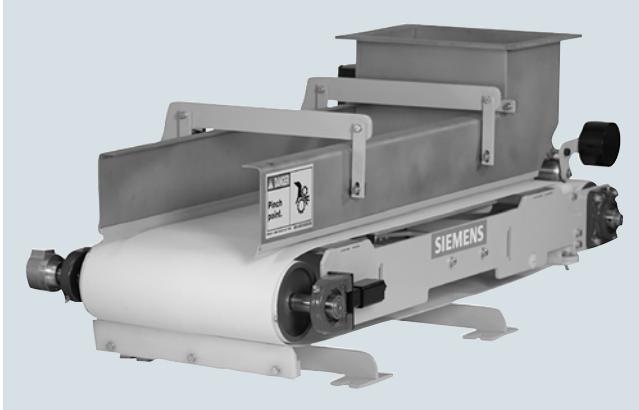# Weighfeeders
SITRANS WW100

Overview

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

Benefits

• High accuracy
• High turn down ratio; 100 to 10 % of capacity
• Corrosion resistant components
• Fast and easy belt removal for replacement or cleaning
• Simple installation, easy to clean and maintain
• Available with gear or servomotor

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 buildup 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 an anti-static food grade belt, gravity tensioned roller, tail pulley driven belt for maximum weighing accuracy, belt tracking rollers, belt scraper and plow for self-cleaning.

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Technical specifications

SITRANS WW100	
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 %
Repeatability	± 0.1 %
Specified range	10 … 100 % based on speed
Design rate range	45 kg/h … 18 t/h (100 lb/h … 20 STPH)
Max volumetric flow	25 m³/h (880 ft³/h)
Medium conditions	
Operating temperature	-10 … +55 °C (10 … 131 °F)
Material	Stainless steel [304 (1.4301) or 316L (1.4404)], bead blast finish (1 ... 6 µm, 40 ... 240 µin)
Load cells	
Construction	17-4 PH (1.4568) stainless steel
Degree of protection	IP68
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 mV/V
• Non-linearity	± 0.02 % of rated output
• Non-repeatability	± 0.01 % of rated output
Capacity	Stainless steel range: 6, 12, 30 kg
Overload	150 % of rated capacity
Temperature	• Operating range: -40 … +65 °C (-40 … +149 °F) • Compensated: -10 … +40 °C (14 … 104 °F)
Speed sensors	
Optical encoder output	• RS 422 (TTL) 5 V DC, 150 mA max. • 1 000 or 2 500 pulses per revolution (ppr)
Degree of protection	• Standard: IP64 • Stainless steel: IP66
Temperature	-10 … +70 °C (14 … 158 °F)
Framework	• Precision machined, stainless [304 (1.4301) or 316L (1.4404)] or mild steel • Cantilevered design for easy belt replacement
Pulleys	115 mm (4.5 inch) diameter, crowned and lagged
Bearings	• 4-bolt flange mount on drive pulley • 2-bolt threaded base pillow block on driven pulley
Belt speed	0.005 … 0.36 m/s (1 … 70 fpm)
Belt support	Slider bed frame

SITRANS WW100	
Belting	• Polyester carcass with polyurethane top cover and static control with vulcanized endless finger splice for max. weighing consistency (standard); optionally available in blue and as low capacity belt; product temperature up to 100 °C (212 °C) • Belt properties in compliance with food safety regulation (EU) 10/2011 and (EC) 1935/2004 • Meets FDA 21CFR and Halal • HACCP concept supported: resistant to hot water and ideal for frequent cleaning cycles • Silicone high temp belt for hot material applications [product temperature up to 177 °C (350 °F)], in compliance with (EU) 10/2011 and (EC) 1935/2004, meets FDA 21CFR
Belt tension	• Counter-weighted stainless steel [304 (1.4301) or 316L (1.4404)] tensioning idler for consistent tension, required for high accuracy weighing • Screw type, telescoper module with 25 mm (1 inch) travel, stainless steel 304 (1.4301)
Belt cleaning	• PE-HD blade type with counter-weight at the head pulley for cleaning product side of belt • Return plow
Servomotor	SIMOTICS Servomotor; optionally including SINAMICS S120 drive, PROFIBUS DP or ProfiNet option, length of motor and communication cables customizable.
Standard gearmotor	Helical-worm geared motor, AC, Efficiency class IE1, IEC or UL-R/CSA, IP55, incl. PTC, RAL7031, C2 coating acc. EN12944.
Food grade gearmotor	Helical-worm geared motor, AC, Efficiency class IE3, IEC or UL-R/CSA, IP66, including PTC, corrosion resistant Aluminium housing, sealed surface treatment nsd tupH, complies with FDA.
Variable frequency drive: SINAMICS S120 servomotor controller (included with supply of WW100 based on ordering options)	• 1 ph, 200 … 240 V or 3 ph, 380 … 480 V • BOP for local control • External 24 V DC power supply • RS 232 connection port • 4 DI, D0 • PROFIBUS DP, optionally ProfiNet
Shipping weight	91 kg (200 lb) … 181 kg (400 lb) maximum
Approvals	• Declaration of incorporation of partly completed machinery acc. directive 2006/42/EC. • Meets 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.

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Weighfeeders
SITRANS WW100

Ordering data

Selection and ordering data

SITRANS WW100 Weighfeeder	Article No.
Accuracy is ± 0.25 … 0.5 %, with capacity up to 25 m³/h (880 ft³/h).	**7MH7180-** ■■■■■ - ■■■■

↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Add order code Y71 … Y73 for all models to specify design data.

Frame and enclosure construction

304 stainless steel open style	**0 B**
316L stainless steel open style	**0 D**
304 stainless steel enclosed style with painted mild steel enclosure	**1 B**
304 stainless steel enclosed style with 304 stainless steel enclosure	**1 D**
316L stainless steel enclosed style with painted mild steel enclosure	**1 G**
316L stainless steel enclosed style with 304 stainless steel enclosure	**1 J**
316L stainless steel enclosed style with 316L stainless steel enclosure	**1 M**

Material containment construction

Add order code Y74 and plain text: "Arc radius in inches … XX.XXX inch" 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 316L stainless steel	**E**
Shear gate inlet and skirtboards 316L stainless steel with cover	**F**
Shear gate inlet and skirtboards 316L stainless steel, #4 polished	**G**
Shear gate inlet and skirtboards 316L stainless steel, #4 polished with cover	**H**
Horseshoe inlet 304 stainless steel [1]	**J**
Horseshoe inlet 304 stainless steel, #4 polished [1]	**K**
Horseshoe inlet 316L stainless steel [1]	**L**
Horseshoe inlet 316L stainless steel, #4 polished [1]	**M**

Load cell

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**

Speed sensor

1 000 PPR shaft mounted optical encoder	**1**
2 500 PPR shaft mounted optical encoder	**2**
1 000 PPR shaft mounted optical encoder, stainless steel	**4**
2 500 PPR shaft mounted optical encoder, stainless steel	**5**

Selection and ordering data (continued)

SITRANS WW100 Weighfeeder	Article No.
Accuracy is ± 0.25 … 0.5 %, with capacity up to 25 m³/h (880 ft³/h).	**7MH7180-** ■■■■■ - ■■■■

Drive configuration

SIMOTICS Servomotor incl. SINAMICS control unit with PROFIBUS DP, BOP and power module

200 … 240 V 1 ph [2]	**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**

Standard AC gearmotor without drive (Drive required for desired belt speed)

Add order code Y76 for electrical style: IEC, UL-R/CSA or CCC.
Add order code Y75 reduction ratio in plain text: "X:1".

220 … 240/380 … 480 V 3 ph 50/60 Hz AC	**6 A**
575 V 3 ph 60 Hz AC	**6 B**

Food grade AC gearmotor without drive (Drive required for desired belt speed)

Add order code Y76 for electrical style: IEC, UL-R/CSA or CCC.
Add order code Y75 reduction ratio in plain text: "X:1".

220 … 240/380 … 480 V 3 ph 50/60 Hz AC food grade gearmotor	**7 A**
575 V 3 ph 60 Hz AC food grade gearmotor	**7 B**

SIMOTICS servomotor without accessories

Control unit, BOP, power module and input choke as well as power and communication cables should be ordered separately.	**8 A**

Calibration Method

None	**A**
1 calibration chain strand approx. 2.41 kg/m (1.62 lb/ft)	**B**
2 calibration chain strands approx. 4.82 kg/m (3.24 lb/ft)	**C**
3 calibration chain strands approx. 7.23 kg/m (4.86 lb/ft)	**D**

Belt change access side (looking from inlet to discharge)

Left hand	**0**
Right hand	**1**

Selection and ordering data

	Order Code		Article No.

Further Designs

Please add "-**Z**" to article no. and specify order code(s).

	Order Code
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Shear gate arc radius: Enter shear gate arc radius in inches (xxx.xx inch)[3]	**Y74**
Enter design units (TPH, MTPH, lb/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).	**Y75**
AC gearmotor electrical style: IEC, UL-R/CSA or CCC	**Y76**
Manufacturer's test certificate: according to EN 10204-2.2	**C11**
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: measuring-point number/identification (max. 27 characters) specify in plain text.	**Y15**
Plastic shear curtain to control dust at the infeed for floodable materials and dusty applications[3]	**G11**
Pointek CLS100 Capacitance switch for plugged discharge chute detection	**G12**
Belt cleaner, stainless steel, nylon brush, mounted under belt plow, cleaning dirty side of belt	**G14**
Low weight belt for light loading, low rate applications (recommended for under 1 t/h). Anti-static, FDA approved.	**G15**
High temp belt for hot material applications (product temp up to 177 °C (350 °F). High temp silicone, FDA approved.	**G17**
SINAMICS control unit with ProfiNet (only available with drive configuration options 0A ... 5B)	**G21**
Food grade Polyurethane sealing at infeed area	**G22**
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, 316L stainless steel with de-dust port[1]	**H52**

Operating instructions

All literature is available to download for free, in a range of languages, at
https://www.siemens.com/weighing/documentation

Spare parts

	Article No.
6 kg (13.2 lb) stainless steel load cell	**7MH5117-1QD00**
12 kg (26.4 lb) stainless steel load cell	**7MH5117-2BD00**
30 kg (66.2 lb) stainless steel load cell	**7MH5117-2KD00**
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**
500 PPR optical encoder[4]	**6FX2001-2PA50**
1 000 PPR optical encoder[4]	**6FX2001-2PB00**
2 500 PPR optical encoder[4]	**6FX2001-2PC50**
30 kg (66.2 lb) nickel plated steel load cell	**7MH7725-1EN**
500 PPR optical encoder	**6FX2001-4QA50**
1 000 PPR optical encoder	**6FX2001-4QB00**
2 500 PPR optical encoder	**6FX2001-4QC50**
Optical encoder connector	**6FX2003-0SU12**
Speed encoder plug-in with 3 m cable[5]	**7MH7723-1KM**
Optical encoder connector with 20 ft (6 m) of cable[6]	**7MH7723-1KD**
Speed Encoder, 1 000 PPR, stainless steel	**7MH7723-1HH**
Speed Encoder, 2 500 PPR, stainless steel	**7MH7723-1HJ**
Polyurethane sealing, white	**7MH7723-1SF**
Polyurethane sealing, blue	**7MH7723-1SG**
Calibration chain, approx. 2.41 kg/m (1.62 lb/ft)	**7MH7723-1HP**
Calibration chain, approx. 4.82 kg/m (3.24 lb/ft)	**7MH7723-1HQ**
Calibration chain, approx. 7.23 kg/m (4.86 lb/ft)	**7MH7723-1HR**

Customers interested in servomotor and drive spares and peripherals should consult a local sales person.
For more information, please visit
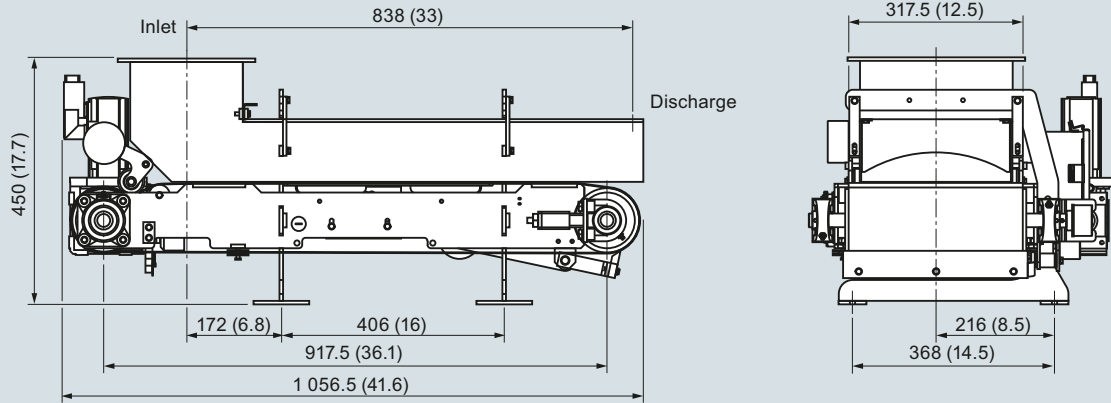http://www.automation.siemens.com/aspa_app

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Weighfeeders
SITRANS WW100

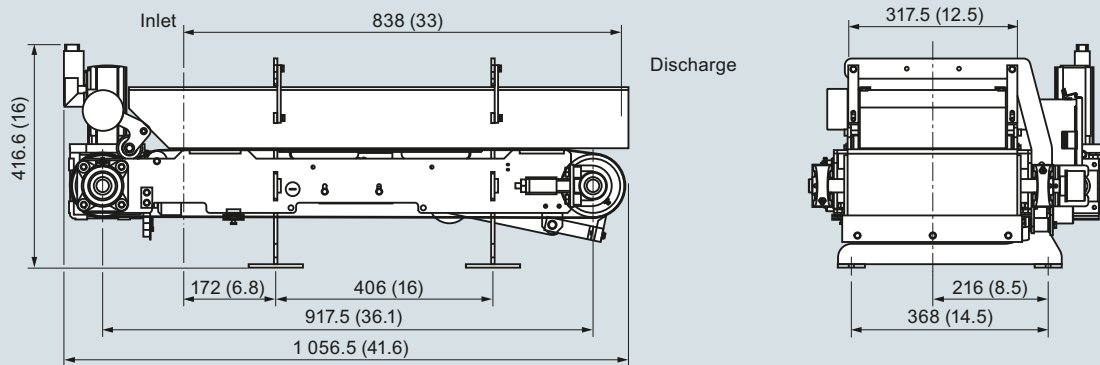| Selection and ordering data	Article No.
Standard belt, white	**7MH7723-1SA**
Standard belt, blue	**7MH7723-1SB**
Low capacity belt, white	**7MH7723-1SC**
Low capacity belt, blue	**7MH7723-1SD**
High temperature belt, white	**7MH7723-1SE**
Skirtboard sealing	**7MH7723-1SG**
Guide rollers	**7MH7723-1SH**
Gravimetric tensioning device	**7MH7723-1SJ**
Telescopers for WW100, stainless steel	**7MH7723-1SY**
Circuit board for termination box	**A5E03623963**
Bearing replacement kit, 2 bearings each for headpulley and tailpulley	**7MH7723-1HV**
Pulley replacement kit, for head and tailpulley, crowned, with lagging	**7MH7723-1HY**
Belt cleaning kit	**7MH7723-1HW**
Spare brush, 12 inch belt width	**7MH7723-1SN**
Accessories	
Start, Stop, Hand/Off/Auto, speed pot local operator station	**7MH7723-1JA**
CLS100 plugged discharge chute retrofit kit (includes CLS100, material hood)	**7MH7723-1JE**

[1] Available with Frame Construction options 0B ... 0D only.

[2] Communication and power cables required.

[3] Available with Material Containment options A ... H only.

[4] For use with 5 V DC supply from RS 422 circuit card.

[5] For use with PPR optical encoders: 6FX20012PA50, 6FX20012PB00, 6FX20012PC50.

[6] For use with PPR optical encoders: 6FX20014QA50, 6FX20014QB00, 6FX20014QC5.

[7] Available for WW100 weighfeeder, made in Canada prior to 2016; specify Y75 reduction ratio on the order.

■ **Dimensional drawings**

Open Construction

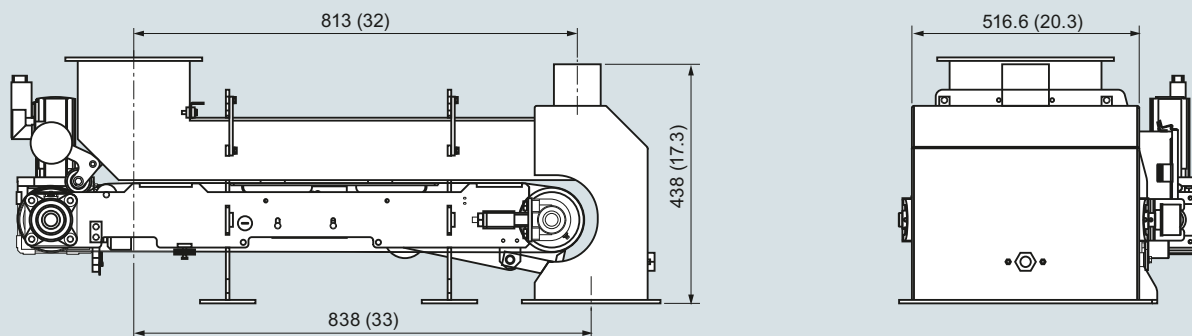**Open Horseshoe Inlet**

SITRANS WW100, dimensions in mm (inch)

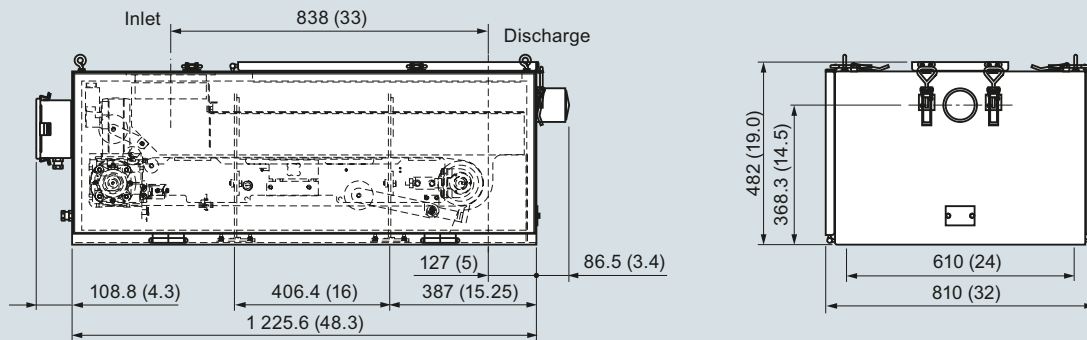**5**

Weighfeeders
SITRANS WW100

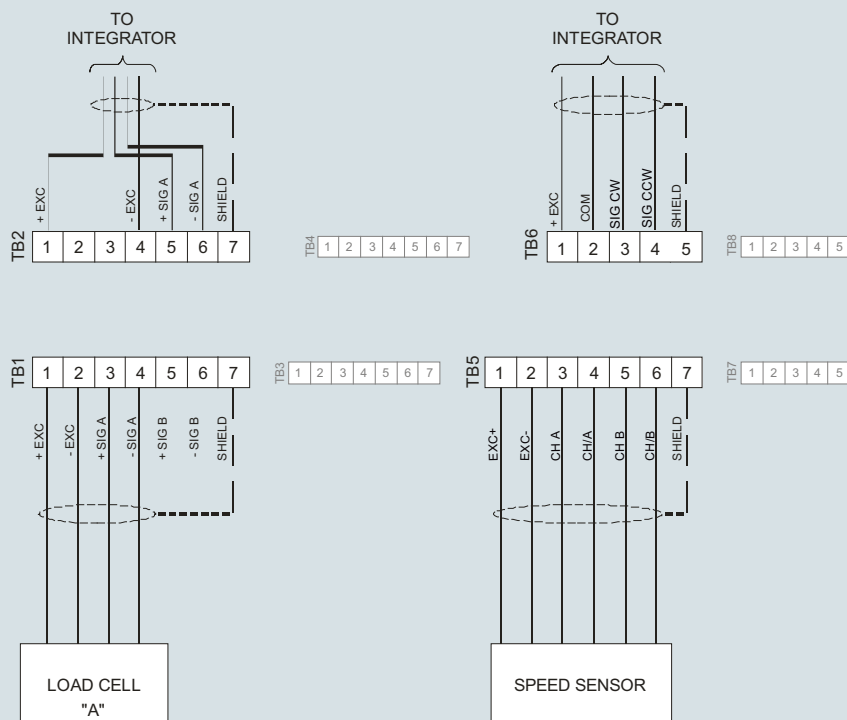### Dimensional drawings

Open Dust Hood

Enclosed Construction

SITRANS WW100, dimensions in mm (inch)

Circuit diagrams

SITRANS WW100 connections