

Avery Weigh-Tronix

# Checkpoint M

WIPOTEC • POWERED

DYNAMIC CHECKWEIGHING



# Checkpoint M

Optimum performance with high precision

WIPOTEC • POWERED



The standard model may be equipped with a built-in printer or Smartfile System



## Throughput speeds up to 230 pieces/minute

The **Checkpoint M** is designed for the entire mid-performance range of checkweighing. Whether you need to check current nominal weight, perform completeness checks on bundles or sort and classify, the Checkpoint M provides the means to do the job with greater speed and efficiency.

A heavy, solid stainless steel base frame provides the stability needed for high weighing precision at medium and high belt speeds.

The low-weight, patented conveyor belt systems and a carefully tuned drive system ensure smooth operation as well as fast and safe transport of products. Individually modified solutions for varying product shapes are easily accommodated. Quick-change clamps on conveyors allow easy belt exchange without tools.

A wide range of application-specific sorting devices is available to reliably discharge products that have incorrect weights, without disturbing the ongoing production.

## Touch screen operation

A menu-guided touch screen with alphanumeric input facilitates fast, easy setup and adjustment of the scale for different products and requirements.



Display and modify master data with a simple touch

0,0 g Product No.: 5		STAND BY
		GENERALPASSWORD
STATISTICS	PRODUCTION	
GRAPHICS	PRODUCT	
PASSWORD	LIST	
SYSTEM	SERVICE	

Password protection prevents unauthorized access to the individual functions and parameter settings. Optionally, the local operation via touch screen can be locked.

Factory default settings are also permanently stored and may be loaded at any time. This feature provides the assurance of a well-defined operating condition when needed.

The desired units for operation and machine management are user selectable from the menu: grams (g) or kilograms (kg); ounces (oz) or pounds (lb).



# EMFR

## WIPOTEC

### Weigh Cell Technology

with Electromagnetic Force Restoration (EMFR)

To achieve the speed and accuracy required for dynamic checkweighing, Wipotec Weigh Cells are used in all Avery Weigh-Tronix Checkpoint models.

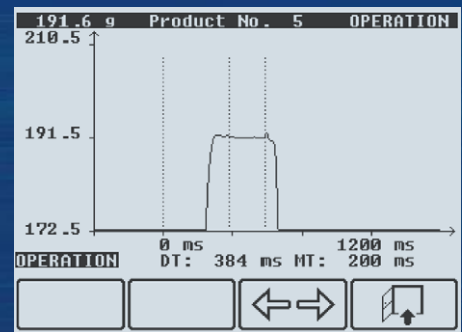
### Operational Features

- 100% production monitoring of products to ensure they meet the minimum weight or average weight requirements with production documentation
- Rejection of out-of-tolerance products with choice of mechanisms including: air blast, pusher, flipper or diverter
- Production documentation shown by means of graphic screens for statistics histogram, trend and average value curves by pieces, hours or minutes.
- 4 different weighing ranges
- 5 weight classes for under, accept and over classification
- 50 PLUs (incorporates all relevant information required for the assigned product)
- Touch screen simple, menu-guided operation
- Multi-level password protection
- 3 different working height ranges
- Right to left or left to right working directions
- Simple belt and conveyor change, no tools required
- Maintenance-free servo drive includes motor and electronics
- Compact design for easy integration into production lines
- Line synchronization with isolated relay contacts
  - Remote start (input)
  - Weighing mode (output)
  - Error (output)
- 20 automation channels available: eight input and 12 output channels
- Main power switch located on electrical cabinet
- Photo cell for product recognition mounted on supporting frame
- Simple menu-driven calibration
- AutoZero tracking capabilities
- Tare weight input for checking net weights
- Standard statistics including totals, over/under weights, standard deviation, average, etc.
- Bubble level on frame for accurate machine leveling
- Emergency by-pass for "worst-case scenario" resets the checkweigher to "product transport with the last selected speed" – Production can continue uninterrupted and the weight check can be performed at a later time

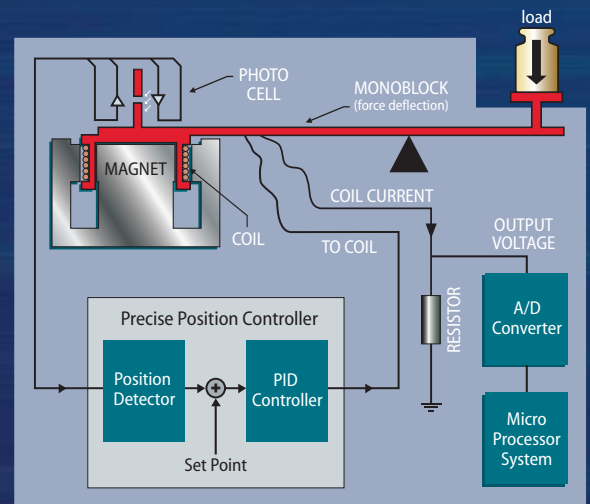
### EMFR Operating Principle and Weigh Cell Design

Weigh Cells are an electronic version of the simple beam scale. A coil is attached to one end of the beam and load applied to the other. The amount of electrical current required to hold the coil at a neutral position within a magnetic field is proportional to the applied load. Since the Weigh Cell calculates weight based on changing current rather than physical motion, it is able to provide an extremely fast response time (typically 60 ms to reach 99.9% of the final value).

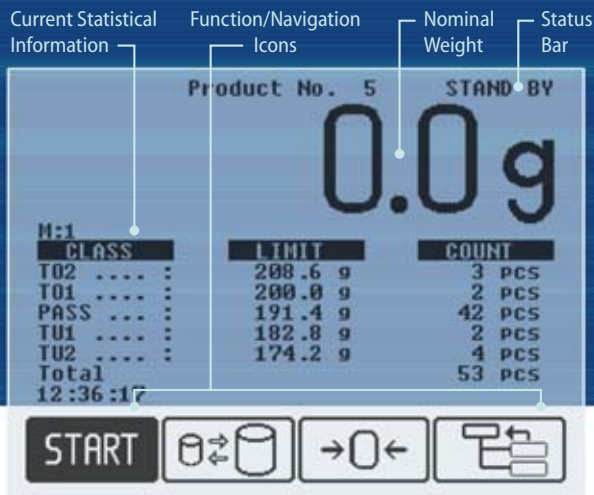
Checkweigher analysis tool



The links and levers that form the heart of the Weigh Cell are machined into a one-piece "monoblock" to ensure high precision, short settling time and reliable operation in an industrial environment. The electronics required to produce a useable digital signal, along with temperature and vibration compensation, are incorporated within the Weigh Cell.







## Powerful standard software and user-friendly interface

The graphical interface simplifies training, allows quick access to operating parameters and clearly displays the desired checkweighing data.

## Standard Configuration

- Welded stainless steel (AISI 316) tubular frame with stainless steel control cabinet/operating column and polycarbonate front cover
- Integrated display/control system with 5.7" graphical touch screen
- 3 transport conveyors (infeed, weighing and outfeed)
- 1 sorting device, mounted on the mainframe (pusher or air blast)
- 1 set – operator/maintenance manual, electrical and pneumatic drawings, spare parts catalog

Avery Weigh-Tronix Checkpoint systems are certified in accordance with DIN ISO 9001-2000. Our checkweighers are distinguished by their precision and reliability. They were designed and manufactured for long-lasting, continuous operation.

## Capacities

Type	Checkpoint M-2000-2	Checkpoint M-2000-1	Checkpoint M-3000-2	Checkpoint M-4000-2
Weighing range	0 to 750 g	0 to 1500 g	0 to 3750 g	0 to 7500 g
Resolution <sup>(1)</sup>	0.1 g	0.2 g	0.5 g	1.0 g
Maximum possible throughput <sup>(1)</sup> parts per minute (ppm)	230	230	230	230
Conveyor width (30 mm dia roller) millimeters	120/150/200/300	120/150/200/300	120/150/200/300	120/150/200/300
Conveyor width (17 mm dia roller) millimeters	80/120/150	80/120/150	Not available	Not available
Standard weighing conveyor length (30 mm dia roller) millimeters	200/250/300/400/500			
Standard weighing conveyor length (17 mm dia roller) millimeters	150/200/250/300			
Units of measure	lb/oz/kg/g			
Smallest calibration values	0.1 g (7500 counts)			
Sorting device	Air blast for products up to 500 g Pusher for products above 500 g <sup>(2)</sup> Drop-flap conveyor <sup>(3)</sup> Diverter gate <sup>(3)</sup>			
Printer <sup>(3)</sup>	Built-in printer for production documentation / Smartfile / interface for external printer connection			
Temperature range	5 to 40°C (40 to 104°F) 80% non-condensing humidity			
Electrical supply	115 V / 230 V; 60 Hz / 50 Hz			
Maximum power consumption	800 VA			
Degree of protection	IP54/NEMA 12			
Pneumatic connection	87 psi			
Minimum dimensions (base)	Approximately 620 mm (L) x 680 mm (W) x 1620 mm (H) 25" (L) x 27" (W) x 64" (H)			
Agency approvals	Certified for several countries; OIML R51 #NL-00.01, Measurement Canada #AM-5368			

(1) Depends on weight, dimensions and behavior of the product as well as conveyor speed and environmental conditions.

(2) Pusher for products over 1,000 g only in combination with a free-standing sub-frame

(3) Optional

Optional portable data storage system



32K Bytes Data Card



PC Compatible Card Reader

## Add-on capabilities for even greater application flexibility

The basic model of the Checkpoint M covers an extraordinarily wide and versatile spectrum of applications. This versatility is supplemented by many selectable options.

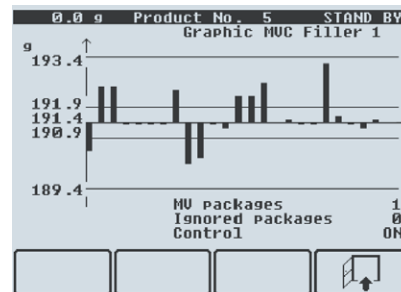
The Checkpoint M can be equipped with a mean value control. This feature allows the control of automated filling machines. It is a valuable tool to reduce and/or eliminate inefficient overfilling. The production tendency can be graphically represented.

When integrated into a production line, the Checkpoint M can be started by remote-control using the line synchronization of a higher line control.

By the integration of additional safety components, all drives as well as the pneumatics can be operated off circuit (optional feature). In order to ensure that products which are out of tolerance are rejected, a rejection verification is available. A photo sensor located downstream from the sorting device monitors the actual product flow and, if necessary, stops the belts immediately.

With the extensive range of optional equipment, the Checkpoint M can be easily adapted for specific application requirements.

### Track production tendency



0.0 g Product No. 5 STAND BY	
Product 5/5	
MUC Filler 1	
Ignored packages .....	0 PCS
MU packages .....	1 PCS
Inner tolerance .....	0.5 g
Outer tolerance .....	2.0 g
Overfill .....	0.0 g
Regulating time per g .....	200 ms
Response time .....	500 ms
Max regulation step .....	600 ms

## Options

- Memory expansion for 80 product PLUs
- Remote electronics cabinet including the touch screen
- Remote secondary weight-only display
- 3 or 5 zone lights, indicating classification status
- Error light indicating machine status
- Audible alarm signal
- One external error input: used in combination with other devices such as a metal detector
- Lockable touch screen hardware option prevents operator input
- Air pressure verification: monitors the performance of the reject device by stopping the machine and displaying an error message in the event of pressure drops
- E-Stop: remote or machine mounted emergency push button immediately stops checkweigher
- Knife-edge conveyors maintain smooth transition for unstable products
- Lockable reject bin
- Guide rails: lateral rails mounted on infeed conveyor for product positioning
- Consecutive Reject Alarm: in the event of consecutive rejects. Target count is set by customer
- Reject verification: monitors the performance of the reject device
- Weigh Conveyor Cover Guard: hinged polycarbonate guard for protection from air drafts
- MVR-1: mean value regulator for one (1) filling head. Checkpoint sends two binary signals to the controls of the filling head ( $\pm$  adjustment).
- Statistics package providing comprehensive statistical data concerning all products produced
- Built-in printer, Smartfile System or Centronics printer to print statistics package for production documentation
- Interface to transmit individual weights via RS-232, RS-422, RS-485, TTY (current loop)

## THE RIGHT SYSTEM FOR THE JOB



Checkpoint S



Checkpoint M



Checkpoint M-SL



Checkpoint M-VA



Checkpoint M-NH

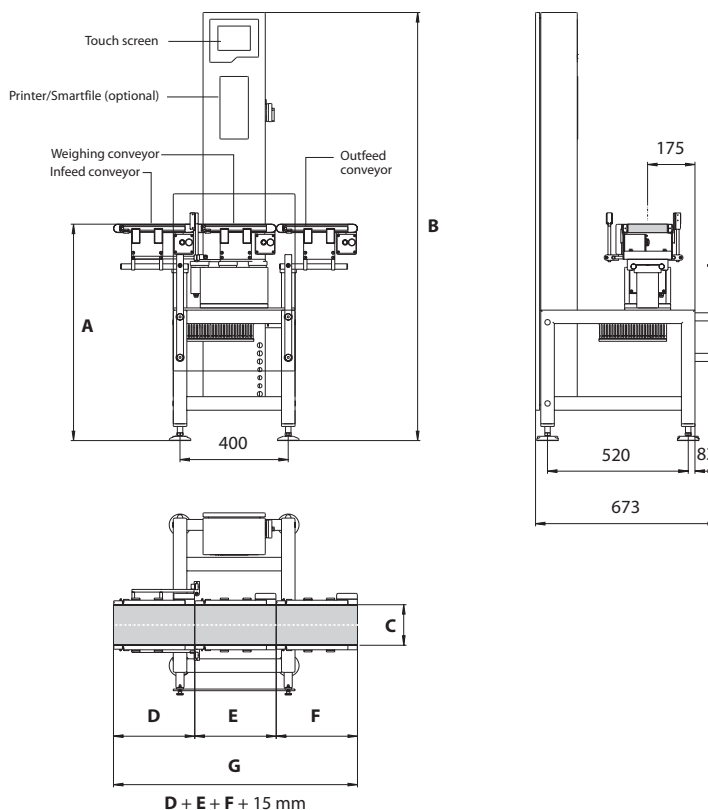
Products shown above include some optional equipment.

## Localized sales and service support

Your Avery Weigh-Tronix distributor has valuable application experience and can help determine whether the Checkpoint M or one of the other efficient Checkpoint models is best suited for your needs. Avery Weigh-Tronix distributors are valuable resources that are readily available to you. They are complete support centers, providing needs assessment, technical information, product sales and service.

## M Series Dimensions

		mm	inches
A	Working height	700-850	27.55 – 33.46
		800-950	31.49 – 37.4
		900-1050	35.43 – 41.33
B	Total height	Approx. 1580 mm (+150 mm when using the maximum foot height)	Approx. 62.20" (+5.91" when using the maximum foot height)
C	Conveyor width	Roller diameter NT 30	
		120	4.72
		150	5.91
		200	7.87
		300	11.87
	400	15.74	
Roller diameter NT 17	80	3.15	
	120	4.72	
	150	5.91	
D	Infeed/Outfeed conveyor length	200	7.87
		300	11.81
		400	15.74
		500	19.68
E	Weighing conveyor length	200	7.87
		250	9.84
		300	11.81
		400	15.74
500	19.68		
F	Outfeed/Infeed conveyor length	200	7.87
		300	11.81
		400	15.74
		500	19.68



Please call us or visit [www.wtxweb.com](http://www.wtxweb.com) for your nearest Avery Weigh-Tronix distributor.

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Avery Weigh-Tronix reserves the right of technical modification. Specifications are subject to change in accordance with any such modification.