

LOW COST SERVO BASED PLC OPERATED GRAIN/ GRAIN PRODUCTS AUTOMATIC WEIGHER FOR FLOUR MILL INDUSTRY

1. Introduction:

Automatic weighing machine is very versatile machine with latest technology of servo control and Programmable Logic Control (PLC) concepts. Automatic weigher followed by bagging machine can be used as packer in the packaging line to pack product of any range between minimum to maximum without any modifications in the machine.

2. Raw Material:

Servo drive & motor, load cell, weigh hopper controller, hoppers, bearings, pneumatic cylinder, PLC, control panel, LM Guide Way, Sheet metal cover, MS sq. tube, welding machine, power saw, hard grinder, driller, etc.

3. Technical specifications:

| | | |
|-------------------------|---|--------------------|
| Capacity of the machine | : | 5 Kg, 600 Kg/ hour |
| Accuracy | : | ± 0.25% |
| Power consumption | : | 600 W |

Suggested capacity of the fabrication unit: 3 AGW units per month

**4. Project Economics- Fixed Cost – Working Capital (in Rs.'000)
(Estimate for a model project)**

| | |
|--|-------------|
| (a) Building (135 Sq. M) | 75 |
| (b) Principal plant & equipment | 900 |
| (c) Other fixed assets | 28 |
| (d) Preliminary/ preoperative expenses | 105 |
| Total Fixed Capital | 1108 |
| Working capital (Margin) | 440 |
| Total project cost | 1548 |

5. Technology/Manufacturing Process – Availability:

The design drawing for **Low cost servo based PLC operated grain/ grain products automatic weigher for flour mill industry** has been developed at CFTRI, Mysore, after taking up sufficient trials on the proto type machine. The CFTRI has the necessary expertise to provide technical assistance and guidance for setting up of fabrication unit of this machine (the facilities can also be used for fabrication of other food processing equipments also). The CFTRI can offer further technical assistance for development and problem solving under technical consultancy arrangements.