H sensortechnik
Optical Belt Scale

You can't manage
what you don't measure™

# What is the
Optical Belt Scale?

The Optical Belt Scale is a contact free volumetric scanner. Using the latest laser technology, it effectively scans the material crossing the belt with highest measurement accuracy. Whether your conveyor is stationary or on tracked equipment, you can rely on the precise production data unaffected by external conditions. Beyond its practical measurement application, the Optical Belt Scale is truly a management tool.

*48"model shown

How does it
scan?

To accurately measure the volume, the optical belt scale uses a very special volume data calculation algorithm, implemented by H-Sensortechnik.

First, the sensor measures the cross-profile of the material on the conveyor belt.

Secondly, the sensor measures the feed rate of the conveyor belt by an inductive sensor. Finally, by combining the cross profile and feed rate measurements, the resulting material data is readily available in cubic meters, yards or tonnes, and stored in the Sensor for easy download.

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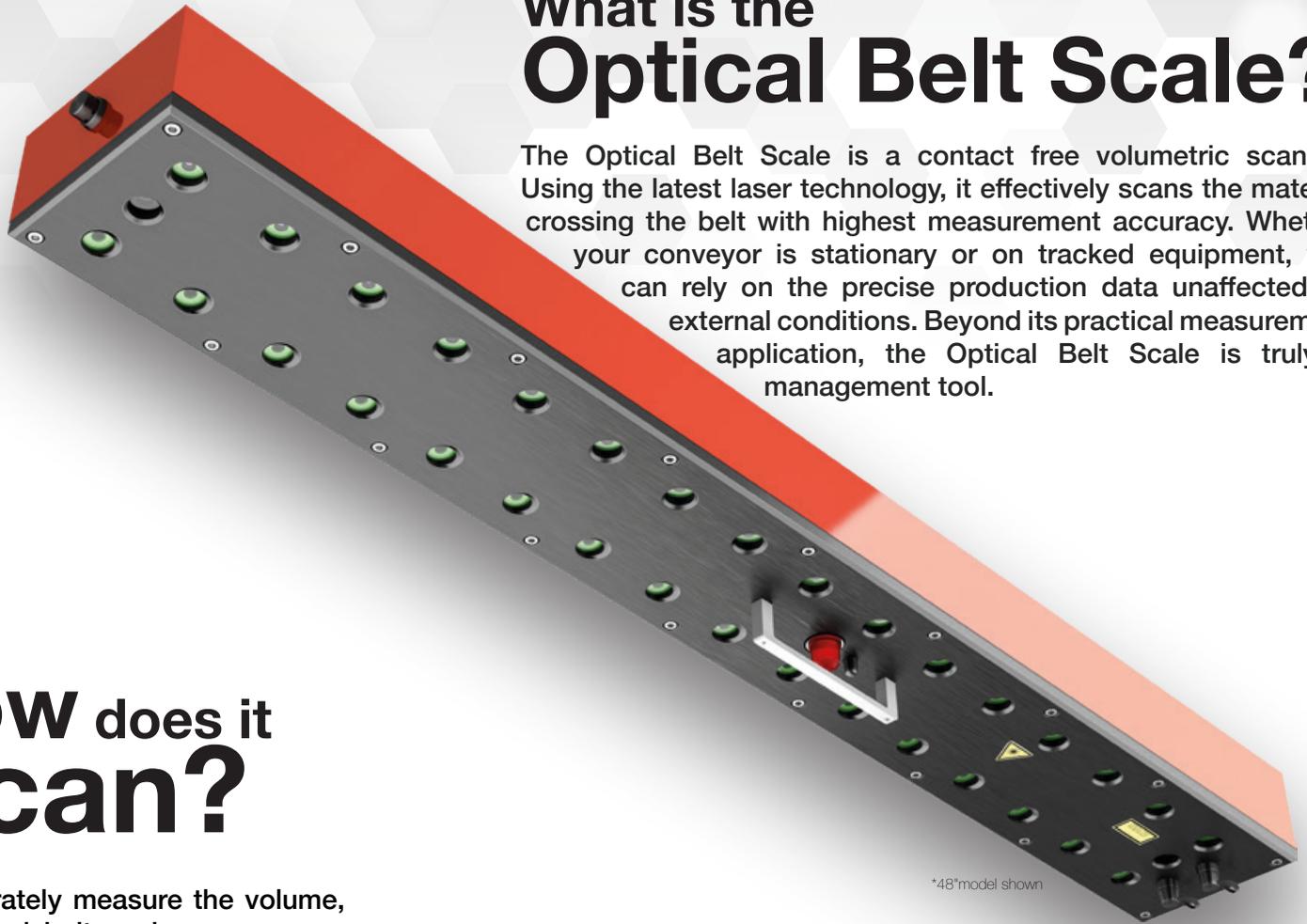
Specifications

Smartphone

Weight: 172g (0.38lbs)

Dimensions: 127 x 70 x 16 (5" x $2\frac{3}{4}$" x $^{11}/_{16}$"x $\frac{5}{8}$")

Printer

Printer (Type H-55BT)

Weight: 350g (0.77 lbs)

Dimensions: 87 x 110 x 58 (3 $^{7}/_{16}$" x 4 $^{5}/_{16}$" x 2 $_{13}/^{16}$")
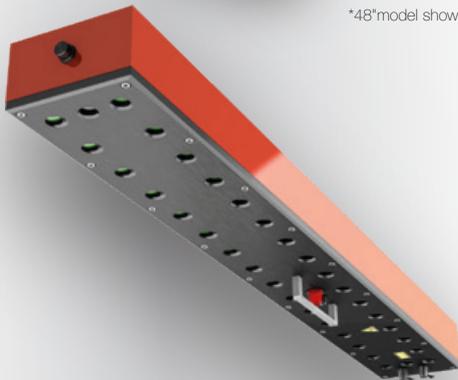
*48"model shown here

Volume Scanner

Power: 24V DC +/- 20%, 5 A

Operating Temperature: -45°C (-49°F) to + 70°C (158°F)

Dimensions: Standard sizes range from 24" up to 78" belt widths

Com-Ports: Var 1: RS-422 (4 line)

Var 2: Bluetooth (class 1)

Var 3: Analog output (4-20mA) *Optional

Measuring rate: 200 frames / second

Storage capacity: Production data over 1 year

Adjustable Holding Frame

Accommodates Scale size range from 24" up to 78" belt widths

Powder coated steel frame

easy mount and dismount (fixed with only 4 bolts)

Optical Belt Scale

VS.

Traditional Belt scale

Unaffected by wind, dust, temperature and vibration
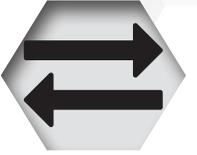
Unaffected by changing conveyor angle, particularly helpful on tracked equipment

No moving parts

Calibrate once!

No contact areas

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How the Optical Belt Scale
Works

1

The sensor scans and measures the material on the conveyor, and in real-time, wirelessly transmits the data to your handheld device. From the handheld you can set Customer and Material profiles and configure scan settings. With a touch of a button you can download, print or email your measurement results directly to your office or main computer. Forget to email or print your data results? Have no fear, the sensor unit itself will store a full year of data. Simply download to your handheld device at any time.

2

Receiving your data measurements in excel spreadsheets direct from the field allows you to review your sites production, see exactly when the equipment started, when it was down, and address operation performance issues as they happen. Your office team estimating costs for projects will receive specific data which allows for more accurate bidding, ensuring you turn a profit for all your hard work.

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Operations **Management**
Advantages

Understanding your Data:

Your Optical Belt Scale measurement data can be emailed easily to your computer as an Excel file (see diagram below). To understand your data, each of the columns is dedicated to a specific parameter:

- Start of Measurement (time and date)
- End of Measurement (time and date)
- Customer
- Material Type
- Amount of material produced (yd³, m³, Tonne)
- Roll diameter (mm)
- Intervals, specific m³ per 30 minute interval

Start of measurement		End of measurement		Customer	Material	Amount (M³)	Roll diameter (mm)	m³ per 30 minutes interval									
								I	II	III	IV	V	VI	VII	VIII	IX	X
07:09	07.12.2014	12:09	07.12.2014	AKM	Asphalt	357,6	280	12,9	43	31,1	28,4	38,7	47,8	35,9	40,3	34,3	45,2
12:57	07.12.2014	18:15	07.12.2014	AKM	Asphalt	363,7	280	13	36,1	33,2	32,8	46,4	21,4	44,1	25,8	29,8	48,9
06:59	08.12.2014	11:50	08.12.2014	AKM	Asphalt	348,3	280	15,4	36	47	31,8	27,3	46,4	29	38,9	38,3	32,5
13:01	08.12.2014	17:53	08.12.2014	AKM	Asphalt	280,4	280	19,3	35	43,1	24	27,8	27,3	20,5	23,3	23,3	28,4
06:05	11.12.2014	12:00	11.12.2014	AKM	Asphalt	409,5	280	15,5	29,3	35,6	22,2	25,5	27,8	25,5	46	45,3	45,3

How does this data improve my operation?

Your Optical Belt Scale measurement data provides you with an in-depth quantifiable performance metric which you can use to power business and operation decisions. Know exactly how much material your crew and equipment are processing daily.

By having the ability to monitor production, you can spot operational issues before they cost you money. Unexpected periods of downtime may be a sign of fundamental problems, such as, unsuitable machines for loading or preliminary work, non-matching capacities of the equipment, and possibly the inability to meet your customer demands. Paying workers during downtime or overtime can increase your operational expenses significantly. But with the Optical Belt Scale, your production processes can be consistently analyzed to detect problems before they lead to costly downtime.

As you build your database of measurements over time, you will be able to spot performance trends in your data, and even potentially catch wear part replacements before they disrupt your operation. Your data spreadsheet shows daily, weekly and monthly viewing formats for easy reference. Data and metrics provide a solid operational foundation which empowers your decision making and business profitability.

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Operations **Management**
Advantages

Set goals and production benchmarks

Verify equipment productivity

Know exactly when your equipment starts and stops each day

Manage inventory control

Increase operation profitability

Manage multiple sites or remote sites

Proven **Successful** In **Numerous** Industries...

Biomass

Soil & Mulch
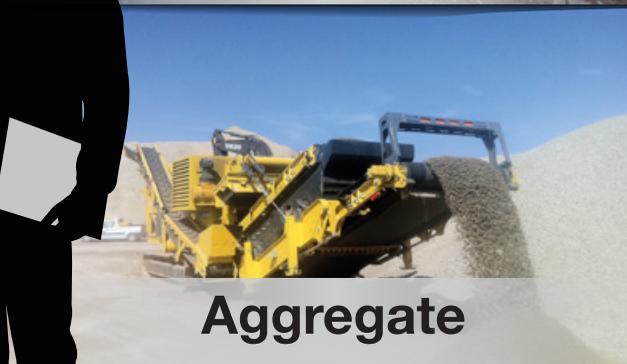
Aggregate

Waste & Recycling

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