$$bhp = \left(\frac{Flow \times Head}{3{,}960 \times Efficiency_{Pump}} \right)$$

Where:

$Flow$ = Flow produced by the pump in gpm

$Head$ = Head produced by the pump in feet water column

3,960 = A units conversion constant that will work for water at the temperatures and pressures typically encountered in HVAC systems.

$Efficiency_{Pump}$ = Pump efficiency, read from the pump curve or estimated from past experience; .40 - .70 for small (under 500 gpm) pumps, .70 - .85 for large pumps