Conveyor Volume Scanner

Optimize conveyor productivity and gain ultimate production control

- Real-time volume measurement
- Eye-safe LiDAR laser
- Greater than 98.5% typical accuracy
- Mounting frames for belts 16-79 inches standard frames *(118 inches with custom mounting)*
- Proximity sensor for reliable speed measurement
- Built-in WiFi 2.4 or 5 GHz
- User-friendly operator interface
- WiFi and network remote control
- Onboard Modbus TCP Server and HTTP RESTful API for direct data access

LOADSCAN®

LOADSCAN.COM

Belt scanners are beneficial wherever conveyor belts are used

Non-contact measurement of aggregates

- Accurate volume measurement of quarried materials
- Optimize yield of stone, sand or gravel product streams
- Manage extraction rates and inventory stockpiles
- Guarantee graded aggregate quantities according to customer specification

Easy batching of landscape products

- Simply program your CVS to batch specialty mixes
- Set up daily/weekly jobs from your company dispatch software and feed to the CVS via its onboard API
- Provide your loader operator with visibility of the job list via your own in cab tablet or smartphone
- Monitor and manage jobs from the back office via reports tab
- Better manage your equipment and control your output
- Automatically stop the belt when batch volume reached

Control mined materials

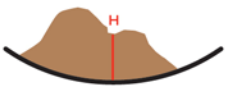
- Use either the built-in Modbus TCP Server or HTTP RESTful API to communicate with external control systems.
- Accurately report on quantity of end product carted to shipping points
- Fix your CVS to any existing conveyor belt to gain volume flow insights and improve productivity rates

ModBus TCP Server and I/O with flexible configuration.

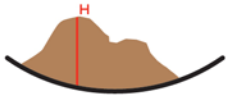
The CVS provides a Modbus TCP Server and switching Inputs and Outputs. Current measurement values, status signals, control values and control signals can be mapped to Modbus objects. Control signals and status signals can also be mapped to switching Inputs and Outputs.

Load height measurement output

Monitor load height on the belt. Load height is a measure of the height/depth of the load material above the belt. Two measurement methods are supported:



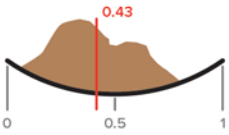
Center Height



Maximum Height

Load position measurement output

Monitor how centred the load is on the belt. Load position is a measure of the distribution of the load material across the belt and reports the position of the centre-of-mass of the load material.



Optional time-based measurement averaging

Flow rate, belt speed, load height and load position can optionally be averaged over a configurable time window between 1 second and 10 minutes.

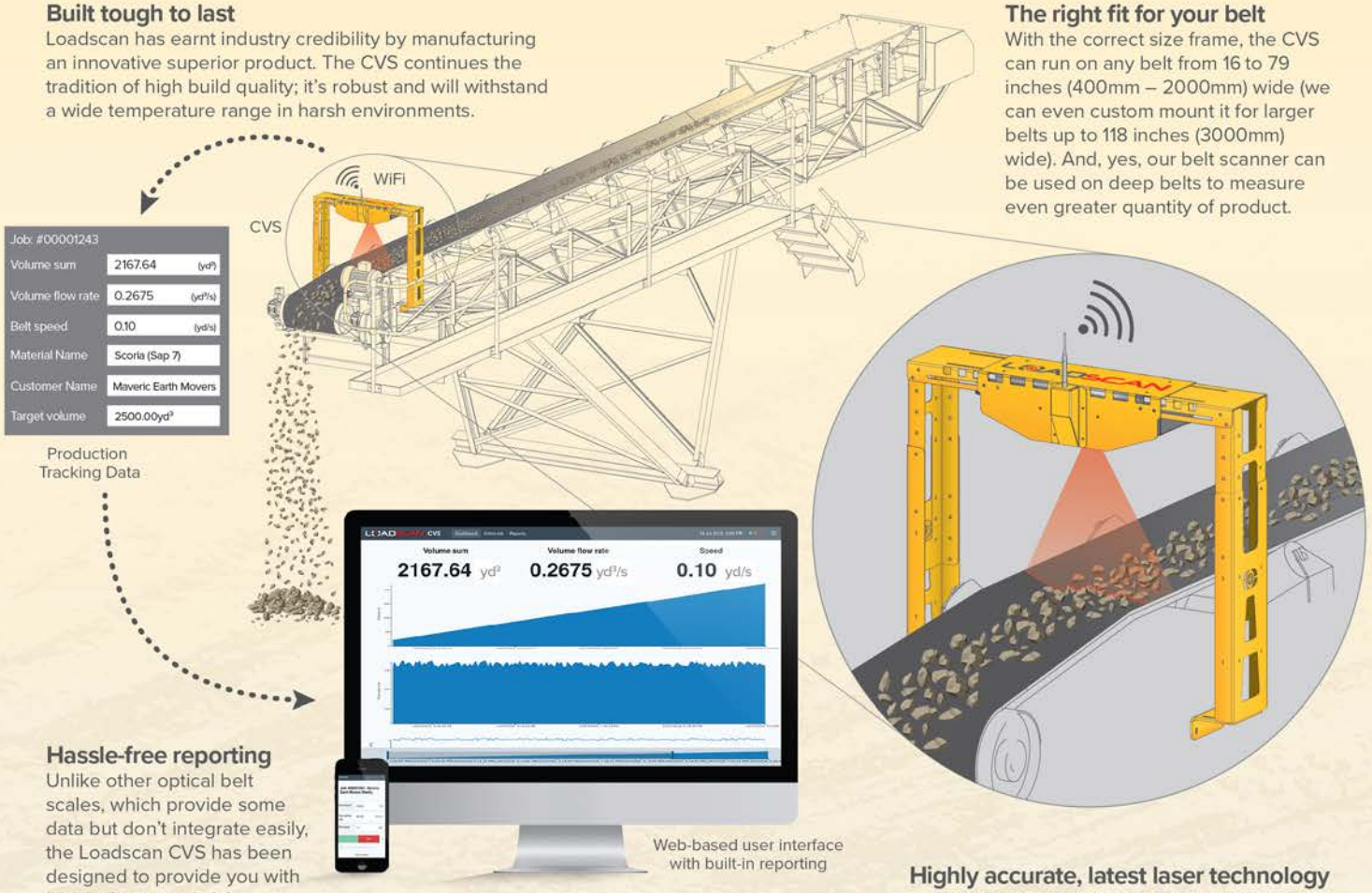
Easy WiFi connection for control and reporting via your smart phone, tablet or other connected device

Built tough to last

Loadscan has earnt industry credibility by manufacturing an innovative superior product. The CVS continues the tradition of high build quality; it's robust and will withstand a wide temperature range in harsh environments.

The right fit for your belt

With the correct size frame, the CVS can run on any belt from 16 to 79 inches (400mm – 2000mm) wide (we can even custom mount it for larger belts up to 118 inches (3000mm) wide). And, yes, our belt scanner can be used on deep belts to measure even greater quantity of product.



Hassle-free reporting

Unlike other optical belt scales, which provide some data but don't integrate easily, the Loadscan CVS has been designed to provide you with hassle-free, insightful reporting.

Easy, cost-effective self-installation

Simply follow the step-by-step instructions provided with your CVS unit and get it up and running in no time. Once installed, your conveyor scanner will require little, if any, maintenance so you can get on with honing your productivity.

Highly accurate, latest laser technology

Loadscan's specially designed scan-head, with single laser, continuously scans the full width of the belt at high angular resolution so that you can be sure of exactly what's flowing by.

Scanner options

Your product reference describes the model and frame size of your Conveyor Volume Scanner.

CVS-1S
Standard model

3 frame sizes
CVS-1SS: Small, 20in-52in

CVS-1SM: Medium, 31in-69in

CVS-1SL: Large, 43in-87in

CVS-1W
Wide temperature range

Extremely robust version to withstand -40° to 140°F

Available in 3 frame sizes

Custom mount

Fits large belts up to 118 inches wide

Technical specifications:

Belt width:	15.75 – 78.75 in (400 – 2000 mm)
Belt speed:	0.3 – 40 ft/s (0.1 – 12 m/s)
Accuracy:	> 98.5% typical*
Speed sensor:	Inductive speed sensor (proximity switch)
Ethernet interface (LAN):	Gigabit Ethernet (weatherproof RJ45 connector)
Wireless interface (WLAN):	2.4 or 5 GHz 802.11n/ac (configurable band, hotspot or client mode)
Supported communication protocols:	Modbus TCP Server HTTP RESTful API
Switching inputs:	
— Number of inputs:	1
— Input voltage range:	3 – 32 VDC
— Maximum input current:	18 mA
— Isolation voltage:	4000 Vrms
Switching outputs (configurable status signals):	
— Number of outputs:	3
— Load voltage range:	3 – 32 VDC
— Load current range:	0.02 – 2.5A
— Isolation voltage:	4000 Vrms

Power:	
— Voltage:	9 – 36 VDC (90 – 305 VAC with external power supply option)
— Current:	3A max. @ 24 VDC heater off, 6A max. @ 24 VDC heater on (at start-up below 5°C (40°F))
Laser scanner:	Class 1 (eye-safe)
— Field of view:	90°
— Angular resolution:	0.667°
— Scan rate:	100 Hz
Operating temperature:	CVS-1S: -22° to 122°F (-30° – 50°C) and CVS-1W: -40° to 140°F (-40° – 60°C)
Weight:	Determined by model

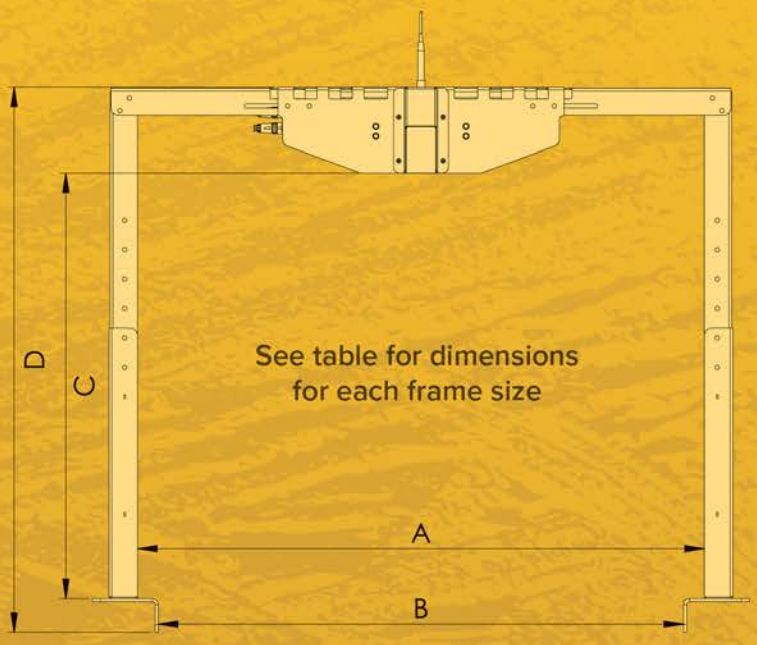
**Unadjusted surface volume measurement. Does not account for variations in product density affecting corrected volume or mass computations.*

Small frame*	Dimension	Inches		Millimeters	
		min	max	min	max
	A	28.94in	46.65in	735mm	1185mm
	B	19.49in	43.50in	495mm	1105mm
	C	22.05in	39.76in	560mm	1010mm
	D	34.25in	51.97in	870mm	1320mm

Medium frame*	Dimension	Inches		Millimeters	
		min	max	min	max
	A	51.97in	69.69in	1320mm	1770mm
	B	42.52in	67.72in	1080mm	1720mm
	C	31.10in	51.97in	790mm	1320mm
	D	43.31in	64.17in	1100mm	1630mm

Large frame*	Dimension	Inches		Millimeters	
		min	max	min	max
	A	69.29in	87.01in	1760mm	2210mm
	B	59.84in	85.04in	1520mm	2160mm
	C	42.91in	63.58in	1090mm	1615mm
	D	55.12in	75.79in	1400mm	1925mm

** Note that S, M and L frame extenders can be interchanged to produce extra high or extra wide variations*



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