SITRANS Weighfeeders

Introduction

Overview

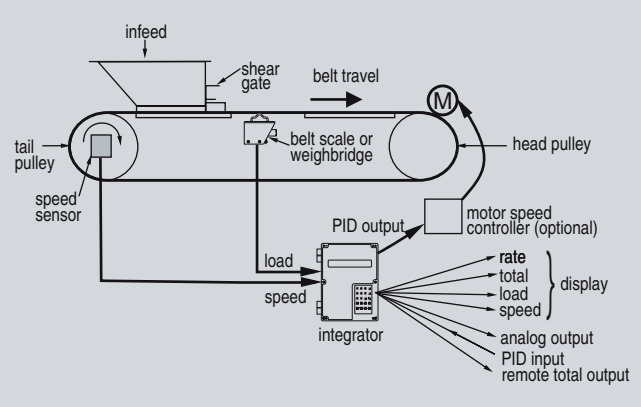
Milltronics weighfeeders from Siemens can improve the accuracy of processing, blend consistencies, accountability, and record keeping. All weighfeeders come standard with a belt weigh bridge and speed sensor. An integrator is required to complete the system.

Mode of operation

The weighfeeder is used to deliver an accurate mass flow rate of material. In the majority of applications, material is profiled by an adjustable mechanical shear gate, which fixes the correct material bed depth for a given particle size.

The feed rate is then maintained and adjusted by varying the speed of the belt. However, in some cases the belt speed is constant with rate control (if any) done by a pre-feeding device.

The system consists of three components: weight and speed sensing, integration and control, and the mechanical conveying system. Using the belt load and the belt speed signals, small incremental totals of weight per time are measured by the integrator and then the flow rate is calculated. The measured flowrate is compared against the desired flowrate and the on-board PID controller makes necessary corrections to the belt speed.



Weighfeeder operation

Design and Applications

SITRANS WW100

The platform weigh bridge mounts directly to a corrosion-resistant platform load cell. The direct load design eliminates all intermediate mechanical suspension and allows material weight to be directly applied to the load cell.

This design minimizes zero drift normally caused by intermediary suspension components and allows for the use of a very sensitive precision platform load cell. Load cell size and construction are chosen for each specific application.

SITRANS WW200

A stainless steel platform weighdeck with a UHMW plastic slider bar assembly mounts directly to two corrosion-resistant, sealed platform load cells. The direct load design eliminates all intermediate mechanical suspension and allows material weight to be directly applied to the load cells. The frame of the WW200 is sturdy and rigid, ensuring stable and repeatable results, maximizing resolution and weighing accuracy.

SITRANS WW300

SITRANS WW300 suspends a single weigh idler on platform load cells. Its design eliminates all moving parts in the weighing process and subsequent maintenance and replacement problems. There are no links or flexures. Two corrosion-resistant precision strain gauge load cells provide weight sensing signals to an integrator. This design feature minimizes zero drift and maximizes resolution and weighing accuracy. WW300 weighfeeders use a special version of Milltronics MSI single idler belt scale with a patented design for instantaneous reading of changes in belt loading, allowing for higher accuracy and control performance.

Technical specifications

Criteria	SITRANS WW100	SITRANS WW200	SITRANS WW300
Typical industries	Bulk chemicals, tobacco, food, water treatment	Bulk chemicals, tobacco, food, recycling	Cement, mineral processing, coal, mining, pulp and paper
Typical applications	High-accuracy, low-capacity for minor ingredient additives	Low- to medium-capacity for minor ingredient additives	Medium- to high-capacity for macro ingredient additives
Design rate range	45 kg/h ... 18 t/h (100 lbs/h ... 20 STPH)	0.45 ... 36 t/h (1 000 lbs/h ... 40 STPH)	4.5 ... 800 t/h (5 ... 880 STPH)
Belt speed	0.005 ... 0.36 m/s (1 ... 70 fpm)	0.005 ... 0.36 m/s (1 ... 70 fpm)	0.005 ... 0.36 m/s (1 ... 70 fpm)
Accuracy[1)]	± 0.25 ... 0.5%	± 0.5% or better	± 0.5% or better
Specified range	10 ... 100% based on speed	10 ... 100% based on speed	10 ... 100% based on speed
Sensing element	Long length platform weigh bridge Single load cell	Platform weigh bridge Dual load cells	Single idler scale Dual load cells
Approvals	CE, C-TICK Meets USDA and FDA requirements for food processing	Meets USDA and FDA requirements for food processing	

1) Accuracy subject to: On factory approved installations the weigh feeder 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.

SIEMENS

Weighfeeder Application Questionnaire

Customer information

Contact: _____ Prepared By: _____

Company: _____ Date: _____

Address: _____ Notes on the Application: _____

City: _____ Country: _____ _____

State/Province: _____ Zip/Postal Code: _____ AWV Code (required): _____

Phone: ( ) _____ Fax: ( ) _____ E-mail: _____

Material

Material being measured: _____ **Particle size:** _____ mm/inch/mesh

Bulk density: _____ Kg/m^3 or lb/cu. ft. or t/m^3 **Moisture content:** _____ %

Temperature: _____ °C/°F **Angle of repose:** _____ Degrees **Surcharge angle:** _____ Degrees

Material characteristic: ☐ sticky ☐ powder ☐ corrosive ☐ highly abrasive ☐ fluidized

Pre-Feed

(Supply sketch where possible) Sketch attached ☐

Application: ☐ Load, Speed, Rate and Total ☐ Batch control ☐ Ratio controlled blending

Feed type: ☐ Rotary valve ☐ Belt ☐ Screw ☐ Vibratory pan ☐ Bin, Hopper, or Silo ☐ Other

Hopper size: _____ ft^3/m^3

Feed rate: t/hr or kg/hr or lb/hr or LTPH or STPH _____ min. _____ max. _____ Nominal

Accuracy required: +/- _____ % **Electrical classification at scale location:** _____

Condition of operating environment: ☐ Wash down ☐ Sanitary ☐ Corrosive ☐ Normal

Duty cycle: _____ Hours per day **Material free fall height onto belt:** _____

Weighfeeder

Space limitations: Length: _____ Width: _____ Height: _____ mm/inches

Construction: ☐ Open ☐ Enclosed **Quantity required:** _____

Access side looking in direction of belt travel: ☐ Left ☐ Right

Inlet dimensions: (L x W) _____ mm/inches **Centerline length:** _____ mm/inches
inlet to discharge

Installation

(indicate all that apply) **Power available for motor:** _____ volts _____ Hz

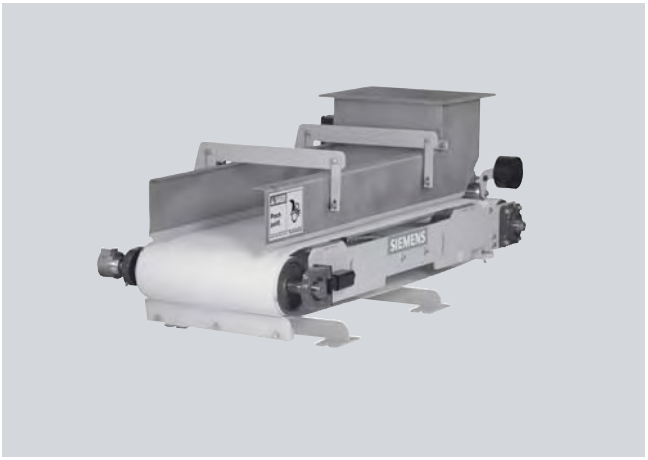
Inputs required:	**Outputs required:**	**Communications:**
☐ 4 to 20 mA ☐ LVDT	☐ 4 to 20 mA	☐ AB Remote I/O
☐ Variable speed	☐ PID	☐ DeviceNet
☐ PID	☐ Remote totalizer	☐ PROFIBUS DP
☐ Load Cells (#): _____	☐ Relays (#): _____	☐ RS-232 / RS-485 Modbus

Products or options recommended:

 www.siemens.com/processautomation Form# 2-773R3

SITRANS WW100

Overview



SITRANS WW100 is a high-accuracy, low-capacity weighfeeder used for minor ingredient additives.

Benefits

- High accuracy
- High turn down ratio 100-10% of capacity
- Corrosion resistent components
- Fast and easy belt removal for replacement or cleaning
- Simple installation, easy to clean and maintain

Application

SITRANS WW100 is one of the most accurate in-motion weighing systems on the market. It is specially designed for high accuracy on light loading processes. The design eliminates material build-up to ensure accurate, reliable measurement.
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.
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.

Technical specifications

Mode of operation	
Measuring principle	Strain gauge load cell and digital speed sensor
Typical application	Control and monitor feed rates and blending in bulk chemicals, tobacco, food, and water treatment
Measuring accuracy	
Accuracy[1)]	± 0.25 ... 0.5%
Specified range	10 ... 100% based on speed
Design rate range	45 kg/h ... 18 t/h (100 lbs/h ... 20 STPH)
Medium conditions	
Operating temperature	-10 ... +55 °C (+10 ... +131 °F)

Design	
Material	Mild steel or stainless steel [304 (1.4301) or 316 (1.4401)] contact surfaces
Load Cells	• One (1) single point, nickel-plated platform IP66 (standard) • 17-4 PH (1.4568) stainless steel construction for corrosive and washdown environments (optional) IP68
Non-linearity	± 0.03 %
Non-repeatability	± 0.02 %
Speed Sensor	Optical encoder, driven pulley mounted
Framework	• Precision machined, stainless [304 (1.4301) or 316 (1.4401)] or mild steel • Cantilevered design for easy belt replacement
Pulleys	115 mm (4.5") diameter, crowned and lagged
Belt speed	0.005 ... 0.36 m/s (1 ... 70 fpm)
Belt support	Slider bed frame
Belting	Polyester carcass with polyurethane top cover and endless finger splice for maximum weighing consistency
Belt tension	Counter-weighted stainless steel [304 (1.4301) or 316 (1.4401)] tensioning idler for consistent tension, required for high accuracy weighing
Belt cleaning	UHMW blade type with counter-weight at the head pulley for cleaning product side of belt • Return plow
Drive motor	• 0.24 kW (0.32 hp) drive motor with direct coupled flange mounted gear reducer 45.6 Nm (404 in-lbs), 2.1 service factor minimum (standard) • 0.09 kW (0.125 hp) AC drive motor with direct coupled flange mounted gear reducer 81 Nm (717 in-lbs), 3.12 service factor minimum (optional)
Shipping weight	91 kg (200 lbs) ... 181 kg (400 lbs) maximum
Approvals	CE, C-TICK Meets USDA and FDA requirements for food processing

1) Accuracy subject to: On factory approved installations the weigh feeder 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.

SITRANS WW100

Reduction Ratio Selection Table

Reduction (X:1)	Speed	60 Hz fpm	60 Hz m/s	50 Hz fpm	50 Hz m/s
372:1	max.	5.54	0.028	4.59	0.023
	min.	0.55	0.003	0.45	0.002
303.36:1	max.	6.80	0.035	5.63	0.029
	min.	0.68	0.003	0.56	0.003
248:1	max.	8.31	0.042	6.89	0.035
	min.	0.83	0.004	0.69	0.003
202.24:1	max.	10.19	0.052	8.45	0.043
	min.	1.02	0.005	0.84	0.004
155:1	max.	13.30	0.068	11.02	0.056
	min.	1.33	0.007	1.10	0.006
126.4:1	max.	16.31	0.083	13.51	0.069
	min.	1.63	0.008	1.35	0.007
93:1	max.	22.17	0.113	18.37	0.093
	min.	2.22	0.011	1.84	0.009
75.84:1	max.	27.18	0.138	22.52	0.114
	min.	2.72	0.014	2.25	0.011
62:1	max.	33.25	0.169	27.55	0.140
	min.	3.33	0.017	2.76	0.014
50.56:1	max.	40.78	0.207	33.79	0.172
	min.	4.08	0.021	3.38	0.017
46.5:1	max.	44.34	0.225	36.74	0.187
	min.	4.43	0.023	3.67	0.019
37.92:1	max.	55.44	0.276	45.05	0.229
	min.	4.37	0.028	4.50	0.023
31:1	max.	66.51	0.338	55.10	0.280
	min.	6.65	0.034	5.51	0.028
25.28:1	max.	81.55	0.414	67.57	0.343
	min.	8.16	0.041	6.76	0.034

Selection and Ordering data

Order No.

		7MH7180-
SITRANS WW100 High accuracy solids weighfeeder for low capacity applications. Compact unit improves processing, increases efficiency and provides significant cost savings.	L)	
Add order code Y71-Y73 for all models to specify design data		
Frame and Enclosure Construction		
Painted mild steel open style		0 A
304 stainless steel open style		0 B
316 stainless steel open style		0 D
Painted mild steel enclosed style with painted mild steel enclosure		1 A
304 stainless steel enclosed style with painted mild steel enclosure		1 B
304 stainless steel enclosed style with 304 stainless steel enclosure		1 D
316 stainless steel enclosed style with painted mild steel enclosure		1 G
316 stainless steel enclosed style with 304 stainless steel enclosure		1 J
316 stainless steel enclosed style with 316 stainless steel enclosure		1 M
Material Containment Construction		
Add order code Y74 and plain text: "Arc radius in inches ...XX.XXX"" for options A-H		
Shear gate inlet and skirtboards 304 stainless steel		A
Shear gate inlet and skirtboards 304 stainless steel with cover		B
Shear gate inlet and skirtboards 304 stainless steel, #4 polished		C
Shear gate inlet and skirtboards 304 stainless steel, #4 polished with cover		D
Shear gate inlet and skirtboards 316 stainless steel		E
Shear gate inlet and skirtboards 316 stainless steel with cover		F
Shear gate inlet and skirtboards 316 stainless steel, #4 polished		G
Shear gate inlet and skirtboards 316 stainless steel, #4 polished with cover		H
Horseshoe inlet 304 stainless steel		J
Horseshoe inlet 304 stainless steel, #4 polished		K
Horseshoe inlet 316 stainless steel		L
Horseshoe inlet 316 stainless steel, #4 polished		M
Load cell		
10 kg (22 lb) nickel plated steel		0
15 kg (33 lb) nickel plated steel		1
20 kg (44 lb) nickel plated steel		2
30 kg (66 lb) nickel plated steel		3
6 kg (13.2 lb) stainless steel, hermetically sealed		4
12 kg (26.5 lb) stainless steel, hermetically sealed		5
30 kg (66.1 lb) stainless steel, hermetically sealed		6

Order No.

		7MH7180-
SITRANS WW100 High accuracy solids weighfeeder for low capacity applications. Compact unit improves processing, increases efficiency and provides significant cost savings.	L)	
Speed Sensor		
500 PPR shaft mounted optical encoder		0
1 000 PPR shaft mounted optical encoder		1
2 500 PPR shaft mounted optical encoder		2
500 PPR shaft mounted optical encoder, stainless steel		3
1 000 PPR shaft mounted optical encoder, stainless steel		4
2 500 PPR shaft mounted optical encoder, stainless steel		5
Drive configuration		
Sinamics servo motor and drive		
200 ... 240 V1 ph[1)]		0 A
380 ... 480 V 3 ph[2)]		0 B
200 ... 240 V 1 ph, with 5 m (16.4 ft) communication and power cables		1 A
380 ... 480 V 3 ph, with 5 m (16.4 ft) communication and power cables		1 B
200 ... 240 V 1 ph, with 10 m (33 ft) communication and power cables		2 A
380 ... 480 V 3 ph, with 10 m (33 ft) communication and power cables		2 B
200 ... 240 V 1 ph, with 25 m (82 ft) communication and power cables		3 A
380 ... 480 V 3 ph, with 25 m (82 ft) communication and power cables		3 B
200 ... 240 V 1 ph, with 50 m (164 ft) communication and power cables		4 A
380 ... 480 V 3 ph, with 50 m (164 ft) communication and power cables		4 B
200 ... 240 V 1 ph, with 100 m (328 ft) communication and power cables		5 A
380 ... 480 V 3 ph, with 100 m (328 ft) communication and power cables		5 B
Add order code Y75 reduction ratio in plain text: "X:1" for options 6A-7B, see "Reduction Ratio Selection Table" on page 5/6		
Standard AC motor without drive (Drive required for desired belt speed)		
220 ... 240 / 380 ... 480 V 3ph 50 / 60 Hz AC		6 A
575 V 3ph 60 Hz AC[3)]		6 B
Food grade AC motor without drive (Drive required for desired belt speed)		
220 ... 240 / 380 ... 480 V 3ph 50 / 60 Hz AC epoxy coated gearmotor[3)]		7 A
575 V 3ph 60 Hz AC epoxy coated gearmotor[3)]		7 B
Calibration Method		
None		A
1 calibration chain strand 2.41 kg/m (1.62 lbs/ft)		B
2 calibration chain strands 4.82 kg/m (3.24 lbs/ft)		C
3 calibration chain strands 7.23 kg/m (4.86 lbs/ft)		D
Design access side (from inlet to discharge)		
Left hand		0
Right hand		1

Selection and Ordering data

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Shear gate arc radius: Enter Shear gate arc radius in inches (xxx.xx")[1)]	**Y74**
Enter design units (TPH,MTPH, lbs/h, kg/h)	**Y71**
Enter design speed (ft/m, m/s)	**Y72**
Enter design capacity/rate	**Y73**
AC gearmotor reduction ratio: enter reduction ratio in plain text (X:1) (see "Reduction Ratio Selection Table" on page 5/6)	**Y75**
Plastic shear curtain to control dust at the infeed for floodable materials and dusty applications[4)]	**G11**
Pointek CLS100 Capacitance switch for plugged discharge chute detection	**G12**
Siemens start/stop, auto/manual, speed control, e-stop hand held operator	**G13**
Belt cleaner, stainless steel, nylon brush, mounted under belt plow, cleaning dirty side of belt	**G14**
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000	**C11**
Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	**Y15**
Discharge dust hood, painted mild steel with de-dust port[1)]	**H50**
Discharge dust hood, 304 stainless steel with de-dust port[1)]	**H51**
Discharge dust hood, 316 stainless steel with de-dust port[1)]	**H52**

Operating Instructions		Order No.
English	C)	**7ML1998-5MN01**
German	C)	**7ML1998-5MN31**
Note: The operating instructions should be ordered as a separate item on the order.		
This device is shipped with the Siemens Milltronics manual CD containing the complete operating instructions library.		

Spare Parts		
6 kg (13.2 lb) stainless steel load cell	C)	**7MH7725-1EG**
12 kg (26.4 lb) stainless steel load cell	C)	**7MH7725-1EH**
30 kg (66.2 lb) stainless steel load cell	C)	**7MH7725-1EJ**
10 kg (22 lb) nickel plated steel load cell		**7MH7725-1EK**
15 kg (33.1 lb) nickel plated steel load cell		**7MH7725-1EL**
20 kg (44 lb) nickel plated steel load cell		**7MH7725-1EM**
30 kg (66.2 lb) nickel plated steel load cell		**7MH7725-1EN**
500 PPR optical encoder		**6FX20012PA50**
1000 PPR optical encoder		**6FX20012PB00**
2500 PPR optical encoder		**6FX20012PC50**
Optical encoder connector		**6FX20030SU12**
500 PPR optical encoder, stainless steel (connector included)		**7MH77231HG**
1000 PPR optical encoder, stainless steel (connector included)		**7MH7723-1HH**
2500 PPR optical encoder, stainless steel (connector included)		**7MH7723-1HJ**
1 calibration chain strand 2.41 kg/m (1.62 lbs/ft) with mount and spacers (Corrosion resistant)		**7MH7723-1HP**
2 calibration chain strands 4.82 kg/m (3.24 lbs/ft) with mount and spacers (Corrosion resistant)		**7MH7723-1HQ**
3 calibration chain strands 7.23 kg/m (4.86 lbs/ft) with mount and spacers (Corrosion resistant)		**7MH7723-1HR**

		Order No.
S110 Control Unit	M)	**6SL3040-0JA00-0AA0**
S110 Basic operator panel (BOP)	D)	**6SL3055-0AA00-4BA0**
S110 input choke 380-480 VAC	C)	**6SE6400-3CC00-2AD3**
S110 power module 200-240 VAC 1 PH	A)	**6SL321-01SB12-3UA0**
S110 power module 380-480 VAC 3 PH	A)	**6SL321-01SE11-3UA0**
S110 memory card 200-240 VAC 1 PH	L)	**7MH7723-1JH**
S110 memory card 380-480 VAC 3 PH	L)	**7MH7723-1JJ**
S110 power cable to servo gearmotor, 5 m (16.4 ft)		**6FX5002-5CG01-1AF0**
S110 communications cable to servo gearmotor, 5 m (16.4 ft)		**6FX500-22DC10-1AF0**
S110 power cable to servo gearmotor, 10 m (32.8 ft)		**6FX50-025CG01-1BA0**
S110 communications cable to servo gearmotor, 10 m (32.8 ft)		**6FX500-22DC10-1BA0**
S110 power cable to servo gearmotor, 25 m (82 ft)		**6FX500-25CG01-1CF0**
S110 communications cable to servo gearmotor, 25 m (82 ft)		**6FX500-22DC10-1CF0**
S110 power cable to servo gearmotor, 50 m (164 ft)		**6FX500-25CG01-1FA0**
S110 communications cable to servo gearmotor, 50 m (164 ft)		**6FX500-22DC10-1FA0**
S110 power cable to servo gearmotor, 100 m (328 ft)		**6FX5002-5CG01-2AA0**
S110 communications cable to servo gearmotor, 100 m (328 ft)		**6FX5002-2DC10-2AA0**
Servo gearmotor	C)	**1FK7032-5AK71-1UU5-Z E07 + G57 + H11 + Q90**
Belt	C)	**7MH7723-1JG**
Termination box mild steel		**7MH7723-1HS**
Termination box stainless steel		**7MH7723-1HT**
Bearing replacement kit mild steel (includes 1 tail bearing, 2 head bearings)	C)	**7MH7723-1HU**
Bearing replacement kit stainless steel (includes 1 tail bearing, 2 head bearings)		**7MH7723-1HV**
Belt contact replacement kit (includes 1 belt scraper blade, 2 belt plow blades, 2 belt guide rollers, 1 belt tension roller, belt skirtboard seal strips)	C)	**7MH7723-1HW**
Pulley replacement kit mild steel (includes 1 drive pulley, 1 driven pulley)		**7MH7723-1HX**
Pulley replacement kit 304 stainless steel (includes 1 drive pulley, 1 driven pulley)		**7MH7723-1HY**

Selection and Ordering data		Order No.
Accessories		
Start stop controller	C)	**7MH7723-1JA**
E-stop push button enclosed style		**3SB38010DF3**
24 V Power supply, 4 A		**6EP13321SH51**
Discharge dust hood Mild steel for open style units only		**7MH7723-1JB**
Discharge dust hood 304 stainless steel steel for open style units only		**7MH7723-1JC**
Discharge dust hood 316 stainless steel for open style units only		**7MH7723-1JD**
CLS100 plugged discharge chute retrofit kit (inlcudes CLS100, material hood)		**7MH7723-1JE**
Siemens,MM420,0.5HP/0.37KW, 380-480V-3P-50/60HZ	J)	**6SE6420-2UD13-7AA1**
Siemens,MM440,1HP/0.75KW, 500-600V-3P-60HZ	J)	**6SE6440-2UE17-5CA1**
Siemens,MM420/440,Bop keypad	F)	**6SE6400-0BP000AA0**

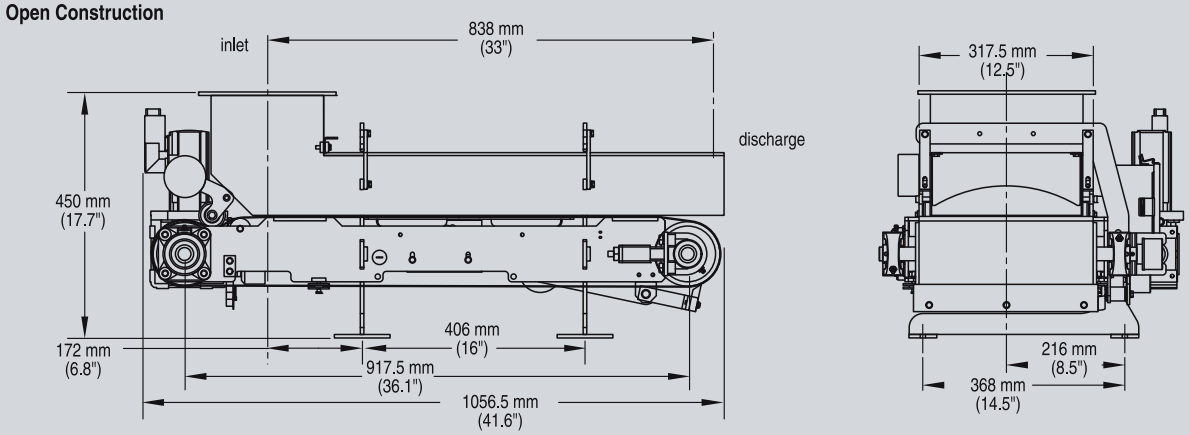
[1] Available with Frame Construction options 0A to 0D only
[2] Communication and power cables required
[3] Available with open style construction options 0A to 0D
[4] Available with Material Containment options A to H only

A) Subject to export regulations AL: 91999, ECCN: EAR99H.
C) Subject to export regulations AL: N, ECCN: EAR99.
D) Subject to export regulations AL: N, ECCN: EAR99H.
F) Subject to export regulations AL: 91999, ECCN: N.
J) Subject to export regulations AL: 91999, ECCN: EAR99.
L) Subject to export regulations AL: N, ECCN: 3A991X.
M) Subject to export regulations AL: 91999, ECCN: EAR99APP.

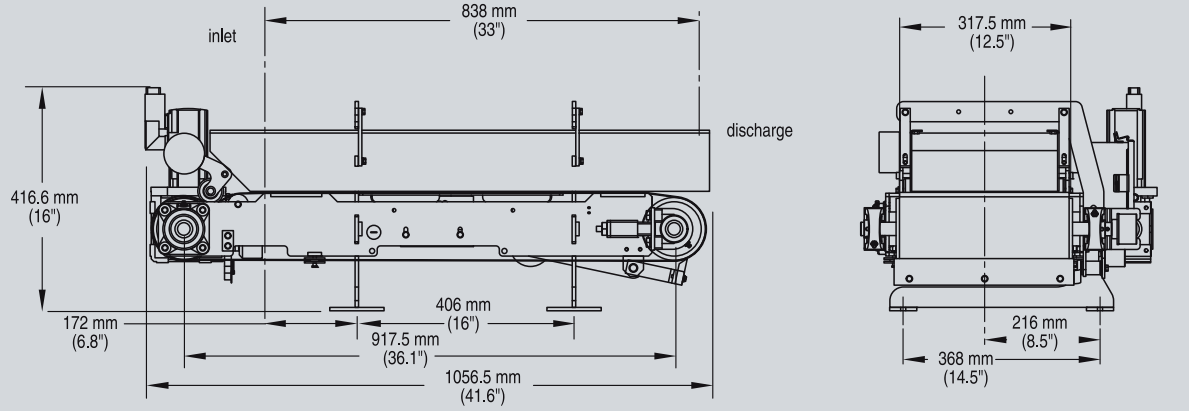
SITRANS WW100

Dimensional drawings

Open Construction

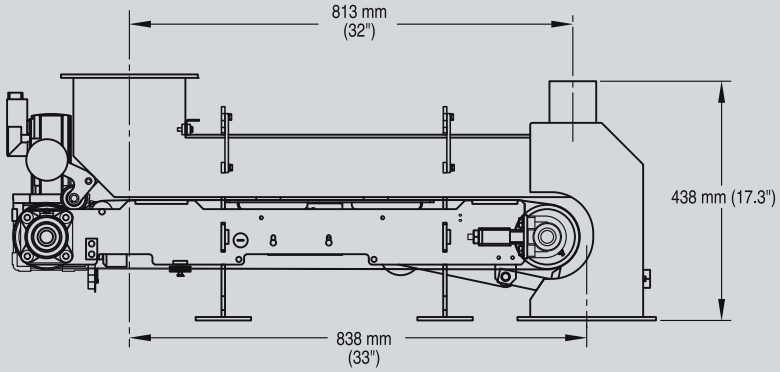


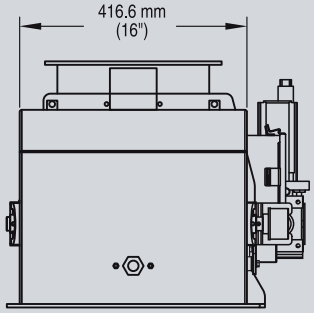
Open Horseshoe Inlet



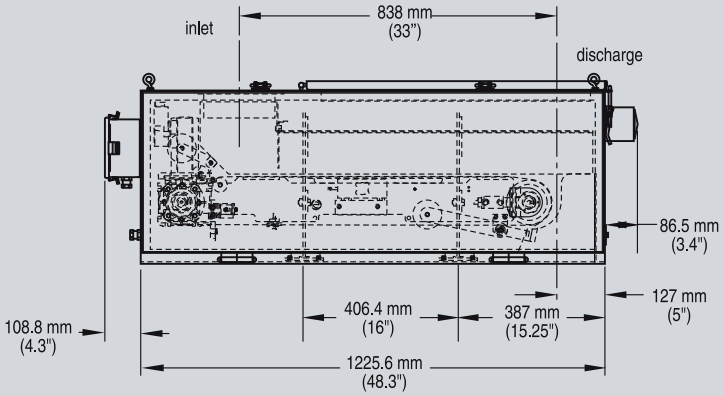
SITRANS WW100 dimensions

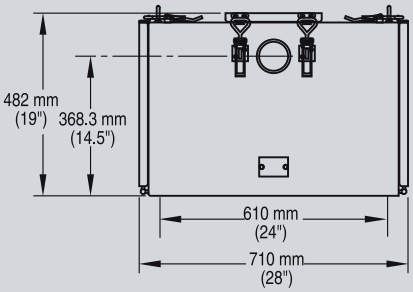
Open Dust Hood





Enclosed Construction

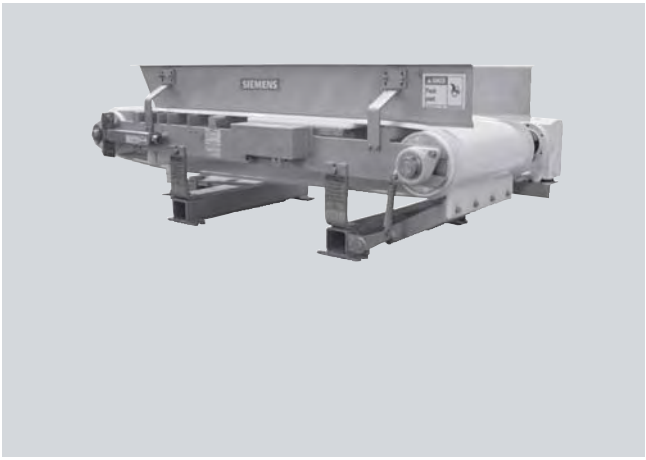




SITRANS WW100 dimensions

SITRANS WW200

Overview



SITRANS WW200 is a low- to medium-capacity weighfeeder used for minor ingredient additives.

Benefits

- High accuracy
- Ideal for low- to medium-capacity loads
- Fast installation, easy to clean and maintain
- Flexible, rugged design allows configurations to suit many applications
- Quick delivery on custom units

Application

SITRANS WW200 has been field tested and proven in hundreds of applications.
The unit can be customized to meet exact application needs. Stainless or mild steel units are available in open or enclosed styles. Custom lengths, belt types, inlet configurations, drives, and other options are available to meet your requirements.
The MS (mild steel) model is ideal for use with chemicals, powders, or any granular product in applications not requiring washdown. The SD (sanitary duty) model is designed for the food industry where high pressure washdown is required. It meets all USDA and FDA requirements.
Its cantilevered mechanical design provides for quick belt removal and easy maintenance. It is designed to eliminate material build-up, ensuring high accuracy and reliability. The unique weigh system reduces dead load and applies live load directly to two platform load cells. Load cells are externally mounted for easy access and maintenance.
Standard components include the belt weigh bridge, speed sensor and test weights, supported by Milltronics BW100, BW500, or SIWAREX FTC microprocessor-based integrators for easy blending, batching and feed rate control.

Technical specifications

Mode of operation	
Measuring principle	Strain gauge load cells and digital speed sensor
Typical application	Control and monitor feed rates and blending of minerals or powdered additives into a process
Measuring accuracy	
Accuracy[1]	± 0.5% or better
Specified range	10 ... 100% based on speed
Design rate range	0.45 ... 36 t/h (1 000 lbs/h ... 40 STPH)
Medium conditions	
Operating temperature	-10 ... +55 °C (+14 ... +131 °F)
Design	
Material	Mild steel or stainless steel [304 (1.4301) or 316 (1.4401)]
Load Cells	Two corrosion-resistant platform type with mechanical overload protection [nickel plated alloy steel or 17-4 PH (1.4568) stainless steel construction]
• Non-linearity	± 0.03%
• Non-repeatability	± 0.02 %
Speed Sensor	• C-flange mounted magnetic pulse generator, adapted between motor flange and reducer input flange • Optical encoder (optional)
Framework	• Precision machined, stainless [304 (1.4301) or 316 (1.4401)] or mild steel • Cantilevered design for easy belt replacement
Pulleys	152 mm (6") diameter with 6 mm (¼") neoprene lagging
Belt support	Edge of flatbars eliminates material buildup
Belting	• Polyester carcass with polyurethane top cover and static control with vulcanized endless finger splice for maximum weighing consistency (standard) • Variety of different belts for specific applications (optional)
Belt tension	Screw type, telescoper module with 150 mm (6") travel - mild or stainless steel 304 (1.4301)
Belt cleaning	• UHMW blade type with spring tensioning at head pulley • Return plow
Drive motor	• 0.19 kW (0.25 HP), TEFC/TENV, 208/230/380/460/575 V AC, three phase or, 90/180 V DC permanent magnet, both with flange mounted gear reducer • Larger motors available
Shipping weight	280 kg (600 lbs) minimum
Approvals	Meets USDA and FDA requirements for food processing

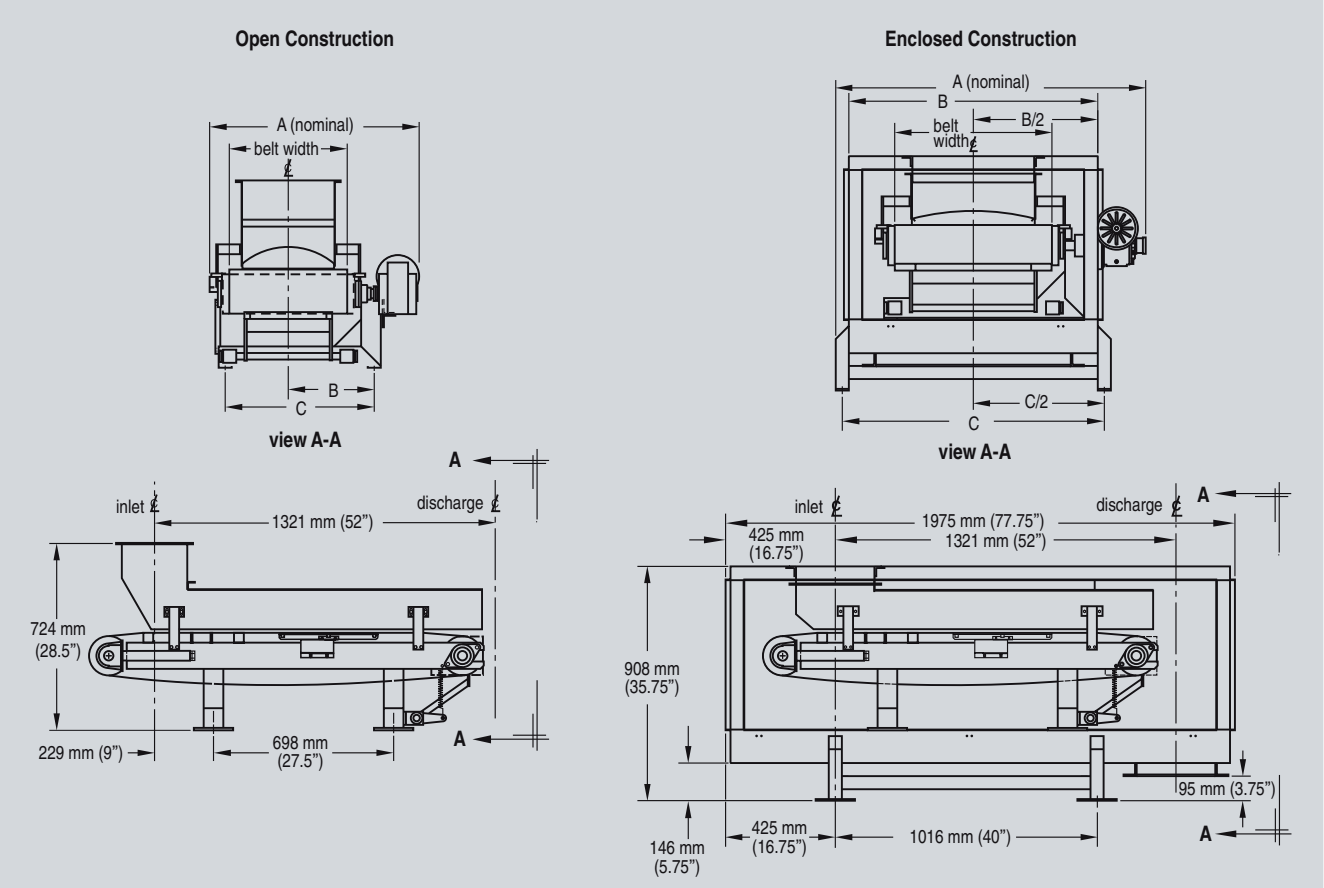
[1] Accuracy subject to: On factory approved installations the weigh feeder system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration 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.

Selection and Ordering data		Order No.
SITRANS WW200 Low- to medium-capacity weighfeeder used for minor ingredient additives.		Contact factory for ordering information
Operating Instructions		
English	C)	**7ML1998-5MS01**
German Note: The operating instructions should be ordered as a separate item on the order.	C)	**7ML1998-5MS31**
This device is shipped with the Siemens Milltronics manual CD containing the complete operating instructions library.		

C) Subject to export regulations AL: N, ECCN: EAR99.

SITRANS WW200

Dimensional drawings

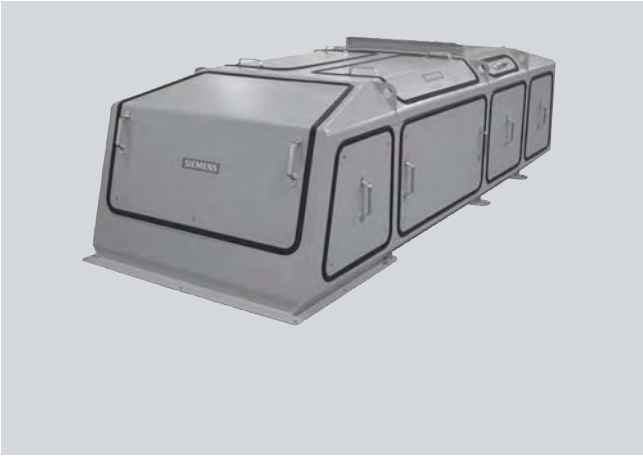


SITRANS WW200 dimensions

Open Unit			
Belt Width	**A**	**B**	**C**
305 mm (12")	696 mm (27.4")	257 mm (10.13")	425 mm (16.75")
457 mm (18")	848 mm (33.4")	333 mm (13.13")	578 mm (22.75")
610 mm (24")	1000 mm (39.4")	410 mm (16.13")	730 mm (28.75")
762 mm (30")	1153 mm (45.4")	486 mm (19.13")	883 mm (34.75")
914 mm (36")	1305 mm (51.4")	562 mm (22.13")	1035 mm (40.75")
1067 mm (42")	1458 mm (57.4")	638 mm (25.13")	1187 mm (46.75")
1219 mm (48")	1610 mm (63.4")	715 mm (28.13")	1340 mm (52.75")

Enclosed Unit			
Belt Width	**A**	**B**	**C**
305 mm (12")	846 mm (33.3")	660 mm (26")	711 mm (28")
457 mm (18")	999 mm (39.3")	813 mm (32")	864 mm (34")
610 mm (24")	1151 mm (45.3")	965 mm (38")	1016 mm (40")
762 mm (30")	1304 mm (51.3")	1118 mm (44")	1168 mm (46")
914 mm (36")	1452 mm (57.3")	1270 mm (50")	1321 mm (52")
1067 mm (42")	1608 mm (63.3")	1422 mm (56")	1473 mm (58")
1219 mm (48")	1761 mm (69.3")	1575 mm (62")	1626 mm (64")

Overview



SITRANS WW300 is a medium- to high-capacity weighfeeder used for macro ingredient additives.

Benefits

- Rugged, durable design for heavy-duty applications
- Handles medium- to high-capacity loads
- Standard mild steel open or enclosed construction
- Heavy-duty 102 mm (4") diameter idlers
- Large 203 mm (8") minimum diameter head and tail pulleys for maximum traction
- New line, patented design
- Easy to replace endless belt
- Gravity tensioned belt cleaner
- Fast installation, easy to clean and maintain

Application

SITRANS WW300 is designed for industrial applications such as mining, cement, chemical processing, pulp and paper, and other heavy-duty industries.

Field tested and proven in hundreds of applications, it enhances profitability by ensuring accuracy, enhancing blend consistency, reducing downtime, and improving accountability and record keeping. The unique weigh system reduces dead load and applies live load directly to load cells for accurate measurement. The dual load cells are externally mounted for easy access and maintenance.

It is available in a variety of lengths from 1.6 m (63"), belt widths from under 0.5 m (18") to 1.8 m (72"), several different inlet configurations and materials of construction. It can be configured to suit various applications.

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

Technical specifications

Mode of operation	
Measuring principle	Strain gauge load cells and digital speed sensor
Typical application	Industrial and process applications in feeding, blending or ratioing in gypsum manufacturing
Measuring accuracy	
Accuracy[1)]	± 0.5% or better
Specified range	10 ... 100% based on speed
Design rate range	4.5 ... 800 t/h (5 ... 880 STPH)
Medium conditions	
Operating temperature	-10 ... +55 °C (+14 ... +131 °F)
Design	
Material	Mild steel with stainless steel [304 (1.4301) or 316 (1.4401)] or abrasion resistant contact parts optional
Load Cells	Two corrosion-resistant platform type with mechanical overload protection [nickel plated alloy steel or 17-4 PH (1.4568) stainless steel construction]
• Non-linearity	± 0.03 %
• Non-repeatability	± 0.02 %
Speed Sensor	Industrial duty, digital optical encoder, tail shaft mounted
Framework	• Painted structural steel • Cantilevered mild steel structural frame for quick and easy belt replacement
Pulleys	200 mm (8") minimum, 508 mm (20") maximum, pulley diameter crowned with 6 mm (¼") rubber lagging on drive pulley for maximum traction
Idlers	Heavy-duty 100 mm (4") CEMA C with precision ground ball bearings and triple labyrinth seals for longer life, CEMA D,E IMPACT where required
Belt speed	0.005 ... 0.36 m/s (1 ... 70 fpm)
Belting	• Black rubber, 150-440 PIW 24 ply vulcanized endless with 'B' section (standard) • Up to 127 mm (5") corrugated sidewalls (optional)
Belt tension	• Screw type, telescoper module with 150 mm (6") minimum travel • Gravity tensioned self-steering belt tracker (optional)
Belt cleaning	• Gravity tensioned UHMW blade at head pulley • Return plow at tail pulley

SITRANS WW300

Drive motor	• 0.19 kW (0.25 HP), TEFC/TENV, 208/230/380/460/575 V AC, three phase or 90/180 V DC permanent magnet – both with flange mounted gear reducer • Larger/other motor sizes and voltages available
Shipping weight	410 kg (900 lbs) minimum
Approvals	For use in hazardous rated areas, consult factory

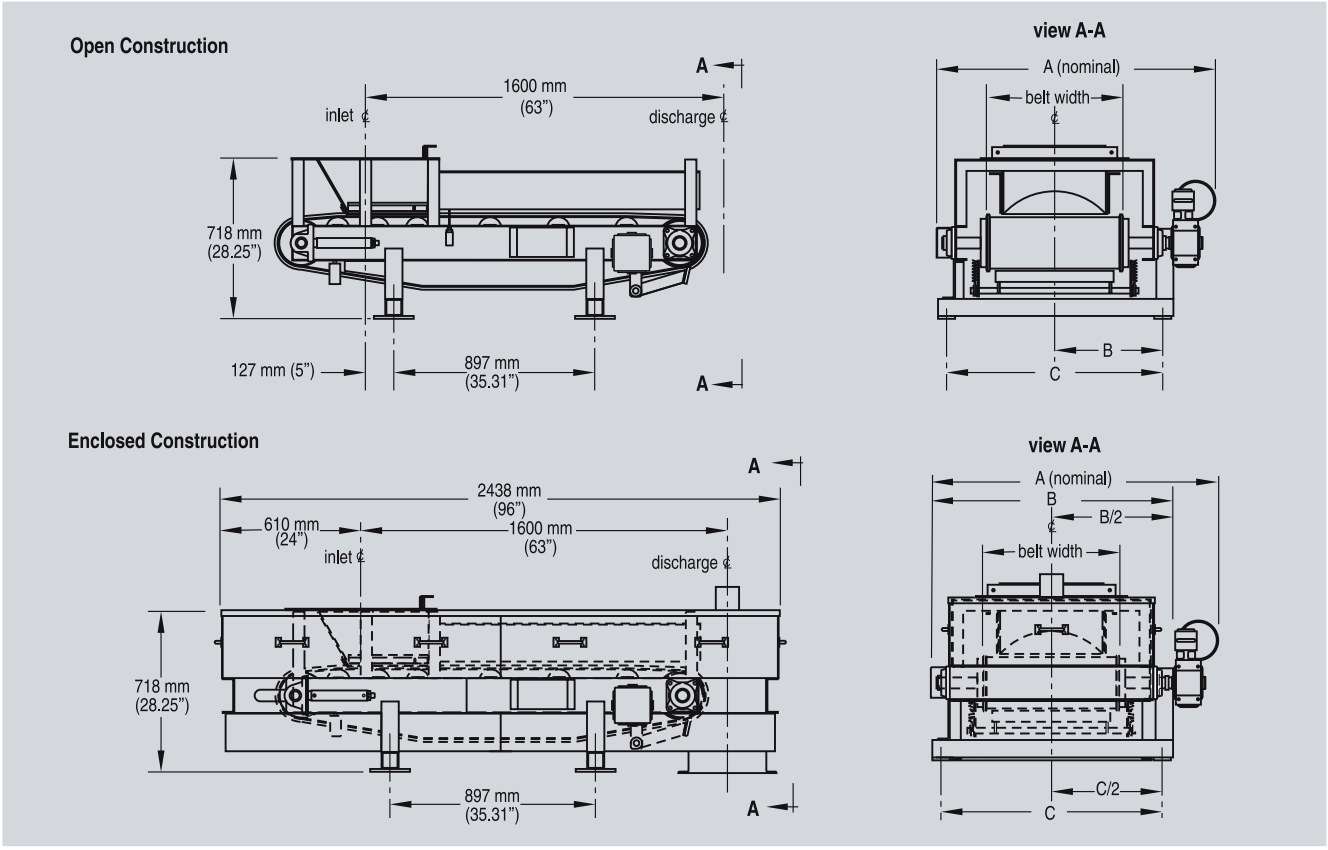
1) Accuracy subject to: On factory approved installations the weigh feeder system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration 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.

Selection and Ordering data

		Order No.
SITRANS WW300 Medium- to high-capacity weighfeeder used for macro ingredient additives.		Contact factory for ordering information.
Operating Instructions		
English	C)	**7ML1998-5MQ01**
German	C)	**7ML1998-5MQ31**
Note: The operating instructions should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual CD containing the complete operating instructions library.		

C) Subject to export regulations AL: N, ECCN: EAR99.

Dimensional drawings



SITRANS WW300 dimensions

Belt Width	B	D
457 mm (18")	768 mm (30.25")	718 mm (28.25")
610 mm (24")	921 mm (36.25")	870 mm (34.25")
762 mm (30")	1073 mm (42.25")	1022 mm (40.25")
914 mm (36")	1226 mm (48.25")	1175 mm (46.25")
1067 mm (42")	1378 mm (54.25")	1327 mm (52.25")
1219 mm (48")	1530 mm (60.25")	1480 mm (58.25")
1372 mm (54")	1683 mm (66.25")	1632 mm (64.25")
1524 mm (60")	1835 mm (72.25")	1784 mm (70.25")
1676 mm (66")	1988 mm (78.25")	1937 mm (76.25")
1829 mm (72")	2140 mm (84.25")	2089 mm (82.25")

SITRANS Weighfeeder Peripherals

Selection and Ordering data

		Order No.	
Milltronics Weighfeeder 400, 600, and 800/SITRANS WW200, WW300[1] spare load cells			
Nickel plated			
10 kg (22 lb)		**7MH7725-1EK**	
15 kg (33.1 lb)		**7MH7725-1EL**	
20 kg (44 lb)		**7MH7725-1EM**	
30 kg (66.2 lb)		**7MH7725-1EN**	
Stainless steel			
6 kg (13.2 lb)		**7MH7725-1EG**	
12 kg (26.4 lb)		**7MH7725-1EH**	
30 kg (66.2 lb)		**7MH7725-1EJ**	
25 lb (11.3 kg)		**PBD-23900224**	
50 lb (22.7 kg)		**PBD-23900225**	
100 lb (45.4 kg)		**PBD-23900242**	
Milltronics Weighfeeder 1200/SITRANS WW300 spare load cells			
Nickel plated			
50 kg (110.2 lb)		**7MH7725-1CU**	
100 kg (220.5 lb)		**7MH7725-1CV**	
150 kg (330.7 lb)		**7MH7725-1CW**	
200 kg (440.9 lb)		**7MH7725-1CX**	
Stainless steel			
Stainless steel load cell [17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover			
50 lb (22.7 kg)	C)	**7MH7725-1AC**	
100 lb (45.4 kg)	C)	**7MH7725-1AD**	
250 lb (113.4 kg)	C)	**7MH7725-1AE**	
500 lb (226.8 kg)	C)	**7MH7725-1AF**	
Calibration Hanger Weights			
200 g (0.4 lb)		**7MH77241AF**	
500 g (1.1 lb)		**7MH77241AG**	
1000 g (2.2 lb)		**7MH77241AH**	
2000 g (4.4 lb)		**PBD-20568-10**	
3500 g (7.7 lb)		**PBD-20568-80**	
5000 g (11 lb)		**PBD-20568-20**	
7500 g (16.5 lb)		**PBD-20568-30**	
8500 g (18.7 lb)		**PBD-20568-40**	
10000 g (22 lb)		**PBD-20568-50**	
12000 g (26.5 lb)		**PBD-20568-60**	
15000 g (33.1 lb)		**PBD-20568-70**	

[1] For aluminum model, use nickel plated alloy steel

C) Subject to export regulations AL: N, ECCN: EAR99