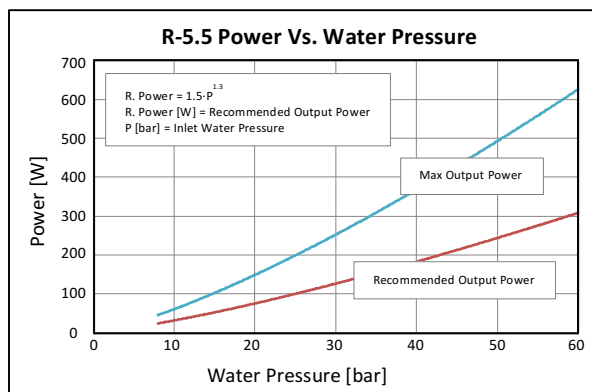


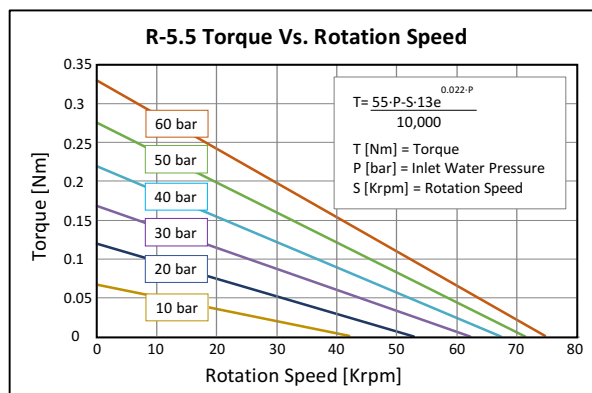
Rotation Speed Vs. Pressure

- This chart illustrates the logarithmic nature of the rotation speeds measured at different pressure levels.
- The formula displayed within the chart can be used to calculate the rotation speed at any pressure level.
- The curve and equation relate to average values. The actual results lie within a small variance from the curve.
- The labeled "Water Pressure" may refer to any liquids with similar viscosity as water (i.e. all types of emulsion/cooling liquid).
- The rotation speed levels shown here are the no-load speeds (i.e. no torque acting upon the shaft).



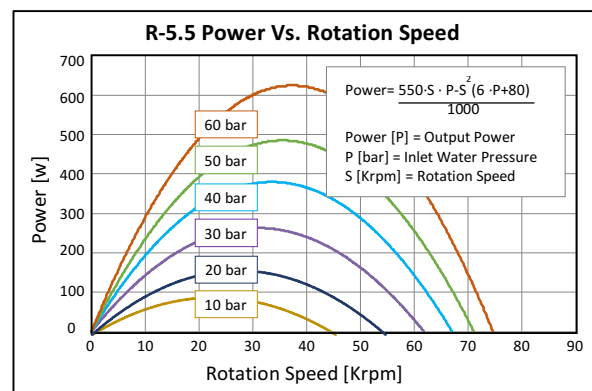
Power Vs. Pressure

- This chart illustrates maximum and recommended output power levels measured at different pressure levels.
- The formula displayed within the chart can be used to calculate the output power at any pressure level.
- The max output power curve is meant as a reference only and should not be used for an actual job. Working near this curve will put the spindle at risk of operating failure and damages may result.
- It is suggested to locate the job's required output power close to or below the "Recommended Output Power" curve, resulting in improved speed stability.



Torque Vs. Rotation Speed

- This chart illustrates the relationship between the torque and the actual rotation speed.
- The formula displayed within the chart can be used to calculate the torque at any rotation speed. Notice that by definition, maximum torque occurs at zero rotation speed resulting in no power. Likewise, at maximum rotation speed there is no available torque, therefore producing zero power.



Power Vs. Rotation Speed

- This chart illustrates the parabolic relationship between output power and rotation speed at different pressure levels. Notice that there is no power available at zero and at maximum rotation speeds.
- This chart illustrates that any external load will cause a reduction in speed; the more power demanded, the greater the speed reduction. To the right of the peak lies the working area of the spindle, the peak being its limit. The spindle will stop rotating should the power exceed "Max Power".