



# Chopper Pumps Inquiry Form

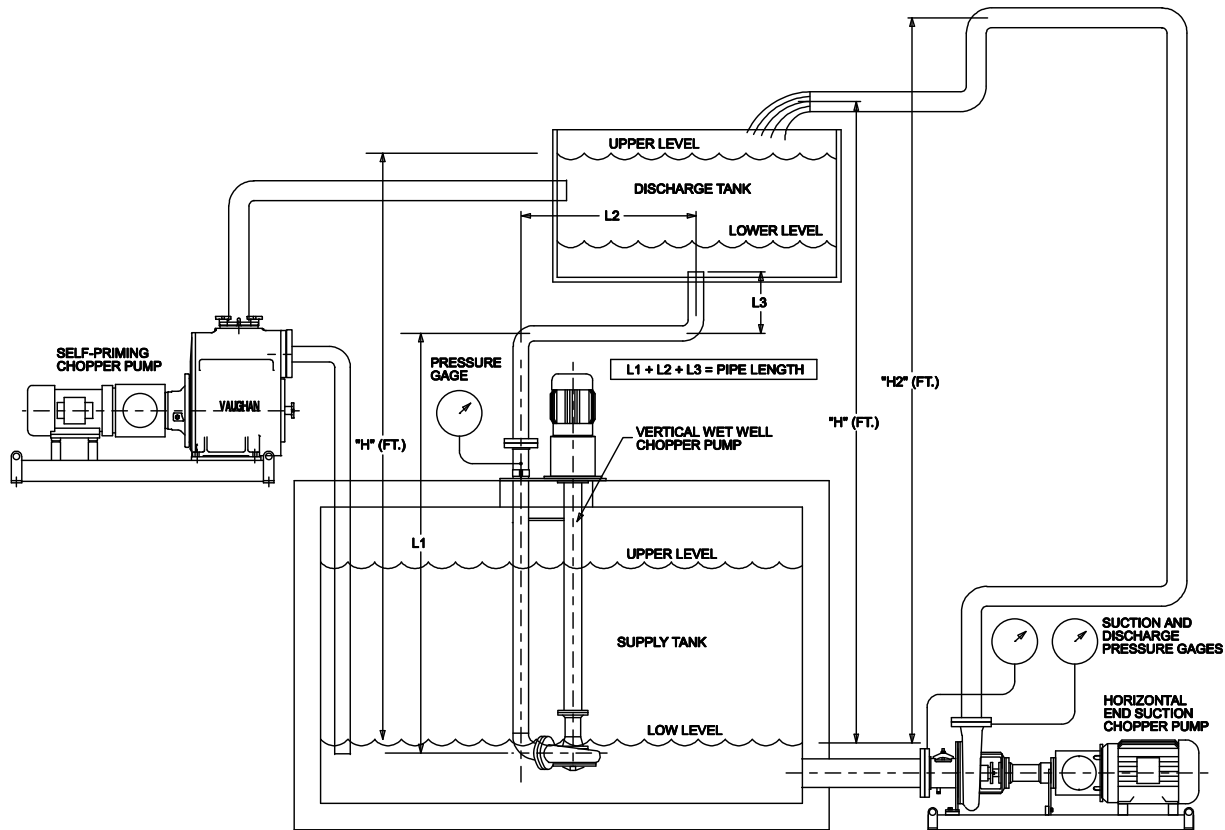
Name: _____	Phone: _____
Company: _____	Fax: _____
Address: _____	e-mail: _____
City: _____	Project Name: _____
State/Country: _____ Zip/Code: _____	Project Location: _____

<p><b>Application:</b></p> <hr/> <p><b>Type of Pump:</b></p> <p>Vertical Wet Well: Length: _____ Feet</p> <p>Vertical Recirculator: Length: _____ Feet</p> <p>Horizontal                      Vertical Pedestal</p> <p>Submersible:                  Explosion Proof</p> <p>   Guide Rail System</p> <p>   Recirculator</p> <p>   Hydraulic Submersible</p> <p>Cantilever: Length _____ Feet</p> <p>Self Primer</p> <p><b>Property of Liquids:</b></p> <p>Temperature: _____ °F                  _____ °C</p> <p>PH: _____                  % SOLIDS: _____</p> <p>Specific Gravity: _____</p> <p>Viscosity (cps): _____ (ssu): _____</p> <p>Describe Solids: _____</p> <p><b>Sump Dimensions:</b></p> <p>_____ ft deep x _____ ft wide x _____ ft long</p> <p>_____ M deep x _____ M wide x _____ M long</p> <p>_____ ft, _____ meters diameter x _____ deep</p>	<p><b>Pump Performance:</b></p> <p><b>Capacity:</b>                                  _____ GPM</p> <p>   _____ M<sup>3</sup>/Hr</p> <p><b>Head:</b>    _____ feet</p> <p>   _____ meters</p> <p>   _____ psi</p> <p><b>System Description</b></p> <p>Pipe Diameter: _____ inch                  _____ mm</p> <p>Disch. Static: _____ feet                  _____ meters</p> <p>Disch. Length: _____ feet                  _____ meters</p> <p>Inlet Static: _____ feet                  _____ meters</p> <p>Inlet Length: _____ feet                  _____ meters</p> <p>Header PSI: _____ PSI</p> <p>Other: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><b>Electric Motor Requirements:</b></p> <p>_____ HP, _____ RPM, _____ Volts, _____ Ph, _____ Hz</p> <p>_____ KW, _____ RPM, _____ Volts, _____ Ph, _____ Hz</p> <p>Enclosure Type: _____</p> <p>_____</p>
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Please tell us how you heard about Vaughan: \_\_\_\_\_

Fax, e-mail or mail form directly to:                  **John Brooks Company**  
**FAX: 1-877-624-5759**  
**Email: Industrial Sales**

# TOTAL HEAD CALCULATIONS



## TOTAL HEAD:

$$\text{TDH} = \text{Pipeline Friction} + \text{Vertical Lift (H)} + \text{Velocity Head (V}^2/2g)$$

- Pipeline Friction = [Pipe Length (ft) / 100] x friction factor (table on form V137)

Water friction tables are suitable for sewage & most water-borne slurries up to 5% solids. For high solids loadings & heavy organic sludge, use the biological friction table on form V137.

- Vertical Lift = feet up from supply tank low-water level to high level in discharge tank, or to the center of the open discharge pipe.

Note: - Lift may be negative (-) if the pipeline is downhill.

- Intermediate pipeline elevations (H2) higher than the final discharge can be ignored, except that the pump shutoff head must be higher than H2 in order to initiate flow.

- Velocity Head = Energy in the liquid being discharged due to its velocity.

Note: - Usually ignored as insignificant in low head sump pump systems.

- For high head systems, use nozzle manufacturer's printed data, or calculate using data as follows:

V = Velocity of the stream at the discharge diameter (ft/sec)

G = Acceleration due to gravity (32.2 ft/sec<sup>2</sup>)

## SPECIAL CASES:

Pipelines with valves & fitting, add appropriate equivalent pipe length.

Pressurized supply or discharge tanks, add the discharge tank pressure, in feet, less any supply tank pressure, in feet, to the above Total Head calculation. Gauge pressure, in psi x 2.31 = head in feet.

Very high solids content sludges & slurries, contact Vaughan on reliable test data for friction values.