CW Series Automatic Checkweigher

Dynamic weight control for packed and unpacked products

Product Manual · Description, Features & Specifications



ABSTRACT

A roller-conveyor checkweigher that weighs every carton, bag or single item as it moves along the packing line, and signals pass, over or under against the limits you set. Display resolution **1 / 15,000**, A/D conversion **120** readings per second, belt speed up to **10** m/min, weight output on RS**485**, and a **24**-month manufacturer warranty.

Product Overview

A roller-conveyor checkweigher that weighs every carton, bag or single item as it moves along the packing line, and signals pass, over or under against the limits you set.

The product is carried across the weighing section on a powered roller bed. The controller compares the live weight with the target value and the upper and lower tolerances, then reports the result on the display and through a three-colour tower light. Where a reject device is fitted, out-of-tolerance items are removed automatically; otherwise the line stops for manual take-off.

Conveyor, weighing platform and control cabinet are mounted on one stainless steel frame, so the machine drops into an existing line without a separate weighing station. A DC gear motor drives the belt at up to **10** m/min, and the weighing electronics convert at **120** readings per second — fast enough to keep up with the line rather than pace it.

Weight data is available continuously on RS**485** (Modbus RTU) for a printer, PC or line controller, which makes the checkweigher a data point in the packing record rather than a stand-alone gauge.



CW series — roller bed, control head and tower light

1 / 15,000	120 / s	0.01 % F.S.	10 m/min
maximum display resolution	A/D conversion rate	non-linearity	maximum belt speed

How it works

01

Infeed

Product enters on the powered roller bed; side guides centre it before it reaches the weighing section.

02

Weigh

The platform reads the weight **120** times a second and compares it with the target and the HI / LO limits.

03

Decide

Pass continues down the line. Over or under raises the tower light and stops the line, or triggers the reject device.

Standard supply

Checkweigher body with roller conveyor · control cabinet with LED display and membrane keypad · three-colour tower light · adjustable feet · operation and maintenance manual.

Six Reasons It Earns Its Floor Space

High accuracy

1/15,000 display resolution, **120** conversions per second and **0.01** % F.S. non-linearity keep the tolerance band tight, even at line speed.

Compact structure

Conveyor, weighing section and cabinet share one frame. The machine fits the line instead of demanding a separate weighing room.

Stainless steel build

Rollers, side plates and frame in stainless steel: wipe-down surfaces, corrosion resistance and no painted edges to chip.

Simple to operate

Zero at power-up, automatic zero tracking, direct entry of target and limits. One short demonstration is enough for a shift handover.

Runs shift after shift

DC belt drive, Sigma-Delta conversion and PLC control are specified for continuous duty — **85** W, few wearing parts, stable readings.

2-year warranty

Twenty-four months on the machine, with rollers, belts and load cells held as line-side spares for fast replacement.

Specified where the line cannot slow down

The checkweigher is aimed at packers who already run a filling or sealing line and need weight control without rebuilding it: cartons, bags, pouches, cans and single items from a few grams up to the platform capacity. Because the weighing section is part of the conveyor, there is no transfer step to lose accuracy and no second handling point to create errors.

How a pass / fail decision is made

Each product is compared with the target weight and the upper and lower limits held in the controller; anything outside the band is signalled on the tower light.



Pass band — target weight with upper and lower tolerance limits

Tower light	Condition	Line action
Green	Within tolerance	Product continues down the line
Yellow	Under weight	Alarm, line stop or reject (option)
Red	Over weight	Alarm, line stop or reject (option)

The tower light is fitted as standard. A reject device is optional: without one, the line stops and the operator removes the pack before weighing resumes.

Built for the Packing Line

One stainless frame carries the conveyor, the weighing section and the control cabinet — assembled, aligned and tested before it leaves the factory.



Rear view — drive, cabinet and cable routing

FRAME

Welded stainless tube with four adjustable feet; levelling takes minutes on an uneven plant floor.

ROLLER BED

Stainless rollers on sealed bearings, driven by a DC gear motor and belt; side guides keep product square to the weighing section.

WEIGHING SECTION

Separate platform under the roller bed, coupled to a single load cell; overload stops protect it from dropped cartons.

CONTROL CABINET

Stainless enclosure on the column, angled for reading at operator height; cable entry from below keeps wash water out.

Roller bed and side guides

Rollers run in sealed bearings and are driven from one side, so the weighing section sees only the product load. Interchangeable side guides centre cartons and bags of different widths without tools — the reason one machine can handle a mixed packing schedule.



Roller bed with side guides at the weighing section

Display & Controls

A red LED weight display, five running-status indicators and a sealed membrane keypad — readable from a step back, cleanable with a damp cloth.



Status indicators

Five LEDs beneath the display report the state of the weighing cycle: ZERO at the zero reference, STABLE when the reading is valid and can be recorded, NET in net-weight mode, and HI / LO when the product lies outside the upper or lower limit and the tower light has been triggered.

Keypad legend

Key	Function
Zero	Sets the display to zero with the belt empty; the key is green on the panel.
HI limit	Upper tolerance for the pass band, entered with the numeric keys.
LO limit	Lower tolerance for the pass band, entered with the numeric keys.
Enter	Confirms a setting and returns the display to weighing.
Unit	Selects the weighing unit shown after the digits.
Print	Sends the current weight to the serial port.
Send	One-shot manual transmission of the reading.
0 – 9 · .	Target value, tolerance and calibration-weight entry.

Panel lettering is shown in English throughout this manual; the machine as supplied carries the same key layout with Chinese lettering. The arrow keys step through the setting menus.

Technical Specifications

Weighing performance, line interface and the conditions the machine is built for.

Weighing performance

Parameter	Specification
Maximum display resolution	**1** / **15,000**
A/D conversion	Sigma-Delta, **120** conversions per second
Non-linearity	**0.01** % F.S.
Gain drift	**10** ppm / °C
Input sensitivity	**0.01** µV / d
Input range	**0.2** – **10** mV (load cell **2** mV/V) · **0.2** – **15** mV (**3** mV/V)
Zero adjustment range	**0.2** – **8** mV (**2** mV/V) · **0.2** – **12** mV (**3** mV/V)
Load cell supply	DC **5** V, **300** mA max. · input impedance **10** MΩ

Line and environment

Parameter	Specification
Conveyor	Powered roller bed, DC gear motor and belt drive
Maximum belt speed	**10** m / min
Control	PLC with red LED weight display and membrane keypad
Power supply	AC **220** V, **1** A, **50** Hz ± **10** %
Power consumption	Approx. **85** W
Operating temperature	**0** – **40** °C
Maximum humidity	**65** % R.H., non-condensing
Communication	RS**485**, Modbus RTU weight output

Alarm and output

Parameter	Specification
Three-colour tower light	Red: over weight · Green: pass · Yellow: under weight
Out-of-tolerance action	Automatic line stop and alarm; reject device optional
Weight output	Continuous or on-demand reading over RS**485**
External signal	Relay output for tower light or reject (optional)

Specifications describe the standard machine and are subject to change without notice. Capacity, division and belt width are fixed at order, because the weighing section is matched to the product and the line speed.

Reliability, Warranty & Support

24

MONTHS

Two-year warranty as standard

The machine is covered for twenty-four months from commissioning against defects in materials and workmanship. Wear parts — rollers, belts and the load cell — are held as line-side spares so a replacement is a maintenance task, not a shutdown.

Designed to stay in service

Continuous duty by design	The drive, weighing electronics and controller are rated for shift work. There is no clutch, no gearbox service interval and no fan to clog with dust.
Few wearing parts	Rollers run on sealed bearings and the belt is the only consumable in normal use. Replacement does not require re-calibration of the weighing section.
Stable electronics	Sigma-Delta conversion with **10** ppm/°C gain drift holds the reading through a shift, so tolerance bands do not have to be widened to absorb drift.
Serviceable in place	Side plates unbolt for roller access, the cabinet opens from the front, and the load cell can be changed without removing the conveyor from the line.

Spares and support

Recommended line-side spares: one roller set, one drive belt and one load cell. Commissioning support, calibration guidance and replacement parts are available through the supplier named on the order acknowledgement.

Warranty cover at a glance

COVERED FOR 24 MONTHS

- Drive motor and gearbox
- Weighing electronics and controller
- Load cell and weighing platform
- Frame, rollers and welds

NOT COVERED

- Belts and rollers worn in normal use
- Damage from overloading or impact
- Repairs by third parties
- Modification without approval

Ordering information

Model	CW series, roller-conveyor checkweigher
Capacity and division	Fixed at order to suit the product weight and tolerance
Belt width	Fixed at order to suit the widest pack on the line
Options	Reject device · touch-screen HMI · printer · enlarged tower light



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