

# ALL ↓ ↑ VAC ↓ ↑ LIFT

ALL-VAC-LIFT  
4621 Redstart Street  
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www.VAC-LIFT.com

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## ALL ↓ ↑ VAC ↓ ↑ LIFT PIPE LIFTING SYSTEMS



HIGH PERFORMANCE & HIGH CAPACITY **ALL-VAC-LIFT®** VACUUM LIFTING SUCTION CLAMPS

### OVERVIEW

**ALL-VAC-LIFT** Pipe handling systems are used worldwide to expedite the arduous task of transporting pipes throughout the complete life cycle maze of movement of pipe from factory floors to shipping trucks, vessels or trains to coating facilities and finally to the pipes' final place of end-use.

**ALL-VAC-LIFT** Pipe handlers allow operators to lift pipe gently from the top surface without extraneous ground crew to run slings in and around the work area. Lifting from one pipe to 6 pipes is possible with total capacities approaching up to 30 metric tons if needed.

**ALL-VAC-LIFT** Pipe Vacuum lifting solutions reduce pipe movement quickly to an order of seconds where full status of the system is apparent to the support machine operator via a high frequency radio controller with real-time feedback on vacuum level, lift readiness, and more.

**ALL-VAC-LIFT** systems are fabricated for heavy-duty usage and incorporate the highest level of quality and the most advanced technical design on the market. Fuzzy logic control of the vacuum supply which is driven by a vacuostatic battery system eliminates many common problems associated with other "legacy" systems which still utilize diesel generators which are costly in respect to repairs, safety, and cost.



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## PERFORMANCE SAFETY AND TECHNOLOGICAL ADVANTAGES

Several compounding safety features are inherent in every ALL-VAC-LIFT pipe handler.

### FORCE SAFETY FACTORS ( as per ASME/ANSI B 30.20 Guidelines )

- ⇒ - Vacuum hold force tested for minimal safety factor of 2 times the rated load capacity.
- ⇒ - Structural safety factor designed to 4 or 5 times the rated load capacity.

### AUDIO-VISUAL VACUUM STATUS ALARM SYSTEMS:

- ⇒ - Vacuum Level Sensors
- ⇒ - Vacuum Gauge
- ⇒ - Green lamp, operating when the vacuum level is over 75%
- ⇒ - Klaxon horn & 1 flashing red lamp, operating when vacuum drops under 75%.
- ⇒ - Complete integration with safety reservoir with controls and the above indicators.

### ADDITIONAL SAFETY FEATURES

- ⇒ - Safety reservoir serves as load beam simultaneously.
- ⇒ - High Frequency radio controller.
- ⇒ - System designed to hold pipe with un-powered vacuum supply greater than 30 minutes.
- ⇒ - System designed to hold pipe with vacuum supply under battery power greater than 1 day.
- ⇒ - Battery system is free from vibrating diesel generators which require maintenance.
- ⇒ - System will not pick up loads when vacuum seal criteria is not sufficient for lift.
- ⇒ - Vacuostatic circuitry prolongs pump life and extends duty lift cycle of battery pack.
- ⇒ - Load sensors prevent accidental release unless load is supported underneath.

## GENERAL TECHNICAL FEATURES

### ALL VAC LIFT Pipe Lifters

*For the Transport of Pipe in it's Complete Life Cycle from Factory to Trench*

ALL VAC LIFT is ideal for the handling of pipes of steel, plastic, or other compositions. Unit can be designed for use with a forklift, cranes, back-hoes, front-loaders, HIAB, or pipe layers.

### Primary benefits include:

- Reduced crew size saves labor
- Improves worker safety in direct process.
- Prevents damage to pipe frequently caused by manual handling and rigging.
- Shortens handling time, expedites scheduling.
- Returns savings on Investment by way of technologically advanced design.



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## TECHNICAL DATA:

|                        |   |
|------------------------|---|
| Power Supply           | 72 volt DC self-contained battery   |
| Recharging             | Re-charger included   |
| Lift Duty Cycle        | <b>AVG: 30 hours continuous duty ***</b>  |
| Load Carrying Capacity | 5 / 10 / 15 / 20 tons / up to 30,000 kgs  |
| Unit Weight            | from 750 kgs  |
| Unit Base Dimensions   | 4.5 m x 1.2 m x 1.0 m   |
| Suction Pads OD        | from 6" up to 60"+  |
| Vacuum Safety Factor   | min: 2 : 1  |
| Number of Pads         | min: 1 heavy duty / pipe up to 6 total  |
| Size of Pads           | varies upon capacity  |
| Vacuum Supply          | Pump is vacuostatic about 0.6 to 0.8 bar range, turning off and on to save power and pump lifespan. |
| Vacuum Attach Release  | from 2 to 5 seconds   |
| Safety Features        | Vacuum Reservoir, Audible / Visual Alarms, Battery Gauge,   |
| Control                | High Freq. Radio Pendant  |
| Load Articulation      | Hydraulic Rotator by others.  |
| Support Machine        | Hoist, Forklift, Crane, HIAB, Excavator, +  |

## MODEL, DIMENSIONS, CAPACITY, PIPE LOAD SPECIFICATION

- VLB-1P-0X-5/8/12/16/20-PIPE:**
  - Lifting single 5, 10, 15, or 20 ton pipe with 1 suction pad.
- VLB-2P-0X-5/8/12/16/20-PIPE:**
  - Lifting with double pad, 2 pipes with 8, 12, 15, or 20 total capacity.
- VLB-3P-0X-5/8/12/16/20-PIPE:**
  - Lifting with triple pad, 3 pipes with 8, 12, 15, or 20 total capacity.
- VLB-MP-0X-5/8/12/16/20-PIPE:**
  - Lifting with multiple pads, many pipes with 8, 12, 15, or 20 total capacity.

Pipe can be coated ( FBE, PE, PU, Castcrete, etc ) or uncoated made of steel, plastic, or concrete.

## PAD SELECTION, OPTIONS AND SUPPORT MACHINE TYPES

Pads are designed to take pipe weight capacity, OD, and length into consideration. A minimum safety factor of 2 is incorporated mandatory by our design guidelines.

Typically pads can lift pipe centered about a particular OD with +/- 2.0 inches or 5 cm range for a total interval of 4.0 inches or 10 cm.

However, pads can be customized to take longer total OD intervals into consideration thereby creating huge savings in total system price.

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## **LIFT PERFORMANCE ACTUAL AND THEORETICAL**

- 35 Seconds Run Time on Lift
- 240 Second lift and place
- 108 Lifts per 8-hour shiftwork
- 15 Seconds General top up per lift
- Total unit run time 90 minutes per 8 hour shift ( pump automatically turns on / off )
- Total available run time 4 hours
- Theoretical run time is 2.5 days

## **INSTALLATION, MAINTENANCE, AND WARRANTY TERMS**

- ❖ INSTALLATION - NONE REQUIRED
- ❖ MAINTENANCE – MINIMIZED (NO DIESEL GENERATORS REQUIRING REPAIR).
- ❖ COMMISSIONING – TO BE CARRIED OUT BY CUSTOMER.
- ❖ GUARANTEE: 12 MONTHS PERIOD FROM DATE OF COMMISSIONING,
- ❖ COVERING: FAULTY CONSTRUCTION AND/OR PARTS.
- ❖ FINISHING: ALL STEEL PARTS, PRIMERED AND PAINTED IN SILVER RAL 1008
- ❖ SPARES LIST INCLUDE: LINE FILTER, HOISING, PUMPS VANES, SUCTION PAD SEAL MATERIAL, VALVES, CLAMPS.



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## APPLICATIONS: CASE STUDY OVERVIEW

### PIPE LAYER WITH VACCUM LIFT



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## APPLICATIONS: CASE STUDY OVERVIEW (CONT'D)

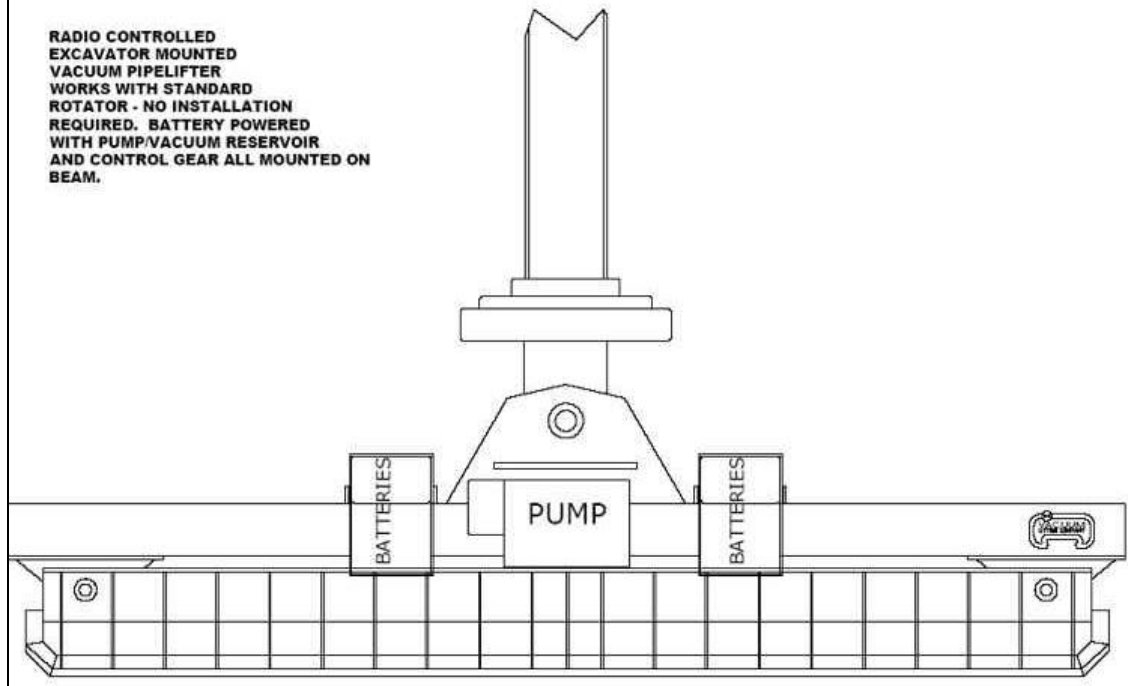
### ALL-VAC-LIFT Excavator Mounted.

- Unloading or Loading trucks or vessels.
- Pipe laying in trenches.



## Vac-Lift Pipe Lifter

RADIO CONTROLLED  
EXCAVATOR MOUNTED  
VACUUM PIPELIFTER  
WORKS WITH STANDARD  
ROTATOR - NO INSTALLATION  
REQUIRED. BATTERY POWERED  
WITH PUMP/VACUUM RESERVOIR  
AND CONTROL GEAR ALL MOUNTED ON  
BEAM.



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## **APPLICATIONS: CASE STUDY OVERVIEW (CONT'D)**

### **ALL-VAC-LIFT Crane Mounted Single Pipe Lift**

- Factory handling of pipes.
- Coating facility pipe transport regardless of type of coating ( FBE, PE, PU, etc )..



### **ALL-VAC-LIFT Crane Mounted Double Pipe Lift**



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## ALL-VAC-LIFT Ship Crane Mounted Pipe Lift for 15 ton large diameter coated pipes.

