OPERATION, MAINTENANCE, AND INSTALLATION MANUAL

Vert-I-Pack

CE Version

MARATHON®
A DOVER COMPANY

Vernon, AL - Yerington, NV
1-800-633-8974
www.nexgenbalers.com

Marathon Equipment Company
OMI Manual No. 0020-CE, Revision Date: May 2010
www.marathonequipment.com

Table of Contents

P.O. Box 1798
Vernon, AL 35592-1798
800-633-8974
205-695-9105
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EC Declaration of Conformity

The Supply of Machinery (Safety) Regulations 2008

Pursuant to The Council of the European Communities Directive 2006/42/EC

The Machine/Installation:
PRODUCT: VIP Vertical Compactor
SERIAL NUMBER:
YEAR OF MANUFACTURE:

The above has been developed, designed, and manufactured in accordance with the above relevant statutory provisions by:

Marathon Equipment Company
950 County Road 9 South
Vernon, AL, USA 35592

The following harmonized standards have been applied:

BS EN ISO 12100-1:2003+A1:2009, Safety of machinery. Basic concepts, general principles for design. Basic terminology, methodology

BS EN ISO 13850:2008, Safety of Machinery, Emergency Stop. Principals for Design.

BS EN ISO 13857:2008, Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs

BS EN 60204-1:2006+A1:2009, Safety of Machinery, Electrical Equipment of Machines

BS EN 349:1993+A1:2008, Safety of Machinery, Minimum Gaps to Avoid Crushing Parts of the Human Body

BS EN 982:1996+A1:2008, Safety of machinery. Safety requirements for fluid power systems and their components. Hydraulics

BS EN ISO 14121-1:2007, Safety of machinery. Risk assessment. Principles

BS EN 953:1997+A1:2009, Safety of machinery. Guards. General requirements for the design and construction of fixed and movable guards

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Technical documentation is available upon request.
The operating manual for the machine/installation is provided.
(*) in the language of the country of manufacture
(*) in the national language of the user

THIS DECLARATION WILL BECOME INVALID IF, FOLLOWING HAND OVER, THE MACHINE/INSTALLATION IS ALTERED IN ANY WAY.

DATE	SIGNATURE	PRINTED NAME & TITLE

Installation and CE Procedure

1. Upon arrival on site ascertain site safety rules for contractors (some companies will insist on an induction course).

2. Upon commissioning of the machine, make a Noise Assessment of the machine and record the results on the form provided, return to Marathon Equipment Co.

3. Check that all items on the Risk Assessment checklist are carried out. If due to unforseen circumstances the risk assessments conclusion cannot be achieved, contact Marathon Equipment Co. for further instructions. If upon receipt of those instructions the conclusion of the risk assessment changes from that indicated on the RA checklist (i.e. an interlocked guard is changed to a fixed guard) then endorse the RA checklist with that change, return to Marathon Equipment Co.

4. Train the operators in the use of the machine using the operator's training manual. Check off each item on the operator training checklist as a check that all items are covered. Return checklist to Marathon Equipment Co.

5. Complete and sign the operator's training certificates, return copies to Marathon Equipment Co.

6. Once all of the above are complete, the machine Certificate of Acceptance must be completed in duplicate and signed by the customer and yourself, one copy left with the customer, the other returned to Marathon Equipment Co. The operating manuals should now be handed over to the customer.

7. Under no circumstances must the machine be left in an operational condition:
    1. If the installer is not in control and on site.
    2. Until the machine is fully commissioned.
    3. Until the CE mark has been affixed.
    4. Until the operators have been trained in the use of the machine.
    5. Until the machine has been handed over to the customer along with manuals and the Certificates of Acceptance have been completed.

Training Certification

THIS IS TO CERTIFY THAT:

NAME:_____ COMPANY:_____

HAS RECEIVED BASIC TRAINING ON THE OPERATION OF

MACHINE:_____

DETAILS:

1. General Description of Machine and Operator's Manual.
2. How to Start the Machine.
3. The Normal Mode of Operation of the Machine.
4. The Safety Procedures - Emergency Stop, etc.
5. Normal Maintenance procedures and service intervals.
6. Simulated Faults and Remedies.

Signed:_____ Date:_____

Signed:_____ Date:_____
for Marathon Equipment Company

Certificate of Acceptance

CUSTOMER: _____

SITE: _____
_____
_____
_____

MACHINE: _____

SERIAL NO: _____

The above mentioned plant has been delivered, erected, and commissioned in accordance with the contract and the requirements of the Supply of Machinery (Safety) Regulations 1992 (The Council of the European Communities Directive 89/392/EEC as amended).

Trial run has been completed and the plant has been tested with material.

Operating Staff have been trained and the Operating Manual has been handed over to the Customer.

The Customer's attention is drawn to the requirements of The Provision and Use of Work Equipment Regulations 1998.

GUARANTEE PERIOD COMMENCES ACCORDING TO THE CONTRACT.

Remarks:

_____ _____
Signature of Customer Date

_____ _____
Signature of Marathon Equipment Co. Date

Risk Assessment Checklist

MARATHON EQUIPMENT CO.
CE RISK ASSESSMENT

EQUIPMENT MODEL: _____

DATE OF ASSEMBLY: _____

HAZARD	CONTROL MEASURES	ACTION REQUIRED

If more copies are needed, remove blank and make duplicates.

OPERATION

Introduction

Thank you for purchasing a Marathon Vert-I-Pak® (VIP) Compactor.

This product is designed to give you reliable service and superior performance for years to come. To guarantee top performance from your compactor and safest operation, each person involved in the operation, maintenance, and installation of the machine should read and thoroughly understand the instructions in this manual and follow ALL warnings.

Employers involved in the operation, maintenance, and installation of the baler should also read and understand the most current version of the following applicable standards:

ANSI Standard No. Z245.2, "Stationary Compactors Safety Requirements"

A copy of this standard may be obtained from ANSI (www.ansi.org):

25 West 43rd Street
New York, NY 10036

OSHA Title 29 CFR, Part 1910.147

"The Control of Hazardous Energy (Lock-Out and Tag-Out)" (www.osha.gov)

Any service or repair instructions contained in this manual should be performed by factory authorized personnel only.

If you should need assistance with your equipment, please contact your distributor. When contacting your distributor, you will need to provide:

- Serial Number: _____
- Installation Date: _____
- Electrical Schematic Number: _____

If you have any safety concerns with the equipment, or need further information, please contact us at 1-800-633-8974 or:

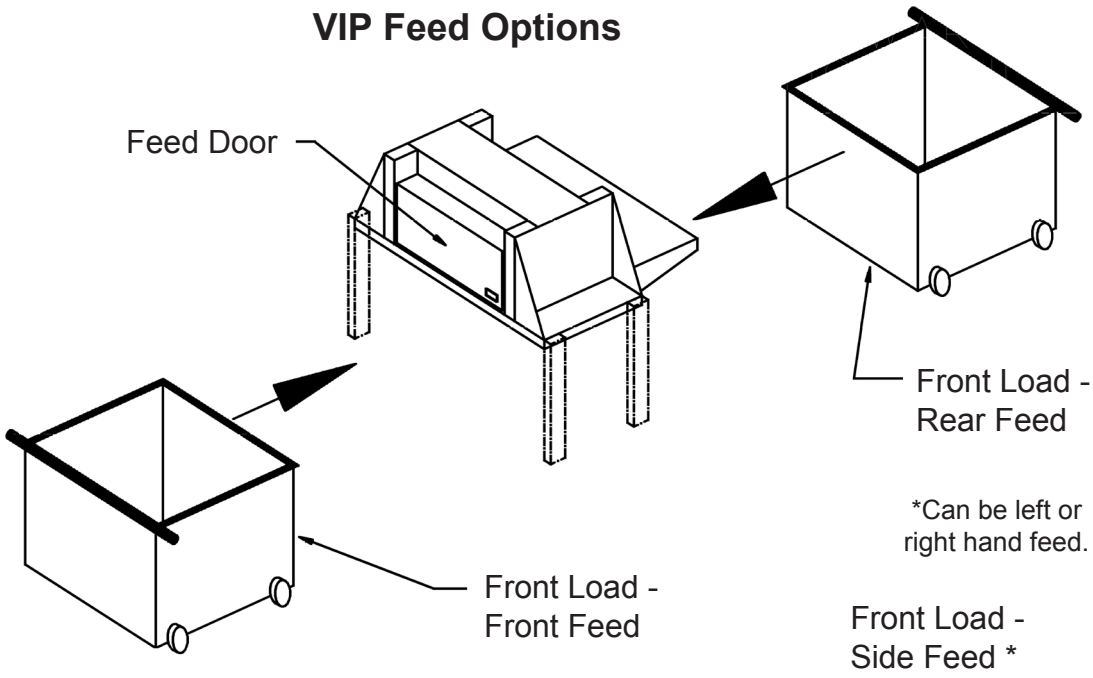
Marathon Equipment Company
Attn: Field Service Department
P.O. Box 1798
Vernon, AL 35592-1798

Specifications

Charge Box Capacity	.41 m^3
Clear Top Opening	660 mm x 1168 mm
Cycle Time	29 sec.
Total Normal Force	117 kN
Total Maximum Force	134 kN
Electric Motor	2.2 kW
Voltage	380/440 3 Phase
Normal Ambient Operating Temp.	-25° minimum to +40° maximum
Climate Conditions	din 40 - 040 class F
Altitude	Maximum 1000 m above sea level
Degree of Protection	IP66

Storage

Store all machines in a protected, dry, vibration and dust-free area. Un-machined surfaces (shaft-end and flanges) should be given anti-corrosion coatings. It is recommended that shafts be rotated periodically by hand to prevent grease migration.



Pre-Operation Instructions

CAUTION: Do not lift more than 25 kg! Wear safety glasses and gloves when performing maintenance on this machine. Fixed guards must be securely held in place.




This machine starts automatically. stay clear of all internal parts of the compactor during operation. failure to do so could result in serious injury or death!

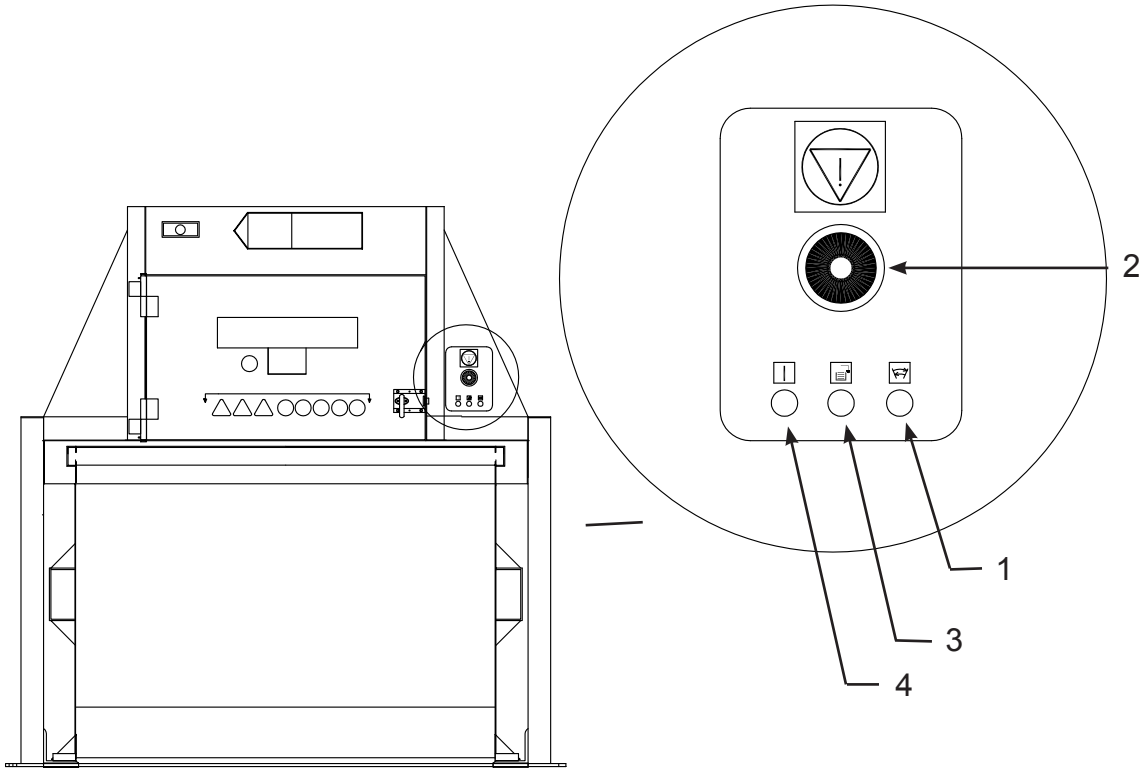

Never enter any part of the compactor unless the disconnect switch has been locked-out and tagged-out per the "Lock-Out & Tag-Out Instructions" on page 2-1. Before starting the compactor, be sure no one is inside. Be certain that everyone is clear of all points of operation and pinch point areas before starting.

THE EMPLOYER SHOULD ALLOW ONLY AUTHORIZED AND TRAINED PERSONNEL TO OPERATE THIS COMPACTOR. This compactor is equipped with a key operated locking system. The key(s) should be in the possession of only authorized personnel.

DO NOT REMOVE ACCESS COVERS EXCEPT FOR SERVICING. Only authorized service personnel should be allowed inside. All access covers on the compactor body should always be secured in place when the unit is operating. See Lock-Out & Tag-Out instructions on page 2-1.

ONLY AUTHORIZED PERSONNEL SHOULD BE ALLOWED INSIDE THE PANEL BOX. The panel box contains high voltage components. See Lock-Out & Tag-Out Instructions on page 2-1.

Controls For CE Units



Control Description

1. DOWN/UP (Keyed Start Switch) - This spring-return switch requires a key for operation. Insert the key in the DOWN position and turn clockwise to the UP position and release. The compactor ram will travel to the up position and stop. At that time, the feed door can be opened for loading of refuse. When the material is loaded, the door is closed. The ram automatically compacts the refuse and returns to the mid point position and stops. After use, remove the key.

2. EMERGENCY STOP - When depressed, this mushroom head pushbutton will stop all powered operation of the compactor.

3. CONTAINER FULL - Automatically lights up when the container has been completely filled. To reset the light, empty the container, and replace the container.

4. POWER ON (Illuminated) - Press this push button to power up machine.

1. Insert the key into the key switch. Turn it to the UP position, hold for 1 to 2 seconds, then release. The compactor ram retracts to the top position and stops.

2. Open the feed door and place the material to be discarded into the compactor.

3. Close the feed door, press "POWER ON", turn the keyswitch to the DOWN position, and the ram automatically cycles down and compacts the material. The ram returns to the mid position and stops.

4. Repeat steps 1 - 3, if necessary, after the compactor has stopped.

5. When you have finished using the compactor, remove the key from the key switch.

6. When the CONTAINER FULL light comes on, it is time to have the container emptied. Hauler Instructions are provided at the end of this manual.

IN CASE OF EMERGENCY:
Push the large RED button to STOP

Tips For Maximum Compaction

- Place material uniformly across the compaction area.
- Always keep the feed door closed. This assures that the ram has compacted the refuse and has stopped at the mid position where it holds constant pressure on the material.

Decals

Warning Decal Requirements

When your compactor leaves the factory, the following warning decals are installed for protection. These decals are subject to wear and abuse due to the nature of the refuse handling operation. THESE DECALS MUST BE MAINTAINED. Additional decals may be purchased from your distributor or from Marathon Equipment Company. Refer to "Decal Placement" on page 1-8.

Read Service Manual
06-0420

Read Manual
06-0419

Wear Ear or Hearing Protection
06-0423

Wear Eye Protection
06-0422

Wear Gloves
06-0421

Electrical Lockout
06-0430

Stay Clear
06-0426

Do Not Remove Guard
06-0429

Hot Surface
06-0424

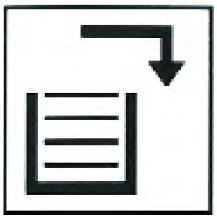
Body Top Crush
06-0417

Automatic Startup
06-0425

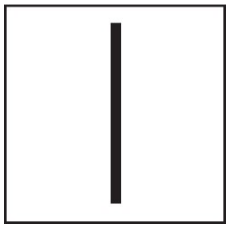
Electric Shock Hazard
06-0418

Emergency Stop
06-0428

Container Full
06-0448



Power On
06-0439

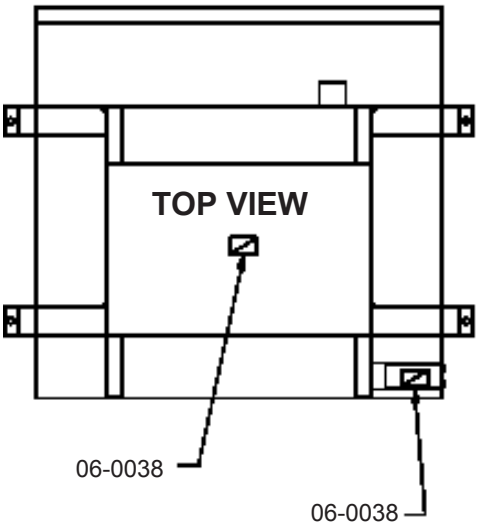


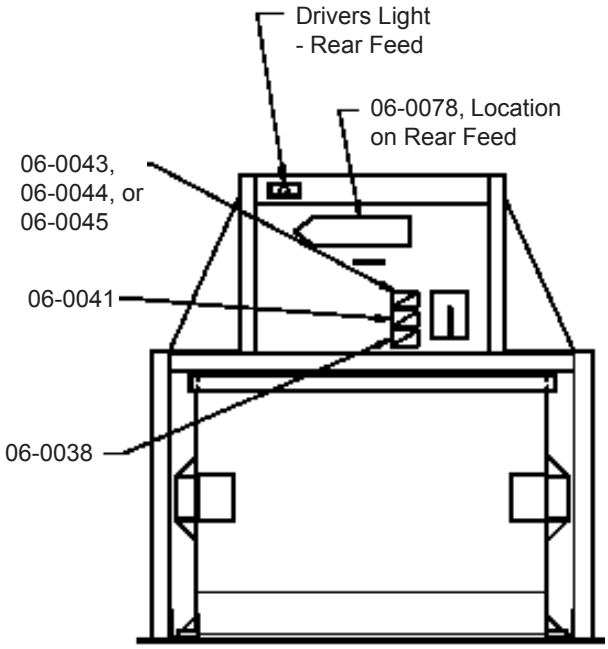
Down/Up
06-0445

Decal Part Numbers

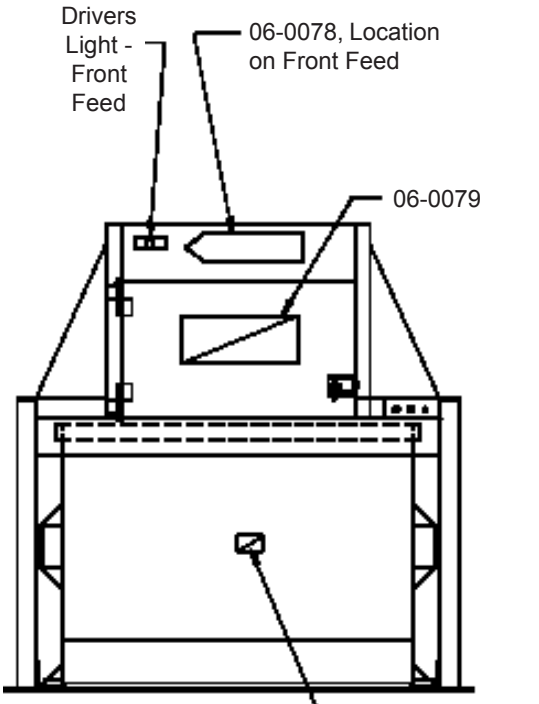
Part #	Qty	Description
06-0078	1	ATTENTION DRIVER
06-0079	1	OPERATING INSTRUCTIONS
06-0417	2	BODY TOP CRUSH
06-0418	3	ELECTRIC SHOCK
06-0419	2	READ MANUAL
06-0420	4	READ SERVICE MANUAL
06-0421	2	WEAR SAFETY GLOVES
06-0422	2	WEAR EYE PROTECTION
06-0423	2	WEAR EAR PROTECTION
06-0424	2	HOT SURFACE
06-0425	2	AUTOMATIC START-UP
06-0426	4	STAND CLEAR
06-0428	1	EMERGENCY STOP
06-0429	2	DO NOT REMOVE GUARD
06-0430	2	ELECTRICAL LOCKOUT
06-0439	1	POWER ON LEGEND
06-0445	1	UP/DOWN
06-0448	1	CONTAINER FULL
06-0466	1	OPERATING INSTRUCTIONS
06-0467	1	ATTENTION DRIVER
06-0468	1	SERIAL NUMBER PLATE

Decal Placement

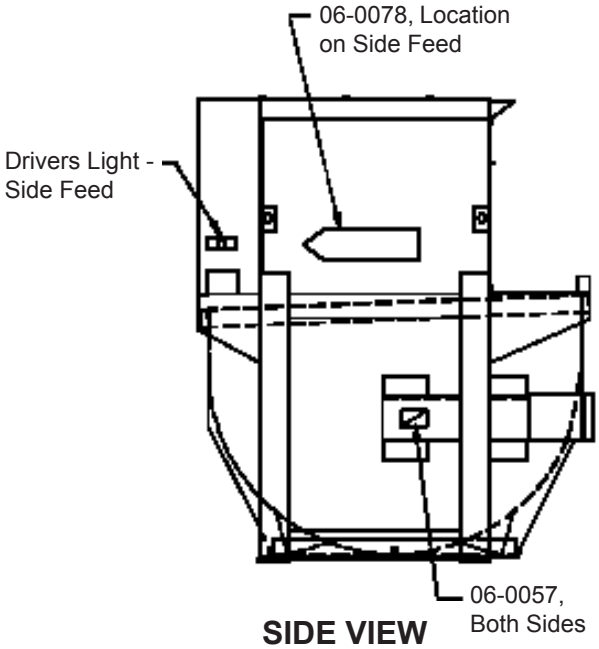




REAR VIEW



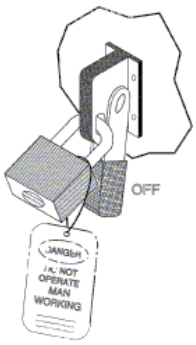
FRONT VIEW



SIDE VIEW

MAINTENANCE

Lock-Out & Tag-Out Instructions



Before entering any part of the compactor, be sure that all sources of energy have been shut off, all potential hazards have been eliminated, and the compactor is locked-out and tagged-out in accordance with OSHA and ANSI requirements. If the ram is pressing against a load, move the ram upward before shutting the compactor down. The specific lock-out and tag-out instructions may vary from company to company (such as multiple locks may be required, or other machinery may need to be locked-out and tagged-out). The following instructions are provided as minimum guidelines.

Instructions

1. Move the main disconnect lever to the OFF position.
2. Padlock the disconnect lever with a keyed padlock and take the key with you.
3. Along with the padlock, place an appropriate, highly visible, warning tag on the disconnect lever. The tag should provide a warning such as: " Danger: Do not operate equipment. Person working on equipment. Warning: Do not energize without the permission of _____."
4. After locking and tagging the compactor, try to start and operate the compactor (as outlined in the Operation section) to make sure the lock-out and tag-out is effective. If it is, remove the key from the keyswitch and take with you.

The Vert-I-Pack compactor is designed to automatically cycle the ram when when the feed door has been opened and closed. Do not perform any maintenance, repairs, or adjustments to the compactor until it has been locked-out and tagged-out per the instructions above.

Electrical: The panel box contains high voltage components. Only authorized service personnel should be allowed inside the box. Authorized service personnel should be allowed inside the box only after the compactor has been locked-out and tagged-out.

Hydraulic: Stored hydraulic energy must be removed from the compactor hydraulic circuit for complete lock-out and tag-out. Make sure that this energy has been relieved by manually depressing the solenoid valve pin located in the center of the coil end of the directional control valve on the power unit.

Periodic Maintenance

DANGER: Only authorized and trained personnel should perform the following procedures. Lock-Out and Tag-Out per as specified in "Lock-Out & Tag-Out Instructions" on page 2-1.

Monthly (or every 160 hours of operation)

1. Check hoses for chafing, rubbing, or other deterioration and damage.
2. Check for any obvious unsafe conditions in the compactor area.
3. Check oil level in hydraulic reservoir. Level should be 3/4 of sight gauge.
4. Clean out debris from behind compactor ram.
5. Check the magnetic door lock for proper operation. See procedure later in this
6. section of the manual.
7. Check container gone interlock for proper operation. See procedure later in this
8. section.
9. Lubricate the Vert-I-Pack per the Lubrication Diagram later in this section.

Three Months

1. Check functional operation of controls and options (stop button, timers, lights, etc.).
2. Check hydraulic cylinder and connections for leakage.

Annually

1. Change the hydraulic fluid and suction strainer in the power unit reservoir.

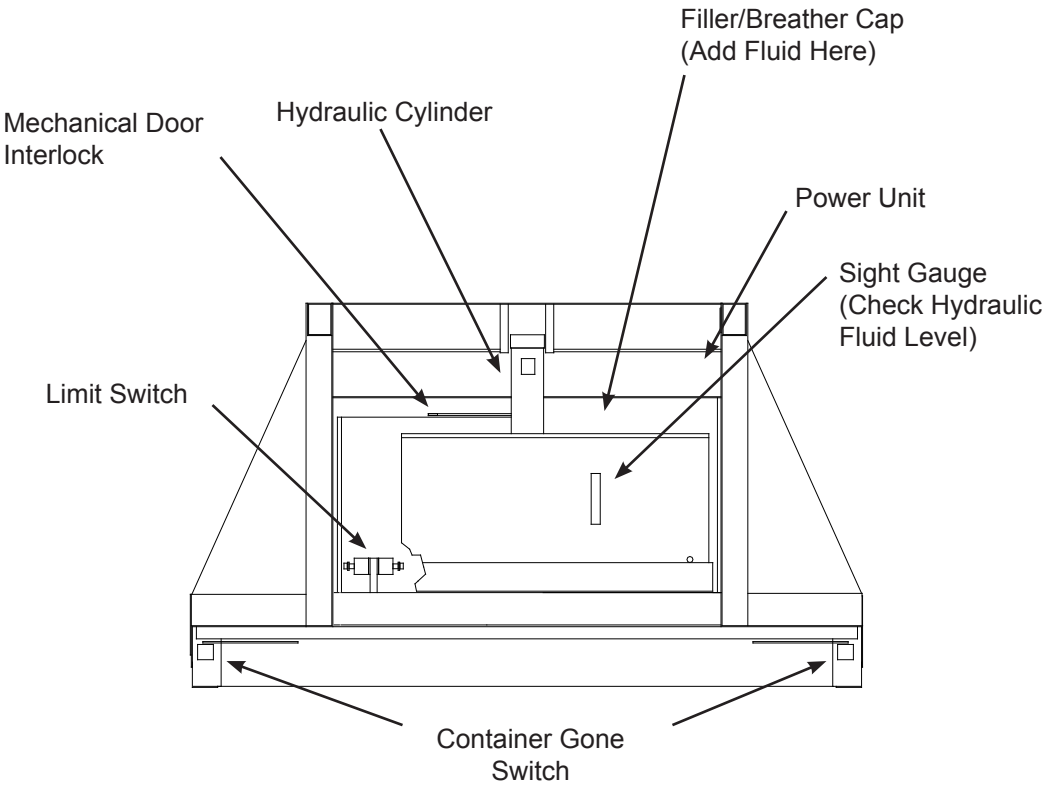
Recommended Oils

Union-UNAX-46, UNAX-AW46
Gulf-Harmony 47, Harmony 48-AW
Exxon-Teresstic 46, NUTO 46
Texaco-Rando 46
Chevron-AW 46
Shell-Turbo 46, Tellus 46
Citgo-Pacemaker 46, Tellus-AW46
Conoco-Super Hydraulic Oil 46
Quaker State-Dextron II (ATF) Automatic Transmission Fluid
Amoco-Rycon MV Cold Weather Fluid

Maintenance Map For Vert-I-Pack

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out.

This diagram shows the location of the key components of the VIP. This section of the manual (section 2 - maintenance) includes procedures for maintaining most of these components. Contact the factory for further information.

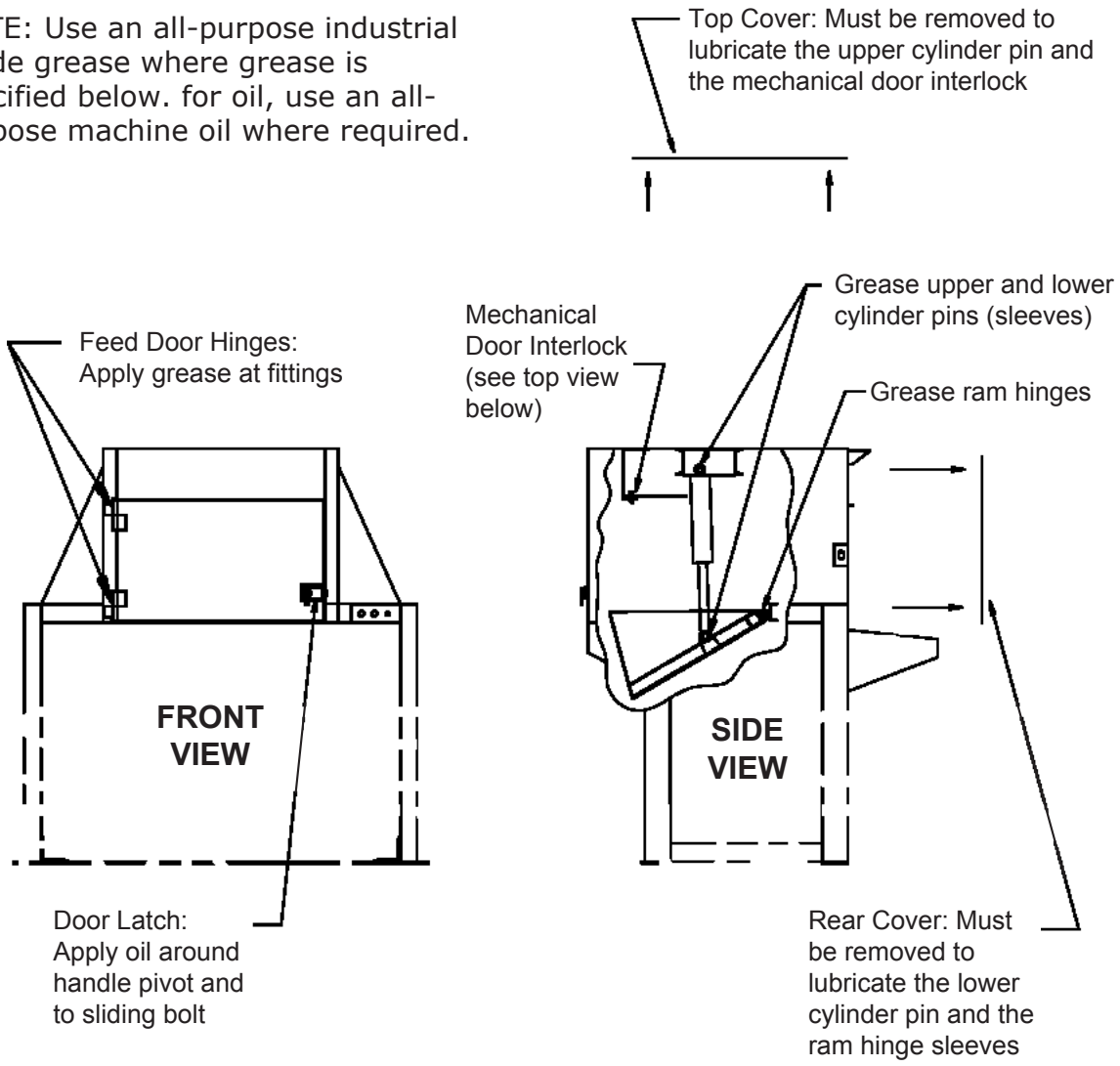


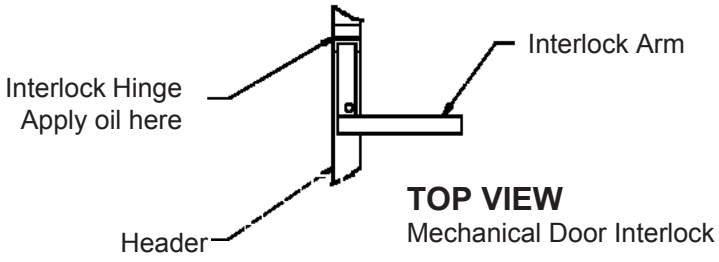
Rear View of VIP
(End Opposite Feed Door,
Rear Access Cover Removed)

Lubrication Diagram

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out.

NOTE: Use an all-purpose industrial grade grease where grease is specified below. for oil, use an all-purpose machine oil where required.





Procedure - Limit Switch Adjustment (Top)

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out per the instructions on page 2-1.

Step 1 - Locate top position limit switch.

NOTE: The limit switch for the ram top position should be set to actuate when the cylinder is 12.7 mm from bottoming out.

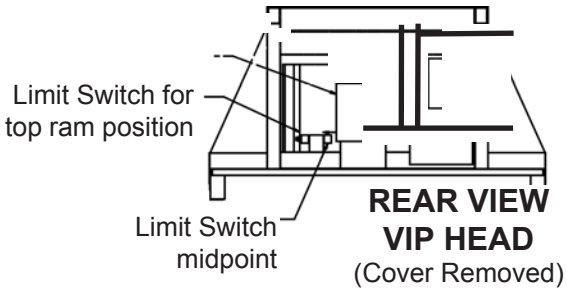
Step 2 - Loosen limit switch arm.

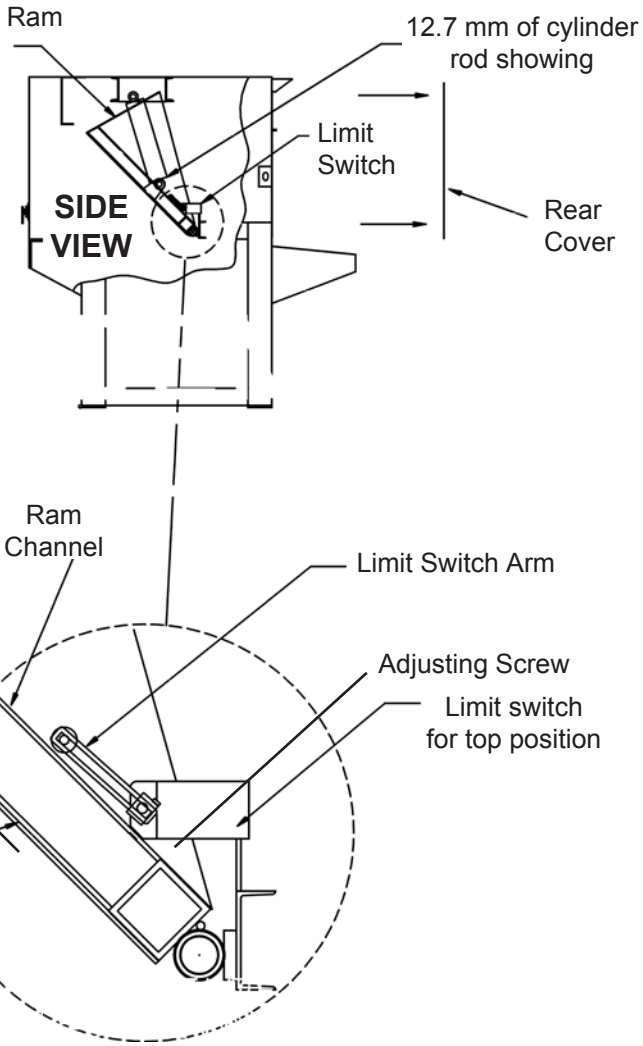
Step 3 - Make sure that compactor is clear of all personnel. Raise ram to a position where the cylinder lacks 12.7 mm before bottoming out.

Step 4 - Position limit switch arm against ram channel and tighten adjusting screw.

Step 5 - Make sure that compactor is clear of all personnel and test run compactor. If the cylinder bottoms out, Steps 3 & 4 will have to be repeated while increasing the 12.7 mm measurement by 3.2 mm.

Step 6 - When adjustment is complete, replace the cover.





Procedure - Limit Switch Adjustment (Midpoint)

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out per the instructions on page 2-1.

Step 1 - Locate the midpoint limit switch.

NOTE: The limit switch for the ram midpoint position should be set so the ram face stops 38-50 mm above the bottom of the door opening.

Step 2 - Run ram to up position and open the door. Make a 15.25 cm chalk mark horizontally located 54 cm above the bottom of the door opening on the inside wall of the VIP.

Step 3 - Close the door and remove the rear access cover.

Step 4 - Clear the compactor area of all people and run the ram down all the way and push the STOP button.

Step 5 - Loosen the limit switch arm (rod) and slide out of actuator.

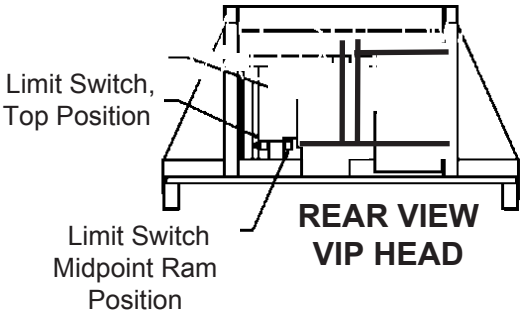
Step 6 - Clear the compactor area of all people and manually engage the motor starter until the top of the ram reaches the chalk mark. (NOTE: Release the starter before the ram reaches the mark because the ram will drift into position.

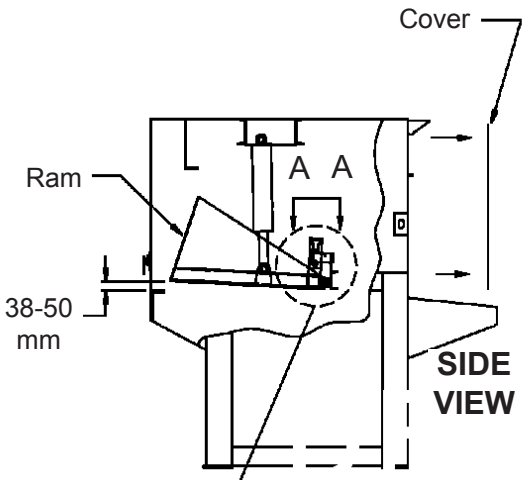
Step 7 - Extend the limit switch arm back through the actuator and position against the back of the slot in the actuator (as shown at right).

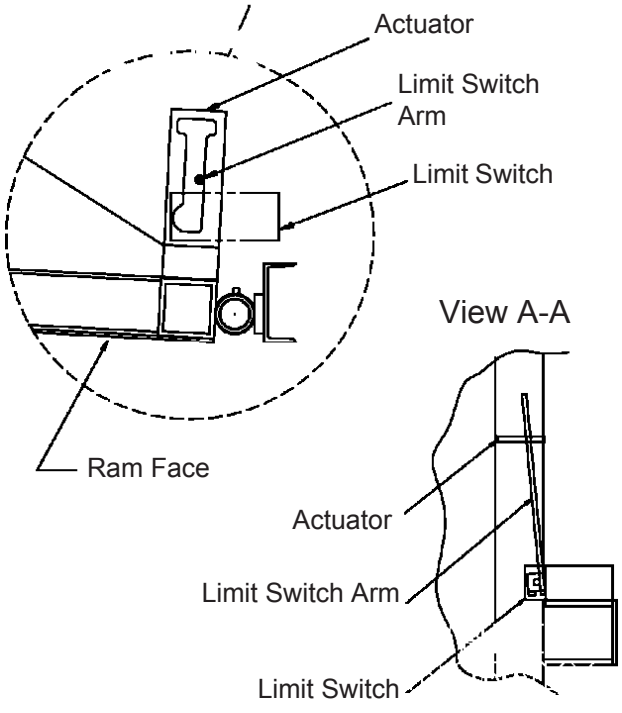
Step 8 - Tighten the allen screws on the arm assembly.

Step 9 - Clear the compactor area of all people and run the machine to check proper operation.

Step 10 - Replace the rear access cover.





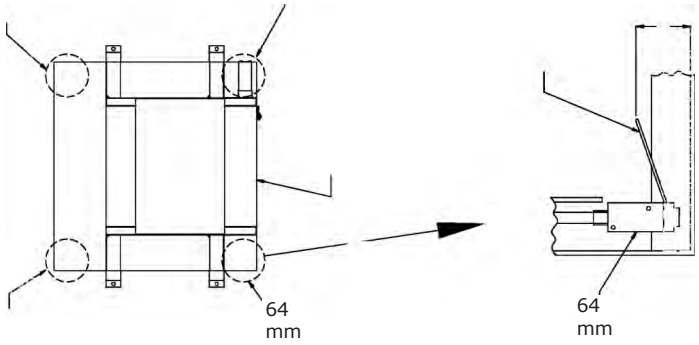


Procedure - Container Interlock Adjustment

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out per the instructions on page 2-1.

Adjustment

1. Lock-out and Tag-out unit.
2. Loosen screw/nut holding limit switch arm. Make sure arm/rod measures 125mm.
3. Adjust arm until it is 64mm from container stopping point as shown below.
4. Re-tighten screw/nut and check measurements.



Top View of Interlock Switch

Procedure - Cylinder Replacement

WARNING: Never enter any part of the compactor until the unit has been locked out and tagged out per the instructions on page 2-1.

Cylinder Replacement Instructions

1. Make sure unit is locked-out and tagged-out.
2. Remove access covers.
3. Positively support the ram with a fork lift and/or 100mm x 100mm wooden timbers.
4. Remove hydraulic pressure by depressing the solenoid valve pin/spool.
5. Remove hoses.
6. Remove cylinder pins.
7. Remove cylinders.
8. To install the cylinders, reverse the above steps.

Electrical Charts

Fuses and Circuit Breakers

Three Phase

Motor Size	VAC	Full Load Amp	Dual Element Fuse Max	Circuit Breaker Max	Service Disconnect
2.2 kW	400	5.0	15 Amp	10 Amp	30 Amp

Wire Sizes

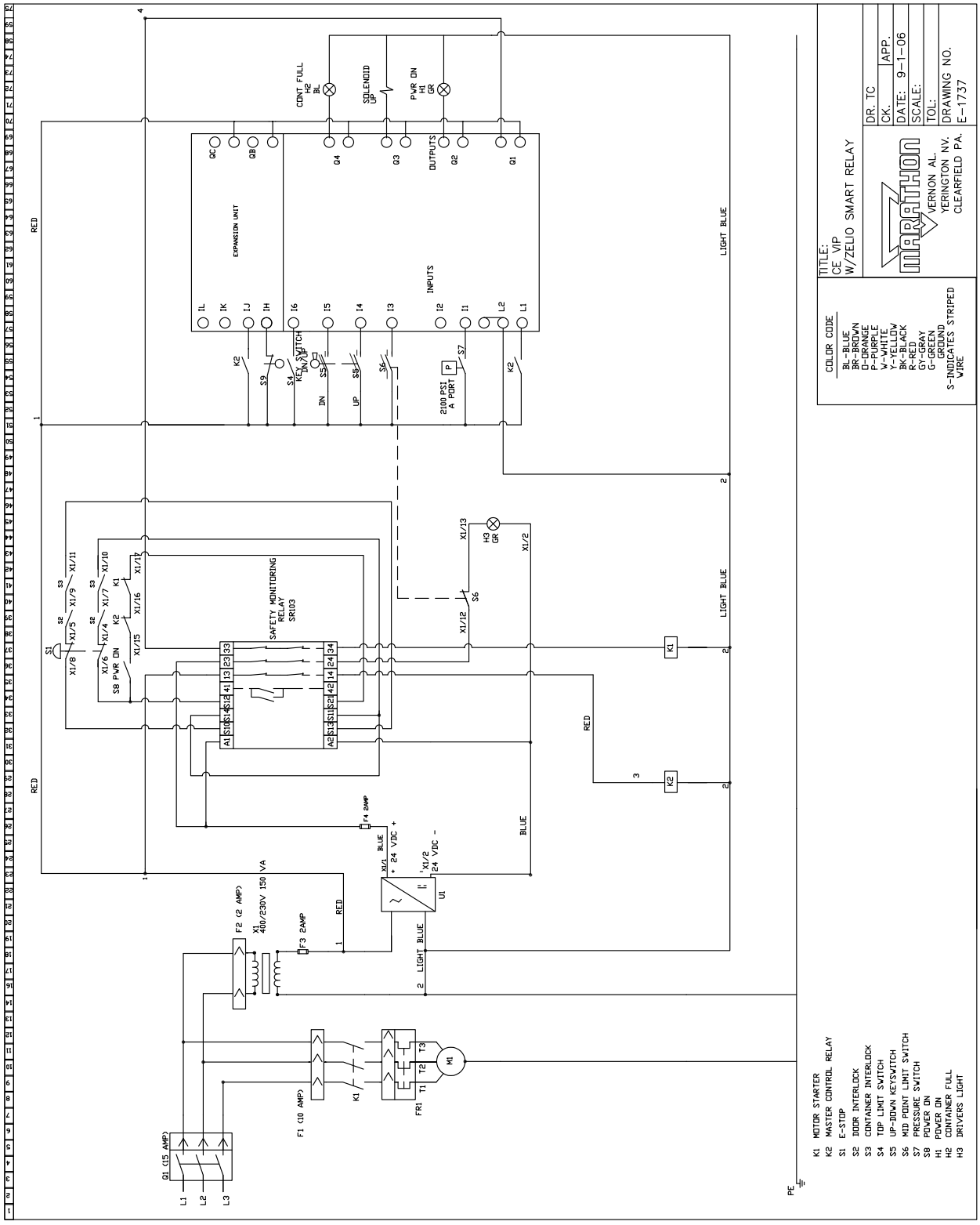
Three Phase

Motor Size	Voltage	Length to 30 m	Length to 70 m	Length to 90 m
2.2 kW	400	4 mm^2	4 mm^2	4 mm^2

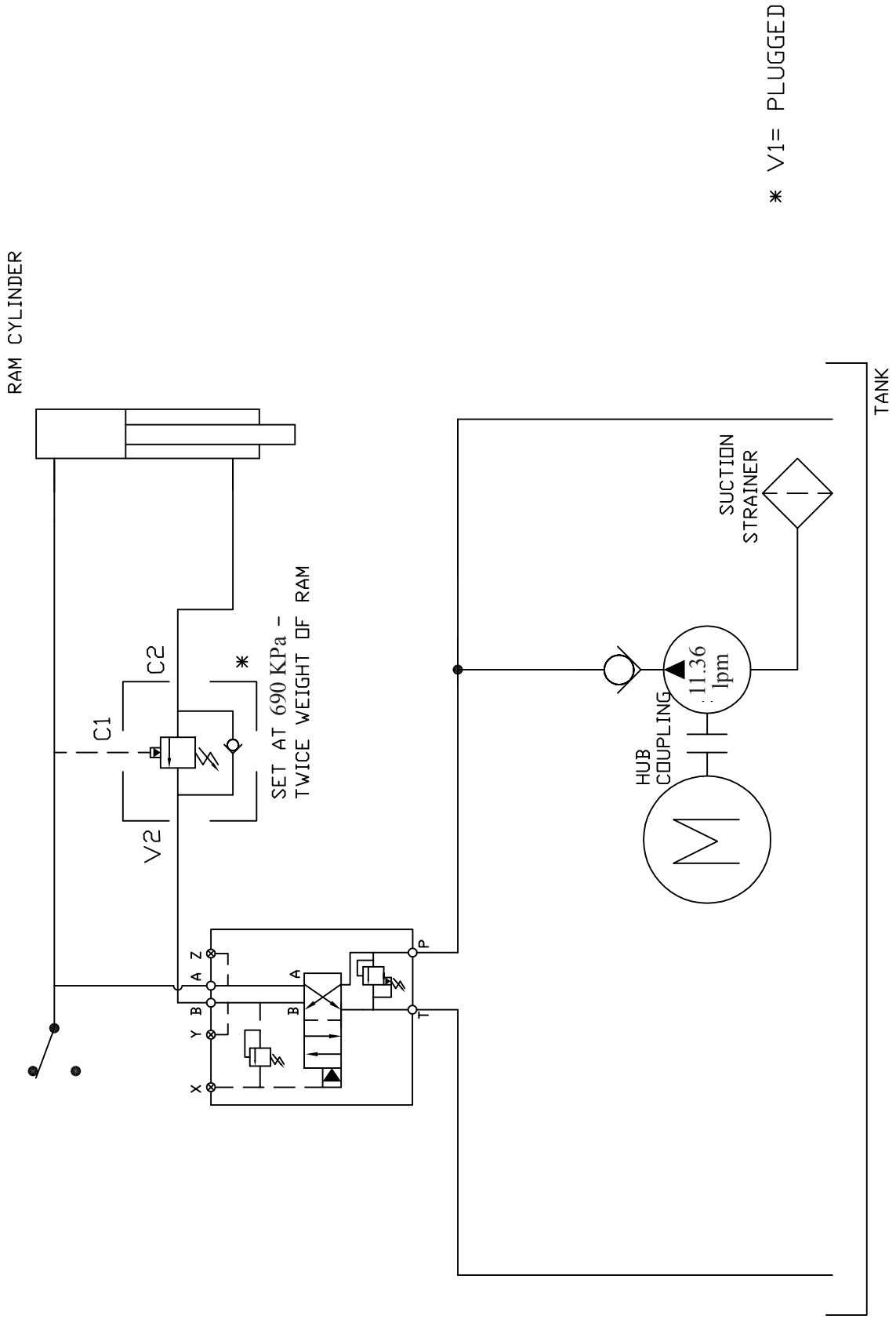
Parts List

Part #		Description
03-1176	1	Transformer - 150 VA
03-4848	1	Motor Starter - IEC Overload 4-6 AMP
03-4849	1	Motor Starter - IEC Contactor
03-1175	1	Power Supply - 24 VDC 2 Amp
03-4729	1	PLC Telemechanique 6 IN 4 OUT
03-4730	1	PLC Telemechanique Exp Mod 4
03-4152	1	Relay Safety Monitoring 24 V
02-0128	1	Valve Counter Balance VIP Sun Cbea-lbn-bdb
02-0284	1	Valve Flow Control 3/8 NPTF XNPTM
03-5101	2	Limit Switch Square D CE Rated
03-1347	1	Switch Interlock Actuator, Keyspring Loaded
03-5102	2	Limit Switch Arm Adjustasble F/Square D Ce R
04-0105	1	Cylinder 4B 2R 16S
03-0545	1	Light Drivers F/VIP (base and lens only)
03-0546	1	Bulb Wedge BAse GE-657 28 VACF/VIP LITE
03-4745	1	Motor Starter IEC 9-14A MotorProtector TE
03-4746	1	Motor Starter IEC Handle Kit
03-4729	1	PLC Telemecanique 6 IN 4 OUT
03-4730	1	PLC Telemecanique Expansion Module
03-4152	1	Relay Safety Monitoring 3 Output 24V
03-0735	2	Fuse 2 AMP AGC Style

Electrical Schematic

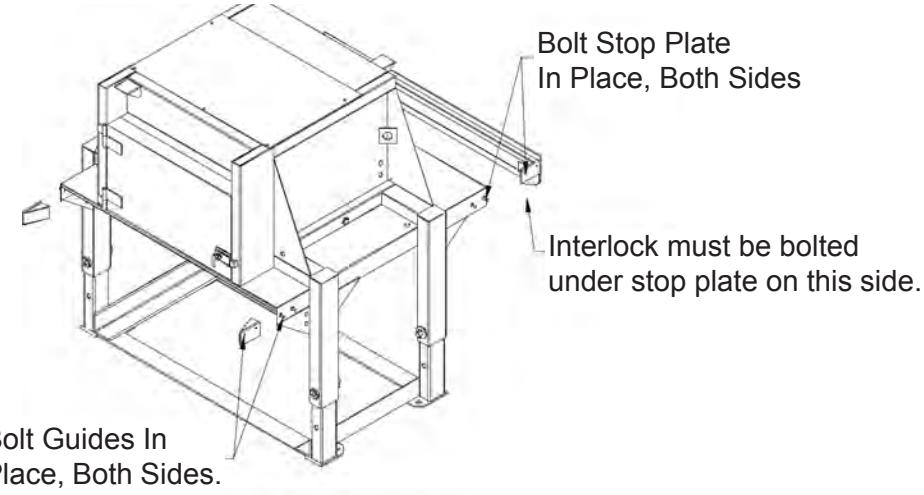


Hydraulic Schematic

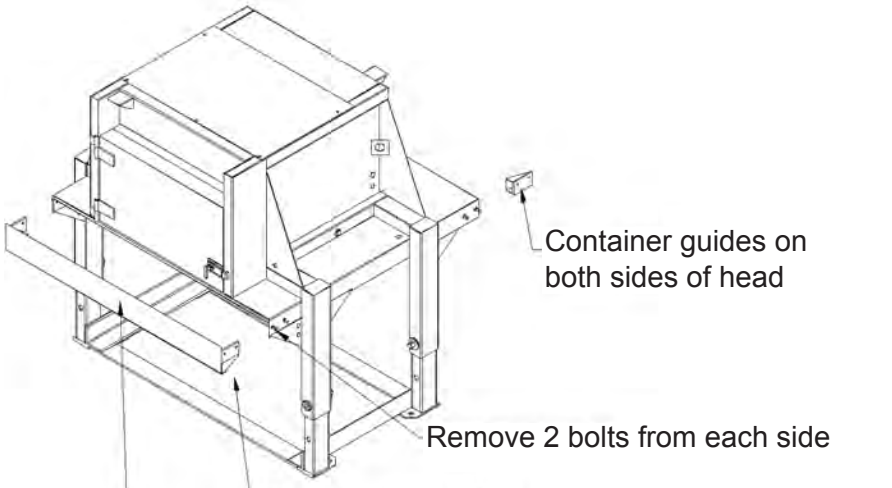


Converting To Opposite Feed

1. Lock out tag out power before starting to convert unit to opposite feed side.
2. Remove container interlock switch from container stop plate, bolted to head.
3. Remove bolts from container stop plate.
4. Remove bolts from container guides.
5. Switch sides with container stop and guides and bolt back in place.
6. Disconnect interlock from cable and re-route cable to opposite end of VIP head.
7. Reconnect interlock to cable and bolt interlock switch to container stop plate.



Vip Adjustable / Reversible
Front Feed Shown



Vip Adjustable / Reversable
Rear Feed Configuration Shown

Troubleshooting

WARNING: Do not perform any inspection, maintenance, adjustment, or repair without first locking-out and tagging-out the compactor per the instructions on page 2-1. only authorized and trained personnel should perform any inspection, maintenance, adjustment, or repair.

This section of the manual is provided to help you check your compactor, find the problem, and repair it in the shortest possible time.

Basic Tools For Troubleshooting:

1. Continuity Light
2. Two Screwdrivers - 1 medium common, 1 small Phillips
3. Adjustable Wrench
4. Set of Allen Wrenches
5. Flashlight
6. Electrical Schematic
7. Voltage and Amp Tester

Problem	Possible Cause	Solution
Excessive void in container	1) Improper loading of unit.	1a) When loading, throw wastes as far to the rear as possible.
	2) Unit not being cycled when loaded.	2a) Cycle after each load. 2b) Keep door closed.
Charge box area always full of refuse. (unit not packing properly).	1) Ram being left in "UP" position.	1a) When not in use, ram should be in midpoint position. Close door.
	2) Unit not being cycled when loaded.	2a) Cycle after each load.
	3) Loss of pressure.	3a) See Pressure Setting Instructions in MAINTENANCE section of this manual.
	4) Scheduled removal of container not allowing Container Full Light To come on.	4a) Pack until Container Full Light comes on.
	5) Improper installation.	5a) Check clearance between head and container (max. 3mm).
Unit will not start	1) No electrical power to unit.	1a) Turn main disconnect ON. 1b) Replace fuses or reset breakers.
	2) No electrical power to control circuits.	2a) Check primary and secondary sides of transformer.
	3) No electrical power to control circuits.	3a) Check fuses in control box. 3b)Check STOP button. Pull.
	4) No electrical power to motor.	4a) Check heater resets. Depress motor starter reset.

Unit will not start (continued)	5) Interlock switches not closed. (Check also to be sure door is closed, and that container is fully under VIP).	5a) Check stop button contact. It should be closed with STOP button pulled out. 5b) Container Gone Interlock should be closed. If not, make sure container is completely inserted under head. 5c) Check door interlock adjustment.
	6) UP/DOWN switch inoperative.	6a) Check UP/DOWN contact. It should be closed with the key in the UP position or with timer activated. To correct, replace UP/DOWN switch. 6b) Check for moisture in UP/DOWN switch. To correct, dry all parts completely, including interior of actuator head.
	7) Motor starter is inoperative.	7a) Check motor starter coil and wiring.
	8) Motor starter contacts are inoperative.	8a) Check motor starter contacts and wiring.
Container full light activates prematurely	1) Midpoint limit switch out of adjustment.	1a) Adjust midpoint limit switch.
	2) Building pressure on upstroke.	2a) Check pressure required to retract ram from full extension to midpoint. It should be no more than 400 psi. 2b) Ram binding. Check welds. Check for warpage. 2c) Cylinder binding. Check upper and lower pinning locations. Cylinder should be perpendicular to ram. 2d) Solenoid valve malfunction. Replace valve.
Unit will not shut down at top position.	1) Limit switch #1 inoperative.	1a) Check limit switch. 1b) Check limit switch arm for proper operation.
	2) Keyswitch not being turned to its full UP position.	2a) Turn switch all the way to UP and release.
Motor runs but ram will not move normally.	1) Insufficient hydraulic fluid in the reservoir.	1a) Fill reservoir with hydraulic fluid.
	2) Low relief pressure.	2a) Clean orifice in relief valve (on pump) and reset pressure.
	3) Oil leakage in cylinder.	3a) Replace seal kit.
	4) Defective pump.	4a) Replace all hydraulic fluid in system and pump.

Motor runs but ram will not move normally (continued)	5) Loose pump connection. 6) Oil leakage from hose. 7) Pump rotating in wrong direction.	5a) Tighten connection. 6a) Replace hose. 6b) Check plumbing inside reservoir for leaks and tighten or replace as necessary. 7a) Stop immediately to prevent pump seizure. Reverse any two incoming power leads.
Unit does not reverse	1) Pressure switch is inoperative. 2) Solenoid inoperable. 3) Insufficient hydraulic pressure to activate pressure switch. 4) Pump failure.	1a) Check pressure switch. 2a) Manually shift solenoid valve to determine whether it will function and is not binding due to contaminated fluid. Flush out solenoid valve. If it then moves freely, flush out entire hydraulic system and replace with new fluid. If valve binds after cleaning, replace valve. 2b) Check coil wiring for loose wire. 3a) Check pressure with pressure setting kit and reset pressure switch if necessary. Pressure switch is set to activate at 2100 psi. 4a) Replace all hydraulic fluid in system and pump if it will not hold 2400 psi steady for 3 - 5 seconds. WARNING: IF PUMP RUNS RELIEF FOR MORE THAN 15 SECONDS, DAMAGE TO PUMP MAY OCCUR.
Unit will not shut down at container-sealing position (midpoint).	1) Limit switch #2 inoperative.	1a) Check limit switch.
Unit shuts down after ram has entered container.	1) Container interlock malfunction. 2) Container moving off of container interlock (walking). 3) Improper installation. 4) Midpoint limit switch improperly adjusted.	1a) Check adjustment. 2a) Insert container fully. 2b) Pad not level. Level pad. 3a) Check clearance between head and container (max. 3mm). 4a) Adjust midpoint.
Pump pressure decreases	1) Contaminated hydraulic fluid. 2) Internal hose or fitting leaking. 3) Drop in relief pressure. 4) Fluid bypassing inside cylinder. 5) Cavitation due to lack of hydraulic fluid.	1a) Replace fluid in entire system. 2a) Inspect and replace as necessary. 3a) Clean relief valve. If it will still not build pressure, replace pump. 4a) Replace fluid in entire system and replace cylinder. 5a) Add hydraulic fluid.

Pump makes noise, sounds like gravel	1) Partially clogged suction strainer or suction pipe.	1a) Pump must receive fluid freely or cavitation will result. Flush system, clean suction pipe and clean or replace suction strainer. Add clean fluid.
	2) Low fluid level.	2a) Add fluid to the correct level.
	3) Defective bearing.	3a) Replace Pump.
Rapid wear, often indicated by repeated pump failure and/or malfunctioning solenoid valve	1) Contaminated fluid.	1a) Flush hydraulic system and replace with clean fluid.
Unusual spillage during removal of container.	1) Ram not in midpoint position.	1a) Ram should remain in midpoint position at all times except when feeding.
Unit shuts down; no haulers light	1) Bulb for Haulers light burned out.	1a) Replace bulb.
	2) Transformer for Haulers Light burned out.	2a) Replace transformer.
Unit shuts down; haulers light on; will not start.	1) Unit is packed out; Container Full Light on.	1a) Empty container to reset light.
	2) Container Full system activated but Container Full light is out.	2a) Light is burned out. Replace. Turn disconnect switch off and back on to reset light. Cycle unit and check light.
	3) Container Full system activated, but unit not packed out.	3a) Check pressure required to return cylinder from full "extend" to midpoint. If pressure is greater than 400 psi, cylinder and/or ram may be binding or solenoid valve may not be shifting properly. Repair or replace as required. Check fluid for contamination and replace as required.
	4) Overloads may be tripped out.	4a) Reset overloads on motor starter and check for cause.
Motor overheating; running as if under constant load or constantly tripping out overloads.	1) Low voltage or loss or phase.	1a) Check incoming voltage at top of motor starter. Check for balanced incoming voltage (line to ground all incoming lines).
		1b) Check wire connections from top of motor starter to motor taps.
Container full light will not illuminate.	1) Ram is not at midpoint position.	1a) Check midpoint limit switch adjustment.
	2) Light is burned out.	2a) Replace light.

INSTALLATION

General Requirements

Caution: Review this manual before starting the installation. Study the job site and installation requirements carefully to be certain all necessary safeguards and/or safety devices are provided to protect all personnel and equipment during the installation and as a completed system. Special attention is directed to the extract from American National Standards Instltute Z245.2 shipped with your compactor.

Marathon Equipment Co. does not assume responsibility for the installation procedures of this equipment. Conformance to applicable local, state, and federal laws concerning installation rests with the customer.

General

The Vert-I-Pack is designed to be anchored to concrete or asphalt. **The concrete or asphalt pad must be level for the VIP to function properly.** The following descriptions give the requirements for a concrete pad or an asphalt pad. See the next page for the anchoring requirements diagram for each material.

Concrete Pad

1. Concrete should be minimum 20,700 KPa, steel reinforced, 150 mm thick. It is preferred that the concrete pad be flush with the surrounding ground level.
2. To provide accessibility, concrete pad should be positioned to allow adequate space for the container handling vehicle. If applicable, allow proper clearances for a through-the-wall chute.

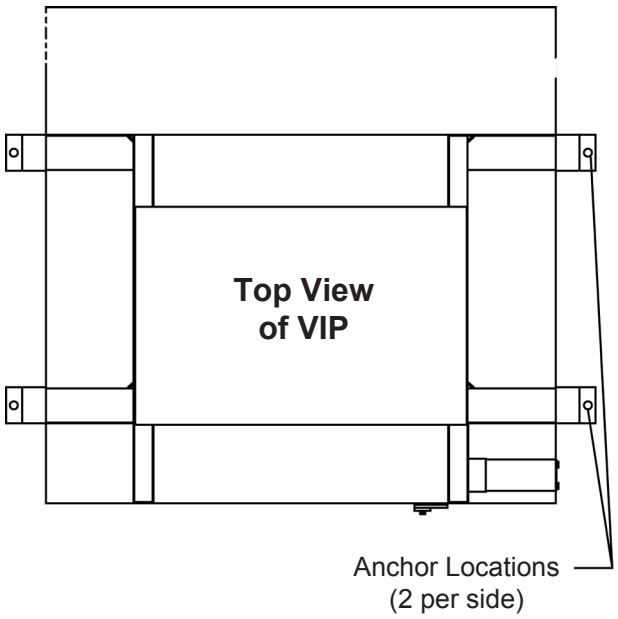
Asphalt Pad

1. If asphalt is used, it should be construction grade material and standard parking lot thickness (approximately 100 mm).
2. To provide accessibility, asphalt pad should be positioned to allow adequate space for the container handling vehicle. If applicable, allow proper clearances for a through-the-wall chute.

Decals

Be certain that the appropriate decals are in their proper locations at all times on the machine. For decal locations, see "DECALS" and "DECAL PLACEMENT" in the Operation section of this manual. If your VIP is missing decals or if the decal(s) on the VIP become damaged, contact Marathon Equipment Company or your distributor for additional decals.

Anchoring Requirements Diagram

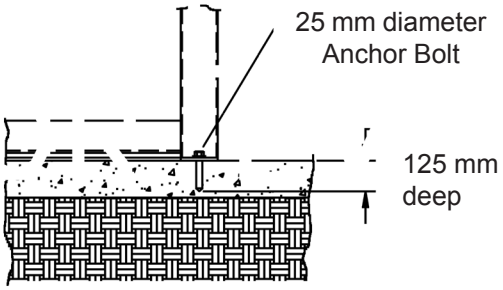


For Concrete:

The compactor should be anchored to concrete pad using four minimum 25 mm x 150 mm long anchor bolts (Red Head-type recommended).

It is best if the holes are drilled in the concrete after prelocating the compactor in its desired location. Holes in the leg plates are 33 mm diameter to permit the use of a 28 mm diameter concrete bit. The holes in the concrete should be approximately 125 mm deep.

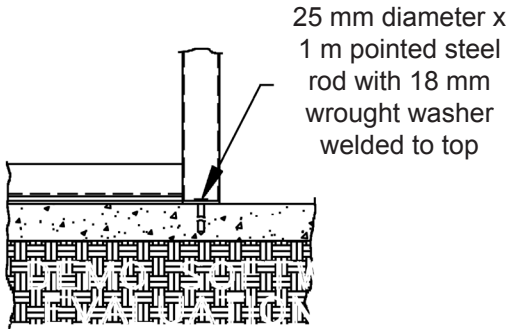
When the compactor has been permanently located, shimmed to compensate for unevenness, and anchor bolts set, tighten all nuts securely.



Concrete

For Asphalt:

For asphalt applications, use four 25 mm diameter x 1 m pointed steel rods with 18 mm wrought steel washers welded to the top end. Drive the headed rod though the anchor plate and asphalt and into the ground at each location.



Asphalt

Through-the-Wall Chute Installation - Rear Feed

For "Rear Feed" through-the-wall installations, use the appropriate kit available from Marathon Equipment Company. The kit requires bolting to the interior wall, welding to the VIP body, and caulking at the exterior joint on the chute assembly. The following diagram shows a typical rear feed through-the-wall installation.

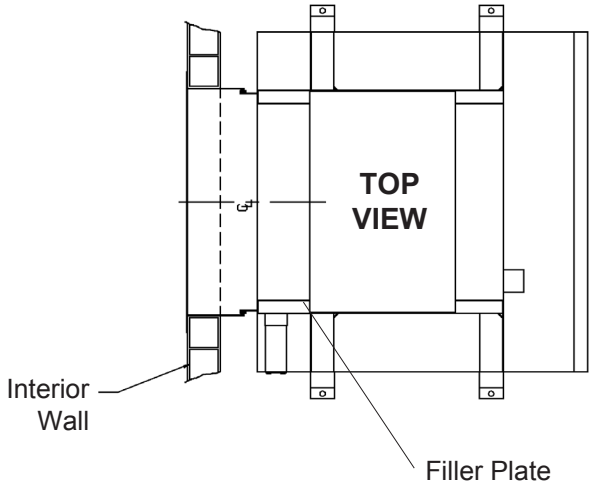
**Consult with factory for proper location of wall opening.

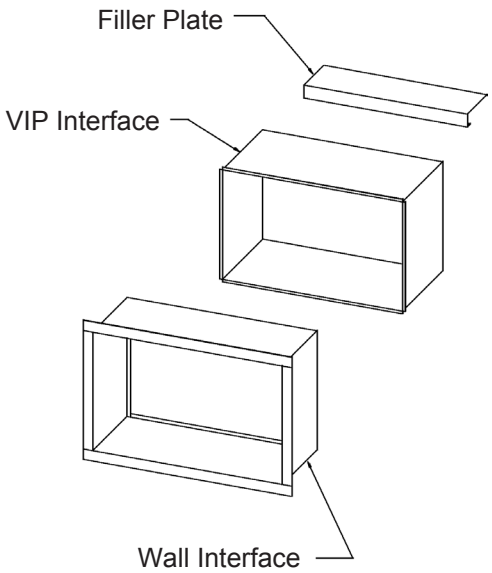
** Dimension: Ground to bottom of wall opening.

Model	"A"
4 YD FL RF	1016 mm
6 YD FL RF	1314 mm
8 YD FL RF	1772 mm

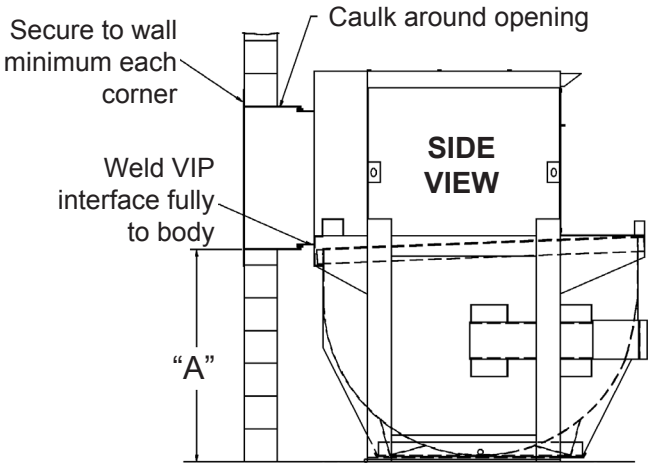
**Wall opening to be 890 mm high x 1422 mm wide. Chute fits walls up to 350 mm thick.

Note: Install wall interface first, then insert vip interface through the wall interface and weld to vip body.

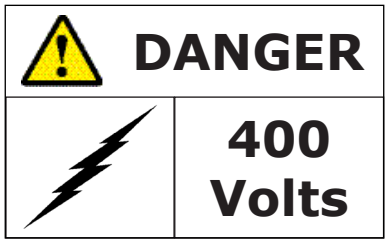




CHUTE ASSEMBLY



Electrical and Hydraulic Installation



The panel box contains high voltage components. Only authorized service personnel should be allowed inside. See Lock-Out & Tag-Out instructions in the maintenance section.

A lockable fused disconnect switch (customer furnished) must be installed and be within sight of the compactor's electrical panel box location, not to exceed 16m from the compactor. This fused disconnect switch should be sized in accordance with the compactor.

Caution: All equipment should be grounded per National Electric Code.

Pushbutton Control Station

If a remote push button station is furnished, it will be factory wired using Sealtite. If it is necessary to disconnect it from the wires (to install the pushbutton station inside a building), exercise care that these wires are reconnected as originally furnished. (Check local codes to be certain that Sealtite is acceptable.)

Caution: Controls must be located so that the Mushroom (Emergency) Stop Button is readily accessible to the operator and within three (3) feet of the charging chamber access. If installation requires this push button control station to be located in a more remote area, a second Emergency Stop Button should be added and installed in the manner described above.

Electrical Connections

1. Run power lines between fused disconnect switch (customer furnished) and compactor's electrical panel box, in accordance with local electrical codes, using knock-outs in bottom of panel box. See Fuse & Circuit Breaker Chart for Motors and Wire Size Chart, in the Maintenance Section, to determine the proper service disconnect amperage rating and the proper wire size.
   NOTE: High legs should be installed to L3 on motor starter.
2. Check voltage at fused disconnect switch to be certain it is the same as is shown on compactor or remote power pack.

Start-Up Instructions

1. Container must be positioned all the way under the VIP head for unit to operate.

2. Feed door must be closed for unit to operate. Check door opening and closing function. If door binds against top or bottom of door opening, unit is not level. **The unit must be level for proper operation**.

3. With the ram fully retracted (UP position), check to be sure the oil reservoir is full to the 3/4 level on the sight gauge (Refer to the maintenance chart for hydraulic oil recommendations). The hydraulic system pressure has been factory set and the entire unit has been operated prior to shipment.
   Caution: Make sure persons and material are clear of charge box area and all other areas of the compactor.

4. Put fused disconnect switch in "ON" position when ready to start machine. Manually depress the motor starter for one to two seconds. If the ram does not move, this indicates that the motor and pump are rotating backwards.
   Caution: The pump will be damaged if it is operated in reverse even for short periods. Reversing any two incoming power lines will change the motor/pump rotation.

5. Run the VIP for a few cycles to make sure it is operating properly. If the ram scrubs the side of the charge chamber during operation, the unit is not level. Unit must be level for proper operation.

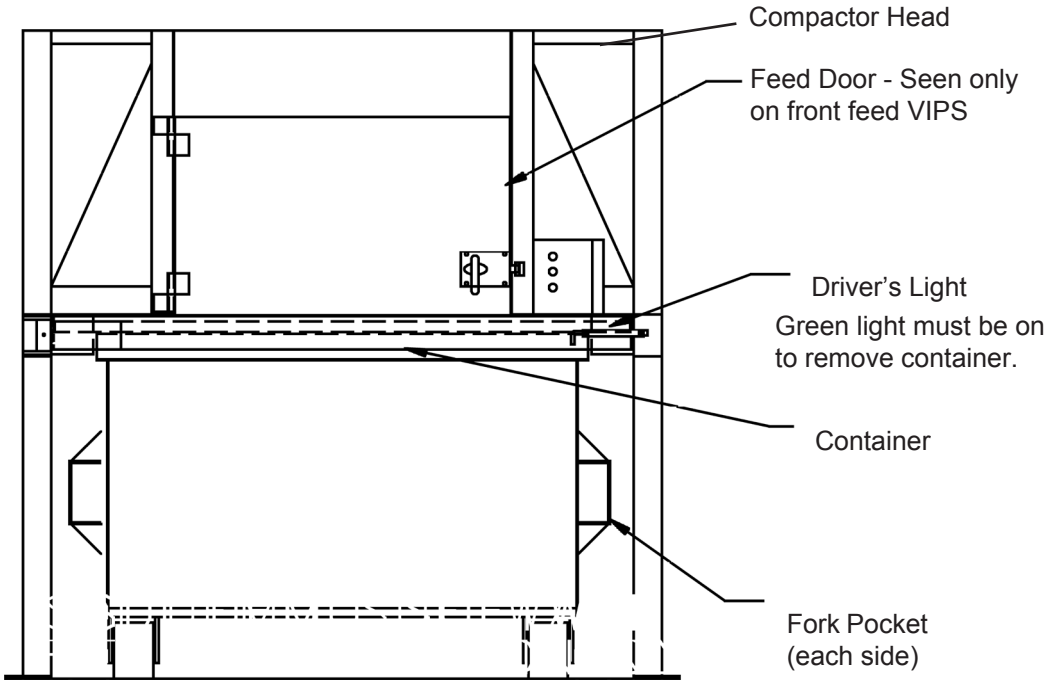
6. **Make sure that operators are trained in the proper use of this equipment.**

Hauler Information for Front Load VIP

Front Load, Front Feed VIP shown
(side feed and rear feed containers handle similarly)

Instructions: Make sure green driver's light is illuminated. remove and empty container. (Note: container must be slightly raised to remove). Insert emptied container completely under the compactor head.

CAUTION: Stand clear when container is being lifted.



FRONT VIEW

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