

Belt Scales



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Belt Scales

Milltronics belt scales

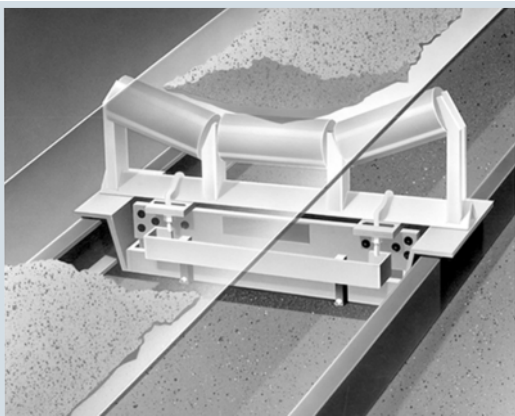
Introduction

Overview

Belt scales help maximize the use of raw materials, control inventories, and aid in the manufacturing of a consistent product. Milltronics 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 $\text{weight} \times \text{speed} = \text{rate}$.

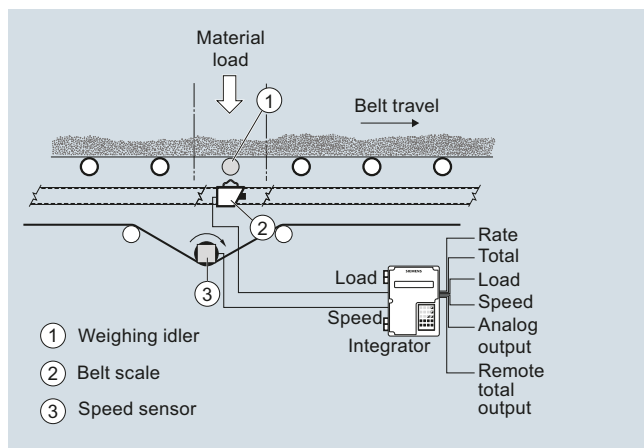


Belt scale operation

Mode of operation

Siemens Milltronics 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 $\pm 0.8 \text{ mm}$ (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.

Application

SIEMENS

Belt Scale Application Questionnaire

Customer information

Contact: _____ Prepared By: _____

Company: _____ Date: _____

Address: _____ Notes on the Application: _____

City: _____ Country: _____

State/Province: _____ Zip/Postal Code: _____

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

Material

Material being measured: _____ Particle size: _____ mm/Inch/mesh

Corrosive state of material: ☐ High ☐ Moderate ☐ Not corrosive

Conveyor

(Supply sketch where possible)

☐ Sketch attached

Application: ☐ Inventory ☐ Load out ☐ Control ☐ Blending ☐ Legal for trade

Feed rate: _____ minimum t/hr or kg/hr or lb/hr or LTPH or STPH Accuracy required: +/- _____ %
 _____ maximum t/hr or kg/hr or lb/hr or LTPH or STPH Constant feed rate: ☐ Yes ☐ No

Electrical classification at scale location: _____

Profile: ☐ Horizontal ☐ Incline / Decline _____ Degrees ☐ Variable Incline _____ Degrees ☐ Curved

Belt speed: _____ minimum m/sec. or ft/min.
 _____ maximum m/sec. or ft/min.

Pulley to pulley length: _____ m/ft.

Belt width: _____ mm/inch

Distance to infeed: _____ m/ft.

Distance to discharge: _____ m/ft.

Idler spacing: _____ mm/inch

Tail pulley diameter: _____ mm/inch

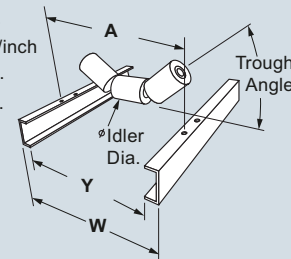
Idler diameter: _____ mm/inch

Trough angle: _____ Degrees

A = _____ mm/inch

Y = _____ mm/inch

W = _____ mm/inch



Integrator Requirements

(indicate all that apply)

Power available: _____

Inputs required:

☐ 4 ... 20 mA (specify) _____

☐ PID

Load Cells (#): _____

Outputs required:

☐ 4 ... 20 mA _____

☐ PID

☐ Remote totalizer

☐ Relays (#): _____

Communications:

☐ SIMATIC ☐ EtherNet/IP

☐ DeviceNet ☐ Modbus TCP/IP

☐ PROFIBUS DP ☐ ProfiNet

☐ RS 232/RS 485 Modbus

Products suggested: _____

Quantity required: _____

Preferred Belt Scale Model: ☐ MBS ☐ MUS ☐ MCS ☐ MSI ☐ MMI ☐ MLC ☐ WD600

Preferred Construction: ☐ Painted mild steel ☐ 304 SS ☐ 316 SS ☐ Galvanized mild steel

Belt Scales

Milltronics belt scales

Introduction

Technical specifications

Criteria	Typical industries	Typical applications	Maximum capacity	Maximum belt speed	Loading range	Accuracy ¹⁾		Approvals
						Value	Specified range	
Milltronics MLC	<ul style="list-style-type: none"> Animal feed Fertilizers Food processing Tobacco 	<ul style="list-style-type: none"> 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, GOST-R
Milltronics MBS	<ul style="list-style-type: none"> Aggregates Mining Animal feed 	<ul style="list-style-type: none"> Aggregates Medium-duty 	1 500 t/h (1 650 STPH) at max. belt speed	3.0 m/s (600 fpm)	Moderate	± 1 %	33 ... 100 %	CE, RCM, GOST-R
Milltronics MUS	<ul style="list-style-type: none"> Aggregates Agricultural Mining Cement 	<ul style="list-style-type: none"> Aggregates Medium- to heavy-duty 	5 000 t/h (5 600 STPH) at max. belt speed	3.0 m/s (600 fpm)	Light to heavy	± 0.5 ... 1 %	25 ... 100 %	CE, RCM, GOST-R
Milltronics MCS	<ul style="list-style-type: none"> Aggregates 	<ul style="list-style-type: none"> 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, GOST-R
Milltronics MSI	<ul style="list-style-type: none"> Cement Chemicals Coal Food processing Mineral processing Mining 	<ul style="list-style-type: none"> 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, GOST-R
Milltronics MMI	<ul style="list-style-type: none"> Cement Chemicals coal Food processing Mineral processing Mining 	<ul style="list-style-type: none"> 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, GOST-R
WD600	<ul style="list-style-type: none"> Food Pharmaceutical and tobacco industries 	<ul style="list-style-type: none"> 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, GOST-R

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.

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, or SIWAREX 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.

Belt Scales

Milltronics belt scales

Milltronics MLC

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
Medium conditions	
Max. material temperature	85 °C (185 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • 450 ... 1 200 mm • 18 ... 48 inch
Belt speed	2.0 m/s (400 fpm) maximum ²⁾
Capacity	Up to 50 t/h (55 STPH)
Conveyor incline	<ul style="list-style-type: none"> • ± 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
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	<ul style="list-style-type: none"> • -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, GOST-R

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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

Belt Scales

Milltronics belt scales

Milltronics MLC

Selection and ordering data		Article No.		Article No.
Milltronics MLC belt scale		7MH7126-		
Low-capacity scale for light belt loading that comes complete with a weighing idler.				
Belt width/Scale construction				
<u>Polyester painted mild steel</u>				
18 inch (457 mm)	1 A		Belt Scale Application Guidelines	7ML1998-5GA01
24 inch (610 mm)	1 B		• English	7ML1998-5GA11
30 inch (762 mm)	1 C		• French	7ML1998-5GA31
36 inch (914 mm)	1 D		• German	7ML1998-5GA21
42 inch (1067 mm)	1 E		• Spanish	
48 inch (1219 mm)	1 F		Note: The operating instructions should be ordered as a separate item on the order.	
500 mm (20 inch)	1 G		This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	
650 mm (26 inch)	1 H		Spare parts	
800 mm (32 inch)	1 J		Load cell, 10 lb (4.55 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	7MH7725-1AA
1000 mm (39 inch)	1 K		Load cell, 20 lb (9.09 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	7MH7725-1AB
1200 mm (47 inch)	1 L		Conduit replacement kit	7MH7723-1NA
450 mm (18 inch)	1 M		FDA conduit replacement kit	7MH7723-1QL
<u>Stainless steel 304 (1.4301), bead blast finish (1 ... 6 µm, 40 ... 240 µin)</u>			Milltronics MLC calibration weight [Stainless Steel 304 (1.4301)]	
18 inch (457 mm)	2 A		<u>For scales with belt width of 18 inch or 500 mm or 450 mm</u>	
24 inch (610 mm)	2 B		1.05 lb (0.47 kg)	7MH7724-1AL
30 inch (762 mm)	2 C		1.63 lb (0.73 kg)	7MH7724-1AM
36 inch (914 mm)	2 D		2.35 lb (1.06 kg)	7MH7724-1AN
42 inch (1067 mm)	2 E		3.21 lb (1.45 kg)	7MH7724-1AP
48 inch (1219 mm)	2 F		<u>For scales with belt width of 24 inch or 650 mm</u>	
500 mm (20 inch)	2 G		1.38 lb (0.62 kg)	7MH7724-1AQ
650 mm (26 inch)	2 H		2.15 lb (0.97 kg)	7MH7724-1AR
800 mm (32 inch)	2 J		3.11 lb (1.41 kg)	7MH7724-1AS
1000 mm (39 inch)	2 K		4.24 lb (1.91 kg)	7MH7724-1AT
1200 mm (47 inch)	2 L		<u>For scales with belt width of 30 inch or 800 mm</u>	
450 mm (18 inch)	2 M		1.72 lb (0.77 kg)	7MH7724-1AU
Load cell capacity			2.67 lb (1.21 kg)	7MH7724-1AV
10 lb (4.55 kg)	A		3.85 lb (1.73 kg)	7MH7724-1AW
20 lb (9.09 kg)	B		5.26 lb (2.37 kg)	7MH7724-1AX
Not specified ¹⁾	X		<u>For scales with belt width of 36 inch or 1 000 mm</u>	
Weighing idler dimensions			2.05 lb (0.92 kg)	7MH7724-1AY
50 mm (1.96 inch) ²⁾	1		3.19 lb (1.44 kg)	7MH7724-1BA
60 mm (2.40 inch) ³⁾	2		4.56 lb (2.07 kg)	7MH7724-1BB
1.90 inch (48.2 mm) ⁴⁾	5		6.29 lb (2.83 kg)	7MH7724-1BC
Further designs	Order Code		<u>For scales with belt width of 42 inch or 1 000 mm</u>	
Please add "-Z" to article no. and specify order code(s).			2.38 lb (1.07 kg)	7MH7724-1BD
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		3.71 lb (1.67 kg)	7MH7724-1BE
Manufacturer's test certificate: According to EN 10204-2.2	C11		5.35 lb (2.41 kg)	7MH7724-1BF
FDA compliant version. Conduit and fittings designed for food applications conforming to FDA/USDA standards	K01		7.31 lb (3.29 kg)	7MH7724-1BG
Operating instructions	Article No.		<u>For scales with belt width of 48 inch or 1 200 mm</u>	
• English	7ML1998-5FF01		2.72 lb (1.22 kg)	7MH7724-1BH
• German	A5E32007529		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	

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.

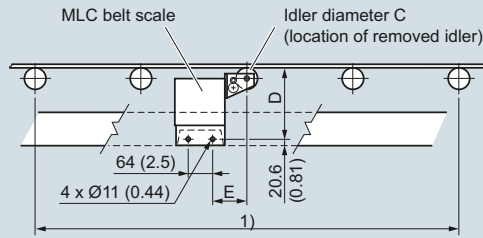
Belt Scales

Milltronics belt scales

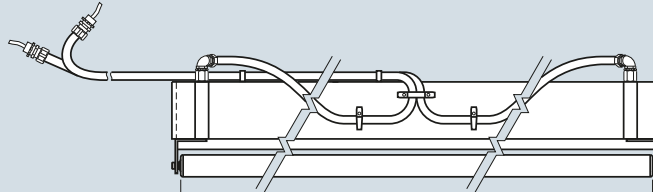
Milltronics MLC

Dimensional drawings

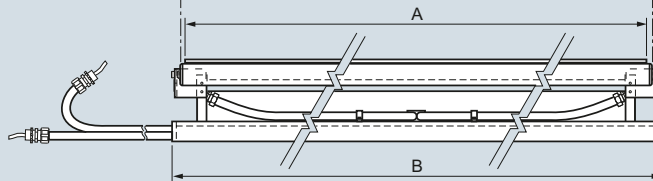
Installation



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.

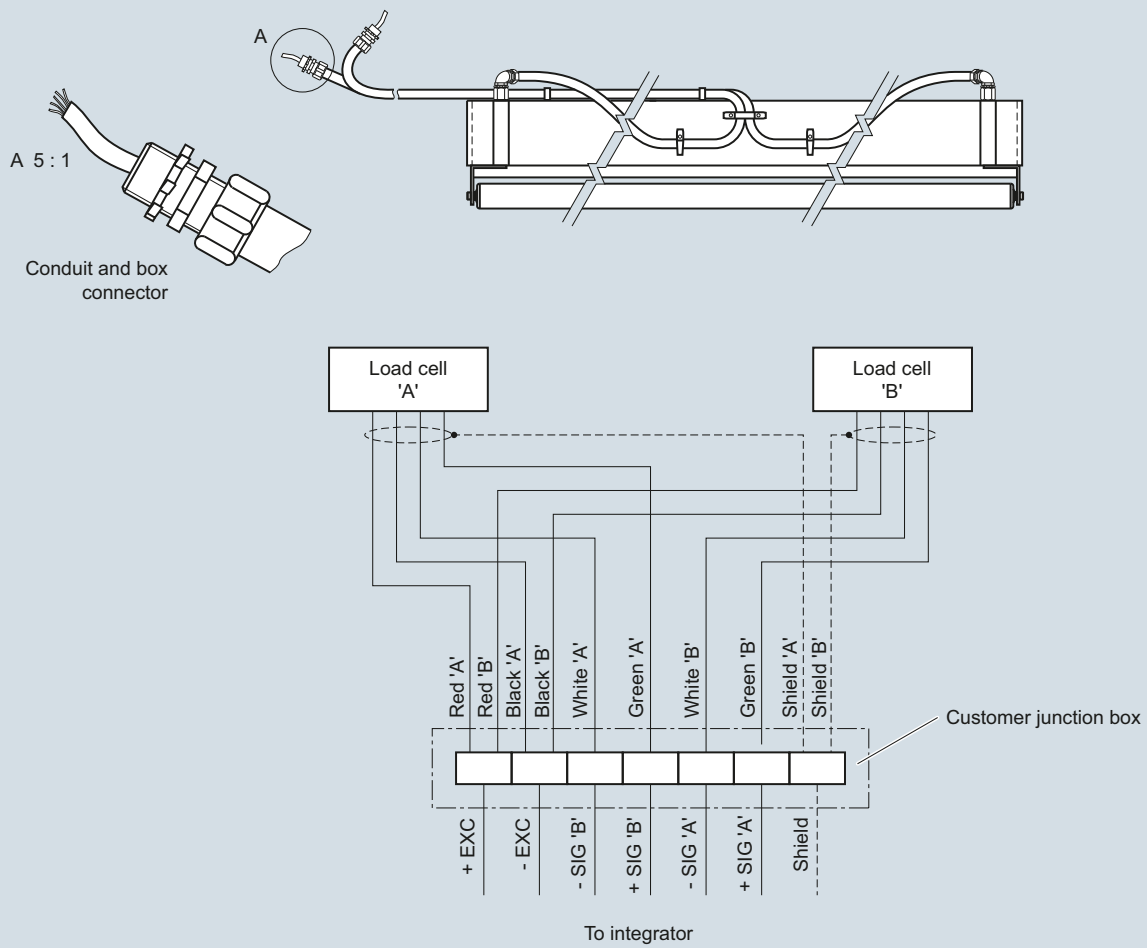
Imperial designs [dimensions in inch (mm)]

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)

Schematics


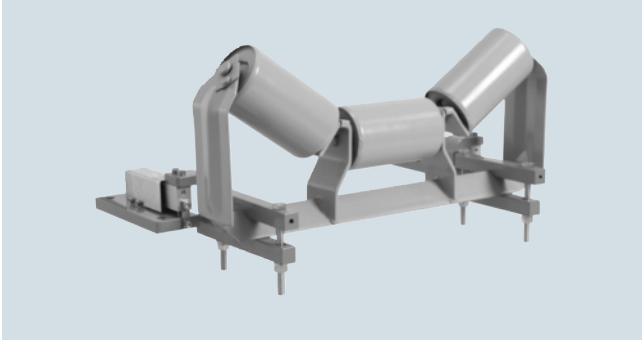
MLC connections

Belt Scales

Milltronics belt scales

Milltronics MBS

Overview



Milltronics MBS is a basic, modular, medium-duty belt scale providing dynamic weighing information for process indication. Idler not included with belt scale.

Benefits

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

Application

Milltronics MBS is used with aggregates, sand, or minerals, animal feeds or grains, providing basic 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 buildup is reduced.

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

Operating with Milltronics BW500, or SIWAREX FTC microprocessor-based integrators, the MBS 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 MBS	
Mode of operation	
Measuring principle	Heavy duty strain gauge load cells measuring load on belt conveyor idlers
Typical applications	<ul style="list-style-type: none"> • Monitor feed rates of fractionated stone, sand, animal feeds, grains • Track daily production totals
Performance	
Accuracy ¹⁾	± 1 % of totalization over 33 ... 100 % operating range, application dependent
Medium conditions	
Max. material temperature	70 °C (158 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • Standard duty up to 1 000 mm (CEMA width up to 42 inch) • Refer to dimensional drawing
Belt speed	Up to 3.0 m/s (600 fpm) ²⁾
Capacity	Up to 1 500 t/h (1 650 STPH) at maximum belt speed
Conveyor incline	<ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy³⁾
Idlers	
Idler profile	<ul style="list-style-type: none"> • Flat to 35° • To 45° with reduced accuracy³⁾
Idler diameter	50 ... 150 mm (2 ... 6 inch)
Idler spacing	0.6 ... 1.5 m (2.0 ... 5.0 ft)

Milltronics MBS	
Load cell	
Construction	Aluminum
Degree of protection	IP66
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V DC max.
Output	2 ± 0.02 mV/V excitation at rated load cell capacity
Non-repeatability	0.01 % of rated output
Non-linearity	0.02 % of rated output
Hysteresis	0.02 % of rated output
Capacity	30, 50, 100 kg (66, 110, 220 lb)
Overload	150 % of rated capacity, ultimate 200 % of rated capacity
Temperature	<ul style="list-style-type: none"> • -30 ... +70 °C (-22 ... +158 °F) operating range • -10 ... +40 °C (15 ... 105 °F) compensated
Weight	12 kg (26 lb), 6 kg (13 lb) per side
Interconnection wiring (to integrator)	<ul style="list-style-type: none"> • < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable • > 150 m (500 ft) to 300 m (1 000 ft) 18 ... 22 AWG (0.75 ... 0.34 mm²) 8 conductor shielded cable
Hazardous locations	Consult the factory
Approvals	CE, RCM, GOST-R

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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

Belt Scales

Milltronics belt scales

Milltronics MBS

Selection and ordering data

Milltronics MBS belt scale

A basic, modular, medium-duty belt scale providing dynamic weighing information for process indication.

Standard [up to 1 000 mm (42 inch) belt width]

Load cell capacity

30 kg (66 lb)

50 kg (110 lb)

100 kg (220 lb)

Not specified¹⁾

Fabrication

Polyester painted mild steel

Polyester painted mild steel, for use with flat bar or MWL calibration

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.

Manufacturer's test certificate:
According to EN 10204-2.2

Operating instructions

- English
- French
- German

Belt Scale Application Guidelines

- English
- French
- German
- Spanish

Note: The operating instructions and application guidelines manual should be ordered as separate lines on the order.

This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.

Spare parts

Load cell, 30 kg (66 lb), aluminum

Load cell, 50 kg (110 lb), aluminum

Load cell, 100 kg (220 lb), aluminum

Conduit replacement kit

Article No.

7MH7121-

0

1

AB

AC

AE

XX

1

2

Order Code

Y15

C11

Article No.

7ML1998-5JN01

7ML1998-5JN11

A5E32007525

7ML1998-5GA01

7ML1998-5GA11

7ML1998-5GA31

7ML1998-5GA21

Calibration weights

Flat bar/MWL retrofit kit

Calibration test arm assembly, c/w one 8.2 kg (18 lb) calibration weight

Calibration test arm assembly, c/w two 8.2 kg (18 lb) calibration weights

MBS/MCS calibration arm c/w idler clip (holds up to two 8.2 kg (18 lb) weights)

Calibration weight, 8.2 kg (18 lb)

Calibration weight, 6.0 lb (2.7 kg)

Milltronics flat bar calibration weights, see page 4/59.

Note: The calibration arm and weights should be ordered as separate lines on the order.

Article No.

7MH7723-1HA

7MH7723-1FR

7MH7723-1FS

7MH7726-1AD

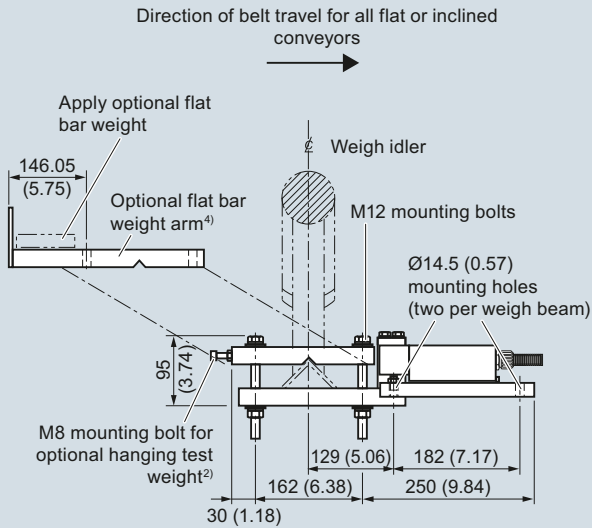
7MH7724-1AA

7MH7724-1AB

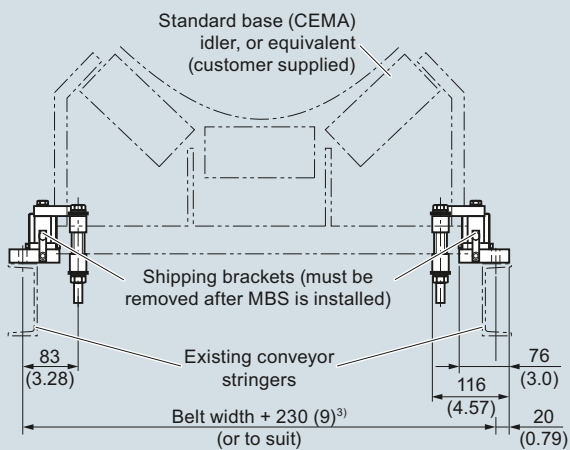
¹⁾ Only for quotation purposes, not a valid ordering option.

Dimensional drawings

Side View



Front View

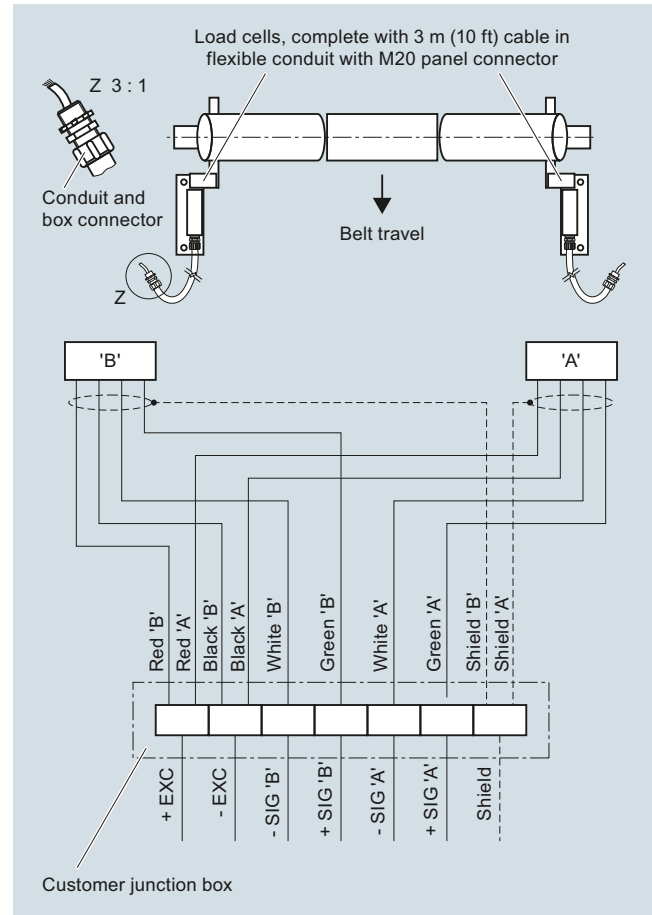


Notes:

- ¹⁾ 2 approach and 2 retreat idlers should be aligned with the weigh idler to within 0.8 mm (1/32 inch) to 0 mm (0 inch). Call your Siemens representative for more information.
- ²⁾ Test weights (customer supplied), may be hung on the M8 bolts. If this method is chosen, equal mass should be applied to each weigh beam, and the test weights should hang free of the fixed structure.
- ³⁾ Based on CEMA sizes
- ⁴⁾ Not recommended for declined conveyor applications

MBS dimensions in mm (inch)

Schematics



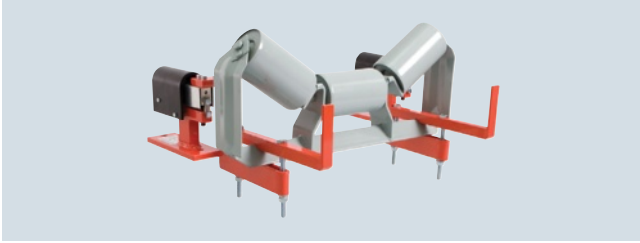
MBS connections

Belt Scales

Milltronics belt scales

Milltronics MUS

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, or SIWAREX 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	<ul style="list-style-type: none"> • 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
Medium conditions	
Max. material temperature	65 °C (150 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • 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) ²⁾
Capacity	Up to 5 000 t/h at maximum belt speed
Conveyor incline	<ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy³⁾
Idlers	
Idler profile	<ul style="list-style-type: none"> • Flat to 35° • To 45 ° with reduced accuracy³⁾
Idler diameter	50 ... 180 mm (2 ... 7 inch)
Idler spacing	0.6 ... 1.5 m (2.0 ... 5.0 ft)
Load cell	
Construction	Nickel plated alloy steel
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	<ul style="list-style-type: none"> • -40 ... +65 °C (-40 ... +150 °F) operating range • -10 ... +40 °C (15 ... +105 °F) compensated

Milltronics MUS	
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)	<ul style="list-style-type: none"> • < 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, GOST-R, CMC

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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

Belt Scales

Milltronics belt scales

Milltronics MUS

Selection and ordering data	Article No.	Order Code
Milltronics MUS belt scale 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 4/59.	7MH7123-  0	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.
Scale construction Standard for belt width up to 1 000 mm (42 inch), nickel plated steel load cells Heavy-duty for belt width up to 1 524 mm (60 inch), nickel plated steel load cells	1 2	Y15 C11
Load cell capacity <u>Standard Duty Scale Load Cell</u> 20 kg (44.1 lb) ¹⁾ 30 kg (66.1 lb) ¹⁾ 50 kg (110.2 lb) ¹⁾ 75 kg (165.3 lb) ¹⁾ 100 kg (220.4 lb) ¹⁾ Not specified ²⁾ <u>Heavy-Duty Scale Load Cell</u> 50 kg (110.2 lb) ³⁾ 100 kg (220.4 lb) ³⁾ 150 kg (330.7 lb) ³⁾ 200 kg (440.9 lb) ³⁾ 300 kg (661.4 lb) ³⁾ 500 kg (1102.3 lb) ³⁾	AA AB AC AD AE XX BA BB BC BD BE BF	Operating instructions • English • French • Spanish • German • Dutch <u>Belt Scale Application Guidelines</u> • English • French • Spanish • German Note: The operating instructions and application guidelines manual should be ordered as separate items on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.
Fabrication Polyester painted mild steel	1	Spare parts <u>Standard Duty Scale Load Cell</u> 20 kg (44.1 lb) 30 kg (66.1 lb) 50 kg (110.2 lb) 75 kg (165.3) 100 kg (220.5 lb) <u>Heavy-Duty Scale Load Cell</u> 50 kg (110.2 lb) 100 kg (220.5 lb) 150 kg (330.7 lb) 200 kg (440.9 lb) 300 kg (661.4 lb) 500 kg (1120.3 lb) Rock Guard, MUS Standard Duty Scale, spare Conduit replacement kit Calibration weights Milltronics flat bar calibration weights, see page 4/59 Note: Calibration accessories should be ordered as a separate item on the order
		7ML1998-5CQ02 7ML1998-1CQ11 7ML1998-1CQ21 A5E32015599 7ML1998-1CQ41 7ML1998-5GA01 7ML1998-5GA11 7ML1998-5GA21 7ML1998-5GA31 7MH7725-1CP 7MH7725-1CQ 7MH7725-1CR 7MH7725-1CS 7MH7725-1CT 7MH7725-1CU 7MH7725-1CV 7MH7725-1CW 7MH7725-1CX 7MH7725-1CY 7MH7725-1DA 7MH7723-1DM 7MH7723-1NA

¹⁾ For use with scale construction option 1 only.

²⁾ Only for quotation purposes, not a valid ordering option.

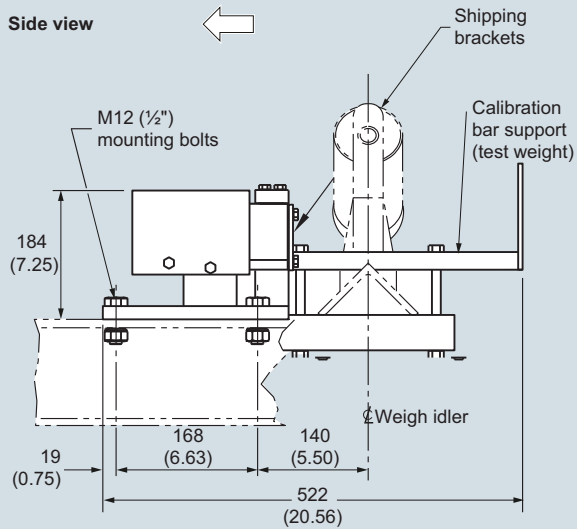
³⁾ For use with scale construction option 2 only.

Dimensional drawings

Standard duty

Belt direction for all flat or inclined conveyors

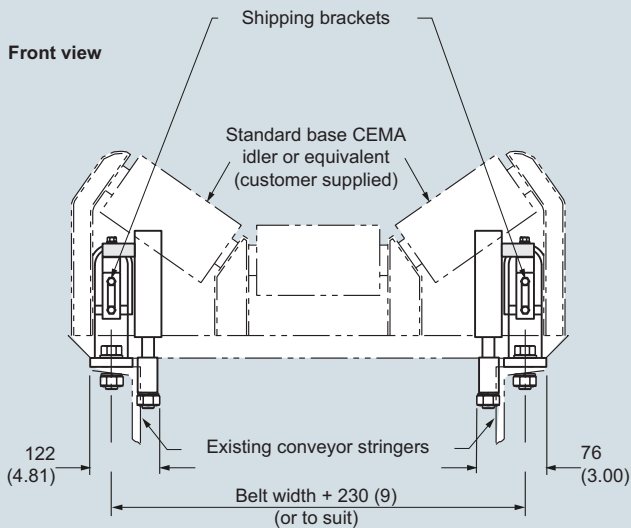
Side view



Note:

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

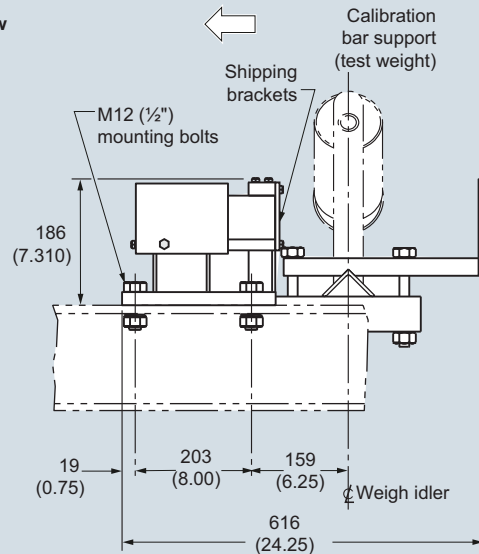
Front view



Heavy duty

Belt direction for all flat or inclined conveyors

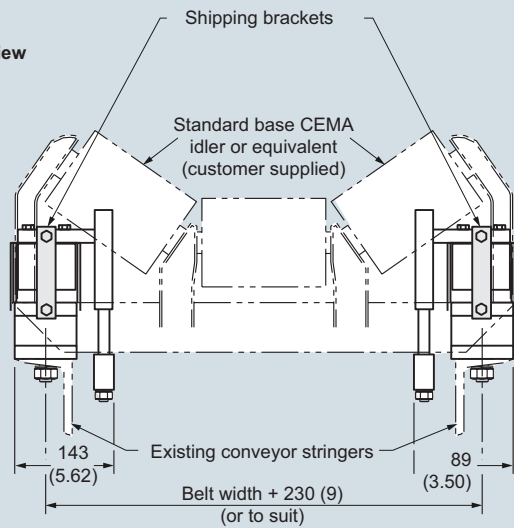
Side view



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



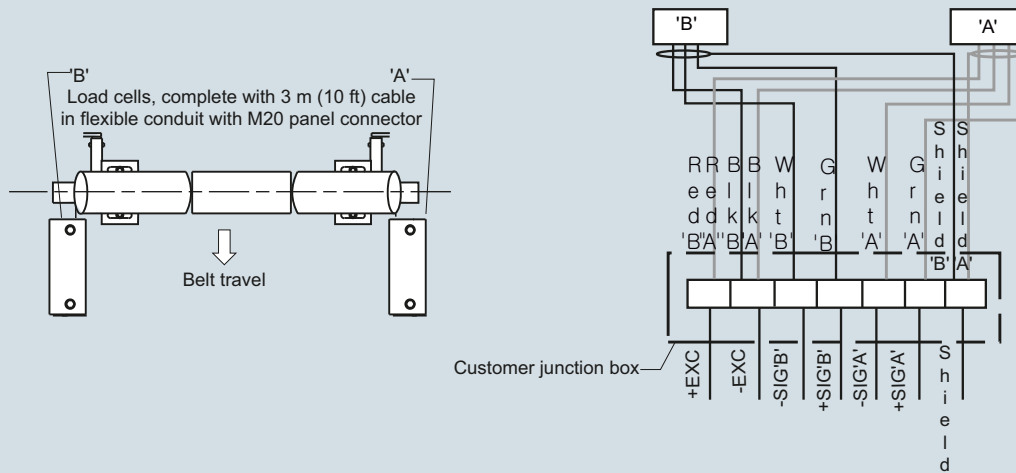
MUS dimensions in mm (inch)

Belt Scales

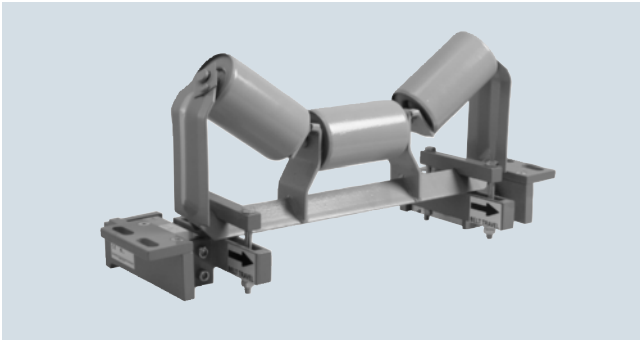
Milltronics belt scales

Milltronics MUS

Schematics



MUS connections

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, or SIWAREX 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.

Belt Scales

Milltronics belt scales

Milltronics 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⁾	<ul style="list-style-type: none">• ± 0.5 ... 1 % of totalization over 25 ... 100 % operating range, application dependent• ± 2 % of totalization over 25 ... 100 % operating range on mobile crusher applications
Belt design	
Belt width	<ul style="list-style-type: none">• Up to 1 600 mm (60 inch CEMA) width• Refer to the dimensional drawing
Belt speed	Up to 4 m/s (800 fpm) ²⁾
Capacity	Up to 2 400 t/h (2 640 STPH) at maximum belt speed
Conveyor incline	<ul style="list-style-type: none">• ± 20° from horizontal, fixed incline• Up to ± 30° with reduced accuracy³⁾
Idlers	
Idler profile	<ul style="list-style-type: none">• Flat to 35°• To 45° with reduced accuracy³⁾
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
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	<ul style="list-style-type: none">• -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)	<ul style="list-style-type: none">• < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable• > 150 m (500 ft) to 300 m (1 000 ft) 18 ... 22 AWG (0.75 ... 0.34 mm²), 8 conductor shielded cable
Approvals	<ul style="list-style-type: none">• CSA/FM Class II, Div. 1, Groups E,F,G and Class III• ATEX II 2D, Ex tD A21 IP65 T90 °C• GOST-R Ex• IEC Ex, Ex tD A21 IP65 T90 °C• CE, RCM, GOST-R, 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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

Selection and ordering data		Article No.		Article No.
Milltronics MCS belt scale		7MH7125-		
A compact, rugged, modular, heavy-duty belt scale for use in mining and aggregate screening plants		 0		
Scale construction				
Standard duty, CE, RCM		1		
Hazardous Duty		2		
CSA/FM Class II, Div. 1, Groups E,F,G and Class III, ATEX II 2D, IECEx, CE, RCM				
Load cell capacity				
50 lb (22.7 kg) (use not recommended for mobile crushers)		AA		
100 lb (45.5 kg) (use not recommended for mobile crushers)		AB		
250 lb (113.6 kg)		AC		
500 lb (226.8 kg)		AD		
25 lb (11.3 kg) (use not recommended for mobile crushers)		AE		
Not specified ¹⁾		BB		
Fabrication				
Polyester painted mild steel		1		
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		
Manufacturer's test certificate: According to EN 10204-2.2		C11		
Operating instructions		A5E33071768		
MCS belt scale, multi-language				
<u>Belt Scale Application Guidelines</u>				
<ul style="list-style-type: none"> • English • French • German • Spanish 		7ML1998-5GA01		
		7ML1998-5GA11		
		7ML1998-5GA31		
		7ML1998-5GA21		
Hazardous location certificates		7ML1998-5KH81		
Note: The operating instructions should be ordered as a separate item on the order.				
This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.				
Spare parts				
<u>Stainless steel load cell</u>				
[17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover]				
25 lb (11.3 kg)			7MH7725-1DR	
50 lb (22.7 kg)			7MH7725-1DH	
100 lb (45.4 kg)			7MH7725-1DJ	
250 lb (113.4 kg)			7MH7725-1DK	
500 lb (226.8 kg)			7MH7725-1DS	
25 lb (11.3 kg), CSA/FM/ATEX/IECEx			7MH7725-1DQ	
50 lb (22.7 kg), CSA/FM/ATEX/IECEx			7MH7725-1DL	
100 lb (45.4 kg), CSA/FM/ATEX/IECEx			7MH7725-1DM	
250 lb (113.4 kg), CSA/FM/ATEX/IECEx			7MH7725-1DN	
500 lb (226.8 kg), CSA/FM/ATEX/IECEx			7MH7725-1DP	
Conduit replacement kit			7MH7723-1NA	
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	
MBS/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 4/59.				
Note: Calibration accessories should be ordered as a separate item on the order.				
 We can offer shorter delivery times for configurations designated with the Quick Ship Symbol 				

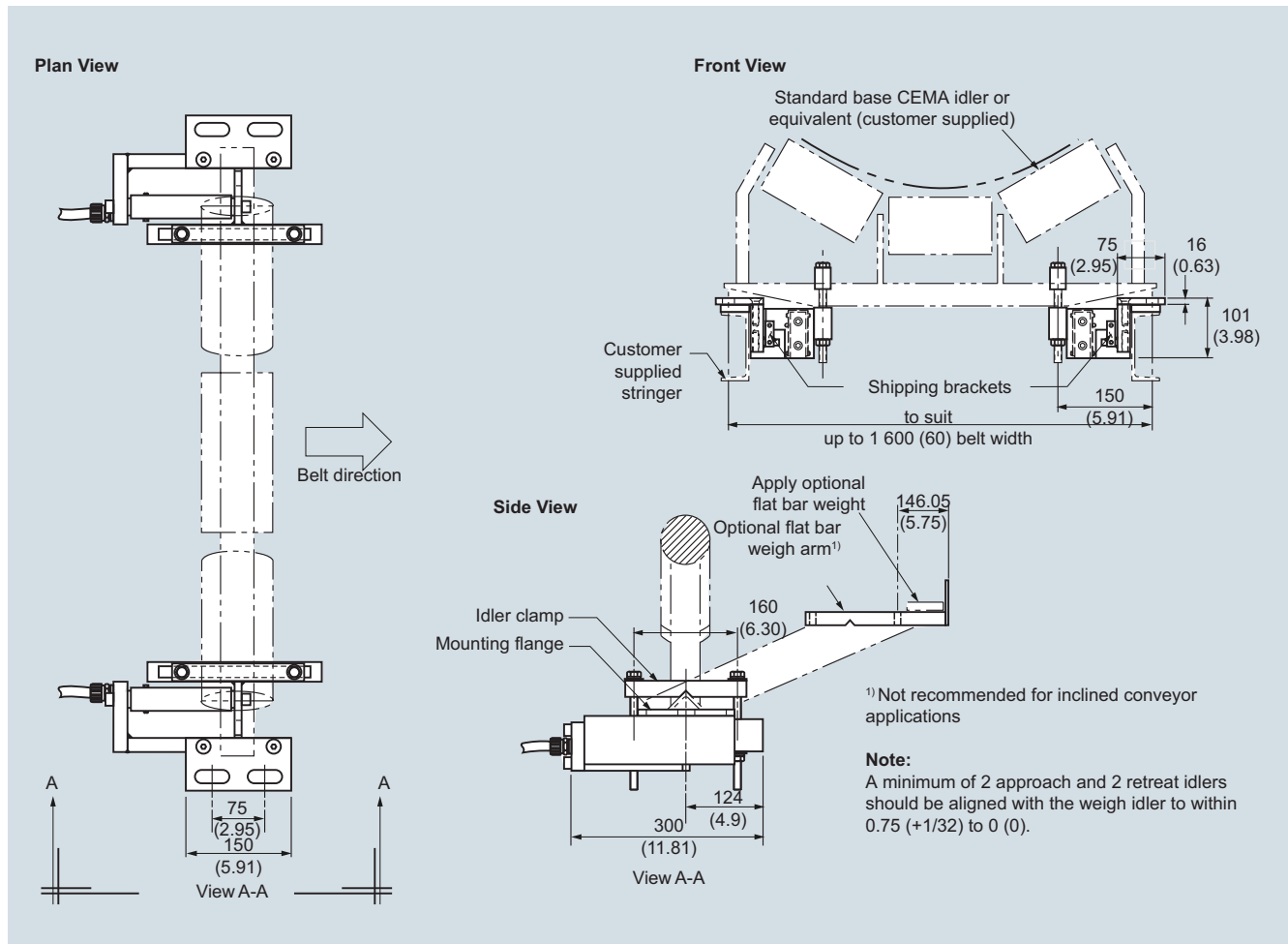
¹⁾ Only for quotation purposes, not a valid ordering option.

Belt Scales

Milltronics belt scales

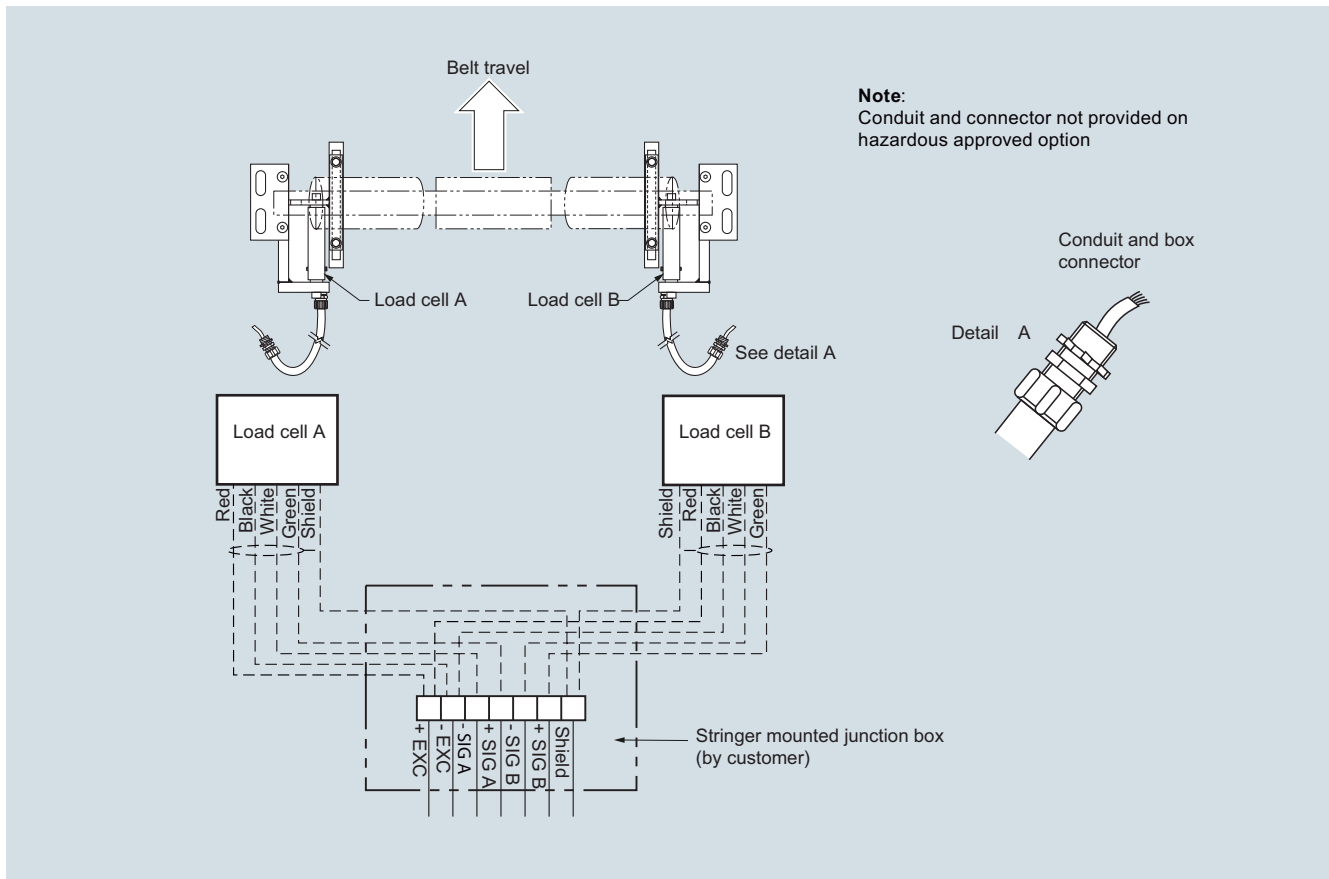
Milltronics MCS

Dimensional drawings



MCS dimensions in mm (inch)

Schematics



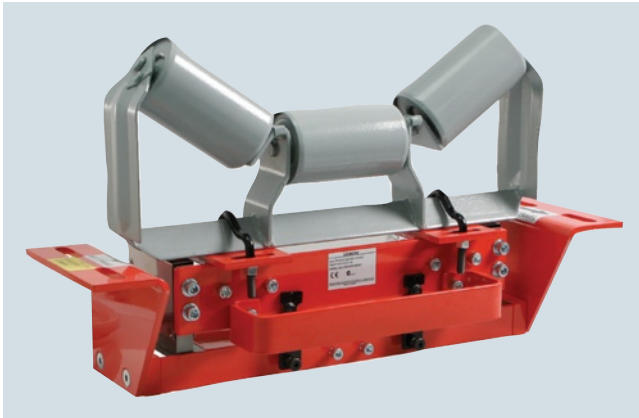
MCS connections

Belt Scales

Milltronics belt scales

Milltronics MSI and MMI

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, or SIWAREX 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 or SIWAREX FTC 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.

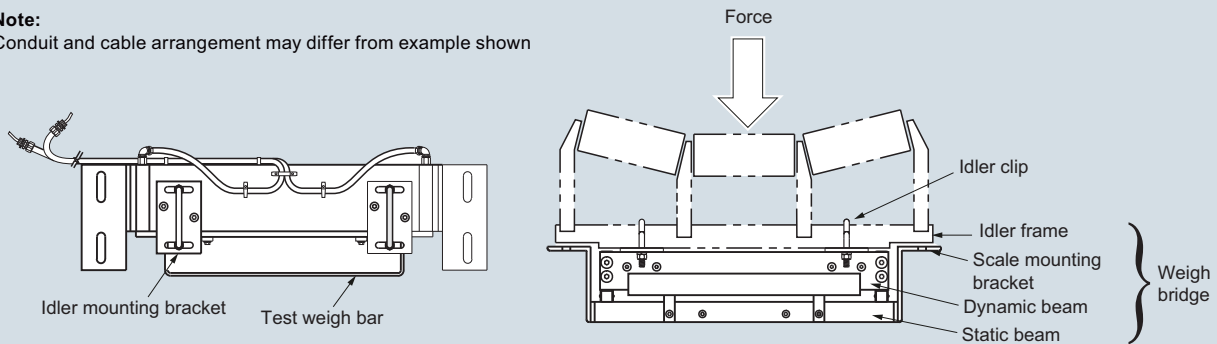
The MMI is installed in a simple drop-in operation and may be secured with just eight bolts and existing idler sets, secured to the dynamic beam. With no moving parts, maintenance is kept to a minimum, with just periodic calibration checks required.

Design

Mounting

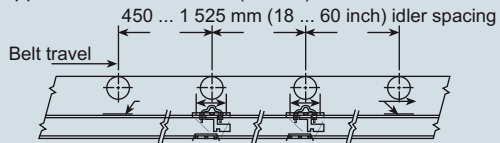
Note:

Conduit and cable arrangement may differ from example shown

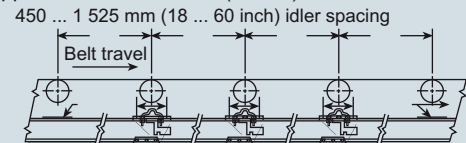


MSI/MMI mounting

Applications with 2 MSIs (MMI-2)



Applications with 3 MSIs (MMI-3)



Mounting (two or more MSI units)

Belt Scales

Milltronics belt scales

Milltronics MSI and MMI

Technical specifications

Milltronics MSI	
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	
Medium conditions	
Material temperature	- 40 ... +75 °C (- 40 ... +167 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • 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) ²⁾
Capacity	Up to 12 000 t/h (13 200 STPH) at maximum belt speed. Please contact a Siemens representative for higher rates.
Conveyor incline	<ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy³⁾
Idlers	
Idler profile	<ul style="list-style-type: none"> • Flat to 35° • Up to 45° with reduced accuracy³⁾
Idler diameter	50 ... 180 mm (2 ... 7 inch)
Idler spacing	0.5 ... 1.5 m (1.5 ... 5.0 ft)

Milltronics MSI	
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover.
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	50, 100, 250, 500, 750, 1 000, 1 250, 1 500 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	<ul style="list-style-type: none"> • -50 ... +75 °C (-58 ... +167 °F) operating range • -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)	<ul style="list-style-type: none"> • < 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	<ul style="list-style-type: none"> • CSA/FM Class II, Div. 1, Groups E,F,G and Class III • ATEX II 2D Ex tD A21 IP65 T90 °C • GOST-R Ex • IECEx Ex tD A21 IP65 T90 °C • CE, RCM, GOST-R, CMC, RTN
Metrology approvals	Measurement Canada, MID, OIML, SABS ⁴⁾ , NTEP ⁵⁾ , STAMEQ

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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

⁴⁾ MSI only.

⁵⁾ MMI only.

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.

Scale construction

Standard duty, CE, RCM

Hazardous Duty

CSA/FM Class II, Div. 1, Groups E,F,G and Class III,
ATEX II 2D, IECEx, CE, RCM

Belt width and 'A' dimension

18 inch, 'A' = 27 inch (686 mm)	AA
19 inch, 'A' = 28 inch (711 mm)	AB
20 inch, 'A' = 29 inch (737 mm)	AC
21 inch, 'A' = 30 inch (762 mm)	AD
22 inch, 'A' = 31 inch (787 mm)	AE
23 inch, 'A' = 32 inch (813 mm)	AF
24 inch, 'A' = 33 inch (838 mm)	AG
25 inch, 'A' = 34 inch (864 mm)	AH
26 inch, 'A' = 35 inch (889 mm)	AJ
27 inch, 'A' = 36 inch (914 mm)	AK
28 inch, 'A' = 37 inch (940 mm)	AL
29 inch, 'A' = 38 inch (965 mm)	AM
30 inch, 'A' = 39 inch (991 mm)	AN
31 inch, 'A' = 40 inch (1 016 mm)	AP
32 inch, 'A' = 41 inch (1 041 mm)	AQ
33 inch, 'A' = 42 inch (1 067 mm)	AR
34 inch, 'A' = 43 inch (1 092 mm)	AS
35 inch, 'A' = 44 inch (1 118 mm)	AT
36 inch, 'A' = 45 inch (1 143 mm)	AU
37 inch, 'A' = 46 inch (1 168 mm)	AV
38 inch, 'A' = 47 inch (1 194 mm)	AW
39 inch, 'A' = 48 inch (1 219 mm)	BA
40 inch, 'A' = 49 inch (1 245 mm)	BB
41 inch, 'A' = 50 inch (1 270 mm)	BC
42 inch, 'A' = 51 inch (1 295 mm)	BD
43 inch, 'A' = 52 inch (1 321 mm)	BE
44 inch, 'A' = 53 inch (1 346 mm)	BF
45 inch, 'A' = 54 inch (1 372 mm)	BG
46 inch, 'A' = 55 inch (1 397 mm)	BH
47 inch, 'A' = 56 inch (1 422 mm)	BJ
48 inch, 'A' = 57 inch (1 448 mm)	BK
49 inch, 'A' = 58 inch (1 473 mm)	BL
50 inch, 'A' = 59 inch (1 499 mm)	BM
51 inch, 'A' = 60 inch (1 524 mm)	BN
52 inch, 'A' = 61 inch (1 549 mm)	BP
53 inch, 'A' = 62 inch (1 575 mm)	BQ
54 inch, 'A' = 63 inch (1 600 mm)	BR
55 inch, 'A' = 64 inch (1 626 mm)	BS
56 inch, 'A' = 65 inch (1 651 mm)	BT
57 inch, 'A' = 66 inch (1 676 mm)	BU
58 inch, 'A' = 67 inch (1 702 mm)	BV
59 inch, 'A' = 68 inch (1 727 mm)	BW
60 inch, 'A' = 69 inch (1 753 mm)	CA

7MH7122-

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.

61 inch, 'A' = 70 inch (1 778 mm)
62 inch, 'A' = 71 inch (1 803 mm)
63 inch, 'A' = 72 inch (1 829 mm)
64 inch, 'A' = 73 inch (1 854 mm)
65 inch, 'A' = 74 inch (1 880 mm)
66 inch, 'A' = 75 inch (1 905 mm)
67 inch, 'A' = 76 inch (1 930 mm)
68 inch, 'A' = 77 inch (1 956 mm)
69 inch, 'A' = 78 inch (1 981 mm)
70 inch, 'A' = 79 inch (2 007 mm)
71 inch, 'A' = 80 inch (2 032 mm)
72 inch, 'A' = 81 inch (2 057 mm)
73 inch, 'A' = 82 inch (2 083 mm)
74 inch, 'A' = 83 inch (2 108 mm)
75 inch, 'A' = 84 inch (2 134 mm)
76 inch, 'A' = 85 inch (2 159 mm)
77 inch, 'A' = 86 inch (2 184 mm)
78 inch, 'A' = 87 inch (2 210 mm)
79 inch, 'A' = 88 inch (2 235 mm)
80 inch, 'A' = 89 inch (2 261 mm)
81 inch, 'A' = 90 inch (2 286 mm)
82 inch, 'A' = 91 inch (2 311 mm)
83 inch, 'A' = 92 inch (2 337 mm)
84 inch, 'A' = 93 inch (2 362 mm)
85 inch, 'A' = 94 inch (2 388 mm)
86 inch, 'A' = 95 inch (2 413 mm)
87 inch, 'A' = 96 inch (2 438 mm)
88 inch, 'A' = 97 inch (2 464 mm)
89 inch, 'A' = 98 inch (2 489 mm)
90 inch, 'A' = 99 inch (2 515 mm)
91 inch, 'A' = 100 inch (2 540 mm)
92 inch, 'A' = 101 inch (2 565 mm)
93 inch, 'A' = 102 inch (2 591 mm)
94 inch, 'A' = 103 inch (2 616 mm)
95 inch, 'A' = 104 inch (2 642 mm)
96 inch, 'A' = 105 inch (2 667 mm)

Load cell capacity

Not specified ¹⁾
50 lb (22.7 kg)
100 lb (45.4 kg)
250 lb (113.4 kg)
500 lb (226.8 kg)
750 lb (340.2 kg)
1 000 lb (453.6 kg)
1 250 lb (567 kg) ²⁾
1 500 lb (680.4 kg) ²⁾

Article No.

7MH7122-

CB
CC
CD
CE
CF
CG
CH
CJ
CK
CL
CM
CN
CP
CQ
CR
CS
CT
CU
CV
CW
DA
DB
DC
DD
DE
DF
DG
DH
DJ
DK
DL
DM
DN
DP
DQ
DR

Belt Scales

Milltronics belt scales

Milltronics MSI and MMI

Selection and ordering data

Article No.

Order Code

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-

Fabrication

Polyester painted mild steel

Electro-galvanized mild steel:

18 ... 29 inch (457.2 ... 736.6 mm)

30 ... 41 inch (762 ... 1 041.4 mm)

42 ... 53 inch (1 066.8 ... 1 346.2 mm)

54 ... 65 inch (1 371.6 ... 1 651 mm)

66 ... 77 inch (1 676.4 ... 1 955.8 mm)

78 ... 89 inch (1 981.2 ... 2 260.6 mm)

90 ... 96 inch (2 286 ... 2 438.4 mm)

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)

30 ... 41 inch (762 ... 1 041.4 mm)

42 ... 53 inch (1 066.8 ... 1 346.2 mm)

54 ... 65 inch (1 371.6 ... 1 651 mm)

66 ... 77 inch (1 676.4 ... 1 955.8 mm)

78 ... 89 inch (1 981.2 ... 2 260.6 mm)

90 ... 96 inch (2 286 ... 2 438.4 mm)

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)

30 ... 41 inch (762 ... 1 041.4 mm)

42 ... 53 inch (1 066.8 ... 1 346.2 mm)

54 ... 65 inch (1 371.6 ... 1 651 mm)

66 ... 77 inch (1 676.4 ... 1 955.8 mm)

78 ... 89 inch (1 981.2 ... 2 260.6 mm)

90 ... 96 inch (2 286 ... 2 438.4 mm)

Polyester painted mild steel (compatible with MWL
or flat bar weight calibration system)

Galvanized, for belt width scales:

(compatible with MWL or flat bar weight system)

18 ... 29 inch (457.2 ... 736.6 mm)

30 ... 41 inch (762 ... 1 041.4 mm)

42 ... 53 inch (1 066.8 ... 1 346.2 mm)

54 ... 65 inch (1 371.6 ... 1 651 mm)

66 ... 77 inch (1 676.4 ... 1 955.8 mm)

78 ... 89 inch (1 981.2 ... 2 260.6 mm)

90 ... 96 inch (2 286 ... 2 438.4 mm)

System specification

Standard MSI and MMI

NTEP Certified MMI⁽³⁾⁽⁴⁾⁽⁵⁾OIML/MID Certified⁽⁴⁾⁽⁵⁾MSI for MMI-3 ±0.125% accuracy⁽⁶⁾

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.

Manufacturer's test certificate:
According to EN 10204-2.2

Factory calibration certificate

OIML/MID approval additional nameplate
(submit application data with order)⁽⁵⁾

NTEP approval additional nameplate
(submit application data with order)⁽⁵⁾

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)]

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)]⁽⁴⁾

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)]

FDA compliant version
Conduit and fittings designed for food applications
conforming to FDA/USDA standards

Operating instructions

MSI Manuals

- English
- German
- French
- Spanish

MMI Manuals

- English
- German
- French
- Spanish

Belt Scale Application Guidelines

- English
- German
- French
- Spanish
- Hazardous location certificates

Multi-language Quick Start manual

Note: The operating instructions and application
guidelines manual should be ordered as separate
items on the order.

This device is shipped with the Siemens Milltronics
manual DVD containing the complete operating
instructions library.

Article No.

7ML1998-5CY04

A5E32007535

7ML1998-1CY13

7ML1998-1CY23

7ML1998-5DR03

7ML1998-5DR34

7ML1998-5DR14

7ML1998-5DR24

7ML1998-5GA01

7ML1998-5GA31

7ML1998-5GA11

7ML1998-5GA21

7ML1998-5KH81

7ML1998-5XK81

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 cell

[17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover]

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
1 250 lb (567 kg)	7MH7725-1EA
1 500 lb (680.4 kg)	7MH7725-1EB
100 lb (45.4 kg), NTEP, OIML/MID	7MH7725-1DB
250 lb (113.4 kg), NTEP, OIML/MID	7MH7725-1DC
500 lb (226.8 kg), NTEP, OIML/MID	7MH7725-1DD
750 lb (340.2 kg), NTEP, OIML/MID	7MH7725-1DE
1 000 lb (453.6 kg), NTEP, OIML/MID	7MH7725-1DF
50 lb (22.7 kg), CSA/FM/ATEX/IECEX	7MH7725-1DT
100 lb (45.4 kg), CSA/FM/ATEX/IECEX	7MH7725-1DU
250 lb (113.4 kg), CSA/FM/ATEX/IECEX	7MH7725-1DV
500 lb (226.8 kg), CSA/FM/ATEX/IECEX	7MH7725-1DW
750 lb (340.2 kg), CSA/FM/ATEX/IECEX	7MH7725-1DX
1 000 lb (453.6 kg), CSA/FM/ATEX/IECEX	7MH7725-1DY
1 250 lb (567 kg), CSA/FM/ATEX/IECEX	7MH7725-1EE
1 500 lb (680.4 kg), CSA/FM/ATEX/IECEX	7MH7725-1EF

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 4/59.

Note: Calibration accessories should be ordered as a separate item on the order

- We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ●

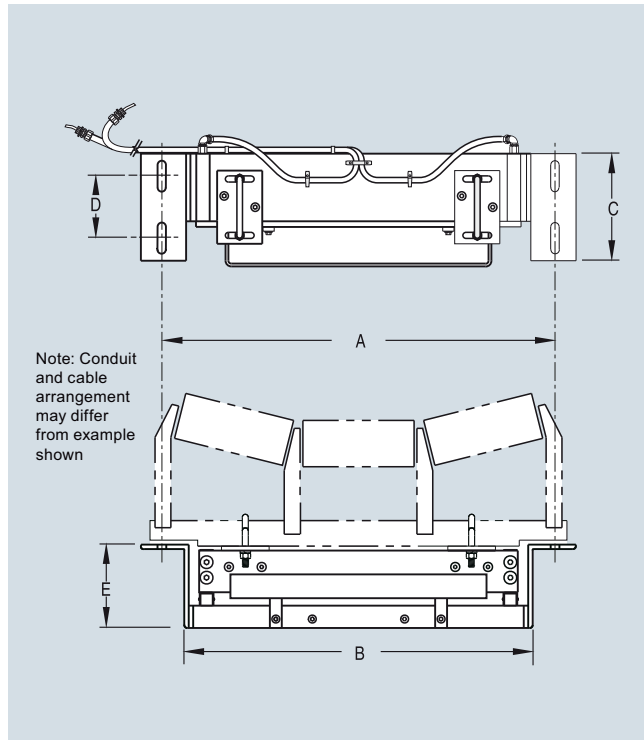
- 1) Only for quotation purposes, not a valid ordering option.
- 2) Available with Fabrication options 11 ... 18 and 41 ... 48 only, and with System specification option A only.
- 3) Two MSI are required to make the NTEP approved MMI.
- 4) Approval available with load cell options 2 ... 6 only and applicable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

Belt Scales

Milltronics belt scales

Milltronics MSI and MMI

Dimensional drawings

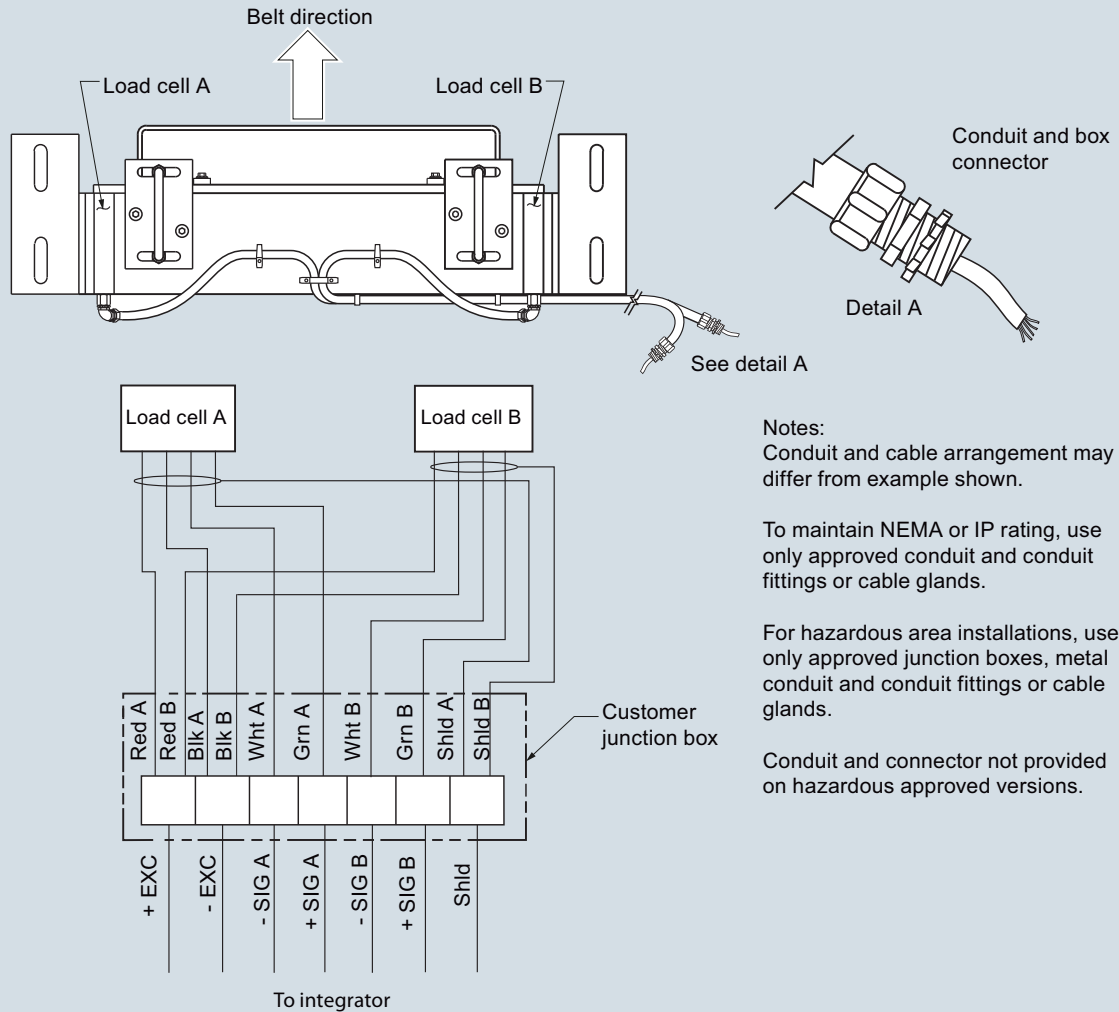


MSI dimensions

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 on page 4/3).

Schematics

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

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

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

Belt Scales

Milltronics belt scales

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 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 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	
Accuracy¹⁾	• $\pm 0.5 \dots 1$ % totalization over 25 ... 100 % operating range, application dependent
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 ²⁾
Capacity	Up to 100 t/h
Conveyor incline	• $\pm 20^\circ$ from horizontal, fixed incline • Up to $\pm 30^\circ$ with reduced accuracy ³⁾
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
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	• $-40 \dots +65^\circ\text{C}$ ($-40 \dots +150^\circ\text{F}$) operating range • $-10 \dots +40^\circ\text{C}$ ($15 \dots 105^\circ\text{F}$) compensated
Scale construction	• Stainless steel construction, bead blast finish ($1 \dots 6 \mu\text{m}$, $40 \dots 240 \mu\text{in}$) • Acetal sliders
Hazardous locations	Consult the factory
Approvals	CE, meets FDA/USDA requirements for food processing, RCM, GOST-R

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⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

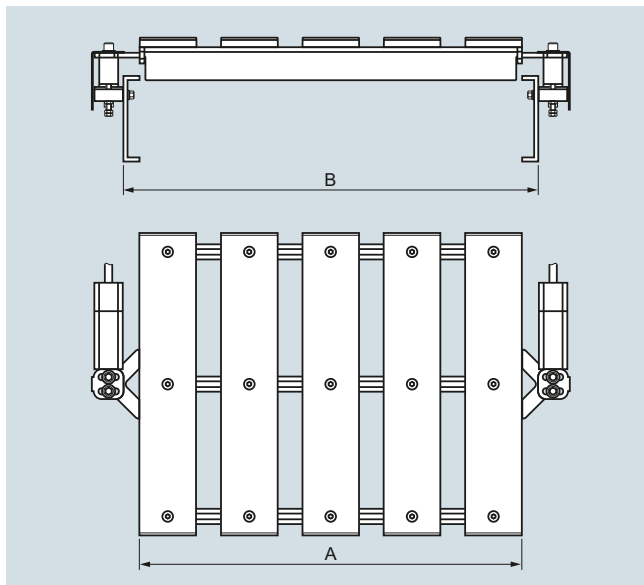
Selection and ordering data		Article No.		Article No.
Milltronics WD600		7MH7185-		
A low- to medium- capacity scale for light to medium belt loading. 304 stainless steel construction with Delrin sliders. Load cells are available in nickel plated, or stainless steel. Two calibration weights are required and are ordered as separate line item. Refer to Calibration weights.		A0		
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				
<u>Nickel plated</u>				
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		
<u>Stainless steel</u>				
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		
Manufacturer's test certificate: According to EN 10204-2.2		C11		
			Operating instructions	
			<ul style="list-style-type: none"> • English • German • French • Spanish 	7ML1998-5KM03 A5E32015601 A5E32862113 A5E32862157
			<u>Belt Scale Application Guidelines</u>	
			<ul style="list-style-type: none"> • English • French • German • Spanish 	7ML1998-5GA01 7ML1998-5GA11 7ML1998-5GA31 7ML1998-5GA21
			Note: The operating instructions should be ordered as a separate line on the order.	
			This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	
			Spare parts	
			Load cells	
			<u>Stainless steel</u>	
			6 kg (13.2 lb)	7MH7725-1EG
			12 kg (26.4 lb)	7MH7725-1EH
			30 kg (66.2 lb)	7MH7725-1EJ
			<u>Nickel plated</u>	
			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	

Belt Scales

Milltronics belt scales

Milltronics WD600

Dimensional drawings

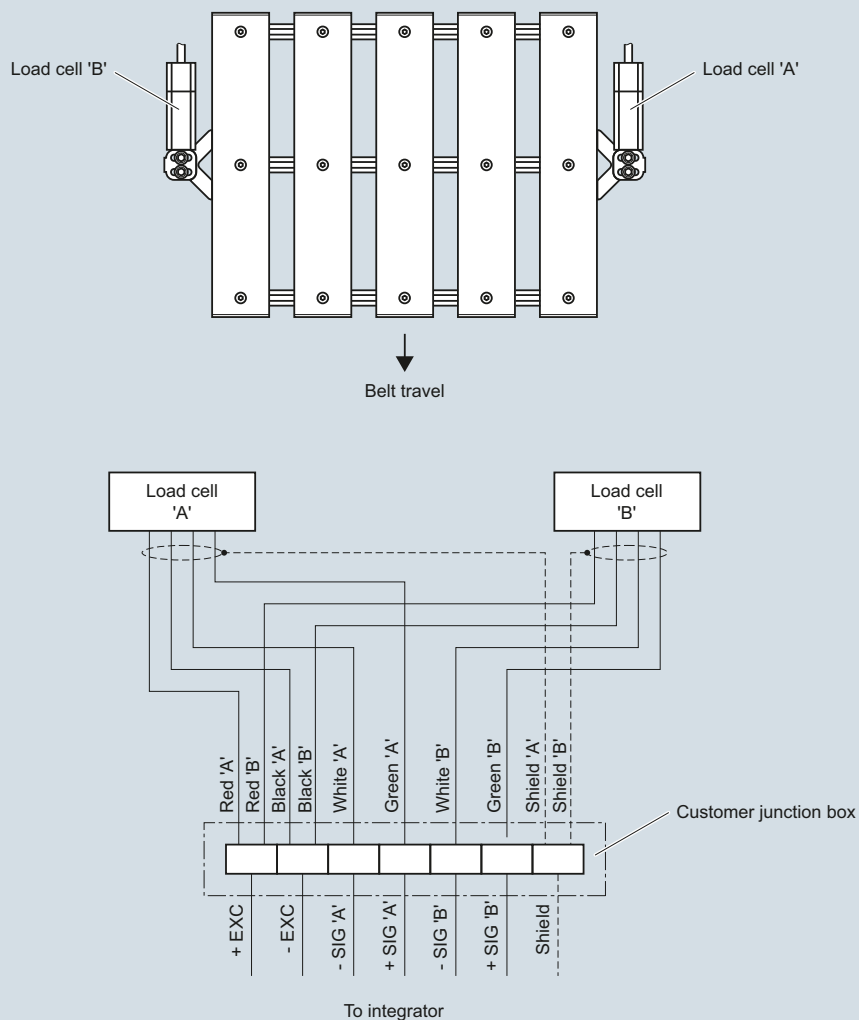


WD600, dimensions in inch (mm):

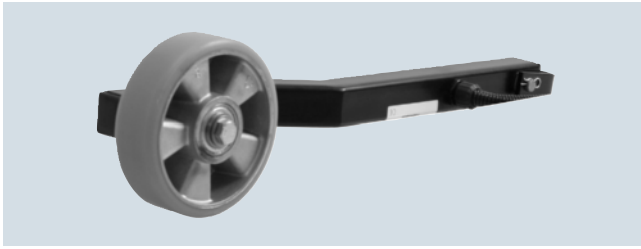
Belt width	A	B (min.)	B (max.)
12 (300)	14.25 (362)	15 (381)	16.5 (419)
18 (450)	20.25 (514)	21 (533)	22.5 (572)
24 (600)	26.25 (667)	27 (686)	28.5 (724)
30 (750)	32.25 (819)	33 (838)	34.5 (876)
36 (900)	38.25 (972)	39 (991)	40.5 (1 029)
42 (1 000)	44.25 (1 124)	45 (1 143)	46.5 (1 181)
48 (1 200)	50.25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

4

Schematics



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

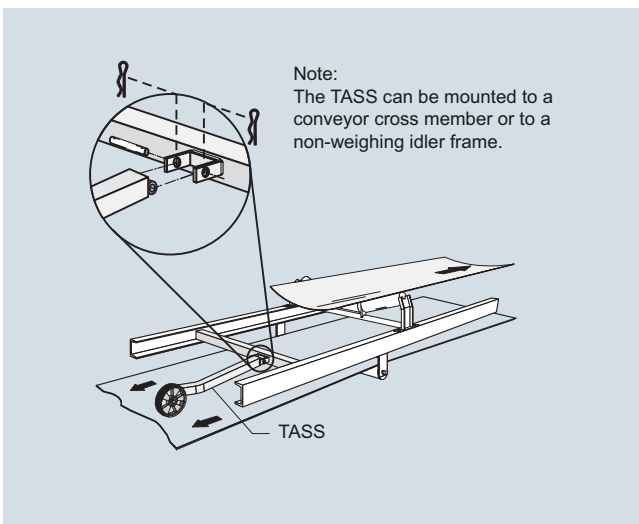
Milltronics TASS speed sensor operates in conjunction with a conveyor belt scale, providing signals to an integrator (Milltronics BW500, or SIWAREX FTC) which computes the rate of material being conveyed. The trailing arm speed sensor monitors conveyor belt speed, with the output signal transmitted by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

Installation



TASS Installation

Technical specifications

Milltronics TASS	
Mode of operation	
Measuring principle	Proximity sensor provides pulse to integrator
Typical application	Mobile crusher
Input	
	<ul style="list-style-type: none"> • Bi-directional wheel rotation • 25 ... 350 rpm
Output	
	<ul style="list-style-type: none"> • 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)
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)	
	<ul style="list-style-type: none"> • 5 m, 3 conductor shielded PVC cable, 3 x 0.25 mm² (23 AWG), protected with 1 000 mm of flexible conduit • 300 m (1 000 ft) maximum cable run
Approvals	
	CE, RCM, GOST-R

Belt Scales

Speed sensors

Milltronics TASS

Selection and ordering data

Milltronics TASS speed sensor

Compact, low-profile, wheel driven return belt speed sensor for belt conveyors; ideal for use on mobile crushers and in constricted spaces.

Model

5 pulses per revolution

Fabrication

Standard, polyester painted mild steel

Stainless steel 304 (1.4301), bead blast finish
(1 ... 6 µm, 40 ... 240 µin)

Note: Wheel is aluminum for all versions

Mounting options

Complete with standard mounting kit

Approvals

CE, RCM

Article No.

7MH7131-

0

1

A

B

A

1

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.

Manufacturer's test certificate:
According to EN 10204-2.2

Operating instructions

TASS Operating instructions, multi-language
Note: The operating instructions should be ordered
as a separate item on the order.

This device is shipped with the Siemens Milltronics
manual DVD containing the complete operating
instructions library.

Spare parts

TASS wheel

TASS proximity switch

TASS wheel, stainless steel sealed bearing

Conduit replacement kit

Order Code

Y15

C11

Article No.

7ML1998-5HL61

7MH7723-1AN

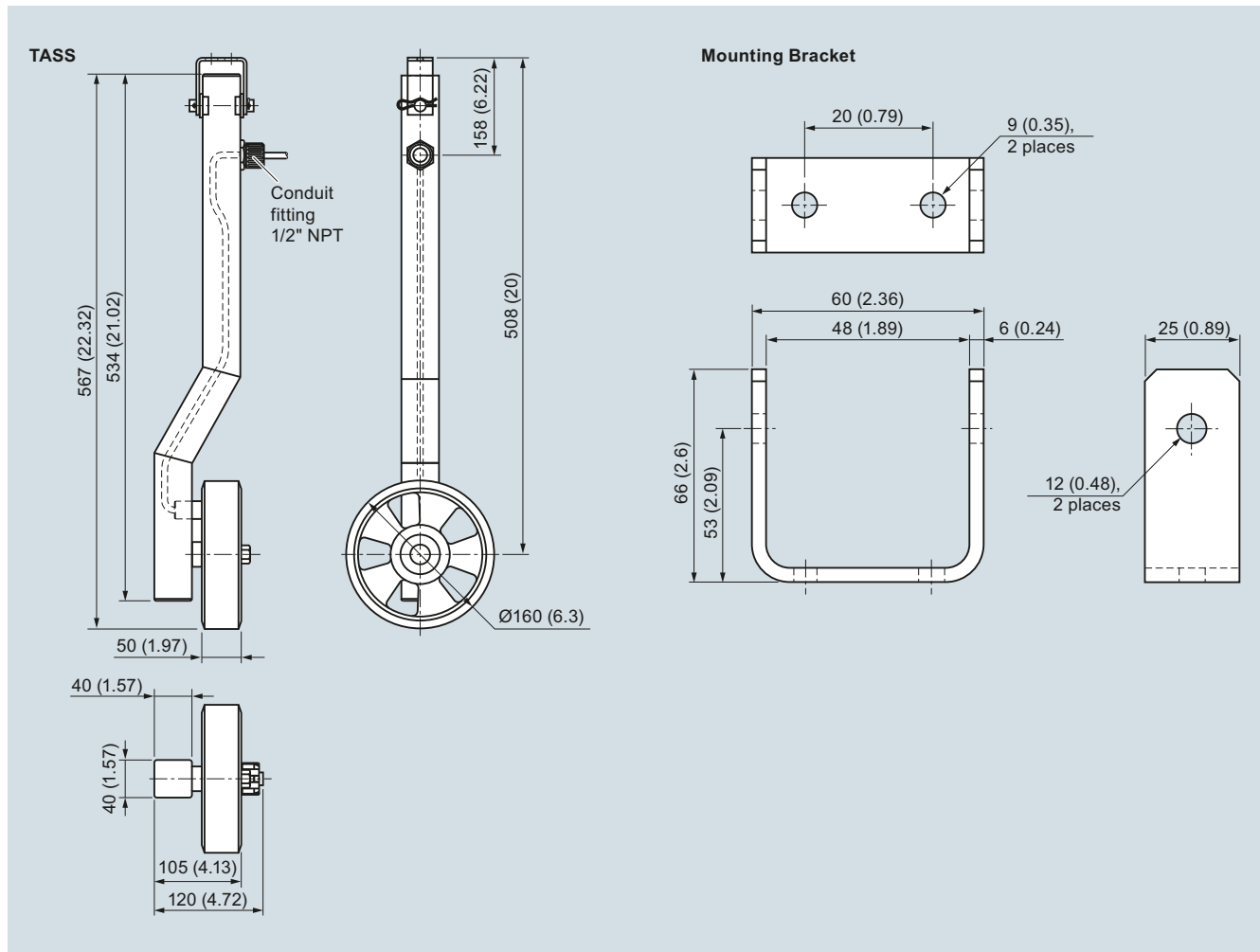
7MH7723-1AP

7MH7723-1GW

7MH7723-1NA

4

Dimensional drawings



TASS dimensions in mm (inch)

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

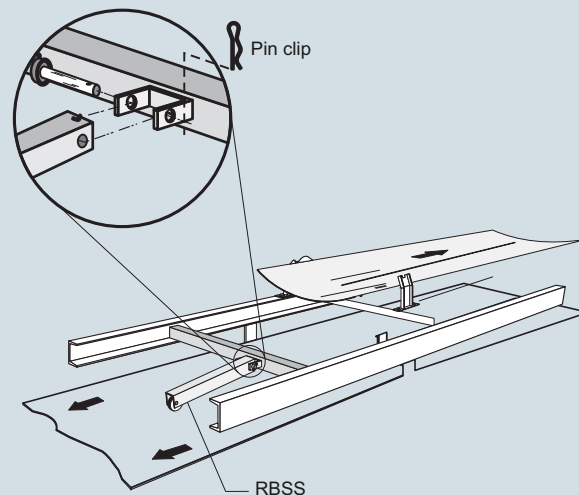
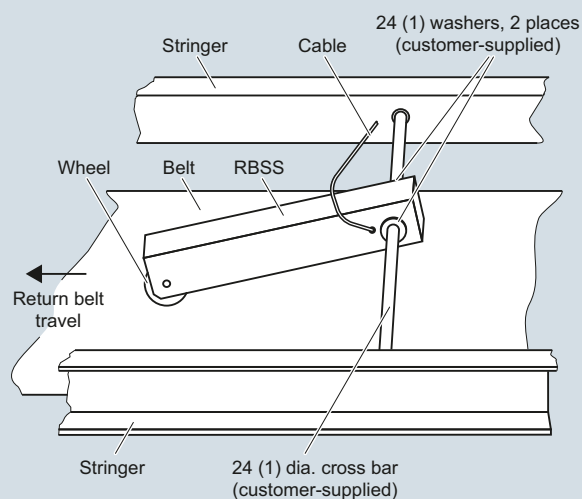
Milltronics RBSS monitors conveyor belt speed, with the output signal transmitted by cable connection to the integrator (Milltronics BW500, or SIWAREX FTC).

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 Milltronics belt scale integrator.

Design
Installation

RBSS Standard Mounting



RBSS installation

Belt Scales

Speed sensors

Milltronics RBSS

Technical specifications

Milltronics RBSS	
Mode of operation	
Measuring principle	Proximity sensor provides pulse to integrator
Typical application	Aggregate belt conveyors
Input	Wheel rotation 2 ... 450 rpm, bi-directional
Output	<ul style="list-style-type: none"> 60 pulses per revolution, 2 ... 450 Hz, 150.4 pulses/m (45.8 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	<ul style="list-style-type: none"> RBSS: -40 ... +105 °C (-40 ... +220 °F) RBSS IS: -25 ... +100 °C (-14 ... +212 °F)
Degree of protection	IP67
Design	
Trailing arm	Painted mild steel
Sensor wheel	127 mm (5 inch) diameter, polyurethane tread
Power supply	<ul style="list-style-type: none"> RBSS: 4.5 ... 28 V DC, 16 mA RBSS IS: 5 ... 25 V DC from IS switch isolator
Interconnection wiring (to integrator)	<ul style="list-style-type: none"> RBSS: 3 m, 3 conductor 22 AWG shielded cable <ul style="list-style-type: none"> - 300 m (1 000 ft) maximum cable run RBSS IS: 2 m, 2 conductor 26 AWG PVC covered cable <ul style="list-style-type: none"> - 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 ¹⁾
RBSS IS (with suitable IS switch isolator or switch amplifier) ²⁾	<ul style="list-style-type: none"> ATEX II 1G Ex 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, RCM²⁾
Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N)	<ul style="list-style-type: none"> ATEX II 1G Ex ia IIC T6 ATEX II 1D Ex iaD 20 T 108 °C CE, CSA, UL²⁾
Optional switch isolator (required for RBSS IS) ³⁾	<ul style="list-style-type: none"> Pepperl+Fuchs #KFA5-SOT2-Ex2 or #KFA6-SOT2-Ex2 ATEX II (1) G [Ex 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 CE²⁾

Selection and ordering data

Milltronics RBSS speed sensor	7MH7134-
A high resolution wheel-driven return belt speed sensor	
Model	
60 pulses per revolution	2
Fabrication	
Standard, polyester painted mild steel	A
Mounting options	
With mounting kit	B
Approvals	
CE, RCM, ATEX II 1G, Ex 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 ⁶⁾	2
CE, RCM	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	Article No.
RBSS Operating instructions, multi-language Note: The operating instructions should be ordered as a separate item on the order.	7ML1998-5GX63
This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	
Spare parts	
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 dia. ⁵⁾	7MH7723-1EN
60 tooth gear ⁵⁾	7MH7723-1EQ
Bearing (two required) ⁵⁾	7MH7723-1ER
Accessories	
Conduit kit	7MH7723-1NA

☛ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ☛.

¹⁾ EMC performance available upon request.

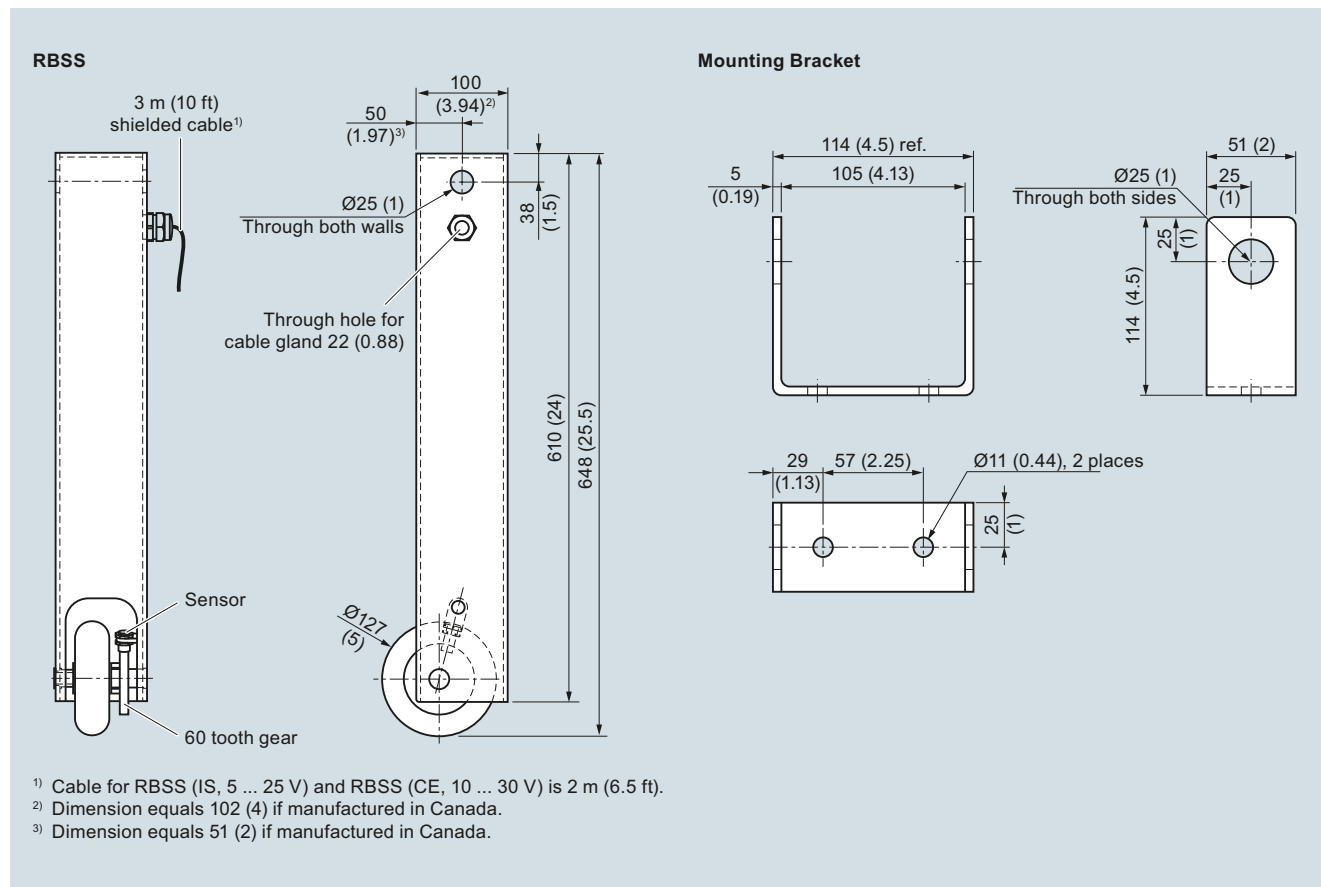
²⁾ Approvals for RBSS IS are based on internally mounted NAMUR slotted proximity switch (Pepperl+Fuchs #NJ0.8-5GM-N) and use of suitable IS switch isolator (amplifier). Please see RBSS operating instructions for more information.

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/processautomation>.

⁴⁾ Required with RBSS IS.

⁵⁾ For use with old style RBSS PBD-51033452.

⁶⁾ Switch isolator required.

Dimensional drawings


RBSS dimensions in mm (inch)

Belt Scales

Speed sensors

SITRANS WS100

Overview



SITRANS WS100 speed sensor is a compact, medium-resolution, pulley shaft-driven belt speed sensor with magnetic mounting. It is ideal for aggregate and mineral processing industries.

Benefits

- Small, light-weight
- Good resolution for accurate measurement, suitable for varying shaft speeds
- Long bearing life

Application

SITRANS WS100 speed sensor operates in conjunction with a conveyor belt scale, providing a signal to an integrator (Milltronics BW500, or SIWAREX FTC module) which computes the rate of material being conveyed. It is lightweight at 1.22 kg (2.68 lb) and durable, for easy installation and prolonged bearing life.

The WS100 converts shaft rotation into a pulse train of 8 pulses per revolution. These pulses are typically fed into a Milltronics belt scale integrator. The integrator interprets the pulses and uses them in the calculation of belt speed, flow rate, and material totalization. In non-belt scale applications, the WS100 can be used to monitor rotational speed when directly connected to a PLC.

The WS100 IS (intrinsically safe) version contains an inductive proximity switch which transmits the pulses via a switch isolator for hazardous area locations.

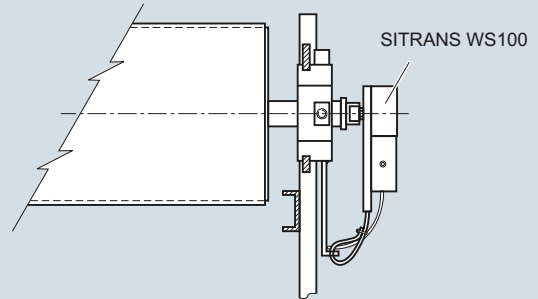
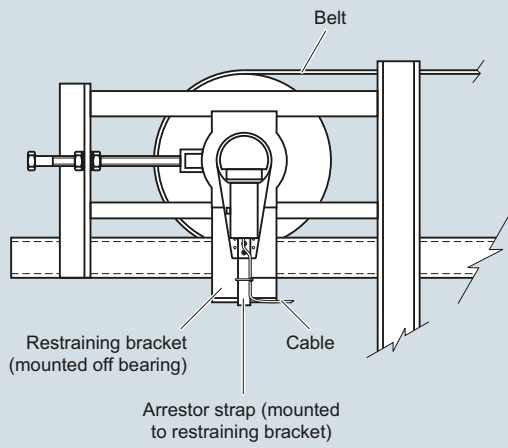
Design

The input shaft on the SITRANS WS100 is coupled to the rotating shaft on a belt-driven pulley with a tapped hole, and is externally supported. The unit's flexible arresting strap stops it from rotating with the shaft, without causing bearing stress, and can be fitted to any rigid member close to the sensor.

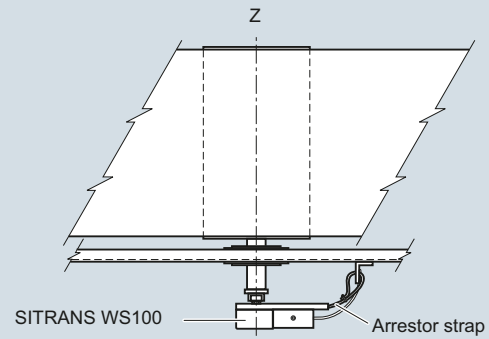
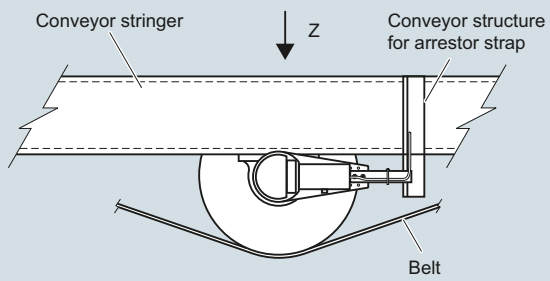
When mounting, ensure the unit and the pulley shaft are concentric to avoid stresses on the unit's bearings.

For mounting using the magnetic connector, ensure the face of the rotating shaft on the belt driven pulley is flat, and has no burrs or damage that may prevent flush mounting of the magnetic connector. Attach the SITRANS WS100 speed sensor to the shaft; the magnetic connector will center itself as the belt driven pulley rotates.

Mounting to a Tail Pulley



Mounting to a Bend or Snub Pulley



WS100 installation

Belt Scales

Speed sensors

SITRANS WS100

Technical specifications


SITRANS WS100	
Mode of operation	
Measuring principle	Proximity sensor provides pulse to integrator
Typical application	Aggregate belt conveyors
Input	Shaft rotation 15 ... 1 500 rpm, bi-directional Shaft rotation 15 ... 300 rpm, bi-directional with magnetic connector
Output	<ul style="list-style-type: none"> • 8 pulses per revolution • 0 ... 200 Hz, 0 ... 40 Hz with magnetic connection • WS100 standard: open collector, NPN, sinking output, 25 mA • WS100 IS: NAMUR NC, load current, 0 ... 15 mA • Integrator minimum usable frequency 2 Hz
Rated operating conditions	
Standard	-40 ... +110 °C (-40 ... +230 °F)
Intrinsically Safe	-25 ... +100 °C (-14 ... +212 °F)
Degree of protection	IP67
Enclosure	Polypropylene base and target enclosure with 304 (1.4301) stainless steel access cover 304 (1.4301) stainless steel shaft, bearings and hardware
Power	
Standard	4.5 ... 28 V DC, 16 mA
Intrinsically Safe	5 ... 25 V DC from IS switch isolator
Cable	
Standard	<ul style="list-style-type: none"> • 3 m (10 ft), 3 conductor 22 AWG (0.324 mm²), PVC shielded cable • 300 m (1 000 ft) maximum cable run
Intrinsically Safe	<ul style="list-style-type: none"> • 2 m (6.5 ft), 2 conductor 26 AWG (0.129 mm²), 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

SITRANS WS100	
Approvals	
WS100	CE, GOST-R, RCM ¹⁾
WS100 IS (with suitable IS switch isolator or switch amplifier) ²⁾	<ul style="list-style-type: none"> • 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, RCM²⁾
Proximity Switch Approval Ratings (Pepperl+Fuchs #NCN4- 12GM35-N0)	<ul style="list-style-type: none"> • ATEX II 1G EEx ia IIC T6 • ATEX II 1D Ex iaD 20 T 108 °C • CSA, UL • CE²⁾
Optional Switch isolator (required for WS100 IS) ³⁾	<ul style="list-style-type: none"> • 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 • CE²⁾

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/processautomation>.

Selection and ordering data	Article No.
SITRANS WS100 speed sensor A compact, medium-resolution, pulley shaft-driven belt speed sensor with magnetic mounting; ideal for aggregate and mineral processing industries.	7MH7176- 
Model 8 PPR	1
Fabrication Polycarbonate construction with 304 stainless steel sensor cover	A
Mounting M12 x 1.75 threaded shaft Magnetic connector	A B
Approvals Standard CE, RCM CE, RCM, ATEX II 1G, EEx ia IIC T6, ATEX II 1D Ex iaD 20 T 108 °C, and 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 ¹⁾	0 1
Switch isolator Not required 115 V AC (required with IS option 1) 230 V AC (required with IS option 1)	0 1 2
Further designs Please add "-Z" to article no. and specify order code(s).	Order Code
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 SITRANS WS100, English SITRANS WS100, German Note: The operating instructions should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	Article No. 7ML1998-5LU02 7ML1998-5LU31
Spare parts Magnetic proximity switch Switch, inductive, NCN4-12GM35-N0 for Approvals option 1 WS100 magnetic connector P & F switch isolator, 115 V AC, required for approvals option 1 P & F switch isolator, 230 V AC, required for approvals option 1	7MH7723-1GA 7MH7726-1AS 7MH7723-1GF 7MH7723-1EB 7MH7723-1EC

¹⁾ Switch isolator required.

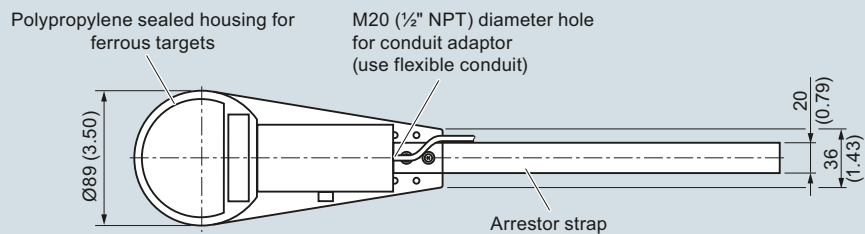
Belt Scales

Speed sensors

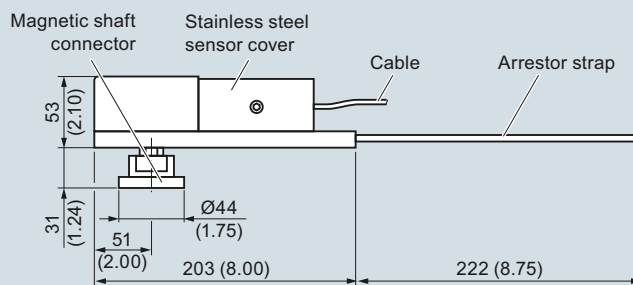
SITRANS WS100

Dimensional drawings

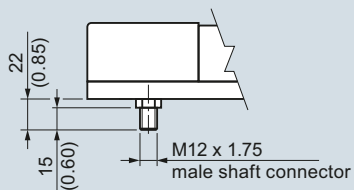
Dimensions



Magnetic shaft connector option



Male shaft connector option



WS100 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.

Belt Scales

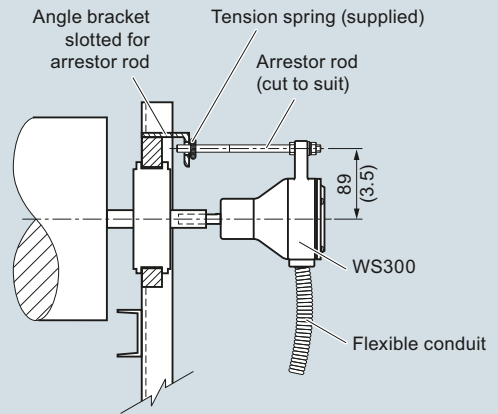
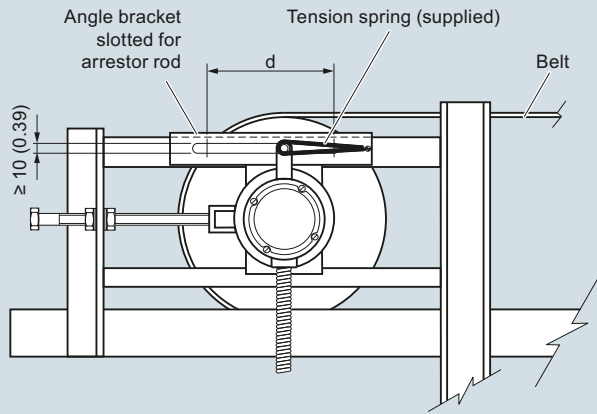
Speed sensors

SITRANS WS300

Design

Mounting:

Mounting to a Tail Pulley

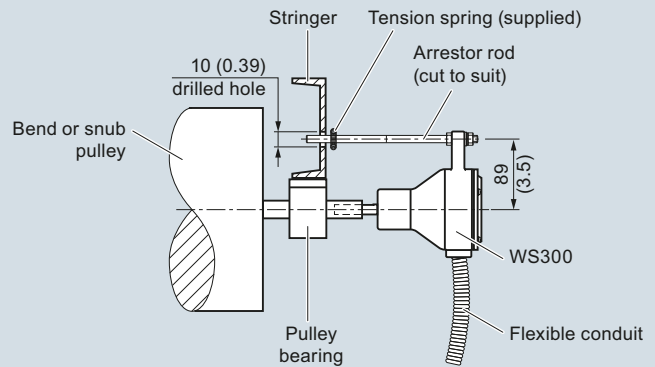
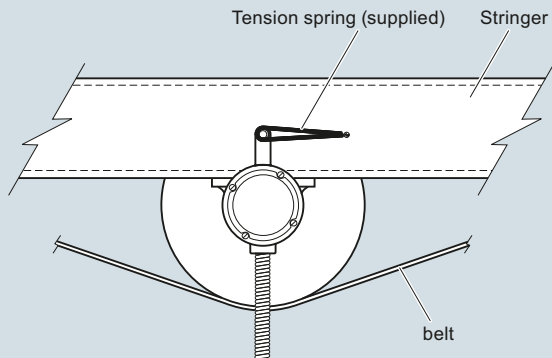


Notes:

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

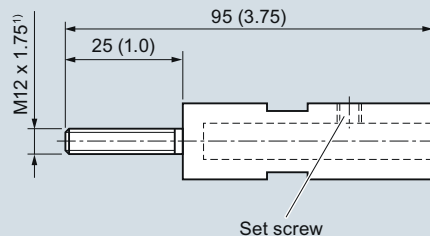
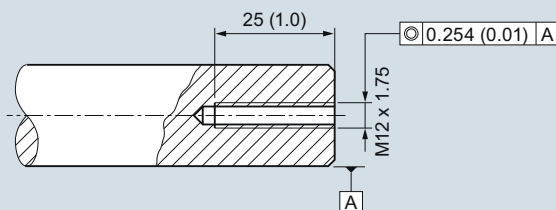


Notes:

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

Mounting using optional threaded shaft coupling:



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

WS300 mounting using threaded shaft coupling

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Standard: -40 ... +55 °C (-40 ... +131 °F) IS: -25 ... +100 °C (-13 ... +212 °F)
Degree of protection	NEMA 4X, Type 4X, IP65
Design	
Enclosure	<ul style="list-style-type: none"> Rated NEMA 4X, Type 4X, IP65 Painted aluminum Stainless steel (optional)
Power supply	<ul style="list-style-type: none"> Standard: 10 ... 30 V DC, 60 mA max. IS: 5 ... 16 V DC, 25 mA max. (from IS switch isolator)
Cable	
Recommended	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> CE, RCM, GOST-R
Hazardous	<ul style="list-style-type: none"> CSA/FM Class II, Div. 1, Groups E, F, G; Class III ATEX II 2D Ex tD A21 IP65 T70 ° GOST-R Ex, RTN IEC Ex, Ex tD A21 IP65 T70 °C
WS300 IS (with suitable IS switch isolator or switch amplifier) ¹⁾	<ul style="list-style-type: none"> 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, RCM²⁾
Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N)	<ul style="list-style-type: none"> ATEX II 1G EEx ia IIC T6 ATEX II 1D Ex iaD 20 T 108 °C CSA, UL CE²⁾
Optional switch isolator (required for WS300 IS) ³⁾	
<ul style="list-style-type: none"> Pepperl+Fuchs #KFA5-SOT2-Ex2 or #KFA6-SOT2-Ex2 	<ul style="list-style-type: none"> 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 CE²⁾

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/processautomation>.

Belt Scales

Speed sensors

SITRANS WS300

Selection and ordering data

SITRANS WS300 speed sensor

A medium- to high-resolution shaft-driven speed sensor used with Milltronics belt scales.

Resolution (pulses per revolution)

32	1
256	2
1 000	3
2 000 ¹⁾	4

Enclosure

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	A
ATEX II 2D, Ex tD A21 IP65 T70 °C, CE, RCM, IECEx, Ex tD A21 IP65 T70 °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, ATEX II 1G, EEx ia IIC T6, ATEX II 1D Ex iaD 20 T108 °C, CE, RCM ²⁾³⁾	B
CE, RCM	D

Connections

Standard, up to 2 integrators	1
Multiple, up to 10 integrators	2

Switch isolator

Not required	0
115 V AC ⁴⁾	1
230 V AC ⁴⁾	2

Further designs

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.

7MH7177-

0

Operating instructions

- English
- German

Note: The operating instructions should be ordered as a separate item on the order.

Spare parts

Circuit card 32 PPR, up to 2 integrators	7MH7723-1GK
Circuit card 32 PPR, up to 10 integrators	7MH7723-1GL
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)	7MH7723-1JP
Cable for IS speed sensor connection to termination box 3 cond, 22G (order per meter)	7MH7723-1JQ
Pepperl+Fuchs IS switch isolator, 115 V AC	7MH7723-1EB
Pepperl+Fuchs IS switch isolator, 230 V AC	7MH7723-1EC

Article No.

7ML1998-5ML01

7ML1998-5ML31

- ◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆

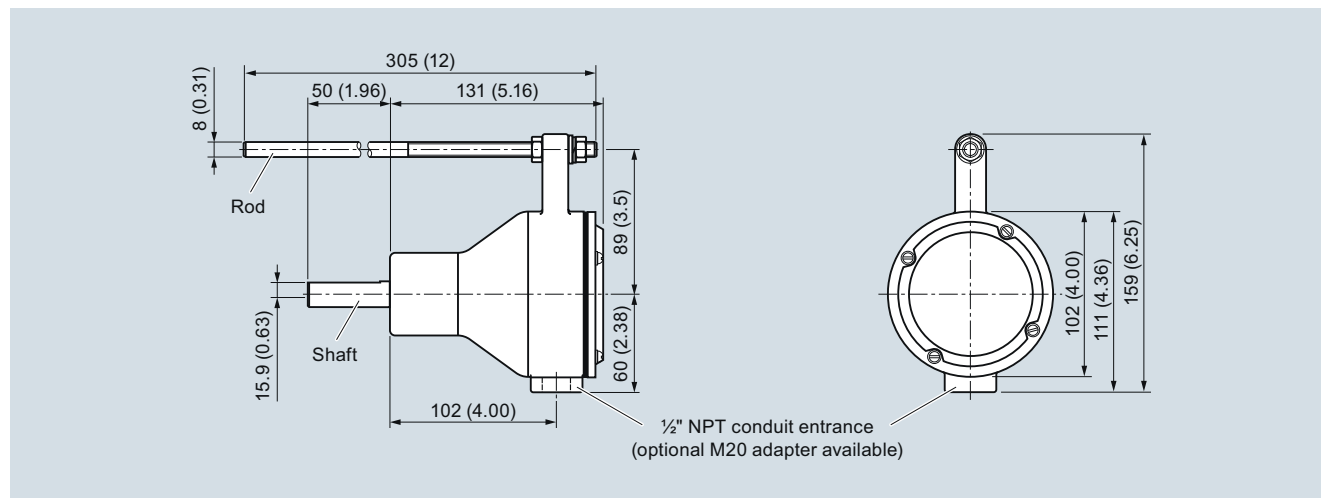
¹⁾ Available with Approval option D only.

²⁾ 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>.

³⁾ 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.

⁴⁾ For use with IS approval option B.

Dimensional drawings



WS300 dimensions in mm (inch)

Schematics

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 mm² (18 AWG) cable.
- Ground shield of cable at integrator only.
- Connect shield to appropriate terminal at the integrator.

Terminal Connections to Siemens Milltronics Integrators

WS300	1 +V	2 CW	3 CCW	4 Cmn	GND
Milltronics BW500	19	16	16	17	N/C

Terminal Connections to SIWAREX FTC Integrator

WS300	1 +V	2 CW	3 CCW	4 Cmn	GND
SIWAREX FTC	24 V (back-plane bus)	X1.9 (CI+)	X1.9 (CI+)	X1.10 (CI- and Common)	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 mm² (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 Siemens Milltronics Integrators

W300 IS	IS switch isolator Terminal	Integrator
1	1	
2	3	
	7	Speed signal input
	8	- Excitation

Terminal Connections to SIWAREX FTC Integrator

W300 IS	IS switch isolator Terminal	Integrator
1	1	
2	3	
	7	CI+
	8	IL+

Connect CI- to Common

Belt Scales

Speed sensors

Milltronics bend pulleys

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 (1.4401) 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	<ul style="list-style-type: none"> • 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

Selection and ordering data		Article No.	
Milltronics bend pulley, 4.5 inch and 6 inch diameter	7MH7170-	Milltronics bend pulley, 6 inch diameter with 1/4 inch lagging	7MH7171-
Return belt driven pulley provides rotation for shaft-driven speed sensors. 4.5 inch size is self-cleaning.		Return belt driven pulley provides rotation for shaft-driven speed sensors. The lagging offers self-cleaning advantages and ensures positive rotation.	
Size		Size	
4.5 inch diameter self cleaning ¹⁾	1	6 inch diameter with 1/4 inch lagging	3
6 inch diameter	2		
Belt width and 'A' dimension		Belt width and 'A' dimension	
18 inch, A=27 ... 29.5 inch (686 ... 749 mm), 20 inch, A=29 inch (737 mm)	A	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	24 inch, A=33 ... 35.5 inch (838 ... 901 mm)	B
30 inch, A=39 ... 41.5 inch (991 ... 1 054 mm)	C	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	36 inch, A=45 ... 47.5 inch (1 143 ... 1 206 mm)	E
42 inch, A=51 inch (1 295 mm)	G	42 inch, A=51... 53.5 inch (1295 ... 1 358 mm)	G
48 inch, A=57 ... 59.5 inch (1 448 ... 1 511 mm)	H	48 inch, A=57 ... 59.5 inch (1 448 ... 1511 mm)	H
54 inch, A=63 ... 65.5 inch (1 600 ... 1 663 mm)	K	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	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	66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)	M
500 mm, A=29 ... 31.5 inch (740 ... 800 mm)	N	500 mm, A=29 ... 31.5 inch (740 ... 800 mm)	N
650 mm, A=35 ... 37.6 inch (890 ... 954 mm)	P	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=41 ... 43.5 inch (1 040 ... 1 104 mm)	Q
800 mm, A=43 ... 45.4 inch (1 090 ... 1 154 mm)	R	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	1 000 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	1 200 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	1 400 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	1 450 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	1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)	W
Finish		Finish	
Standard, polyester painted mild steel ²⁾	A	Standard, polyester painted mild steel	A
316 (1.4401) stainless steel ³⁾	B	316 (1.4401) stainless steel	B
316 (1.4401) stainless steel ⁴⁾	C	316 (1.4401) stainless steel with corrosion resistant bearings	C
Epoxy painted ⁵⁾	D		
Epoxy painted, with corrosion resistant bearings ⁵⁾	E		
Bearings		Bearings	
Imperial size	0	Imperial size	0
Metric size	1	Metric size	1
No bearings	2	No bearings	2
Operating instructions		Operating instructions	
English Note: The operating instructions should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	7ML1998-5DE02	English Note: The operating instructions should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.	7ML1998-5DE02

¹⁾ Available with belt width and "A" dimension options A ... H and N ... V 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.

Belt Scales

Speed sensors

Milltronics bend pulleys

Selection and ordering data

Article No.

Milltronics bend pulley, 8 inch diameter

Belt driven pulley for WS Series speed sensors.

7MH7187-

Size

8 inch diameter

4

Belt width and 'A' dimension

48 inch, A=57 ... 59.5 inch (1 447.8 ... 1 511 mm)
 54 inch, A=63 ... 65.5 inch (1 600.2 ... 1 663 mm)
 60 inch, A=69 ... 71.5 inch (1 752.6 ... 1 816 mm)
 66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)
 72 inch, A=81 ... 83.5 inch (2 057 ... 2 121 mm)
 78 inch, A=87 ... 89.5 inch (2 210 ... 2 273 mm)
 84 inch, A=93 ... 95.5 inch (2 362 ... 2 426 mm)
 90 inch, A=99 ... 101.5 inch (2 515 ... 2 578 mm)
 96 inch, A=105 ... 107.5 inch (2 667 ... 2 731 mm)
 1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)
 1 400 mm, A=64.6 ... 67.1 inch (1 640 ... 1 704 mm)
 1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)
 1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)
 1 800 mm, A=80.3 ... 82.8 inch (2 040 ... 2 104 mm)
 2 000 mm, A=88.2 ... 90.7 inch (2 240 ... 2 304 mm)
 2 200 mm, A=96.1 ... 98.6 inch (2 440 ... 2 504 mm)
 2 400 mm, A=103.9 ... 106.4 inch (2 640 ... 2 704 mm)
 2 500 mm, A=107.9 ... 110.4 inch (2 740 ... 2 804 mm)

A
B
C
E
G
H
J
K
L
M
N
P
Q
R
S
T
U
V

Finish

Standard, polyester painted mild steel
 316 (1.4401) stainless steel
 316 (1.4401) stainless steel with corrosion resistant bearings
 Epoxy painted
 Epoxy painted with corrosion resistant bearings

A
B
C
D
E

Bearings

Imperial size
 Metric size
 No bearings

0
1
2

Operating instructions

English

7ML1998-5DE02

Note: The operating instructions should be ordered as a separate item on the order.

This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.

Article No.

Milltronics bend pulley, 8 inch diameter with 1/4 inch lagging

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

7MH7188-

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)
 54 inch, A=63 ... 65.5 inch (1 600.2 ... 1 663 mm)
 60 inch, A=69 ... 71.5 inch (1 752.6 ... 1 816 mm)
 66 inch, A=75 ... 77.5 inch (1 905 ... 1 968 mm)
 72 inch, A=81 ... 83.5 inch (2 057 ... 2 121 mm)
 78 inch, A=87 ... 89.5 inch (2 210 ... 2 273 mm)
 84 inch, A=93 ... 95.5 inch (2 362 ... 2 426 mm)
 90 inch, A=99 ... 101.5 inch (2 515 ... 2 578 mm)
 96 inch, A=105 ... 107.5 inch (2 667 ... 2 731 mm)
 1 200 mm, A=56.6 ... 59.2 inch (1 440 ... 1 504 mm)
 1 400 mm, A=64.6 ... 67.1 inch (1 640 ... 1 704 mm)
 1 450 mm, A=66.5 ... 69.0 inch (1 690 ... 1 754 mm)
 1 600 mm, A=72.4 ... 74.9 inch (1 840 ... 1 904 mm)
 1 800 mm, A=80.3 ... 82.8 inch (2 040 ... 2 104 mm)
 2 000 mm, A=88.2 ... 90.7 inch (2 240 ... 2 304 mm)
 2 200 mm, A=96.1 ... 98.6 inch (2 440 ... 2 504 mm)
 2 400 mm, A=103.9 ... 106.4 inch (2 640 ... 2 704 mm)
 2 500 mm, A=107.9 ... 110.4 inch (2 740 ... 2 804 mm)

A
B
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V

Finish

Standard, polyester painted mild steel
 316 (1.4401) stainless steel
 316 (1.4401) stainless steel with corrosion resistant bearings

A
B
C

Bearings

Imperial size
 Metric size
 No bearings

0
1
2

Operating instructions

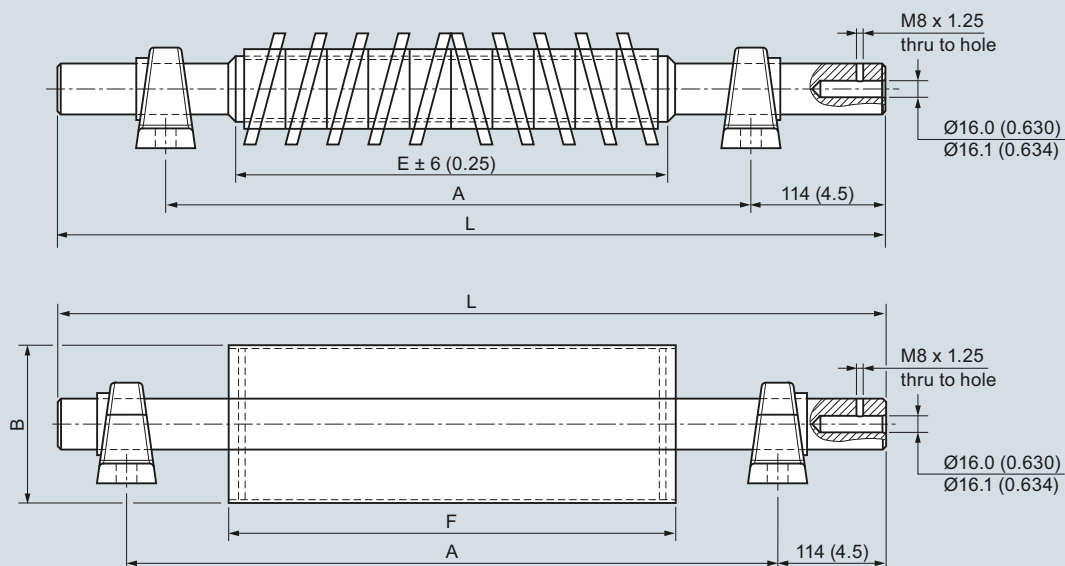
English

7ML1998-5DE02

Note: The operating instructions should be ordered as a separate item on the order.

This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.

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)	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		63 inch (1 600 mm)	70.5 inch (1 791 mm)	57 inch (1 448 mm)
60 inch		69 inch (1 753 mm)	76.5 inch (1 943 mm)	63 inch (1 600 mm)
66 inch		75 inch (1 905 mm)	82.5 inch (2 096 mm)	69 inch (1 752 mm)
500 mm	500 mm (19.7 inch)	737 mm (29 inch)	927 mm (36.5 inch)	551 mm (21.7 inch)
650 mm	650 mm (25.6 inch)	890 mm (35 inch)	1 080 mm (42.5 inch)	701 mm (27.6 inch)
800 mm	800 mm (31.5 inch)	1 040 mm (41 inch)	1 232 mm (48.5 inch)	851 mm (33.5 inch)
800 mm	800 mm (31.5 inch)	1 090 mm (43 inch)	1 283 mm (50.5 inch)	851 mm (33.5 inch)
1 000 mm	1 000 mm (39.4 inch)	1 240 mm (48.8 inch)	1 430 mm (56.3 inch)	1 052 mm (41.4 inch)
1 200 mm	1 200 mm (47.2 inch)	1 540 mm (60.6 inch)	1 730 mm (68.1 inch)	1 275 mm (50.2 inch)
1 400 mm		1 650 mm (65 inch)	1 842 mm (72.5 inch)	1 476 mm (58.1 inch)
1 450 mm		1 702 mm (67 inch)	1 892 mm (74.5 inch)	1 527 mm (60.1 inch)
1 600 mm		1 940 mm (76.4 inch)	2 131 mm (83.9 inch)	1 676 mm (66 inch)
1 800 mm		80.3 inch (2 040 mm)	87.8 inch (2 230 mm)	73.8 inch (1 875 mm)
2 000 mm		88.2 inch (2 240 mm)	95.7 inch (2 430 mm)	81.7 inch (2 075 mm)
2 200 mm		96.1 inch (2 440 mm)	103.5 inch (2 630 mm)	89.6 inch (2 275 mm)
2 400 mm		103.9 inch (2 640 mm)	111.9 inch (2 830 mm)	97.4 inch (2 475 mm)
2 500 mm		107.9 inch (2 740 mm)	115.4 inch (2 930 mm)	101.4 inch (2 575 mm)

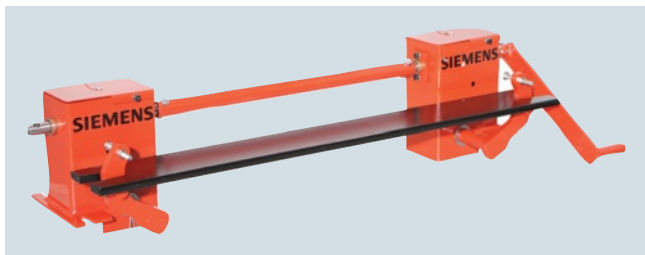
Bend pulley dimensions in mm (inch)

Belt Scales

Belt scales accessories

Milltronics MWL weight lifter

Overview



Milltronics MWL weight lifter is a mechanical calibration weight lifter for MBS, 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.

The motorized option allows for local or remote calibration of belt scales. Proximity sensors mounted to the MWL provide indication of storage or application of the test weight(s). The optional control panel features local control and indication of calibration as well as interfaces for remote calibration through a control system.


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	<ul style="list-style-type: none"> • MBS: up to 1 000 mm (42 inch) CEMA 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	
Idler spacing	20° or more troughed idlers 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
Motorized (option)	Motor - 0.75 HP (0.55 kW) IP55, integral 24 V DC brake, insulation class F, 220 ... 240/380 ... 460 V AC 3 pH 50/60 Hz or 575 V AC 3 pH 60 Hz
Controller panel (option)	208 ... 240, 380 ... 420, 380 ... 480, 575 ... 600 V AC, Nema/Type 4, IP65
Mounting dimensions	See reverse for standard and heavy-duty MUS, MBS, MCS, and MSI/MMI belt scales
Approvals	
Motorized option	The MWL is in compliance with directive 98/37/EC, CE, RCM CE, RCM, CSA _{C/US}

Belt Scales

Belt scales accessories

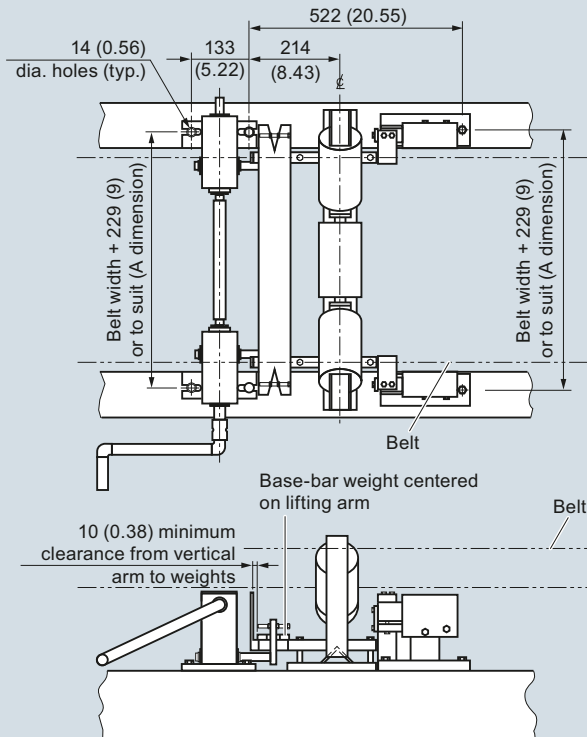
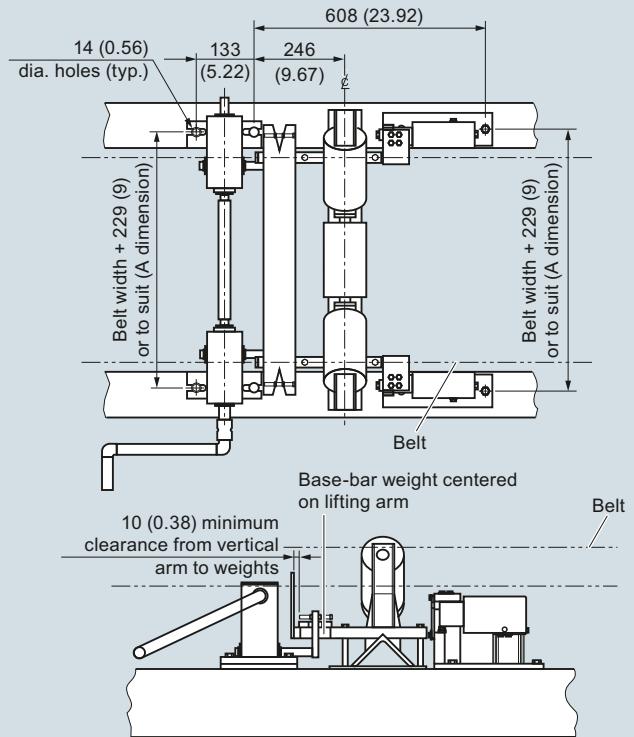
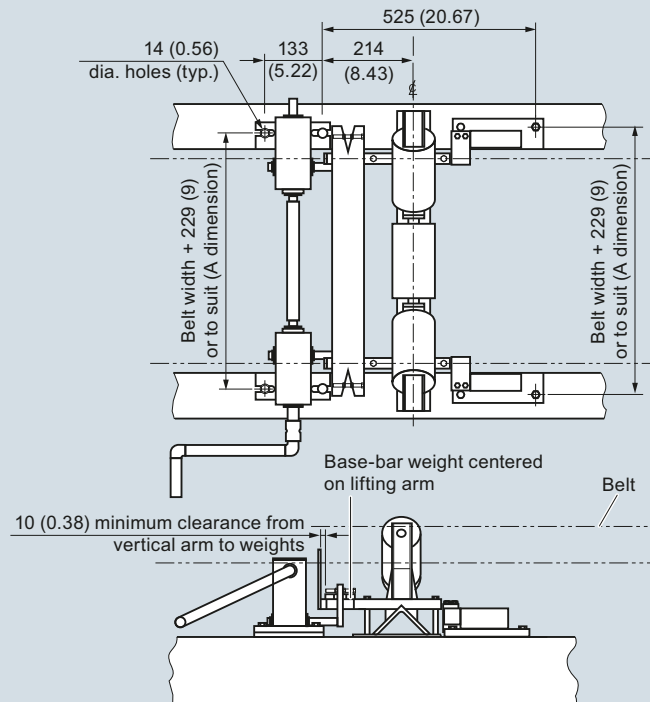
Milltronics MWL weight lifter

Selection and ordering data (continued)	Article No.	Order Code
Milltronics MWL weight lifter A mechanical calibration weight lifter for MSI, MMI, MBS, MCS, and MUS belt scale ¹⁾ For use with MSI, ensure MSI fabrication option 4 1 is selected.	7MH7218- 	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 Right side mounted motor (facing the MWL's weight's back) M30 Left side mounted motor (facing the MWL's weight's back) M31 Motorized MWL control panel: local or remote interface with up, down button/indicator, NEMA/Type 4, IP65, 15.75 x 19.68 x 8.27 inch (400 x 500 x 210 mm) A10
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	Operating instructions • English • French • Spanish • German Note: The operating instructions should be ordered as a separate line on the order.	Article No. 7ML1998-5CR03 7ML1998-5CR12 7ML1998-5CR22 7ML1998-5CR33
Fabrication Standard, polyester painted mild steel 1 Other materials available upon request. Electro galvanized mild steel 2	Spare parts 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 MBS, MCS belt scales) 7MH7723-1HA MWL handle shaft extension galvanized [3.75 inch (95 mm)] 7MH7223-1JS MWL motorized control panel 7MH7223-1JV MWL module LH unit galvanized 7MH7723-1HK MWL module RH unit galvanized 7MH7723-1HL MWL handle galvanized 7MH7723-1HM Proximity switches for motorized MWL 7MH7723-1KH Gearmotor 220 ... 240/380 ... 460 V AC 3 pH 50/60 Hz 7MH7723-1KJ Gearmotor 575 V AC 3 pH 60 Hz 7MH7723-1KK	

¹⁾ One MWL is required for each scale (MMI-2 requires 2 MWL).

²⁾ Select motor mounting, order code option M30 or M31.

³⁾ Available with weight type option 00 only.

Dimensional drawings**MWL with MUS - STD Standard Duty Belt Scale****MWL with MUS - HD Heavy Duty Belt Scale****MWL with MBS Belt Scale**

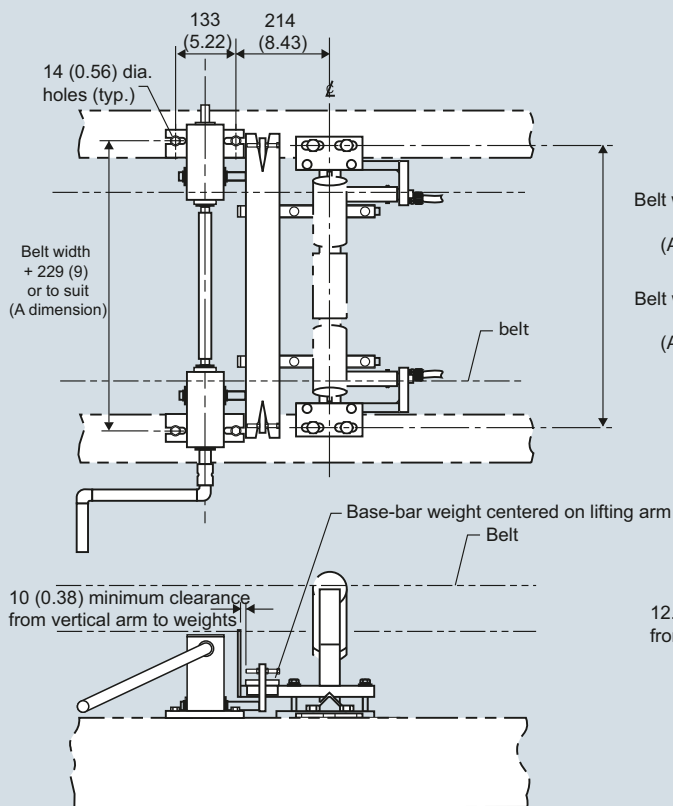
MWL dimensions in mm (inch)

Belt Scales

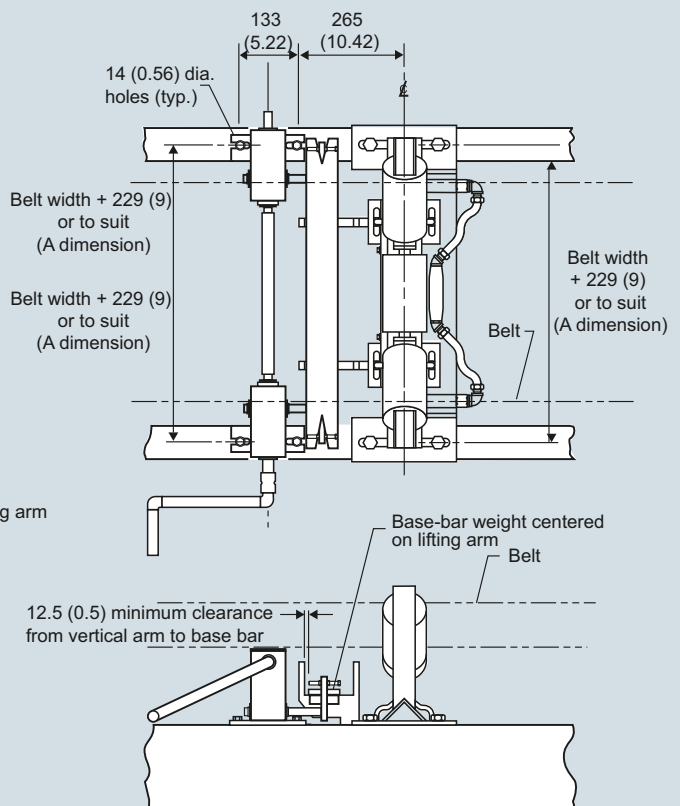
Belt scales accessories

Milltronics MWL weight lifter

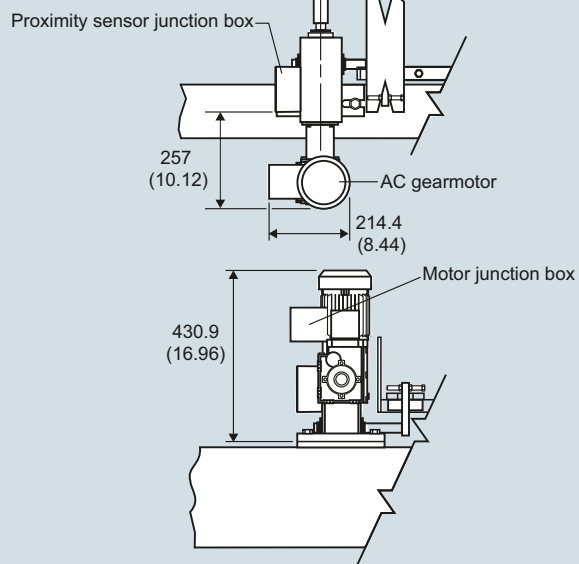
MWL with MCS belt scale




MWL with MSI/MMI belt scale



MWL electronic version



MWL dimensions in mm (inch)

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- 
Bar width, belt width and A dimension, weight	
3 inch, 18 inch, A=27 inch (686 mm), 4.63 kg	1 AA
3 inch, 24 inch, A=33 inch (838 mm), 5.78 kg	1 AG
3 inch, 30 inch, A=39 inch (991 mm), 6.94 kg	1 AN
3 inch, 36 inch, A=45 inch (1 143 mm), 8.10 kg	1 AU
3 inch, 42 inch, A=51 inch (1 295 mm), 9.25 kg	1 BD
3 inch, 48 inch, A=57 inch (1 448 mm), 10.41 kg	1 BK
3 inch, 54 inch, A=63 inch (1 600 mm), 11.57 kg	1 BR
3 inch, 60 inch, A=69 inch (1 753 mm), 12.73 kg	1 CA
3 inch, 66 inch, A=75 inch (1 905 mm), 13.89 kg	1 CG
3 inch, 72 inch, A=81 inch (2 057 mm), 15.05 kg	1 CN
3 inch, 78 inch, A=87 inch (2 210 mm), 16.21 kg	1 CU
3 inch, 84 inch, A=93 inch (2 362 mm), 17.37 kg	1 DD
3 inch, 90 inch, A=99 inch (2 515 mm), 18.53 kg	1 DK
3 inch, 96 inch, A=105 inch (2 667 mm), 19.69 kg	1 DR
4 inch, 18 inch, A=27 inch (686 mm), 6.17 kg	2 AA
4 inch, 24 inch, A=33 inch (838 mm), 7.71 kg	2 AG
4 inch, 30 inch, A=39 inch (991 mm), 9.26 kg	2 AN
4 inch, 36 inch, A=45 inch (1 143 mm), 10.80 kg	2 AU
4 inch, 42 inch, A=51 inch (1 295 mm), 12.34 kg	2 BD
4 inch, 48 inch, A=57 inch (1 448 mm), 13.89 kg	2 BK
4 inch, 54 inch, A=63 inch (1 600 mm), 15.42 kg	2 BR
4 inch, 60 inch, A=69 inch (1 753 mm), 16.97 kg	2 CA
4 inch, 66 inch, A=75 inch (1 905 mm), 18.52 kg	2 CG
4 inch, 72 inch, A=81 inch (2 057 mm), 20.07 kg	2 CN
4 inch, 78 inch, A=87 inch (2 210 mm), 21.62 kg	2 CU
4 inch, 84 inch, A=93 inch (2 362 mm), 23.17 kg	2 DD
4 inch, 90 inch, A=99 inch (2 515 mm), 24.72 kg	2 DK
4 inch, 96 inch, A=105 inch (2 667 mm), 26.27 kg	2 DR
Fabrication Standard, polyester painted mild steel	1

Belt Scales

Belt scales accessories

Milltronics test chains

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

Milltronics calibration test chains	
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

Selection and ordering data		Article No.			Article No.
Milltronics test chains		7MH7161-	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	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
<u>5 lb/ft (7.4 kg/m), 6 inch pitch</u>			<u>25 lb/ft (37.2 kg/m), 4 inch pitch</u>		
4 ... 7 ft (1.2 ... 2.1 m)	AA 1		4 ... 7 ft (1.2 ... 2.1 m)	FF 1	
8 ... 11 ft (2.4 ... 3.4 m)	AA 2		8 ... 11 ft (2.4 ... 3.4 m)	FF 2	
12 ... 15 ft (3.7 ... 4.6 m)	AA 3		12 ... 15 ft (3.7 ... 4.6 m)	FF 3	
16 ... 19 ft (4.9 ... 5.8 m)	AA 4		16 ... 19 ft (4.9 ... 5.8 m)	FF 4	
20 ... 23 ft (6.1 ... 7.0 m)	AA 5		20 ... 23 ft (6.1 ... 7.0 m)	FF 5	
24 ... 27 ft (7.3 ... 8.2 m)	AA 6		24 ... 27 ft (7.3 ... 8.2 m)	FF 6	
28 ... 31 ft (8.5 ... 9.4 m)	AA 7		28 ... 31 ft (8.5 ... 9.4 m)	FF 7	
32 ... 35 ft (9.8 ... 10.7 m)	AA 8		32 ... 35 ft (9.8 ... 10.7 m)	FF 8	
<u>7.5 lb/ft (11.2 kg/m), 6 inch pitch</u>			<u>30 lb/ft (44.6 kg/m), 4 inch pitch</u>		
4 ... 7 ft (1.2 ... 2.1 m)	BB 1		4 ... 7 ft (1.2 ... 2.1 m)	GG 1	
8 ... 11 ft (2.4 ... 3.4 m)	BB 2		8 ... 11 ft (2.4 ... 3.4 m)	GG 2	
12 ... 15 ft (3.7 ... 4.6 m)	BB 3		12 ... 15 ft (3.7 ... 4.6 m)	GG 3	
16 ... 19 ft (4.9 ... 5.8 m)	BB 4		16 ... 19 ft (4.9 ... 5.8 m)	GG 4	
20 ... 23 ft (6.1 ... 7.0 m)	BB 5		20 ... 23 ft (6.1 ... 7.0 m)	GG 5	
24 ... 27 ft (7.3 ... 8.2 m)	BB 6		24 ... 27 ft (7.3 ... 8.2 m)	GG 6	
28 ... 31 ft (8.5 ... 9.4 m)	BB 7		28 ... 31 ft (8.5 ... 9.4 m)	GG 7	
32 ... 35 ft (9.8 ... 10.7 m)	BB 8		32 ... 35 ft (9.8 ... 10.7 m)	GG 8	
<u>10 lb/ft (14.9 kg/m), 4 inch pitch</u>			<u>35 lb/ft (52.1 kg/m), 4 inch pitch</u>		
4 ... 7 ft (1.2 ... 2.1 m)	CC 1		4 ... 7 ft (1.2 ... 2.1 m)	HH 1	
8 ... 11 ft (2.4 ... 3.4 m)	CC 2		8 ... 11 ft (2.4 ... 3.4 m)	HH 2	
12 ... 15 ft (3.7 ... 4.6 m)	CC 3		12 ... 15 ft (3.7 ... 4.6 m)	HH 3	
16 ... 19 ft (4.9 ... 5.8 m)	CC 4		16 ... 19 ft (4.9 ... 5.8 m)	HH 4	
20 ... 23 ft (6.1 ... 7.0 m)	CC 5		20 ... 23 ft (6.1 ... 7.0 m)	HH 5	
24 ... 27 ft (7.3 ... 8.2 m)	CC 6		24 ... 27 ft (7.3 ... 8.2 m)	HH 6	
28 ... 31 ft (8.5 ... 9.4 m)	CC 7		28 ... 31 ft (8.5 ... 9.4 m)	HH 7	
32 ... 35 ft (9.8 ... 10.7 m)	CC 8		32 ... 35 ft (9.8 ... 10.7 m)	HH 8	
<u>15 lb/ft (22.3 kg/m), 4 inch pitch</u>			<u>40 lb/ft (59.5 kg/m), 4 inch pitch</u>		
4 ... 7 ft (1.2 ... 2.1 m)	DD 1		4 ... 7 ft (1.2 ... 2.1 m)	JJ 1	
8 ... 11 ft (2.4 ... 3.4 m)	DD 2		8 ... 11 ft (2.4 ... 3.4 m)	JJ 2	
12 ... 15 ft (3.7 ... 4.6 m)	DD 3		12 ... 15 ft (3.7 ... 4.6 m)	JJ 3	
16 ... 19 ft (4.9 ... 5.8 m)	DD 4		16 ... 19 ft (4.9 ... 5.8 m)	JJ 4	
20 ... 23 ft (6.1 ... 7.0 m)	DD 5		20 ... 23 ft (6.1 ... 7.0 m)	JJ 5	
24 ... 27 ft (7.3 ... 8.2 m)	DD 6		24 ... 27 ft (7.3 ... 8.2 m)	JJ 6	
28 ... 31 ft (8.5 ... 9.4 m)	DD 7		28 ... 31 ft (8.5 ... 9.4 m)	JJ 7	
32 ... 35 ft (9.8 ... 10.7 m)	DD 8		32 ... 35 ft (9.8 ... 10.7 m)	JJ 8	
<u>20 lb/ft (29.8 kg/m), 4 inch pitch</u>			<u>45 lb/ft (67.0 kg/m), 4 inch pitch</u>		
4 ... 7 ft (1.2 ... 2.1 m)	EE 1		4 ... 7 ft (1.2 ... 2.1 m)	KK 1	
8 ... 11 ft (2.4 ... 3.4 m)	EE 2		8 ... 11 ft (2.4 ... 3.4 m)	KK 2	
12 ... 15 ft (3.7 ... 4.6 m)	EE 3		12 ... 15 ft (3.7 ... 4.6 m)	KK 3	
16 ... 19 ft (4.9 ... 5.8 m)	EE 4		16 ... 19 ft (4.9 ... 5.8 m)	KK 4	
20 ... 23 ft (6.1 ... 7.0 m)	EE 5		20 ... 23 ft (6.1 ... 7.0 m)	KK 5	
24 ... 27 ft (7.3 ... 8.2 m)	EE 6		24 ... 27 ft (7.3 ... 8.2 m)	KK 6	
28 ... 31 ft (8.5 ... 9.4 m)	EE 7		28 ... 31 ft (8.5 ... 9.4 m)	KK 7	
32 ... 35 ft (9.8 ... 10.7 m)	EE 8		32 ... 35 ft (9.8 ... 10.7 m)	KK 8	

Belt Scales

Belt scales accessories

Milltronics test chains

Selection and ordering data

Milltronics test chains

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).

50 lb/ft (74.4 kg/m), 4 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

60 lb/ft (89.3 kg/m), 6 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

70 lb/ft (104.2 kg/m), 6 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

80 lb/ft (119.1 kg/m), 6 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

90 lb/ft (133.9 kg/m), 6 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

Article No.

7MH7161-

0 0

LL 1

LL 2

LL 3

LL 4

LL 5

LL 6

LL 7

LL 8

NN 1

NN 2

NN 3

NN 4

NN 5

NN 6

NN 7

NN 8

PP 1

PP 2

PP 3

PP 4

PP 5

PP 6

PP 7

PP 8

QQ 1

QQ 2

QQ 3

QQ 4

QQ 5

QQ 6

QQ 7

QQ 8

RR 1

RR 2

RR 3

RR 4

RR 5

RR 6

RR 7

RR 8

Article No.

7MH7161-

0 0

SS 1

SS 2

SS 3

SS 4

SS 5

SS 6

SS 7

SS 8

Milltronics test chains

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).

100 lb/ft (148.8 kg/m), 6 inch pitch

4 ... 7 ft (1.2 ... 2.1 m)

8 ... 11 ft (2.4 ... 3.4 m)

12 ... 15 ft (3.7 ... 4.6 m)

16 ... 19 ft (4.9 ... 5.8 m)

20 ... 23 ft (6.1 ... 7.0 m)

24 ... 27 ft (7.3 ... 8.2 m)

28 ... 31 ft (8.5 ... 9.4 m)

32 ... 35 ft (9.8 ... 10.7 m)

Further models

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 foot = 304.8 mm)

Operating instructions

- English
- German

Note: The operating instructions should be ordered as a separate item on the order.

This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.

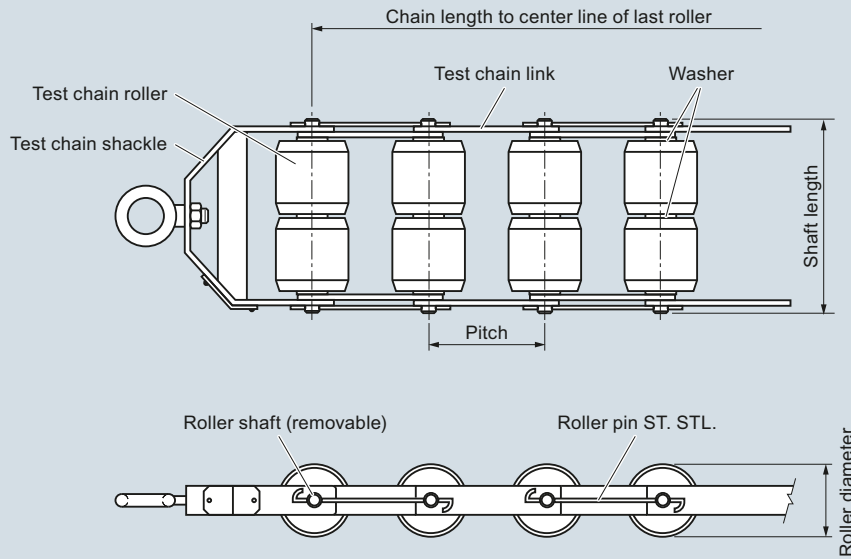
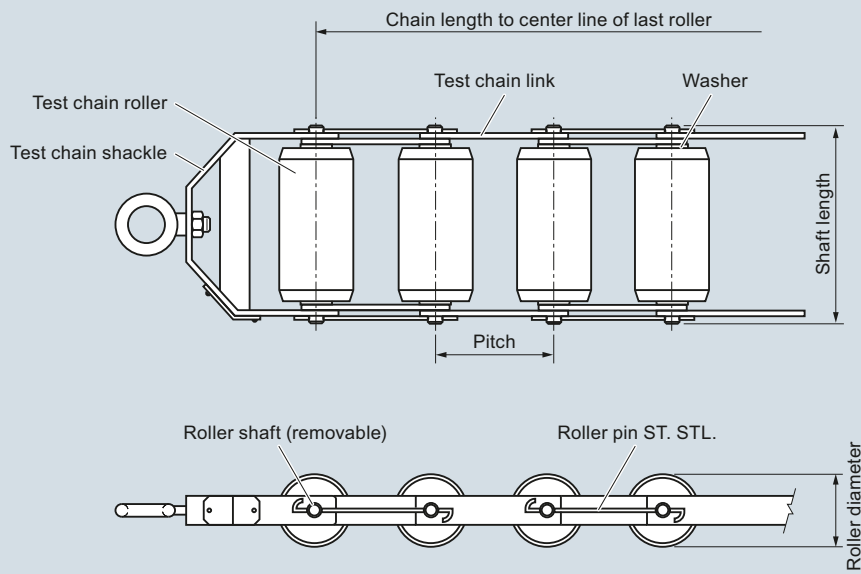
Order Code

Y01

Article No.

A5E32310082

7ML1998-5JD31

Dimensional drawings
Double roller

Single roller


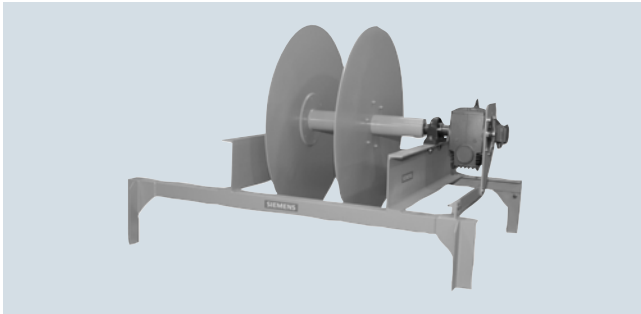
Milltronics test chain dimensions

Belt Scales

Belt scales accessories

Milltronics test chain storage reels

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

Milltronics calibration test chain storage reels	
Medium conditions	
Operating temperature	-10 ... +60 °C (14 ... 140 °F)
Design	<ul style="list-style-type: none"> • 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

Selection and ordering data

Article No.

Milltronics test chain storage reels

7MH7163-

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

Compartment size

5 inch (127 mm) for chain sizes: 5 lb/ft (7.4 kg/m), 10 lb/ft (14.9 kg/m)

6 inch (152 mm) for chain sizes: 7.5 lb/ft (11.2 kg/m)

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)

8 inch (203 mm) for chain sizes: 30 lb/ft (44.6 kg/m), 35 lb/ft (52.1 kg/m)

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)

12 inch (305 mm) for chain sizes: 55 lb/ft (81.9 kg/m), 60 lb/ft (89.3 kg/m)

13 inch (330 mm) for chain sizes: 70 lb/ft (104.2 kg/m)

14 inch (356 mm) for chain sizes: 80 lb/ft (119.1 kg/m), 100 lb/ft (148.8 kg/m)

16 inch (406 mm) for chain sizes: 90 lb/ft (133.9 kg/m)

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

Belt Scales

Belt scales accessories

Milltronics test chain storage reels

Milltronics test chain storage reels

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

56 inch (1 422 mm)
57 inch (1 448 mm)
58 inch (1 473 mm)
59 inch (1 499 mm)
60 inch (1 524 mm)
61 inch (1 549 mm)
62 inch (1 575 mm)
63 inch (1 600 mm)
64 inch (1 626 mm)
65 inch (1 651 mm)
66 inch (1 676 mm)
67 inch (1 702 mm)
68 inch (1 727 mm)
69 inch (1 753 mm)
70 inch (1 778 mm)
71 inch (1 803 mm)
72 inch (1 829 mm)
73 inch (1 854 mm)
74 inch (1 880 mm)
75 inch (1 905 mm)
76 inch (1 930 mm)
77 inch (1 956 mm)
78 inch (1 981 mm)
79 inch (2 007 mm)
80 inch (2 032 mm)
81 inch (2 057 mm)
82 inch (2 083 mm)
83 inch (2 108 mm)
84 inch (2 134 mm)
85 inch (2 159 mm)
86 inch (2 184 mm)
87 inch (2 210 mm)
88 inch (2 235 mm)
89 inch (2 261 mm)
90 inch (2 286 mm)
91 inch (2 311 mm)
92 inch (2 337 mm)
93 inch (2 362 mm)
94 inch (2 388 mm)
95 inch (2 413 mm)
96 inch (2 438 mm)
97 inch (2 464 mm)
98 inch (2 489 mm)
99 inch (2 515 mm)
100 inch (2 540 mm)
101 inch (2 565 mm)
102 inch (2 591 mm)
103 inch (2 616 mm)
104 inch (2 642 mm)
105 inch (2 667 mm)

7MH7163-

BL
BM
BN
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CE
CF
CG
CH
CJ
CK
CL
CM
CN
CP
CQ
CR
CS
CT
CU
CV
CW
DA
DB
DC
DD
DE
DF
DG
DH
DJ
DK
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DM
DN
DP
DQ
DR
DS
DT

Milltronics test chain storage reels

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

3 Phase motor voltage

230/460 V 60 Hz
200/400 V 50 Hz
575 V 60 Hz
190/380 V 50 Hz
190/380 V 60 Hz
220 V 60 Hz
415 V 50 Hz

Reel type

Single compartment for 1 calibration test chain
Double compartment for 2 calibration test chains

Reel diameter/motor mount location

36 inch (914 mm) / right hand access
42 inch (1 067 mm) / right hand access
48 inch (1 219 mm) / right hand access
60 inch (1 372 mm) / right hand access
36 inch (914 mm) / left hand access
42 inch (1 067 mm) / left hand access
48 inch (1 219 mm) / left hand access
60 inch (1 372 mm) / left hand access

Motor power

0.75 HP (0.56 kW)
1 HP (0.75 kW)
1.5 HP (1.12 kW)
2 HP (1.5 kW)
3 HP (2.24 kW)
5 HP (3.73 kW)
7.5 HP (5.59 kW)
10 HP (7.5 kW)
15 HP (11.19 kW)
20 HP (14.91 kW)

Operating instructions

- English
- German

Note: The operating instructions should be ordered as a separate item on the order.

This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.

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

7MH7163-

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7ML1998-5JD01

7ML1998-5JD31

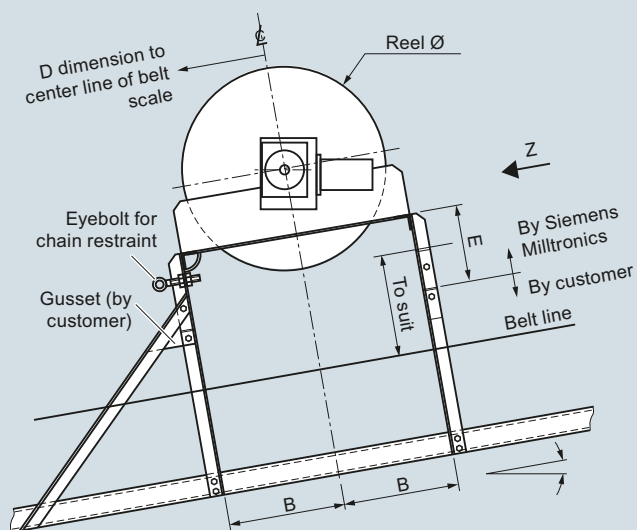
7MH7723-1JY

Belt Scales

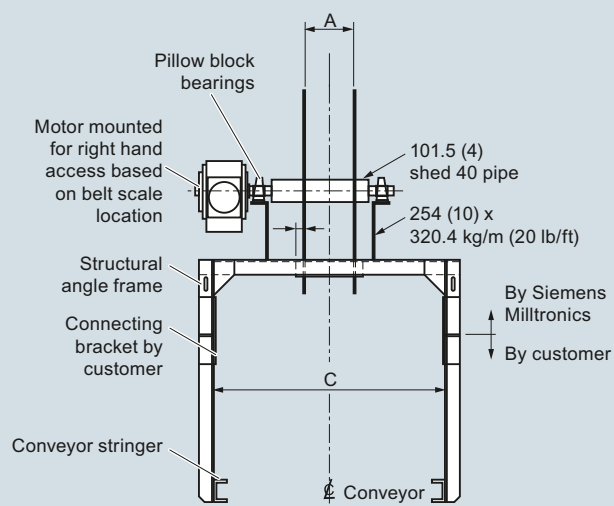
Belt scales accessories

Milltronics test chain storage reels

Dimensional drawings



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)








View Z




Milltronics test chain storage reel dimension in mm (inch)

Belt Scales

Belt scales accessories

Milltronics belt scale peripherals**Selection and ordering data**





	Article No.	
Totalizer 150 x 150 x 100D Nema 4 /IP65 enclosure Panel mount totalizer	7MH7723-1GG 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	
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	7ND4121-1AA01-1AA2	



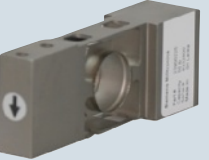
	Article No.	
Terminal box 1, 2 or, 4 load cell(s) / speed sen- sor, 150 x 200 x 100 NEMA 4/IP65 enclosure Mild steel Stainless steel Termination board spare Note: for MMI-3, 2 termi- nal boxes are required	7MH7723-1ND 7MH7723-1NE A5E03623963	
Belt scale connection cable, 6 cond, 20 G (order per meter) 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)	7MH7723-1JR	
Belt scale installation kit Note: comes with idler shims, alignment wire, and spacer blocks for idler alignment	7MH7723-1KC	
Inclinometer Celesco model IT9420	7MH7726-1AP	
Belt scale spare load cells For Milltronics Torque shaft belt scale (MTS), model CD or CFT, mount- ing hardware included 50 lb (22.7 kg) 75 lb (34 kg) 100 lb (45.4 kg) 150 lb (68 kg) 300 lb (136.1 kg) 500 lb (226.8 kg) 750 lb (340.2 kg) 1 000 lb (453.6 kg) 1 500 lb (680.4 kg)	7MH7725-1BA 7MH7725-1BB 7MH7725-1BC 7MH7725-1BD 7MH7725-1BE 7MH7725-1BF 7MH7725-1BG 7MH7725-1BH 7MH7725-1BJ	

Belt Scales

Belt scales accessories

Milltronics belt scale peripherals

	Article No.	
Belt scale spare load cells 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	
Belt scale spare load cells 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	
Belt scale spare load cells 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	
Belt scale spare load cells 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	

	Article No.	
Belt scale spare load cells 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	
Belt scale spare load cells 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	
Belt scale spare load cells For WD600 model 7MH7185		
25 lb (11.3 kg)	PBD-23900224	
50 lb (22.7 kg)	PBD-23900225	