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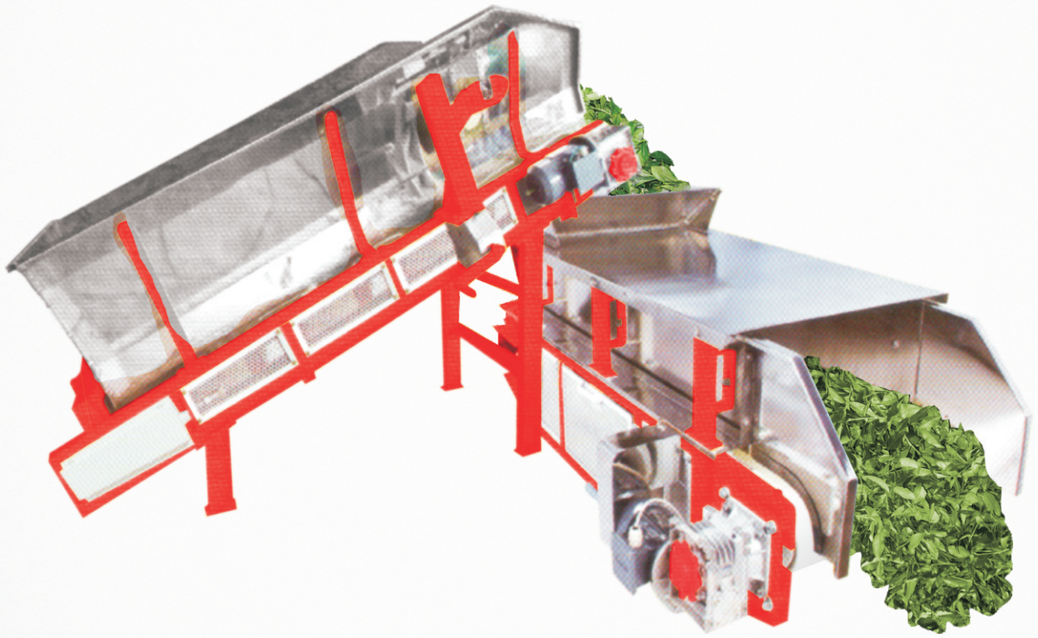
Microcontroller Based Online Automatic ROTORVANE Feeder



With High Precision
Load Cells, Compact Conveyor System &
User-friendly Control Station

COMPLETE SOLUTION FOR TEA PLANTATIONS

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THE PRINCIPLE

The system consists of a controller and a PVC conveyor belt passing over a Weighing Zone. Withered leaf is fed at the Feed Zone and travels to the Discharge Zone at the other end of the conveyor belt. The controller senses the weight of the leaf passing over the Weighing Zone and adjusts the speed of the belt accordingly (slower/faster), in order to achieve the preset discharge rate of leaf into the Rotorvane. The end result is high productivity with lower costs and improved quality by maintaining a consistent and uniform feed of withered leaf into the Rotorvane.

Aarfed has been designed to deliver a uniform discharge rate of withered leaf (within +/- 2% of set rate) into the Rotorvane, irrespective of feed irregularity by the operator at the feed end of the machine.

The Micro Controller based model is time tested and prevalent and a number of such machines are already operational. Upgraded version in the from of PLC based models can also be provided at an extra cost.

Quality of made tea is dependent on various factors like correct wither, precise preconditioning of leaf in the Rotorvane, desired level of sizing, maceration and shaping in CTC, correct chemical reactions during fermentation and uniformity of heat transfer during drying. All these can be achieved only if the preconditioning of withered leaf in the Rotorvane takes place at a uniform rate maintaining correct pressure. This would automatically balance the productivity of all subsequent machines up to the Sorting section.

It has been observed that during manual feeding of withered leaf into the Rotovane, there is a wide variation in feed from the desired feed rate. In such a case, it is never possible to maintain uniform pressure in the barrel of the Rotorvane to get the desired level of preconditioning.

DIMENSIONS

Length	1,845 mm (6 ft)
Width	966 mm (3,10 ft)
Hight	700 mm (2.30 ft)

SALIENT FEATURES & ADVANTAGES

- Maintains a continuous and uniform discharge rate of withered leaf into the Rotorvane, within +/-2% variation preset rate.
- Enables setting of all subsequent machines to their optimum levels and facilitates their automation, resulting in higher productivity with improved quality at lower costs.
- Load cells provided, ensuring high accuracy.
- Totals the mass delivered on real time basis with an accuracy of within +/-2%.
- Online display of key parameters like total mass delivered (kgs.), total time of operation, present and cumulative feed rate.
- Stores data.
- Audio annunciation panel to alert the operator on overfeed and under-feed.
- High efficiency Geared Motor instead of the conventional drive arrangement.
- Rugged design to withstand harsh factory conditions.
- Elaborate self-diagnostics and well-defined calibration procedure for consistent operation.
- Specially designed power supply to withstand power fluctuations from 150VAC-280 VAC (Normal 220 VAC).
- Built-in restoration of data in case of power failure.
- Capacity may vary from 500kgs. to 1500kgs. of withered leaf per hr.
- Interface Facility via USB to PC for monitoring (Optional).
- The Pre Feeder buffers and controls uneven feed of withered leaf and the weigh Feeder maintains high accuracy level of feeding into Rotorvane. It also helps to save manpower lowering cost.

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Microcontroller Based Online Continuous Weigher of DRYER Mouth

Existing System

Presently tea industry is depending on age old batch weighing technology or conventional system to get the 'Made Tea' Weighment.

Disadvantages of Existing System

Over flowing and loss of bloom in "Made Tea" are major disadvantages of the existing system. The solanoid gates get clogged sometimes off setting the measurement.

Our Online Continuous Weigher

Our automation system for weighment, using microcontrollers, provides very accurate online weighment of the final product while the production is on.

SALIENT FEATURES & ADVANTAGES

- The system gives accurate weighment of the final product on real time basis. The system records and monitors actual online real time weight.
- Keeps the bloom of 'Made Tea' intact.
- The system continuously records and displays all the parameters on real time basis, e.g. Cumulative weight, total operation time from the start of each production cycle, power cut time etc.
- Realtime continuous and online display of all the parameters, e.g. Cumulative weight and total operation time from the start of each production cycle, power cut time etc. Detailed event recording of individual batch for past 64 batches of all parameters with date and time.
- All the parts coming in contact with made Tea are food grade stainless steel.
- Interface facility via USB to PC for monitoring (Optional).