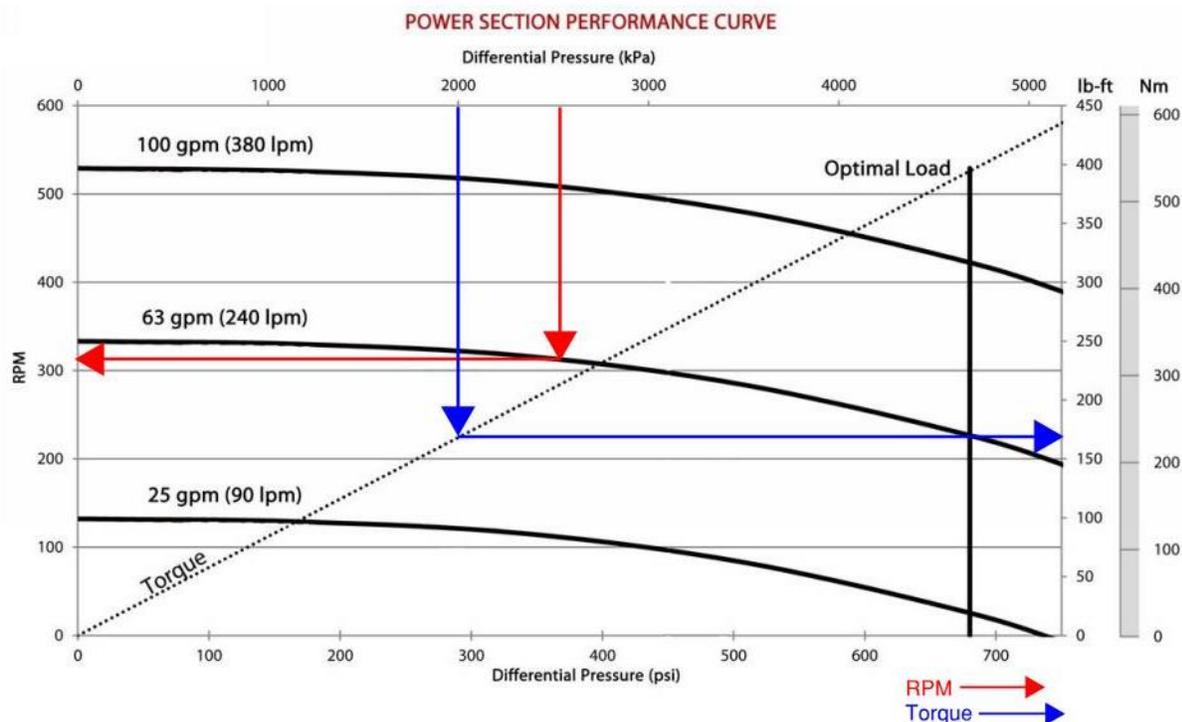




DHM Performance Chart Interpretation



Differential Pressure:

$Differential\ Pressure\ (kPa) = On\ Bottom\ Pressure\ (Drilling\ Pressure)(kPa) - Off\ Bottom\ Pressure\ (Circulating\ Pressure)(kPa)$

Example: On Bottom "Drilling" Pressure = 3000 kPa
Off Bottom "Circulating" Pressure = 500 kPa

$$Differential\ Pressure = 3000\ kPa - 500\ kPa$$

$$Differential\ Pressure = 2500\ kPa$$

**As weight on bit increases this increases On Bottom "Drilling" Pressure and therefore increases your Differential Pressure

RPM:

Given a known water pump flow rate in LPM and a target differential pressure, the operator can predict the Downhole Motor (DHM) rotational speed per minute (RPM) by utilizing the performance chart for that particular DHM. Following the flowrate curve and finding the intersecting Differential Pressure point, the RPM can be determined. The next example will follow the RPM line (red line) in the above chart example.

Example: The 4/5 Lobe 3 Stage DHM is to be operated with a flow rate of 240 LPM & a Differential Pressure of approximately 2500 kPa. Following the Red arrows the operator can expect a rotational speed of approximately 310 RPM.

Torque:

Given a known Differential Pressure, the operator can predict the output Torque (Nm) applied by the power section. The next example will follow the Torque line (blue line) in the above chart.

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Example: The 4/5 Lobe, 3 stage DHM is operating at 2000 kPa differential pressure. The expected output torque applied by the power section will be approximately 220 Nm.