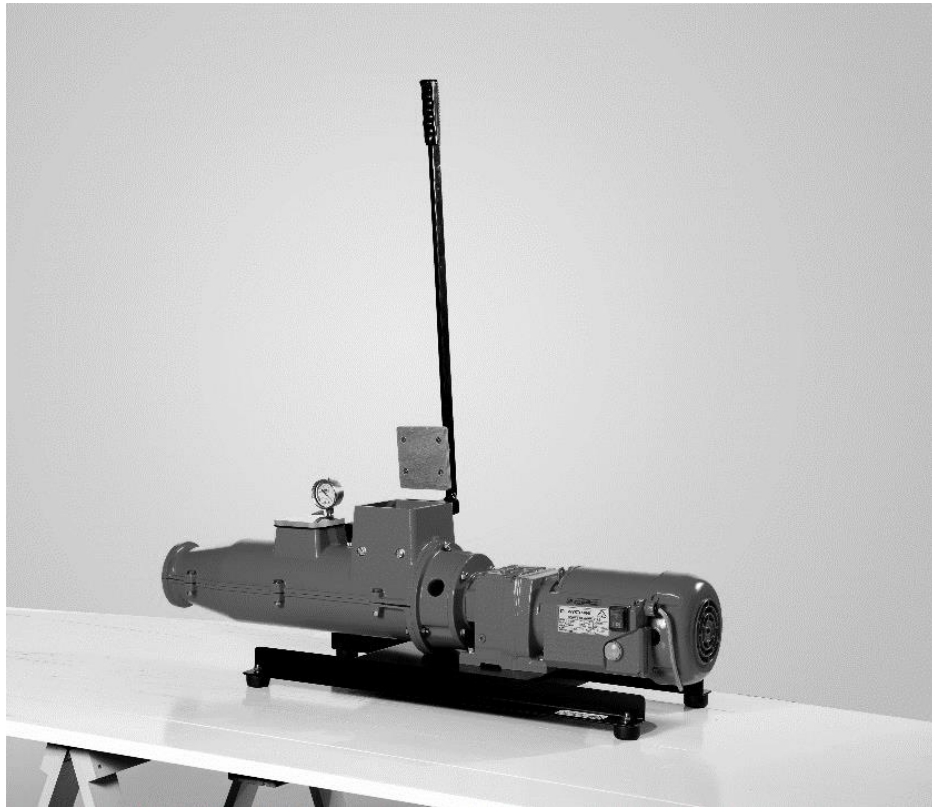


venco

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75mm STANDARD & DE-AIRING PUG MILL



CLAYCORE PTY LTD

47 Newbey St

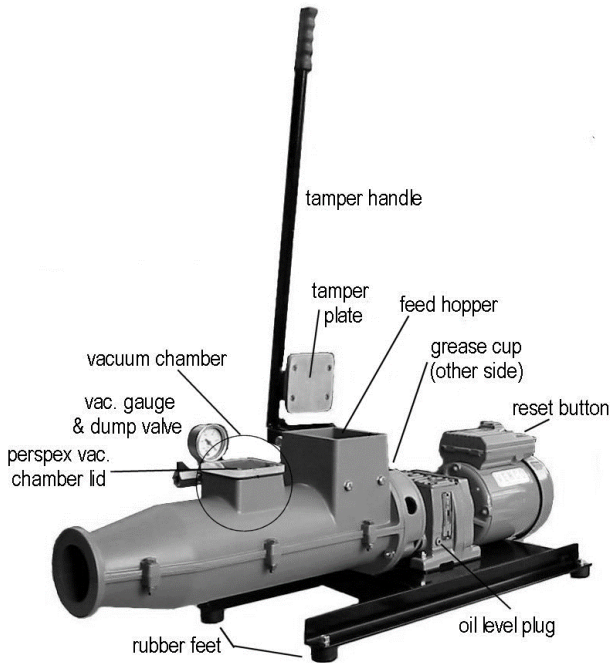
Milpara, WA 6330

ABN: 69 634 757 029

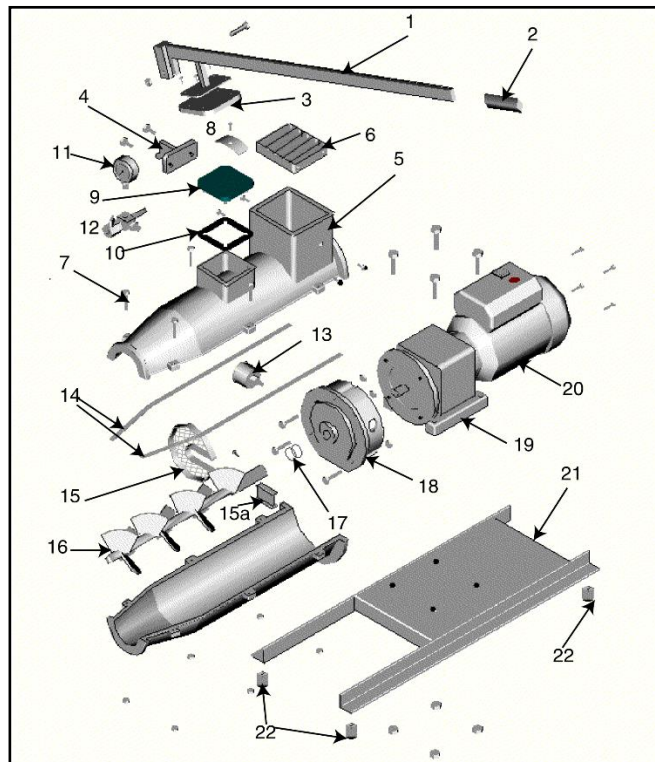
NOTES ON THIS MANUAL

The information given in this owner’s manual applies to both the standard and de-airing version of the VENCO 75mm (3”) pugmill.

For the standard version, please disregard the information given for the vacuum pump and related equipment.
 Tools required: 13mm (1/2”) spanner, 16mm (5/8”) spanner, 14mm (9/16”) spanner, small tin multi-purpose grease.



1. Tamper handle
2. Tamper handle grip
3. Tamper handle wooden plate
4. Tamper handle pivot assembly
5. Barrel upper / lower
6. Hopper safety grill
7. Barrel seam bolts (x7)
8. Vacuum slot cover (standard only)
9. Vacuum chamber lid
10. Vacuum chamber lid gasket
11. Vacuum gauge
12. Vacuum dump assembly
13. Grease injector cup
14. Barrel gasket (De-air only)
15. Shredder screen (De-air only)
16. Auger
17. Auger O-ring seals
18. Auger support assembly
19. Gearbox
20. Motor
21. Base assembly
22. Rubber feet x 4



SAFETY INSTRUCTIONS

- ⚠️ USE WITH RCD PROTECTED OUTLETS ONLY. IF UNSURE, ASK AN ELECTRICIAN TO CONFIRM OR USE A STAND ALONE PLUG IN RCD.
- ⚠️ ELECTRICAL SUPPLY SHOULD BE FROM A 220-240V, 50-60Hz SINGLE PHASE 10A OUTLET. EXTENSION CORDS AND ANY POWER BOARDS SHOULD BE RATED AT 15A.
- ⚠️ DO NOT OPERATE ELECTRICAL SWITCHES WITH WET HANDS.
- ⚠️ ENSURE MACHINE IS SWITCHED OFF AND UNPLUGGED FROM POWER SOURCE BEFORE CLEANING OR MAINTENANCE AND AFTER OPERATION.
- ⚠️ NEVER TAMPER WITH ANY OF THE ELECTRICAL COMPONENTS OF THE PUG MILL AS THERE IS A RISK OF AN ELECTRIC SHOCK.
- ⚠️ DO NOT REMOVE SAFETY SCREEN.
- ⚠️ ENSURE LONG HAIR IS TIED UP AND LOOSE CLOTHING IS SECURED.
- ⚠️ ENSURE MACHINE IS OPERATED ON A FLAT, LEVEL STURDY SURFACE APPROXIMATELY 500mm (20") HIGH.
- ⚠️ TO CLEAN THE MACHINE, USE A WET SPONGE. DO NOT USE A PRESSURISED WATER SOURCE IN THE VICINITY OF THE MACHINE. EG. GARDEN HOSE.
- ⚠️ ENSURE CHILDREN ARE NOT LEFT UNATTENDED NEAR THE PUGMILL
- ⚠️ ENSURE TOOLS AND ANY SMALL PARTS ARE OUT OF REACH OF CHILDREN.
- ⚠️ STOP OPERATION OF THE PUG MILL IF THERE ARE UNUSUAL NOISES OR SMOKE IS DETECTED.
- ⚠️ DO NOT INSERT HANDS OR OBJECTS INTO OPENINGS OR MOVING PARTS OF THE PUG MILL.
- ⚠️ REPAIR OR MODIFICATION OF THE PUG MILL IS PROHIBITED.
- ⚠️ USE MACHINE IN A WELL VENTILATED AREA.



PLEASE NOTE THAT AUDIO NOISE LEVELS ARE 60 dBA.

UN-PACKING THE PUGMILL

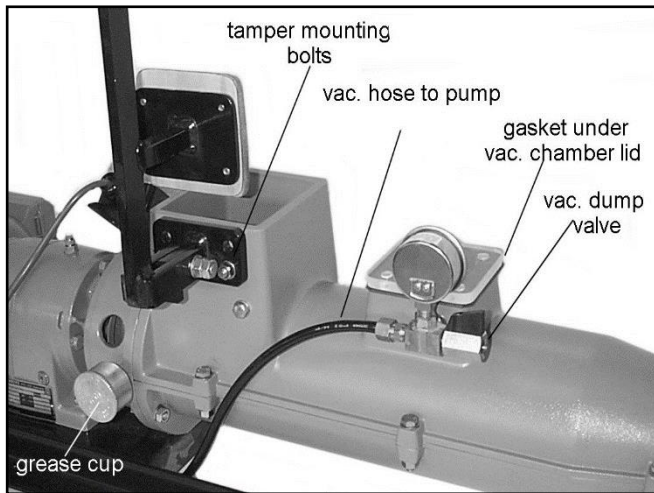
Carefully disassemble the box and remove both the pugmill, vacuum pump and accessories.

SETTING UP THE PUGMILL

Fitting the tamper handle

Remove the two bolts and washers protruding from the rear of the feed hopper, using a 13mm spanner. Fit the tamper lever bracket with these bolts and secure to the hopper lifting the base of the bracket before tightening screws. This will ensure the facing does not hit on the sides of the hopper.

See BELOW.



SETTING UP THE VACUUM PUMP FOR DE-AIRING MODELS

The vacuum pump can be located up to 3m (9-10ft) away

Locate the following parts:

- Black vacuum hose fitted with brass union connectors
- Vacuum pump
- Clear plastic, vacuum chamber cover with gasket

Smear a film of grease onto the brass threads before attaching components.

Pugmill

Screw one end of the black hose to the water trap located on the side of the vacuum chamber on top of the barrel. Using a little grease on the thread tighten firmly.

Vacuum Pump

Screw the other end of the black hose to the fitting on top of the vacuum pump.

Again using a little grease tighten firmly. Ensure the hose is not excessively twisted nor kinked in this process.

OPERATING INSTRUCTIONS

Before commencing use, run some scrap clay through the Pugmill to remove any impurities, such as grease, that may be present inside the barrel.

It is recommended that the feed hopper is loaded with clay about tennis ball size. These should be fed into the hopper onto the side where the blades pull the clay down into the barrel.

Each lump of clay should be tamped down with the lever before loading the next piece

Operator effort is greatly reduced by continually loading and tamping small pieces of clay rather than completely filling the hopper.

With experience, dry powder clay can be blended with wet clay to produce a homogeneous mixture.

The pugmill is fitted with overload protection. If the unit trips off, wait for the motor to cool and then press the red reset button located near the on/off switch.

When the pugmill is not in use, seal the hopper and nozzle with a plastic bag. This may be made airtight by using an elastic band or some adhesive tape.

Clean out all of the clay if the pugmill is not to be used for over a month.

De-airing models

Leave the vacuum pump running continuously while pugging but not running without vacuum showing on the gauge as this will damage the pump. If the gauge is not showing a vacuum, the pump should be switched off.

The pugmill itself may be turned on and off as required. (If the vacuum pump is turned off during pugging, the clay within the barrel may absorb air.)

There is a small slot in the vacuum chamber, through which air is drawn away from clay inside the barrel. It is normal for some of the clay to be sucked up through the slot and into the vacuum chamber during operation. This clay need only be removed if the chamber becomes full.

To successfully de-air clay, there need only be a small hole from the vacuum chamber into the pugmill barrel.

The de-airing slot can be cleared swiftly by quickly flicking the vacuum dump tap on and off.

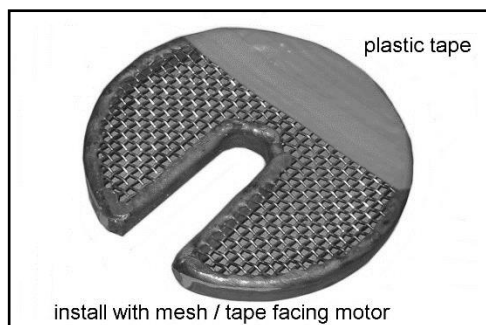
For satisfactory de-airing the vacuum gauge should read 0.9 bar (90kPa) or more 0.95-0.98 bar (95-98 kPa) is ideal.

Some fine porcelain type clays are difficult to de-air. To improve de-airing, slow the rate of flow by blanking off the top of the shredding screen.

This may be accomplished by applying a layer of plastic adhesive tape to the top layer of the screen. See below.

This technique may also be used to reduce the clay flow through the slot into the vacuum chamber if this becomes a problem with soft clays. Install with the blanked area immediately beneath the vacuum

Do not blank off more than 50mm (2") of the screen height.



Shredder screen removal

A stainless steel shredding screen is mounted within the pugmill barrel. In time, the screen may become blocked with grit or other impurities carried with the clay. The barrel must be opened to access the screen for removal and cleaning. Using a pair of pliers grip the infill plate and withdraw away from the auger. The screen may then be rotated until it can be lifted from the auger shaft.

NB: the shredder screen must be reinstalled with the mesh facing the motor

Disassembling the barrel.

It may be necessary to occasionally split the barrel for cleaning or to remove the shredding screen. To do this, remove the single nut located at the rear of the feed hopper and the six bolts around the barrel seam. Carefully pry the two halves apart, taking care not to scratch the mating surfaces of the barrel halves.

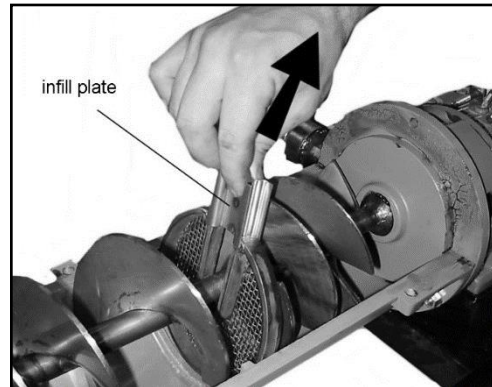


Figure 5: Removing the shredder screen

An optional coarse shedding screen is available for use with coarse terracotta or clay containing large amounts of grog.

Reassembling the barrel

Carefully clean and dry the mating surfaces of the barrel halves. Position gaskets along each length of the barrel flange, on only one barrel half.

It is recommended to use genuine Venco barrel gaskets which can be purchased from your nearest Venco supplier.

Before re-assembling the barrel, smear all bolts with a layer of multi-purpose grease. This minimises corrosion and eases future disassembly. It is NOT recommended to use silicone or similar gasket glues to seat the barrel halves. This type of gasket makes it difficult to split the barrel in future.

PUGMILL MAINTENANCE

Venco pugmills are designed to be extremely robust and should reward you with many years of trouble free operation. To ensure this please follow these few simple procedures.

Lubricating the auger seal.

An auger seal is fitted to prevent any clay back feeding into the auger thrust bearing. This seal requires greasing after every 50 hours operation. A grease cup is fitted on the rear side of the pugmill –see figure 2. Sufficient grease is injected with half a clockwise turn of this cup.

If this cup is fully screwed in, the cup may need to be re-filled. Remove the cup by fully unscrewing it (anti-clockwise), and fill with multi-purpose grease.

Checking/changing gearbox oil

The pugmill gearbox is filled with high quality industrial gear oil. Under normal conditions this needs to be changed after 10-15,000 hours operation. When the pugmill is used for one to two hours per day, change the oil after 10 years of service. Use gear oil with a viscosity class of ISO VG220. (Shell Omala 220, BP Energol GR-XP 220, Texaco Meropa 220, Mobilgear 630)

To drain the gearbox, remove the lowest plug adjacent to the gearbox foot. Use a 5mm hex key to remove the gearbox plugs. To fill the gearbox, firstly remove the oil level plug located approx. 50mm (2") up the side of the

gearbox from the black base. See figure 1. Fill via either of the top two filling plugs until oil starts to run from the open level plug.

VACUUM PUMP MAINTENANCE

It is important to check the vacuum pump oil level and condition **weekly**. As the pump operates some oil vapour is exhausted. This is normal and beneficial in keeping the pump mechanism lubricated and free from corrosion.

The vacuum pump has a sight glass to check the oil level. Check level is never far below the max. The vacuum pump should be topped up with high grade vacuum pump specific oil.

The vacuum pump filter/water trap should be checked occasionally. Clean and drain, by unscrewing the clear plastic bowl. Apply a thin layer of grease or petroleum jelly to the thread on the bowl to aid sealing and future disassembly.

Some clays shed water during the de-airing process. This can be carried back to the vacuum pump as vapour. This mixes with the sump oil, turning it cloudy white. If this happens, drain the oil into a glass jar and replace with new oil.

TROUBLESHOOTING GUIDE.

Symptom	Problem Description	Remedial Action
VACUUM PUMP		
milky / cloudy oil	water mixed with oil	drain oil from vacuum pump and replace with fresh oil. Contaminated oil will eventually separate and oil may be drained off and reused.
motor stops running	overload trip protection	check oil level in vacuum pump, wait for motor to cool before restarting if problem persists see your supplier
low/fluttering vacuum	vacuum leak or vacuum pump problem	clay feed into pug too slow -increase feed rate. for more details see below.
PUGMILL		
motor stops running	overload trip	overloading the pugmill, wait for motor to cool before restarting
high pitch squeal from rear of hopper area	dry auger seals (usually after 8-10yrs)	[1]ensure grease cap is full, then screw in while operating until noise stops [2]remove grease cup and clear hole with a piece of wire then do step [1] above [3] if squeak persists, auger seals may need replacing
excess clay being pushed into vacuum chamber	bridging of vacuum slot	flick vacuum dump tap open/close quickly to suck clay away. clay too soft - change consistency flow rate too high - reduce speed by blanking shredder screen -see manual
reduced clay output	blocked shredder screen	disassemble barrel and remove and clean shredder screen Note: dry turnings will quickly block the screen -wet and ball before using
hard to push clay into feed hopper	blocked shredder screen or incorrect feed method	disassemble barrel and remove and clean shredder screen see manual for correct feeding method
air in clay (de-air models only)	loss of vacuum note: gauge should read more than 90kPa (at sea level)	*vacuum pump must be operated continuously while pugging *Remove plastic vacuum chamber lid and place finger over brass inlet within vacuum chamber while pump is operating. If this restores vacuum reading on gauge then the problem lies with the vacuum chamber lid gasket or with the barrel gasket - see note (a). * Check all fittings for tension, remove and grease threaded connections * Check plastic vacuum chamber lid for distortion -order new lid * If after checking the above, it is possible that the vac. pump needs servicing -please contact your dealer for advice. See note (b)
Notes:		
[a] check condition of black gasket under vacuum chamber lid - replace if worn or damaged. Run a bead of soft clay along barrel seam while pugmill/pump operating. This may be cleaned after seal has formed.		
[b] A simple method of isolating and testing the vacuum pump alone is to fit the vacuum gauge directly to the inlet of the pump. This may be done by using additional fittings or a short piece of rubber hose (and two hose clamps). The gauge must be read in a vertical position.		

**THANK YOU FOR PURCHASING A VENCO PUG MILL AND SUPPORTING
AUSTRALIAN MANUFACTURING.**