

Technical Specification for Pulse Seed Processing Unit Capacity, 1TPH

S. No. Technical Specification

1. Seed Pre-Cleaner (1 No.)

The machine should be made of steel construction with compact and sturdy channel frame. It should be designed for suitable and efficient cleaning of various pulse crop seeds, like pea, pigeon pea, lentil etc. The machine have two flat oscillating screens, perforation cleaning of top screen should be by beaters & bottom screens by nylon brushes, double aspiration variable shoe shake, 5 HP motor 440 V Crompton/ Equivalent. Screw Size Top 80 x 100 cm, Bottom 80 x 180 cm W x L. The machine should be regulated five level (Pneumatic lift) feed hopper dynamically balanced fan, air chamber screen deck and spouts should be self cleaning type. O. A. Size 356 x 175 x 285 cms (L x W x H) Complete with electric motor, starter switch, fitted with one set of screens and all other standard features.

Sub Assemblies & Parts

- i) **Air Trunk** (1 Set)
100 cms long both ends flanged. Flanged are made of 25 x 25 x 3 mm angle iron.
- ii) **Additional Screen Set** (1 Set)
Screens are made of 0.8 mm with CPC perforated sheet and fitted on seasoned hard wood frame, suitably inclined. The screens are free from curvature and burrs.
- iii) **Cyclone Dust Collector** (1 No.)
The expansion chamber is made out of 1.6 mm M.S. Sheet with dust collection box and mounting stand.

2. Seed Grader (1 No.)

The seed grader should be made of steel construction with compact and sturdy channel frame. The machine should be designed for efficient cleaning and grading of pulse crop seeds such as gram, pulses, vegetable pea, crop seeds etc. It should have two flat oscillating screens perforation cleaning of top screen by beaters and bottom screen by nylon brushes, double aspiration, variable shoe shake, 5 HP motor for 440 V Kirlosker/ Crompton Equivalent make, Screen size top: 66 x 74.5 cms, bottom size 130 cms. The machine should be with regulated low level regulated low level (Pneumatic lift) feed hopper with feed roller, dynamically balanced fan, air chamber, screen deck and spouts are self cleaning type complete with electric motor, starter switch, one set screen for one particular crop and all other standard features.

Sub Assemblies & Parts

- i) **Air Trunk** (1 Set)
100 cms long both ends flanged. Flanged are made of 25 x 25 x 3 mm angle iron.
- ii) **Additional Screen Set** (1 Set)
Screens are made of 0.8 mm with CPC perforated sheet and fitted on seasoned hard wood frame, suitably inclined. The screen are free from curvature and burrs.
- iii) **Cyclone Dust Collector** (1 No.)
The expansion chamber is made out of 1.6 mm M.S. Sheet with dust collection box and mounting stand.

3. V.B. Elevator to Feed Seed Gravity Separator (1 No.)

All sheet metal components should be manufactured on CNC machine. Head casing, boot casing and leg casing should be made of 2.0 mm and 1.6 mm G.I. Sheet respectively. Spouting should be made of 2 mm M.S. Sheet. Spouting, spout sections, discharge valve, ladder, service platform, boot plate, take up unit, hopper with grating and feed control gate should be made of M.S. silver painted. Belt should be NN 315/3 (3 ply) buckets should be PU/Nylon/HDPE self cleaning type. Spacers should be provided in between belt and buckets to prevent damage to seed. Boot pulley should be wing type to prevent lodging of seed between belt and pulley. Head pulley should be rubberized and crowned for improve traction. Sprocket should be TLB type for easy and quick fitting. Belt speed should not be exceeding 1 m/ sec. Complete with 1 HP geared motor, starter, switch and other standard features.

4. Specific Gravity Separator (1 No.)

Gravity separator should be suitable for removing impurities on specific density principle, grains same in size but different in weight should be separated. Three or more grades can be taken. Suitable for all types of pulse, seeds. The machine should be 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, lengthwise & sidewise inclination of deck, regulated feeding, built in air filters.

5. V.B. Elevator to Feed Seed Treater (1 No.)

All sheet metal components should be manufactured on CNC machine. Head casing, boot casing and leg casing should be made of 2.0 mm, 3.0 mm and 1.6 mm in GI sheet respectively. Spouting should be made of 2 mm M.S. Sheet. Spouting, spout sections, discharge valve, ladder, service platform, boot plate, take up unit, hopper with grating and feed control gate should be made of M.S. silver painted. Belt should be NN 315/3 (3 ply) buckets should be PU/Nylon/HDPE self cleaning type. Spacers should be provided in between belt and buckets to prevent damage to seed. Boot pulley should be wing type to prevent lodging of seed between belt and pulley. Head pulley should be rubberized and crowned for improve traction. Sprocket should be TLB type for easy and quick fitting. Belt speed should not be exceeding 1 m/ sec. Complete with 1 HP geared motor, starter, switch and other standard features.

6. Seed Treater (1 No.)

It should be compact & versatile unit with latest techniques for treatment of seed of various crops with fungicides and pesticides etc. The seed entering into the machine drops into a double tipping weighed from where it is fed into the rotating blending drum speed variation. With every tilt with lift angle variation of the weighed exactly metered quantities of chemical are added to the seeds. For dosing of slurry, a dispensing pump has been provided instead of chain sprocket systems. Further instead of auger for mixing of slurry and seeds, a rotating drum is provided to give a gentle tumble and for uniform coverage of chemical on the seeds. Capacity of slurry tank: 25 liters. Parts coming in

contact with the chemical are made of stainless steel. The unit is supplied with 1 HP electric Crompton motor, starter, switch and standard features.

7. V.B. Elevator to Feed Bagging Bin (1 No.)

All sheet metal components should be manufactured on CNC machine. Head casing , boot casing and leg casing should be made of 2.0 mm, 3.0 mm and 1.6 mm GI sheet respectively. Spouting should be made of 2 mm M.S. Sheet. Spouting, spout sections, discharge valve, ladder service platform, boot plate; take up unit, hopper with grating and feed control gate should be made of M.S. silver painted. Belt should be NN 315/3 (3 ply), buckets should be PU/Nylon/HDPE, self cleaning type. Spacers should be provided in between belt and buckets to prevent damage to seed. Boot pulley should be wing type to prevent lodging of seed between and pulley. Head pulley shall be rubberised and crowned for improve traction. Sprockets should be TLB type for easy and quick fitting. Belt speed should not be exceed 1 m/sec. Complete with 1 HP geared Crompton motor, starter switch and standard features.

8. Bagging bin with manual/ Auto bagging arrangement (1 No.)

G.I. sheet for sides of bin & 2 mm Sheet for bottom hopper, M.S. pipe for supporting legs with 10 mm thick foundation plate, suitable MS pipe bracing. Transparent window sheet should fix for seeing the seed level in the bin with top cover.

9. Seed Diverting Chutes (1 Set)

10. Installation commissioning & Trial Run of SPP (1 No.)

11. Dust removing Machinery (1 Set)

Note: The aperture screen size for different screen are given below -

| S. No. | Crop | Top Screen | Bottom Screen |
|--------|-----------------------------------|----------------------------------------------|---------------------|
| 1. | Black gram | 5.00r | 285 |
| 2. | Bengal gram | 9.00r, 10.00r | 5.00r, 5.50r, 6.00r |
| 3. | Cowpea | 7.00r | 3.50r, 4.00r |
| 4. | Green gram | 5.50r | 3.80s, 3.20s |
| 5. | Indian bean (Sem) | 8.75r | 4.75s |
| 6. | LAntil | 7.00r | 3.20s, 4.00r, 4.75r |
| 7. | Pigeon pea (Arhar) | 9.50r | 3.20s, 4.00r, 4.75r |
| 8. | French bean | 11.0r | 4.75s |
| | r = screen with round perforation | s = screen with slotted (oblong) perforation | m = wiremesh siens |