

# Mechnolink International



## LABORATORY EQUIPMENT FOR TEST ANALYSIS OF RECOVERY & SUGAR CANE FIBER:

MECHNOLINK INTERNATIONAL has introduced a new developed model of "Hydraulic Press and Shredder Cum Chopper Machine" for measuring the sugarcane recovery with auto control of pressure & time based PLC System according to "ICUMSA" standard.

This equipment is designed to press 500 gram disintegrated cane fiber at about 33000 - 35000 lbs for required time with simple push button.

This unit gives normal juice extraction of about 80% and assures precision and efficiency in sampling. It can be conveniently operated to press more than 300 samples in a day.

The shredder is referred to as upstream process facility, which provides the cane Fiberized sample for analysis. It is a combination of Chopper & Fiberizer for quick & smooth operation. Triffling and juice are not separated, they are same as in real production line.

For Further  
Details

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## TEST METHOD & STEPS FOR SAMPLING PROCESS



- Choose 3 to 4 the typical sugarcane as sample for analysis from cane truck.
- Check and confirm that power source of the shredder is switched on and wait for the motor to speed up and stable.
- Both Motors works anti clockwise.
- Switch on the Shredder and push sugarcane into the chopper cane port.
- Press "Stop" button after 5 minutes of all sample cane are shredded.
- Mix up the sample equally by hand. Don't squeeze the sample.
- Make sure the Hydraulic Machine set Air Pressure 50 PSI G.
- Make sure the Machine Hydraulic pressure 1500 PSI G (Already Adjusted).
- Weigh 500 gram Fiberized cane on scale for sample.
- Fill the 500 gram shredded sample into the "Screen Bucket" of Hydraulic Press.
- Put the screen / Bucket in proper place and push forward up to limit switch.
- Limit switch operates the control panel to light up.
- Operation timer is already adjusted ( the time can be adjusted according to requirement).
- Put the Mug / Beaker for collecting the juice under the bucket drain.
- Push the Green Button to start machine for auto function of "Screen up".
- Bucket / Screen will lift up side and press the Triffling according to timer setting.
- Collect the juice in Mug or Beaker.
- The actuators will hold the screen automatically.
- Bucket will work downward "▼" up to lower limit switch and stops automatically.
- Upper pneumatic actuators will push the stroke for ' CAKE OUT'.
- Put your hand below the screen to collect the cake after alarm.
- Bucket will work upward "▲" to take the empty screen.
- The actuators will free the screen on bucket and bucket will work downward "▼" upto lower limit switch and machine will stop after complete cycle.
- Measure and Weight the cake and juice separately.
- In case of emergency, please push the emergency button "□"
- Fill the new sample in screen / Bucket.

## MAIN FEATURES OF “HYDRAULIC PRESS”



1. Electro Pneumatic Hydraulic System with PLC control unit.
2. 7" Inches HMI Touch TFT LCD Display screen for process flow.
3. Serial Port Supports “RS-232 & RS 485” for data transfer.
4. Standard Slim PLC supports MODBUS ASCII / RTU protocol & PLC Link functions.
5. Powerful hydraulic pressing Actuators.
6. Operating hydraulic pressure 1500 PSI G.
7. Pneumatic Pressure 50 PSI G.
8. The most modern screen holding & releasing system.
9. Smooth cake out fast arrangement.
10. Silver alloy sample screen capacity 500 gram.
11. Easy operation with set timer, oil & air pressure gauges.

## MAIN FEATURES OF “SHREDDER CUM CHOPPER”

1. Fast & powerful shredder cum chopper for cane preparation.
2. Cut & Shred the cane raw material in horizontally rotating manner with two motors.
3. Three sets of cutters assembled inside the machine.
4. Simple and smooth feed port for raw cane sample.
5. Safety, accurate & no loss - triffling and juice are not separated, same as real production line.





# PRECAUTIONS

- Ensure the electric connection of Hydraulic Press and Shredder properly.
- Shredders motors are working anti clock wise and Hydraulic Motor works anticlockwise.
- Install the overload relay 25 amp for shredder and 8 amp for Hydraulic press on your electrical lines.
- To check hydraulic oil level guage .
- To check pneumatic pressure set point 50 PSI G.
- Install moisture control filter on your air compressor line.
- Hydraulic pressure 1500 PSI G (already adjusted).
- Make sure the screen holding actuators are to closed position before operation.
- DO not fill more than 500 grams sample in screen glass.
- Do not touch the limit switches during operation.
- Clean the shredder cutter 2 times a day.
- Wash the bucket and screen atleast 3 to 4 times a day.
- Oiling on pneumatic cylinder topside after 2 weeks.
- In case of any problem , push the Emergency Button (RED) machine will stop automatically.