

Avery Weigh-Tronix

# Checkpoint M-NH

WIPOTEC • POWERED

DYNAMIC CHECKWEIGHING



*Checkpoint M-NH  
configured with infeed  
conveyor (left), weighing  
conveyor (center) and  
optional outfeed  
conveyor with pusher  
reject device (right).*

# Checkpoint M-NH

WIPOTEC • POWERED

Optimum performance with high precision in a harsh environment

The **Checkpoint M-NH** satisfies the need for accurate mid-range checkweighing in extreme production environments. It is designed for frequent cleaning with high-pressure water jet and is protected against the corrosive effects of steam and harsh chemicals.

Whether checking current nominal weight or sorting and classifying, the Checkpoint M-NH will reliably meet your application requirements with speed and efficiency.

## Standard configuration

- Welded stainless steel (AISI 316) tubular frame with stainless steel control cabinet and operating column (IP66/NEMA 4X)
- Integrated display/control system with 5.7" graphical touch screen
- 2 transport conveyors (infeed and weighing)
- 1 set – operator/maintenance manual, electrical and pneumatic drawings, spare parts catalog

The Checkpoint M-NH is available with a built-in printer or data storage system, sorting devices and a wide range of additional options for enhanced performance.

*Model shown is configured with an infeed conveyor (left), weighing conveyor (center) and optional outfeed conveyor with pusher reject device (right).*

## A solid foundation with multi-layered protection

The Checkpoint M-NH has a welded support structure fabricated from heavy-walled, stainless steel tubing upgraded to IP66/NEMA 4X. The entire frame is covered with polished 316 stainless steel sheet metal to form a smooth, crevice-free enclosure with sloping surfaces for easy cleaning and superior water resistance. The Weigh Cell and conveyor drive motors are fully contained within this enclosure. For additional protection, the Weigh Cell and photocell are encapsulated within their own housings, and the conveyors are equipped with chemical resistant sealed bearings. Electrical connections are also designed to ensure the water-tight integrity of the entire structure.

Individually modified solutions for varying product shapes are easily accommodated. Spring-loaded rollers allow easy belt exchange without tools.



## WIPOTEC

### Weigh Cell Technology

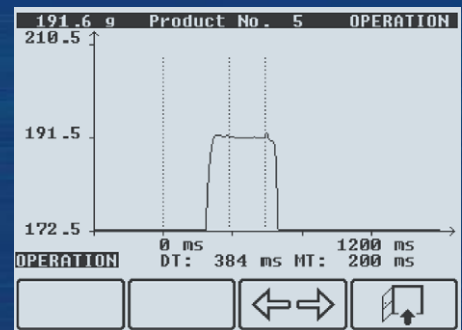
with Electromagnetic Force Restoration (EMFR)

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

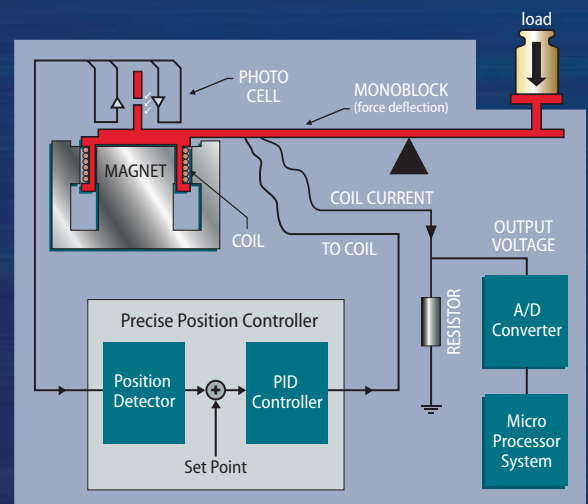
#### EMFR Operating Principle and Weigh Cell Design

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

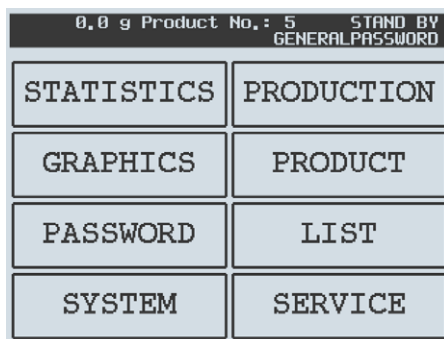


The links and levers that form the heart of the Weigh Cell are machined into a one-piece "monoblock" to ensure high precision, short settling time and reliable operation in an industrial environment. The electronics required to produce a useable digital signal, along with temperature and vibration compensation,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



#### 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*

Password protection prevents unauthorized access to the individual functions and parameter settings.

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

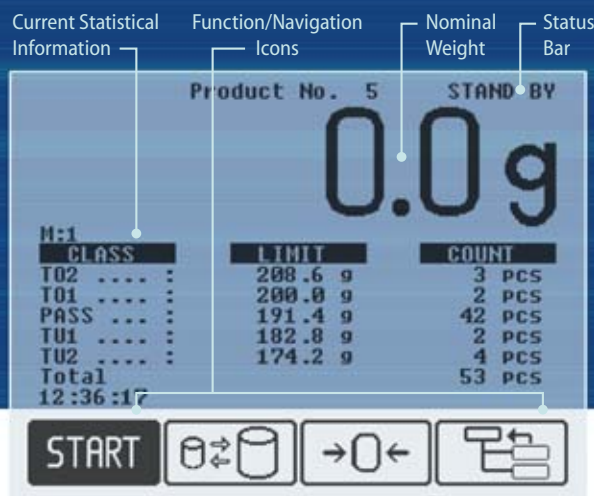
The desired units for operation and machine management are user selectable from the menu: grams (g) or kilograms (kg); ounces (oz) or pounds (lb).

#### Consistent accuracy at throughput speeds up to 230 pieces/minute

The low-weight, patented conveyor belt systems and a carefully tuned drive mechanism ensure smooth operation for accurate weighing and the fast, safe transport of products. The optional discharge conveyor is isolated on a free-standing frame to prevent the transmission of reject vibrations to the weighing conveyor.

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





## 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.



Optional built-in printer

## 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 via optional flap conveyor or diverter gate

Production documentation shown by means of graphic screens for statistics histogram, trend and average value curves by pieces, hours or minutes.

2 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 (fully enclosed in a waterproof housing for complete protection)

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

## Add-on capabilities for even greater application flexibility

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

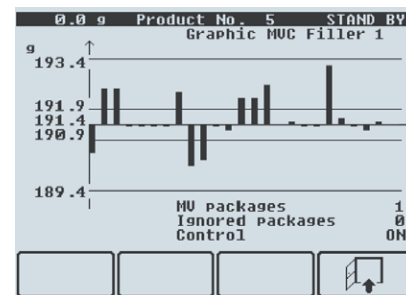
The Checkpoint M-NH can be equipped with a mean value control (MVR-1). This feature allows the control of automated filling machines. It is a valuable tool to reduce and/or eliminate inefficient overfilling. The production tendency can be graphically represented.

When integrated into a production line, the Checkpoint M-NH 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-NH can be easily adapted for specific application requirements.

### Track production with optional MVR-1





32K Bytes Data Card



PC Compatible Card Reader

## 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
- 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
- Consecutive Reject Alarm: activates in the event of consecutive rejects. Target count is set by customer
- Sorting device: drop-flap conveyor or diverter gate, reliably discharges items of incorrect weight without disturbing the ongoing production
- 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 (IP54 rated)
- Interface to transmit individual weights via RS-232, RS-422, RS-485, TTY (current loop)

## Specifications

Type	Checkpoint M-NH 3000-3	Checkpoint M-NH 3000-2
Weighing range	0 to 1500 g	0 to 3000 g
Resolution <sup>(1)</sup>	0.2 g	0.5 g
Maximum possible throughput <sup>(1)</sup> parts per minute (ppm)	230	230
Conveyor width (30 mm dia roller) millimeters	150/300	150/300
Standard weighing conveyor length (30 mm dia roller) millimeters	315/485	
Units of measure	lb/oz/kg/g	
Sorting device <sup>(2)</sup>	Drop-flap conveyor Diverter gate	
Printer <sup>(2)</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	IP66/NEMA 4X	
Pneumatic connection	87 psi	
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) Optional

## 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.*

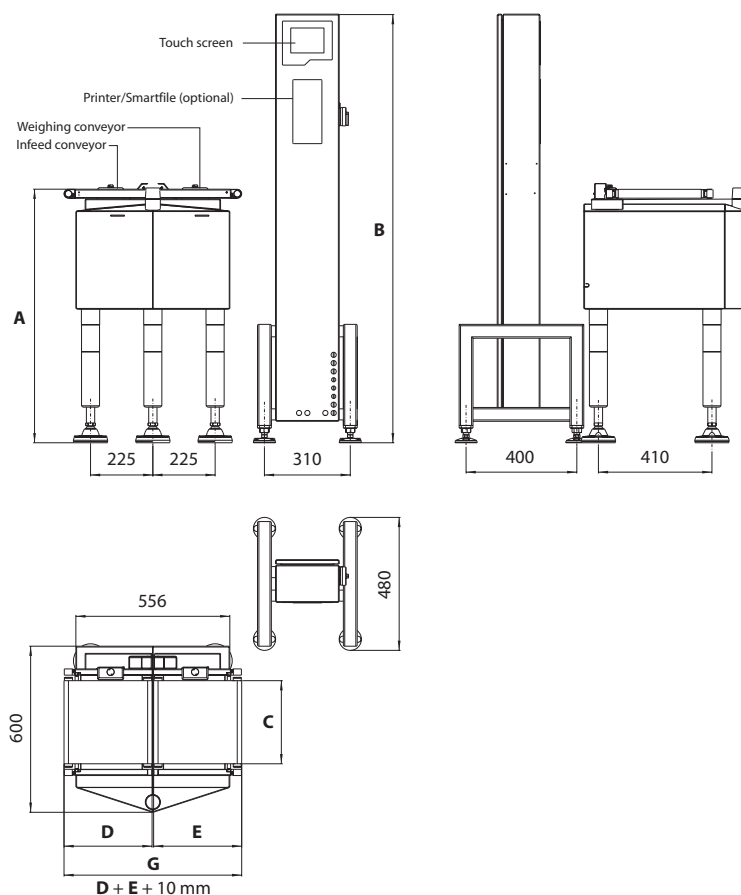
## Localized sales and service support

Your Avery Weigh-Tronix distributor has extensive application experience and can help determine whether the Checkpoint M-NH 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-NH Series Dimensions

		mm	inches
A	Working height	700 – 770	27.55 – 30.31
		750 – 820	29.53 – 32.28
		800 – 870	31.49 – 34.23
		850 – 920	33.46 – 36.22
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	150	5.91
		300	11.81
D	Infeed/Outfeed* conveyor length	315	12.4
		485	19.09
E	Weighing conveyor length	315	12.4
		485	19.09

\* Outfeed conveyor is optional



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

## Avery Weigh-Tronix

Fairmont, Minnesota U.S.A.  
USA Toll-Free: 800-368-2039  
USA Phone: 507-238-4461  
[www.wtxweb.com](http://www.wtxweb.com)

Pointe Claire, Quebec Canada  
CAN Toll-Free: 800-561-9461  
CAN Phone: 514-695-0380  
[www.weigh-tronix.ca](http://www.weigh-tronix.ca)



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