Useful Equations

$$\text{Compressor RPM} = \frac{\text{Motor Pulley Diameter (inch) x Motor RPM}}{\text{Compressor Pulley Diameter (inch))}}$$

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$$\text{Pump Up Time (minutes)} = \frac{\text{Volume (Tank size in Gallons) x Pressure Rise (psi)}}{\text{Pump Delivery (cfm) x PSIA}}$$

Volume of Air (cubic feet) Required to Raise Reciever from 0 Gage to Final Pressure $= \dfrac{\text{Volume of Reciever (Cubic Feet)x psig}}{\text{Atomosphereic Pressure (psia)}}$

$$\text{Piston Speed} \left(\frac{\text{ft}}{\text{min}} \right) = \frac{\text{2 x Stroke (inch) x RPM)}}{12}$$

$$\text{Gallons} = \frac{\text{Cubic Feet}}{.134}$$

Cubic Feet = .134 x Gallons

Volume (cubic feet) Required Raise Reciever Greater than 0 Gage to a Final Higher Pressure

$$= \text{Volume of Receiver (Cubic Feet) x} \frac{\text{Final Pressure (psig) – Initial Pressure (psig)}}{\text{Atmospheric Pressure (psig)}}$$