



VACUUM ASSISTED PUMP **VUMP**

REYCO Systems **VUMP**

INTEGRATED **V**ACUUM ASSISTED **P**UMP, INSTRUMENTATION AND CONTROLS
ENCLOSED TRANSPORT SYSTEM DESIGNED FOR SLUDGE, SLURRY AND SOLIDS LADEN FLUIDS

WHAT IS IT?

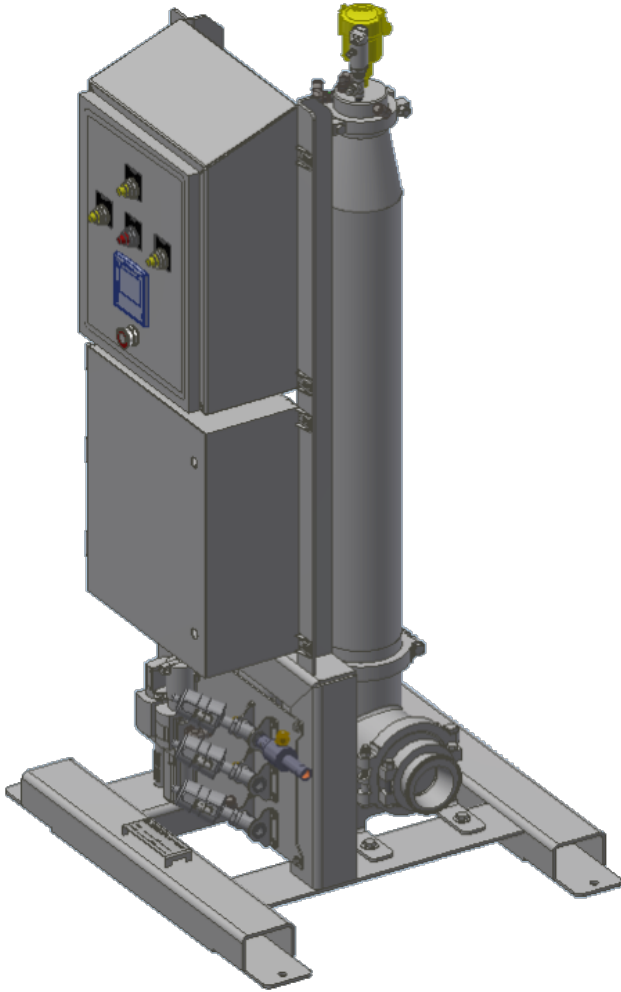
The **VUMP** is an electric/air operated transport system with integrated instrumentation and controls.

It is designed to transport sludge, slurry and solids laden fluids in a totally enclosed, safe and sanitary environment, with minimal moving parts, ultra-low maintenance and downtime while providing the ability to control and conserve process water and energy usage.

WHERE IT IS USED?

The **VUMP** is used in place of, or to replace traditional pump and transport equipment including:

- Positive displacement pumps such as:
 - progressive cavity
 - lobe/rotary piston
 - peristaltic hose
 - reciprocating piston
 - gear pumps
 - Sine pumps, etc.
- Centrifugal pumps or other systems where water is added to fluidize product for pumping (the **VUMP** requires little or no water).
- Low flow applications using oversized equipment selected to handle large solids.
- Screw augers and conveyors.
- Manual transport systems such as fork-lifted totes or bins.



1704 INDUSTRIAL WAY, CALDWELL, IDAHO 83605
Phone: (208) 795-5700 Email: INFO@REYCOSYS.COM
WWW.REYCOSYSTEMS.COM

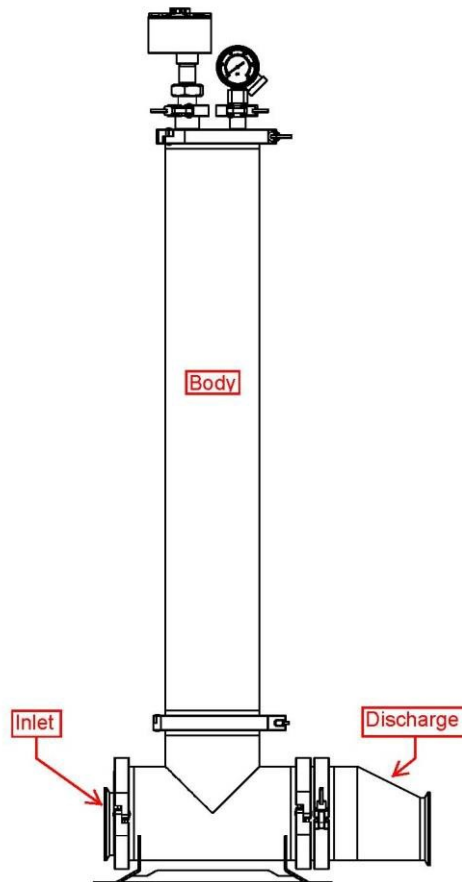


HOW IT WORKS

The Thunder *VUMP* is an air operated, electrically controlled transport system that uses vacuum for suction and compressed air to discharge product.

It operates in two main stages, the filling stage, and the discharge stage.

- Filling Stage: Compressed air is regulated and directed through a vacuum generator which creates a vacuum within the *VUMP* body. This vacuum causes a discharge check valve to remain closed and allows an inlet check valve to open. Product is drawn through the inlet check valve into the body. The body fills until the product contacts the internal Thunder product sensor probe placed in the top of the body. When the probe has been contacted, the *VUMP* switches to the discharge stage.
- Discharge Stage: Vacuum is stopped and compressed air is injected into the *VUMP* body at a regulated pressure for a set amount of time controlled by the user. The air pressure causes the inlet check valve to remain closed while the discharge check valve opens allowing product to exit the body. When the user set discharge timer is finished the *VUMP* re-enters the filling stage and the process repeats



KEY FEATURES

ENHANCED SAFETY

Totally encloses transport system

- No exposed moving parts
- 100% product containment
 - All product contained in a pipeline system
 - No seal leakage
- Vacuum system eliminates the need to install the VUMP under plant equipment

ULTRA LOW MAINTENANCE

- Only two parts in contact with the transport material
- No motors, shafts, seals, bearings, gearboxes or other rotating, sliding or close-fitting wear parts
- Able to operate with product present (“run-dry”) indefinitely with no damage

WATER CONSERVATION

- No shaft seal water (no shaft)
- Transport any flowable or semi-flowable material with little or no water addition
 - In applications where water may be required to assist with product movement, water usage is reduced
- Discharge line purge function using air and/or water
- Automatic internal cleaning only when required
- Automatic slurry thinning only when required

VUMP ENHANCED FEATURES

- “Plug-N-Run” ready out of the box. Factory-supplied controls and instrumentation included to provide a completely automated transfer system out of the box
- Global design
 - All models can be used in any location around the world without modification
- All models operate from a standard 100V to 240V, 50/60Hz power outlet and a compressed air supply
- Automatic or manual internal cleaning (with water connected)
 - The VUMP detects if it is dirty and will automatically clean itself if required
- Automatic water conservation with on-demand slurry dilution (with water connected)
 - The VUMP detects if slurry consistency changes and requires thinning to maintain transportability



VUMP ENHANCED FEATURES (cont)

- Automatic energy conservation
 - Automatic shut off if no product available to pump
 - Automatic restart when product is available (requires hopper level sensor)
- Purge function to evacuate and flush discharge piping or for product recovery
- Transports delicate materials
- Able to operate “dry” with no fluid or slurry present, continuously without damage
- Factory-supplied options available including floor stands with prewired controls and instrumentation, receiving hoppers, and mobile carts
- Simple to install, typical installation includes:
 - Place and level the VUMP
 - Connect discharge piping
 - Connect suction piping/hopper
 - Connect compressed air supply
 - Connect water supply for automatic cleaning and slurry dilution feature
 - Connect controls to nearest single-phase power supply
- Environmentally friendly
 - No lubricates (oil, grease, etc.) of any kind required
 - Use water only when needed
- “Plug-N-Run” ready out of the box
 - Factory supplied controls and instrumentation included
 - No assembly required

PERFORMANCE AND CONFIGURATION FEATURES

- Flow: Variable for 0 to 200 liters/minute (50 USGPM) (based on water-like fluids)
- Discharge pressure: Up to 6 Bar (90 PSI)
- Air requirement: Average approximately 8-20 SCFM depending on model configuration.
- Electric power required: 1 Phase, 100-240V, 50-60 Hz
- Maximum solids size: up to 127 mm (5”) depending on model
- Transport any flowable or semi-flowable material with little or no water added
- Available in industrial and sanitary configurations
- Corrosion-resistant materials are standard: 304 SS Standard
 - 316 SS and other materials available on request
- Tri-Clamp (sanitary) or ANSI flange suction and discharge connections standard
- Custom inlet hoppers and accessories factory available

