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HPC-405 HYDRAULIC PAIL CRUSHER INSTRUCTION MANUAL



Receiving Instructions

After delivery, remove the packaging from the product. Inspect the product closely to determine whether it sustained damage during transport. If damage is discovered, record a complete description of it on the bill of lading. If the product is undamaged, discard the packaging.

NOTE: The end-user is solely responsible for confirming that product design, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

Technical Service & Replacement Parts

For answers to questions not addressed in these instructions and to order replacement parts, labels, and accessories, call our Technical Service and Parts Department at (260) 665-7586. The Department can also be contacted online at <https://www.vestil.com/page-parts-request.php>.

Electronic Copies of Instruction Manuals

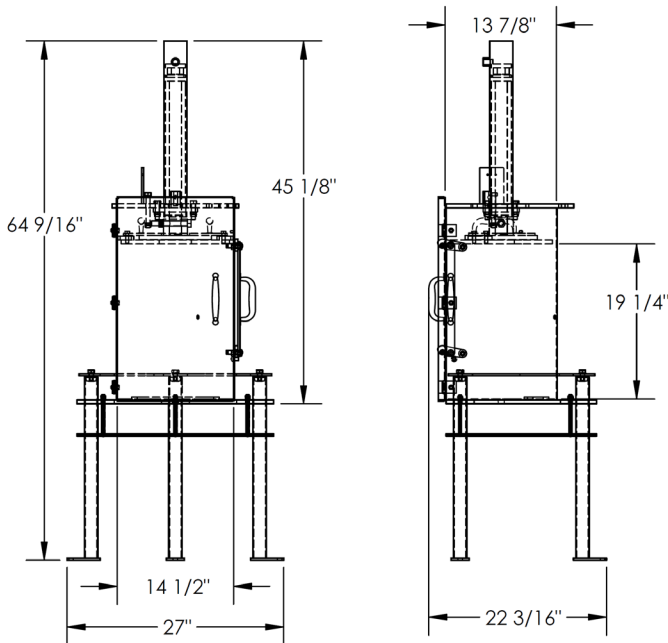
Additional copies of this instruction manual may be downloaded from <https://www.vestil.com/page-manuals.php>.

Table of Contents

Specifications.....	2
Signal Words.....	2
Safety Instructions.....	2
Electrical Circuit Diagram, 115VAC, Single Phase.....	3
Electrical Circuit Diagram, 208-230VAC, Single Phase.....	4
Electrical Circuit Diagram, 3-Phase.....	5
Exploded View & Bill of Materials.....	6
Installing the Crusher-Compactor.....	7
Operating the Crusher-Compactor.....	7
Hydraulic Circuit Diagram.....	8
Platen Configurations.....	9
Record of Satisfactory Condition.....	9
Inspections & Maintenance.....	9
Labeling Diagram.....	10
Limited Warranty.....	11

SPECIFICATIONS

Dimensions and other product specifications appear in the following diagrams and table.



Dimensions:

Overall width	= 27"
Usable inside width	= 14 1/2"
Overall length	= 22 3/16"
Usable inside length	= 13 7/8"
Overall height	= 64 9/16"
Usable inside height	= 19 1/4"

Crushing force	= 10,000 lb.
Hydraulic system pressure	= 3,000 PSI
Max. pail size	= 5 gal.
Motor voltage	= 115VAC
Net weight (approx.)	= 191 lb.
18" piston stroke crushes pails to 2in.	

SIGNAL WORDS

This manual classifies personal injury risks and situations that might cause property damage with signal words. Signal words indicate the seriousness of injuries that might result if a particular act does, or does not, occur.



WARNING Identifies a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.



NOTICE Identifies practices likely to result in product/property damage, such as operation that might damage the product.

SAFETY INSTRUCTIONS

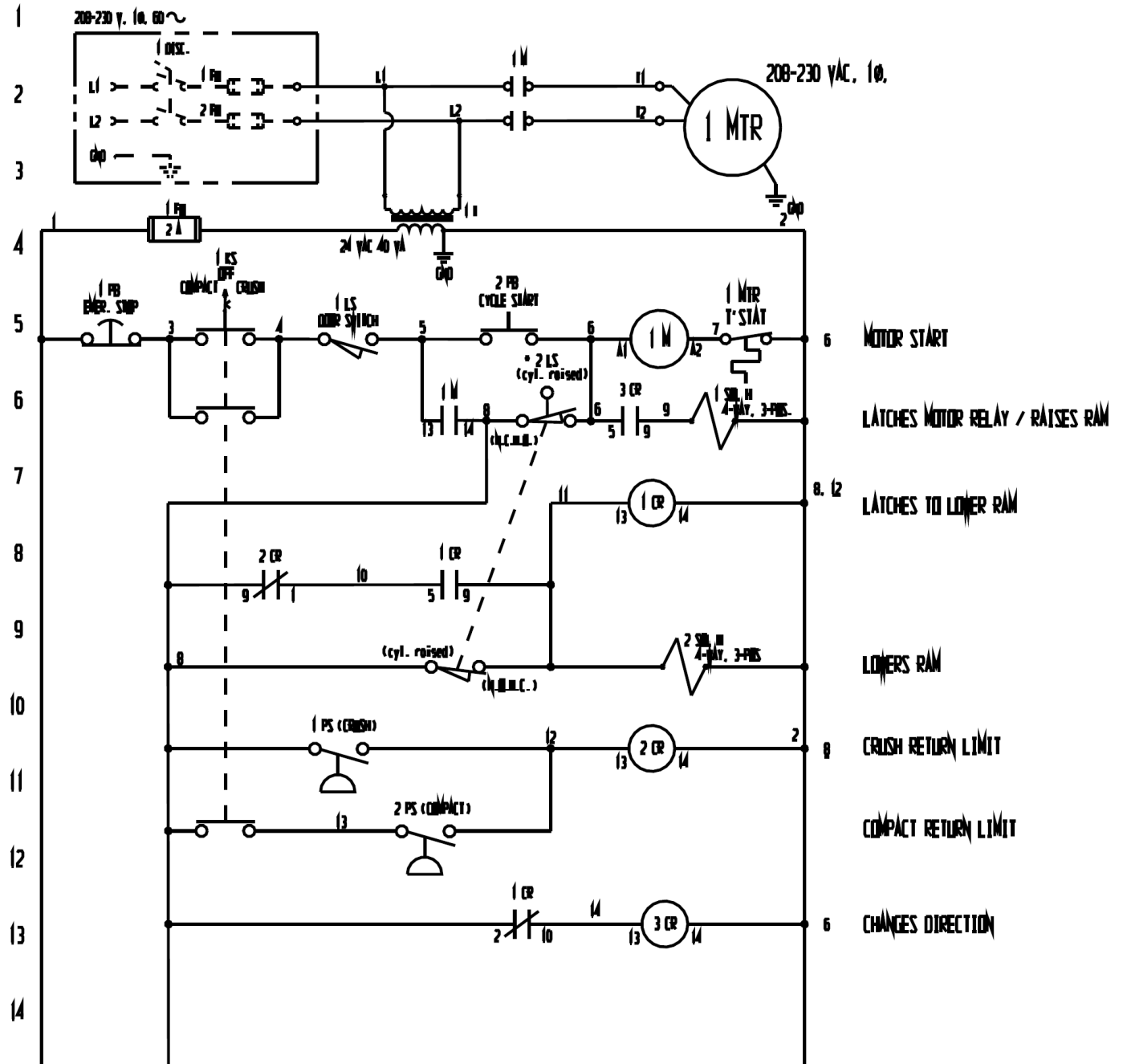
Vestil strives to identify all hazards associated with the use of our products. However, material handling is dangerous and no manual can address every risk. The most effective way to avoid injury is for the end-user to exercise sound judgment whenever using this product.



WARNING Improper or careless operation might result in serious personal injuries or death.

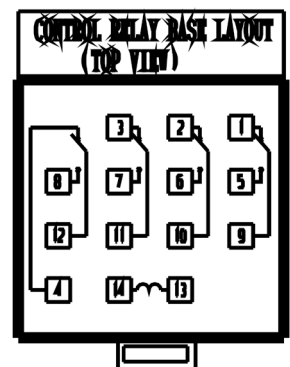
- Read and understand the entire manual before installing, using or servicing the product.
- Read the manual to refresh your understanding of proper use and maintenance procedures.
- Do not operate the crusher with the loading door open.
- Do not operate the machine if the emergency stop switch does not function properly.
- Do not stand in front of the door during operation.
- Keep clear of all moving parts during operation.
- High pressure oil easily punctures skin which can cause injury such as gangrene. If a hose or coupling leaks, repair the leak before operating the crusher.
- Do not use the crusher if it is damaged or makes unusual noises during operation.
- Do not change the pressure relief valve setting! In particular, do not increase the setting.
- Do not clean out the drum crusher unless power is disconnected.
- Do not attempt to crush smooth-walled pails with this machine. Pails must be ribbed to crush properly. Dent the side of the pail in a few places before loading it into the crusher.
- Only use this unit to crush empty pails. Do not attempt to crush filled pails.
- Do not use brake fluids or jack oils in the hydraulic system. Only use AW-32 hydraulic oil or its equal.
- Do not modify the product in any way. Modifications might make the lifter unsafe to use and automatically void the Limited Warranty. See p. 10.
- DO NOT use this device unless every label is in place and easily readable. See Labeling Diagram on p. 9.

ELECTRICAL CIRCUIT DIAGRAM, 208-230VAC, SINGLE PHASE (22-124-029 REV. B)

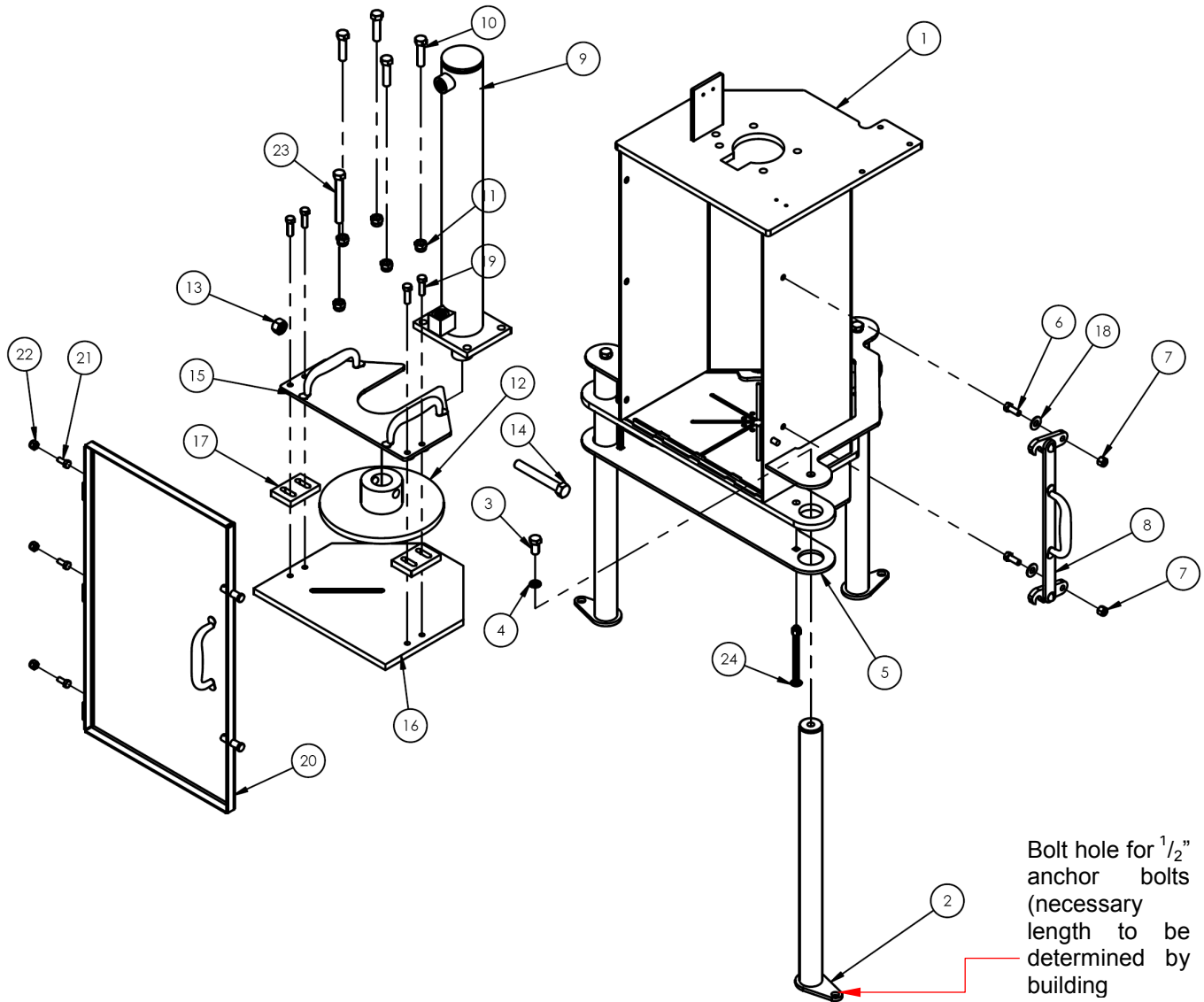


NOTES:

- Indicates wire and/or components not included with unit
- *All components shown with unit in normal starting position i.e. ram fully raised and cabinet door open.



EXPLODED VIEW AND BILL OF MATERIALS (22-006-019)



Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	22-514-047	WELDMENT, CRUSHER BODY	1	13	36114	HEX NUT Z-PLATED, GRADE A, Ø5/8 - 11 UNC	1
2	22-514-044	WELDMENT, LEG	3	14	11321	HEX BOLT DIA 5/8" - 11 x 4 1/2" LG	1
3	11205	HEX BOLT, GRADE A, ZINC PLATED, 1/2"-13X 1"	3	15	22-516-003	WELDMENT, CRUSH PLATE TOP	1
4	33624	LOCK WASHER, Z PLATED, Ø 7/16	3	16	22-514-072	WELDMENT, PLATEN	1
5	22-016-070	BRACKET, SHELF	1	17	22-016-022	BRACKET, PUSH PLATE GUIDE	2
6	11105	HEX BOLT, GRADE A, ZINC PLATED, 3/8"-16 X 1"	2	18	33008	FLAT WASHER, LOW CARBON, USS, ZINC PLATED, 3/8"	6
7	37024	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 3/8"-16	2	19	11107	HEX BOLT, GRADE A, ZINC FINISH, 3/8"-16 x 1-1/4"	4
8	22-525-003	WELDMENT, HANDLE TIE BAR	1	20	22-514-045	WELDMENT, DOOR	1
9	99-021-949	CYLINDER, HYDRAULIC, Ø2 1/2" x 18", PISTON STYLE, FLANGE MOUNT	1	21	11053	Ø 5/16 - 18 x 3/4 LG HHCS #2 Z-PLATED, GRADE A	3
10	11211	HEX BOLT, GRADE A, ZINC FINISH, 1/2"-13 x 2"	4	22	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	3
11	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	5	23	11219	BOLT, HEX HEAD, GRADE A, Ø 1/2 - 13 UNC X 4 LG	1
12	22-514-046	WELDMENT, CRUSH PLATE	1	24	99-612-001	PIN, BULLDOG BOLT AND NUT ASSEMBLY	3

*Replacement cylinder seal kit 99-136-002.

INSTALLING THE CRUSHER-COMPACTOR

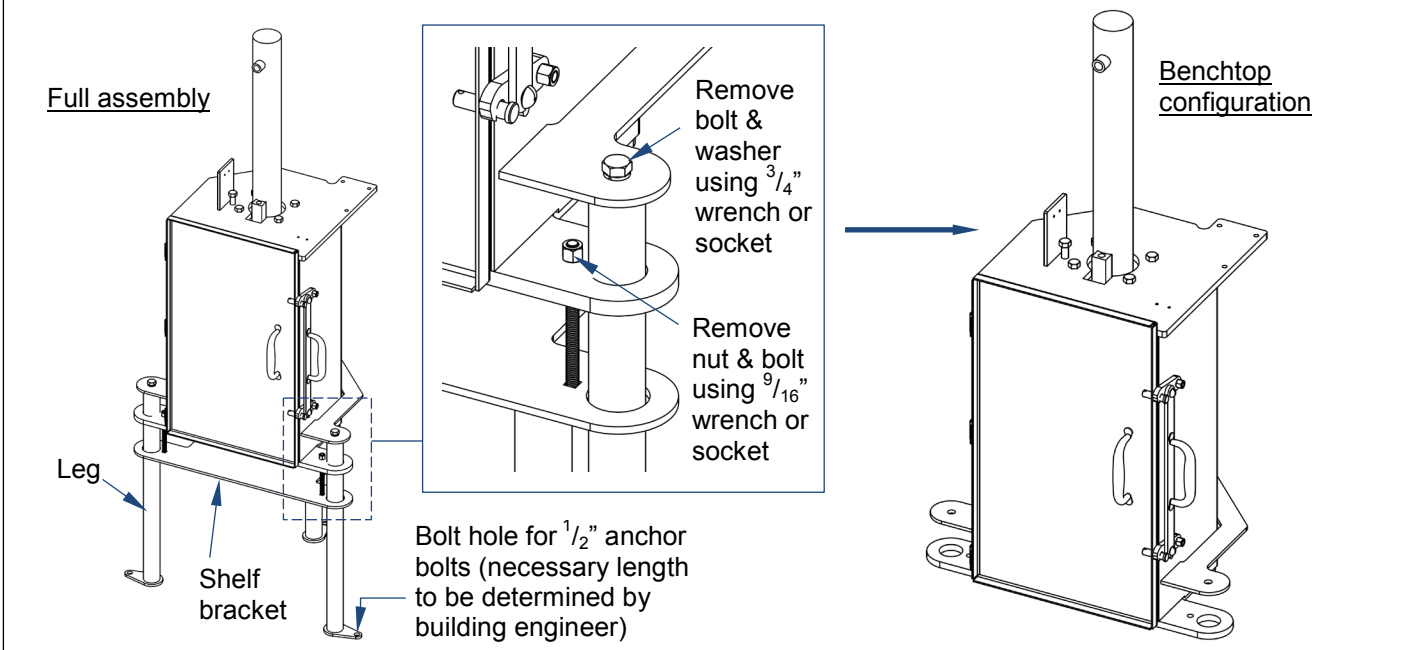
The crusher can be installed in either of 2 configurations: 1) as a full assembly including legs and shelf bracket; or 2) as a benchtop unit by removing the legs and shelf bracket.

Full assembly:

The foot plate of each leg includes a bolt hole for 1/2 inch anchor bolts of appropriate length as determined by your building engineer.

Benchtop configuration:

Benchtop installation requires disassembling the legs and shelf bracket. Remove the legs and the bracket by following the steps described and shown in the diagrams below.



OPERATING THE CRUSHER-COMPACTOR

To operate the device: 1) select the appropriate platen configuration. See [Platen configurations](#) on p. 8; 2) place a pail inside the cabinet and center it beneath the platen; 3) close the door and latch it; 4) turn the key switch on the control box to the appropriate mode, i.e. either CRUSH or COMPACT; 5) pull out the red emergency stop button; 6) press the START button and hold it until the motor engages. NOTE: Each unit is equipped with a momentary contact control. To begin a crushing or compacting cycle, simply press the START button and hold it until the motor engages. The ram will extend and retract without having to continue to press the button.

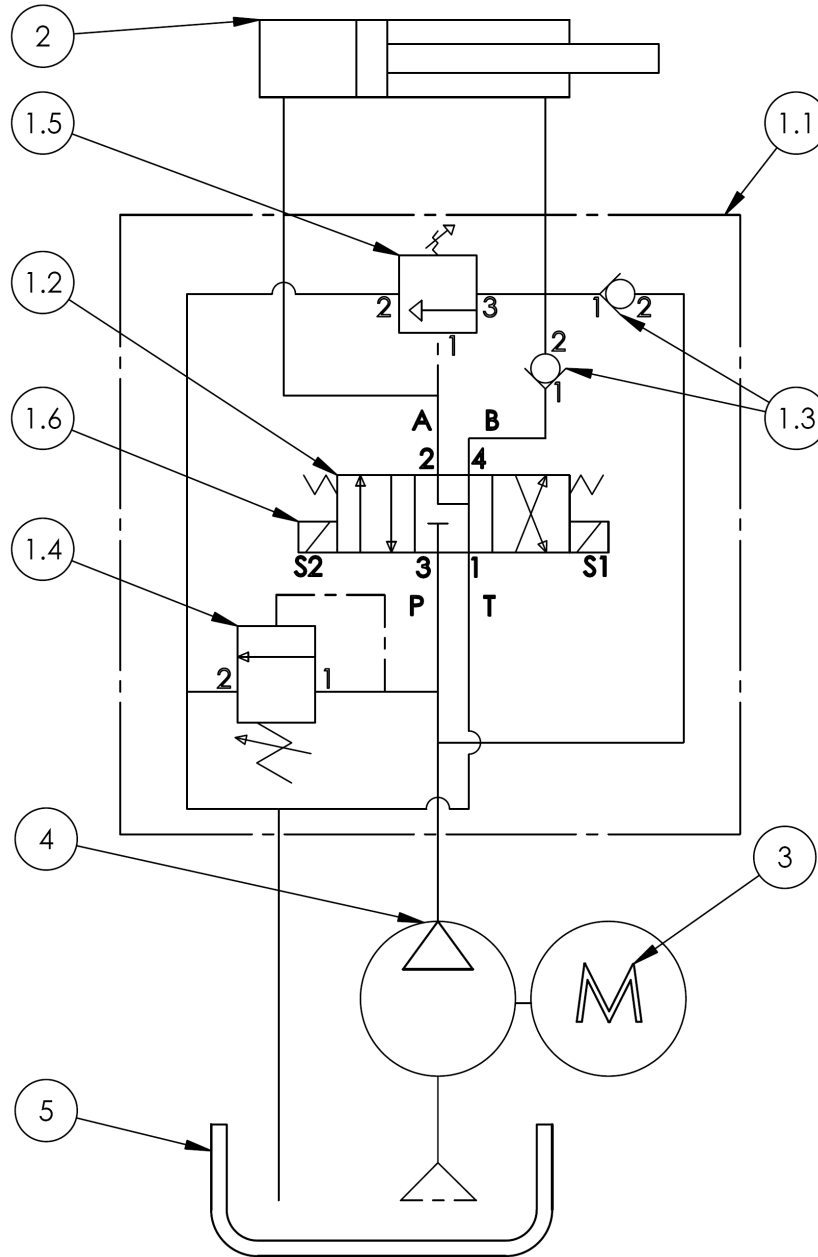
The direction the ram travels (up/retract or down/extend) is determined by the starting position of the platen. If the platen is fully raised to the top of the cabinet (cylinder fully retracted), the cylinder will extend when the start button is pressed causing the platen to move downwards. If the platen is not fully raised when the START button is pressed, the cylinder will retract and raise the platen to the "Home" position. The power unit will turn off at that point. Pressing the START button again begins a new cycle. Hold the button for a few seconds to latch the circuit (wait until you hear the motor turn on) and begin the cycle.

When the crusher is in home position and the cycle start button is pressed, the cylinder pushes the platen down onto (or into if operating in COMPACT mode) the pail. In order to achieve a short cycle time, both sections of the pump in the power unit drive oil to the cylinder until the cylinder pressure reaches approximately 1000 PSI. At that time, the higher-displacement section recycles oil to the reservoir while the low-displacement, high-pressure section continues to pump oil to the cylinder. This arrangement creates a typical High-Low circuit.

As the platen crushes a pail, or compacts the contents of the pail, the cylinder pressure increases until it reaches the set-point of a particular pressure switch/valve. The valve shifts to center and a timer activates that controls the period of decompression. When the decompression period ends, the directional valve shifts and reverses the direction of oil flow to the cylinder. Reversing the flow of oil causes the cylinder to retract and raise the platen to the home position. When the cylinder returns the platen all the way to the top of the cabinet, the power unit turns off. At this point, the cabinet door can be opened.

Emergency stop button: The ram can be stopped at any point during a cycle. To stop the ram, press the red emergency stop button located on the control panel. Pressing the button instantly stops the motor and prevents the cylinder moving. To disengage the stop button, pull it out. Press the cycle start button again to retract the cylinder and return the platen to the home position. The crusher is again ready for normal operation.

HYDRAULIC CIRCUIT DIAGRAM (22-125-026)



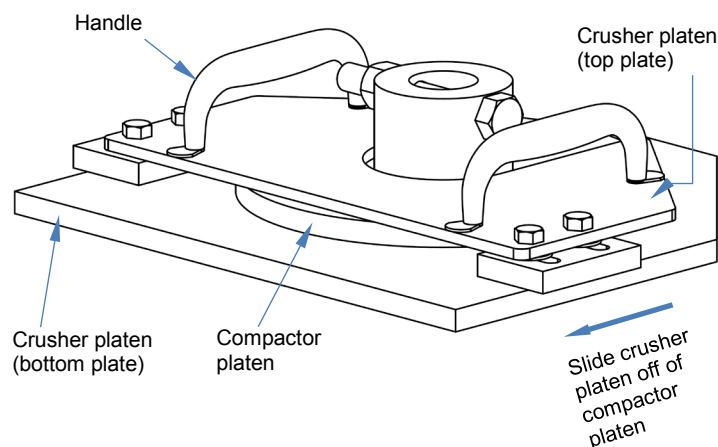
ITEM	PART NUMBER	DESCRIPTION	QTY.
1	99-627-019	ASSEMBLY. MANIFOLD, REGEN. CIRCUIT	1
1.1	99-127-027	MANIFOLD, HYDRAULIC, REGEN CIRCUIT	1
1.2	99-153-052	VALVE, HYDRAULIC, 4-WAY, 3-POS, MOTOR CENTER, VC08-3	1
1.3	99-153-011	VALVE, CHECK, NOSE-IN/SIDE-OUT, VC08	2
1.4	99-153-006	VALVE, PRESSURE RELIEF, 210 BAR	1
1.5	99-153-110	VALVE, SEQUENCE, HYDRAULIC, VC08	1
1.6	99-034-008	ACCESSORIES, 24VAC COIL W/ DIN CONNECTOR	2
2	99-021-949	CYLINDER, HYDRAULIC, Ø2 1/2"x18", FLANGE MOUNT	1
3	01-135-050	MOTOR, 3/4HP, 1PH, 1800RPM, 56F	1
4	01-143-906-002	PUMP, VANE, .073 DISPLACEMENT	1
5	06-023-003	RESERVOIR, HYDRAULIC, PLASTIC, 160 CUBIC INCHES	1

PLATEN CONFIGURATIONS

The pail crusher comes with 2 platens to allow the user to configure the crusher to perform different functions. The compactor platen is circular and is bolted onto the end of the cylinder. Its circular shape allows it to fit inside pails. The crusher platen consists of 2 plates—a top plate that slides over the compactor platen and a bottom plate that lies beneath the compactor platen. To remove the crushing platen, simply grasp both handles and

Compaction Mode: Remove the crusher platen. Press the START button and lower the platen to an ergonomic level. Then, press the red emergency stop button to make the ram stop. Remove the crusher platen by sliding it off of the circular compactor platen. The crusher platen is heavy, so we recommend that at least 2 people perform this task together.

Crush mode: Install the crusher platen by sliding it onto the compactor platen. Only use the crusher platen to crush empty pails.



RECORD OF SATISFACTORY CONDITION

After installing the crusher and *before* using it for the first time, create a written description of its appearance and operation. Thoroughly photograph the inside and outside of the unit. Include photographs of each label applied to the unit. Press the START button. Watch the ram and listen to the motor as the ram cycles. Record your observations about the sound of the motor and the movement of the ram. Collect all writings and photos in a file. This file is a record of the unit in satisfactory condition. Compare the results each inspection with this record to determine whether the unit is in satisfactory condition. DO NOT use the crusher unless it is in satisfactory condition. NOTE: Purely cosmetic changes, such as damaged surface finish (paint or powder coat), are not changes from satisfactory condition. However, touchup paint should be applied to all areas where the finish is damaged as soon as the damage occurs.

INSPECTIONS & MAINTENANCE

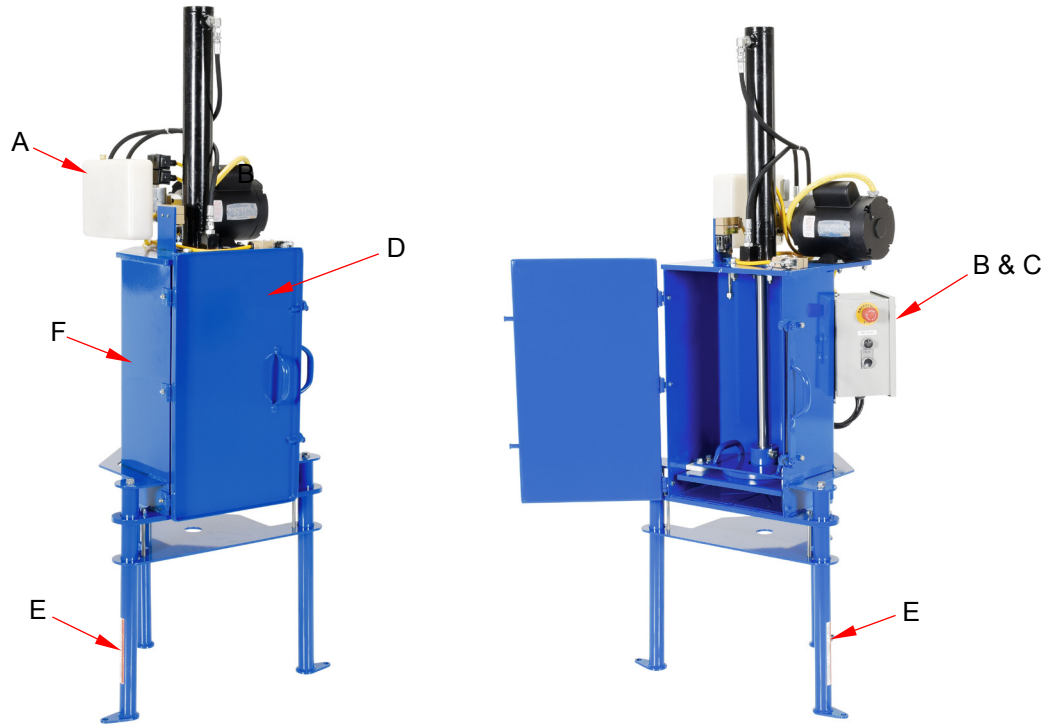
Regular maintenance is essential for maximizing the service life of this product. Compare all inspection results to the [RECORD OF SATISFACTORY CONDITION](#). Only use the unit if it is in satisfactory condition. If an inspection reveals any changes from satisfactory condition, repair/restore the unit to satisfactory condition before returning it to service. Only use manufacturer-approved replacement parts. DON'T GUESS! Contact [TECHNICAL SERVICE](#) if you have questions that are not addressed in these instructions or if you are uncertain how to address an issue discovered during an inspection. Technical Service can be contacted by calling (260) 665-7586 and asking for the Service and Parts Department or by submitting your questions through Vestil's online parts and service portal at <https://www.vestil.com/page-parts-request.php>.

1. Examine the electrical system for damaged wires/cables.
2. Inspect hydraulic hoses and fittings for kinks, punctures, tears, or other damage causing oil leaks.
3. Empty the crushing chamber and cycle the ram. Listen for unusual noises and watch for cylinder binding during the cycle. Check the cylinder to make sure that it is not bent or cracked.
4. Check the oil level in the reservoir. With the ram in the home position (cylinder fully retracted), oil should be 1" – 1¹/₂" below the top of the tank. If oil is needed, add ISO AW-32 hydraulic fluid or its equal.
5. Make sure that all labels are in place and easily readable. See [Labeling Diagram](#) on p. 9.
6. Disconnect the crusher from the electrical power source. Open the door and inspect the platens, cylinder, and crushing chamber. Make sure that the circular compactor platen is securely pinned to the end of the cylinder. Determine the condition of whichever platen(s) will be used. Look for broken welds, cracks, and other damage.
7. Inspect the legs. Legs should be square, rigid and free of significant rust and corrosion.
8. Repair areas where the finish is been damaged. Use steel wool or a steel bristle brush and a slightly dampened cloth to remove rust. Apply touchup paint to the affected areas once they are dry.

Change the hydraulic oil at least once per year, or immediately if it darkens, looks milky, or becomes gritty. To replace the hydraulic oil, remove the oil fill plug and drain oil from the reservoir. Then, flush the reservoir with fresh hydraulic fluid *before* filling it. Install the drain plug and fill the reservoir with new hydraulic fluid. Only use ISO AW-32 hydraulic oil or its equal.

LABELING DIAGRAM

The unit should be labeled as shown in the diagram. However, label content and location are subject to change so your product might not be labeled exactly as shown. Compare this diagram to your *Record of Satisfactory Condition*. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). Order replacement labels by contacting the *Replacement Parts Department* online at http://www.vestilmfg.com/parts_info.htm. Alternatively, you may request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to the Parts Department.



A: Label 206 (by plug)

ISO 32 / 150 SUS	
HYDRAULIC OIL OR NON-SYNTHETIC TRANSMISSION FLUID	
ACEITE HIDRAULICO O LIQUIDOS DE TRANSMISION NO SINTETICOS	
HUILE OU LIQUIDE HYDRAULIQUE NON-SYNTHEIQUE	206 Rev. 1003
VESTIL MANUFACTURING CORPORATION • Phone (260) 665-7586 • www.vestil.com	

B: Label 221 (on junction box)

⚠ DANGER	ELECTRICAL SHOCK Shut power off and consult owners manual before working on this equipment.	221 Rev 0111
⚠ PELIGRO	EI GOLPE ELECTRICO Corte la corriente consulte el manual de propietario antes de trabajar en este equipo.	
⚠ DANGER	CHOC ELECTRIQUE Couper le courant et consulter le manuel d'utilisation avant de travailler sur cet équipement	

C: Label 248, 249, 250, or 251 (matched to voltage; on junction box)

NOTICE	NOTA	AVIS
POWER SUPPLY: V/ Phase/ HZ		
CONTROL VOLTAGE: V AC		
CORRIENTE: V/ Fase/ HZ		
VOLTAJE DE CONTROL: V CA		
ALIMENTATION ÉLECTRIQUE: V/ Monophase/ HZ		
VOLTAGE DE CONTRÔLE: V AC		

E: Label 204 (at base of each leg)

⚠ WARNING ⚠ ADVERTENCIA ⚠ AVERTISSEMENT		
SECURE FRAME TO FLOOR	ASEGURE EL BASTIDOR AL PISO	FIXER SOLIDEMENT LE CADRE AU PLANCHER
		204 Rev 1112

F: Label 220 (on door)

⚠ WARNING ⚠ ADVERTENCIA ⚠ AVERTISSEMENT		
KEEP CLEAR WHEN IN USE	MANTENGASE ALEJADO CUANDO SE ESTA OPERANDO	SE TENIR À DISTANCE LORS DU FONCTIONNEMENT
		220 Rev 0111

D: Label 300 (on door)

⚠ WARNING	
LOCK LOADING DOOR before operation DO NOT OPERATE if door lock is broken KEEP AWAY during operation Operation by trained personnel only	
⚠ ATENCIÓN	
CIERRE LA PUERTA DEL ANDEN antes del uso. NO USE si el cierre de la puerta esta rato. MANTENGASE ALEJADO durante el uso. Uso solo por personal entrenado.	
⚠ ATTENTION	
VERROUILLER LA PORTE DE CHARGEMENT avant utilisation. NE PAS UTILISER si la fermeture de porte est cassée. ÉLOIGNEZ-VOS pendant fonctionnement. Utilisation par un personnel instruit seulement.	
Vestil Manufacturing Corporation Phone (260) 665-7586 • www.vestil.com	
	300 rev 1005

LIMITED WARRANTY

Vestil Manufacturing Corporation (“Vestil”) warrants this product to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective, original part covered by the warranty after we receive a proper request from the Warrantee (you) for warranty service.

Who may request service?

Only a warrantee may request service. You are a warrantee if you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

Definition of “original part”?

An original part is a part used to make the product as shipped to the Warrantee.

What is a “proper request”?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by one of the following methods:

US Mail	Fax	Email
Vestil Manufacturing Corporation 2999 North Wayne Street, PO Box 507 Angola, IN 46703	(260) 665-1339 <u>Phone</u> (260) 665-7586	info@vestil.com Enter “Warranty service request” in the subject field.

In the written request, list the parts believed to be defective and include the address where replacements should be delivered. After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil will require you to send the entire product, or just the defective part (or parts), to its facility in Angola, IN.

What is covered under the warranty?

The warranty covers defects in the following original, dynamic parts: motors, hydraulic pumps, motor controllers, and cylinders. It also covers defects in original parts that wear under normal usage conditions (“wearing parts”), such as bearings, hoses, wheels, seals, brushes, and batteries.

How long is the warranty period?

The warranty period for original dynamic components is 1 year. For wearing parts, the warranty period is 90 days. Both warranty periods begin on the date Vestil ships the product to the Warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend a warranty period for products shipped from authorized distributors by up to 30 days to account for shipping time.

If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any *covered* part. An authorized representative of Vestil will contact you to discuss your claim.

What is not covered by the warranty?

The Warrantee (you) is responsible for paying labor costs and freight costs to return the product to Vestil for warranty service.

Events that automatically void this Limited Warranty.

- Misuse;
- Negligent assembly, installation, operation or repair;
- Installation/use in corrosive environments;
- Inadequate or improper maintenance;
- Damage sustained during shipping;
- Collisions or other accidents that damage the product;
- Unauthorized modifications: Do not modify the product IN ANY WAY without first receiving written authorization from Vestil.

Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.

