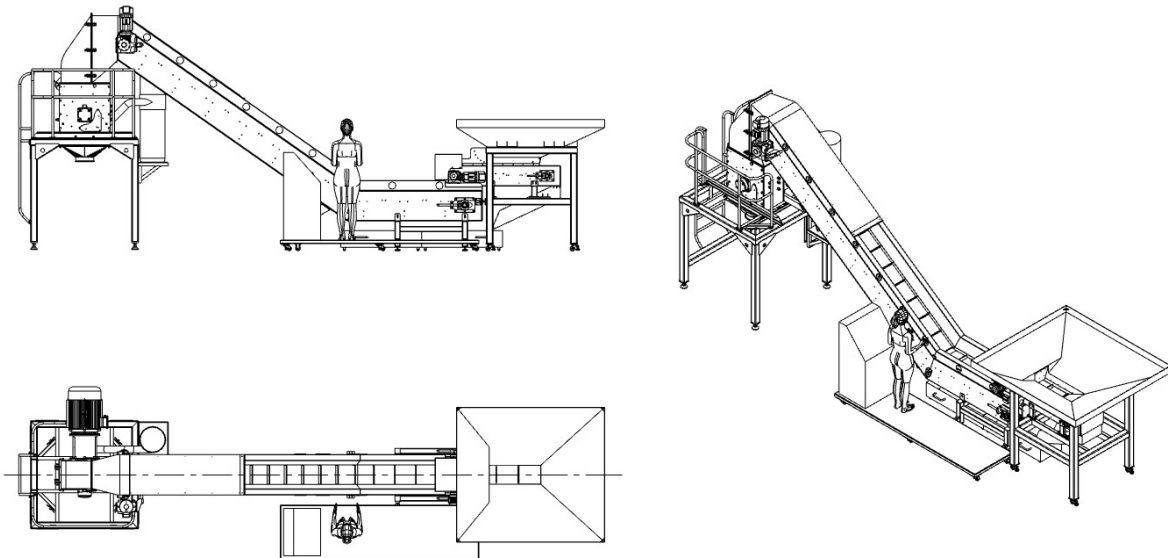




BOTTLE CRUSHER



Model: AFS MAXI

INSTRUCTION MANUAL

IMPORTANT!

PRIOR TO OPERATION ALL USERS MUST READ THE ENTIRE INSTRUCTION MANUAL

Expleco Ltd has an ongoing development programme and the product pictured may differ slightly in appearance.

Specifications are subject to change without notice.





WARNING

BEFORE USING THIS PRODUCT PLEASE READ THE FOLLOWING SAFETY PRECAUTIONS, TO AVOID PERSONAL INJURY. IT IS IMPORTANT TO UNDERSTAND THE APPLICATIONS, LIMITATIONS AND POTENTIAL HAZARDS ASSOCIATED WITH THIS PRODUCT.

- 1. This machine is designed to crush glass bottles or glass cullet ONLY**
- 2. Do not use the AFS MAXI for any other use.**
- 3. The machine is not intended for use by young or infirm persons.**
- 4. Children or visitors should be kept well away from the machine and should not be permitted to handle the machine or power cord.**
- 5. The machine is designed for interior use. Do not use the machine in wet conditions.**
- 6. Do not use the machine near flammable liquids or gases.**
- 7. The power supply cable should be checked and certified at 6 monthly intervals by a registered electrician.**
- 8. The power supply must be capable of delivering 3phase 380,415 or 440 volts 50/60hz 63A to suit country of application. Extension cords must not be used unless they are heavy duty cords that are rated for the current load.**
- 9. Protective eyewear and ear protection is recommended to be worn.**

10. If handling broken bottles protective gloves must be worn.
11. Before starting the machine check the sand level in 1m³ bag.
12. Do not use the machine if dust is emitting from the filter or inlet. This is an indication that the filter needs cleaning or bag needs emptying.
13. In the rare occurrence of a bottle jamming protective gloves must be worn prior to opening the chute and removing the jammed glass.
14. The main crusher housing is a designated LOCK OUT area. It is protected by an interlock however being a lock out area it must be incorporated in a Safety Operating Procedure to restrict access until the power supply is locked and tagged out in accordance with this procedure. Never service the machine, change components, or open the chute unless the Lock Out Procedure has been followed and power supply **HAS BEEN REMOVED FROM THE WALL SOCKET.**

OPERATING INSTRUCTIONS

1. Ensure that machine is plugged into a **3phase 380,415 or 460/480 volts 50/60hz 63A to suit country of application**
2. Bag must be sitting on Heavy Wooden Pallet to allow removal with forklift. Check level of sand in 1m³ bag. Bag must never be overfilled. The bag should be changed when it is $\frac{3}{4}$ full – it will weigh approx. 1500kg. fig 1.



fig 1

- For Heavy industrial Applications we recommend use of a Forklift Tipping Bin with Expleco Approved Dust cover. Fig 2

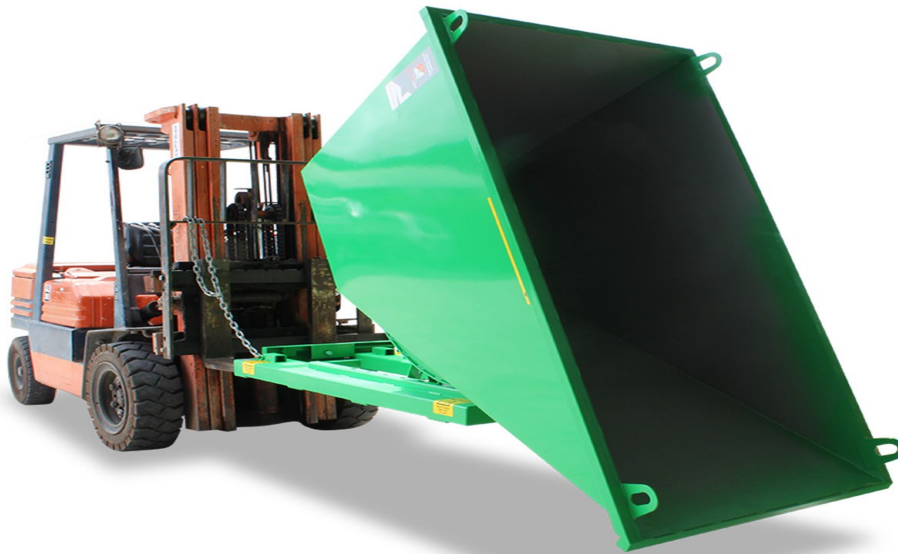


fig 2

- When installing bag or forklift tipping bin ensure that the strap is securely fitted to the output chute to prevent dust escaping and ensure that the bag is sitting evenly on a pallet with the 4 hooks secured to ensure that the bag fills evenly. The bag hooks should firmly hold the loops and can be adjusted by tightening on bag cleats.
- Fit appropriate PSE equipment – Safety Glasses, Earmuffs and leather gloves.
- IMPORTANT! Ensure that a waste bin is located opposite the control station to enable non bottle debris to be removed from the conveyor feed.
- Ensure that Main Conveyor, Feed Conveyor and Crusher Speeds are properly configured as per the table below. Please note the settings are indicative and dependent on bottle type. The operator must adjust speeds dependent on machine loading. Configure so that Main Crusher Current does not exceed 35-38 Amps.

Frequency Settings for Product Output

PROCEEDURE	MAIN MOTOR Hz	FEED CONVEYOR Hz	MAIN CONVEYOR Hz
Bottle to SAND	50 Hz	10-15 Hz	25-30 Hz
Bottle to CULLET	25 Hz	10-15Hz	25-30Hz
Cullet to SAND	50 Hz	10 Hz	20Hz

8. Turn crusher on using the **Green** Crusher start button. Fig 4. Then turn on the Main conveyor followed by Feed Conveyor using the relevant **Green** Conveyor start buttons. The operator **MUST** remain on the platform to observe and remove any non-bottle waste.
9. The conveyors can be stopped and started using the Conveyor **Red** and **Green** buttons. **ALWAYS** stop Feed conveyor first. All plastic bottles, Aluminium cans, bottle openers, and any metal or rock or dense non bottle product **MUST** be removed from the conveyor. Failure to do so can cause severe damage to the machine.
10. To shut down the machine turn Feed conveyor Off and then Main Conveyor Off using the **red** conveyor stop buttons and then **allow crusher to continue running for 20 seconds** and then turn crusher off using **red** Crusher button.
11. Some machines may have an optional foot switch installed to stop and start both conveyors simultaneously.
12. **EMERGENCY STOP – Only use the emergency stop for an emergency.**
If the emergency stop is used to shut the machine down in normal operation it will turn off the crusher and conveyor together and the crusher will shut down while there is glass in the crushing process. This will probably require clearing before the machine can restart.

The Waste Tray located at base of conveyor, must be continually monitored and emptied as required. Failure to do so will damage cleats on the conveyor. The waste can be tipped onto the conveyor and crushed as needed.



fig 4

Bottle Jam

1. The crusher motor is protected by a high current protection device that is configured to shut down the crusher in the event of a restriction or blockage caused by a bottle jam or a foreign object that has not been removed from the conveyor by the operator.
2. In the event of such shut down a properly trained person will need to apply the LOCK OUT procedure *fig 5.* to open the chute and/or access panel *Fig 6.* and remove the blocked material.
3. Once the material has been removed and the crusher mechanism is freely rotating, then LOCK OUT procedure *fig 5.* can be reversed and once the crusher is operating properly the Conveyors can be restarted for normal operation.

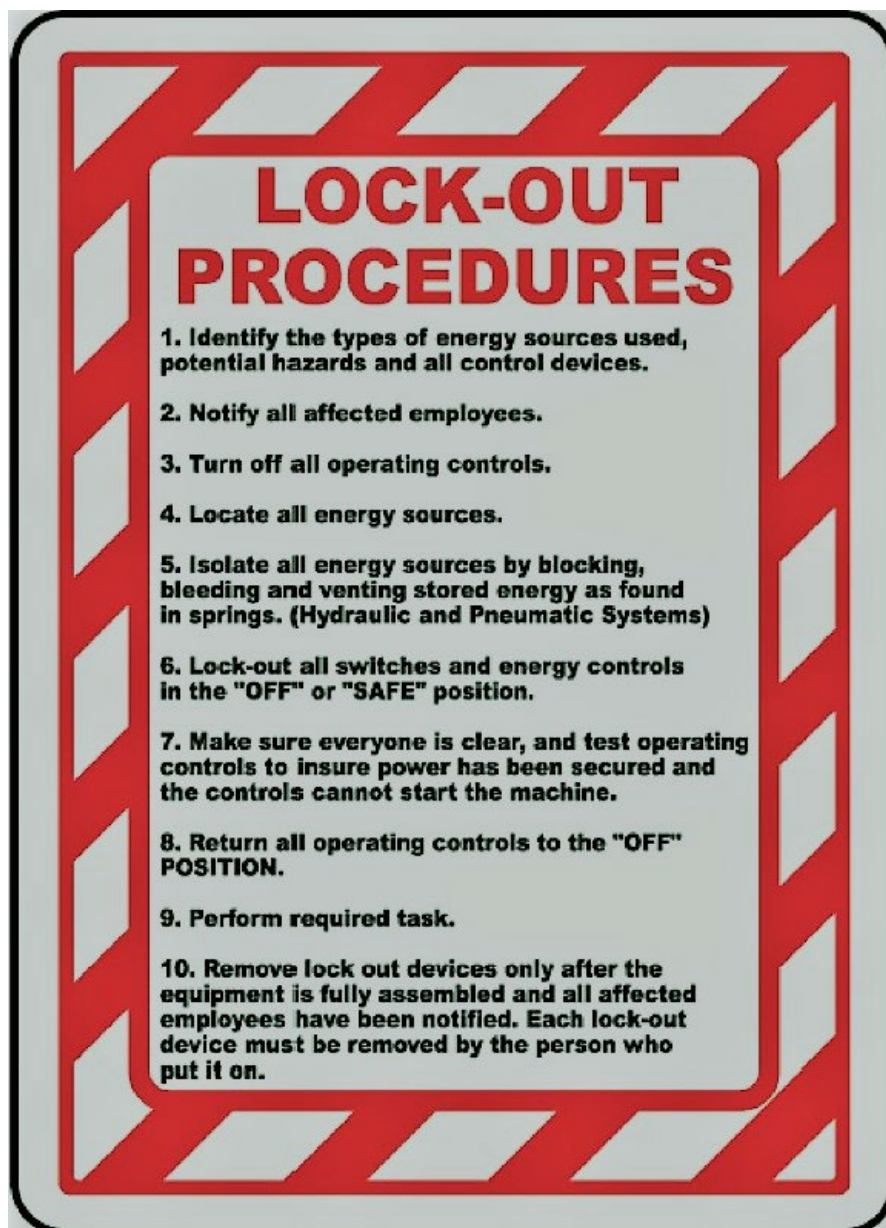


Fig 5

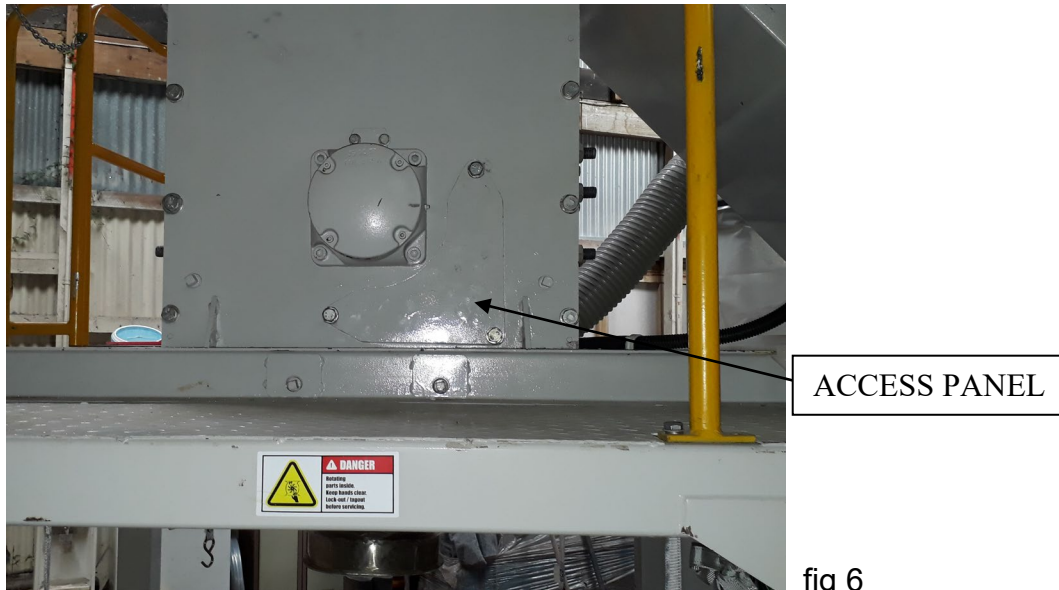


fig 6

Conveyor Jam

1. In the event of a jam or blockage on either of the conveyors, the VFD control unit will shut down the affected conveyor only. The crusher will remain running to ensure that it completes its crushing process and does not become blocked.
2. It is likely that the offending material causing the blockage is easily seen and can be removed by the operator. The VFD automatically resets after 30 seconds so that the conveyor can be restarted using the **green conveyor** button.
3. In the event that the conveyor blockage is not immediately visible, then after 5-10 seconds (to ensure crusher is empty) the crusher should be shut down using the **red crusher** button.
4. The Chute and/or access panel will need to be opened and jammed material removed.

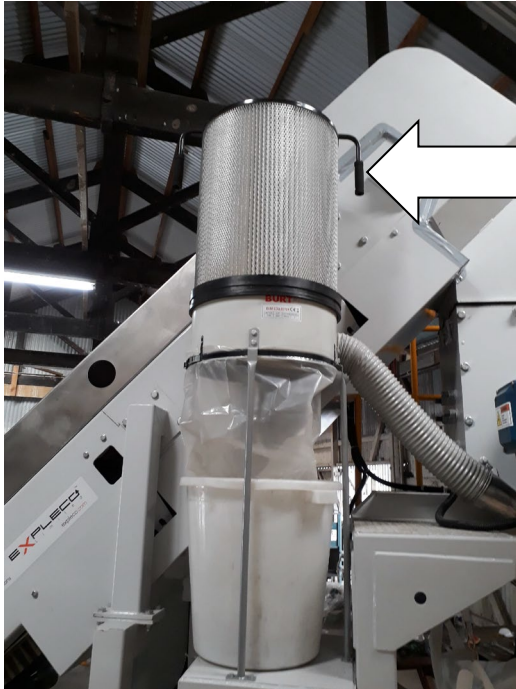
CHUTE and HOUSING CLEANING

1. If the bottles are not dry or partially full when crushed (which is often the case) Then it is recommend to waterblast the chute, screen and main housing on a daily basis or as required. This is to unclog the screen caused residual by damp sand.
2. Fit a wheely bin below the outlet chute and washing residual built up sand from corners and side of housing and screen with a spray nozzle on a hose or water blaster. After washing let dry and spray the mechanism and housings liberally with WD40 or CRC corrosion protection product.

Filter Clean/Replacement

1. If visible dust is seen coming from the filter *fig 7* or main inlet, it is an indication that the filter needs cleaning or the 1m3 bag is overfull.

2. Primary filter clean can be achieved by rotating the cleaning bars on top of the main filter cartridge.
3. The filter bin should be regularly emptied. The Fine powder is high value for paint additive and should be kept in uncontaminated condition.



Rotate Handle to Clean filter.
Remove bag and empty when it is
½ full in plastic bucket.

Fig 7

Bearing grease.

1. The machine is pre-greased in the factory.
2. If the machine makes an intermittent or consistent squeak the main bearings will need greasing.
3. With the machine running pump grease into the grease nipple on the top of the main bearing. Wait between each pump and when squeak stops give one more pump. Do not over grease. Intermediate bearings are accessed by removing panels on the motor Flange adapter. Fig 8.

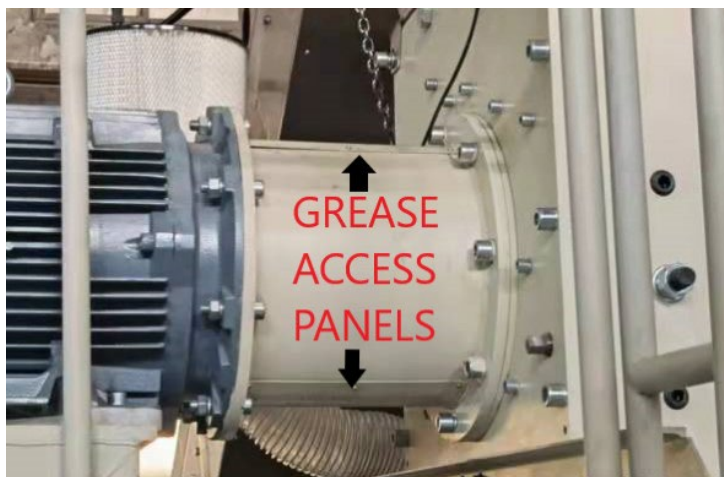


fig 8.

4. As a rough rule of thumb you may find that you need to grease once every 50 bags.

Main Housing Access Interlock

1. An Interlock Switch is located on side of main housing. Fig 9. This is preset at factory to isolate power to the main crusher motor. This is not intended to be used instead of the Lock Out procedure. The Lockout procedure must be followed and the interlock switch is back-up protection if someone breaches the Lockout procedure. It is important that the functionality and adjustment of this interlock is checked at regular intervals to ensure that it remains functional.
- 2.



fig 9.

Consumable Items

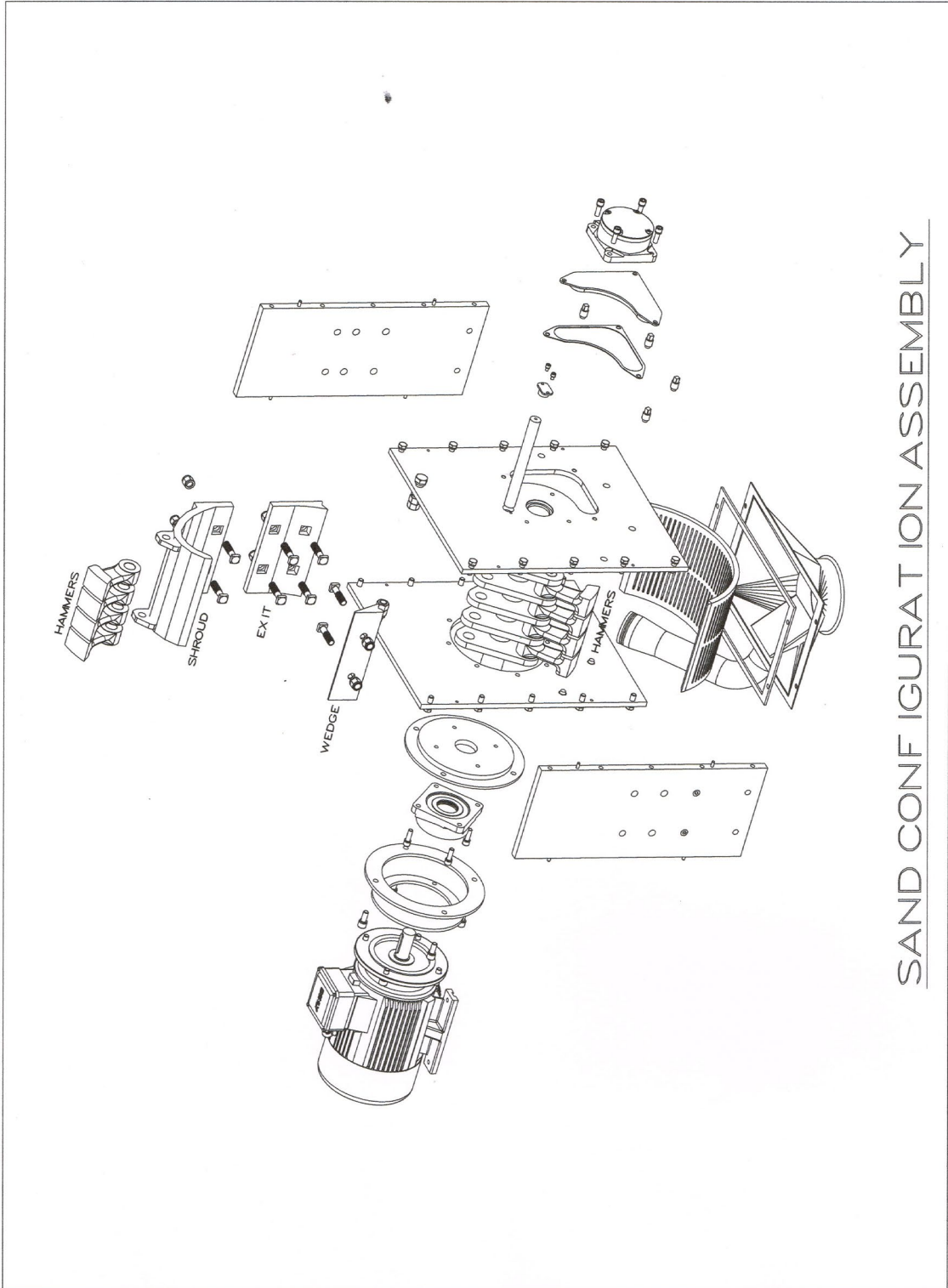
1. The GLAFS MAXI has specialised internal components which are made from high tech abrasion resistant materials which eventually need replacing. These parts are readily available for purchase from Expleco or your machine supplier. The parts must be installed by a factory approved service technician.
2. The GLAFS MAXI can be configured to crush bottles to sand or cullet. It can also crush cullet to sand.

3. PARTS CONFIGURATION AND REPLACEMENT

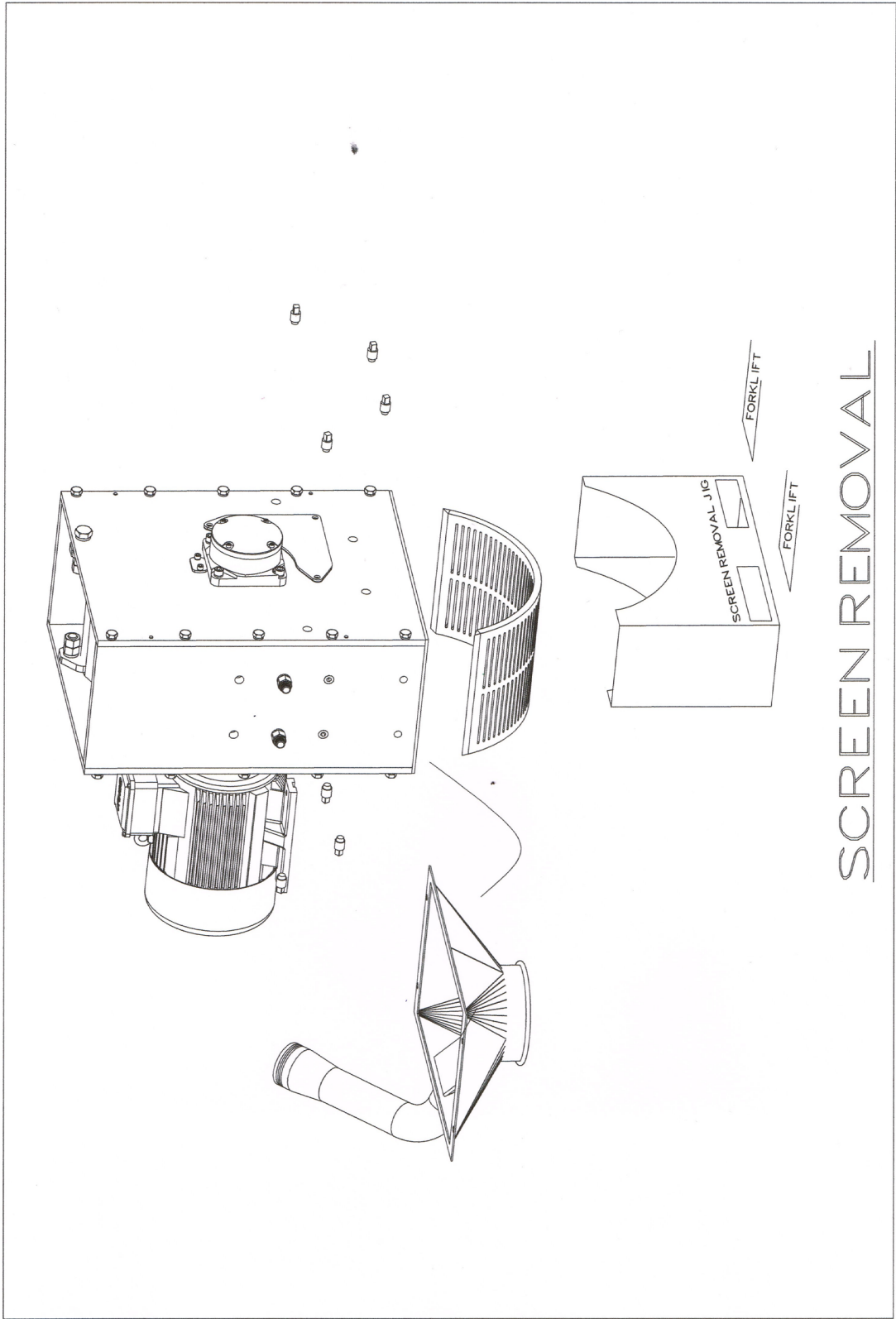
IMPORTANT! Ensure LOCK OUT procedure is followed

SAND CONFIGURATION

- | | |
|----------------------------|--|
| • 12 x Oscillating Hammers | replace with every 3 rd screen |
| • Main Screen | replace when worn thru. |
| • Top screen shroud | replace with every 6th screen |
| • Main Bearing | replace when noisy |
| • 1m3 bags. PE Lined | life dependent on handling. Avoid exposure to UV |

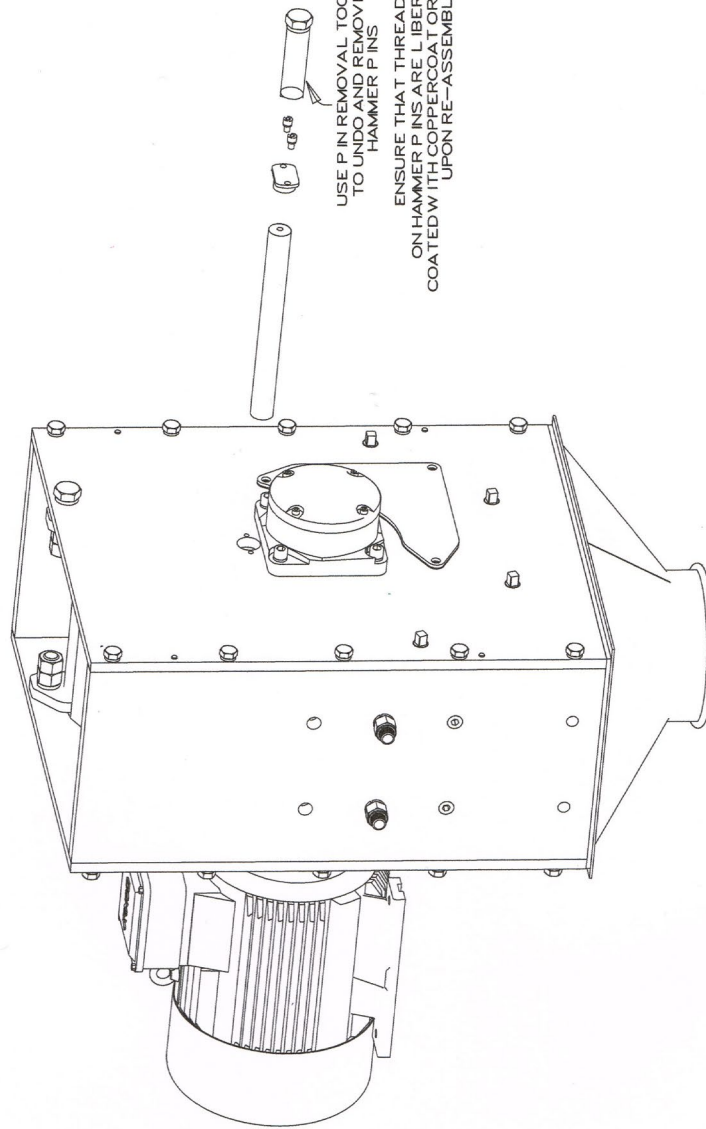
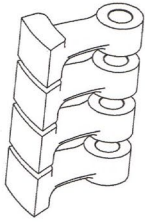


SAND CONFIGURATION ASSEMBLY



SCREEN REMOVAL

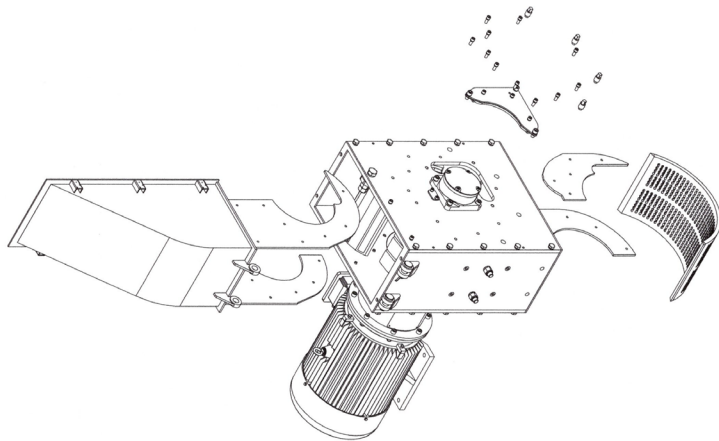
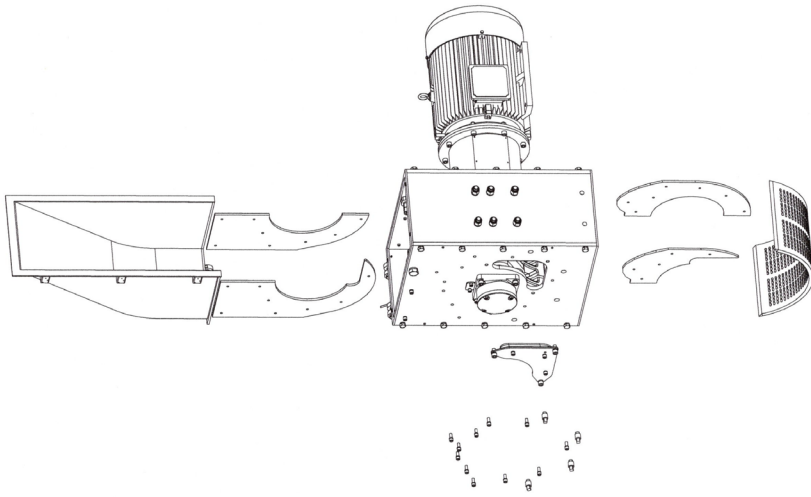
HAMMER CONFIGURATION



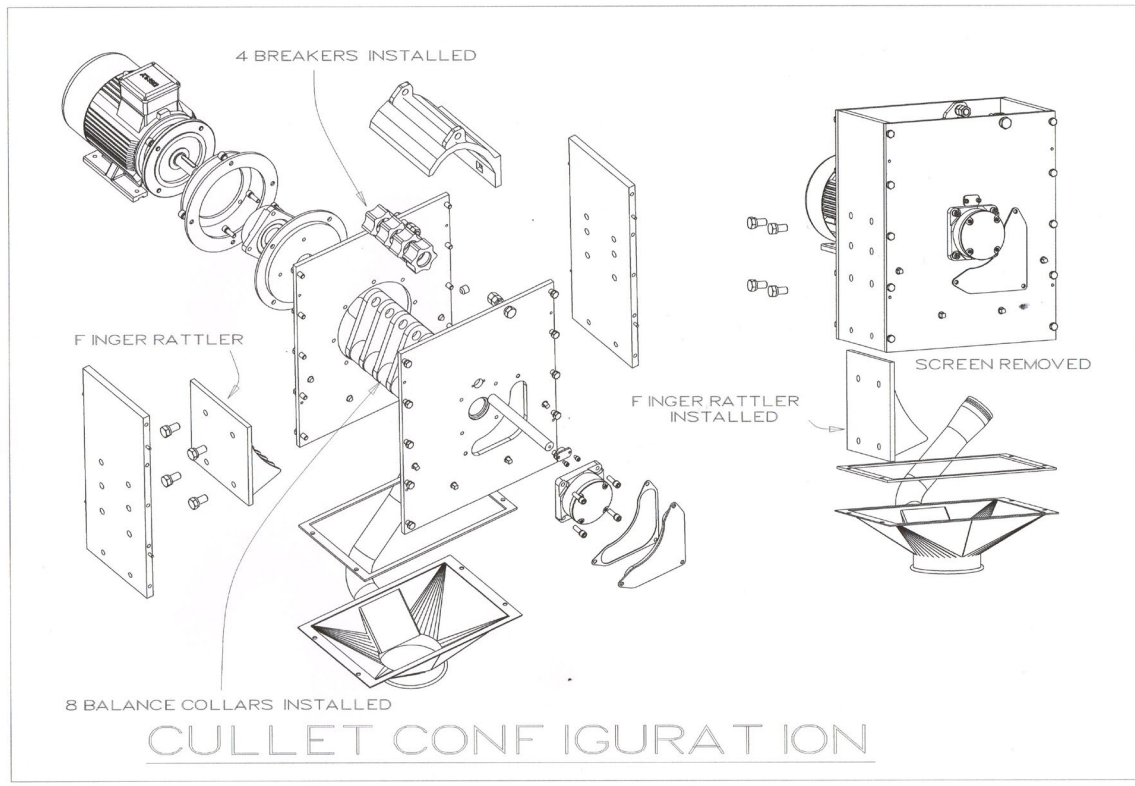
USE PIN REMOVAL TOOL
TO UNDO AND REMOVE
HAMMER PINS

ENSURE THAT THREADS
ON HAMMER PINS ARE LIBERALLY
COATED WITH COPPER COAT FOR LAMINATE
UPON RE-ASSEMBLY

HAMMER REPLACEMENT



LINER PLATER REPLACEMENT



CULLET CONFIGURATION

- 4 x Star Breakers.
- 4 x Balance collars
- 1 x Finger Rattler

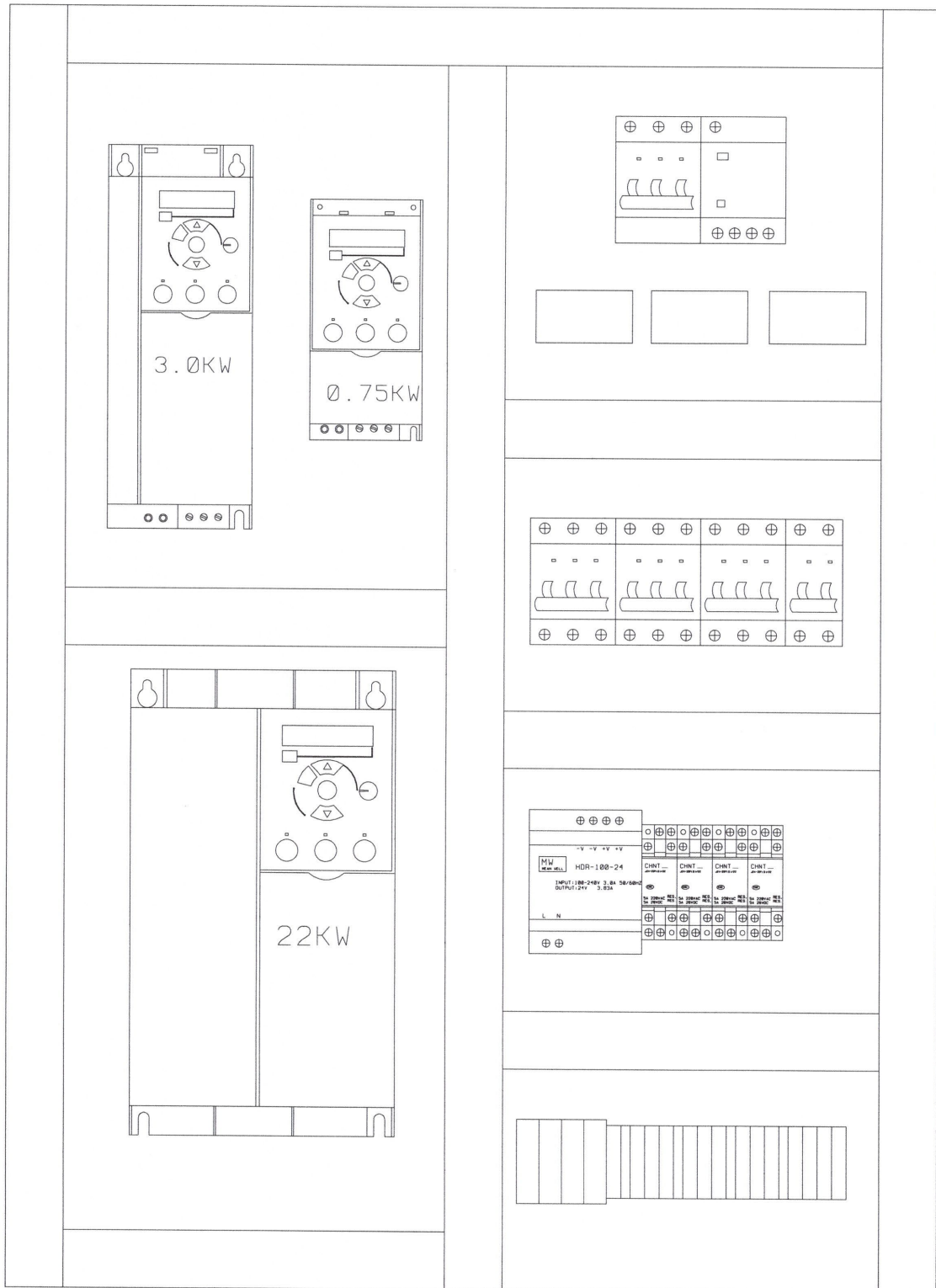
Residual risks and Disposal

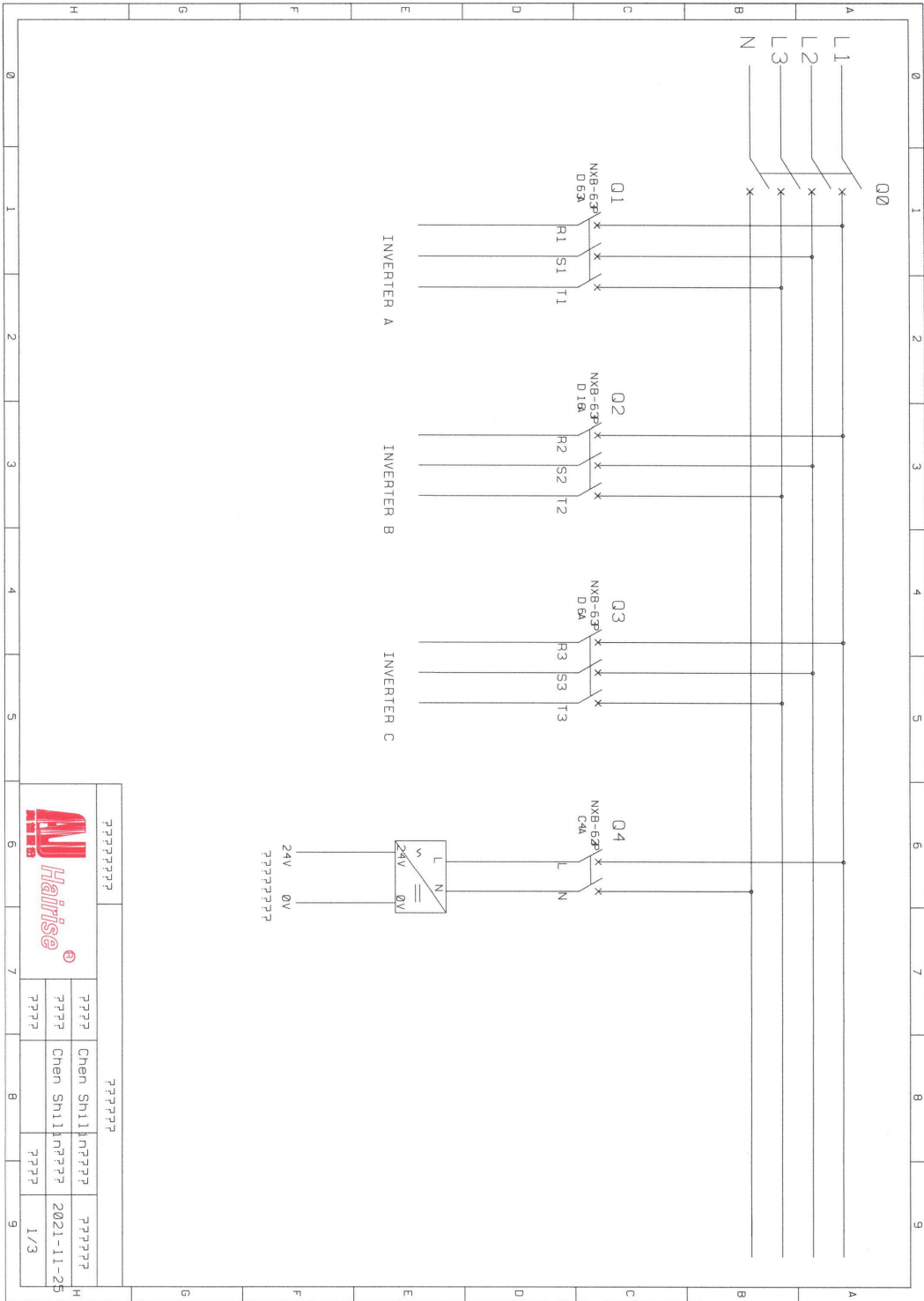
All parts of the machines are able to be recycled. There are no residual toxic or hazardous substances or materials used in the manufacture of the machines. At the end of the machines useful life it is important that the machine and its parts are disposed of in an environmentally safe manner and in accordance with the local laws in place at the time of disposal.

Trouble Shooting

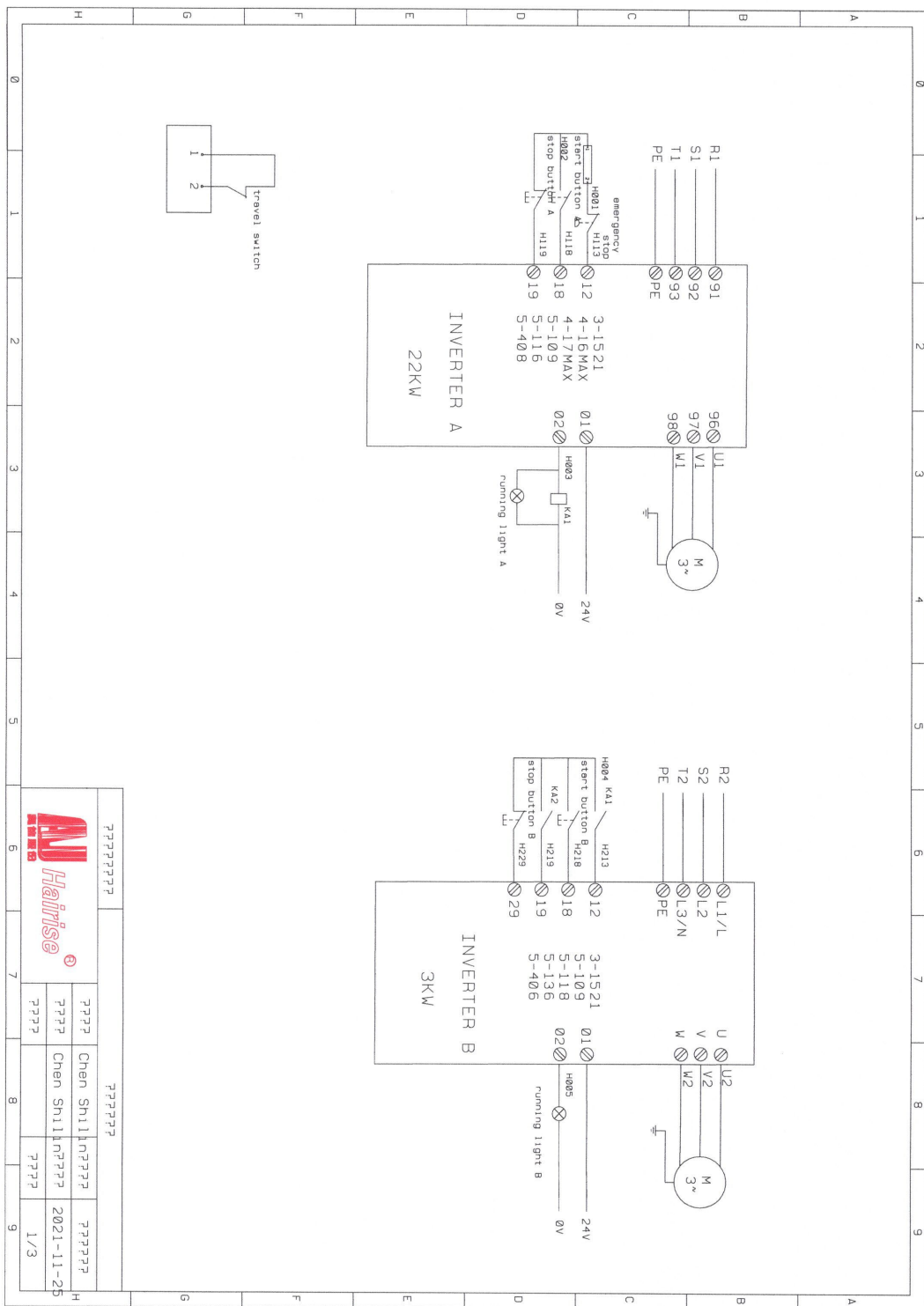
Trouble	Probable cause	Remedy
Squeak or Whistling Noise	<ol style="list-style-type: none"> 1. Dry Bearing 2. Main Shaft Misalignment 	<ol style="list-style-type: none"> 1. Grease Bearing 2. Contact supplier and have shaft re-aligned.
Unusual Vibration or knocking sound	<ol style="list-style-type: none"> 1. Main Shaft Misalignment 2. Damaged Hammers or Flail Shaft 	<ol style="list-style-type: none"> 1. Contact supplier and have shaft re-aligned. 2. Replace damaged Hammer Set.
Crusher Motor Stops	<ol style="list-style-type: none"> 1. Bearing Failure 2. Power Supply Inadequate 3. Extension cord too long. 4. Main Shaft Misalignment as referred above. 5. Glass or Foreign Object Blockage 	<ol style="list-style-type: none"> 1. replace main Bearing 2. Check Power Supply. 3. Use shorter or Heavy Duty Extension. 4. Contact supplier and have shaft re-aligned. 5. Clear Blockage
Conveyor and Crusher Stops At same time	<ol style="list-style-type: none"> 1. Glass or Foreign Object Blockage 2. Bottle Jam in machine that has then jammed conveyor 	<ol style="list-style-type: none"> 1. Clear Blockage 2. Clear Blockage
Dust is visible from inlet and/or filter	<ol style="list-style-type: none"> 1. Full Bag 2. Main Filter clogged 	<ol style="list-style-type: none"> 1. Change bag 3. Clean or replace main filter.

ELECTRICAL WIRING DIAGRAMS



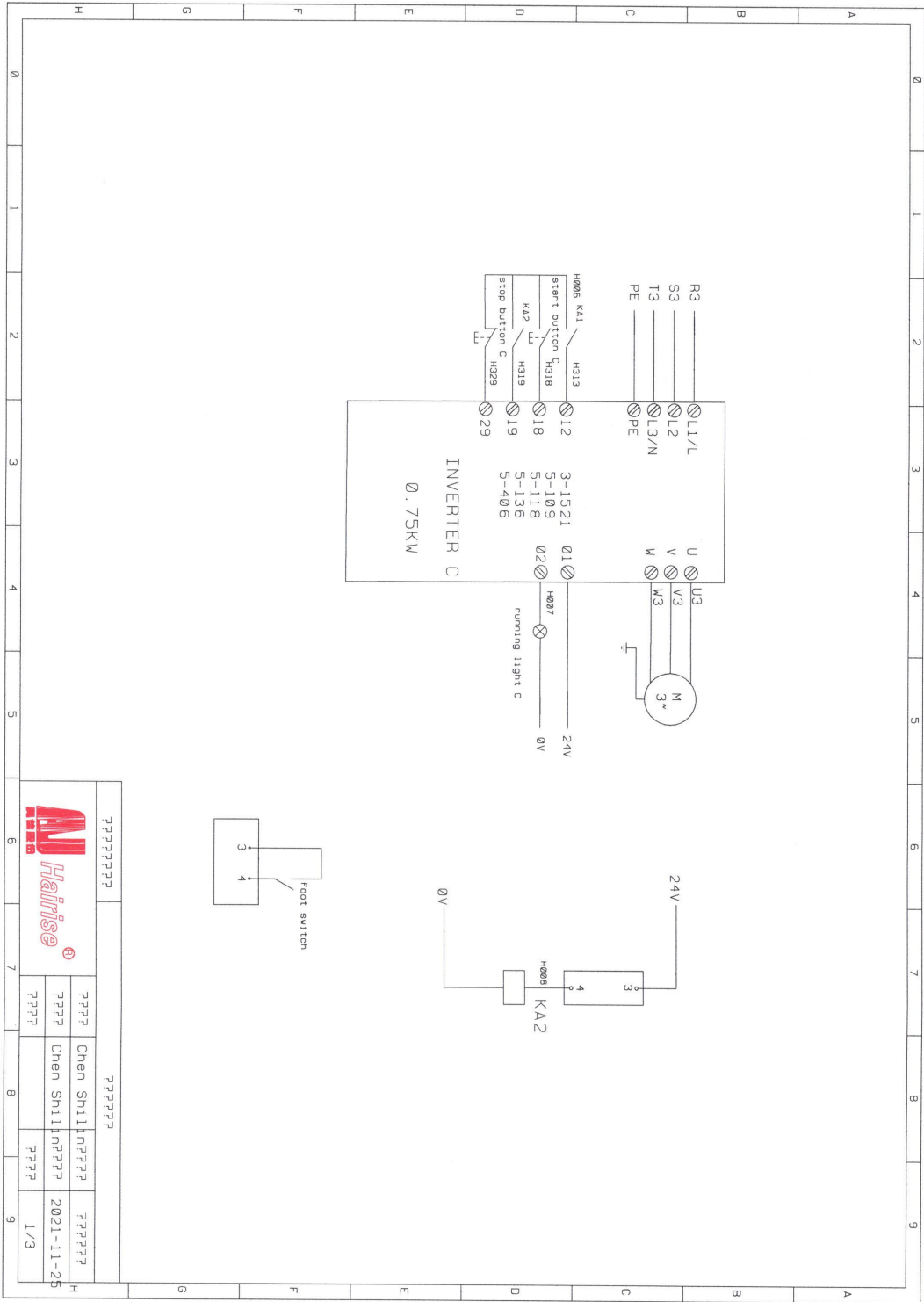


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GUARANTEE

Expleco Limited guarantees this product from defects of materials and workmanship for a period of twelve months from date of purchase provided that the product is used in accordance with the recommendations set out in this instruction manual and with voltage and current limits set out on the motor plate. Expleco Limited will at its own option make good, replace the complete machine (or defective component) with the same or similar product, or provide credit for any product manufactured or supplied by it, which proves to be defective within the limits set out above provided that always no repairs, modifications or alterations to the product have been undertaken or attempted, other than by the company or its authorised agents. Should the purchaser wish to make a claim under the guarantee, the product should be returned pre-paid to the place of purchase.

To obtain the warranty the purchase receipt must be returned with the machine. This guarantee is in addition to and does not take away from any rights available to the consumer under the Consumer Guarantees Act.

A TWELVE MONTH GUARANTEE APPLIES TO THIS PRODUCT FOR INDUSTRIAL USE BY PROPERLY TRAINED STAFF ONLY.

THE GUARANTEE IS APPLICABLE FROM THE ORIGINAL DATE OF INSTALLATION

TO OBTAIN THE WARRANTY THE PURCHASE RECEIPT MUST BE RETURNED WITH THE MACHINE.

THE GUARANTEE EXCLUDES:

- **DAMAGE, MALFUNCTION OR FAILURE DUE TO NEGLIGENCE, MISUSE OR ABUSE**
- **DAMAGE MALFUNCTION OR FAILURE DUE TO USE IN CONTINUOUS HEAVY INDUSTRIAL APPLICATIONS BY STAFF WITHOUT PROPER TRAINING.**
- **DAMAGE, MALFUNCTION OR FAILURE DUE TO USE IN APPLICATIONS THAT THE MACHINE IS NOT DESIGNED TO PERFORM AND/OR INGESTION OF ANY MATERIAL OTHER THAN GLASS BOTTLES OR CULLET.**
- **CONSUMABLE COMPONENTS AND ACCESSORIES.**
- **REPAIRS, MODIFICATIONS, OR ALTERATIONS ATTEMPTED OR MADE TO THE MACHINE BY OTHER THAN AN AUTHORISED AGENT.**



Sales and Service Enquiries

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