

MOBILE SEED PROCESSING UNIT CAPACITY 1.2 - 1.5 TPH (INPUT)

Mobile Unit shall consist of :-

1. V.B. ELEVATOR OF SUITABLE DISCHARGE HEIGHT TO FEED SEED CLEANER CUM GRADER

- Self-supporting, Centrifugal discharge Vertical Bucket Elevators having modular design with sheet metal fabricated on CNC /Laser machine.
- V-BOTTOM BOOT ASSEMBLY: It shall be self-cleaning type. The casing of the boot shall be of GI. Sheet metal of 2 mm thickness, the pulley shall be mounted on a heavy duty shaft on self-aligned ball bearings. Belt tightener shall be provided with the help of take up unit. Two removable slide gates shall be provided for easy and fast cleaning and rendering service to the bottom pulley. Boot pulley shall be wing type to prevent damage to the seed in between belt and pulley.
- MIDDLE SECTION LEGS: Each section of leg shall be made of 1.6 mm thick GI sheet. It shall be provided with flanges at both ends. Belt inspection door shall be provided at suitable height.
- HEAD CASING: It shall be made of 2.0 mm thick GI sheet metal suitably stiffened with angle iron. Detachable split cover with rubber inside shall be provided for accessibility to head pulley. Head pulley shall be rubberized and crowned for improved traction and shall be mounted on a heavy duty shaft and self-aligned ball bearings. Sprockets shall be TLB type for easy and quick fitting.
- LADDER AND PLATFORM: Service platform with safety cage of suitable size and height shall be provided to enable accessibility to the head boot and shall be made of G.I. Sheet. Ladder shall be made of M.S.
- BELT AND BELT SPEED: NN 315/3 (3 ply) belt shall be used for fastening of buckets (cups). **The belt speed shall not exceed 1 m/sec.**
- BUCKETS: Buckets of self-cleaning type, PU/Nylon/HDPE. These buckets shall be fastened with cup-bolt and washers with belt.
- Spacers shall be provided between buckets and belt to prevent damage to the seeds.

- DISCHARGE PIPE: Suitable dia discharge pipe made of 2 mm M.S. Sheet/Pipe with both end flanged shall be used for discharging the grains/seeds.
- Complete with 1 HP Geared motor of Rotomotive/Siemens/ Equivalent make for operation on 440 V, 3 phase, 50 cycles, A.C. Supply.

2. SEED CLEANER CUM GRADER

Machine is totally made of steel with structural frame work. Compact & sturdy construction. Designed for efficient cleaning and grading of various crop seeds, such as pulses, wheat, paddy, pearl millet, maize, sunflower, soybean, gram, vegetable seeds, oilseeds, fodder crop seeds etc.

SPECIFICATIONS:

- No. of Screens : Three (flat, oscillating Type). 1 No. of Scalping, 2 Nos. of Grading.
- Sieve Perforation Size
 - Top- 9.5 mm
 - Middle -4.25 mm
 - Bottom- 3.20 mm
- Screen Inclination : Fixed
- Screen perforation cleaning device: Top: Beaters, Middle & Bottom: Rubber Balls
- No. of aspirations : Two
- Total Screen Area: Not less than 3.20 M²
- Total power should not be more than 4 HP (one motor for blower and one for screen deck)

- **CONSTRUCTIONAL FEATURES:**

- a. All steel construction.
- b. Feeding hopper is provided with a feed control gate to regulate the feeding rate and a feed roller for uniform and continuous feeding.
- c. Specially designed rubber balls provided to check the clogging of the perforations of Middle and Bottom screens.
- d. Aspirator Fan is dynamically balanced; the machine is equipped with built-in cyclone dust collector.
- e. Air aspirations are provided with stepless variable air control arrangement for removal of lighter impurities like dust, chaff, husk, deseeded grains, small weed grains etc.
- f. Air chamber is self-cleaning type.
- g. Screens are made of 0.8 mm CRC perforated sheet, suitably inclined and are interchangeable.

- h. The screens are free from curvature and burrs.
- i. For shaking of screen deck, 4 Nos. high carbon steel strips have been provided.
- j. Clean seed discharge is in the centre of the machine.
- k. Sieve Deck assembly is self-cleaning type to avoid admixtures during cleaning.
- l. All moving parts are covered with safety guard.
- m. All shafts are made of high grade material and are mounted on pillow/flange type self-aligned ball bearings.
- n. The machine is pre-wired from electric motors to the starters to a single connection for the incoming power supply.
- o. The unit is supplied complete in all respect including electric motors, 01 set of screens, 1 No. Dust Pipe and 1 No. cyclone dust collector.

- SUB-ASSEMBLIES & PARTS.

- **ADDITIONAL SCREEN SET (3 Nos), One set for Pigeon Pea, one for Paddy and another set for Black Gram/ Green Gram.**
- Screens are made of 0.8 mm CRC perforated sheet and fitted on seasoned hard wood frame, suitably inclined. The screens are free from curvature and burrs.

3. **V.B. ELEVATOR OF SUITABLE DISCHARGE HEIGHT TO FEED GRAVITY SEPARATOR**

Specifications as per Sr. no. 1

4. **SEED GRAVITY SEPARATOR**

- The Machine is specifically meant for removing impurities and achieving very high grading quality in any free flowing granular material, grains all types of seeds, spices, etc. It removes the impurities and upgrades the material on the principal of specific weight.
- Compact & sturdy steel channel frame with high quality wood rectangular deck mounted on Teflon bushings dynamically balanced fans (3 Nos.) with individual adjustable air control, variable oscillation of deck with the help of variable frequency drive, lengthwise & sidewise inclination of deck, regulated feeding, built in air filters.
- SPECIFICATIONS:
 - I. No. of Fans : Three,
 - II. Size of Deck (mm.): 800 x 1590 mm(WxL)

- III. Type of Deck : Rectangular type.
IV. Total power should not be more than 5.5 HP

• CONSTRUCTIONAL FEATURES:

- a. Rectangular deck is made of high quality wood/aluminum, quickly and easily interchangeable type. Deck removal is easy for cleaning purpose.
- b. Fans are dynamically balanced. with individually adjustable metered air control for each fan for precise control of air flow.
- c. All the fans are mounted on one common shaft with individual bearings.
- d. Quantity of air from each fan is adjusted independently and is monitored with screw type metering device for precise accuracy.
- e. Self-Supporting Feeding Hopper with variable feeding rate through controlled gate.
- f. Variable oscillation speed of deck in wide range.
- g. Deck assembly is rested on four specially designed levers with Teflon bushings for smooth and trouble free operation.
- h. Variable inclination of deck sidewise and lengthwise in wide range.
- i. Specially designed Seed Collecting spouts are fitted with bag holding clamps with arrangement to bag 1st & 2nd middling, 3rd grade or 1st & 2nd grade collectively. All these can be collected separately also.
- j. Eccentrics are counter balanced giving smooth oscillation action to the deck.
- k. Built in air filters can be easily removed for easy access to the moving parts.
- l. The machine shall be pre-wired from electric motor to starter to a single connection for incoming power supply.
- m. The deck is fitted with hydraulic/pressure cylinders for easy opening thereby facilitating routine cleaning and check up for better efficiency and easy maintenance.
- n. Oscillating feeder is provided to mix grade I, grade II automatically.
- o. Facility to mix middling automatically with the clean seed for maximizing the capacity of machine.
- p. O-box for gentle and continuous feeding of product on the deck for improved performance.
- q. Additional heavy duty foundation frame to enable quick installation of gravity separator with Swiss technology.
- r. Facility to bag the middling separately OR recycle it to the deck.
- s. Saving of labour.
- t. M.S. painted Base frame for fixing gravity (through chemical anchoring or grouting with foundation bolt) is provided as standard supply.

- u. The unit shall be supplied complete in all respect including electric motor and factory fitted deck shall be suitable for bold seeds like green gram and lentil (fine seeds).

- OPTIONAL SUB ASSEMBLIES & PARTS:
Additional deck assembly for coarse/fine seed.

5. HEAVY DUTY PORTABLE BAG CLOSING MACHINE

- Capacity: 300-350 Bags Per Hour.
- Single Thread, Chain Stitching, light weight, hand held portable heavy duty bag stitching machine. Suitable for stitching of Jute/Jute Canvas/Polycoated Jute/Cloth Bags fitted with oscillating type lopper, micro switch finger touch start, automatic thread cutting mechanism and complete with all standard features.
- Suitable for operation on 220V single phase, 50 Hz. A.C. Supply. Stitching speed is 6metres/minute. Complete with electric motor of 1/10 HP, 3.5 mtrs. Long flexible wire, 3 pin plug, 2 No. Needles, 1 No. lopper, 4 Nos. Allen Keys, 1 No. Spanner, Oil Can, Screw Driver, Thread Stand and thread cone.

6. DIGITAL MOISTURE METER

- The Moisture meter with LED display of moisture percentage, moisture meter shall have facility to record reading of moisture percentage, temperature, date and time, commodity name .
 - i. Range of moisture measurement: 4% to 40%
 - ii. Consistency +/- 0.2 %
 - iii. Principle of measurement: Resistance
 - iv. Temperature compensation -automatic.
 - v. Voltage: 230V AC, 50Hz or Battery of Dry cells(R-20 type)

7. PLATFORM TYPE WEIGHING SCALE

Capacity	: 300 Kg
Platform size	: 600 x 600 mm
Display	: LED
Accuracy	: ± 10 gm

8. DIESEL GENERATOR SET OF 25 KVA (SILENT TYPE)

- For operating the above quoted Mobile Plant is required. Suitable to generate 440 V, 3 Phase, 50 Hz AC supply.

NOTE: - Please note this Generator Set is silent and is covered with canopy as it is mandatory requirement of pollution control department.

9. ELECTRIC CONTROL PANEL

- The motor control panel will be equipped with an incoming supply ON/OFF switch. All motor starters will be provided with short circuit and overload protection. The DOL, SD, Soft starter and VFD will be given as per machine requirements. See the following for detailed features.
- FEATURES:
 - i. Motor Overload Protection
 - ii. Motor Short Circuit Protection
 - iii. Door Interlocking
 - iv. Emergency Stop
 - v. Fuse Protection at starters control
 - vi. Motor Status (ON/Trip Indication)
 - vii. Supply Indication
 - viii. FRLS Wire

10. ELECTRIFICATION OF MOBILE PLANT

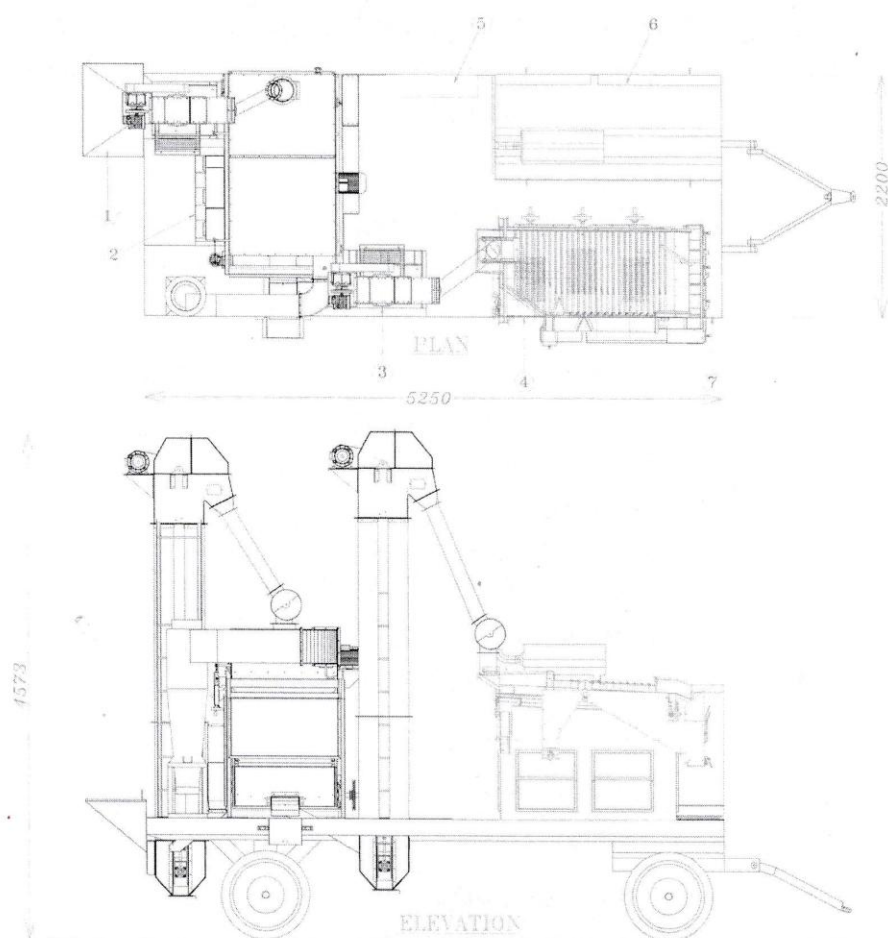
- Power cables, glands & accessories for connecting machines motor to control panel only. Cables shall be copper unarmoured, Anti termite type.

11. TRAILER

- All equipment mentioned above shall be installed on a trailer complete with piping, ducting etc. necessary to achieve an efficient flow of material through the plant.
- Trailer of all steel construction with off-road capability for towing by tractor or truck.
- Trailer chassis channel should not be less than 8 inches, Trailer outer base channel should not be less than 6 inches and machine mounting channel base frame should not be less than 6 inches.
- Heavy duty steel chassis with towing capability upto 20 kph max. (on highway) and 10 kph (off-highway) with good stability.
- Four wheel trailer load carrying capacity not less than 3 tons, twin axle type and front wheel axle should be routable type.
- Draw bar fitted with ring type hitch and supplied with towing pin to suit tractor towing.
- Trailer to be fitted with four leveling screws to facilitate correct operation of the plant.
- Trailer fitted with road lighting arrangement to be connected to tractor.
- Fitted with product discharge and reject discharge
- Spouts fitted with bag holding clamps.

12. INSTALLATION, COMMISSIONING, TRIAL RUN AND TRAINING OF MOBILE SEED GRADING UNIT

MOBILE SEED CLEANING & GRADING UNIT INPUT CAP: 1-1.25TPH BASED ON BLACK GRAM/GREEN GRAM



SR.NO.	ITEMS	CAPACITY	QTY.	HP
1	V.B.ELEVATOR (SPS) WITH ONE WAY DISC. VALVE TO FEED SEED CRADER	3TPH/SUITABLE HEIGHT	01	1
2	SEED CLEANER CUM GRADER	2TPH	01	3+1
3	V.B.ELEVATOR (SPS) WITH ONE WAY DISC. VALVE TO FEED SEED GRAVITY	3TPH/SUITABLE HEIGHT	01	1
4	SEED GRAVITY SEPARATOR	2TPH	01	4+1
5	CONTROL PANEL		01	
6	GENSET 20KVA		01	
7	MOBILE TRAILER		01	
8	CHUTES		09	