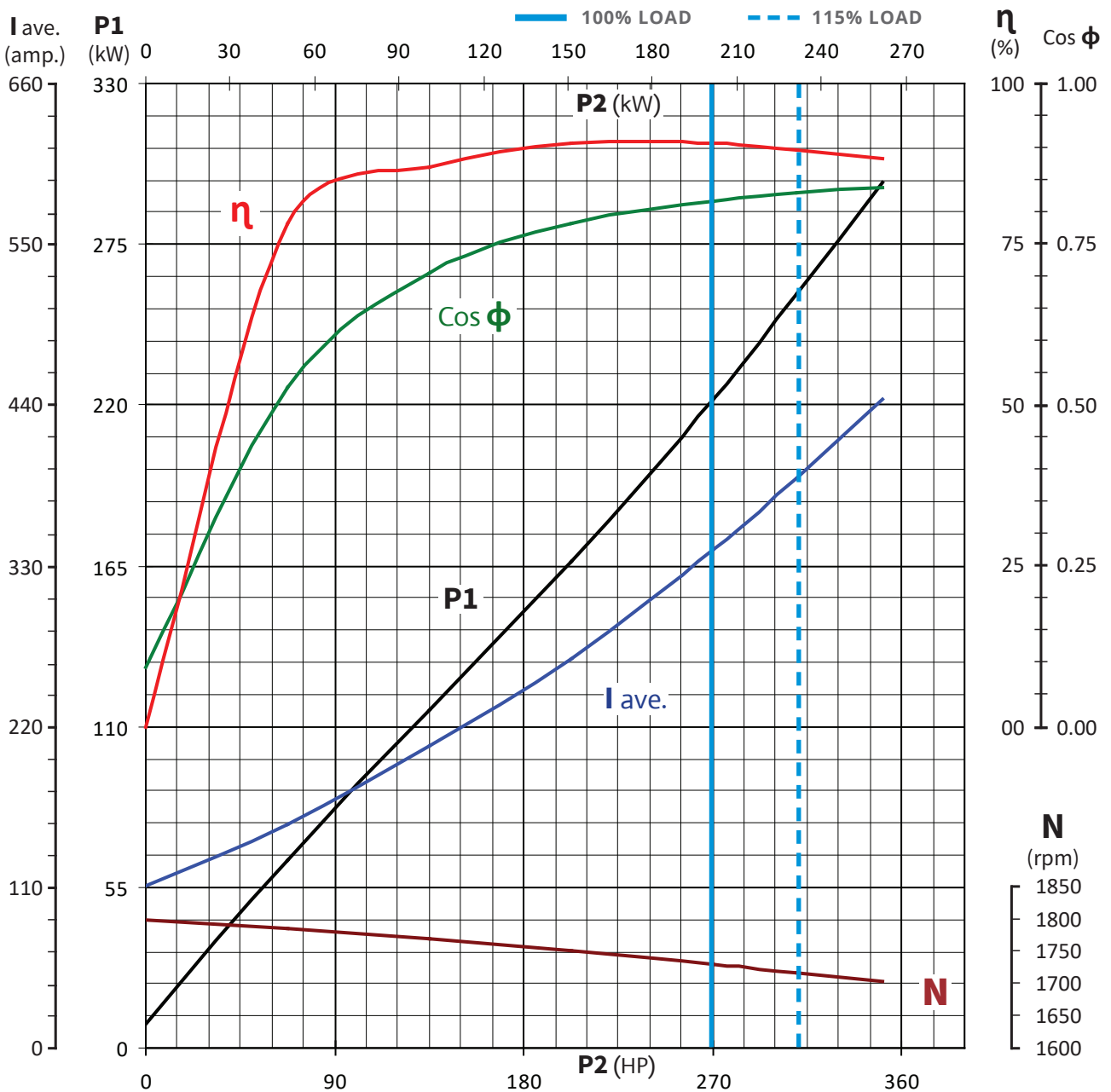
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-270-4 |
|----------------|-------|-------|-------|-------|---------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 67.5 | 135.0 | 202.5 | 270.0 | 310.5 | 351.0 | Motor Size (HP) | 270 |
| P2 (kW) | 0.0 | 50.4 | 100.7 | 151.1 | 201.4 | 231.6 | 261.8 | Motor Size (kW) | 201 |
| P1 (kW) | 8.1 | 64.4 | 115.8 | 166.4 | 222.1 | 258.1 | 296.1 | Voltage (V) | 460 |
| Current (Amp) | 110.8 | 153.0 | 206.4 | 266.7 | 340.9 | 390.2 | 443.5 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 78.3 | 87.0 | 90.8 | 90.7 | 89.8 | 88.4 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.092 | 0.528 | 0.704 | 0.783 | 0.818 | 0.830 | 0.838 | | |
| Speed (RPM) | 1799 | 1786 | 1769 | 1750 | 1730 | 1718 | 1705 | | |
| Torque (Nm) | 0.0 | 269.3 | 543.6 | 824.3 | 1111.8 | 1287.6 | 1466.8 | | |

Tolerances according to IEC 60034-1, Table-20.





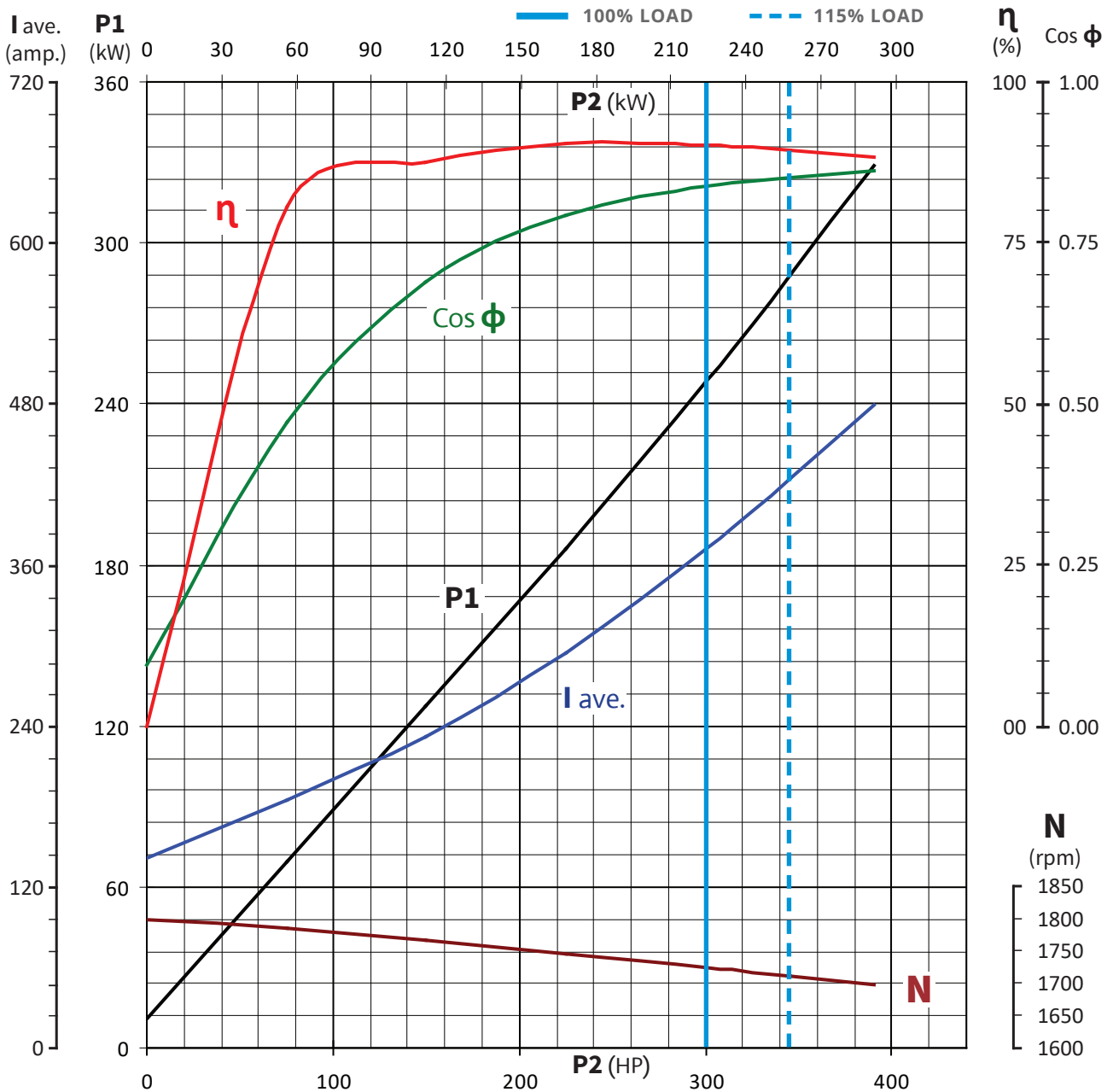
DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz



Motor Performance Curves

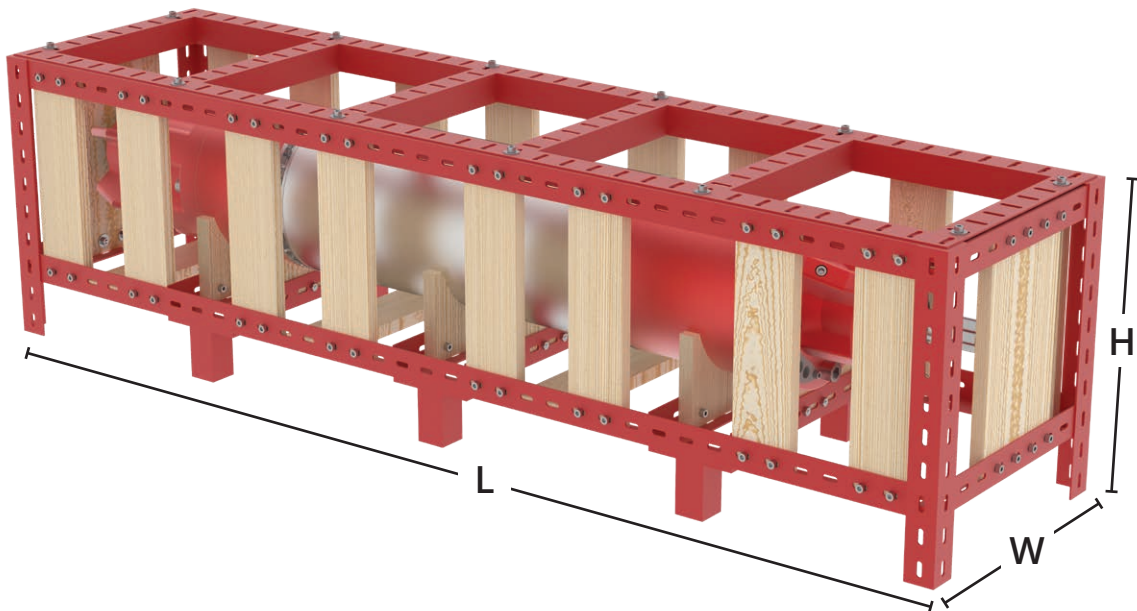
| Load | 0% | 25% | 50% | 75% | 100% | 115% | 130% | Model | RX12-300-4 |
|----------------|-------|-------|-------|-------|---------------|--------|--------|-----------------|------------|
| P2 (HP) | 0.0 | 75.0 | 150.0 | 225.0 | 300.0 | 345.0 | 390.0 | Motor Size (HP) | 300 |
| P2 (kW) | 0.0 | 56.0 | 111.9 | 167.9 | 223.8 | 257.4 | 290.9 | Motor Size (kW) | 223 |
| P1 (kW) | 10.8 | 69.5 | 127.7 | 185.8 | 248.2 | 287.7 | 329.1 | Voltage (V) | 460 |
| Current (Amp) | 140.9 | 185.1 | 232.2 | 294.4 | 372.2 | 424.4 | 479.1 | Frequency (Hz) | 60 |
| Efficiency (%) | 0.0 | 80.6 | 87.6 | 90.3 | 90.2 | 89.5 | 88.4 | Poles (Nos) | 4 |
| Cos phi (p.u) | 0.096 | 0.471 | 0.690 | 0.792 | 0.837 | 0.851 | 0.862 | | |
| Speed (RPM) | 1799 | 1785 | 1768 | 1747 | 1725 | 1712 | 1699 | | |
| Torque (Nm) | 0.0 | 299.4 | 604.4 | 917.6 | 1238.8 | 1435.3 | 1635.3 | | |

Tolerances according to IEC 60034-1, Table-20.

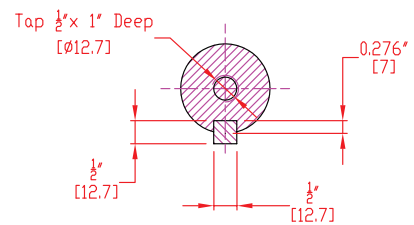
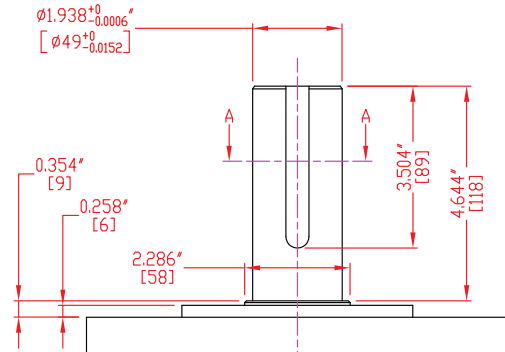
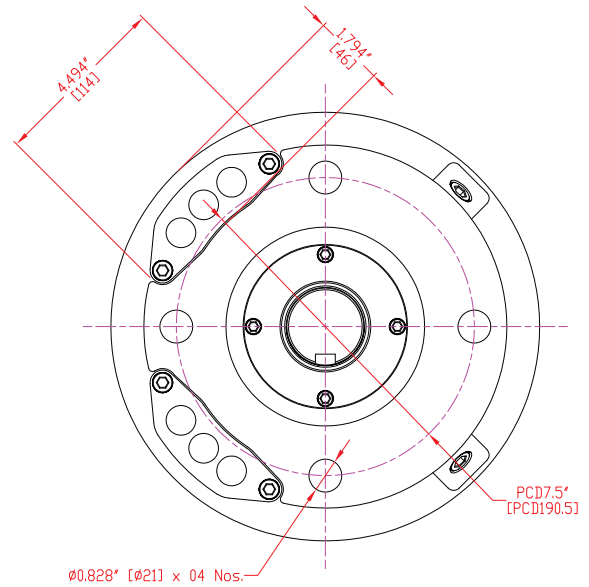
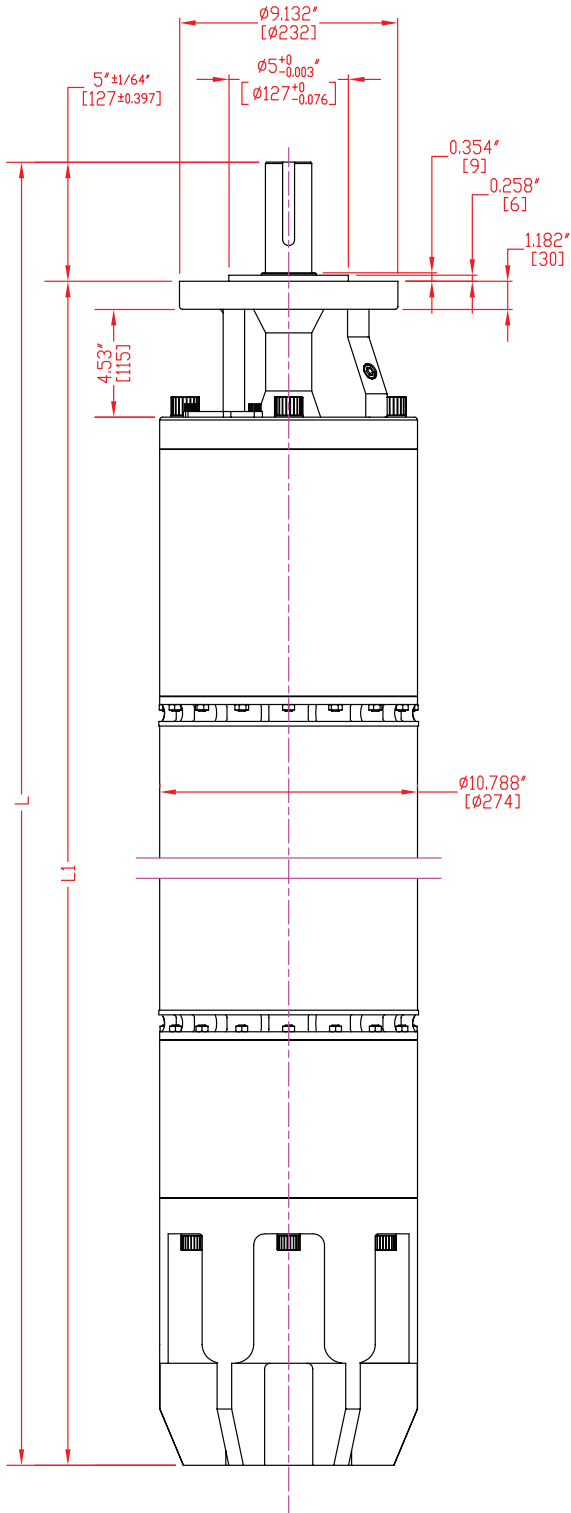


Motor Dimensions & Weight - 4 Pole - Three Phase

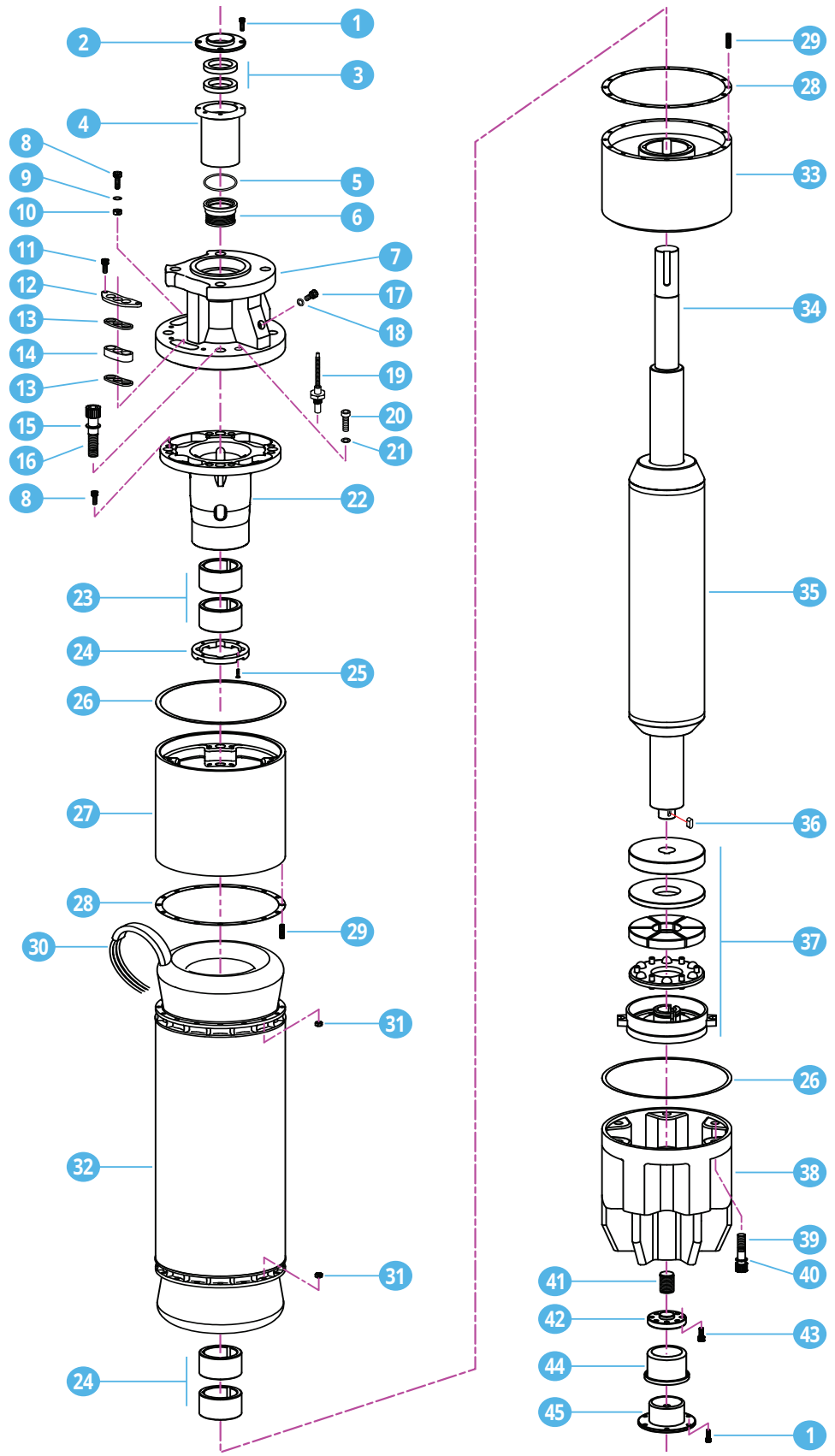
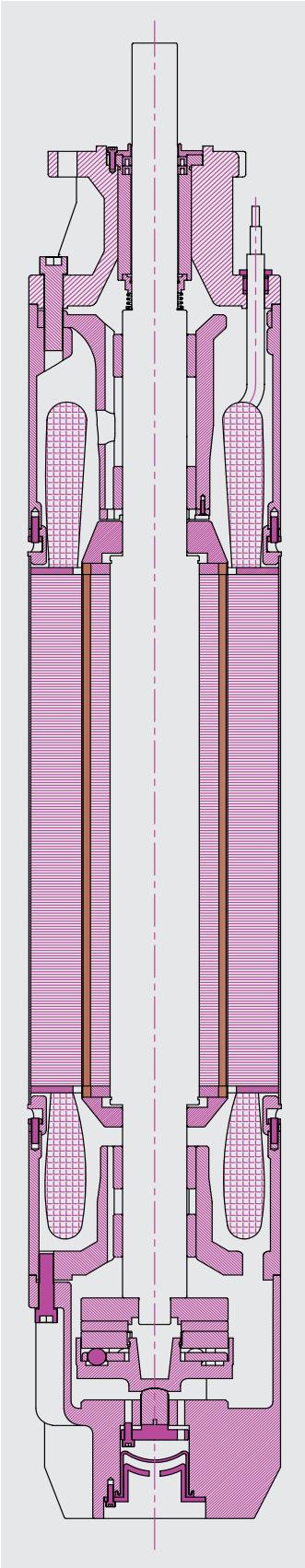
| Motor Type | Motor Size | | Thrust Load (Lbs) | L1 Motor Length (inch) | L Motor Length (inch) | Packing Dimension W x H x L (inch) | Weight (Lbs) | |
|-------------------|------------|-----|-------------------|------------------------|-----------------------|------------------------------------|-----------------|--------------|
| | HP | KW | | | | | Without Packing | With Packing |
| RX12 100-4 | 100 | 75 | 27000 | 59.0 | 64.0 | 16 x 19.5 x 70 | 904 | 970 |
| RX12 125-4 | 125 | 93 | 27000 | 64.0 | 69.0 | 16 x 19.5 x 75 | 1071 | 1146 |
| RX12 150-4 | 150 | 112 | 27000 | 69.7 | 74.7 | 16 x 19.5 x 81 | 1236 | 1322 |
| RX12 175-4 | 175 | 130 | 27000 | 74.0 | 79.0 | 16 x 19.5 x 85 | 1468 | 1565 |
| RX12 200-4 | 200 | 150 | 27000 | 78.8 | 83.8 | 16 x 19.5 x 90 | 1633 | 1741 |
| RX12 225-4 | 225 | 168 | 27000 | 82.7 | 87.7 | 16 x 19.5 x 94 | 1798 | 1917 |
| RX12 250-4 | 250 | 186 | 27000 | 86.6 | 91.6 | 16 x 19.5 x 98 | 1944 | 2072 |
| RX12 270-4 | 270 | 201 | 27000 | 90.0 | 95.0 | 16 x 19.5 x 101 | 1997 | 2138 |
| RX12 300-4 | 300 | 223 | 27000 | 90.0 | 95.0 | 16 x 19.5 x 101 | 1997 | 2138 |



Motor Outline Drawing & Dimensions



Cross Sectional & Exploded View





DEEP WELL SUBMERSIBLE MOTORS 12-INCH, 4-POLE, 50/60 Hz

RX12

Motor Parts List with Construction Material

| Pos. | Item Code | Part Name | Material | Qty | Unit |
|------|--------------|---|---|-----|------|
| 1 | 60161252 | Bolt Allen M6 x 20 | Stainless Steel | 4 | Nr |
| 2 | 6017-12-0120 | Seal Support Cover | Stainless Steel | 1 | Nr |
| 3 | 60271085 | Oil Seal 50x70x10 | NBR | 2 | Nr |
| 4 | 6017-12-0125 | Mech. Seal Bush Support | Cast Iron | 1 | Nr |
| 5 | 60271115 | O-Ring Seal Support | NBR | 1 | Nr |
| 6 | 60271095 | Mechanical Seal Complete 10x10 | Silicon Tungsten Carbide (WC) + NBR + Stainless Steel | 1 | Nr |
| 7 | 6017-12-0000 | Top Piece / Upper Support | Cast Iron | 1 | Nr |
| 8 | 60161254 | Bolt Allen M8 x 35 | Stainless Steel | 9 | Nr |
| 9 | 60161263 | Spring Washer M8 | Stainless Steel | 1 | Nr |
| 10 | 60161262 | Nut Hex M8 | Stainless Steel | 1 | Nr |
| 11 | 60161253 | Bolt Allen M8 x 25 | Stainless Steel | 2 | Nr |
| 12 | 6017-12-0175 | Cable Top Cover Plate | Carbon Steel | 2 | Nr |
| 13 | 6017-12-0210 | Washer Nylon Tail Cable | Nylon | 2 | Nr |
| 14 | 6017-12-0190 | Gasket Rubber Tail Cable | NBR | 1 | Nr |
| 15 | 6000-12-0140 | Washer Bonded / Dowty Seal M20 | NBR / Stainless Steel | 4 | Nr |
| 16 | 6000-12-0150 | Bolt Allen M20 x 90 | Stainless Steel | 4 | Nr |
| 17 | 60101068 | Bolt Allen M10 x 16 | Stainless Steel | 2 | Nr |
| 18 | 60101157 | Washer Bonded / Dowty Seal M10 | NBR / Stainless Steel | 2 | Nr |
| 19 | 60101485 | PT 100 Sensor (Optional) | Stainless Steel | 1 | Nr |
| 20 | 60161250 | Bolt Allen M8x20 | Stainless Steel | 5 | Nr |
| 21 | 60161267 | Washer Bonded / Dowty Seal M8 | NBR/Stainless Steel | 1 | Nr |
| 22 | 6017-12-0015 | Upper Bearing Housing | Cast Iron | 1 | Nr |
| 23 | 6000-12-0050 | Carbon Bush | Carbon | 4 | Nr |
| 24 | 6017-12-0020 | Upper Thrust Bearing | Bronze | 1 | Nr |
| 25 | 60101142 | Screw CSK M4x10 | Stainless Steel | 4 | Nr |
| 26 | 6017-12-0165 | Gasket Tesnit (Upper & Lower) | Tesnit | 2 | Nr |
| 27 | 6017-12-0010 | Upper Support | Cast Iron | 1 | Nr |
| 28 | 6017-12-0170 | Gasket Tesnit (Stator Flanges) | Tesnit | 2 | Nr |
| 29 | 60271170 | Stud Bolt M8x35 | Stainless Steel | 32 | Nr |
| 30A | 601611XX | Tail Cable 1 x 25 / 35 / 50 / 70 / 90 mm2 | PVC + Recyclable Plastic + Copper | 48 | Ft |
| 30B | 60101185 | Tail Cable 1x10 mm2 (For Earthing) | PVC + Recyclable Plastic + Copper | 16 | Ft |
| 31 | 60161262 | Nut Hex M8 | Stainless Steel | 32 | Nr |
| 32 | 6000-12-XXXX | Stator Stack (Assembly) Including Sheet + Flanges | Silicon Steel (50C800) + Stainless Steel | 1 | Set |
| 33 | 6017-12-0025 | Lower Bearing Housing | Cast Iron | 1 | Nr |
| 34 | 6000-12-XXXX | Rotor Shaft | Stainless Steel + Copper | 1 | Set |
| 35 | 60271330 | Rotor Lamination (Including Shaft + Copper Bars + End Ring) | Silicon Steel (50C800) + Stainless Steel + Copper | 1 | Set |
| 36 | 60101145 | Key for End Shaft | Stainless Steel | 1 | Nr |
| 37 | 6000-12-0040 | Thrust Bearing Complete | Stainless Steel + Carbon | 1 | Set |
| 38 | 6017-12-0030 | Thrust Support | Cast Iron | 1 | Nr |
| 39 | 60161255 | Bolt Allen M16x65 | Stainless Steel | 6 | Nr |
| 40 | 60161272 | Washer Bonded / Dowty Seal M16 | NBR / Stainless Steel | 6 | Nr |
| 41 | 6017-12-0155 | Adjustment Bolt | Stainless Steel | 1 | Nr |
| 42 | 6017-12-0160 | Thrust Lock Washer | Stainless Steel | 1 | Nr |
| 43 | 60161250 | Bolt Allen M8 x 20 | Stainless Steel | 4 | Nr |
| 44 | 60271130 | Diaphragm Rubber | NBR | 1 | Nr |
| 45 | 60271135 | Diaphragm Support | Cast Iron | 1 | Nr |

PT100 Temperature Sensor

PT100s, Platinum Resistance Transducers or RTDs (Resistance Temperature Detectors), present an economical and precise solution for temperature measurement due to the direct relationship between the resistance of the PT100 chip and the temperature being measured.

With Rotex motors the standard PT100s come in 3-wire configurations. As the number of wires increases, so does the accuracy of temperature measurement. This means that 3-wire units provide more precise temperature readings compared to 2-wire units. When utilized alongside an appropriate measuring instrument, PT100s accurately indicate the exact temperature of the sensor, regardless of its placement, with only a slight tolerance for accuracy deviation.

Key Specifications:

Temperature Range: PT100: -50 °C to +200 °C.

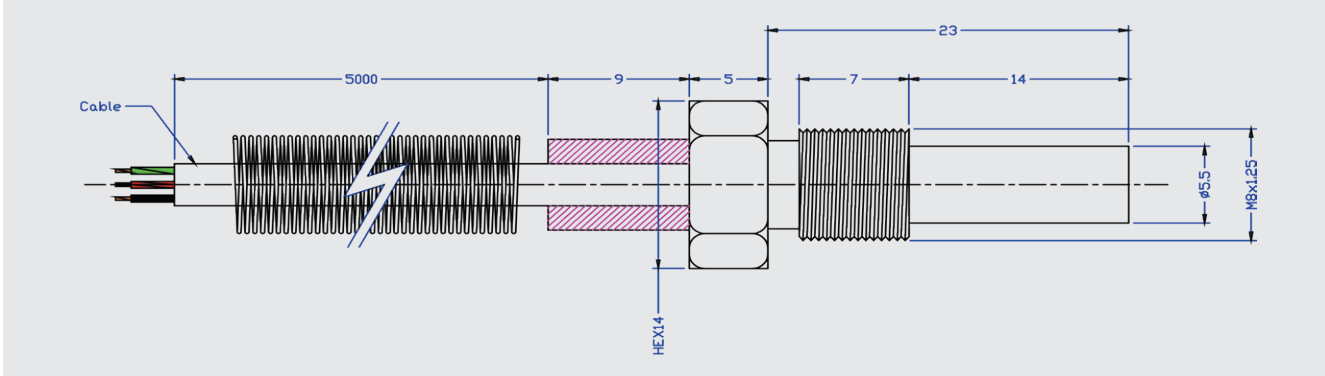
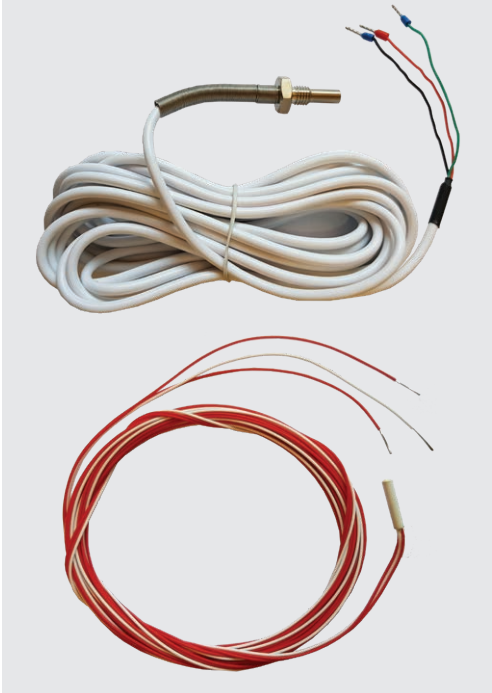
Accuracy Class: Class B

Nominal Resistance: 100 Ohms at 0 °C (The resistance changes by 0.3851 ohms for every 1 °C shift in temperature, with a Class B Device tolerance of +/- 0.0012 ohms).

Standard Sheath Material: Ceramic with SS304 Cover Tube

Wire Temperature Rating: 250 °C

Recommended Operating Current: 1 milliampere



PT100 Temperature Sensor

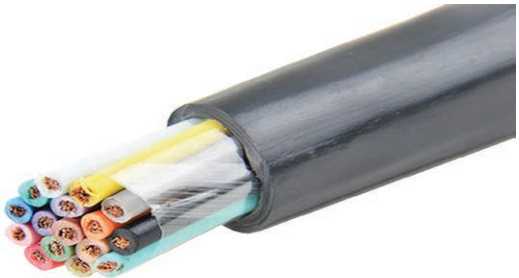
Multiwire submersible cable specially made for borehole submersible motor's temperature sensors.

Available Packing: 328 or 1640 feet coil.

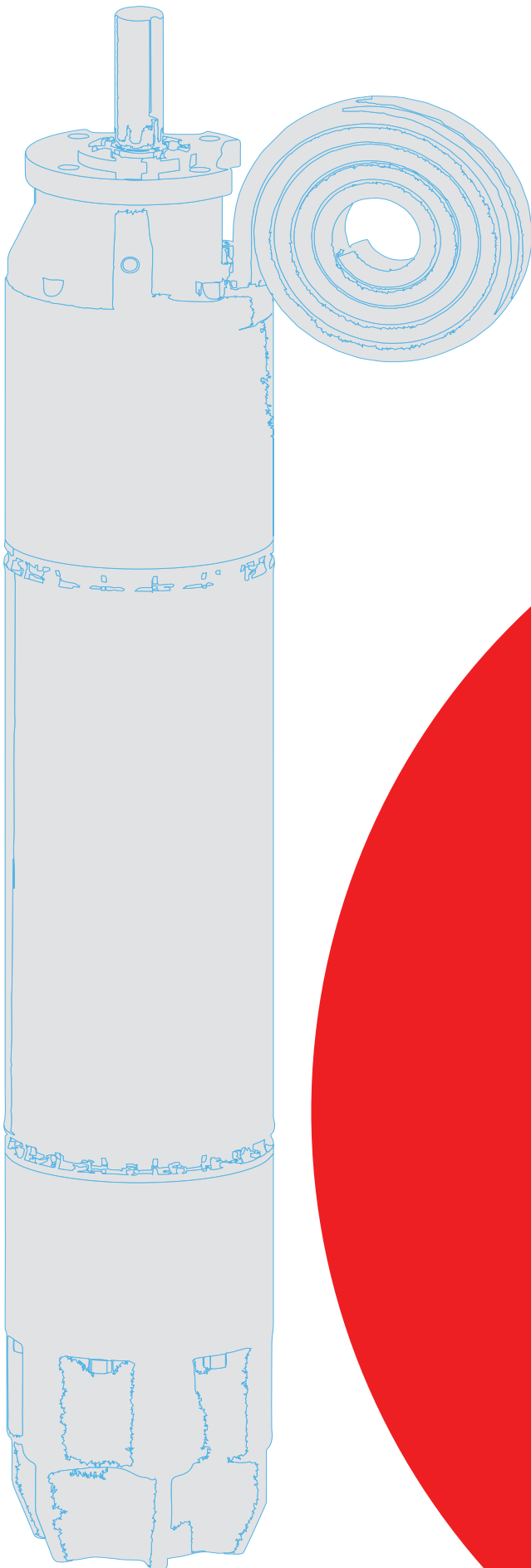
Cable Insulation: PE

Cable Sheath: Standard Grey High Temp PVC
(Other materials and colours are available upon request)

Screen: Overall Aluminum/Polyester Laminate.



| Nearest AWG | No. of Cores | Conductors Nos./Dia (mm) | Insulation Thickness (mm) | Nominal Wire to Wire Capacitance (pf/m) | Nominal Dia (mm) |
|-------------|--------------|--------------------------|---------------------------|---|------------------|
| 24 | 3 | 7/0.20 TC | 0.3 | 80 | 4.7 |
| 24 | 6 | 7/0.20 TC | 0.3 | 80 | 5.5 |
| 24 | 12 | 7/0.20 TC | 0.3 | 80 | 7.5 |



ROTEX USA INC. PRODUCT RANGE

FOR 6-INCH BOREHOLE > **RX6**

230/380/460V - 60 Hz, 415V - 50 Hz

2 Poles, 3600 RPM / 2900 RPM

From: 5.5 HP (56 kW) To: 60 HP (45 kW)

FOR 8-INCH BOREHOLE > **RX8**

460V - 60 Hz, 415V - 50 Hz

2 Poles, 3600 RPM / 2900 RPM

From: 30 HP (56 kW) To: 175 HP (130 kW)

4 Poles, 1450 RPM / 1800 RPM

From: 7.5 HP (5.5 kW) To: 75 HP (56 kW)

FOR 10-INCH BOREHOLE > **RX10**

460V - 60 Hz, 415V - 50 Hz

2 Poles, 3600 RPM / 2900 RPM

From: 75 HP (56 kW) To: 270 HP (200 kW)

4 Poles, 1450 RPM / 1800 RPM

From: 40 HP (30 kW) To: 175 HP (130 kW)

FOR 12-INCH BOREHOLE > **RX12**

460V - 60 Hz, 415V - 50 Hz

2 Poles, 3600 RPM / 2900 RPM

From: 200 HP (150 kW) To: 400 HP (300 kW)

4 Poles, 1450 RPM / 1800 RPM

From: 100 HP (75 kW) To: 250 HP (186 kW)

BOTTOM INTAKE > **SUBMERSIBLE MOTORS RX8-BI & RX10-BI**

230/460/575V - 60 Hz, 415V - 50 Hz

4 Poles, 1800 RPM / 1450 RPM

From: 7.5 HP (5.5 kW) To: 175 HP (130 kW)

2 Poles, 3600 RPM / 2900 RPM

From: 30 HP (22 kW) To: 270 HP (200 kW)

EFFLUENT PUMP > **RX Series**

½ Solid Handling - 115V - 60 Hz

From: 0.33 HP (0.25 kW) To: 0.5 HP (0.37 kW)

MOTOR CONTROL PANEL > **RX CP**

460V - 60 Hz, 415V - 50 Hz

From: 5.5 HP (56 kW) To: 70 HP (52 kW)



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