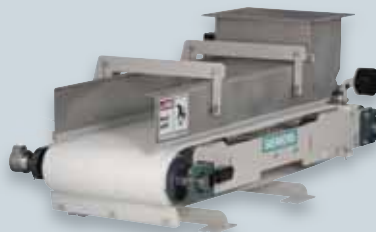# High-accuracy for light-loading processes

SITRANS WW100 weighfeeder

Accurate in-motion weighing

SITRANS WW100 is a high-accuracy, low-capacity weighfeeder used for minor ingredient additives; ideal for food, pharmaceutical, water treatment, tobacco, recycling, and mineral processing industries. It is one of the most accurate in-motion weighing systems on the market.

Design

SITRANS WW100 is specially designed for high accuracy on light loading processes. The design eliminates material build-up to ensure accurate, reliable measurement. SITRANS WW100 features cantilevered frame and inlet/skirtboards for belt changing in less than five minutes. A gravity tensioner ensures constant belt tension and accurate weighing.

Components

Standard components include the belt weigh bridge, speed sensor, and test chains supported by Milltronics BW100, BW500, or SIWAREX FTC microprocessor-based integrators for easy blending, batching, and feed rate control.

Unique weigh bridge

The unique long length platform weigh bridge mounts directly to a corrosion-resistant platform load cell. An adjustable mechanical shear gate profiles the material and fixes the correct material bed depth for a given material particle size. The belt speed can be automatically adjusted to attain the correct feed rate. SITRANS WW100 has one standard servo gearmotor for all applications, making re-rating quick and easy.

Mode of operation

Weighfeeders weigh bulk material while it is conveyed. An accurate rate of flow and totalized weight measurement is received without interrupting the process. A weighfeeder can also control the product flow rate. In-motion weighing requires accurate transmission of the product load to strain gauge load cell(s). The resulting voltage signal corresponding to weight is transmitted to the integrator and becomes one of two inputs required for integration. Unlike static weighing, in-motion weighing integration requires a second input: a pulse signal proportional to the speed of the conveyor belt. Each belt speed sensor pulse represents a fixed distance of travel. Since the force measured by the load cell is represented as weight per unit length, it can be multiplied by the distance of belt travel (one speed sensor pulse) to provide product weight for that segment of the belt. SITRANS WW100 is designed for assembly for both left and right side belt change. The unit can be disassembled and re-assembled on the opposite side with the same components.

Weighing technology
www.siemens.com/weighing

Answers for industry.

SIEMENS

SITRANS WW100

Suited for virtually all industries, SITRANS WW100 is durable and virtually maintenance-free. Simple and rugged design minimizes product build-up areas and maximizes conveyor strength and rigidity. A weighfeeder system controls the rate of material flow into or out of a process. A variable speed drive, motor, and gearbox allow the flow of material to be controlled by a given setpoint chosen with a Siemens integrator such as Milltronics BW500 or SIWAREX FTC through SIMATIC S7 or SIMATIC PCS 7. This control allows the feeder to provide precision weighing accuracies, and to improve blend consistencies, accountability, and record keeping.

- High-accuracy for light-loading processes
- Standard and sanitary models available
- Unique belt tension device
- Easy belt removal for replacement or cleaning
- Fast installation, easy to clean and maintain

	SITRANS WW100
Mode of operation	
Measuring principle	Strain gauge load cell and digital speed sensor
Typical applications	Control and monitor feed rates and blending in cereals, seeds, lime slaking, or minerals
Performance	
Accuracy*	±0.25 to 0.5% with 10:1 turndown based on load, up to 30:1 based on speed
Design rate range	45 kg/h to 18 t/h (100 lbs/h to 20 STPH)
Process conditions	
Operating temperature	-10 to 40 °C (14 to 104 °F)
Max. material temp.	-10 to 77 °C (14 to 170 °F)
Design	
Construction	Mild steel or stainless steel
Load cell	• One single point, nickel-plated platform (standard) • 17-4 PH (1.4568) stainless steel construction for corrosive and washdown environments (optional) • Non-linearity: ±0.03% • Non-repeatability: ±0.02%
Speed sensor	Digital optical encoder, driven pulley mounted
Framework	Cantilevered, precision-machined stainless steel or mild steel structural frame for quick and easy belt replacement
Pulleys	115 mm (4.5"), crowned with 6 mm (¼") rubber lagging for maximum traction
Belt support	Stainless steel slider bed frame
Belting	Polyester carcass with polyurethane top cover and endless finger splice for maximum weighing consistency, 62 PIW, Anti-static (standard)
Belt tension	Counter-weighted stainless steel tensioning idler for consistent tension, required for high accuracy weighing
Belt cleaning	• UHMW blade type with counterweight at the head pulley for cleaning product side of belt, return plow • Optional nylon belt cleaning brush
Drive	0.24 kW (0.32 hp) drive motor with direct coupled flange mounted gear reducer 45.6 Nm (in lbs), 2.1 service factor minimum
Shipping weight	• Open: 91 kg (200 lbs) • Enclosed: 181 kg (400 lbs), enclosed style
Approvals	• CE, C-TICK, meets USDA and FDA requirements for food processing • For use in hazardous rated areas, consult with factory
Control and communications	
	Electronic integrators process sensor signals into operating data for continuous in-line weighing and flow measurement
Milltronics BW500	• Dolphin Plus configuration software and Modbus® RTU/ASCII (standard) • SmartLinx® communications modules for A-B® RIO, PROFIBUS DP, or DeviceNet™ (optional); analog I/O card for PID control (optional)
SIWAREX FTC	Siemens PLC module connection via SIMATIC S7 and PCS 7

*Accuracy subject to: on factory approved installations, the weighfeeder system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of the test. The minimum material test sample must be equivalent to a sample obtained at the test flow rate for three revolutions of the belt or at least ten minutes running time, whichever is greater.