Belt Scales

BELT SCALES

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Master™ 311

Medium to Heavy Capacity Weigh Frame

Part Number/Price

Part #	Description	Est. Weight	Price
215021	Master 311 belt scale weigh frame, 18 in belt with 75 kg load cell	125 lb	$1,300.00
215022	Master 311 belt scale weigh frame, 24 in belt with 75 kg load cell	125 lb	$1,300.00
215023	Master 311 belt scale weigh frame, 24 in belt with 150 kg load cell	125 lb	$1,300.00
215025	Master 311 belt scale weigh frame, 30 in belt with 150 kg load cell	125 lb	$1,400.00
215030	Master 311 belt scale weigh frame, 30 in belt with 250 kg load cell	125 lb	$1,400.00
215031	Master 311 belt scale weigh frame, 36 in belt with 250 kg load cell	125 lb	$1,500.00
Consult	Lifting weight kit		Consult

Please complete the Belt Scale Application on page 155 to obtain a quote

Standard Features

- Semi-modular weigh frame design
- Weigh frame without moving parts
- Fits standard conveyors
- Mounts with four bolts
- Requires weigh frame cutting for proper fit
- Minimal modifications to conveyor required

Options

- Galvanized or stainless construction
- Custom widths available
- Custom lifting weights available on request

Applications

- Mining, quarries, bulk material blending, process control and retrofit

Specifications

Belt Width:
18 to 36 in (457 to 914 mm)

Capacity:
1,500 tons per hour

Belt Speed:
Maximum 400 ft/minute (2 m/s)

Inclination:
Maximum 12 degrees

Material:
Powder coated mild steel

Accuracy System:
1%

Load Cell:
RL1218A: 50 kg, 100 kg, 250 kg

Warranty:
One-year limited

Part Number/Price

Part #	Description	Est. Weight	Price
163292	221DB belt scale with 50 kg load cells	143 lb	$3,500.00
163293	221DB belt scale with 100 kg load cells	143 lb	$3,500.00
163294	221DB belt scale with 200 kg load cells	143 lb	$3,500.00
202591	221DB stainless steel belt scale with 50 kg load cells	143 lb	$5,200.00
202592	221DB stainless steel belt scale with 100 kg load cells	143 lb	$5,200.00
202593	221DB stainless steel belt scale with 200 kg load cells	143 lb	$5,200.00

Please complete the Belt Scale Application on page 155 to obtain a quote

Standard Features

- Weigh frame is mounted on the outside of conveyor
- Minimal modifications to conveyor are required
- Service friendly
- Friction-free pivot supports
- Two support beams
- Fits standard conveyors
- Mounts with four bolts

Options

- Galvanized or stainless construction

Applications

- Medium to heavy capacity

Specifications

Conveyor Width:
18 to 72 in (457 to 1,829 mm)

Capacity:
3,300 tons per hour

Maximum Belt Speed:
800 ft/minute (4 m/s)

Inclination:
Maximum 25 degrees

Material:
Powder coated mild steel

Accuracy System:
0.5% to 1%

Load Cell:
RL9018SS: 50 kg, 100 kg, 200 kg

Junction Box:
JB4SS

Warranty:
One-year limited

BELT SCALES

Master™ 211
Medium to Heavy Capacity Weigh Frame

Standard Features

- Friction-free pivot points
- One load cell carrier beam
- Fits standard conveyors
- Custom built for each application

Options

- 304/316 Stainless steel
- Dual load cells
- Dual idler
- Custom lifting weights available on request

Applications

- Medium to heavy capacity, mining and agriculture

Specifications

Conveyor Width:
20 to 80 in (500 to 2,000 mm)

Capacity:
3,000 tons per hour

Maximum Belt Speed:
800 ft/minute (4 m/s)

Maximum Inclination:
25 degrees

Material:
Powder coated mild steel

Accuracy System:
0.5 %

Load Cell:
RL20001 alloy steel, S-beam
(capacity selected from application)

Warranty:
One-year limited

Part Number/Price

Part #	Description	Price
215394	Master 211-20	Consult
181707	Master 211-24	$3,200.00
189678	Master 211-30	$3,200.00
194193	Master 211-36	$3,300.00
194199	Master 211-42	$3,300.00
194513	Master 211-48	$3,300.00
215395	Master 211-54	$3,600.00
194519	Master 211-60	$3,600.00
215396	Master 211-72	$3,600.00
Consult	Dual idler weigh frame	Add $950.00
Consult	Dual idler/dual load cell weigh frame for heavy loading 54" and up	Add $1,350.00
Consult	Lifting weight kit	Consult

Please complete the Belt Scale Application on page 155 to obtain a quote

Standard Features

- Custom built for each application
- Fits standard conveyors
- Multiple idler design
- Inner frame has free-floating platform

Options

- 304 stainless steel
- Two, three or four weigh idlers
- Customer lifting weights available upon request

Applications

- Medium to heavy capacity, mining and aggregate

Specifications

Conveyor Width:
20 to 120 in (500 to 3,000 mm)
Capacity:
20,000 tons per hour
Belt Speed:
1,400 ft/ minute (7 m/s)
Inclination:
25 degrees
Material:
Powder coated mild steel
Accuracy Guidelines:
0.25 %
Load Cell:
RL20001 alloy steel S-beam
(capacity selected from application)
Warranty:
One-year limited

Part Number/Price

Part #	Description	Price
Consult	Master 142	Consult
Consult	Master 143	Consult
Consult	Master 144	Consult
Consult	Lifting weight kit	Consult

Please complete the Belt Scale Application on page 155 to obtain a quote

BELT SCALES

Master™ 421

Light Capacity Weigh Frame

Part Number/Price

Part #	Description	Price
Consult	421 weigh frame	$2,575.00

Please complete the Belt Scale Application on page 155 to obtain a quote
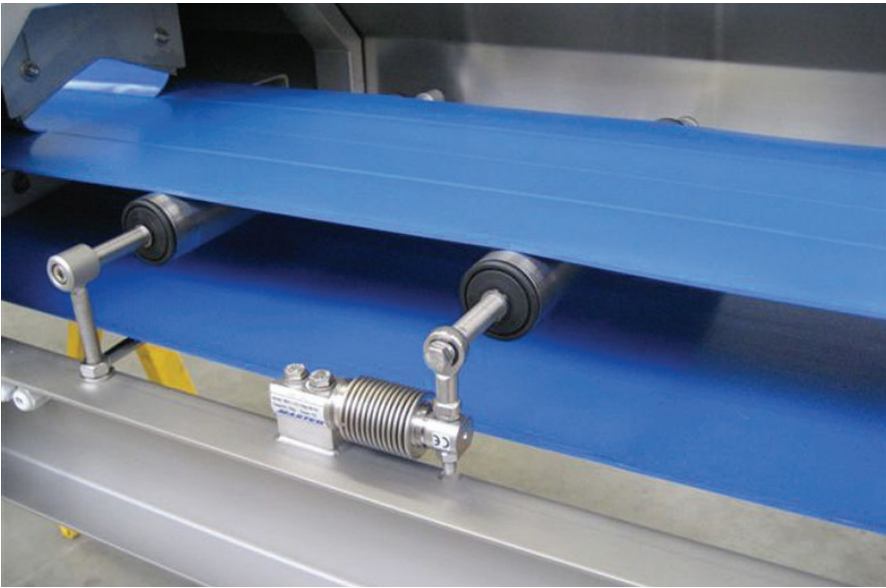
Standard Features

- Ideal for flat belt conveyors
- Roller supported on both sides by load cells
- Open design for easy cleaning

Applications

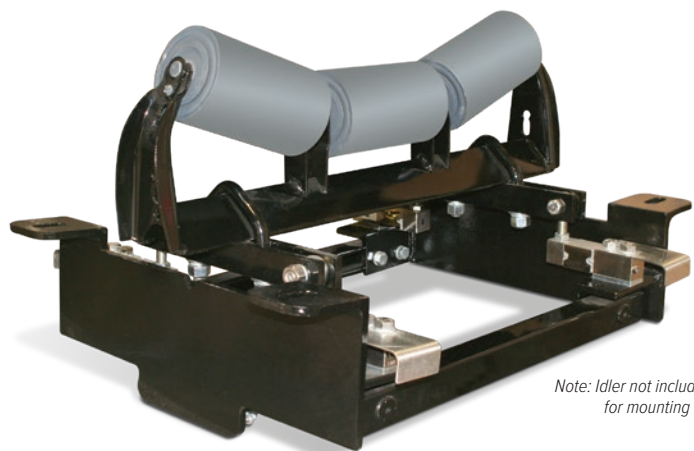- Light capacity, food production and light granular materials

Specifications

Conveyor Width:
12 to 60 in (300 to 1,600 mm)

Capacity:
30 tons per hour

Belt Speed:
400 ft/minute (2 m/s)

Inclination:
10 degrees

Material:
Powder coated mild steel, 304 / 316 stainless steel

Accuracy Systems:
0.5 %

Load Cell:
RL9018SS single-ended beam in 10 kg, 20 kg or 50 kg capacities

Warranty:
One-year limited

Note: Idler not included. Customer is responsible for mounting idler to weigh frame.

Standard Features

- Fits standard conveyors using CEMA-C idlers
- No moving parts
- Four shear laterally opposed shear beam load cells
- Fabricated with heavy gauge steel
- Minimal conveyor modifications required for installation
- Up to four weigh frames can be used for increased accuracy

Applications

- Mining, quarries, bulk material blending, process control, utilities, truck/barge/rail loading and retrofit

Specifications

Conveyor Widths:
18 to 72 in

Capacity:
Up to 10,000 tons per hour

Belt Speed:
Up to 1,200 feet per minute

Accuracy Guidelines:
Guidelines assume clean belt with automatic tensioning system. Accuracy guidelines are typical. System accuracy may vary depending on environmental influences.

System Accuracy:
Single to two idler system: 0.5% to 1% total error
Three to four idler system: <0.5% total error

Part Number/Price

Part #	Description	Est. Belt Width	Capacity	Price
Mild Steel Weigh Frames				
94968	24 in weigh frame	18 in	500 lb	$2,800.00
95208	30 in weigh frame	24 in	500 lb	$2,800.00
95209	36 in weigh frame	30 in	500 lb	$2,800.00
95210	42 in weigh frame	36 in	500 lb	$2,800.00
95211	48 in weigh frame	42 in	500 lb	$2,800.00
95212	54 in weigh frame	48 in	500 lb	$2,800.00
96717	60 in weigh frame	54 in	1,000 lb	$2,800.00
96718	66 in weigh frame	60 in	1,000 lb	$2,800.00
96719	72 in weigh frame	66 in	1,000 lb	$2,800.00
Consult	Light-capacity weigh frames			$3,185.00
Stainless Steel Weigh Frames				
110839	24 in weigh frame	18 in	500 lb	$5,300.00
105246	30 in weigh frame	24 in	500 lb	$5,300.00
110841	36 in weigh frame	30 in	500 lb	$5,300.00
110842	42 in weigh frame	36 in	500 lb	$5,300.00
110843	48 in weigh frame	42 in	500 lb	$5,300.00
110844	54 in weigh frame	48 in	500 lb	$5,300.00
110845	60 in weigh frame	54 in	500 lb	$5,300.00
110846	66 in weigh frame	60 in	500 lb	$5,300.00
110847	72 in weigh frame	66 in	500 lb	$5,300.00
Consult	Light-capacity weigh frames			$4,595.00
Weigh Frame Accessories				
126282	V-bolt for 3 in angle iron base idlers set of 2			$95.00
126283	V-bolt for 4 in angle iron base idlers set of 2			$105.00

Please complete the Belt Scale Application on page 155 to obtain a quote

BELT SCALES

BCi
In-Motion Belt Scale System

Dimensions

Part Number	A	B
Mild Steel		
94968	24.00 in	27.50 in
95208	30.00 in	33.50 in
95209	36.00 in	39.50 in
95210	42.00 in	45.50 in
95211	48.00 in	51.50 in
95212	54.00 in	57.50 in
96717	60.00 in	63.50 in
96718	66.00 in	69.50 in
96719	72.00 in	75.50 in

Part Number	A	B
Stainless Steel		
110839	24.00 in	27.50 in
105246	30.00 in	33.50 in
110841	36.00 in	39.50 in
110842	42.00 in	45.50 in
110843	48.00 in	51.50 in
110844	54.00 in	57.50 in
110845	60.00 in	63.50 in
110846	66.00 in	69.50 in
110847	72.00 in	75.50 in
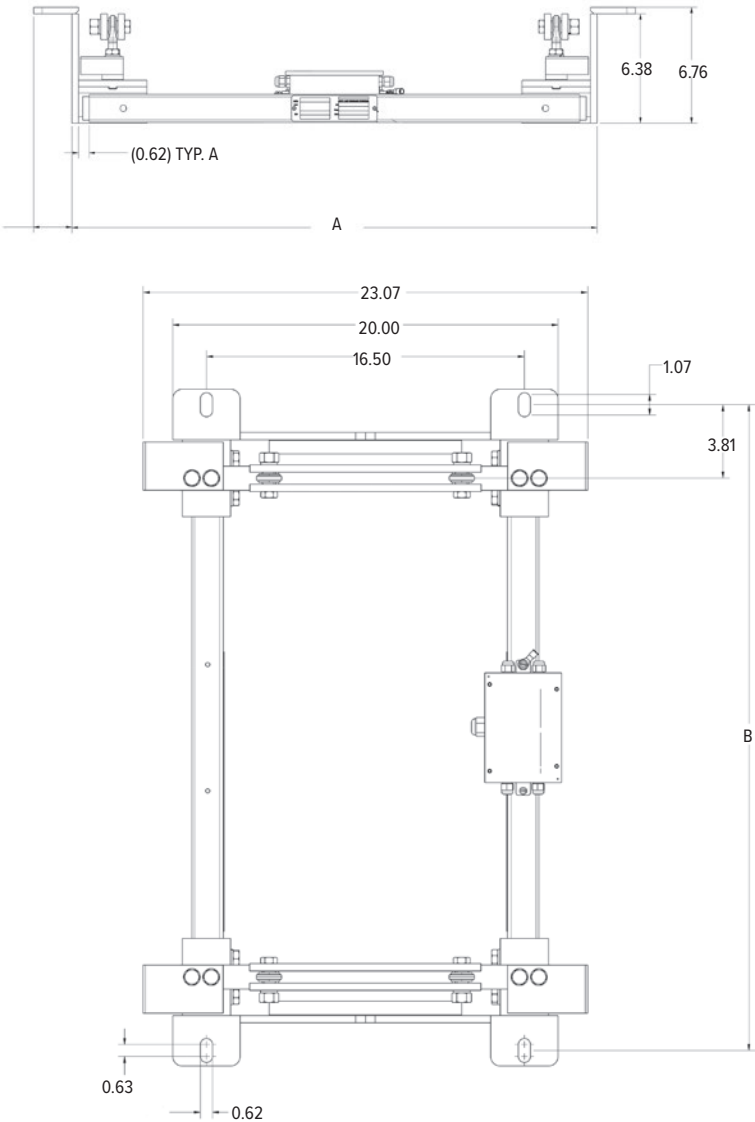
Note: Cables on drawings removed for clarity. Idler mounting hardware is not included in weigh frame; see idler mounting bolts above.

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920i® Belt Scale Integrator

Approvals

Standard Features

- Large LCD graphical display
- Four bidirectional communication ports
- Rate time and speed time displayed by the hour, minute or second
- Measurement displayed in feet or meters
- Unit of rate displayed in tons, pounds, kilograms, metric tons or long tons
- Digital I/O for totalizer
- Optional analog and alarm outputs
- For added security, integrator has the ability to be password protected
- Multiple communication ports
- Built-in support for ticket printing

Part Number/Price

Part #	Description	Price
Integrators		
95214	Belt scale integrator 115 VAC, deep enclosure	$2,995.00
95215	Belt scale integrator 230 VAC, deep enclosure	$2,995.00
170693	Belt scale integrator, panel mount	$2,895.00
170694	Belt scale integrator, wall mount	$3,495.00
107615	Belt scale integrator with UPS 115 VAC	$3,095.00
107616	Belt scale integrator with UPS 230 VAC	$3,095.00
120550	Belt scale integrator with deep enclosure, two slot expansion, EtherNet IP, 115 V	$4,195.00
120551	Belt scale integrator with deep enclosure, two slot expansion, EtherNet IP, 230 V	$4,195.00
150811	Belt scale integrator with deep enclosure, two slot expansion, analog output	$4,195.00
69782	Two-slot expansion board (wall mount)	$315.00
71743	Two-slot expansion board (panel mount & deep universal)	$315.00
98057	Ethernet TCP/IP, wireless LAN card 802.11 b/g	$675.00
87803	Ethernet IP	$840.00
67602	Analog output: selectable 0 to 10V, 0 to 20 mA	$325.00

Please complete the Belt Scale Application on page 155 to obtain a quote
See Indicators for additional 920i options

Specifications

Power Consumption:
340 mA, maximum at 115 VAC (26 W)
240 mA at 230 VAC (26 W)

Excitation Voltage:
10 ± VDC, 16 × 350 ohm or 32 × 700 ohm load cells per A/D card

Analog Signal Input Range:
-10 mV to 45 mV

Analog Signal Sensitivity:
0.3 µV/graduation minimum at 7.5 Hz
1.0 µV/graduation typical at 120 Hz
4.0 µV/graduation typical at 960 Hz

A/D Sample Rate:
7.5 to 960 Hz, software selectable

Resolution:
Internal : 8,000,000 counts

System Linearity:
± 0.01% full scale

Line Voltages:
115 or 230 VAC,
Frequency: 50 or 60 Hz

Digital I/O:
Six I/O channels on CPU board; optional 24-channel I/O expansion boards available

Circuit Protection:
RFI, EMI, ESD protection

Communication Ports:
Four ports on CPU board support up to 115,200 bps; optional dual-channel serial expansion boards available
Port 1: Full duplex RS-232
Port 2: RS-232 with CTS/RTS; PS/2 keyboard interface via DB-9 connector
Port 3: Full duplex RS-232, 20 mA output
Port 4: Full duplex RS-232, 2-wire RS-485, 20 mA output

Display:
(W × H)
4.6 × 3.4 in
(116 × 86 mm)
320 × 240 pixel VGA liquid crystal display (LCD) module with adjustable contrast

Keys/Buttons:
27-key membrane panel, tactile feel, PS/2 port for external keyboard connection

Dimensions:
(L × W × H)
Universal:
10.56 × 4.61 × 10.87 in
(268 × 117 × 276 mm)
Deep Universal:
10.76 × 5.36 × 10.87 in
(273 × 136 × 276 mm)

Temperature Range:
Certified: 14 °F to 104 °F (-10 °C to 40 °C)
Operating: 14 °F to 122 °F (-10 °C to 50 °C)

Rating/Material:
NEMA Type 4X/IP6 6
stainless steel

Weight:
Panel Mount Enclosure: 8.5 lb (3.9 kg)
Deep Universal: 11 lb (5.0 kg)

Warranty:
Integrator and load cells: two-year limited

Approvals:
CE Approved
cULus Listed (universal, deep and wall mount enclosure)
Custom wall mount approved for 508A (optional)
Panel mount UL recognized

882D Belt Scale Integrator

Approvals

Standard Features

- LCD display
- Hardware slot for two option cards
- Operator access to audit trail, preset tare, accumulator, time & date and setpoints through menu keys
- Password protected audit trail tracking for configuration and calibration changes
- Setpoints for control and alarms
- Four onboard digital I/O channels
- Four programmable ticket formats up to 1,000 characters
- Filter settings for noise
- Speed inputs

Part Number/Price

Part #	Description	Price
Integrators		
177708	120 VAC	$2,115.00
180847	220 VAC Euro power cord	$2,115.00
184683	9 to 36 VDC	$2,275.00

Options/Accessories

Part #	Description	Price
190527	Digital I/O	$365.00
190528	Single analog	$425.00
190529	Relay interface, not for totalizer pulse count output	$470.00
177850	Panel mount option 880	$215.00
197724	Overlay, clear protective	$75.00
Network Cards		
190530	Ethernet/IP	$600.00
190531	DeviceNet	$600.00
190532	ProfiNet	$600.00
190534	Profibus	$600.00
190533	Modbus TCP	$600.00
190535	EtherCAT	$600.00

Specifications

Power
Input voltages: 100 to 240 VAC; 9 to 36 VDC
Input frequency: 50/60 Hz

Power Consumption:
AC: 15 watts; DC: 20 watts

Excitation Voltage:
10 VDC 8 × 350 ohm (16 × 700 ohm) load cells

Analog Signal Input Range:
-45 mV to 45 mV

Analog Signal Sensitivity:
0.3 µV/graduation minimum at 7.5 Hz;
1.0 µV/graduation typical at 120 Hz

Sample Rate:
7.5 to 120 Hz, software selectable

Resolution:
Internal: 8,000,000 counts 23-bit
Display: 100,000

System Linearity:
± 0.01% full scale

Digital I/O:
Four I/O onboard primary keys, pseudo functions, batching functions

Communication Ports:
RS-232 full duplex or RS-485 half duplex; USB 2.0 Micro B connector; Ethernet TCP/IP

Pulse Input:
Dual inputs for redundancy

Display:
LCD display, 0.8 in, seven-digit, seven-segment weight display, 3 × 20 pixelated prompt area

Annunciators:
Load, total, rate, speed, zero

Keys/Buttons:
Flat membrane panel, tactile feel

Operating Temperature:
Industrial: 14 °F to 122 °F (-10 °C to 50 °C)

Dimensions:
(L x W x H)
9.93 × 4.00 × 8.94 in

Weight:
12 lb (5.4 kg)

Rating/Material:
IP66
Stainless steel
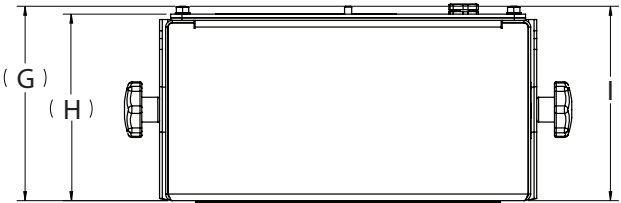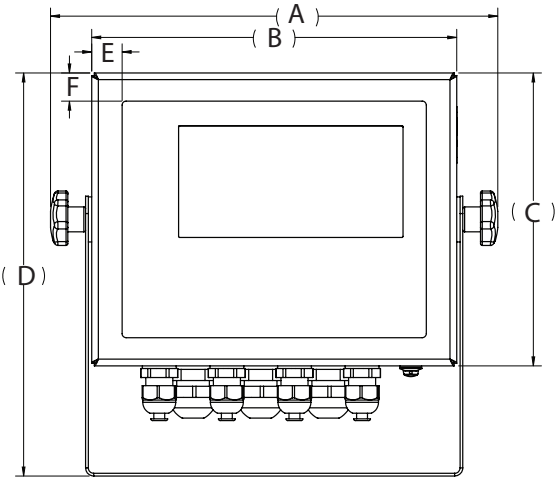
Warranty:
Two-year limited

EMC Immunity:
18 KV, 10 V/m

Approvals:
CE Approved
cULus Listed

BELT SCALES

Dimensions

882D Belt Scale Integrator			
A	9.93 in (252 mm)	F	0.63 in (16 mm)
B	8.10 in (206 mm)	G	4.31 in (110 mm)
C	6.50 in (165 mm)	H	4.14 in (105 mm)
D	8.94 in (227 mm)	I	4.32 in (110 mm)
E	0.68 in (17 mm)		

Belt Scale Accessories

High-resolution Speed Sensor

Magnetic Coupler

Speed Wheel

Standard Features

- The speed sensor monitors belt speed. It is directly coupled to a rotating shaft which drives a signal generator. The speed sensor submits an output signal at a frequency directly proportional to the shaft speed. It is typically installed on a non-driven pulley of a belt conveyor for detecting belt speed.

Speed Sensors 125334 and 163319

Part Number/Price

Part #	Description	Price
Speed Sensing		
152626	500 PPR high-resolution encoder kit, requires 152247 if magnetic coupling is required	$1,600.00
152247	Magnetic coupler, use with 152626	$500.00
125334	Speed sensor, belt scale 50 PPR (generator type)	$1,200.00
163319	Speed sensor, belt scale 600 PPR (encoder type)	$1,200.00
94969	Speed wheel assembly, 10 PPR NPN Configuration	$1,000.00
Static Weights		
99708	15 lb weight	$215.00
99709	30 lb weight	$275.00
99696	3 in static weight mounting bracket (set of two)	$535.00
99922	4 in static weight mounting bracket (set of two)	$600.00
Speed Sensor Replacement Parts		
94979	Sensor proximity, for 94969	$115.00
98320	Shoulder bolt, for 94969	$15.00
95216	Bushing, speed wheel for 94969	$12.75
192927	Coupler, replacement for 125334 and 163319	$175.00
Accessories		
97416	Kit, shim 50 each 1/16 in, 1/8 in and 1/4 in thick	$95.00
21161	Junction box, splice single cell	$80.00
98501	Cable, load cell custom, 20 ft EL146HE	$34.50

Idler hardware not included with weigh frames

BELT SCALES

Belt Scale Application

RICE LAKE WEIGHING SYSTEMS

Company_____ Prepared By _____ Date _____

Address _____

City _____ State/Zip/Country _____

Phone_____ Fax _____ Email _____

Application Notes:

_____

_____

MATERIAL

Material being measured_____Bulk Density (kg/l) (lb/cu. ft)

Corrosive state of material (choose one)   ❑ High   ❑ Moderate   ❑ Not Corrosive

Feed Rate t/hr: _____ min.   _____ max.   Accuracy Required: +/- _____%

Constant Feed Rate: ❑ Yes   ❑ No

CONVEYOR

Application: ❑ Inventory   ❑ Load out   ❑ Control   ❑ Blending

Profile: ❑ Horizontal   ❑ Incline/Decline _____ (deg)   ❑ Variable Incline _____ (deg)   ❑ Curved

Automatic Tensioning Apparatus: ❑ Yes   ❑ No

Access Side: (looking in direction of belt travel) ❑ Left   ❑ Right   ❑ Both

Area Classification: Zone_____   Class_____   Division _____

Does the current conveyor have scale grade idlers?   ❑ Yes   ❑ No

Belt Speed (ft/m per minute):   _____ min.   _____ max.

Condition of belt? _____

What type of splice does the belt have? _____

Belt Length:_____ m/ft   Belt Width: _____ mm/in   Belt Cleaning Device: ❑ Yes   ❑ No

Idler Diameter:_____ mm/in   Idler Spacing: _____ mm/in   Tail Pulley Diameter: _____ mm/in

Trough Angle:_____degrees   Conveyor Length: _____ ft/m

(Supply sketch where possible)   ❑ Sketch Attached

INTEGRATOR REQUIREMENTS

Enclosure Type: ❑ Field Mount/Universal   ❑ Panel Mount   ❑ Wall Mount

Power Available: ❑ 115 V   ❑ 230 V   ❑ 9-36 VDC

Communications: ❑ AB Remote I/O   ❑ Device Net   ❑ Profibus-DP   ❑ Ethernet IP

     ❑ Analog Output   ❑ RS-232 (standard)   ❑ Ethernet TCP/IP   ❑ Control Net

Remote Display Rate: ❑ Yes   ❑No   Remote Display Totalizer: ❑ Yes   ❑ No

Speed Sensor: ❑ Speed Wheel   ❑ Shaft Encoder   ❑ Magnet

Conveyor Frame Height

Flange Width

Clearance to Return Belt

Belt Width

Frame Clearance

Mounting Hole Center to Center

Troughing Angle

Center Roller Height

Roller Diameter