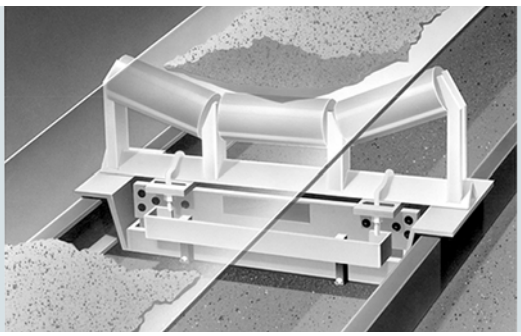
Overview

Belt scales help maximize the use of raw materials, control inventories, and aid in the manufacturing of a consistent product. Belt scales from Siemens are easy to install and require little maintenance. They produce repeatable, accurate results. These belt scales show minimal hysteresis and superior linearity, and ignore side loading. Load cell overload protection is a feature of the belt scale design.

Typical system

A typical belt scale system has a weigh bridge structure supported on load cells, an electronic integrator, and a belt speed sensor. The load cells measure the material weight on the belt, and send a signal to the integrator. The integrator also receives input in the form of electrical pulses from a belt speed sensor connected to a tail or bend pulley. Using these two sources of data, the integrator calculates the rate of material transferred along the belt using the equation weight x speed = rate.

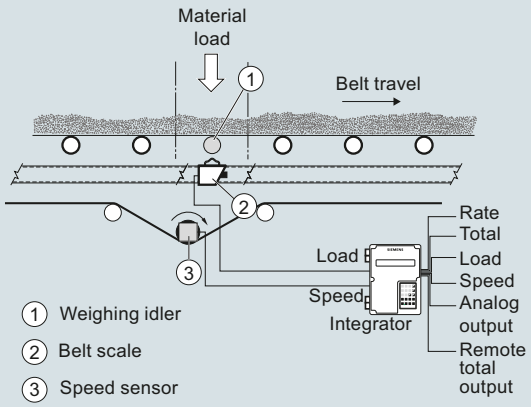


Belt scale operation

Mode of operation

Siemens belt scales only measure the vertical component of the applied force. As material moves down the conveyor belt and travels over the belt scale, it exerts a force proportional to the material load through the suspended idler directly to the load cells. The resulting force applied in each load cell is sensed by its strain gauges. When the strain gauges are excited by voltage from the electronic integrator, they produce an electrical signal proportional to belt loading, which is then applied to the integrator.

The vertical movement of the load cells is limited by the positive overload stop incorporated into the design of the belt scale or load cells. The stops protect the load cells from failure in the event of extreme overload forces.



Installation tips

Position the scale

Locate the scale close to the tail section of the conveyor belt where tension is minimal and more consistent. Mount the scale on rigid mountings, away from equipment that may produce measurement disturbing vibrations. Avoid variable tension points, transition points, or slope change. The ideal location is a horizontal, even belt section, but you can achieve good results on slopes if the idlers are properly aligned. If the conveyor curves, locate the scale a proper distance from the tangent points of the curve. For concave curved conveyors, the recommended minimum distance is 12 m (40 ft) from the tangent points of the curve. With convex conveyors, the minimum distance is 6 m (20 ft) on the approach side, and 12 m (40 ft) on the retreat side. Be sure to install the scale a sufficient distance from the infeed section (at least one idler space) so the material has time to settle properly on the belt.

Reduce variable belt tension

With temperature variations, load, and other circumstances, the belt tension will change. To maintain proper tension, a gravity take-up is recommended. This is a weight designed to take up slack on the belt. A gravity take-up should move freely and place consistent tension on the belt. The use of screw take-ups should be limited to conveyors with pulley centers to 18.3 m (60 ft) or less. The amount of weight should conform to the conveyor design specifications.

Align the idlers

Precise idler alignment is essential. At least two idlers on each side of the scale should be aligned with the belt scale; use three or more for high accuracy applications. To check alignment, use wire, string, or fishing line across the top outer edges of the rollers and tighten enough to eliminate sag. Adjust the height of the rollers with shims until they are all even, or at least within ± 0.8 mm (1/32 inch). All of the scale-area idlers should be the same type (size, diameter, style, trough angle, and manufacture) and should be spaced at equal distances. Locate training idlers a minimum of 9 m (30 ft) from the belt scale idler.

Install speed sensors

The speed sensor should be attached to the tail pulley or bend pulley shaft so the connection does not slip. It is important that the speed sensor be properly mounted as described in the Operating Instructions and free of excessive vibration. Whenever possible, mount the speed sensor on a solid face pulley. The use of wing- or beater-type pulleys is not recommended.

Wheel driven speed sensors, that are applied to the return strand of the belt, should be located close to a return idler to ensure a stable drive surface.

Wire the scale

Follow good instrumentation wiring practices to protect the load cell and speed sensor signals from radio frequency interference and induction. Use terminal blocks, shielded cable, and grounded metal conduit for all wiring.

Technical specifications

						Accuracy[1]		
Criteria	**Typical industries**	**Typical applications**	**Maximum capacity**	**Maximum belt speed**	**Loading range**	**Value**	**Specified range**	**Approvals**
Milltronics MLC	• Animal feed • Fertilizers • Food processing • Tobacco	Secondary industries	50 t/h (55 STPH) at max. belt speed	2.0 m/s (400 fpm)	Light	± 0.5 ... 1 %	25 ... 100 %	CE, RCM, EAC
Milltronics MUS	• Aggregates • Agricultural • Mining • Cement	• Aggregates • Medium- to heavy-duty	5 000 t/h (5 500 STPH) at max. belt speed	3.0 m/s (600 fpm)	Light to heavy	± 0.5 ... 1 %	25 ... 100 %	CE, RCM, EAC
Milltronics MCS	Aggregates	• Mobile crushers • Aggregates • Screening plants • Heavy-duty	2 400 t/h (2 640 STPH) at max. belt speed	3.0 m/s (600 fpm)	Light to heavy	± 0.5 ... 1 %	25 ... 100 %	CE, CSA/FM, ATEX, IECEx, RCM, EAC
Milltronics MSI	• Cement • Chemicals • Coal • Food processing • Mineral processing • Mining	• Industrial heavy-duty • Custody transfer	12 000 t/h (13 200 STPH) at max. belt speed	5.0 m/s (984 fpm)	Moderate to heavy	± 0.5 % or better	20 ... 100 %	SABS, MID, OIML, Measurement Canada, CE, CSA/FM, ATEX, IECEx, RCM, EAC
Milltronics MMI	• Cement • Chemicals • Coal • Food processing • Mineral processing • Mining	• Industrial heavy-duty • Custody transfer	12 000 t/h (13 200 STPH) at max. belt speed	5.0 m/s (984 fpm)	Moderate to heavy	MMI-2 (2 idler): ± 0.25 % or better MMI-3 (3 idler): ± 0.125 % or better	20 ... 100 % 25 ... 10 %	NTEP, MID, OIML, Measurement Canada, CE, CSA/FM, ATEX, IECEx, RCM, EAC
Milltronics WD600	• Food • Pharmaceutical and tobacco industries	• Process and load-out control • Light- to medium-duty	Up to 100 t/h	2.0 m/s (400 fpm) maximum	Light to moderate	± 0.5 … 1 %	25 ... 100 %	CE, meets FDA/USDA requirements for food processors, RCM, EAC
SITRANS WB300	Cement	Heavy-duty pan conveyors	Up to 5 000 t/h	1 m/s (200 fpm) maximum	Heavy	± 2 %	33 ... 100 %	CE, RCM
SITRANS WB310	Recycle	Light-duty	Up to 5 000 t/h	1 m/s (200 fpm) maximum	Light to moderate	± 5 %	25 ... 100 %	CE, RCM

[1] Accuracy subject to: on factory approved installations the belt scale 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.

Milltronics MLC

Overview

Milltronics MLC is a low-capacity scale for light belt loading.

Benefits

- Unique parallelogram style load cell design
- Designed for light product loading
- Compact and easy to install
- System includes weighing idler
- Stainless steel option
- Low cost of ownership

Application

The MLC is suitable for monitoring such products as fertilizer, tobacco, animal feed pellets, or sugar.

The MLC's proven use of parallelogram style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide outstanding accuracy and repeatability even with very light loading. The MLC may be easily installed in existing flat belt conveyors or belt feeders.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the MLC provides indication of flow rate, total weight, belt load and belt speed of bulk solids materials on a belt conveyor. A speed sensor monitors conveyor belt speed for input to the integrator. When used in conjunction with Milltronics BW500 integrator with PID controller, the MLC may also be used in the food industry as part of a pre-feed control system for extruders, cookers and de-hydrators.

Technical specifications

Milltronics MLC	
Mode of operation	
Measuring principle	Strain gauge load cell measuring load on flat belt conveyor idler
Typical application	Monitor fertilizer, tobacco, animal feed pellets, sugar, cereal
Performance	
Accuracy[1)]	± 0.5 … 1.0 % of totalization over 25 … 100 % operating range
Repeatability	± 0.1 %
Medium conditions	
Max. material temperature	85 °C (185 °F)
Belt design	
Belt width	• 450 … 1 200 mm • 18 … 48 inch
Belt speed	2.0 m/s (400 fpm) maximum
Capacity	Up to 50 t/h (55 STPH)
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy
Idlers	
Conveyor idler	Horizontal
Idler diameter	50 or 60 mm (1.90 or 2.30 inch)
Idler spacing	0.5 … 1.5 m (1.6 … 5.0 ft)

Milltronics MLC	
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover Strain gauge protection: polybutadiene
Degree of protection	IP67
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 mV/V excitation at rated load cell capacity
Non-linearity	0.03 % of rated output
Hysteresis	0.05 % of rated output
Non-repeatability	0.03 % of rated output
Capacity	10 or 20 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -40 … +85 °C (-40 ... +185 °F) operating range • -10 … +60 °C (14 … 140 °F) compensated
Mounting dimensions	Identical for all capacities
Hazardous locations	Consult the factory
Approvals	CE, RCM, EAC, KCC

1) Accuracy subject to: on factory approved installations the belt scale 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.

Milltronics MLC

Selection and ordering data

	Article No.
Milltronics MLC belt scale ↗ Low-capacity scale for light belt loading that comes complete with a weighing idler.	**7MH7126-**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Belt width/Scale construction	
C5-M rated polyester painted mild steel	
18 inch (457 mm)	**1 A**
24 inch (610 mm)	**1 B**
30 inch (762 mm)	**1 C**
36 inch (914 mm)	**1 D**
42 inch (1 067 mm)	**1 E**
48 inch (1 219 mm)	**1 F**
500 mm (20 inch)	**1 G**
650 mm (26 inch)	**1 H**
800 mm (32 inch)	**1 J**
1 000 mm (39 inch)	**1 K**
1 200 mm (47 inch)	**1 L**
450 mm (18 inch)	**1 M**
Stainless steel 304 (1.4301), bead blast finish (1 ... 6 µm, 40 ... 240 µin)	
18 inch (457 mm)	**2 A**
24 inch (610 mm)	**2 B**
30 inch (762 mm)	**2 C**
36 inch (914 mm)	**2 D**
42 inch (1 067 mm)	**2 E**
48 inch (1 219 mm)	**2 F**
500 mm (20 inch)	**2 G**
650 mm (26 inch)	**2 H**
800 mm (32 inch)	**2 J**
1 000 mm (39 inch)	**2 K**
1 200 mm (47 inch)	**2 L**
450 mm (18 inch)	**2 M**
Load cell capacity	
10 lb (4.55 kg)	**A**
20 lb (9.09 kg)	**B**
Not specified[1]	**X**
Weighing idler dimensions	
50 mm (1.96 inch)[2]	**1**
60 mm (2.40 inch)[3]	**2**
1.90 inch (48.2 mm)[4]	**5**

	Order Code
Further designs	
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number/ identification (max 27 characters), specify in plain text.	**Y15**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: according to EN 10204-2.2	**C11**
FDA compliant version. Conduit and fittings designed for food applications conforming to FDA/USDA standards	**K01**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

Spare parts	Article No.
Load cell, 10 lb (4.55 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	**PBD-23900244**
Load cell, 20 lb (9.09 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	**PBD-23900245**
Conduit replacement kit	**7MH7723-1NA**
FDA conduit replacement kit	**7MH7723-1QL**
Milltronics MLC calibration weight [Stainless Steel 304 (1.4301)]	
For scales with belt width of 18 inch or 500 mm or 450 mm	
1.05 lb (0.47 kg)	**7MH7724-1AL**
1.63 lb (0.73 kg)	**7MH7724-1AM**
2.35 lb (1.06 kg)	**7MH7724-1AN**
3.21 lb (1.45 kg)	**7MH7724-1AP**
For scales with belt width of 24 inch or 650 mm	
1.38 lb (0.62 kg)	**7MH7724-1AQ**
2.15 lb (0.97 kg)	**7MH7724-1AR**
3.11 lb (1.41 kg)	**7MH7724-1AS**
4.24 lb (1.91 kg)	**7MH7724-1AT**
For scales with belt width of 30 inch or 800 mm	
1.72 lb (0.77 kg)	**7MH7724-1AU**
2.67 lb (1.21 kg)	**7MH7724-1AV**
3.85 lb (1.73 kg)	**7MH7724-1AW**
5.26 lb (2.37 kg)	**7MH7724-1AX**
For scales with belt width of 36 inch or 1 000 mm	
2.05 lb (0.92 kg)	**7MH7724-1AY**
3.19 lb (1.44 kg)	**7MH7724-1BA**
4.56 lb (2.07 kg)	**7MH7724-1BB**
6.29 lb (2.83 kg)	**7MH7724-1BC**
For scales with belt width of 42 inch or 1 000 mm	
2.38 lb (1.07 kg)	**7MH7724-1BD**
3.71 lb (1.67 kg)	**7MH7724-1BE**
5.35 lb (2.41 kg)	**7MH7724-1BF**
7.31 lb (3.29 kg)	**7MH7724-1BG**

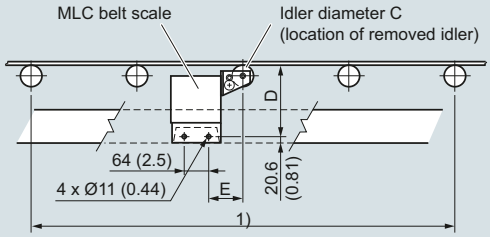
1) Only for quotation purposes, not a valid ordering option.
2) Available with Belt width/Scale construction options 1G ... 1M and 2G ... 2M only.
3) Available with Belt width/Scale construction options 1G ... 1M only.
4) Available with Belt width/Scale construction options 1A ... 1F and 2A ... 2F only.

Selection and ordering data

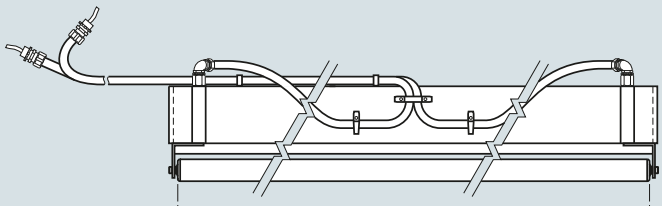
	Article No.
For scales with belt width of 48 inch or 1 200 mm	
2.72 lb (1.22 kg)	**7MH7724-1BH**
4.23 lb (1.92 kg)	**7MH7724-1BJ**
6.06 lb (2.75 kg)	**7MH7724-1BK**
8.34 lb (3.75 kg)	**7MH7724-1BL**
Note: calibration accessories should be ordered as a separate item on the order.	

Dimensional drawings

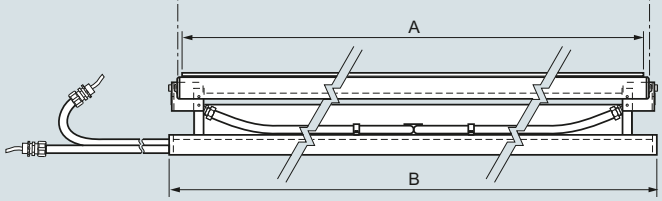
Installation



Plan View



Front View



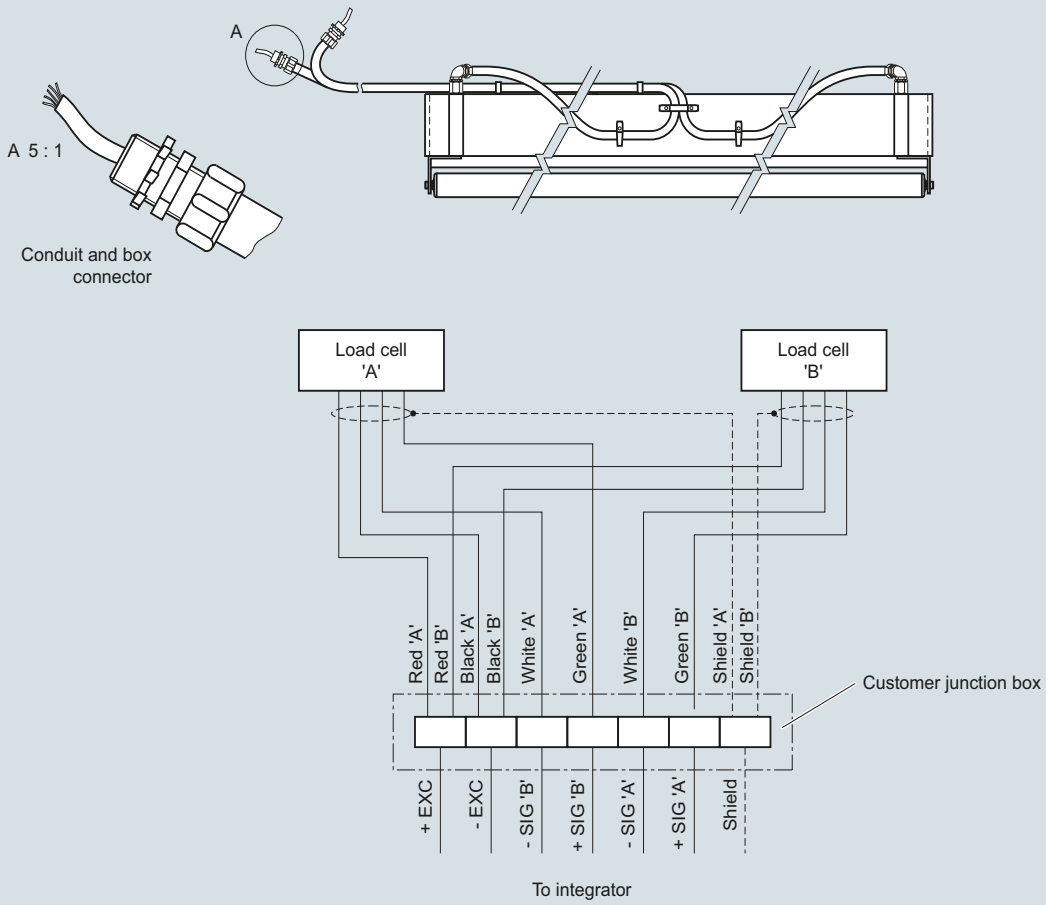
1) For pan supported belts, the belt should be cut out to allow the MLC and at least two (preferably four) other idlers to be installed.

Imperial designs [dimensions in inch (mm)]					
Scale size	'A' roller width	'B' dimension	'C' dimension	'D' dimension	'E' dimension
18 (457)	18 (457)	19 (483)	1.90 (48.3)	6.19 (157)	3.5 (89)
24 (610)	24 (610)	25 (635)	1.90 (48.3)	6.19 (157)	3.5 (89)
30 (762)	30 (762)	31 (787)	1.90 (48.3)	6.19 (157)	3.5 (89)
36 (914)	36 (914)	37 (940)	1.90 (48.3)	6.19 (157)	3.5 (89)
42 (1 067)	42 (1 067)	43 (1 092)	1.90 (48.3)	6.19 (157)	3.5 (89)
48 (1 219)	48 (1 219)	49 (1 245)	1.90 (48.3)	6.19 (157)	3.5 (89)

Metric designs [dimensions in mm (inch)]					
Scale size	'A' roller width	'B' dimension	'C' dimension	'D' dimension	'E' dimension
450 (17.72)	450 (17.72)	500 (19.69)	50 (1.97)	158 (6.22)	96 (3.78)
500 (19.69)	500 (19.69)	550 (21.65)	50 (1.97)	158 (6.22)	96 (3.78)
650 (25.59)	650 (25.59)	700 (27.56)	50 (1.97)	158 (6.22)	96 (3.78)
800 (31.50)	800 (31.50)	850 (33.46)	50 (1.97)	158 (6.22)	96 (3.78)
1 000 (39.37)	1 000 (39.37)	1 050 (41.34)	60 (2.36)	158 (6.22)	96 (3.78)
1 200 (47.24)	1 200 (47.24)	1 250 (49.21)	60 (2.36)	158 (6.22)	96 (3.78)

MLC, dimensions in mm (inch)

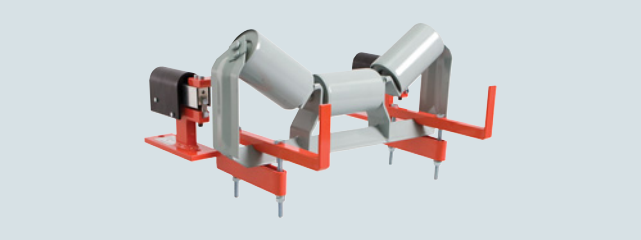
Circuit diagrams



Note:
Conduit and cable arrangement may differ from example shown.

MLC connections

Overview



Milltronics MUS is a modular designed, medium- to heavy-duty belt scale for process indication.

Idler not included with belt scale.

Benefits

- Unique modular design
- Simple installation
- Low cost
- Easy retrofit

Application

Milltronics MUS operates with products like aggregates, sand, or minerals, providing continuous in-line weighing at a minimal cost. With no cross bridge, this versatile unit will fit most conveyor widths and standard idlers, and product build-up is reduced.

The construction and easy assembly of the MUS ensures quick delivery to meet even the tightest of schedules. Where scales are moved from conveyor to conveyor, the MUS also provides unmatched flexibility.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the MUS provides indication of flow rate, total weight, belt load, and speed of bulk solids materials on a belt conveyor. A speed sensor monitors conveyor belt speed for input to the integrator.

Technical specifications

Milltronics MUS	
Mode of operation	
Measuring principle	Heavy duty strain gauge load cells measuring load on belt conveyor idlers
Typical applications	• Monitor fractionated stone on secondary surge belts and recirculating loads • Track daily production totals
Measurement accuracy	
Accuracy[1)]	± 0.5 … 1 % of totalization over 25 … 100 % operating range, application dependent
Repeatability	± 0.1 %
Medium conditions	
Max. material temperature	65 °C (150 °F)
Belt design	
Belt width	• Standard duty up to 1 000 mm (CEMA width up to 42 inch) • Heavy-duty up to 1 524 mm (CEMA width up to 60 inch) • Refer to dimensional drawing
Belt speed	Up to 3.0 m/s (600 fpm)
Capacity	Up to 5 000 t/h at maximum belt speed
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2)]
Idlers	
Idler profile	• Flat to 35° • To 45° with reduced accuracy[2)]
Idler diameter	50 … 180 mm (2 … 7 inch)
Idler spacing	0.6 … 1.5 m (2.0 … 5.0 ft)

Milltronics MUS	
Load cell	
Construction	Nickel plated alloy steel Strain gauge protection: silicon
Degree of protection	IP66
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V DC max.
Output	2 mV/V excitation at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity	
• Standard duty ranges	20, 30, 50, 75, 100 kg (44, 66, 110, 165, 220 lb)
• Heavy-duty ranges	50, 100, 150, 200, 500 kg (110, 220, 330, 440, 1 100 lb)
Overload	150 % of rated capacity, ultimate 200 % of rated capacity
Temperature	• -40 … +65 °C (-40 … +150 °F) operating range • -10 … +40 °C (15 … 105 °F) compensated
Weight	Standard duty up to 44 lb (20 kg), 22 lb (10 kg) per side Heavy-duty up to 64 lb (30 kg), 32 lb (15 kg) per side
Interconnection wiring (to integrator)	• < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable • > 150 m … 300 m (500 … 1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm²) 8 conductor shielded cable
Hazardous locations	Consult the factory
Approvals	CE, RCM, EAC, CMC, KCC

[1)] Accuracy subject to: on factory approved installations the belt scale 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.
[2)] Review by Siemens application engineer required.

Selection and ordering data

	Article No.
Milltronics MUS belt scale ↗	**7MH7123-**
Modular design, medium- to heavy-duty scale for process indication. Flat bar calibration weights are optional and should be ordered as separate items, see page 4/53.	**0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Scale construction	
Standard for belt width up to 1 000 mm (42 inch), nickel plated steel load cells	**1**
Heavy-duty for belt width up to 1 524 mm (60 inch), nickel plated steel load cells	**2**
Load cell capacity	
Standard Duty Scale Load Cell	
20 kg (44.1 lb)[1]	**A A**
30 kg (66.1 lb)[1]	**A B**
50 kg (110.2 lb)[1]	**A C**
75 kg (165.3 lb)[1]	**A D**
100 kg (220.4 lb)[1]	**A E**
Not specified[2]	**X X**
Heavy-Duty Scale Load Cell	
50 kg (110.2 lb)[3]	**B A**
100 kg (220.4 lb)[3]	**B B**
150 kg (330.7 lb)[3]	**B C**
200 kg (440.9 lb)[3]	**B D**
300 kg (661.4 lb)[3]	**B E**
500 kg (1 102.3 lb)[3]	**B F**
Fabrication	
C5-M rated polyester painted mild steel	**1**
Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max. 27 characters), specify in plain text.	**Y15**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

	Article No.
Spare parts	
Standard Duty Scale Load Cell	
20 kg (44.1 lb)	**A5E00826934**
30 kg (66.1 lb)	**A5E00826935**
50 kg (110.2 lb)	**A5E00826936**
75 kg (165.3)	**A5E00826938**
100 kg (220.5 lb)	**A5E00826939**
Heavy-Duty Scale Load Cell	
50 kg (110.2 lb)	**A5E00826941**
100 kg (220.5 lb)	**A5E00826942**
150 kg (330.7 lb)	**A5E00826943**
200 kg (440.9 lb)	**A5E00826944**
300 kg (661.4 lb)	**A5E00826945**
500 kg (1 120.3 lb)	**A5E00826946**
Rock Guard, MUS Standard Duty Scale, spare	**7MH7723-1DM**
Conduit replacement kit	**7MH7723-1NA**
Calibration weights	
Milltronics flat bar calibration weights, see page 4/53.	
Note: calibration accessories should be ordered as a separate item on the order.	

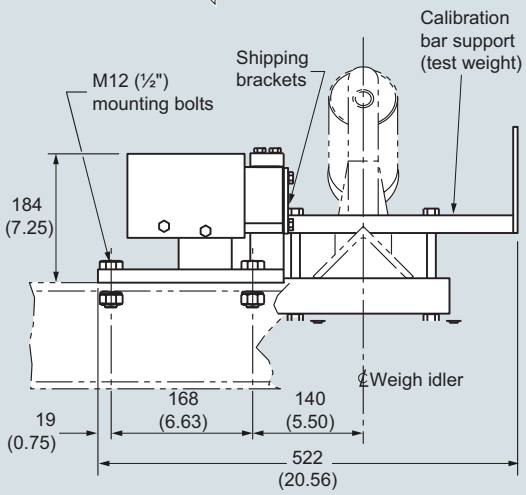
[1] For use with scale construction option 1 only.
[2] Only for quotation purposes, not a valid ordering option.
[3] For use with scale construction option 2 only.

Dimensional drawings

Standard duty

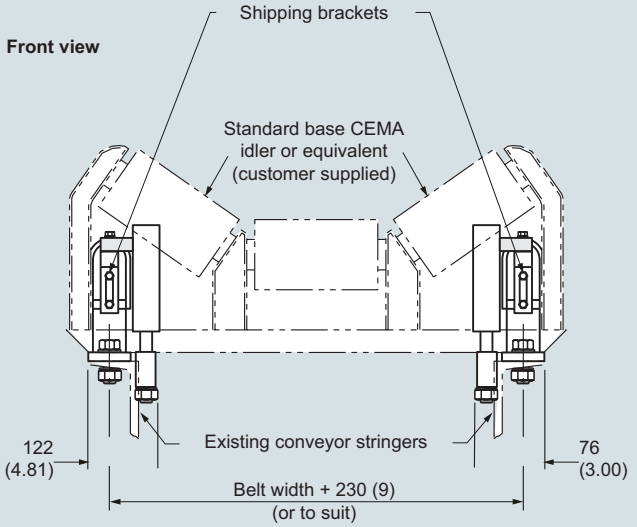
Belt direction for all flat or inclined conveyors

Side view



Note:
(2) approach and (2) retreat idlers should be aligned with the weigh idler to within 0.8 (+1/3) to 0 (0).

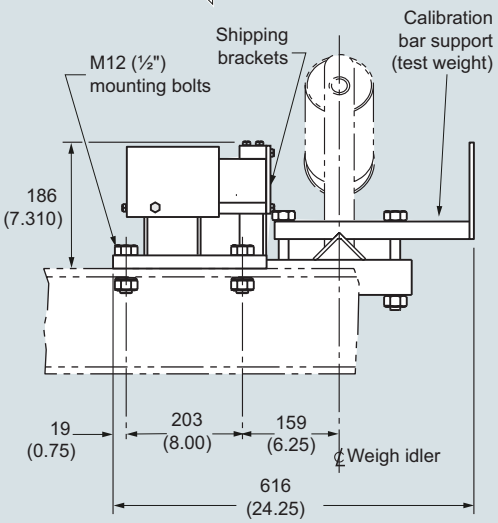
Front view



Heavy duty

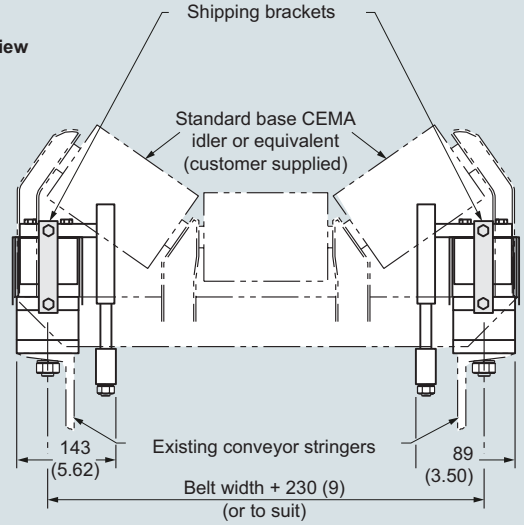
Belt direction for all flat or inclined conveyors

Side view



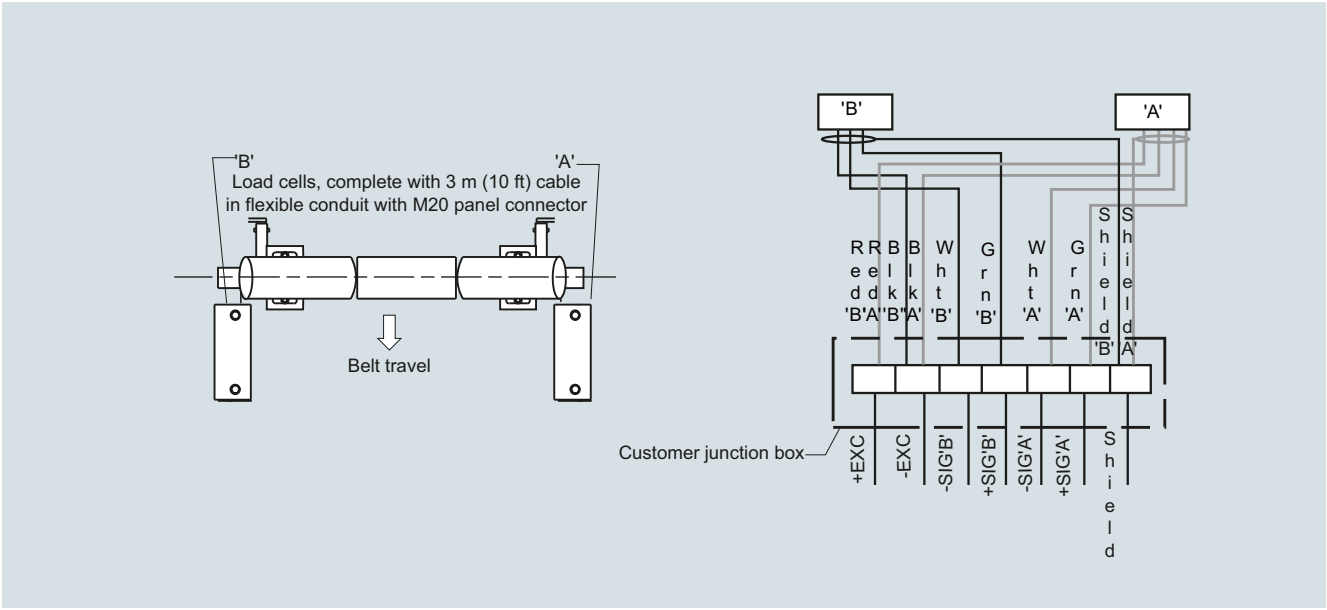
Note:
(2) approach and (2) retreat idlers should be aligned with the weigh idler to within 0.8 (+1/3) to 0 (0).

Front view



MUS, dimensions in mm (inch)

Circuit diagrams

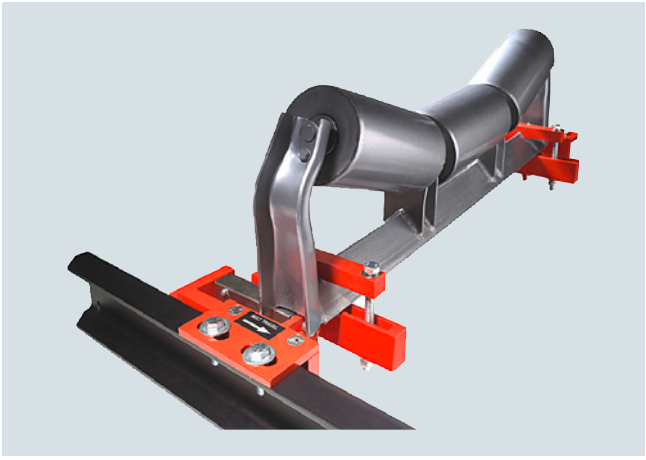


MUS connections

4

Milltronics MCS

Overview



Milltronics MCS is a compact, rugged, modular, heavy-duty belt scale for use in mobile crushers and aggregate screening plants.

Idler not included with belt scale.

Benefits

- Rugged design
- Low profile
- Easy retrofit
- Low cost
- Stainless steel load cells

Application

Milltronics MCS provides continuous, in-line weighing at minimal cost. The stainless steel load cells ensure long-term, consistent, reliable measurement. The modular construction and easy assembly of the MCS ensures quick delivery to meet even the tightest of schedules.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the MCS provides indication of flow rate, total weight, belt load, and belt speed of bulk solids materials on a belt conveyor.

To complete the weighing system, include a speed sensor to monitor conveyor belt speed for input to the integrator. On mobile crushing equipment, the TASS speed sensor is a compact, rugged speed sensor designed for use with the MCS.

Technical specifications

Milltronics MCS	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on belt conveyor idlers
Typical application	Mobile crusher systems
Measurement accuracy	
Accuracy[1)]	• ± 0.5 … 1 % of totalization over 25 … 100 % operating range, application dependent • ± 2 % of totalization over 25 … 100 % operating range on mobile crusher applications
Repeatability	± 0.1 %
Belt design	
Belt width	• Up to 1 600 mm (60 inch CEMA) width • Refer to the outline dimension section
Belt speed	Up to 4 m/s (800 fpm)
Capacity	Up to 2 400 t/h (2 640 STPH) at maximum belt speed
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2)]
Idlers	
Idler profile	• Flat to 35° • To 45° with reduced accuracy[2)]
Idler diameter	100 … 150 mm (4 … 6 inch)
Idler spacing	0.6 … 1.2 m (2.0 … 4.0 ft)
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover Strain gauge protection: polybutadiene
Degree of protection	IP67, IP65 on hazardous approved models
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V maximum
Output	2 mV/V excitation at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity	25, 50, 100, 250, 500 lb stainless steel
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -50 … +75 °C (-58 … +167 °F) operating range • -40 … +65 °C (-40 … +150 °F) compensated

Milltronics MCS	
Weight	Up to 20 kg (44 lb), 10 kg (22 lb) per side
Interconnection wiring (to integrator)	• < 150 m (500 ft) 18 AWG (0.75 mm^2) 6 conductor shielded cable • > 150 m (500 ft) to 300 m (1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm^2), 8 conductor shielded cable
Approvals	• CSA/FM Class II, Div. 1, Groups E, F, G and Class III • ATEX II 2D, Ex tD A21 IP65 T90 °C • EAC Ex • IEC Ex, Ex tD A21 IP65 T90 °C • CE, RCM, EAC, KCC, RTN

[1)] Accuracy subject to: on factory approved installations the belt scale 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.
[2)] Review by Siemens application engineer required.

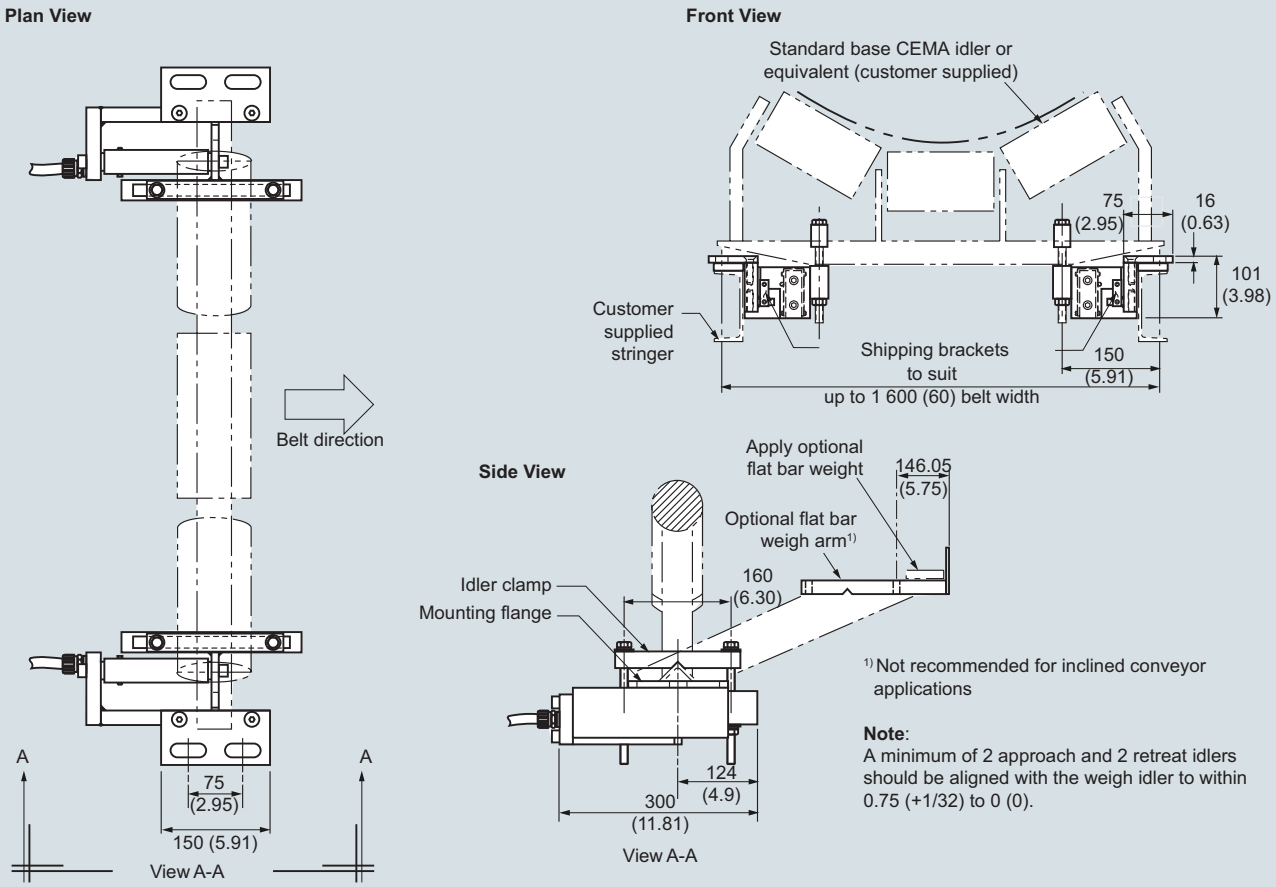
Selection and ordering data

	Article No.
Milltronics MCS belt scale ↗	**7MH7125-**
A compact, rugged, modular, heavy-duty belt scale for use in mining and aggregate screening plants	**0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Scale construction	
Standard duty, CE, RCM, EAC, KCC	**1**
Hazardous Duty CSA/FM Class II, Div. 1, Groups E, F, G and Class III, ATEX II 2D, IECEx, EAC Ex, CE, RCM, EAC, KCC	**2**
Load cell capacity	
50 lb (22.7 kg) (use not recommended for mobile crushers)	**A A**
100 lb (45.5 kg) (use not recommended for mobile crushers)	**A B**
250 lb (113.6 kg)	**A C**
500 lb (226.8 kg)	**A D**
25 lb (11.3 kg) (use not recommended for mobile crushers)	**A E**
Not specified[1)]	**B B**
Fabrication	
C5-M rated polyester painted mild steel	**1**
C5-M rated polyester painted mild steel, for use with flat bar or MWL calibration	**2**
Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

	Article No.
Spare parts	
Stainless steel load cell [17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover]	
25 lb (11.3 kg)	**A5E01673047**
50 lb (22.7 kg)	**A5E01135823**
100 lb (45.4 kg)	**A5E01135824**
250 lb (113.4 kg)	**A5E01135825**
500 lb (226.8 kg)	**A5E01135826**
Calibration weights	
Flat bar/MWL retrofit kit	**7MH7723-1HA**
Calibration test arm assembly, c/w one 8.2 kg (18 lb) calibration weight	**7MH7723-1FR**
Calibration test arm assembly, c/w two 8.2 kg (18 lb) calibration weights	**7MH7723-1FS**
MCS calibration arm c/w idler clip [holds up to two 8.2 kg (18 lb) weights]	**7MH7726-1AD**
Calibration weight, 18 lb (8.2 kg)	**7MH7724-1AA**
Calibration weight, 6 lb (2.7 kg)	**7MH7724-1AB**
Milltronics flat bar calibration weights, see page 4/53.	
Note: calibration accessories should be ordered as a separate item on the order.	

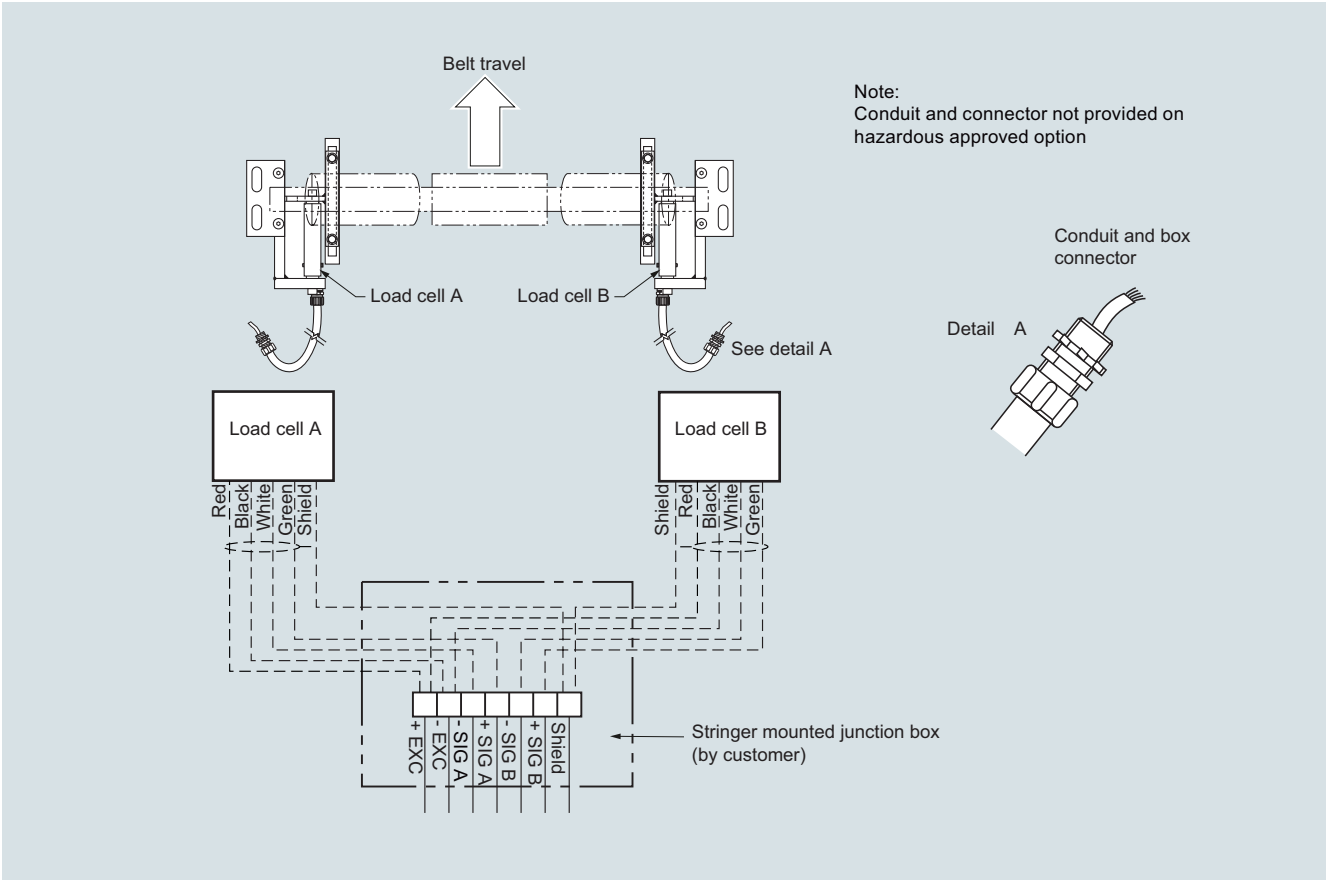
1) Only for quotation purposes, not a valid ordering option.

Dimensional drawings



MCS, dimensions in mm (inch)

Circuit diagrams



MCS connections

Overview

Milltronics MSI is a heavy-duty, high accuracy full-frame single idler belt scale used for process and load-out control. Idler not included with belt scale.

Milltronics MMI is a heavy-duty, high accuracy multiple idler belt scale used for critical process and load-out control. Idler not included with belt scale.

Benefits

Milltronics MSI belt scale

- Outstanding accuracy and repeatability
- Unique parallelogram style load cell design
- Fast reaction to product loading; capable of monitoring fast moving belts
- Rugged construction
- SABS approval (South Africa), OIML, MID, and Measurement Canada

Milltronics MMI belt scale

- Exceptional accuracy and repeatability
- Unique parallelogram style load cell design
- Suitable for uneven or light product loading
- Capable of monitoring fast moving belts
- Low cost of ownership
- NTEP, OIML, MID, and Measurement Canada approved

Application

Milltronics MSI belt scale

Milltronics MSI belt scale provides continuous in-line weighing on a variety of products in primary and secondary industries. It is proven in a wide range of tough applications from extraction (in mines, quarries and pits), to power generation, iron and steel, food processing and chemicals. The MSI is suitable for monitoring such diverse products as sand, flour, coal, or sugar.

The MSI's proven use of parallelogram-style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide outstanding accuracy and repeatability even with uneven loading and fast belt speeds.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the MSI provides indication of flow rate, totalized weight, belt load, and belt speed of bulk solid materials. A speed sensor monitors conveyor belt speed for input to the integrator.

The MSI is installed in a simple drop-in operation and may be secured with just four bolts. An existing idler is then attached to the MSI dynamic beam. With no moving parts, maintenance is kept to a minimum, with just periodic calibration checks required.

Milltronics MMI belt scale

Milltronics MMI belt scale consists of two or more MSI single idler belt scales installed in series. It provides high accuracy continuous in-line weighing on a variety of products in primary and secondary industries. The MMI system is proven in a wide range of tough applications from extraction to power generation, iron and steel, food processing and chemicals. The MMI is suitable for monitoring such diverse products as fertilizer, sand, grain, flour, coal, or sugar.

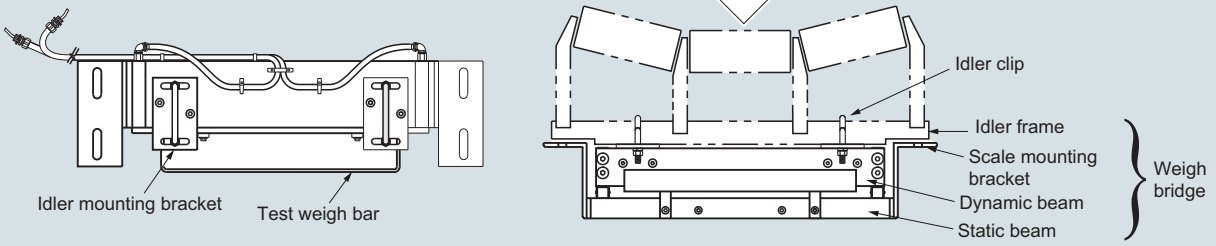
The MMI's proven use of parallelogram-style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide outstanding accuracy and repeatability even with uneven or light loading, short idler spacing and fast belt speeds. Operating with Milltronics BW500 integrator (for custody transfer applications), the MMI provides indication of flow rate, total weight, belt load and belt speed of bulk solids materials on a belt conveyor. A speed sensor monitors conveyor belt speed for input to the integrator.

The MMI is installed in a simple drop-in operation and may be secured with just eight bolts and existing idler sets, secured to the dynamic beam. With no moving parts, maintenance is kept to a minimum, with just periodic calibration checks required.

Design

Mounting

Note:
Conduit and cable arrangement may differ from example shown



MSI/MMI mounting

Mounting (two or more MSI units)

Technical specifications

Milltronics MSI/MMIf	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on belt conveyor idler(s)
Typical application	
• MSI	Control in fractionated stone blending tunnels
• MMI	Custody transfer
Measurement accuracy	
Accuracy[1]	
• MSI	± 0.5 % or better of totalization over 20 … 100 % operating range
• MMI-2 (2 idler)	± 0.25 % or better of totalization over 20 … 100 % operating range
• MMI-3 (3 idler)	± 0.125 % or better of totalization over 25 … 100 % operating range
Note: available with system specification option D only	
Repeatability	± 0.1 %
Medium conditions	
Material temperature	-50 … +200 °C (-58 … +392 °F)
Belt design	
Belt width	• 18 … 96 inch in CEMA sizes • Equivalent to 500 … 2 000 mm in metric size • Refer to dimensions section
Belt speed	Up to 5 m/s (1 000 fpm)
Capacity	Up to 12 000 t/h (13 200 STPH) at maximum belt speed. Please contact a Siemens representative for higher rates.
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2]
Idlers	
Idler profile	• Flat to 35° • Up to 45° with reduced accuracy[2]
Idler diameter	50 … 180 mm (2 … 7 inch)
Idler spacing	0.5 … 1.5 m (1.5 … 5.0 ft)

Milltronics MSI/MMIf	
Load cell	
Construction	Stainless steel construction with 304 (1.4301) stainless steel cover Strain gauge protection: polybutadiene
Degree of protection	IP67, IP65 on hazardous approved models
Cable length	3 m (10 ft) Note: to calculate installation cable length subtract 3 048 mm (120 inch) from the "A" dimension
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 ± 0.002 mV/V excitation (nominal) at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity	
• Maximum ranges	25, 50, 100, 250, 500, 750, 1 000, 1 250, 1 500, 2 000 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -50 … +75 °C (-58 … +167 °F) operating range, optional -50 ... +175 °C (-58 ... 347 °F) • -40 … +65 °C (-40 … +150 °F) compensated • -10 ... +40 °C (14 ... 104 °F) compensated on trade approved versions
Weight	See dimensions section
Interconnection wiring (to integrator, per MSI)	< 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable > 150 m … 300 m (500 ft … 1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm²), 8 conductor shielded cable
Approvals	• CSA/FM Class I, Div. 1, Groups A, B, C, Class II, Div. 1, Groups E, F, G, and Class III • ATEX II 1GD, Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, ATEX I M1, Ex ia I Ma • ATEX II 2D Ex tD A21 IP65 T90 °C • EAC Ex • IEC Ex 1G Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da M1, Ex ia I Ma • MSHA • CE, RCM, EAC, KCC, CMC, RTN
Metrology approvals	Measurement Canada, MID, OIML, SABS[3], NTEP[4], STAMEQ, GOST

[1] Accuracy subject to: on factory approved installations the belt scale 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.
[2] Review by Siemens application engineer required.
[3] MSI only.
[4] MMI only.

Milltronics MSI and MMI

Selection and ordering data

	Article No.
Milltronics MSI belt scale ↗ A heavy-duty, high-accuracy single idler belt scale for process and load-out control. For Milltronics MMI belt scale system, two or more MSI belt scales are required. Calibration weights are required and ordered as separate items. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	**7MH7122-** -
Scale construction	
Standard duty, CE, RCM, EAC, KCC	1
Hazardous Duty CSA/FM Class II, Div. 1, Groups E, F, G and Class III, ATEX II 2D, EAC Ex, IECEx, CE, RCM	2
CSA/FM Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G and Class III, ATEX II 1GD IEC Ex 1GD	3
MSHA, ATEX I M1, IEC Ex I M1	4
Belt width and 'A' dimension	
18 inch, 'A' = 27 inch (686 mm)	A A
19 inch, 'A' = 28 inch (711 mm)	A B
20 inch, 'A' = 29 inch (737 mm)	A C
21 inch, 'A' = 30 inch (762 mm)	A D
22 inch, 'A' = 31 inch (787 mm)	A E
23 inch, 'A' = 32 inch (813 mm)	A F
24 inch, 'A' = 33 inch (838 mm)	A G
25 inch, 'A' = 34 inch (864 mm)	A H
26 inch, 'A' = 35 inch (889 mm)	A J
27 inch, 'A' = 36 inch (914 mm)	A K
28 inch, 'A' = 37 inch (940 mm)	A L
29 inch, 'A' = 38 inch (965 mm)	A M
30 inch, 'A' = 39 inch (991 mm)	A N
31 inch, 'A' = 40 inch (1 016 mm)	A P
32 inch, 'A' = 41 inch (1 041 mm)	A Q
33 inch, 'A' = 42 inch (1 067 mm)	A R
34 inch, 'A' = 43 inch (1 092 mm)	A S
35 inch, 'A' = 44 inch (1 118 mm)	A T
36 inch, 'A' = 45 inch (1 143 mm)	A U
37 inch, 'A' = 46 inch (1 168 mm)	A V
38 inch, 'A' = 47 inch (1 194 mm)	A W
39 inch, 'A' = 48 inch (1 219 mm)	B A
40 inch, 'A' = 49 inch (1 245 mm)	B B
41 inch, 'A' = 50 inch (1 270 mm)	B C
42 inch, 'A' = 51 inch (1 295 mm)	B D
43 inch, 'A' = 52 inch (1 321 mm)	B E
44 inch, 'A' = 53 inch (1 346 mm)	B F
45 inch, 'A' = 54 inch (1 372 mm)	B G
46 inch, 'A' = 55 inch (1 397 mm)	B H
47 inch, 'A' = 56 inch (1 422 mm)	B J
48 inch, 'A' = 57 inch (1 448 mm)	B K
49 inch, 'A' = 58 inch (1 473 mm)	B L
50 inch, 'A' = 59 inch (1 499 mm)	B M
51 inch, 'A' = 60 inch (1 524 mm)	B N
52 inch, 'A' = 61 inch (1 549 mm)	B P
53 inch, 'A' = 62 inch (1 575 mm)	B Q
54 inch, 'A' = 63 inch (1 600 mm)	B R

	Article No.
Milltronics MSI belt scale A heavy-duty, high-accuracy single idler belt scale for process and load-out control. For Milltronics MMI belt scale system, two or more MSI belt scales are required. Calibration weights are required and ordered as separate items.	**7MH7122-** -
55 inch, 'A' = 64 inch (1 626 mm)	B S
56 inch, 'A' = 65 inch (1 651 mm)	B T
57 inch, 'A' = 66 inch (1 676 mm)	B U
58 inch, 'A' = 67 inch (1 702 mm)	B V
59 inch, 'A' = 68 inch (1 727 mm)	B W
60 inch, 'A' = 69 inch (1 753 mm)	C A
61 inch, 'A' = 70 inch (1 778 mm)	C B
62 inch, 'A' = 71 inch (1 803 mm)	C C
63 inch, 'A' = 72 inch (1 829 mm)	C D
64 inch, 'A' = 73 inch (1 854 mm)	C E
65 inch, 'A' = 74 inch (1 880 mm)	C F
66 inch, 'A' = 75 inch (1 905 mm)	C G
67 inch, 'A' = 76 inch (1 930 mm)	C H
68 inch, 'A' = 77 inch (1 956 mm)	C J
69 inch, 'A' = 78 inch (1 981 mm)	C K
70 inch, 'A' = 79 inch (2 007 mm)	C L
71 inch, 'A' = 80 inch (2 032 mm)	C M
72 inch, 'A' = 81 inch (2 057 mm)	C N
73 inch, 'A' = 82 inch (2 083 mm)	C P
74 inch, 'A' = 83 inch (2 108 mm)	C Q
75 inch, 'A' = 84 inch (2 134 mm)	C R
76 inch, 'A' = 85 inch (2 159 mm)	C S
77 inch, 'A' = 86 inch (2 184 mm)	C T
78 inch, 'A' = 87 inch (2 210 mm)	C U
79 inch, 'A' = 88 inch (2 235 mm)	C V
80 inch, 'A' = 89 inch (2 261 mm)	C W
81 inch, 'A' = 90 inch (2 286 mm)	D A
82 inch, 'A' = 91 inch (2 311 mm)	D B
83 inch, 'A' = 92 inch (2 337 mm)	D C
84 inch, 'A' = 93 inch (2 362 mm)	D D
85 inch, 'A' = 94 inch (2 388 mm)	D E
86 inch, 'A' = 95 inch (2 413 mm)	D F
87 inch, 'A' = 96 inch (2 438 mm)	D G
88 inch, 'A' = 97 inch (2 464 mm)	D H
89 inch, 'A' = 98 inch (2 489 mm)	D J
90 inch, 'A' = 99 inch (2 515 mm)	D K
91 inch, 'A' = 100 inch (2 540 mm)	D L
92 inch, 'A' = 101 inch (2 565 mm)	D M
93 inch, 'A' = 102 inch (2 591 mm)	D N
94 inch, 'A' = 103 inch (2 616 mm)	D P
95 inch, 'A' = 104 inch (2 642 mm)	D Q
96 inch, 'A' = 105 inch (2 667 mm)	D R

Selection and ordering data

Article No.

Milltronics MSI belt scale	**7MH7122-**					
A heavy-duty, high-accuracy single idler belt scale for process and load-out control. For Milltronics MMI belt scale system, two or more MSI belt scales are required. Calibration weights are required and ordered as separate items.				-		
Load cell capacity						
Not specified[1]			0			
25 lb (11.3 kg)			9			L 1 A
50 lb (22.7 kg)			1			
100 lb (45.4 kg)			2			
250 lb (113.4 kg)			3			
500 lb (226.8 kg)			4			
750 lb (340.2 kg)			5			
1 000 lb (453.6 kg)			6			
1 250 lb (567 kg)[2]			7			
1 500 lb (680.4 kg)[2]			8			
2 000 lb (907.2 kg)			9			L 1 B
Fabrication						
C5-M rated polyester painted mild steel				1	1	
Electro-galvanized mild steel:						
18 ... 29 inch (457.2 ... 736.6 mm)				1	2	
30 ... 41 inch (762 ... 1 041.4 mm)				1	3	
42 ... 53 inch (1 066.8 ... 1 346.2 mm)				1	4	
54 ... 65 inch (1 371.6 ... 1 651 mm)				1	5	
66 ... 77 inch (1 676.4 ... 1 955.8 mm)				1	6	
78 ... 89 inch (1 981.2 ... 2 260.6 mm)				1	7	
90 ... 96 inch (2 286 ... 2 438.4 mm)				1	8	
Stainless steel 304 (1.4301), bead blast finish (1 ... 6 µm, 40 ... 240 µin) for belt width scales:						
18 ... 29 inch (457.2 ... 736.6 mm)				2	1	
30 ... 41 inch (762 ... 1 041.4 mm)				2	2	
42 ... 53 inch (1 066.8 ... 1 346.2 mm)				2	3	
54 ... 65 inch (1 371.6 ... 1 651 mm)				2	4	
66 ... 77 inch (1 676.4 ... 1 955.8 mm)				2	5	
78 ... 89 inch (1 981.2 ... 2 260.6 mm)				2	6	
90 ... 96 inch (2 786 ... 2 438.4 mm)				2	7	
Stainless steel 316 (1.4401), bead blast finish (1 ... 6 µm, 40 ... 240 µin) for belt width scales:						
18 ... 29 inch (457.2 ... 736.6 mm)				3	1	
30 ... 41 inch (762 ... 1 041.4 mm)				3	2	
42 ... 53 inch (1 066.8 ... 1 346.2 mm)				3	3	
54 ... 65 inch (1 371.6 ... 1 651 mm)				3	4	
66 ... 77 inch (1 676.4 ... 1 955.8 mm)				3	5	
78 ... 89 inch (1 981.2 ... 2 260.6 mm)				3	6	
90 ... 96 inch (2 786 ... 2 438.4 mm)				3	7	
C5-M rated polyester painted mild steel (compatible with MWL or flat bar weight calibration system)				4	1	

Article No.

Milltronics MSI belt scale	**7MH7122-**					
A heavy-duty, high-accuracy single idler belt scale for process and load-out control. For Milltronics MMI belt scale system, two or more MSI belt scales are required. Calibration weights are required and ordered as separate items.				-		
Galvanized, for belt width scales: (compatible with MWL or flat bar weight system)						
18 ... 29 inch (457.2 ... 736.6 mm)				4	2	
30 ... 41 inch (762 ... 1 041.4 mm)				4	3	
42 ... 53 inch (1 066.8 ... 1 346.2 mm)				4	4	
54 ... 65 inch (1 371.6 ... 1 651 mm)				4	5	
66 ... 77 inch (1 676.4 ... 1 955.8 mm)				4	6	
78 ... 89 inch (1 981.2 ... 2 260.6 mm)				4	7	
90 ... 96 inch (2 786 ... 2 438.4 mm)				4	8	
System specification						
Standard MSI and MMI						A
NTEP Certified MMI[3)4)5)]						B
OIML/MID Certified[4)5)]						C
MSI for MMI-3 ± 0.125 % accuracy[6)]						D

Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Factory calibration certificate	**Y33**
OIML/MID approval additional nameplate (submit application data with order)[5)]	**Y77**
NTEP approval additional nameplate (submit application data with order)[5)]	**Y78**
Extended cable length (For spare part pricing and part number consult factory) Load cell with 15 m (49.2 ft) cable length [standard is 3 m (9.8 ft)]	**A08**
High temp load cell (For spare part pricing and part number consult factory) Load cell suitable for high temp up to 175 °C (347 °F) [standard is 75 °C (167 °F)][7)]	**T50**
Load cell with 316 (1.4401) cover (For spare part pricing and part number consult factory) Load cell cover is constructed from 316 (1.4401) stainless steel [standard is 304 (1.4301)]	**H53**
FDA compliant version Conduit and fittings designed for food applications conforming to FDA/USDA standards	**K01**

Operating instructions	Article No.
MSI Manuals	
• English	**7ML1998-5CY04**
Note: the operating instructions should be ordered as a separate item on the order.	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

4

Selection and ordering data

	Article No.
Spare parts	
Flat bar/MWL retrofit kit	**7MH7723-1FW**
Conduit replacement kit	**7MH7723-1NA**
FDA conduit replacement kit	**7MH7723-1QL**
MWL calibration weight support brackets galvanized	**7MH7723-1JT**
Stainless steel load cells	
Standard load cell with 304 (1.4301) stainless steel cover	
25 lb (11.3 kg)	**A5E35801457**
50 lb (22.7 kg)	**PBD-23900246**
100 lb (45.4 kg)	**PBD-23900247**
250 lb (113.4 kg)	**PBD-23900248**
500 lb (226.8 kg)	**PBD-23900249**
750 lb (340.2 kg)	**PBD-23900250**
1 000 lb (453.6 kg)	**PBD-23900251**
1 250 lb (567 kg)	**A5E02235671**
1 500 lb (680.4 kg)	**A5E02239623**
2 000 lb (907.2 kg)	**A5E35801460**
25 lb (11.3 kg), NTEP, OIML/MID	**A5E35801462**
50 lb (22.7 kg), NTEP, OIML/MID	**A5E03324790**
100 lb (45.4 kg), NTEP, OIML/MID	**PBD-23900261**
250 lb (113.4 kg), NTEP, OIML/MID	**PBD-23900262**
500 lb (226.8 kg), NTEP, OIML/MID	**PBD-23900263**
750 lb (340.2 kg), NTEP, OIML/MID	**PBD-23900264**
1 000 lb (453.6 kg), NTEP, OIML/MID	**PBD-23900265**
1 250 lb (567 kg), NTEP, OIML/MID	**A5E02235672**
1 500 lb (680.4 kg), NTEP, OIML/MID	**A5E02239620**
2 000 lb (907.2 kg), NTEP, OIML/MID	**A5E35801463**
Load cell with 316 (1.4401) stainless steel cover	
25 lb (11.3 kg)	**PBD-25851-A8H53**
50 lb (22.7 kg)	**PBD-25851-A0H53**
100 lb (45.4 kg)	**PBD-25851-A1H53**
250 lb (113.4 kg)	**PBD-25851-A2H53**
500 lb (226.8 kg)	**PBD-25851-A3H53**
750 lb (340.2 kg)	**PBD-25851-A4H53**
1 000 lb (453.6 kg)	**PBD-25851-A5H53**
1 250 lb (567 kg)	**PBD-25851-A6H53**
1 500 lb (680.4 kg)	**PBD-25851-A7H53**
2 000 lb (907.2 kg)	**PBD-25851-A9H53**
100 lb (45.4 kg), NTEP, OIML/MID	**PBD-25851-B1H53**
250 lb (113.4 kg), NTEP, OIML/MID	**PBD-25851-B2H53**
500 lb (226.8 kg), NTEP, OIML/MID	**PBD-25851-B3H53**
750 lb (340.2 kg), NTEP, OIML/MID	**PBD-25851-B4H53**
1 000 lb (453.6 kg), NTEP, OIML/MID	**PBD-25851-B5H53**

	Article No.
Load cell, high temperature up to 175 °C (347 °F)	
25 lb (11.3 kg)	**PBD-25851-A8T50**
50 lb (22.7 kg)	**PBD-25851-A0T50**
100 lb (45.4 kg)	**PBD-25851-A1T50**
250 lb (113.4 kg)	**PBD-25851-A2T50**
500 lb (226.8 kg)	**PBD-25851-A3T50**
750 lb (340.2 kg)	**PBD-25851-A4T50**
1 000 lb (453.6 kg)	**PBD-25851-A5T50**
1 250 lb (567 kg)	**PBD-25851-A6T50**
1 500 lb (680.4 kg)	**PBD-25851-A7T50**
2 000 lb (907.2 kg)	**PBD-25851-A9T50**
Load cell, high temperature up to 175 °C (347 °F) with 316 (1.4401) stainless steel cover	
25 lb (11.3 kg)	**PBD-25851-A8TH**
50 lb (22.7 kg)	**PBD-25851-A0TH**
100 lb (45.4 kg)	**PBD-25851-A1TH**
250 lb (113.4 kg)	**PBD-25851-A2TH**
500 lb (226.8 kg)	**PBD-25851-A3TH**
750 lb (340.2 kg)	**PBD-25851-A4TH**
1 000 lb (453.6 kg)	**PBD-25851-A5TH**
1 250 lb (567 kg)	**PBD-25851-A6TH**
1 500 lb (680.4 kg)	**PBD-25851-A7TH**
2 000 lb (907.2 kg)	**PBH-25851-A9TH**
Load cell with 15 m (49.2 ft) cable length	
25 lb (11.3 kg)	**PBD-25851-A8A08**
50 lb (22.7 kg)	**PBD-25851-A0A08**
100 lb (45.4 kg)	**PBD-25851-A1A08**
250 lb (113.4 kg)	**PBD-25851-A2A08**
500 lb (226.8 kg)	**PBD-25851-A3A08**
750 lb (340.2 kg)	**PBD-25851-A4A08**
1 000 lb (453.6 kg)	**PBD-25851-A5A08**
1 250 lb (567 kg)	**PBD-25851-A6A08**
1 500 lb (680.4 kg)	**PBD-25851-A7A08**
2 000 lb (907.2 kg)	**PBD-25851-A9A08**
100 lb (45.4 kg), NTEP, OIML/MID	**PBD-25851-B1A08**
250 lb (113.4 kg), NTEP, OIML/MID	**PBD-25851-B2A08**
500 lb (226.8 kg), NTEP, OIML/MID	**PBD-25851-B3A08**
750 lb (340.2 kg), NTEP, OIML/MID	**PBD-25851-B4A08**
1 000 lb (45.4 kg), NTEP, OIML/MID	**PBD-25851-B5A08**
Load cell with 15 m (49.2 ft) cable length and 316 (1.4401) stainless steel cover	
25 lb (11.3 kg)	**PBD-25851-A8AH**
50 lb (22.7 kg)	**PBD-25851-A0AH**
100 lb (45.4 kg)	**PBD-25851-A1AH**
250 lb (113.4 kg)	**PBD-25851-A2AH**
500 lb (226.8 kg)	**PBD-25851-A3AH**
750 lb (340.2 kg)	**PBD-25851-A4AH**
1 000 lb (453.6 kg)	**PBD-25851-A5AH**

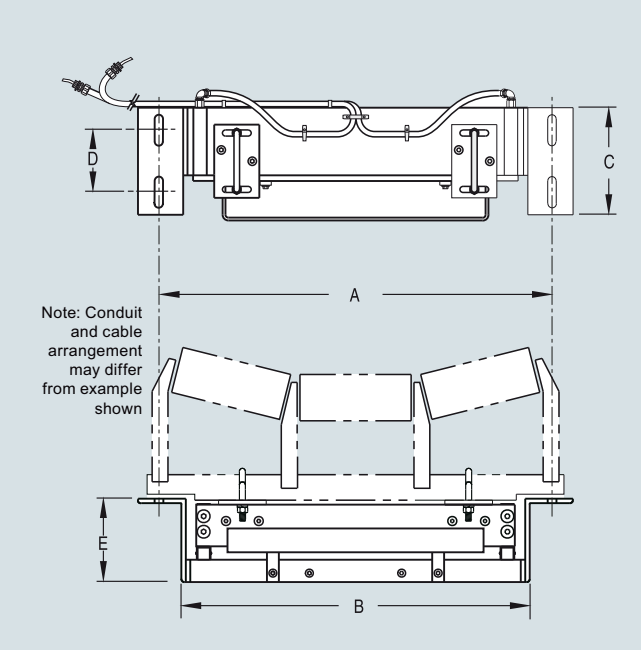
Selection and ordering data

	Article No.
1 250 lb (567 kg)	**PBD-25851-A6AH**
1 500 lb (680.4 kg)	**PBD-25851-A7AH**
2 000 lb (907.2 kg)	**PBD-25851-A9AH**
100 lb (45.4 kg), NTEP, OIML/MID	**PBD-25851-B1AH**
250 lb (113.4 kg), NTEP, OIML/MID	**PBD-25851-B2AH**
500 lb (226.8 kg), NTEP, OIML/MID	**PBD-25851-B3AH**
750 lb (340.2 kg), NTEP, OIML/MID	**PBD-25851-B4AH**
1 000 lb (453.6 kg), NTEP, OIML/MID	**PBD-25851-B5AH**
Load cell, high temperature up to 175 °C (347 °F) with 15 m (49.2 ft) cable length	
25 lb (11.3 kg)	**PBD-25851-A8TA**
50 lb (22.7 kg)	**PBD-25851-A0TA**
100 lb (45.4 kg)	**PBD-25851-A1TA**
250 lb (113.4 kg)	**PBD-25851-A2TA**
500 lb (226.8 kg)	**PBD-25851-A3TA**
750 lb (340.2 kg)	**PBD-25851-A4TA**
1 000 lb (453.6 kg)	**PBD-25851-A5TA**
1 250 lb (567 kg)	**PBD-25851-A6TA**
1 500 lb (680.4 kg)	**PBD-25851-A7TA**
2 000 lb (907.2 kg)	**PBD-25851-A9TA**
Load cell, high temperature up to 175 °C (347 °F) with 15 m (49.2 ft) cable length and 316 (1.4401) stainless steel cover	
25 lb (11.3 kg)	**PBD-25851-A8AHT**
50 lb (22.7 kg)	**PBD-25851-A0AHT**
100 lb (45.4 kg)	**PBD-25851-A1AHT**
250 lb (113.4 kg)	**PBD-25851-A2AHT**
500 lb (226.8 kg)	**PBD-25851-A3AHT**
750 lb (340.2 kg)	**PBD-25851-A4AHT**
1 000 lb (453.6 kg)	**PBD-25851-A5AHT**
1 250 lb (567 kg)	**PBD-25851-A6AHT**
1 500 lb (680.4 kg)	**PBD-25851-A7AHT**
2 000 lb (907.2 kg)	**PBD-25851-A9AHT**

	Article No.
Idler clips	
5 inch (127 mm) for 27 ... 62 inch (686 ... 1 575 mm) "A" dimensions	**7MH7723-1BT**
7 inch (178 mm) for 63 ... 74 inch (1 600 ... 1 880 mm) "A" dimensions	**7MH7723-1DF**
Calibration weights	
6.0 lb/ 2.7 kg	**7MH7724-1AB**
18 lb/ 8.2 kg	**7MH7724-1AA**
18 lb/ 8.2 kg certified weight	**A5E32423812**
Milltronics flat bar calibration weights, see page 4/53	
Note: calibration accessories should be ordered as a separate line order	

1) Only for quotation purposes, not a valid ordering option.
2) Available with Fabrication options 11 ... 18 and 41 ... 48 only, and with System specification option A only.
3) Two MSI are required to make the NTEP approved MMI.
4) Approval available with load cell options 2 ... 6 only and applicable BW500.
5) Complete specification data sheet on page 4/27 and submit with order "legal for trade" version.
6) Includes metrological approved load cells.
7) Not available with construction option 2, or system specification options B, C, D.

Dimensional drawings



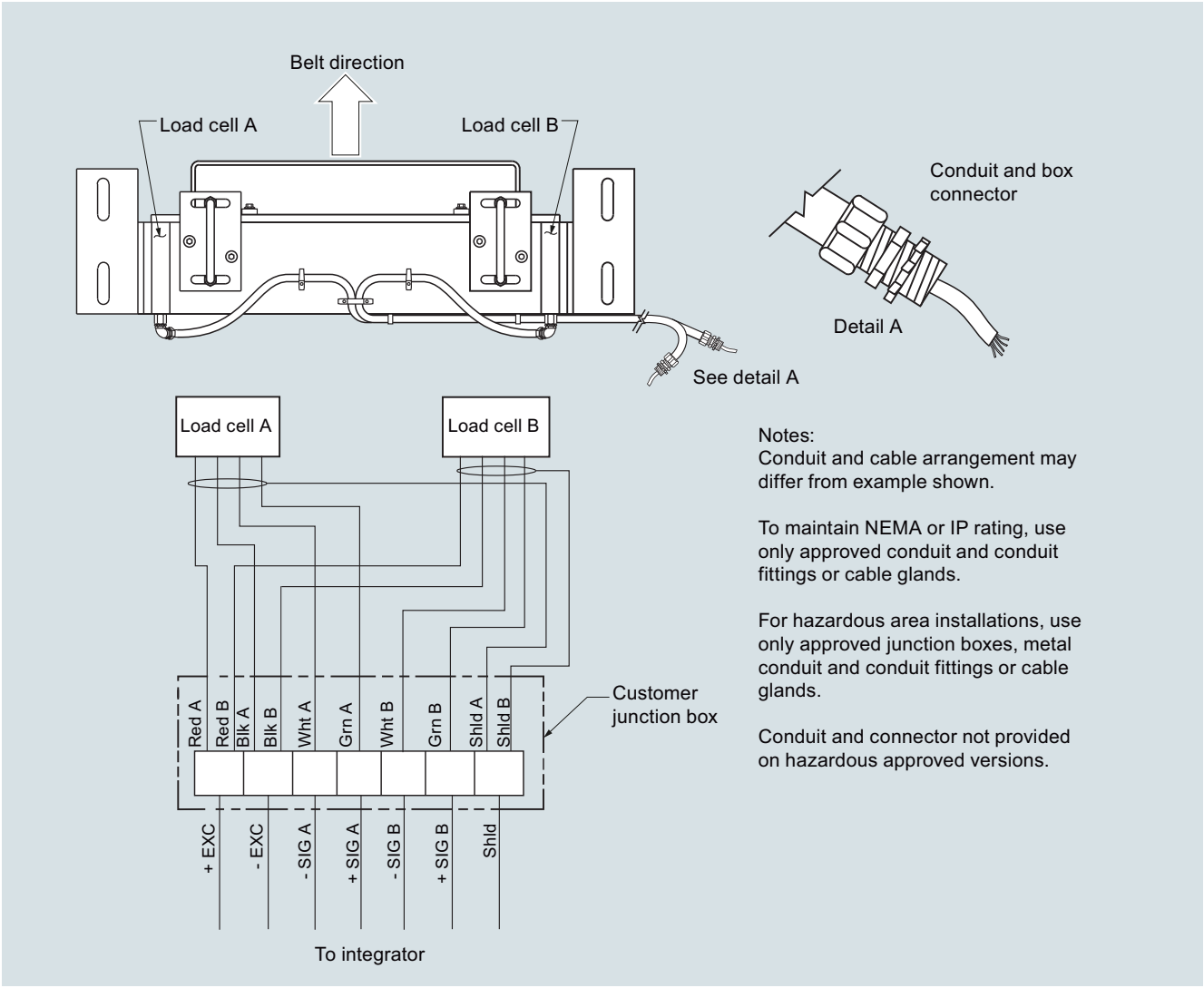
MSI dimensions

Conveyor belt width	Mounting scale width A	Minimum drop-in width B	C	D	E	Weight (approx.)
18 inch (457 mm)	27 inch (686 mm)	23.25 inch (591 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	82 lb (37 kg)
20 inch (508 mm)	29 inch (737 mm)	25.25 inch (641 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	85 lb (39 kg)
24 inch (610 mm)	33 inch (838 mm)	29.25 inch (743 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	90 lb (41 kg)
30 inch (762 mm)	39 inch (991 mm)	35.25 inch (895 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	99 lb (45 kg)
36 inch (914 mm)	45 inch (1 143 mm)	41.25 inch (1 048 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	107 lb (49 kg)
42 inch (1 067 mm)	51 inch (1 295 mm)	47.25 inch (1 200 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	116 lb (53 kg)
48 inch (1 219 mm)	57 inch (1 448 mm)	53.25 inch (1 353 mm)	9.5 inch (241 mm)	5.5 inch (140 mm)	7 inch (178 mm)	125 lb (57 kg)
54 inch (1 372 mm)	63 inch (1 600 mm)	59.25 inch (1 505 mm)	12 inch (305 mm)	8 inch (203 mm)	7 inch (178 mm)	175 lb (79 kg)
60 inch (1 524 mm)	69 inch (1 753 mm)	65.25 inch (1 657 mm)	12 inch (305 mm)	8 inch (203 mm)	7 inch (178 mm)	193 lb (88 kg)
66 inch (1 676 mm)	75 inch (1 905 mm)	71.25 inch (1 810 mm)	12 inch (305 mm)	8 inch (203 mm)	8 inch (203 mm)	229 lb (104 kg)
72 inch (1 829 mm)	81 inch (2 057 mm)	77.25 inch (1 962 mm)	12 inch (305 mm)	8 inch (203 mm)	8 inch (203 mm)	247 lb (112 kg)

Other widths available - check configuration information.
Sizes are from 18 inch (457 mm) to 96 inch (2 438 mm) in 1 inch (25.4 mm) increments.
All sizes are nominal.

Note: dimension B must be approx. 3/8 inch or 10 mm less than Y dimension of the conveyor (see Application Questionnaire at http://www.siemens.com/weighing/application-questionnaires

Circuit diagrams



MSI/MMI connections

More information

NTEP/Measurement Canada/OIML & MID Specification Data

Please complete and submit the relevant details listed below when ordering NTEP, Measurement Canada, or OIML & MID approval options	Value
NTEP	
Maximum rated capacity (TPH)	
Minimum rated capacity (TPH)	
Belt speed (FPM)	
Scale division (tons)	
Maximum loading (lb/ft)	
Measurement Canada	
Rate	
Speed (min/max m/s, FPM)	
Test load (kg/m, lb/ft)	

Please complete and submit the relevant details listed below when ordering NTEP, Measurement Canada, or OIML & MID approval options	Value
OIML & MID	
Totalization scale interval (tonnes)	
Belt speed max/min (m/s)	
Maximum flow rate (MTPH)	
Minimum flow rate (MTPH)	
Minimum totalized load (tonnes)	
Product to be weighed	
Maximum capacity (tonnes)	
Weigh length (m)	
Ratio between minimum net load and maximum capacity	
Zero testing should have a duration of at least (____) revolutions	

Milltronics WD600

Overview

Milltronics WD600 is a light- to medium-duty slider bed belt scale used for process and load-out control in manufacturing, including the food, pharmaceutical and tobacco industries.

Benefits

- Simple installation
- Long weigh span for more retention time on load cells

Application

WD600 belt scale works with an existing flat belt conveyor and the selected Siemens integrator. As material is moving along the conveyor belt and travels over the belt scale, it exerts a force proportional to the material load through the suspended weighbridge to the load cells.

WD600 belt scale reacts only to the vertical component of the applied force. The resulting movement in each load cell is sensed by its strain gauges. When the strain gauges are excited by voltage from the electronic integrator, they produce an electrical signal proportional to weight, which is then applied to the integrator.

The vertical movement of the load cells is limited by the positive overload stop incorporated into the design of the load cell mount.

Technical specifications

Milltronics WD600	
Accuracy[1)]	± 0.5 … 1 % totalization over 25 … 100 % operating range, application dependent
Repeatability	± 0.1 %
Belt width	12, 18, 24, 30, 36, 42, 48 inch (300, 450, 600, 750, 900, 1 000, 1 200 mm)
Belt speed	2.0 m/s (400 fpm) maximum
Capacity	Up to 100 t/h
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2)]
Conveyor idler/slider profile	Horizontal
Loading	• Minimum 1.0 kg/m (0.6 lb/ft) • Maximum 76 kg/m (51 lb/ft)
Load cell	
Construction	17-4 PH (1.4568) stainless steel or nickel plated alloy steel Strain gauge protection: silicon (nickel plated version only)
Degree of protection	• Stainless steel: IP68 • Nickel plated alloy steel: IP66
Cable length	3 m (10 ft)
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 Nickel-plated range: 10, 15, 20, 30, 50 kg
Overload	150 % of rated capacity
Temperature	• -40 … +65 °C (-40 … +149 °F) operating range • -10 … +40 °C (14 … 104 °F) compensated
Scale construction	• Stainless steel construction, bead blast finish (1 ... 6 µm, 40 ... 240 µin) • Acetal sliders
Hazardous locations	Consult the factory
Approvals	CE, meets FDA/USDA requirements for food processing, RCM, EAC, KCC

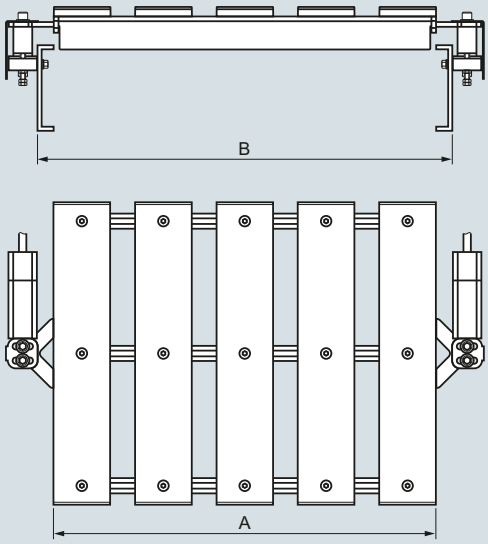
1) Accuracy subject to: on factory approved installations the belt scale system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of 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.
2) Review by Siemens application engineer required.

Selection and ordering data

	Article No.
Milltronics WD600 ↗	**7MH7185-**
A low- to medium- capacity scale for light to medium belt loading. 304 stainless steel construction with Delrin sliders. Load cells are available in nickel plated, or stainless steel. Two calibration weights are required and are ordered as separate line item. Refer to Calibration weights.	**A0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Belt width	
12 inch (300 mm)	**1**
18 inch (450 mm)	**2**
24 inch (600 mm)	**3**
30 inch (750 mm)	**4**
36 inch (900 mm)	**5**
42 inch (1 000 mm)	**6**
48 inch (1 200 mm)	**7**
Load cell capacity	
Nickel plated	
10 kg (22 lb)	**D**
15 kg (33.1 lb)	**E**
20 kg (44 lb)	**F**
30 kg (66.2 lb)	**G**
50 kg (110 lb)	**L**
Stainless steel	
6 kg (13.2 lb)	**H**
12 kg (26.4 lb)	**J**
30 kg (66.2 lb)	**K**
Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

	Article No.
Spare parts	
Load cells	
Stainless steel	
6 kg (13.2 lb)	**7MH7725-1EG**
12 kg (26.4 lb)	**7MH7725-1EH**
30 kg (66.2 lb)	**7MH7725-1EJ**
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**
50 kg (110 lb)	**7MH7725-1EP**
Slider bar middle UHMW PE (for old style WD600)	**7MH7723-1KF**
Slider bar side UHMW PE (for old style WD600)	**7MH7723-1KE**
Slider bar acetal	**7MH7723-1KG**
Test chain 1.62 lb/ft (2.41 kg/m), 60 inch	**7MH7723-1NF**
Calibration Hanger Weights	
200 g (0.4 lb)	**7MH7724-1AF**
500 g (1.1 lb)	**7MH7724-1AG**
1 000 g (2.2 lb)	**7MH7724-1AH**
2 000 g (4.4 lb)	**7MH7724-1AJ**
3 500 g (7.7 lb)	**7MH7724-1BQ**
5 000 g (11 lb)	**7MH7724-1AK**
7 500 g (16.5 lb)	**7MH7724-1BR**
8 500 g (18.7 lb)	**7MH7724-1BS**
10 000 g (22 lb)	**7MH7724-1BT**
12 000 g (26.5 lb)	**7MH7724-1BU**
15 000 g (33.1 lb)	**7MH7724-1BV**
Note: calibration accessories should be ordered as a separate item on the order.	

Dimensional drawings

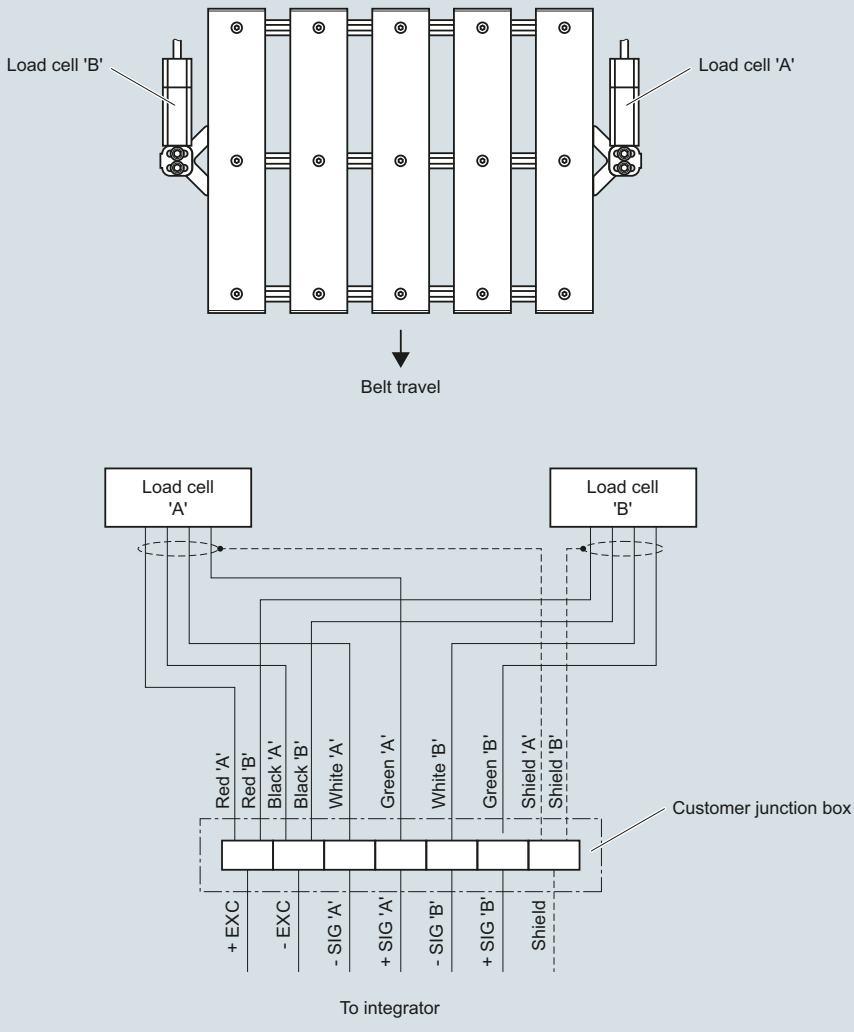


Belt width	A	B (min.)	B (max.)
12 (300)	14.25 (362)	15 (381)	16.5 (419)
18 (450)	20.25 (514)	21 (533)	22.5 (572)
24 (600)	26.25 (667)	27 (686)	28.5 (724)
30 (750)	32.25 (819)	33 (838)	34.5 (876)
36 (900)	38.25 (972)	39 (991)	40.5 (1 029)
42 (1 000)	44.25 (1 124)	45 (1 143)	46.5 (1 181)
48 (1 200)	50.25 (1 276)	51 (1 295)	52.5 (1 334)

WD600, dimensions in mm (inch)

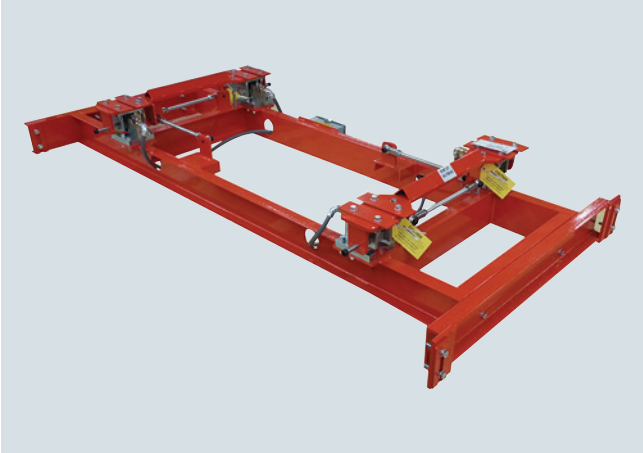
4

Circuit diagrams



WD600 connections

Overview



SITRANS WB300 is a heavy-duty, full-frame four load cell belt scale used for process and load-out control. Rails not included with belt scale.

Benefits

- Outstanding reliability and repeatability
- Fast reaction to product loading; capable of monitoring high product temperatures
- Rugged construction
- Shear beam design load cells with unique mounting do not react to horizontal forces from rollers/aprons

Application

SITRANS WB300 belt scale provides continuous in-line weighing on a variety of products in primary and secondary industries. It is proven in a wide range of tough applications from clinker (in cement production), to mining, iron, and steel.

The WB300's proven use of shear beam style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide optimum accuracy and repeatability even with uneven loading and fast pan speeds.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the WB300 provides indication of flow rate, totalized weight, belt load, and belt speed of bulk solid materials. A speed sensor monitors conveyor pan speed for input to the integrator.

The WB300 is installed in a simple drop-in assembly and has a complete full length frame to ensure support during operation. Existing rails are then attached to the mounting points. Maintenance is kept to a minimum, with just periodic calibration checks required.

Technical specifications

SITRANS WB300	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on pan conveyor rails
Typical application	Control in cement production
Measurement accuracy	
Accuracy[1)]	± 2 % or better of totalization over 33 … 100 % operating range
Repeatability	± 0.1 %
Medium conditions	
Material temperature	-40 … +150 °C (-40 … +300 °F)
Apron design	
Pan width	• 24 … 72 inch • Equivalent to 600 … 1 800 mm in metric size
Pan speed	Up to 1 m/s (200 fpm)
Capacity	Up to 5 000 t/h (5 500 STPH) at maximum pan speed. Please contact a Siemens representative for higher rates.
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2)]
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction
Degree of protection	IP67
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 ± 0.002 mV/V excitation (nominal) at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity • Maximum ranges	500, 1 000, 2 500, 4 000, 5 000 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -40 … +75 °C (-40 … +167 °F) operating range • -10 … +40 °C (14 … 104 °F) compensated
Weight	Contact factory
Interconnection wiring (to integrator)	• < 150 m (500 ft) 18 AWG (0.75 mm²) 10 conductor shielded cable • > 150 … 300 m (500 … 1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm²), 12 conductor shielded cable
Approvals	CE, RCM

1) Accuracy subject to: on factory approved installations the belt scale 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.

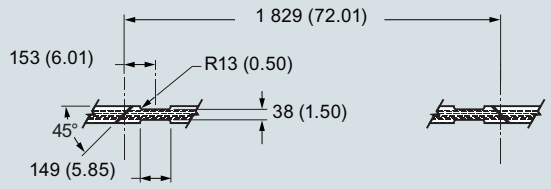
2) Review by Siemens application engineer required.

Selection and ordering data

SITRANS WB300

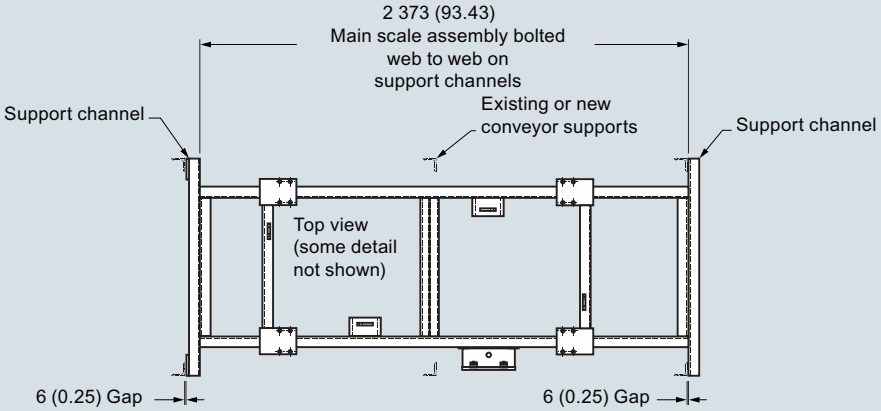
SITRANS WB300 is a heavy-duty, full-frame four load cell belt scale used for process and load-out control. Rails not included with belt scale.

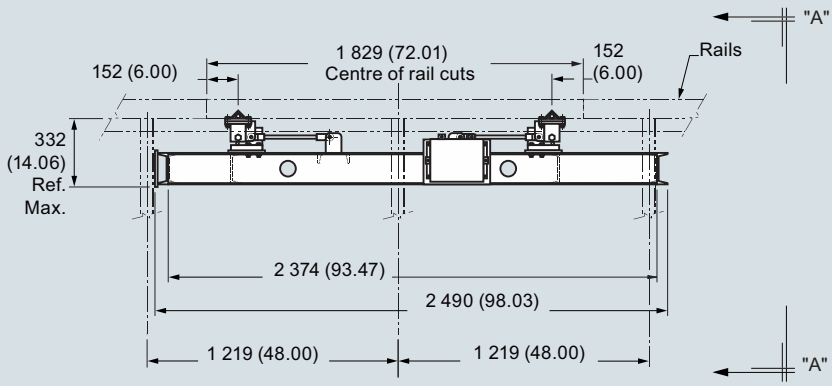
Dimensional drawings

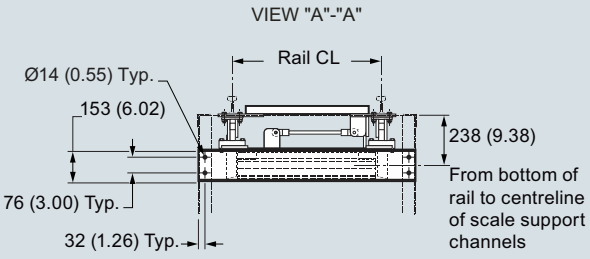


Bottom view of rails to be cut by customer notches to facilitate scale mounting brackets

Top view of rails and cross ties to top of load cells (main scale assembly not shown)

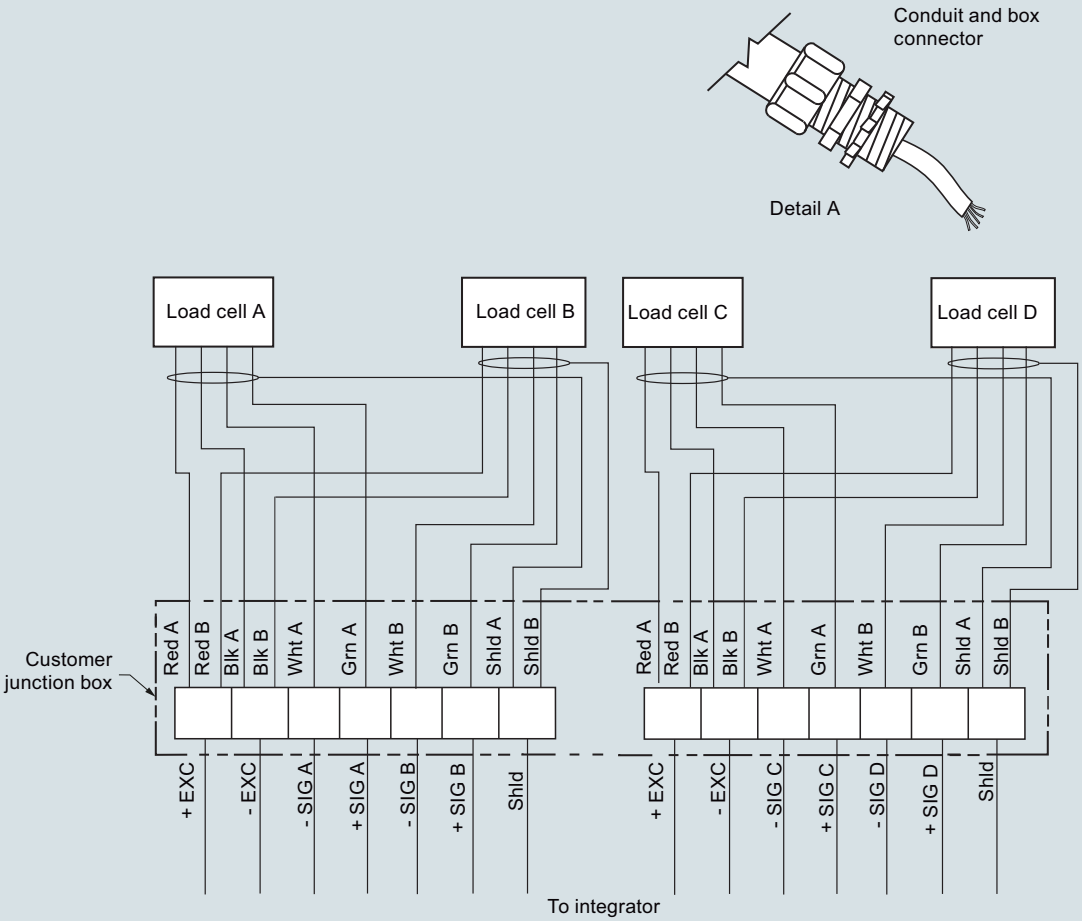






SITRANS WB300, dimensions in mm (inch)

Circuit diagrams



Notes:
Conduit and cable arrangement may differ from example shown.

To maintain NEMA or IP rating, use only approved conduit and conduit fittings or cable glands.

SITRANS WB300 connections

Overview

SITRANS WB310 is a heavy-duty, full-frame two load cell, pivoted pan based, belt scale used for process monitoring.

Benefits

- Outstanding reliability and repeatability
- Unique parallelogram style load cell design
- Fast reaction to product loading; capable of monitoring low to high material loads
- Rugged construction
- Heavy duty slider pan with counter weight-pivoted design to minimized dead loads
- Suitable for uneven or light product loading

Application

SITRANS WB310 belt scale provides continuous in-line weighing on a variety of products in recycling industries. It is proven in a wide range of tough applications from sorting (in-coming processes) to production monitoring.

SITRANS WB310 uses parallelogram-style load cells that result in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide optimum accuracy and repeatability even with uneven loading.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, WB310 provides indication of flow rate, totalized weight, belt load, and belt speed of bulk solid materials. A speed sensor monitors conveyor belt speed for input to the integrator.

SITRANS WB310 is installed in a simple drop-in operation and has a complete full length frame to ensure support during operation. With minimal rotating parts, maintenance is kept simple and easy, with just periodic calibration checks and greasing of bearings required.

Technical specifications

SITRANS WB310	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on belt conveyor pan
Typical application	Control in recycling
Measurement accuracy	
Accuracy[1)]	± 5 % or better of totalization over 25 … 100 % operating range
Repeatability	± 0.1 %
Medium conditions	
Material temperature	-40 … +75 °C (-40 … +167 °F)
Belt design	
Belt width	• 54 … 72 inch • Equivalent to 1 300 … 1 800 mm in metric size
Belt speed	Up to 1 m/s (200 fpm)
Capacity	Up to 5 000 t/h (5 500 STPH) at maximum belt speed. Please contact a Siemens representative for higher rates.
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[2)]
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover.
Degree of protection	IP67
Cable length	3 m (10 ft) Note: to calculate installation cable length subtract 3 048 mm (120 inch) from the "A" dimension
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 ± 0.002 mV/V excitation (nominal) at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity • Maximum ranges	50, 100, 250, 500 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -50 … +75 °C (-58 … +167 °F) operating range • -40 … +65 °C (-40 … +149 °F) compensated
Weight	Contact factory
Interconnection wiring (to integrator)	• < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable • > 150 … 300 m (500 … 1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm²), 8 conductor shielded cable
Approvals	CE, RCM

1) Accuracy subject to: on factory approved installations the belt scale 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.t

2) Review by Siemens application engineer required.

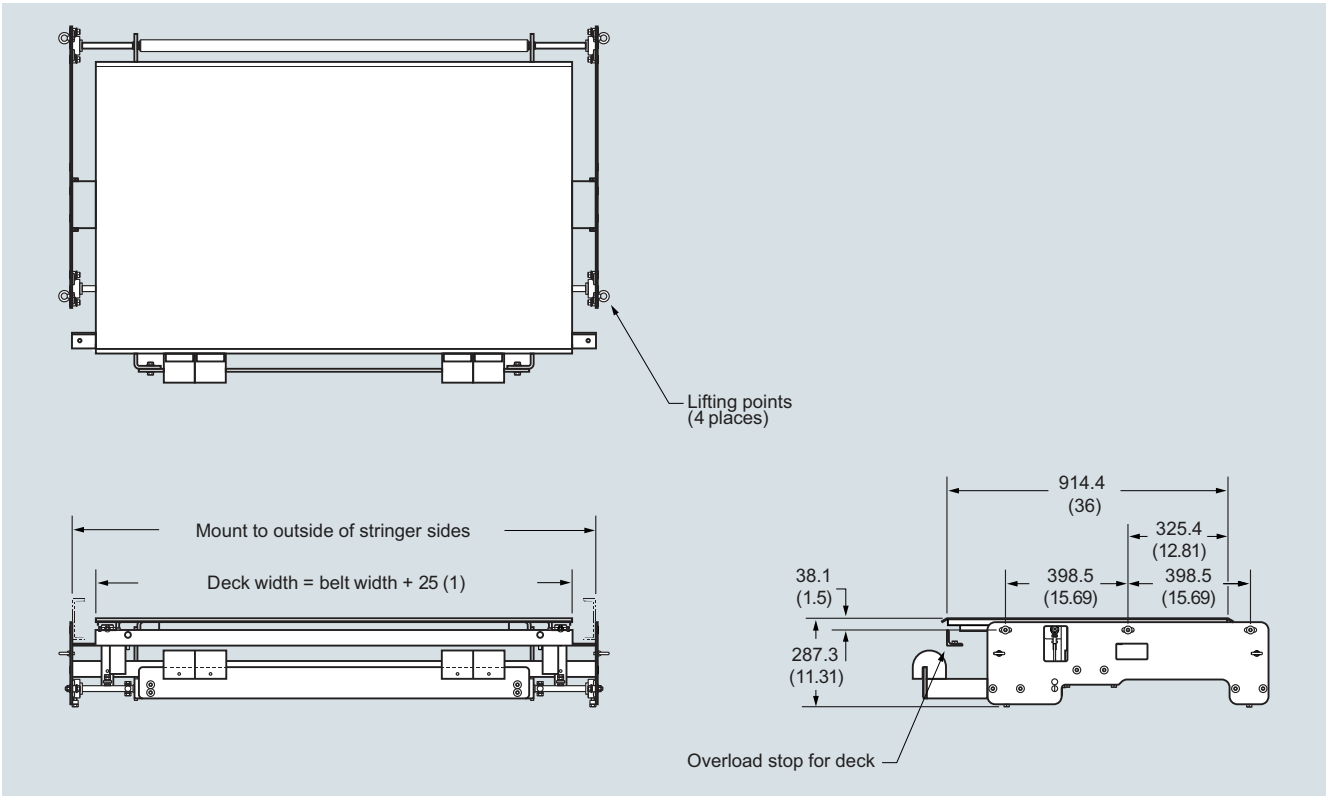
SITRANS WB310

Selection and ordering data

SITRANS WB310

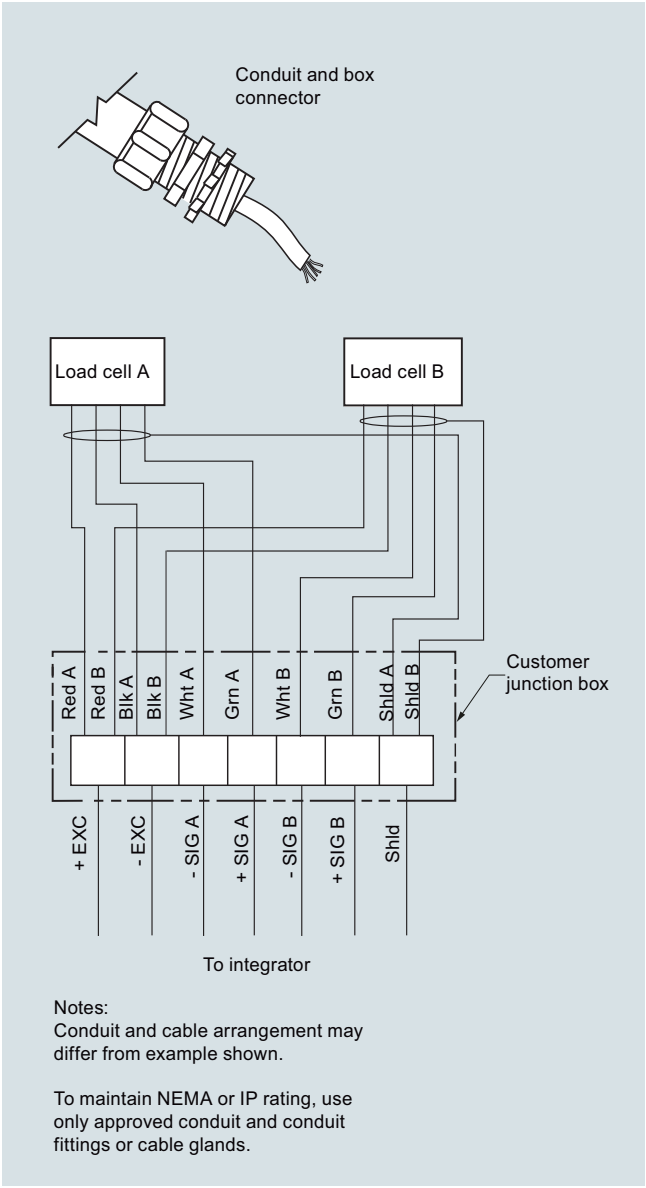
SITRANS WB310 is a heavy-duty, full-frame two load cell, pivoted pan based, belt scale used for process monitoring.

Dimensional drawings



SITRANS WB310, dimensions in mm (inch)

Circuit diagrams



Notes:
Conduit and cable arrangement may differ from example shown.

To maintain NEMA or IP rating, use only approved conduit and conduit fittings or cable glands.

SITRANS WB310 connections

Milltronics TASS

Overview

Milltronics TASS is a compact low-profile, wheel-driven return belt speed sensor, ideal for use on mobile crushers and in constricted spaces.

Benefits

- Rugged design
- Easy, low cost installation
- Compact, low-profile speed sensor
- IP67 rated

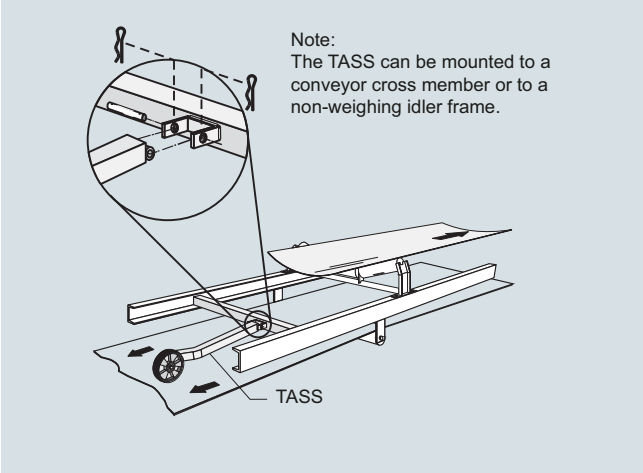
Application

Milltronics TASS speed sensor operates in conjunction with a conveyor belt scale, providing signals to an integrator (Milltronics BW500, or SIWAREX FTC) which computes the rate of material being conveyed. The trailing arm speed sensor monitors conveyor belt speed, with the output signal transmitted by cable connection to the integrator.

Easily installed close to the belt scale assembly, the TASS provides a signal generated as the wheel rotates on the return belt. Pulses are generated by the internal proximity switch detecting the rotation of the five spoked wheel. The TASS is mounted to the static beam of the belt scale or to a structural cross member via a pivoting bracket assembly.

The TASS is a compact, low-profile, rugged speed sensor, most often used on mobile crusher applications where space is limited. The TASS output can be applied to any Milltronics belt scale integrator.

Design



TASS Installation

Technical specifications

Milltronics TASS	
Mode of operation	
Measuring principle	Inductive proximity sensor provides pulse to integrator
Typical application	Mobile crusher
Input	• Bi-directional wheel rotation • 25 … 350 rpm
Output	• Inductive proximity sensor • Open collector, NPN, sinking output, max. 200 mA • Pulses: 5 per revolution • 9.947 pulses/m, 3.03 pulses/ft
Rated operating conditions	
Operating temperature	-25 … +70 °C (-13 … +158 °F)
Max. belt speed	3 m/s (590 fpm)
Degree of protection	IP67
Design	
Trailing arm assembly	Painted mild steel
Wheel	160 mm (6.3 inch) diameter cast aluminum with polyurethane tread
Power supply	10 … 35 V DC, 15 mA at 24 V DC maximum
Wiring	
Brown	+ Excitation (10 … 35 V DC)
Black	+ Signal
Blue	- Common
Interconnection wiring (to integrator)	• 5 m, 3 conductor shielded PVC cable, 3 x 0.25 mm^2 (23 AWG), protected with 1 000 mm of flexible conduit • 300 m (1 000 ft) maximum cable run
Approvals	CE, RCM, EAC, KCC

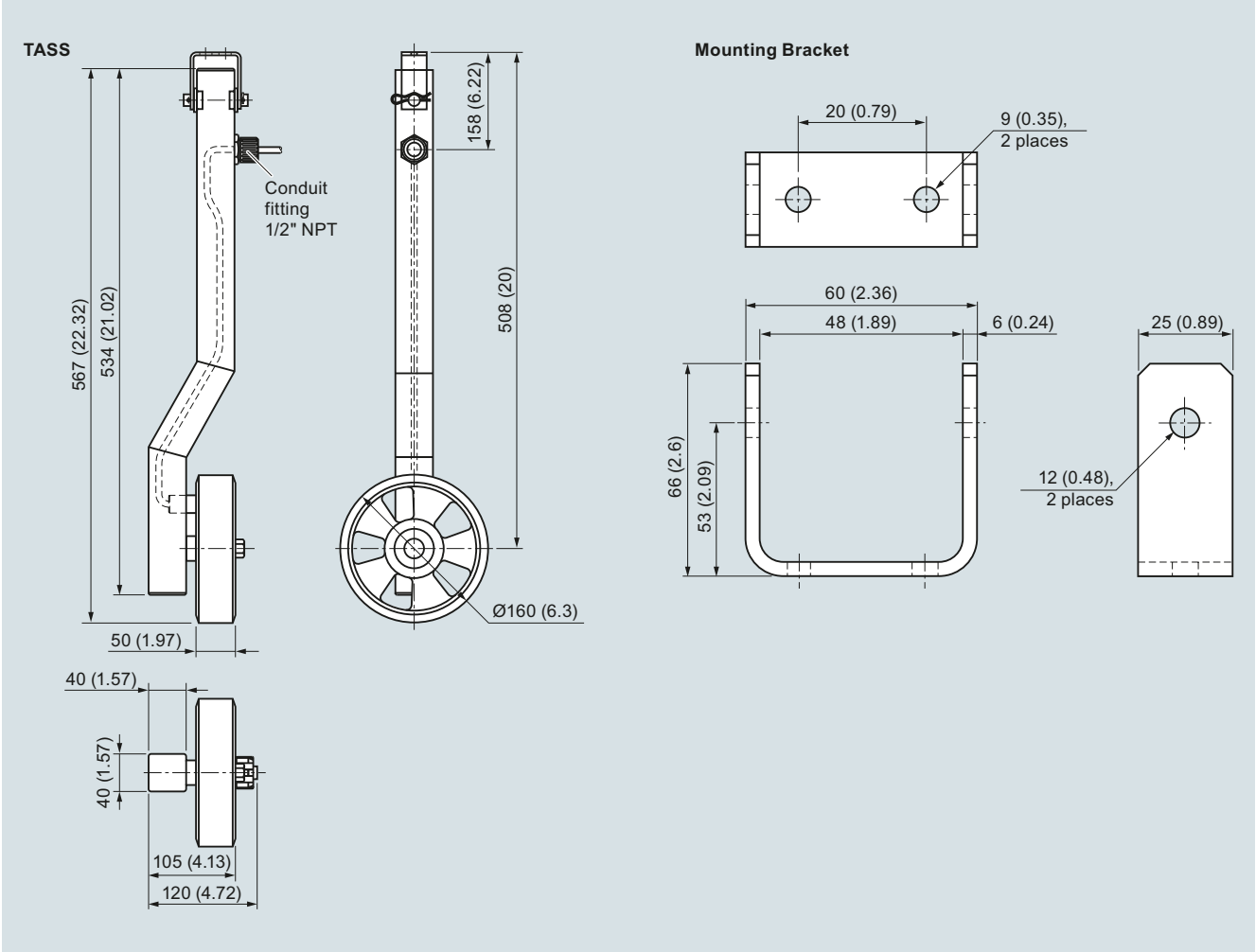
Selection and ordering data

	Article No.
Milltronics TASS speed sensor ↗	**7MH7131-**
Compact, low-profile, wheel driven return belt speed sensor for belt conveyors; ideal for use on mobile crushers and in constricted spaces.	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Model	
5 pulses per revolution	**1**
Fabrication	
Standard, C5-M rated polyester painted mild steel	**A**
Stainless steel 304 (1.4301), bead blast finish (1 ... 6 µm, 40 ... 240 µin)	**B**
Note: wheel is aluminum for all versions	
Mounting options	
Complete with standard mounting kit	**A**
Approvals	
CE, RCM, EAC, KCC	**1**

	Order Code
Further designs	
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)] Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instructions	
All literature is available to download for free, in a range of languages, at	
http://www.siemens.com/weighing/documentation	

Spare parts	Article No.
TASS wheel	**7MH7723-1AN**
TASS proximity switch	**7MH7723-1AP**
TASS wheel, stainless steel sealed bearing	**7MH7723-1GW**
Conduit replacement kit	**7MH7723-1NA**

Dimensional drawings



TASS, dimensions in mm (inch)

Milltronics RBSS

Overview

Milltronics RBSS is a high resolution, wheel-driven return belt speed sensor.

Benefits

- Rugged design
- IP67 rated
- Easy, low cost installation
- Accurate belt speed detection

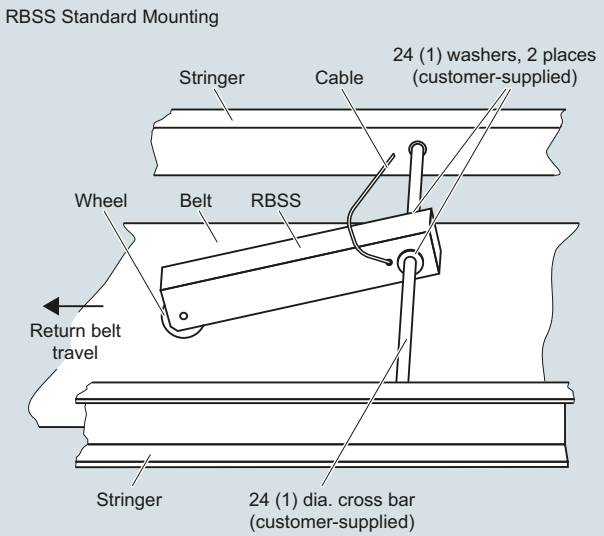
Application

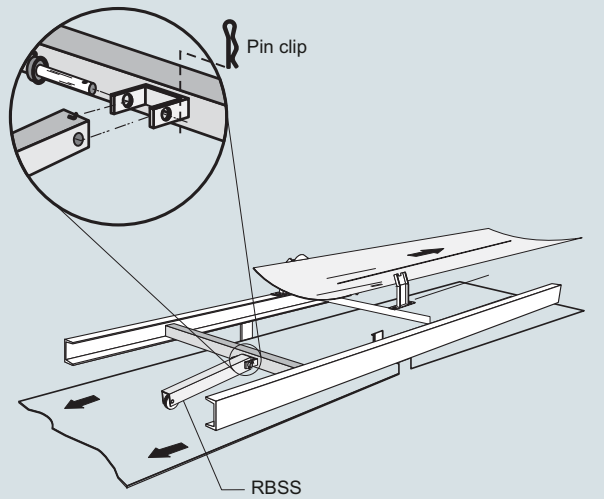
Milltronics RBSS monitors conveyor belt speed, with the output signal transmitted by cable connection to the integrator (Milltronics BW500, or SIWAREX FTC).

Easily installed close to the belt scale assembly, the RBSS provides a signal generated as the wheel on the sensor rotates on the return belt. To secure this cost-effective unit in place, position a cross bar between stringers - either just before or after a return belt idler, or use the optional mounting bracket. The weight of the RBSS ensures positive rotation of the wheel in the middle of the return belt, and pulses from the magnetic sensor are generated by the rotation of the 60 toothed speed sprocket driven by the wheel.

The RBSS output can be applied to any belt scale integrator.

Design





RBSS installation, dimensions in mm (inch)

Technical specifications

Milltronics RBSS	
Mode of operation	
Measuring principle	Magnetic proximity sensor provides pulse to integrator
Typical application	Aggregate belt conveyors
Input	Wheel rotation 2 … 450 rpm, bi-directional
Output	• 60 pulses per revolution, 2 … 450 Hz, 150.4 pulses/m (4.58 pulses/ft) • RBSS: open collector, NPN sinking output, max. 17 mA • RBSS IS: NAMUR NC, load current, 0 … 15 mA
Rated operating conditions	
Ambient temperature	• RBSS: -40 … +105 °C (-40 … +220 °F) • RBSS IS: -25 … +100 °C (-14 … +212 °F)
Max. belt speed	3 m/s (590 fpm)
Degree of protection	IP67
Design	
Trailing arm	Painted mild steel
Sensor wheel	127 mm (5 inch) diameter, polyurethane tread
Power supply	• RBSS: 4.5 … 28 V DC, 16 mA • RBSS IS: 5 … 25 V DC from IS switch isolator
Interconnection wiring (to integrator)	• RBSS: 3 m, 3 conductor 22 AWG shielded cable - 300 m (1 000 ft) maximum cable run • RBSS IS: 2 m, 2 conductor 26 AWG PVC covered cable - 300 m (1 000 ft) maximum cable run to IS switch isolator - 300 m (1 000 ft) maximum cable run from IS switch isolator and integrator
Approvals	
RBSS	CE, RCM, EAC, KCC[1]
RBSS IS (with suitable IS switch isolator or switch amplifier)[2]	• ATEX II 1G Eex ia IIC T6 • ATEX II 1D Ex iaD 20 T 108 °C • CSA/UL: Class I, Div. 1, Groups A, B, C, and D; Class II, Div. 1, Groups E, F, and G; Class III, Div. 1, EAC Ex • CE, RCM, EAC, KCC[2]
Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N)	• ATEX II 1G EEx ia IIC T6 • ATEX II 1D Ex iaD 20 T 108 °C • CE, CSA, UL[2]
Optional switch isolator (required for RBSS IS)[3]	
• Pepperl+Fuchs #KFA5-SOT2-Ex2 or #KFA6-SOT2-Ex2	• ATEX II (1) G [EEX ia] IIC • CSA/UL: Class 1, Div. 1, Groups A, B, C, and D. Class II, Div. 1, Groups E, F, and G, Class III, EAC Ex • CE, RCM, EAC, KCC[2]

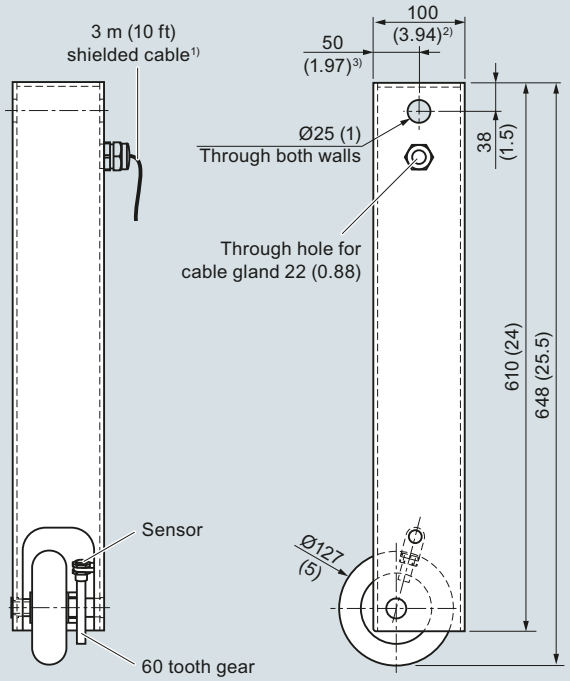
Selection and ordering data

	Article No.
Milltronics RBSS speed sensor ↗ A high resolution wheel-driven return belt speed sensor	**7MH7134-**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Model	
60 pulses per revolution	**2**
Fabrication	
Standard, C5-M rated polyester painted mild steel	**A**
Mounting options	
With mounting kit	**B**
Approvals	
CE, RCM, KCC, ATEX II 1G, Ex ia IIC T6, ATEX II 1D Ex iaD 20 T108 °C, CSA/UL Class I, Div. 1, Groups A, B, C, and D; Class II, Div. 1, Groups E, F, and G; Class III, Div. 1, EAC Ex[6]	**2**
CE, RCM, EAC, KCC	**3**
Switch isolator	
Not required	**0**
115 V AC[4]	**1**
230 V AC[4]	**2**
Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	
Spare parts	Article No.
Wheel, 127 dia-polyurethane, sealed bearing	**7MH7723-1FX**
Magnetic proximity switch	**7MH7723-1GA**
Switch, inductive, NJ0.8-5GM-N (approvals option 2)[4]	**7MH7723-1AS**
P & F switch isolator, 115 V AC[4]	**7MH7723-1EB**
P & F switch isolator, 230 V AC[4]	**7MH7723-1EC**
Wheel and shaft, 152 mm diameter[5]	**7MH7723-1EN**
60 tooth gear[5]	**7MH7723-1EQ**
Bearing (two required)[5]	**7MH7723-1ER**
Accessories	
Conduit kit	**7MH7723-1NA**

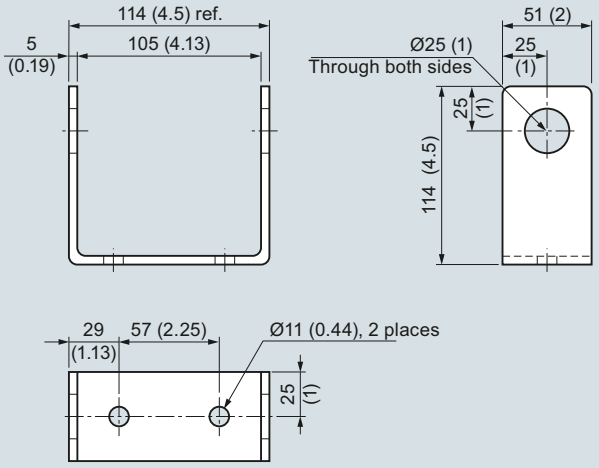
1) EMC performance available upon request.
2) Approvals for RBSS IS are based on internally mounted NAMUR slotted proximity switch (Pepperl+Fuchs #NJ0.8-5GM-N) and use of suitable IS switch isolator (amplifier). Please see RBSS operating Instructions for more information.
3) Approval ratings for the proximity switch and IS switch isolator are the property of Pepperl+Fuchs. Copies of these Approval Certificates may be obtained at http://www.siemens.com/weighing/documentation
4) Required with RBSS IS.
5) For use with old style RBSS PBD-51033452.
6) Switch isolator required.

Dimensional drawings

RBSS



Mounting Bracket



1) Cable for RBSS (IS, 5 ... 25 V) and RBSS (CE, 10 ... 30 V) is 2 m (6.5 ft).
2) Dimension equals 102 (4) if manufactured in Canada.
3) Dimension equals 51 (2) if manufactured in Canada.

RBSS, dimensions in mm (inch)

Overview

SITRANS WS300 is a low- to high-resolution shaft-driven speed sensor.

Benefits

- Compact and economical
- Easy, low-cost installation
- Accurate belt speed detection
- Optional resolutions for measurement over a range of belt speeds
- Corrosion resistant

Application

SITRANS WS300 speed sensor operates in conjunction with a conveyor belt scale, providing a signal to an integrator which computes the rate of material being conveyed. At only 1.22 kg (2.68 lb), it is one of the lightest and most durable units ever developed for monitoring conveyor belt speed. With its rugged cast aluminum housing, it is suitable for outdoor installation, and its low weight prolongs bearing life.

It is directly coupled to a rotating tail or bend pulley shaft to ensure accurate belt-travel readout, eliminating problems caused by belt slippage or material build-up. The WS300 converts shaft rotation into a pulse train of 32, 256, 1 000 or 2 000 pulses per revolution using a high precision rotary optical encoder. The digital signal is transmitted as speed input to any Siemens integrator for calculation of belt speed, flow rate and totalized weight.

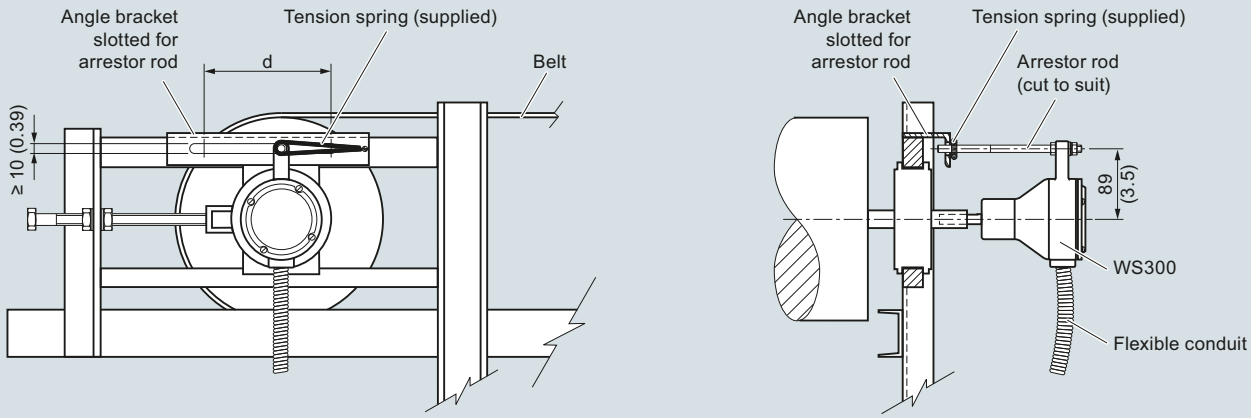
This low- to high-resolution speed sensor provides a frequency signal proportional to the shaft speed, enabling a range of speeds to be read accurately. The quadrature type shaft encoder prevents erroneous speed signals due to vibration or shaft oscillation. The WS300 is easily mounted and is bi-directional for either clockwise or counter-clockwise belt travel.

The IS version uses an inductive proximity switch detecting rotating targets.

Design

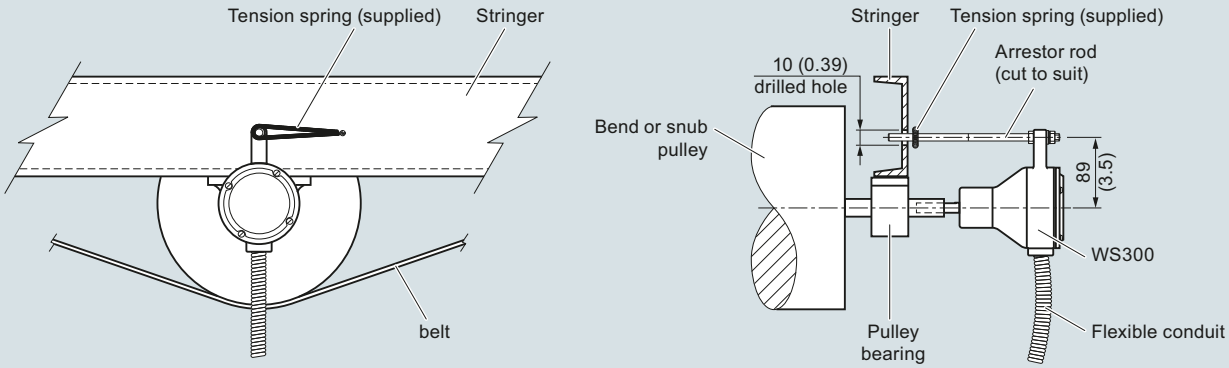
Mounting

Mounting to a Tail Pulley



Notes:
Distance 'd' is the take-up travel on the tail pulley.
When adjusting the belt take-up, ensure that there is play on the arrestor rod. If the arrestor rod is pushed against the end of its travel slot, premature bearing wear may result.

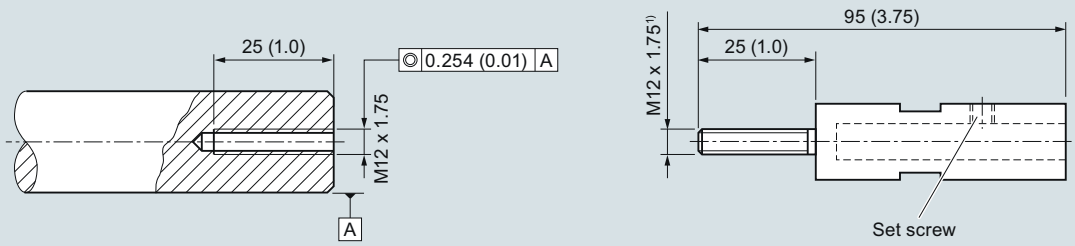
Mounting to a Bend or Snub Pulley



Notes:
When mounting to a bend or a snub pulley only, a 10 mm (0.39 inch) drilled hole is required for the arrestor rod.

WS300 mounting, in mm (inch)

Mounting using optional threaded shaft coupling



1) Use adhesive when installing threaded shaft coupling (e.g. Loctite).

WS300 mounting using threaded shaft coupling, in mm (inch)

Technical specifications

SITRANS WS300	
Mode of operation	
Measuring principle	Standard: pulse from shaft rotation using high precision rotary optical encoder IS: pulse from inductive proximity switch
Typical application	When a low- to high-resolution speed sensor is required
Input	Shaft rotation 0.3 … 2 000 rpm, bi-directional, resolution dependent
Output	• Unidirectional open collector, NPN, sinking output • Standard: 10 … 30 V DC, 25 mA max. • IS: NAMUR NC, load current, 0 … 15 mA • 32, 256, 1 000, or 2 000 pulses per revolution (ppr) • 32 ppr: 2 000 max. rpm, 1 066 Hz • 256 ppr: 2 000 max. rpm, 8 530 Hz • 1 000 ppr: 900 max. rpm, 15 000 Hz • 2 000 ppr: 450 max. rpm, 15 000 Hz
Rated operating conditions	
Ambient temperature	Standard: -40 … +70 °C (-40 … +158 °F) IS: -25 … +100 °C (-13 … +212 °F)
Degree of protection	NEMA 4X, Type 4X, IP65
Design	
Enclosure	• Rated NEMA 4X, Type 4X, IP65 • Painted aluminum • Stainless steel (optional)
Power supply	• Standard: 10 … 30 V DC, 60 mA max. • IS: 5 … 16 V DC, 25 mA max. (from IS switch isolator)
Cable	
Recommended	• Standard: 3-wire shielded, 0.82 mm² (18 AWG) • IS: 2-wire shielded 0.324 mm² (22 AWG) • Max. run 305 m (1 000 ft)

SITRANS WS300	
Approvals	
WS300 Standard	
• General	• CE, RCM, EAC, KCC
Hazardous	• CSA/FM Class II, Div. 1, Groups E, F, G; Class III • ATEX I M1, ATEX II 2D Ex tD A21 IP65 T170 °C • MSHA • EAC Ex, RTN • IEC Ex, Ex tD A21 IP65 T70 °C
WS300 IS (with suitable IS switch isolator or switch amplifier)[1]	• ATEX II 1G EEx ia IIC T6 • ATEX II 1D Ex iaD 20 T 108 °C • CSA/UL: Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div. 1 • CE, RCM[2]
Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N)	• ATEX II 1G EEx ia IIC T6 • ATEX II 1D Ex iaD 20 T 108 °C • CSA, UL • CE[2]
Optional switch isolator (required for WS300 IS)[3]	
• Pepperl+Fuchs #KFA5-SOT2-Ex2 or #KFA6-SOT2-Ex2	• ATEX II (1) G [EEX ia] IIC • CSA/UL: Class 1, Div. I, Groups A, B, C, and D. Class II, Div. 1, Groups E, F, and G, Class III • CE[2]

1) Approvals for WS300 IS are based on internally mounted NAMUR proximity switch (Pepperl+Fuchs #NJ0.8-5GM-N) and use of suitable IS switch isolator (amplifier). Please see WS300 operating instructions for more information.
2) Approvals for WS300 IS are based on internally mounted NAMUR slotted proximity switch (Pepperl+Fuchs #NJ0.8-5GM-N) and use of suitable IS switch isolator (amplifier). Please see WS300 operating instructions for more information.
3) Approval ratings for the proximity switch and IS switch isolator are the property of Pepperl+Fuchs. Copies of these approval certificates may be obtained at http://www.siemens.com/weighing/documentation.

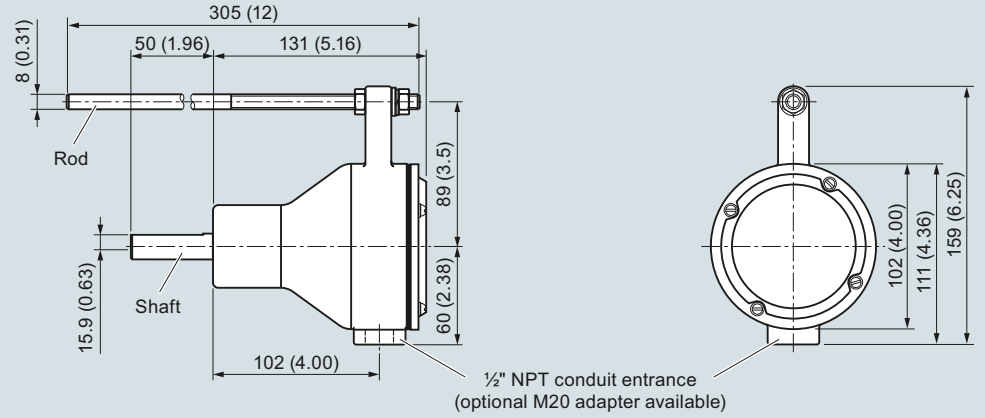
Selection and ordering data

	Article No.
SITRANS WS300 speed sensor ↗	**7MH7177-**
A medium- to high-resolution shaft-driven speed sensor used with Milltronics belt scales.	**0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Resolution (pulses per revolution)	
32	**1**
256	**2**
1 000	**3**
2 000	**4**
Enclosure	
C5-M rated polyester painted aluminum, NEMA 4X	**A**
304 (1.4301) stainless steel, vibra finish NEMA 4X	**B**
Approvals	
CSA/FM Class II, Div. 1, Groups E, F, G Class III ATEX II 2D, Ex tD A21 IP65 T70 °C, EAC Ex CE, RCM, IEC Ex, Ex tD A21 IP65 T70 °C	**A**
CSA/UL Class I, Div. 1, Groups A, B, C, and D; Class II, Div. 1, Groups E, F, and G; Class III, Div. 1, ATEX II 1G, EEx ia IIC T6, ATEX II 1D Ex iaD 20 T108 °C, CE, RCM[1)2)]	**B**
MSHA, ATEX II 1GD, Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, ATEX I M1, Ex ia I Ma, IEC Ex 1GD, Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, IEC Ex I M1, Ex ia I Ma	**C**
CE, RCM, EAC, KCC	**D**
Connections	
Standard, up to 2 integrators	**1**
Multiple, up to 10 integrators	**2**
Switch isolator	
Not required	**0**
115 V AC[3)]	**1**
230 V AC[3)]	**2**
Further designs	Order Code
Please add "**-Z**" to article no. and specify order code(s).	
Acrylic coated, stainless steel tag [13 x 45 mm (0.5 x 1.75 inch)]: Measuring-point number/identification (max. 16 characters), specify in plain text	**Y17**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**

	Article No.
Operating instructions	
English	**7ML1998-5ML01**
Note: the operating instructions should be ordered as a separate item on the order.	
All literature is available to download for free, in a range of languages, at	
http://www.siemens.com/weighing/documentation	
Spare parts	
Circuit card 32 PPR, up to 2 integrators	**7MH7723-1GL**
Circuit card 32 PPR, up to 10 integrators	**7MH7723-1GK**
Circuit card 256 PPR, up to 2 integrators	**7MH7723-1GM**
Circuit card 256 PPR, up to 10 integrators	**7MH7723-1GN**
Circuit card 1 000 PPR, up to 2 integrators	**7MH7723-1GP**
Circuit card 1 000 PPR, up to 10 integrators	**7MH7723-1GQ**
Circuit card 2 000 PPR, up to 2 integrators	**7MH7723-1JL**
Circuit card 2 000 PPR, up to 10 integrators	**7MH7723-1JM**
Circuit card 32 PPR, IS	**7MH7723-1HC**
Rubber coupling	**7MH7723-1CM**
Coupling hub for 32, 256 PPR versions	**7MH7723-1CN**
Coupling hub for 1 000, 2 000 PPR versions	**7MH7723-1GR**
Enclosure cover	**7MH7723-1CJ**
Enclosure bearing assembly	**7MH7723-1CK**
Enclosure cover, stainless steel	**7MH7723-1GS**
Enclosure bearing assembly, stainless steel	**7MH7723-1GT**
Threaded shaft coupling	**7MH7723-1GH**
Arrestor rod	**7MH7723-1FV**
Arrester rod tension spring	**7MH7723-1CP**
WS300 mounting bracket for MD-36 retrofit	**7MH7723-1NB**
WS300 mounting bracket SS for MD-36 retrofit	**7MH7723-1NC**
Cable for speed sensor connection to termination box 3 cond, 18G (order per meter)[4)]	**7MH7723-1JP**
Cable for IS speed sensor connection to termination box 3 cond, 22G (order per meter)[4)]	**7MH7723-1JQ**
Pepperl+Fuchs IS switch isolator, 115 V AC	**7MH7723-1EB**
Pepperl+Fuchs IS switch isolator, 230 V AC	**7MH7723-1EC**

1) The Approval Ratings for the Proximity Switch and the IS switch isolator are the property of Pepperl+Fuchs. For current approvals, go to: http://www.am.pepperl-fuchs.com.
2) Approval option B requires use of switch isolator to interface with the belt scale integrator, and is available with Resolution option 1, and Connections option 1 only.
3) For use with IS approval option B.
4) Cable length orders exceeding 150 m (500 ft) may not be supplied as a continuous length.

Dimensional drawings



WS300, dimensions in mm (inch)

Circuit diagrams

Connections (Standard)

Description	Terminal
10 ... 30 V DC	1
Speed out-CW	2
Speed out-CCW	3
Common	4
Ground	GND

- Determine the pulley shaft rotation on the end of the pulley shaft to which the WS300 is attached.
- If the pulley shaft is rotating clockwise, connect the appropriate wire to terminal 2. If the pulley shaft is rotating counter-clockwise, connect the appropriate wire to terminal 3.
- Do not connect terminals 2 and 3 at the same time.
- Connection between the WS300 standard unit and the integrator should be made with three-wire shielded, 0.82 mm^2 (18 AWG) cable.
- Ground shield of cable at integrator only.
- Connect shield to appropriate terminal at the integrator.

Terminal Connections to integrator

WS300	1 +V	2 CW	3 CCW	4 Cmn	GND
Milltronics BW500	19	16	16	17	N/C
SIWAREX FTC	CI+, 1L+	CI-	CI-	1M	N/C
SIWAREX WP241	1L+	DI.0	DI.0	2M, 1M	N/C

Connections (IS)

Description	Terminal
5 ... 16 V DC, 25 mA max. (from IS Switch Isolator)	1
Speed out	2
Ground	GND

- Only terminals 1 and 2 are required; rotation in a clockwise or counter-clockwise direction is not required.
- To connect the switch isolator, use two-wire shielded 0.324 mm^2 (22 AWG) cable. Use the same cable to connect the switch isolator to the integrator.
- Ground shield of cable at integrator only.
- Connect shield to appropriate terminal at the integrator.

Terminal Connections to integrator

W300 IS	IS Switch Isolator Terminal	Milltronics BW500	SIWAREX FTC	SIWAREX WP241
1	3			
2	1			
	7	16	1L+	1L+
	8	17	CI+	CI+

Connect CI- to Common

Calibration weight lifter Milltronics MWL

Overview

Milltronics MWL weight lifter is a mechanical calibration weight lifter for MCS, MSI, MMI, and MUS belt scales.

Benefits

- Safe and easy application of belt scale reference weights with the operator remaining external to the conveyor
- Modular construction, easily adaptable to different conveyor widths
- Low profile allowing easy fit into belt conveyor
- Easy to install and apply
- Easy to store drive handle that can be applied to left or right side of MWL
- Security pin used to ensure safe storage of weight
- Can be used with new and existing applications

Application

Milltronics MWL mechanically raises and lowers the static weights and then stores the weights securely above the belt scale calibration arms, and allows the operator to lower and apply them safely without having to lean into the conveyor. The MWL is manually operated, and uses a high mechanical advantage to enable weights up to 340 kg (750 lb) to be applied with very limited effort. The crank handle uses twelve rotations for full range of motion, and can be removed and stored for safety with the locking ball-pin which secures the MWL when it is not in use.

Two lifting arms support a base-bar weight above the calibration (test) weight brackets of the belt scale: either flat bar or round bar style calibration weights are applicable. Locating notches in the base-bar weight engage the calibration weights securely on the lifting arms in the stored position, and the gear drive locks the lifting arms in place.

Installation is easy, just four bolt holes to drill after locating the MWL gear modules (LH and RH) on the conveyor with respect to the belt scale. After running the MWL empty to ensure proper alignment, and then tightening mounting bolts, you are ready for the loading of the calibration weights. This is the last time that they will have to be lifted by hand.

Technical specifications

Milltronics MWL weight lifter	
Mode of operation	
Principle of operation	Mechanical gear drive
Typical application	Belt scale calibration
Medium conditions	
Max. ambient temperature	75 °C (167 °F)
Belt design	
Belt width	• MCS: up to 1 600 mm (60 inch) CEMA width • MUS-STD standard duty: up to 1 000 mm (42 inch) CEMA width • MUS-HD heavy-duty: up to 1 600 mm (60 inch) CEMA width • MSI: 18 … 96 inch CEMA belt width
Conveyor incline	± 15° from horizontal
Idlers	20° or more troughed idlers
Idler spacing	Minimum of 610 mm (24 inch)
Calibration weight capacity	Up to 340 kg (750 lb)
Crank arm	
Mechanical advantage	20:1
Number of revolutions required for raising or lowering	12
Mounting dimensions	See reverse for standard and heavy-duty MUS, MCS, and MSI/MMI belt scales
Approvals	The MWL is in compliance with directive 98/37/EC, CE, RCM
Motorized option	CE, RCM, EAC, KCC, $CSA_{C/US}$

Selection and ordering data

Article No.

Milltronics MWL weight lifter ↗ **7MH7218-**
A mechanical calibration weight lifter for MSI, MMI, MCS, and MUS belt scale[1]
For use with MSI, ensure MSI fabrication option 4 1 is selected.

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

Actuation

Manually	1

Belt width and 'A' dimension

18 inch, 'A'=27 inch (686 mm)	A A
19 inch, 'A'=28 inch (711 mm)	A B
20 inch, 'A'=29 inch (737 mm)	A C
21 inch, 'A'=30 inch (762 mm)	A D
22 inch, 'A'=31 inch (787 mm)	A E
23 inch, 'A'=32 inch (813 mm)	A F
24 inch, 'A'=33 inch (838 mm)	A G
25 inch, 'A'=34 inch (864 mm)	A H
26 inch, 'A'=35 inch (889 mm)	A J
27 inch, 'A'=36 inch (914 mm)	A K
28 inch, 'A'=37 inch (940 mm)	A L
29 inch, 'A'=38 inch (965 mm)	A M
30 inch, 'A'=39 inch (991 mm)	A N
31 inch, 'A'=40 inch (1 016 mm)	A P
32 inch, 'A'=41 inch (1 041 mm)	A Q
33 inch, 'A'=42 inch (1 067 mm)	A R
34 inch, 'A'=43 inch (1 092 mm)	A S
35 inch, 'A'=44 inch (1 118 mm)	A T
36 inch, 'A'=45 inch (1 143 mm)	A U
37 inch, 'A'=46 inch (1 168 mm)	A V
38 inch, 'A'=47 inch (1 194 mm)	A W
39 inch, 'A'=48 inch (1 219 mm)	B A
40 inch, 'A'=49 inch (1 245 mm)	B B
41 inch, 'A'=50 inch (1 270 mm)	B C
42 inch, 'A'=51 inch (1 295 mm)	B D
43 inch, 'A'=52 inch (1 321 mm)	B E
44 inch, 'A'=53 inch (1 346 mm)	B F
45 inch, 'A'=54 inch (1 372 mm)	B G
46 inch, 'A'=55 inch (1 397 mm)	B H
47 inch, 'A'=56 inch (1 422 mm)	B J
48 inch, 'A'=57 inch (1 448 mm)	B K
49 inch, 'A'=58 inch (1 473 mm)	B L
50 inch, 'A'=59 inch (1 499 mm)	B M
51 inch, 'A'=60 inch (1 524 mm)	B N
52 inch, 'A'=61 inch (1 549 mm)	B P
53 inch, 'A'=62 inch (1 575 mm)	B Q
54 inch, 'A'=63 inch (1 600 mm)	B R
55 inch, 'A'=64 inch (1 626 mm)	B S
56 inch, 'A'=65 inch (1 651 mm)	B T
57 inch, 'A'=66 inch (1 676 mm)	B U
58 inch, 'A'=67 inch (1 702 mm)	B V
59 inch, 'A'=68 inch (1 727 mm)	B W
60 inch, 'A'=69 inch (1 753 mm)	C A
61 inch, 'A'=70 inch (1 778 mm)	C B
62 inch, 'A'=71 inch (1 803 mm)	C C
63 inch, 'A'=72 inch (1 829 mm)	C D
64 inch, 'A'=73 inch (1 854 mm)	C E

Article No.

Milltronics MWL weight lifter **7MH7218-**
A mechanical calibration weight lifter for MSI, MMI, MCS, and MUS belt scale[1]
For use with MSI, ensure MSI fabrication option 4 1 is selected.

65 inch, 'A'=74 inch (1 880 mm)	C F
66 inch, 'A'=75 inch (1 905 mm)	C G
67 inch, 'A'=76 inch (1 930 mm)	C H
68 inch, 'A'=77 inch (1 956 mm)	C J
69 inch, 'A'=78 inch (1 981 mm)	C K
70 inch, 'A'=79 inch (2 007 mm)	C L
71 inch, 'A'=80 inch (2 032 mm)	C M
72 inch, 'A'=81 inch (2 057 mm)	C N
73 inch, 'A'=82 inch (2 083 mm)	C P
74 inch, 'A'=83 inch (2 108 mm)	C Q
75 inch, 'A'=84 inch (2 134 mm)	C R
76 inch, 'A'=85 inch (2 159 mm)	C S
77 inch, 'A'=86 inch (2 184 mm)	C T
78 inch, 'A'=87 inch (2 210 mm)	C U
79 inch, 'A'=88 inch (2 235 mm)	C V
80 inch, 'A'=89 inch (2 261 mm)	C W
81 inch, 'A'=90 inch (2 286 mm)	D A
82 inch, 'A'=91 inch (2 311 mm)	D B
83 inch, 'A'=92 inch (2 337 mm)	D C
84 inch, 'A'=93 inch (2 362 mm)	D D
85 inch, 'A'=94 inch (2 388 mm)	D E
86 inch, 'A'=95 inch (2 413 mm)	D F
87 inch, 'A'=96 inch (2 438 mm)	D G
88 inch, 'A'=97 inch (2 464 mm)	D H
89 inch, 'A'=98 inch (2 489 mm)	D J
90 inch, 'A'=99 inch (2 515 mm)	D K
91 inch, 'A'=100 inch (2 540 mm)	D L
92 inch, 'A'=101 inch (2 565 mm)	D M
93 inch, 'A'=102 inch (2 591 mm)	D N
94 inch, 'A'=103 inch (2 616 mm)	D P
95 inch, 'A'=104 inch (2 642 mm)	D Q
96 inch, 'A'=105 inch (2 667 mm)	D R
No width parts[3]	X X

Weight type

None	0 0
For use with flat bar weights (weights not included)	1 1
Width based on belt width	
3 inch integrated round bar weight (18 ... 29 inch, 15.9 ... 22.7 kg)	3 1
3 inch integrated round bar weight (30 ... 41 inch, 26.8 ... 33.6 kg)	3 2
3 inch integrated round bar weight (42 ... 53 inch, 37.7 ... 44.5 kg)	3 3
3 inch integrated round bar weight (54 ... 65 inch, 48.6 ... 58.6 kg)	3 4
3 inch integrated round bar weight (66 ... 77 inch, 59.5 ... 69.5 kg)	3 5
3 inch integrated round bar weight (78 ... 89 inch, 70.4 ... 80.4 kg)	3 6
3 inch integrated round bar weight (90 ... 96 inch, 81.3 ... 86.8 kg)	3 7
4 inch integrated round bar weight (18 ... 29 inch, 23.3 ... 34.3 kg)	4 1

Calibration weight lifter Milltronics MWL

Selection and ordering data

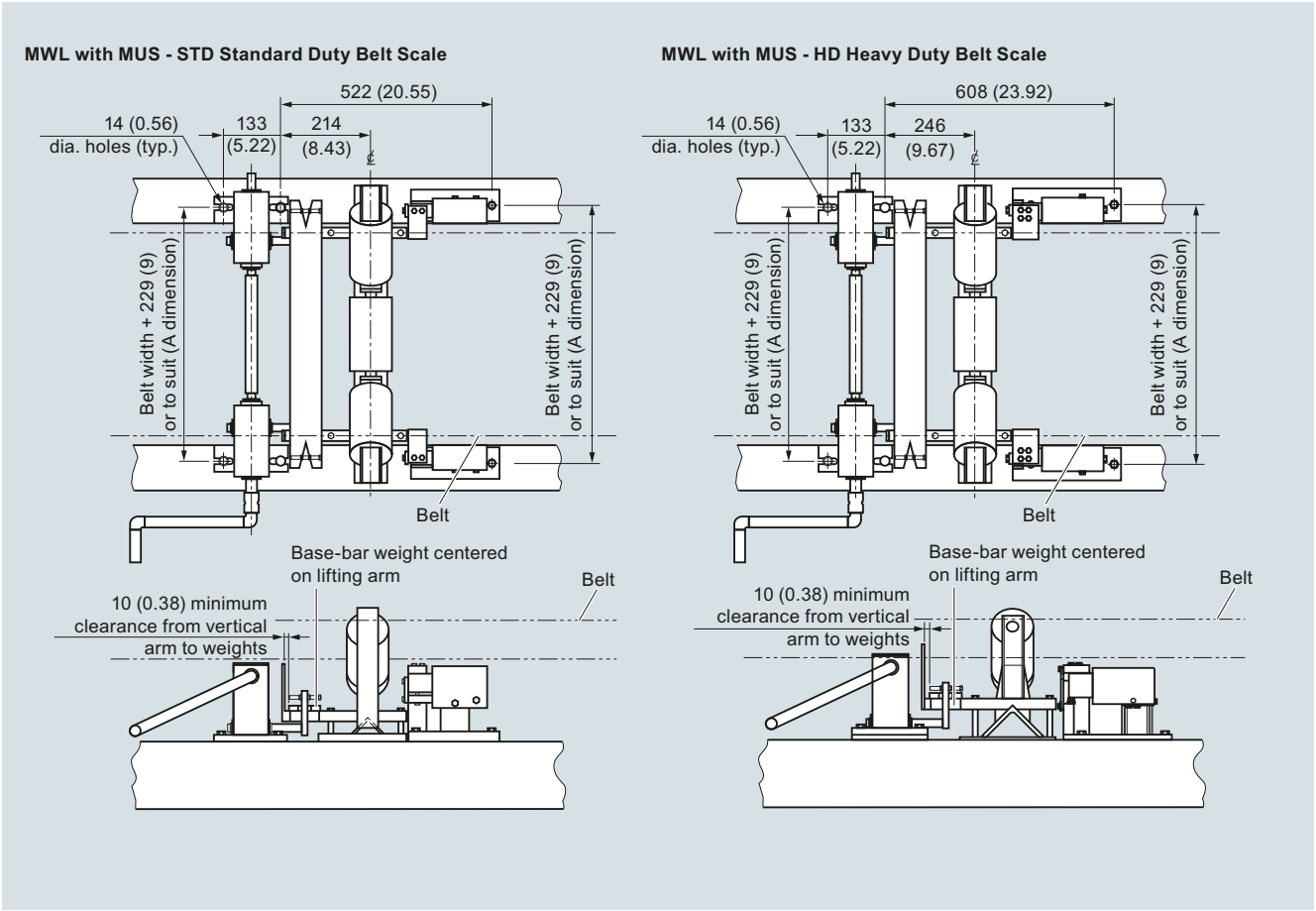
	Article No.
Milltronics MWL weight lifter A mechanical calibration weight lifter for MSI, MMI, MCS, and MUS belt scale[1)] **For use with MSI, ensure MSI fabrication option 4 1 is selected.**	**7MH7218-** ☐☐☐☐☐ - ☐
4 inch integrated round bar weight (30 ... 41 inch, 42.7 ... 53.7 kg)	**4 2**
4 inch integrated round bar weight (42 ... 53 inch, 62.1 ... 73.1 kg)	**4 3**
4 inch integrated round bar weight (54 ... 65 inch, 81.5 ... 99.3 kg)	**4 4**
4 inch integrated round bar weight (66 ... 77 inch, 100.9 ... 118.6 kg)	**4 5**
4 inch integrated round bar weight (78 ... 89 inch, 120.3 ... 138.0 kg)	**4 6**
4 inch integrated round bar weight (90 ... 96 inch, 139.6 ... 149.3 kg)	**4 7**
5 inch integrated round bar weight (18 ... 29 inch, 32.9 ... 49.3 kg)	**5 1**
5 inch integrated round bar weight (30 ... 41 inch, 63.2 ... 79.6 kg)	**5 2**
5 inch integrated round bar weight (42 ... 53 inch, 93.5 ... 109.9 kg)	**5 3**
5 inch integrated round bar weight (54 ... 65 inch, 123.7 ... 151.5 kg)	**5 4**
5 inch integrated round bar weight (66 ... 77 inch, 154.0 ... 181.8 kg)	**5 5**
5 inch integrated round bar weight (78 ... 89 inch, 184.3 ... 212.1 kg)	**5 6**
5 inch integrated round bar weight (90 ... 96 inch, 214.6 ... 229.7 kg)	**5 7**
6 inch integrated round bar weight (18 ... 29 inch, 44.5 ... 67.6 kg)	**6 1**
6 inch integrated round bar weight (30 ... 41 inch, 88.2 ... 111.2 kg)	**6 2**
6 inch integrated round bar weight (42 ... 53 inch, 131.8 ... 154.8 kg)	**6 3**
6 inch integrated round bar weight (54 ... 65 inch, 175.4 ... 215.3 kg)	**6 4**
6 inch integrated round bar weight (66 ... 77 inch, 219.0 ... 258.9 kg)	**6 5**
6 inch integrated round bar weight (78 ... 89 inch, 262.6 ... 302.5 kg)	**6 6**
6 inch integrated round bar weight (90 ... 96 inch, 306.2 ... 328.0 kg)	**6 7**
Fabrication	
Standard, C5-M rated polyester painted mild steel	**1**
Electro galvanized mild steel	**2**
Other materials available upon request.	

	Order Code
Further designs	
Please add "**-Z**" to article no. and specify order code(s).	
Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text.	**Y15**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
Operating instruction	
All literature is available to download for free, in a range of languages, at	
http://www.siemens.com/weighing/documentation	

Spare parts	Article No.
MWL handle shaft extension, 3.75 inch (95 mm)	**7MH7726-1AM**
MWL module LH unit	**7MH7723-1GU**
MWL module RH unit	**7MH7723-1GV**
MWL handle	**7MH7723-1GX**
MWL retrofit kit (for Milltronics MSI, MMI belt scales)	**7MH7723-1FW**
MWL retrofit kit galvanized (for Milltronics MSI, MMI belt scales)	**7MH7723-1JT**
MWL retrofit kit (for Milltronics MCS belt scales)	**7MH7723-1HA**
MWL handle shaft extension galvanized [3.75 inch (95 mm)]	**7MH7223-1JS**
MWL module LH unit galvanized	**7MH7723-1HK**
MWL module RH unit galvanized	**7MH7723-1HL**
MWL handle galvanized	**7MH7723-1HM**

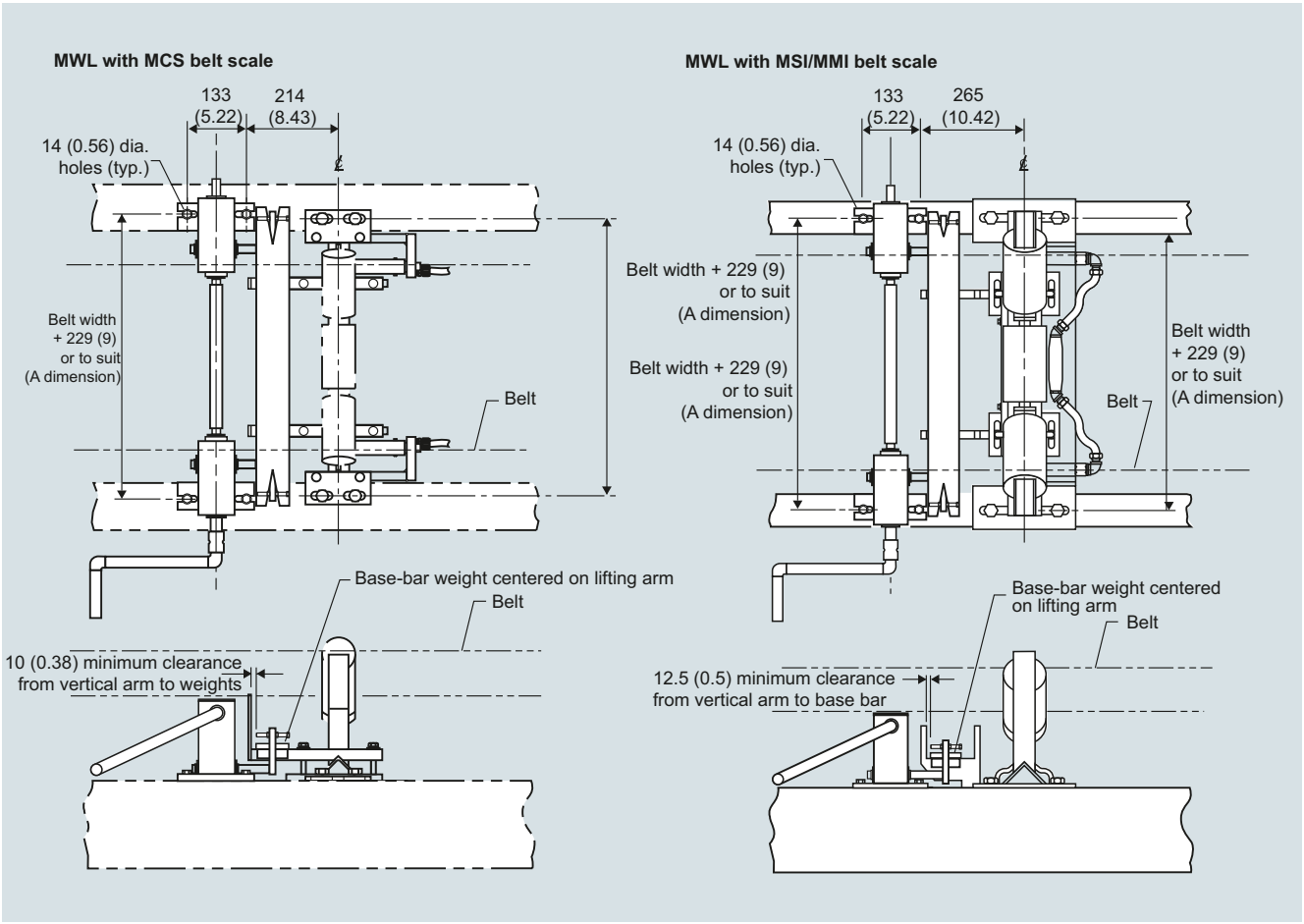
1) One MWL is required for each scale (MMI-2 requires 2 MWL).
2) Select motor mounting, order code options M30 or M31.
3) Available with weight type option 00 only.

Dimensional drawings



MWL, dimensions in mm (inch)

Calibration weight lifter Milltronics MWL



MWL, dimensions in mm (inch)

Overview

Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).

Selection and ordering data

	Article No.
Milltronics flat bar calibration weights ↗ Designed for use with Milltronics belt scales. Length of bar weight is A dimension minus 3 inch (76 mm). Listed weight is an approximation.	**7MH7127-**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Bar width, belt width and A dimension, weight	
3 inch, 18 inch, A=27 inch (686 mm), 4.63 kg	**1 A A**
3 inch, 24 inch, A=33 inch (838 mm), 5.78 kg	**1 A G**
3 inch, 30 inch, A=39 inch (991 mm), 6.94 kg	**1 A N**
3 inch, 36 inch, A=45 inch (1 143 mm), 8.10 kg	**1 A U**
3 inch, 42 inch, A=51 inch (1 295 mm), 9.25 kg	**1 B D**
3 inch, 48 inch, A=57 inch (1 448 mm), 10.41 kg	**1 B K**
3 inch, 54 inch, A=63 inch (1 600 mm), 11.57 kg	**1 B R**
3 inch, 60 inch, A=69 inch (1 753 mm), 12.73 kg	**1 C A**
3 inch, 66 inch, A=75 inch (1 905 mm), 13.89 kg	**1 C G**
3 inch, 72 inch, A=81 inch (2 057 mm), 15.05 kg	**1 C N**
3 inch, 78 inch, A=87 inch (2 210 mm), 16.21 kg	**1 C U**
3 inch, 84 inch, A=93 inch (2 362 mm), 17.37 kg	**1 D D**
3 inch, 90 inch, A=99 inch (2 515 mm), 18.53 kg	**1 D K**
3 inch, 96 inch, A=105 inch (2 667 mm), 19.69 kg	**1 D R**
4 inch, 18 inch, A=27 inch (686 mm), 6.17 kg	**2 A A**
4 inch, 24 inch, A=33 inch (838 mm), 7.71 kg	**2 A G**
4 inch, 30 inch, A=39 inch (991 mm), 9.26 kg	**2 A N**
4 inch, 36 inch, A=45 inch (1 143 mm), 10.80 kg	**2 A U**
4 inch, 42 inch, A=51 inch (1 295 mm), 12.34 kg	**2 B D**
4 inch, 48 inch, A=57 inch (1 448 mm), 13.89 kg	**2 B K**
4 inch, 54 inch, A=63 inch (1 600 mm), 15.42 kg	**2 B R**
4 inch, 60 inch, A=69 inch (1 753 mm), 16.97 kg	**2 C A**
4 inch, 66 inch, A=75 inch (1 905 mm), 18.52 kg	**2 C G**
4 inch, 72 inch, A=81 inch (2 057 mm), 20.07 kg	**2 C N**
4 inch, 78 inch, A=87 inch (2 210 mm), 21.62 kg	**2 C U**
4 inch, 84 inch, A=93 inch (2 362 mm), 23.17 kg	**2 D D**
4 inch, 90 inch, A=99 inch (2 515 mm), 24.72 kg	**2 D K**
4 inch, 96 inch, A=105 inch (2 667 mm), 26.27 kg	**2 D R**
Fabrication	
Standard, C5-M rated polyester painted mild steel	**1**

Test chain

Overview

Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).

Benefits

- Heavy-duty design for rugged applications and long life
- Precision machined components for accurate calibration
- Bushed rollers to ensure rotation during calibration
- Alternative to material tests when they are not possible

Application

Milltronics calibration test chains provide simulated material flow on a conveyor belt for use with belt scale calibration. Designed for use in environments where material tests cannot be performed, test chains come in a variety of capacity options for use in any application. They ensure constant and uniform belt loading similar to material being conveyed, and can be stored on a storage reel for quick and easy application. The use of a calibration test chain ensures that production totals are guaranteed.

Technical specifications

Test chain	
Mode of operation	
Principle of operation	Rides on carrying side of belt to simulate material loading
Medium conditions	
Max. ambient temperature	65 °C (150 °F)
Design	
Belt loading to meet any application	5 lb/ft (7.4 kg/m) … 100 lb/ft (148.8 kg/m)
Length	Made to suit conveyor design
Idler	Flat to 45° troughed idlers
Max belt speed	5 m/s 1 000 fpm
Mounting	Connected to conveyor at start and end of chain at both sides for uniform loading. Storage and application with test chain storage reel.
Approvals	CE, RCM, EAC, KCC

Selection and ordering data

Article No.

Milltronics test chains ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	**7MH7161-** 0 ■■■ 0
Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).	
5 lb/ft (7.4 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**AA1**
8 ... 11 ft (2.4 ... 3.4 m)	**AA2**
12 ... 15 ft (3.7 ... 4.6 m)	**AA3**
16 ... 19 ft (4.9 ... 5.8 m)	**AA4**
20 ... 23 ft (6.1 ... 7.0 m)	**AA5**
24 ... 27 ft (7.3 ... 8.2 m)	**AA6**
28 ... 31 ft (8.5 ... 9.4 m)	**AA7**
32 ... 35 ft (9.8 ... 10.7 m)	**AA8**
7.5 lb/ft (11.2 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**BB1**
8 ... 11 ft (2.4 ... 3.4 m)	**BB2**
12 ... 15 ft (3.7 ... 4.6 m)	**BB3**
16 ... 19 ft (4.9 ... 5.8 m)	**BB4**
20 ... 23 ft (6.1 ... 7.0 m)	**BB5**
24 ... 27 ft (7.3 ... 8.2 m)	**BB6**
28 ... 31 ft (8.5 ... 9.4 m)	**BB7**
32 ... 35 ft (9.8 ... 10.7 m)	**BB8**
10 lb/ft (14.9 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**CC1**
8 ... 11 ft (2.4 ... 3.4 m)	**CC2**
12 ... 15 ft (3.7 ... 4.6 m)	**CC3**
16 ... 19 ft (4.9 ... 5.8 m)	**CC4**
20 ... 23 ft (6.1 ... 7.0 m)	**CC5**
24 ... 27 ft (7.3 ... 8.2 m)	**CC6**
28 ... 31 ft (8.5 ... 9.4 m)	**CC7**
32 ... 35 ft (9.8 ... 10.7 m)	**CC8**
15 lb/ft (22.3 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**DD1**
8 ... 11 ft (2.4 ... 3.4 m)	**DD2**
12 ... 15 ft (3.7 ... 4.6 m)	**DD3**
16 ... 19 ft (4.9 ... 5.8 m)	**DD4**
20 ... 23 ft (6.1 ... 7.0 m)	**DD5**
24 ... 27 ft (7.3 ... 8.2 m)	**DD6**
28 ... 31 ft (8.5 ... 9.4 m)	**DD7**
32 ... 35 ft (9.8 ... 10.7 m)	**DD8**
20 lb/ft (29.8 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**EE1**
8 ... 11 ft (2.4 ... 3.4 m)	**EE2**
12 ... 15 ft (3.7 ... 4.6 m)	**EE3**
16 ... 19 ft (4.9 ... 5.8 m)	**EE4**
20 ... 23 ft (6.1 ... 7.0 m)	**EE5**
24 ... 27 ft (7.3 ... 8.2 m)	**EE6**
28 ... 31 ft (8.5 ... 9.4 m)	**EE7**
32 ... 35 ft (9.8 ... 10.7 m)	**EE8**

Article No.

Milltronics test chains	**7MH7161-** 0 ■■■ 0
Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).	
25 lb/ft (37.2 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**FF1**
8 ... 11 ft (2.4 ... 3.4 m)	**FF2**
12 ... 15 ft (3.7 ... 4.6 m)	**FF3**
16 ... 19 ft (4.9 ... 5.8 m)	**FF4**
20 ... 23 ft (6.1 ... 7.0 m)	**FF5**
24 ... 27 ft (7.3 ... 8.2 m)	**FF6**
28 ... 31 ft (8.5 ... 9.4 m)	**FF7**
32 ... 35 ft (9.8 ... 10.7 m)	**FF8**
30 lb/ft (44.6 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**GG1**
8 ... 11 ft (2.4 ... 3.4 m)	**GG2**
12 ... 15 ft (3.7 ... 4.6 m)	**GG3**
16 ... 19 ft (4.9 ... 5.8 m)	**GG4**
20 ... 23 ft (6.1 ... 7.0 m)	**GG5**
24 ... 27 ft (7.3 ... 8.2 m)	**GG6**
28 ... 31 ft (8.5 ... 9.4 m)	**GG7**
32 ... 35 ft (9.8 ... 10.7 m)	**GG8**
35 lb/ft (52.1 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**HH1**
8 ... 11 ft (2.4 ... 3.4 m)	**HH2**
12 ... 15 ft (3.7 ... 4.6 m)	**HH3**
16 ... 19 ft (4.8 ... 5.8 m)	**HH4**
20 ... 23 ft (6.1 ... 7.0 m)	**HH5**
24 ... 27 ft (7.3 ... 8.2 m)	**HH6**
28 ... 31 ft (8.5 ... 9.4 m)	**HH7**
32 ... 35 ft (9.8 ... 10.7 m)	**HH8**
40 lb/ft (59.5 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**JJ1**
8 ... 11 ft (2.4 ... 3.4 m)	**JJ2**
12 ... 15 ft (3.7 ... 4.6 m)	**JJ3**
16 ... 19 ft (4.9 ... 5.8 m)	**JJ4**
20 ... 23 ft (6.1 ... 7.0 m)	**JJ5**
24 ... 27 ft (7.3 ... 8.2 m)	**JJ6**
28 ... 31 ft (8.5 ... 9.4 m)	**JJ7**
32 ... 35 ft (9.8 ... 10.7 m)	**JJ8**
45 lb/ft (67.0 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**KK1**
8 ... 11 ft (2.4 ... 3.4 m)	**KK2**
12 ... 15 ft (3.7 ... 4.6 m)	**KK3**
16 ... 19 ft (4.9 ... 5.8 m)	**KK4**
20 ... 23 ft (6.1 ... 7.0 m)	**KK5**
24 ... 27 ft (7.3 ... 8.2 m)	**KK6**
28 ... 31 ft (8.5 ... 9.4 m)	**KK7**
32 ... 35 ft (9.8 ... 10.7 m)	**KK8**

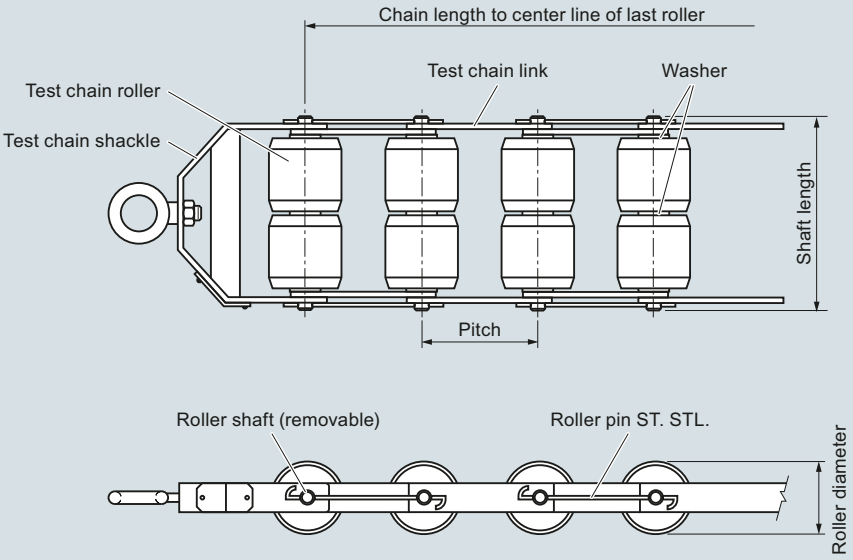
Selection and ordering data

	Article No.
Milltronics test chains	**7MH7161-**
Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).	**0 ■■■ 0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
50 lb/ft (74.4 kg/m), 4 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**L L 1**
8 ... 11 ft (2.4 ... 3.4 m)	**L L 2**
12 ... 15 ft (3.7 ... 4.6 m)	**L L 3**
16 ... 19 ft (4.9 ... 5.8 m)	**L L 4**
20 ... 23 ft (6.1 ... 7.0 m)	**L L 5**
24 ... 27 ft (7.3 ... 8.2 m)	**L L 6**
28 ... 31 ft (8.5 ... 9.4 m)	**L L 7**
32 ... 35 ft (9.8 ... 10.7 m)	**L L 8**
60 lb/ft (89.3 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**N N 1**
8 ... 11 ft (2.4 ... 3.4 m)	**N N 2**
12 ... 15 ft (3.7 ... 4.6 m)	**N N 3**
16 ... 19 ft (4.9 ... 5.8 m)	**N N 4**
20 ... 23 ft (6.1 ... 7.0 m)	**N N 5**
24 ... 27 ft (7.3 ... 8.2 m)	**N N 6**
28 ... 31 ft (8.5 ... 9.4 m)	**N N 7**
32 ... 35 ft (9.8 ... 10.7 m)	**N N 8**
70 lb/ft (104.2 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**P P 1**
8 ... 11 ft (2.4 ... 3.4 m)	**P P 2**
12 ... 15 ft (3.7 ... 4.6 m)	**P P 3**
16 ... 19 ft (4.9 ... 5.8 m)	**P P 4**
20 ... 23 ft (6.1 ... 7.0 m)	**P P 5**
24 ... 27 ft (7.3 ... 8.2 m)	**P P 6**
28 ... 31 ft (8.5 ... 9.4 m)	**P P 7**
32 ... 35 ft (9.8 ... 10.7 m)	**P P 8**
80 lb/ft (119.1 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**Q Q 1**
8 ... 11 ft (2.4 ... 3.4 m)	**Q Q 2**
12 ... 15 ft (3.7 ... 4.6 m)	**Q Q 3**
16 ... 19 ft (4.9 ... 5.8 m)	**Q Q 4**
20 ... 23 ft (6.1 ... 7.0 m)	**Q Q 5**
24 ... 27 ft (7.3 ... 8.2 m)	**Q Q 6**
28 ... 31 ft (8.5 ... 9.4 m)	**Q Q 7**
32 ... 35 ft (9.8 ... 10.7 m)	**Q Q 8**
90 lb/ft (133.9 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**R R 1**
8 ... 11 ft (2.4 ... 3.4 m)	**R R 2**
12 ... 15 ft (3.7 ... 4.6 m)	**R R 3**
16 ... 19 ft (4.9 ... 5.8 m)	**R R 4**
20 ... 23 ft (6.1 ... 7.0 m)	**R R 5**
24 ... 27 ft (7.3 ... 8.2 m)	**R R 6**
28 ... 31 ft (8.5 ... 9.4 m)	**R R 7**
32 ... 35 ft (9.8 ... 10.7 m)	**R R 8**

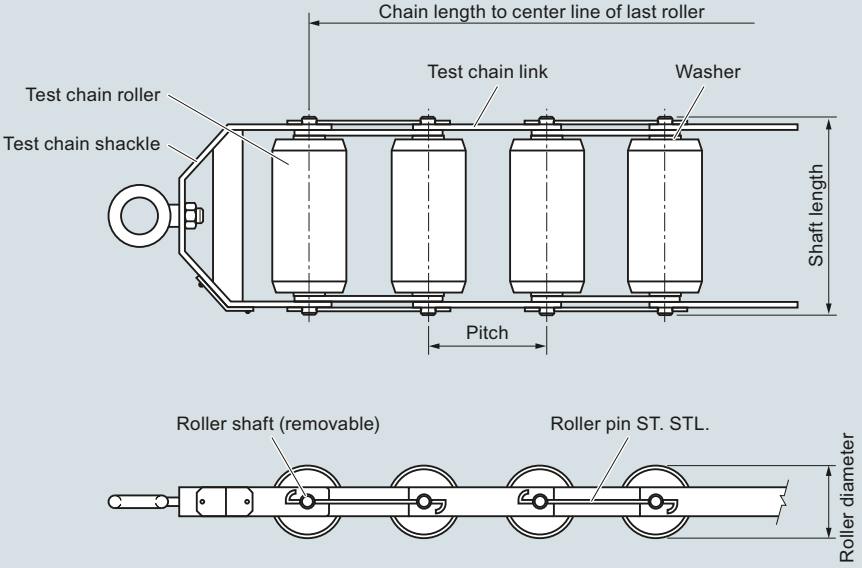
	Article No.
Milltronics test chains	**7MH7161-**
Roller test chains are used for belt scale calibration when material tests are not practical. All test chains are bushed. Minimum length is 4 feet (1.2 m).	**0 ■■■ 0**
100 lb/ft (148.8 kg/m), 6 inch pitch	
4 ... 7 ft (1.2 ... 2.1 m)	**S S 1**
8 ... 11 ft (2.4 ... 3.4 m)	**S S 2**
12 ... 15 ft (3.7 ... 4.6 m)	**S S 3**
16 ... 19 ft (4.9 ... 5.8 m)	**S S 4**
20 ... 23 ft (6.1 ... 7.0 m)	**S S 5**
24 ... 27 ft (7.3 ... 8.2 m)	**S S 6**
28 ... 31 ft (8.5 ... 9.4 m)	**S S 7**
32 ... 35 ft (9.8 ... 10.7 m)	**S S 8**
Further models	Order Code
Please add "**-Z**" to article no. and specify order codes(s)	
Total length	
Enter the total length in plain text description: Y01: Total length ... mm (must be equivalent to whole feet, e.g. 1 ft = 304.8 mm)	**Y01**
Operating instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	

Dimensional drawings

Double roller



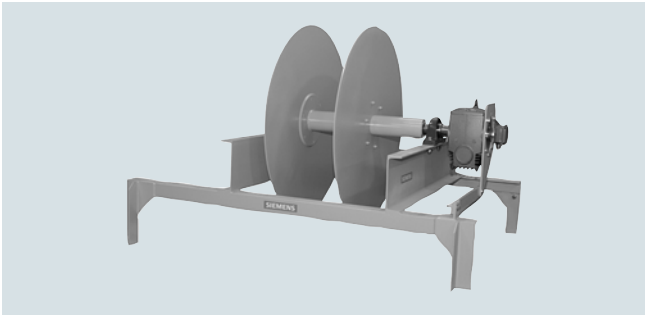
Single roller



Test chain dimensions

Test chain storage reel

Overview



Test chain storage reels are used to store roller test chains. All test chain storage reels come with a geared brake motor.

Benefits

- Mounts to existing conveyor structure above belt
- Motorized application and retraction of test chains for calibration
- Fast and easy calibration

Application

Milltronics calibration test chain storage reels provide motorized application and retraction of test chains. Complete with an AC motorized storage reel, test chain reels ensure safe and quick use of calibration test chains. Designed for use in environments where material tests cannot be performed, test chain storage reels are available in any belt width to meet existing customer conveyor geometry. For linearity tests dual compartment reels are available for different chain weight calibration. Test chain storage reels have a brake integral to the motor ensuring that test chains do not un-reel during power outages or material running.

Technical specifications

Test chain storage reel	
Medium conditions	
Operating temperature	-10 ... +60 °C (14 ... 140 °F)
Design	• C5-M rated polyester painted structural steel • 10 mm (3/8 inch) galvanized rope provided for chain spooling • Self-aligning pillow block bearings
Reel	Up to 1 524 mm (60 inch) Chain application at 7 ... 10 RPM
Drive motor	TEFC, AC, three phase motor with shaft mounted helical bevel gear reducer
Approvals	CE, RCM, EAC, KCC

Selection and ordering data

	Article No.
Test chain storage reel ↗ Test chain storage reels are used to store roller test chains. All test chain storage reels come with a geared brake motor. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	**7MH7163-** ■■■■■ - ■■
Compartment size	
5 inch (127 mm) for chain sizes: 5 lb/ft (7.4 kg/m), 10 lb/ft (14.9 kg/m)	**0**
6 inch (152 mm) for chain sizes: 7.5 lb/ft (11.2 kg/m)	**1**
7 inch (178 mm) for chain sizes: 15 lb/ft (22.3 kg/m), 20 lb/ft (29.8 kg/m), 25 lb/ft (37.2 kg/m)	**2**
8 inch (203 mm) for chain sizes: 30 lb/ft (44.6 kg/m), 35 lb/ft (52.1 kg/m)	**3**
11 inch (279 mm) for chain sizes: 40 lb/ft (59.5 kg/m), 45 lb/ft (67.0 kg/m), 50 lb/ft (74.4 kg/m)	**4**
12 inch (305 mm) for chain sizes: 55 lb/ft (81.9 kg/m), 60 lb/ft (89.3 kg/m)	**5**
13 inch (330 mm) for chain sizes: 70 lb/ft (104.2 kg/m)	**6**
14 inch (356 mm) for chain sizes: 80 lb/ft (119.1 kg/m), 100 lb/ft (148.8 kg/m)	**7**
16 inch (406 mm) for chain sizes: 90 lb/ft (133.9 kg/m)	**8**
C dimension	
25 inch (635 mm)	**AA**
26 inch (660 mm)	**AB**
27 inch (686 mm)	**AC**
28 inch (711 mm)	**AD**
29 inch (737 mm)	**AE**
30 inch (762 mm)	**AF**
31 inch (787 mm)	**AG**
32 inch (813 mm)	**AH**
33 inch (838 mm)	**AJ**
34 inch (864 mm)	**AK**
35 inch (889 mm)	**AL**
36 inch (914 mm)	**AM**
37 inch (940 mm)	**AN**
38 inch (965 mm)	**AP**
39 inch (991 mm)	**AQ**
40 inch (1 016 mm)	**AR**
41 inch (1 041 mm)	**AS**
42 inch (1 067 mm)	**AT**
43 inch (1 092 mm)	**AU**
44 inch (1 118 mm)	**AV**
45 inch (1 143 mm)	**AW**
46 inch (1 168 mm)	**BA**
47 inch (1 194 mm)	**BB**
48 inch (1 219 mm)	**BC**
49 inch (1 245 mm)	**BD**
50 inch (1 270 mm)	**BE**
51 inch (1 295 mm)	**BF**
52 inch (1 321 mm)	**BG**
53 inch (1 346 mm)	**BH**
54 inch (1 372 mm)	**BJ**
55 inch (1 397 mm)	**BK**

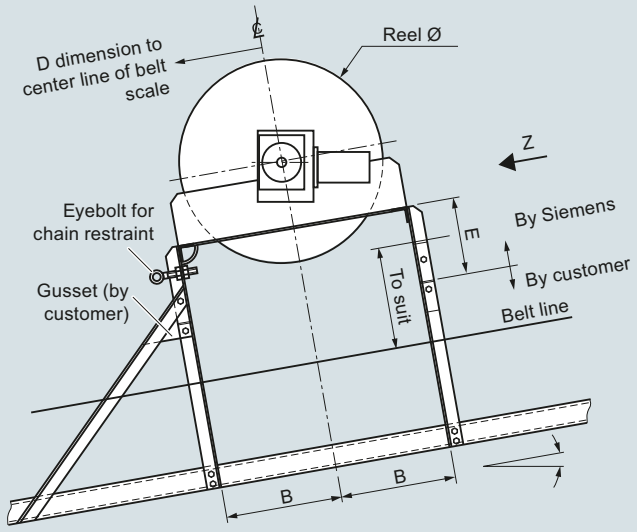
Selection and ordering data

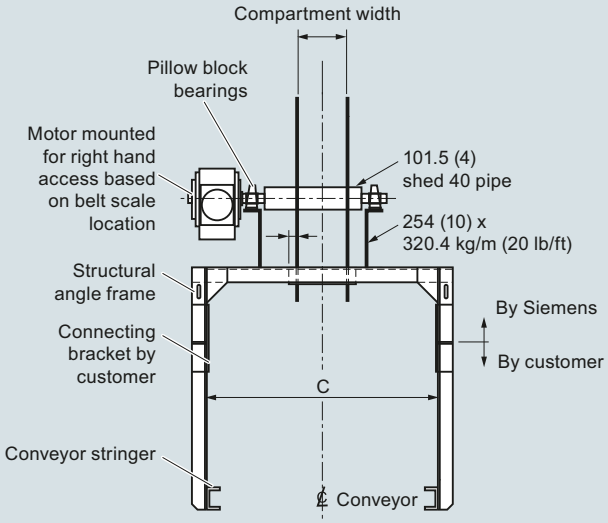
	Article No.
Test chain storage reel Test chain storage reels are used to store roller test chains. All test chain storage reels come with a geared brake motor.	**7MH7163-** ■■■■■ - ■■
56 inch (1 422 mm)	**BL**
57 inch (1 448 mm)	**BM**
58 inch (1 473 mm)	**BN**
59 inch (1 499 mm)	**BP**
60 inch (1 524 mm)	**BQ**
61 inch (1 549 mm)	**BR**
62 inch (1 575 mm)	**BS**
63 inch (1 600 mm)	**BT**
64 inch (1 626 mm)	**BU**
65 inch (1 651 mm)	**BV**
66 inch (1 676 mm)	**BW**
67 inch (1 702 mm)	**CA**
68 inch (1 727 mm)	**CB**
69 inch (1 753 mm)	**CC**
70 inch (1 778 mm)	**CD**
71 inch (1 803 mm)	**CE**
72 inch (1 829 mm)	**CF**
73 inch (1 854 mm)	**CG**
74 inch (1 880 mm)	**CH**
75 inch (1 905 mm)	**CJ**
76 inch (1 930 mm)	**CK**
77 inch (1 956 mm)	**CL**
78 inch (1 981 mm)	**CM**
79 inch (2 007 mm)	**CN**
80 inch (2 032 mm)	**CP**
81 inch (2 057 mm)	**CQ**
82 inch (2 083 mm)	**CR**
83 inch (2 108 mm)	**CS**
84 inch (2 134 mm)	**CT**
85 inch (2 159 mm)	**CU**
86 inch (2 184 mm)	**CV**
87 inch (2 210 mm)	**CW**
88 inch (2 235 mm)	**DA**
89 inch (2 261 mm)	**DB**
90 inch (2 286 mm)	**DC**
91 inch (2 311 mm)	**DD**
92 inch (2 337 mm)	**DE**
93 inch (2 362 mm)	**DF**
94 inch (2 388 mm)	**DG**
95 inch (2 413 mm)	**DH**
96 inch (2 438 mm)	**DJ**
97 inch (2 464 mm)	**DK**
98 inch (2 489 mm)	**DL**
99 inch (2 515 mm)	**DM**
100 inch (2 540 mm)	**DN**
101 inch (2 565 mm)	**DP**
102 inch (2 591 mm)	**DQ**
103 inch (2 616 mm)	**DR**
104 inch (2 642 mm)	**DS**
105 inch (2 667 mm)	**DT**

	Article No.
Test chain storage reel Test chain storage reels are used to store roller test chains. All test chain storage reels come with a geared brake motor.	**7MH7163-** ■■■■■ - ■■
3 Phase motor voltage	
230/460 V 60 Hz	**1**
200/400 V 50 Hz	**2**
575 V 60 Hz	**3**
190/380 V 50 Hz	**4**
190/380 V 60 Hz	**5**
220 V 60 Hz	**6**
415 V 50 Hz	**7**
Reel type	
Single compartment for 1 calibration test chain	**0**
Double compartment for 2 calibration test chains	**1**
Reel diameter/motor mount location	
36 inch (914 mm) / right hand access	**0**
42 inch (1 067 mm) / right hand access	**1**
48 inch (1 219 mm) / right hand access	**2**
60 inch (1 372 mm) / right hand access	**3**
36 inch (914 mm) / left hand access	**4**
42 inch (1 067 mm) / left hand access	**5**
48 inch (1 219 mm) / left hand access	**6**
60 inch (1 372 mm) / left hand access	**7**
Motor power	
0.75 HP (0.56 kW)	**A**
1 HP (0.75 kW)	**B**
1.5 HP (1.12 kW)	**C**
2 HP (1.5 kW)	**D**
3 HP (2.24 kW)	**E**
5 HP (3.73 kW)	**F**
7.5 HP (5.59 kW)	**G**
10 HP (7.5 kW)	**H**
15 HP (11.19 kW)	**J**
20 HP (14.91 kW)	**K**
Operating instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/weighing/documentation	
Accessories	
Local operator station: forward, reverse, e-stop, off/on Note: motor starter and voltage transformer required for use with controller, 120 V AC required for controller	**7MH7723-1JY**

Test chain storage reel

Dimensional drawings





View Z

Reel Ø	B	E
915 (36)	520 (20.5)	340 (13.25)
1 070 (42)	600 (23.5)	340 (13.25)
1 220 (48)	670 (26.5)	340 (13.25)
1 520 (60)	830 (32.5)	450 (17.75)

Milltronics test chain storage reel, dimension in mm (inch)

Overview

Return belt driven pulley provides rotation for shaft-driven speed sensors. 4.5 inch size is self-cleaning.

Benefits

- Heavy-duty design for high belt tension
- Self-cleaning 114 mm (4.5 inch) diameter option
- Steel drum 152 mm (6 inch) diameter option
- Steel drum 152 mm (6 inch) with 6 mm (¼ inch) rubber lagged option
- Spherical self-aligning pillow block bearings
- Fast installation, easy maintenance

Application

Milltronics bend pulleys provide constant belt contact for use with Siemens speed sensors. Designed for use in rugged operating environments common to mining, aggregates, cement, minerals, and other process industries. They ensure concentric speed sensor rotation to reduce pre-mature bearing failure. The use of a bend pulley driven speed sensor ensures no modification is required on any existing conveyor shaft. Options include stainless steel construction, epoxy painting, polymer bearings, self-cleaning style, and lagged style.

Technical specifications

Milltronics bend pulleys	
Typical application	Mining, aggregates, cement, minerals, and other process industries
Medium conditions	
Operating temperature	-40 … +110 °C (-40 … +230 °F)
Shaft material	Mild steel 316 (1.44) stainless steel, option
Pulleys	
Self-cleaning rubber disc style	114 mm (4.5 inch) diameter
Steel drum	152 mm (6 inch) diameter
Steel drum	152 mm (6 inch) diameter with 6 mm (¼ inch) rubber lagged option
Bearings	• Heavy-duty self-aligning pillow block bearings, standard • Polymer self-aligning pillow block bearings option
Belt speed	
Self-cleaning	1.79 m/s (350 fpm) max.
Drum	3 m/s (600 fpm)
Approvals	CE, RCM, EAC, KCC

Bend pulleys

Selection and ordering data — Article No.

Milltronics bend pulley, 4.5 inch and 6 inch diameter — **7MH7170-** _ _ _ _ 0

Return belt driven pulley provides rotation for shaft-driven speed sensors. 4.5 inch size is self-cleaning.

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

Size	
4.5 inch diameter self cleaning[1]	1
6 inch diameter	2
Belt width and 'A' dimension	
18 inch, A=27 ... 29.5 inch (686 ... 749 mm), 20 inch, A=29 inch (737 mm)	A
24 inch, A=33 ... 35.5 inch (838 ... 901 mm)	B
30 inch, A=39 ... 41.5 inch (991 ... 1 054 mm)	C
36 inch, A=45 ... 47.5 inch (1 143 ... 1 206 mm)	E
42 inch, A=51 inch (1 295 mm)	G
48 inch, A=57 ... 59.5 inch (1 448 ... 1 511 mm)	H
54 inch, A=63 ... 65.5 inch (1 600 ... 1 663 mm)	K
60 inch, A=69 ... 71.5 inch (1 753 ... 1 816 mm)	L
66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)	M
500 mm, A=29 ... 31.5 inch (740 ... 800 mm)	N
650 mm, A=35 ... 37.6 inch (890 ... 954 mm)	P
800 mm, A=41 ... 43.5 inch (1 040 ... 1 104 mm)	Q
800 mm, A=43 ... 45.4 inch (1 090 ... 1 154 mm)	R
1 000 mm, A=48.8 ... 51.3 inch (1 240 ... 1 304 mm)	S
1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)	T
1 400 mm, A=64.6 ,... 67.1 inch (1 640 ... 1 704 mm)	U
1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)	V
1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)	W
Finish	
Standard, C5-M rated polyester painted mild steel[2]	A
316 (1.4401) stainless steel[3]	B
316 (1.4401) stainless steel[4]	C
Epoxy painted[5]	D
Epoxy painted, with corrosion resistant bearings[5]	E
Bearings	
Imperial size	0
Metric size	1
No bearings	2

Operating instructions

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

Selection and ordering data — Article No.

Milltronics bend pulley, 6 inch diameter with 1/4 inch lagging — **7MH7171-** _ _ _ _ 0

Return belt driven pulley provides rotation for shaft-driven speed sensors.

The lagging offers self-cleaning advantages and ensures positive rotation.

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

Size	
6 inch diameter with 1/4 inch lagging	3
Belt width and 'A' dimension	
18 inch, A=27 ... 29.5 inch (686 ... 749 mm), 20 inch, A=29 inch (737 mm)	A
24 inch, A=33 ... 35.5 inch (838 ... 901 mm)	B
30 inch, A=39 ... 41.5 inch (991 ... 1 054 mm)	C
36 inch, A=45 ... 47.5 inch (1 143 ... 1 206 mm)	E
42 inch, A=51... 53.5 inch (1 295 ... 1 358 mm)	G
48 inch, A=57 ... 59.5 inch (1 448 ... 1 511 mm)	H
54 inch, A=63 ... 65.5 inch (1 600 ... 1 663 mm)	K
60 inch, A=69 ... 71.5 inch (1 753 ... 1 816 mm)	L
66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)	M
500 mm, A=29 ... 31.5 inch (740 ... 800 mm)	N
650 mm, A=35 ... 37.6 inch (890 ... 954 mm)	P
800 mm, A=41 ... 43.5 inch (1 040 ... 1 104 mm)	Q
800 mm, A=43 ... 45.4 inch (1 090 ... 1 154 mm)	R
1 000 mm, A=48.8 ... 51.3 inch (1 240 ... 1 304 mm)	S
1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)	T
1 400 mm, A=64.6 ... 67.1 inch (1 640 ... 1 704 mm)	U
1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)	V
1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)	W
Finish	
Standard, C5-M rated polyester painted mild steel	A
316 (1.4401) stainless steel	B
316 (1.4401) stainless steel with corrosion resistant bearings	C
Bearings	
Imperial size	0
Metric size	1
No bearings	2

Operating instructions

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

1) Available with belt width and "A" dimension options A ... H and N ... T only.
2) Not painted with 4.5 inch diameter model.
3) 316 (1.4401) stainless steel shaft on 4.5 inch diameter models only.
4) With corrosion resistant bearings, 316 (1.4401) stainless steel shaft on 4.5 inch diameter models only.
5) For 6 inch diameter models only.

Selection and ordering data — Article No.

Milltronics bend pulley, 8 inch diameter ↗ **7MH7187-**

Belt driven pulley for WS Series speed sensors.

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

Size	
8 inch diameter	4
Belt width and 'A' dimension	
48 inch, A=57 ... 59.5 inch (1 447.8 ...1 511 mm)	A
54 inch, A=63 ... 65.5 inch (1 600.2 ... 1 663 mm)	B
60 inch, A=69 ... 71.5 inch (1 752.6 ... 1 816 mm)	C
66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)	E
72 inch, A=81 ... 83.5 inch (2 057 ... 2 121 mm)	G
78 inch, A=87 ... 89.5 inch (2 210 ... 2 273 mm)	H
84 inch, A=93 ... 95.5 inch (2 362 ... 2 426 mm)	J
90 inch, A=99 ... 101.5 inch (2 515 ... 2 578 mm)	K
96 inch, A=105 ... 107.5 inch (2 667 ... 2 731 mm)	L
1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)	M
1 400 mm, A=64.6 ... 67.1 inch (1 640 ... 1 704 mm)	N
1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)	P
1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)	Q
1 800 mm, A=80.3 ... 82.8 inch (2 040 ... 2 104 mm)	R
2 000 mm, A=88.2 ... 90.7 inch (2 240 ... 2 304 mm)	S
2 200 mm, A=96.1 ... 98.6 inch (2 440 ... 2 504 mm)	T
2 400 mm, A=103.9 ... 106.4 inch (2 640 ... 2 704 mm)	U
2 500 mm, A=107.9 ... 110.4 inch (2 740 ... 2 804 mm)	V
Finish	
Standard, C5-M rated polyester painted mild steel	A
316 (1.4401) stainless steel	B
316 (1.4401) stainless steel with corrosion resistant bearings	C
Epoxy painted	D
Epoxy painted with corrosion resistant bearings	E
Bearings	
Imperial size	0
Metric size	1
No bearings	2

Operating instructions

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

Selection and ordering data — Article No.

Milltronics bend pulley, 8 inch diameter with 1/4 inch lagging ↗ **7MH7188-**

Belt driven pulley for WS Series speed sensors. The lagging offers self-cleaning advantages and ensures positive rotation.

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

Size	
8 inch diameter with 1/4 inch lagging	5
Belt width and 'A' dimension	
48 inch, A=57 ... 59.5 inch (1 447.8 ...1 511 mm)	A
54 inch, A=63 ... 65.5 inch (1 600.2 ... 1 663 mm)	B
60 inch, A=69 ... 71.5 inch (1 752.6 ... 1 816 mm)	C
66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)	E
72 inch, A=81 ... 83.5 inch (2 057 ... 2 121 mm)	G
78 inch, A=87 ... 89.5 inch (2 210 ... 2 273 mm)	H
84 inch, A=93 ... 95.5 inch (2 362 ... 2 426 mm)	J
90 inch, A=99 ... 101.5 inch (2 515 ... 2 578 mm)	K
96 inch, A=105 ... 107.5 inch (2 667 ... 2 731 mm)	L
1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)	M
1 400 mm, A=64.6 ... 67.1 inch (1 640 ... 1 704 mm)	N
1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)	P
1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)	Q
1 800 mm, A=80.3 ... 82.8 inch (2 040 ... 2 104 mm)	R
2 000 mm, A=88.2 ... 90.7 inch (2 240 ... 2 304 mm)	S
2 200 mm, A=96.1 ... 98.6 inch (2 440 ... 2 504 mm)	T
2 400 mm, A=103.9 ... 106.4 inch (2 640 ... 2 704 mm)	U
2 500 mm, A=107.9 ... 110.4 inch (2 740 ... 2 804 mm)	V
Finish	
Standard, C5-M rated polyester painted mild steel	A
316 (1.4401) stainless steel	B
316 (1.4401) stainless steel with corrosion resistant bearings	C
Bearings	
Imperial size	0
Metric size	1
No bearings	2

Operating instructions

All literature is available to download for free, in a range of languages, at
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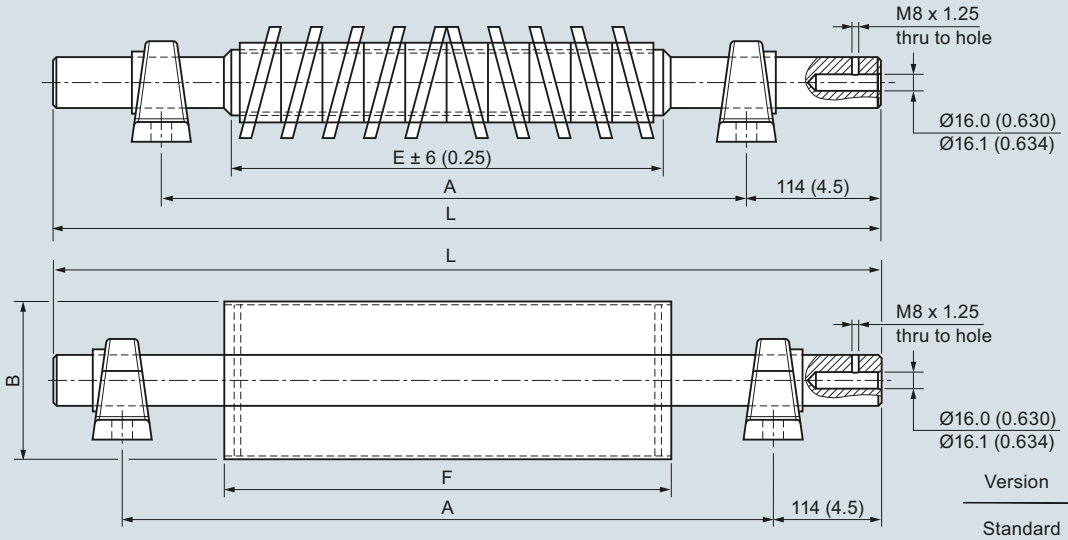
Dimensional drawings



Version	B
Standard	Ø152 (6.0) or 203 (8.0)
Lagged	Ø165 (6.5) or 216 (8.50)

Belt size	E	A	L	F
18 inch, 20 inch	18 inch (460 mm), 20 inch (508 mm)	27 inch (686 mm), 29 inch (737 mm)	34.5 inch (876 mm)	20 inch (508 mm)
24 inch	24 inch (610 mm)	33 inch (838 mm)	40.5 inch (1 029 mm)	26 inch (660 mm)
30 inch	30 inch (762 mm)	39 inch (991 mm)	46.5 inch (1 181 mm)	32 inch (812 mm)
36 inch	36 inch (915 mm)	45 inch (1 143 mm)	52.5 inch (1 334 mm)	38 inch (965 mm)
42 inch	42 inch (1 066 mm)	51 inch (1 295 mm)	58.5 inch (1 486 mm)	44 inch (1 118 mm)
48 inch	48 inch (1 220 mm)	57 inch (1 448 mm)	64.5 inch (1 638 mm)	51 inch (1 296 mm)
54 inch	54 inch (1 371 mm)	63 inch (1 600 mm)	70.5 inch (1 791 mm)	57 inch (1 448 mm)
60 inch	60 inch (1 524 mm)	69 inch (1 753 mm)	76.5 inch (1 943 mm)	63 inch (1 600 mm)
66 inch	66 inch (1 676 mm)	75 inch (1 905 mm)	82.5 inch (2 096 mm)	69 inch (1 752 mm)
72 inch	72 inch (1 828 mm)	81 inch (2 057 mm)	98.5 inch (2 502 mm)	75 inch (1 905 mm)
78 inch	78 inch (1 981 mm)	87 inch (2 210 mm)	94.4 inch (2 400 mm)	81 inch (2 057 mm)
84 inch	84 inch (2 133 mm)	93 inch (2 362 mm)	100.5 inch (2 553 mm)	87 inch (2 210 mm)
90 inch	90 inch (2 286 mm)	99 inch (2 515 mm)	106.5 inch (2 705 mm)	93 inch (2 362 mm)
96 inch	96 inch (2 438 mm)	105 inch (2 667 mm)	112.5 inch (2 858 mm)	99 inch (2 515 mm)
500 mm	500 mm (19.7 inch)	737 mm (29 inch)	34.8 inch (884 inch)	551 mm (21.7 inch)
650 mm	650 mm (25.6 inch)	890 mm (35 inch)	40.7 inch (1 034 mm)	701 mm (27.6 inch)
800 mm	800 mm (31.5 inch)	1 040 mm (41 inch)	46.6 inch (1 184 mm)	851 mm (33.5 inch)
800 mm	800 mm (31.5 inch)	1 090 mm (43 inch)	48.6 inch (1 234 mm)	851 mm (33.5 inch)
1 000 mm	1 000 mm (39.4 inch)	1 240 mm (48.8 inch)	56.3 inch (1 430 mm)	1 052 mm (41.4 inch)
1 200 mm	1 200 mm (47.2 inch)	1 540 mm (60.6 inch)	64.2 inch (1630 mm)	1 275 mm (50.2 inch)
1 400 mm	1 400 mm (55.1 inch)	1 650 mm (65 inch)	72.0 inch (1 830 mm)	1 476 mm (58.1 inch)
1 450 mm	1 450 mm (57.1 inch)	1 702 mm (67 inch)	74.0 inch (1 880 mm)	1 527 mm (60.1 inch)
1 600 mm	1 600 mm (63.0 inch)	1 940 mm (76.4 inch)	79.9 inch (2 030 mm)	1 676 mm (66 inch)
1 800 mm	1 800 mm (70.7 inch)	80.3 inch (2 040 mm)	87.8 inch (2 230 mm)	73.8 inch (1 875 mm)
2 000 mm	2 000 mm (78.7 inch)	88.2 inch (2 240 mm)	95.7 inch (2 430 mm)	81.7 inch (2 075 mm)
2 200 mm	2 200 mm (86.6 inch)	96.1 inch (2 440 mm)	103.5 inch (2 630 mm)	89.6 inch (2 275 mm)
2 400 mm	2 400 mm (94.5 inch)	103.9 inch (2 640 mm)	111.9 inch (2 830 mm)	97.4 inch (2 475 mm)
2 500 mm	2 500 mm (94.2 inch)	107.9 inch (2 740 mm)	115.4 inch (2 930 mm)	101.4 inch (2 575 mm)

Bend pulley, dimensions in mm (inch)

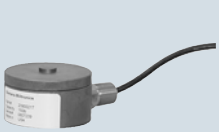
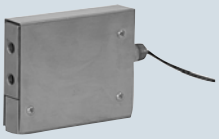
Selection and ordering data

	Article No.	
Totalizer		
150 x 150 x 100D Nema 4 /IP65 enclosure	**7MH7723-1GG**	
Panel mount totalizer	**7MH7726-1AU**	
Ticket printers		
Ticket printer, TM-U295, 100 … 240 V	**7MH7726-1AK**	
Ribbon Ink EPSON TM-U295	**7MH7723-1GE**	
Printer cables		
Printer cables for TM-U295 and TMU220B, RS 232, DB25 … open end	**7MH7726-1AH**	
RS 485 … RS 232 DB25 male converters for TMU295 and TMU220B printer	**7MH7726-1AJ**	
Portable Printer		
FastMark M4DT, USB/BT	**A5E36716278**	
Roll printer		
Roll printer, TMU220B, 100 … 240 V (required for German and Spanish printing)	**7MH7726-1AT**	
Chart recorder		
Totalizer with Hi/Low alarm lights, 584 x 483 x 203D Nema 4 /IP65 enclosure	**7MH7726-1AL**	
SIREC D200 display recorder	**7ND41211AA011 AA2**	

	Article No.	
Terminal box 1, 2, or 4 load cell(s) / speed sensor, 150 x 200 x 100 NEMA 4 /IP65 enclosure		
Mild steel	**7MH7723-1ND**	
Stainless steel	**7MH7723-1NE**	
Termination board spare	**A5E03623963**	
Note: For MMI-3, 2 terminal boxes are required		
Belt scale connection cable	**7MH7723-1JR**	
6 cond, 20 G (order per meter)		
Note: For use with 1 or 2 load cell belt scales, for 4 or 6 load cell belt scales use 2 cables. This cable is intended for less than 150 m (500 ft).		
Cable length orders exceeding 150 m (500 ft) may not be supplied as a continuous length.		
Belt scale installation kit	**7MH7723-1KC**	
Note: Comes with idler shims, alignment wire, and spacer blocks for idler alignment		
Inclinometer		
Celesco model IT9420	**7MH7726-1AP**	

4

Belt scale peripherals

	Article No.	
Belt scale spare load cells		
For Milltronics Torque shaft belt scale (MTS), model CD or CFT, mounting hardware included		
50 lb (22.7 kg)	**7MH7725-1BA**	
75 lb (34 kg)	**7MH7725-1BB**	
100 lb (45.4 kg)	**7MH7725-1BC**	
150 lb (68 kg)	**7MH7725-1BD**	
300 lb (136.1 kg)	**7MH7725-1BE**	
500 lb (226.8 kg)	**7MH7725-1BF**	
750 lb (340.2 kg)	**7MH7725-1BG**	
1 000 lb (453.6 kg)	**7MH7725-1BH**	
1 500 lb (680.4 kg)	**7MH7725-1BJ**	
For MSI belt scale with round static beam, low-profile, mounting hardware included, model 60048-XXX-0137 or 60048-XXX-0129		
25 lb (11.3 kg)	**7MH7725-1AJ**	
50 lb (22.7 kg)	**7MH7725-1AK**	
100 lb (45.4 kg)	**7MH7725-1AL**	
200 lb (90.7 kg)	**7MH7725-1AM**	
400 lb (181.4 kg)	**7MH7725-1AN**	
500 lb (226.8 kg)	**7MH7725-1AP**	
1 000 lb (453.6 kg)	**7MH7725-1AQ**	
For retrofitting current and older version of MSI with Group 4, mounting hardware included, sensortronics 60048-xxx-0138, or RTI. Model 6500		
50 lb (22.7 kg)	**7MH7725-1AC**	
100 lb (45.4 kg)	**7MH7725-1AD**	
250 lb (113.4 kg)	**7MH7725-1AE**	
500 lb (226.8 kg)	**7MH7725-1AF**	
750 lb (340.2 kg)	**7MH7725-1AG**	
1 000 lb (453.6 kg)	**7MH7725-1AH**	
For retrofitting older version of MSI C462 (transducers incorporated), mounting hardware included		
50 lb (22.7 kg)	**PBD-23900005**	
100 lb (45.4 kg)	**PBD-23900010**	
250 lb (113.4 kg)	**PBD-23900012**	

	Article No.	
For retrofitting older MMW & MCS belt scales that do not have a conduit adaptor, belt scale mounting hardware included		
50 lb	**7MH7725-1BN**	
100 lb	**7MH7725-1BP**	
250 lb	**7MH7725-1BQ**	
For retrofitting older MIC belt scale, mounting hardware included		
25 lb	**Replace with 50 lb**	
50 lb (22.7 kg)	**PBD-61009735**	
100 lb (45.4 kg)	**PBD-61009731**	
250 lb (113.4 kg)	**PBD-61009732**	
500 lb (226.8 kg)	**PBD-61009733**	
1 000 lb (453.6 kg)	**PBD-61009734**	
Kit, 2 idler cable suspension	**PBD-61010081**	
Kit, 2 idler cable suspension, heavy duty	**PBD-61010082**	
Kit, 4 idler cable suspension, heavy duty	**PBD-61010742**	
Kit, 4 idler cable suspension, magnum	**PBD-61010743**	
Kit, 4 idler cable suspension, standard	**PBD-61010741**	
Shock washers	**PBD-54000161**	
Bearing flange 1 3/16	**PBD-20250015**	
For MUS HD aluminum model 7MH71202, mounting hardware included		
50 kg (110.2 lb)	**7MH7725-1BW**	
100 kg (220.4 lb)	**7MH7725-1BX**	
150 kg (330.7 lb)	**7MH7725-1BY**	
200 kg (440.9 lb)	**7MH7725-1CA**	
300 kg (661.4 lb)	**7MH7725-1CB**	
500 kg (1 102.3 lb)	**7MH7725-1CC**	
For WD600 model 7MH7185		
25 lb (11.3 kg)	**PBD-23900224**	
50 lb (22.7 kg)	**PBD-23900225**	