

Continuous Weighers

Balancing innovation with precision

WEIGH BELT

The three model ranges of weigh belts have been designed to meter dusty, aggressive or toxic powders such as aggregates and chemicals in the enclosed unit, piece parts and friable products such as crisps, chopped fibreglass or cauliflower florets on the open model, or trace additives such as chemicals or vitamins on the miniature model.

The principle of operation is slightly different on the three models:-

Enclosed Weigh Belt

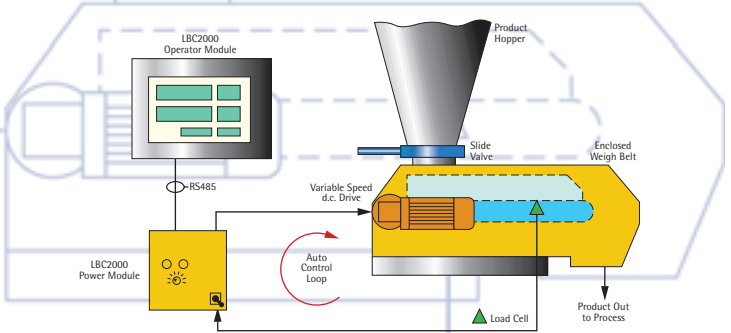
This consists of a short variable speed belt, a section of which is supported by a load cell mounted weight bar. The product is fed onto the belt by gravity via a chute from a storage hopper. The resulting signal from the weighed section of belt is directly proportional to the weight of product passing over the belt and this is transmitted to the LBC2000 microprocessor controller.

Open Type and Miniature Weigh Belts

These consist of a weigh frame and a fixed-speed belt, which is totally weighed. The weight of the unit is tared to zero, such that only the product passing over the belt is weighed. The product weight signal is measured by the microprocessor pictured opposite and the resultant correction signal is used to speed up or slow down a product pre-feeder to bring the weight of product on the belt back to the pre-set rate. This method has the advantage that the product is positively fed onto the belt thus avoiding bridging or rat-holing in the hopper.

Special Features

- Feed rated of 1 to 50,000 kg/hr. Accurate to better than $\pm 0.25\%$
- Continuous uninterrupted weighing accurate to $\pm 0.5\%$
- Automatic tare and ranging
- 3 models:
 - Totally enclosed: giving dust tight control of toxic or hazardous materials
 - Open type: giving visual inspection on process lines
 - Miniature: 50 mm wide with range as low as 10 to 800 g /min
- Easy strip feature
- Instant response with no process lag
- Small installation space required



ENCLOSED SCREW WEIGHER

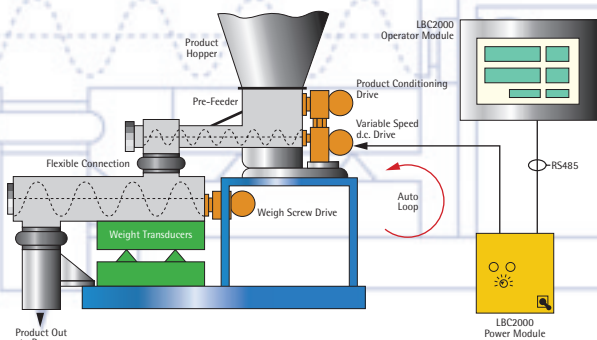
The enclosed screw weigher has been designed to meter and weigh dusty, aggressive or toxic powders to continuous accuracies of $\pm 0.5\%$ at rates up to 55 tonnes per hour. It will also provide a fail safe positive indication of material flow-rate change, change in density or moisture level, or change in material characteristics.

The output signal from the weight controller can also be used to initiate an error alarm, indicate flow rate, totalise flow or control the output of other metering devices in ratio. By this method, the outputs of several product metering feeders or liquids pumps can be 'ratioed' together and held to close tolerances.

The machine consists of a screw type pre-feeder which pre-conditions and meters the product by volume into a short weigh screw, which is turning at a variable speed, through which the product is conveyed. The weigh screw is supported on weight transducers.

Special Features

- Continuous, uninterrupted weighing accurate to $\pm 0.5\%$.
- Totally enclosed giving dust tight control of toxic or hazardous materials
- Insensitive to shock or vibration
- Easy to strip and maintain
- Instant response without process lag
- Low maintenance
- Small installation space required



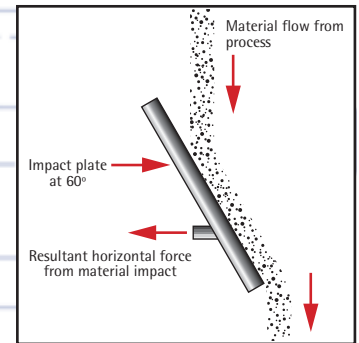
SOLO FLOW METER

The SOLO range of impact plate flowmeters has been designed to provide the optimum cost-effective solution for measurement and display of powder flow through a process to accuracies of $\pm 1\%$. Flow rates from 100 kg/hr to 250 tonnes/hr can be measured via open or closed designs. The SOLO is available in a choice of stainless or mild steel enclosures and alternate impact plate coatings suitable for a wide variety of applications.

Free flowing material is directed onto the impact plate and then onto the process. The impact force is measured in the horizontal plane only thus static material build-up has no effect and there is no zero drift. The horizontal force measurement is converted electronically to a proportional flow rate signal and is continuously displayed as kg per hour.

Special Features

- Feed rates of 50 to 200000 kg/hr - accurate to better than $\pm 1\%$
- Dust tight enclosure
- No moving parts
- Easily installed
- Low Cost
- Low maintenance
- Rugged design



PULSO FLOW METER

A simple and precise, yet low cost solution for calculating time based consumption of material through a continuous process, the new PULSO flowmeter from Rospen Industries can be used to measure flow rate of powder, granules and even piece parts under free flow.

Designed for dimensional compactness, PULSO is ideal for applications where space is at a premium. Its simplicity of installation makes its similarly convenient for retrofit applications where enhanced monitoring facilities are required.

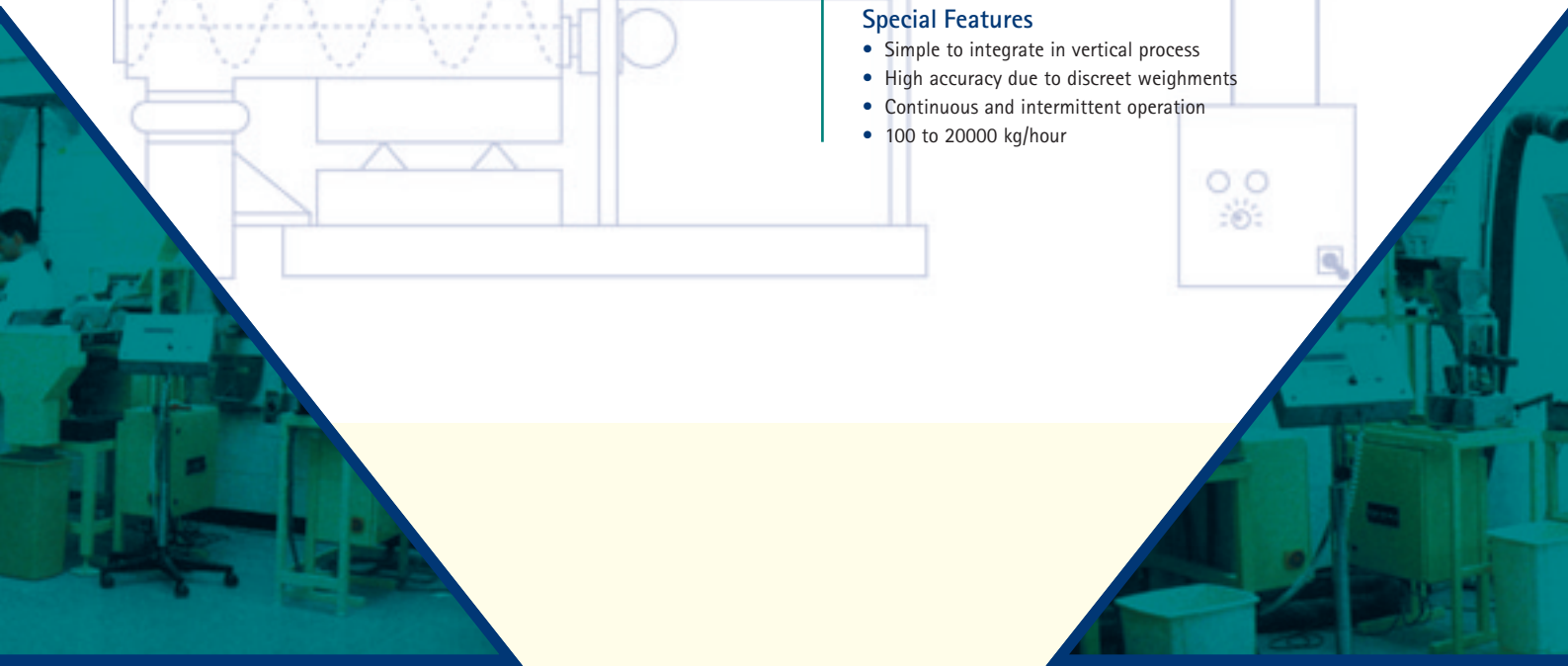
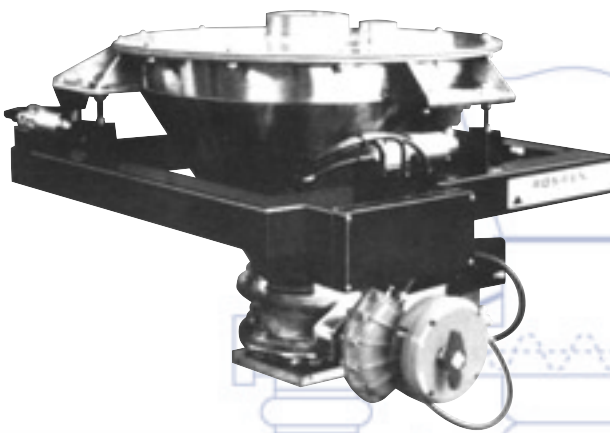
PULSO is a gravity fed batch weigh hopper mounted on a weighframe and fitted with a pneumatically operated discharge valve controlled by a Rospen LBC1000 controller.

As material flows into the hopper the weight rises. At a predetermined value the controller triggers the pneumatically operated valve to release the material collected in the hopper.

This cycle is repeated at frequent and regular intervals, transferring product from the hopper into the process in a pulse-like action. Flow rate is calculated by monitoring the gain in weight inside the hopper each time the valve is closed in relation to time. An approximated rate of flow through the process while the valve is open is automatically calculated by the LBC1000 controller, which then displays overall flow rate in kilograms per hour/or kilograms total.

Special Features

- Simple to integrate in vertical process
- High accuracy due to discreet weighments
- Continuous and intermittent operation
- 100 to 20000 kg/hour



VIBO FLOW METER

The new VIBO flow meter range offers an alternative method of continuous process weighing which is ideal for applications where hygiene or ease of cleaning is important.

VIBO measures the flow of any powder or bulk products as it passes along a stainless steel vibratory tray conveyor and is a useful alternative to continuous weigh belt or screw systems. The system conveys products very gently so is ideal for weighing friable products such as potato crisps, extruded snack foods, spray dried milk powder, chemical agglomerates and biscuits.

The system comprises an electro or mechanically driven vibratory tray conveyor mounted onto a Rospen Boss-Mount weighframe. Since there are no moving or wearing parts maintenance is kept to a minimum.

In operation the weight of the conveyor is tared off, thus enabling the weight of the product in the tray conveyor to be continuously and precisely measured. The system is controlled by a Rospen controller, which displays the conveying rate as kilograms per hour and total output in kilograms as well as providing high and low flow rate alarm facilities.

Because the controller has a closed loop control facility, it is possible to maintain a constant weight of product in the tray conveyor by modulating delivery from the pre-feeder, thus VIBO can be used both as an uncontrolled flowmeter and as a constant weight feeder.

Special Features

- Feed rates of 50 to 50,000 hg/hr - accurate to better than $\pm 1\%$
- Mechanically simple and robust
- Easy to clean and maintain



WEIGHING AND COATING

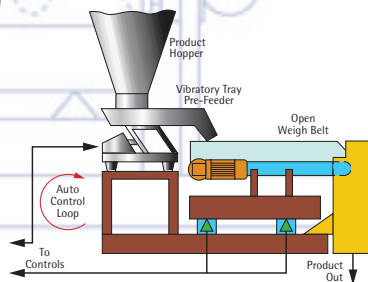
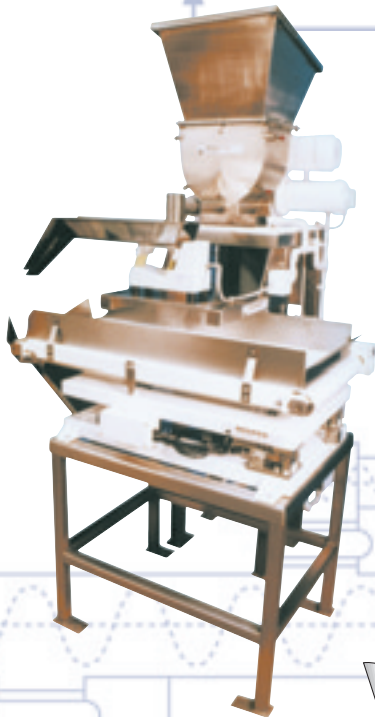
The machine has been specifically designed to continuously weigh the flow of products such as snack foods, extruded products etc to $\pm 1\%$ per cent and accurately add flavouring, coatings, or colourings in exact pre-set ratio.

The machine consists of a standard Rospen weigh belt flowmeter sized to suit the required product throughput, which continuously and accurately measures the process flow rate of product and digitally displays this via a microprocessor controller in kg/hr. The flow signal is then used to modulate the speed and product output rate of a Rospen metering feeder in direct ratio, which then adds flavourings or coatings to the main flow of product by means of a coating drum which tumbles the product for a controlled period of time to ensure a perfectly even and effective coating.

The ratioed coating can be in powder form and thus added by a Rospen metering screw feeder and spreader tray or alternatively in liquid form via a metering pump and sprayed directly onto the product within the coating drum.

Special Features

- Highest integrity and accuracy
- Guaranteed proportions
- Twenty years experience



Low Cost Upgrades for Old Applications

The Rospen PP41 controller is well suited as a replacement controller for existing PC, PLC or any gravimetric bespoke control system. If your current Weigh Feeder controller is costly to maintain or service and spares availability for it is unreliable you should consider the Rospen PP41 controller as a low cost replacement.

Not only can we replace your controller with this highly specified unit at very low cost but also the unit automatically upgrades weight signal conditioning to better than 1 part in 1,000,000 and provides extensive connectivity to other PLCs or controllers.

At the same time Rospen can replace the weighing cells within your application for new industry standard load cells offering ease of maintenance thereafter by utilising off the shelf competitive products. This is especially appropriate where special bespoke weighing devices have been employed which can prove costly or inconvenient to replace.

With a 10 year guarantee on support and Rospens wide experience in all forms of weighing and process control we can offer our customers the best technology at the lowest price with proven track record of service and support.



Redefining Performance

If a larger graphical display is required the new Power Panel 220 devices are equipped with a 5.7" QVGA display (in colour or b/w), a 10.4" VGA TFT display and an analog resistive touch screen. In the past, networking using Ethernet had been reserved for Industrial PCs. However the Power Panel 220 now makes Ethernet available as a standard feature on compact operating units.

Technical Data

Display	10.4" TFT VGA
Touch Screen	Analog resistive
Processor	Processor Geode SC2200 233MHz
DRAM Onboard	16 MB
Compact Flash Slot	1
Flash Onboard	2 MB
LEDs	2 (Power/User, CF)
Input Voltage	24 V DC
Ethernet Onboard	10/100 Mbps
Interfaces	RS232



MULTI PURPOSE WEIGHT CONTROLLERS Industrial Packages

Rospen are also suppliers of third party PLC brands and full SCADA control packages.

We are happy to offer to your precise process requirements and with over 21 years of experience of supplying leading edge control systems to manufacturing industry we are well placed to help you.

Allen Bradley PLC

Ease of implementation and wide global usage, plus DH+ Comm standard make this our most frequently supplied PLC.



Industrial PC

Robust, operator friendly, best for data display and storage. Industrial PCs offer advantages based on data handling and flexibility.



Mitsubishi PLC

Cost effective and widely distributed with excellent hardware standard.



Siemens PLC

Very popular in Europe, it's Profibus standard and strong support provides a popular option.



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CLIENT LIST

Cadbury
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 Heinz
 UB
 Horizon
 British Sugar
 Imerys
 GlaxoSmithKline
 Weetabix
 BOC
 Halo Foods

ROSPEN BENEFITS

Rospen's unrivalled industry experience combines with advanced design and system versatility to provide a range of benefits:-

Hygiene – Whatever the application, from pharmaceutical or food to quarry use, our machines are designed with easy strip-down features for hygienic cleaning.

Maintenance – Design ingenuity enables quick and easy access for maintenance and low down time.

Precision – All systems are designed to perform with precision accuracy under all operating conditions.

Flexibility – Standard design features ensure complete flexibility within existing manufacturing processes and enable options for expansion at a later date.

Reliability – All our systems are built to ensure long term reliability, maximum up-time and lowest on-going operational costs.

Application experience demonstrates that the combined benefits of our systems can repay the initial capital outlay within months.

PRODUCT LIST

Metering Screw Feeders
 Loss in Weight Feeders
 Batch Weighers
 Weighbelt Feeders
 Weigh Screw Feeders
 Vacuum Conveyors
 Impact Plate Flowmeters
 Vibratory Tray Flowmeters
 Batch Weigh Flowmeters
 Flexible Screw Conveyors
 Granulation Mills
 Pulseronics Discharge Aids
 Lumpbreakers
 Mixers
 Big Bag Dischargers
 Sifters / Separators