

APRON WEIGH FEEDER DLM



DEFINITION AND PRINCIPLE

The DLM Apron Weigh Feeder extracts a product from a storage hopper through the constant cross-section and according to a fixed reference flow-rate (set point), adjusts the extracted volume by varying the apron conveyors speed in such a way as to keep a constant weighed flow-rate.

The weight of the material on the conveyor called « weighing length » is measured by 2 or 4 strain gauge load cells weighing system.

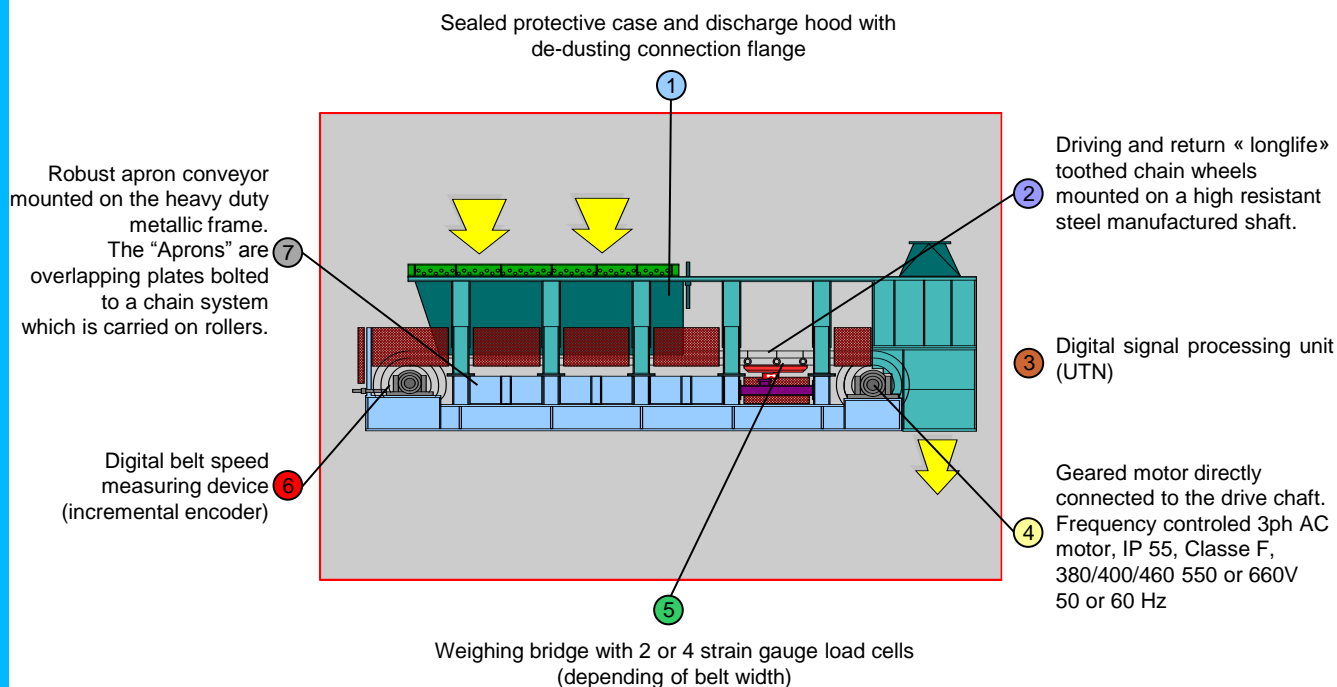
The belt speed is measured by an incremental encoder and adjusted by a variable speed gear motor.

The DLM belt weigh feeder can also be used as a continuous weigher for throughput and consumption measurement or as a charge pre-selection (batch) feeder.

COMPOSITION AND CHARACTERISTICS

The DLM belt weigh feeder consists of three main parts:

- Apron conveyor mounted on a support frame
- Drive unit
- Weighing device and a belt speed transducer
- Control command cubicle



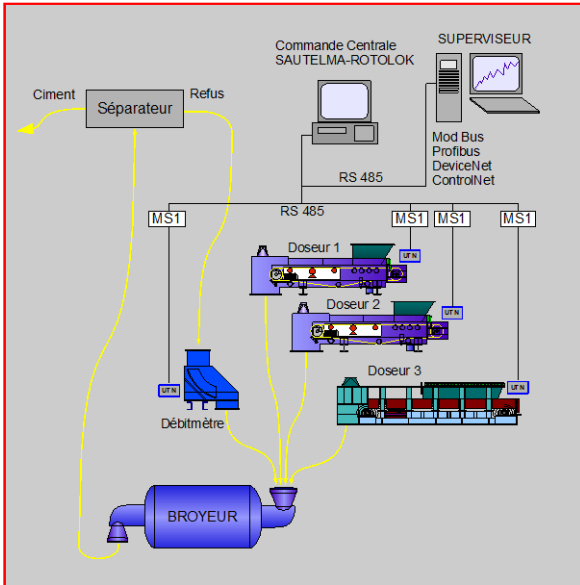
AVANTAGES

- Robust construction and high operational reliability insuring a long, trouble-free, operating time
- Direct extraction of bulk material from the hopper with large outlet cross-section
- Easy handling and feeding of hot and abrasive materials (clinker) and/or those with poor flowability (clay...)
- Very large range of flow rate, up to 1 to 30
- Very good weighing and feeding accuracy : +/- 0,5 to 1 %

APPLICATIONS

The DLM Apron Weigh Feeder is used for continuous weighing and feeding of large size and wet, poor flowing and/or hot and abrasive materials.

- Cement industry: Hot Clinker, Clay, Limestone, Gypsum, Humid Coal
- Steel industry: Iron ore, Coke, Row materials
- Coke industry: Coal, Petcoke
- Building materials: Clay
- Carries: Crusher filling



Model	Belt width	Flow tare (m³/h)	Inlet-outlet Distance (mini)	Weight (kg)
DLM 1000	1000	80	2500	6000
DLM 1200	1200	150	2500	8000
DLM 1400	1400	250	3500	10000
DLM 1600	1600	350	3500	12000

CONTROL SYSTEM

The **DLM Apron weigh feeder** is controlled by Sautelma universal measuring system called MINISMART which use the high quality microprocessor.

The Minismart receives the « set point » value compares this value to the measured flow rate and adjusts the speed of the apron conveyor to maintain constant the gravimetric flow. It also manages the operating faults.

The Minismart can operate by itself or be integrated in hierarchically structured assemblies.

The Network Communication can be insured through :

- Traditional wiring connections with 4.20mA, analogue and PFC digital signals
- RS 485 or RS 232 serial connections and protocol such as J-BUS/MODBUS
- In network field bus communications such as PROFIBUS, DEVICENET, CONTROLNET as well as ETHERNET.

The weighing signal is locally processed by Sautelmas Digital signal processing unit (UTN). The UTN is a specialised signal processing electronics device which contains among others inlets/outlets the DSP and an analogue/digital converter.

The electrical part contains: frequency inverter, transformer, motor protection, relays and terminal connection block. It is usually settled in a standard electrical cubicle located near the feeder or in the electrical room.



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