A common question asked when working with pumps is the difference between Input Power (P1) and Output Power (P2). Both of these values are in units of Power, however they represent two very different things.

Input Power – P1: Input power is the total electrical power supplied to the pump system.

Output Power – P2: Output power is the mechanical power at the shaft of the pump. This is the power that is given as the “Rated Power” of the pump.

The difference between P1 and P2 comes from the efficiency of the motor. The more efficient the motor is, the less power is lost converting from electrical power to mechanical.

In a Hopsel Data Pack, you can find P2 listed on Page 1 and 4, and P1 listed on Page 4 in the “Motor” section (shown in red). If a duty point is entered, the required horsepower at the operating point will be shown in the “Operating Data” sections on Pages 1 and 4 (shown in blue). The maximum required power draw of the selected impeller is shown on Page 4 (shown in orange).