



# Checkweigher CoSynus®

All in one checkweigher and metal detector



German Quality

## ! Benefits

- Checkweigher and metal detector operation via a common terminal
- EMC weigh cell ensures the highest precision
- Memory for 200 product types
- Protection class IP54, IP65 optional
- Optional trend controller to improve filling

CoSynus® from Minebea Intec combines the Synus® checkweigher and the Vistus® metal detector. It is used for determining the weight or for completeness checks, for regulating upstream filling systems and for simultaneous detection of metallic components. It is particularly applicable in the food production.

## Product Profile

The Vistus® metal detector was developed to achieve an optimal detection sensitivity under any operating conditions. Thus allowing the detection of even the smallest metallic particles in products such as high-alloy steels and non-ferrous metals (copper, brass, aluminum, lead, etc.)

Synus® checkweighers are approved for use in legal metrology for average weight control of prepackaged products (AWC) as an automatic checkweigher as well as with MID conformity. To ensure proper integration into your production process, the metal search coil and weigh cell, as well as the weighing belt of the CoSynus® are available in different versions.

High-quality materials and an in-house production process ensure that the result is a superior product in line with German Quality standards.

## Technology

The evaluation electronics can take over both product classification as well as control of sorting and/or signaling devices. Optionally, air blast nozzle ejectors or pneumatic pushers can also be installed on the outfeed belt of the checkweigher as well as on the metal detection conveyor as rejection and/or sorting mechanisms. Depending on the product, separated rejection belts or line separators can be used.

“Fail safe” functions such as digital, lockable collection containers with fill level monitoring offer an even higher level of safety for rejections.

The optional trend controller can be added to regulate existing packaging or filling machines. This contributes significantly to improved efficiency of filling and helps to prevent costly overflow.

All CoSynus® models also offer a variety of interfaces. This enables smooth, centralized integration of CoSynus® checkweighers into existing or new quality assurance systems, for 100% traceability in production monitoring. Checkweighers are connected via Ethernet TCP/IP to the “SPC@Enterprise” QA system, creating an all-inclusive bidirectional link to management functions. An integrated printer module is available as an option for documentation of all relevant operating data. The USB Print option is a reliable, easy-to-use and – most importantly – broadly compatible option for electronic data transfer without a network.

CoSynus® has an intuitive user interface, ensuring easy operation.

## Technical specifications

Checkweigher CoSynus®				
Parameter	WS 1 kg	WS 2 kg	WS 5 kg	WS 7 kg
Weighing capacity (max. cap.)	0 g ... 1000 g	0 g ... 2000 g	0 g ... 5000 g	0 g ... 7000 g
Operational range (in AWC range)	5 g ... 900 g	5 g ... 1800 g	10 g ... 4 500 g	20 g ... 6300 g
Smallest permissible verification scale	0.1 g	0.2 g	0.5 g	1 g
Throughput capacity*	max. 250 units/min	max. 200 units/min	max. 180 units/min	max. 180 units/min
Speed ranges	0.2 ... 1.5 m/s	0.2 ... 1.2 m/s 0.5 ... 1.5 m/s	0.2 ... 1.0 m/s 0.5 ... 1.4 m/s	0.2 ... 1.0 m/s 0.5 ... 1.4 m/s
Center-to-center distance of weighing belt (mm)	310	300 / 350 / 400 / 450 / 500		
Conveyor belt width (mm)	40 / 80 / 120 / 160 (MB/AB 150 mm) <sup>2</sup>	150 / 200 / 300		
Belt roller diameter (mm)	22	30		
Transport medium	Circular belt or belt	Belt		
Drives	Maintenance-free 24 V EC motors with planetary gear train, motor control is short-circuit proof with temperature monitoring			
Connected voltage	115/230 V <sub>AC</sub> (+10 % / -15 %); 50/60 Hz (L1, N, PE) switchable			
Power consumption	Approx. 500 V <sub>A</sub>			
Conveyor direction	Right to left or left to right (please indicate when ordering)			
Operating height	600 mm – 1,100 mm (in 50 mm grid); adjustment range of feet: ± 25 mm			
Floor clearance	100 mm (±25 mm)			
Temperature range	0° C ... +40° C (MID +5° C...+40° C)			
Product temperature	-10° C...+60° C (WS 1 kg, belt) -40° C...+80° C (WS 1 kg, circular belt) -30° C...+80° C (WS 2 to 7 kg, belt)			
Protection class	IP54 (standard feature), IP65 (function upgrade)			
Interfaces	Ethernet, PROFIBUS, PROFINET, DeviceNet, RS-422, RS-232, Current Loop, CANopen			
Equipment safety	Design meets the requirements of EC Directive 98/37/EC			
Dimensions	see Technical diagrams			
Weight	Approx. 330 kg			

\* (Depends on product, permissible imprecision and ambient conditions)

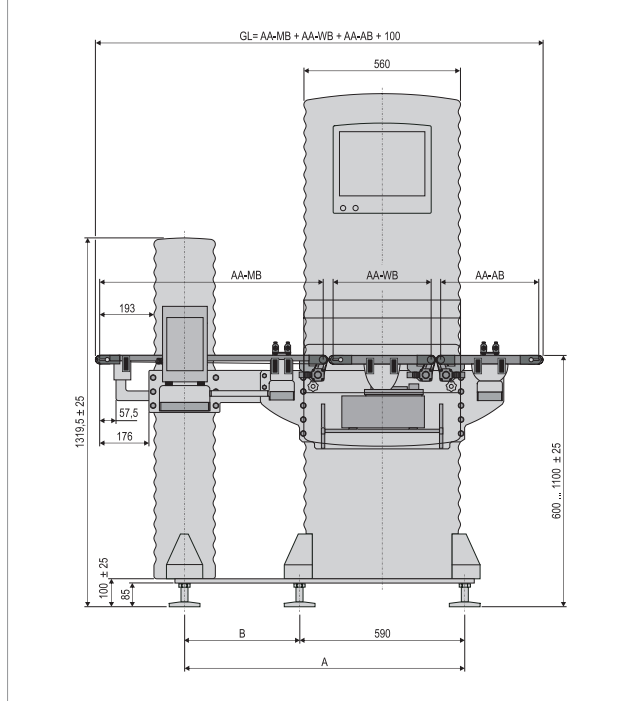
## Weight indicators CoSynus®

Parameter	Description	
Control unit	Flat screen, 10.4" TFT color display and keypad (SYNUS® 10)	
Housing	Stainless steel housing 1.4301, IP65 protection class	
Data interfaces	TCP/IP, RS-232, RS-422, CAN bus, fieldbus and profibus interface	
Weight display	Choice of gross, net or differential weight	
Operational display	Distribution, yield, throughput, average value chart, large weight readout	
Operating Modes	<ul style="list-style-type: none"> <li>– Classifying weigher with AWC evaluation</li> <li>– 3-way sorting or 4 user-definable class limits</li> <li>– 3/5-way sorting</li> </ul>	
Other standard functions	<ul style="list-style-type: none"> <li>– Batch mode</li> <li>– 5-way classification</li> <li>– Pulse-controlled sorting</li> <li>– Automatic zero-setting</li> <li>– Statistics</li> <li>– Documentation</li> <li>– Product data memory for 200 products</li> <li>– Program-controlled belt speed</li> <li>– Inputs: hide weigher, event counter, external error message</li> <li>– Outputs: feeder/batch, 3-way/5-way sorting</li> </ul>	<ul style="list-style-type: none"> <li>– Total counter/Pre-selection counter, fault alarm output</li> <li>– Self-monitoring function, error reports</li> <li>– Auxiliary functions: test package, dialogs for diagnostics and service</li> <li>– Data stored in battery-backed memory</li> <li>– Choice of languages for program dialogs, user-selected</li> <li>– Product effect minimization</li> <li>– Validation function for MSG</li> </ul>
Options/Function Upgrades	<ul style="list-style-type: none"> <li>– Touchscreen 15" TFT color display (SYNUS® 15)</li> <li>– Documentation system with integrated printer (IP65) / for external printer</li> <li>– Trend controller with display</li> <li>– Approval for use in legal metrology</li> <li>– Interface for individual weight value output for external evaluation and connection to customer systems</li> <li>– Fieldbus interfaces: PROFIBUS, PROFINET, DeviceNet</li> <li>– Data communication: Ethernet, TCP/IP XML client server</li> <li>– FDA 21 CFR Part 11</li> <li>– SPC@Enterprise</li> <li>– USB Print</li> <li>– Completeness checks with floating mean</li> <li>– 5 classifying outputs with pulse output or signal maintaining logic (e.g. for control of LEDs or external counters)</li> </ul>	<ul style="list-style-type: none"> <li>– Monitoring of average weight and repetitive rejections (only with 3-way sorting)</li> <li>– Automatic sampling</li> <li>– Volume evaluation</li> <li>– Measuring accuracy check</li> <li>– Package length and spacing monitoring</li> <li>– Metal signal with separate acknowledgment</li> <li>– Metal detector way pulse</li> <li>– Metal amassment</li> <li>– Interval monitoring</li> <li>– Separation monitoring of the good line</li> <li>– Collection container for metal and incorrect weights</li> <li>– Fill level monitoring of metal and incorrect weight container</li> <li>– Air pressure monitoring</li> <li>– Control of customer sorting equipment</li> <li>– EMERGENCY OFF pushbutton</li> </ul>

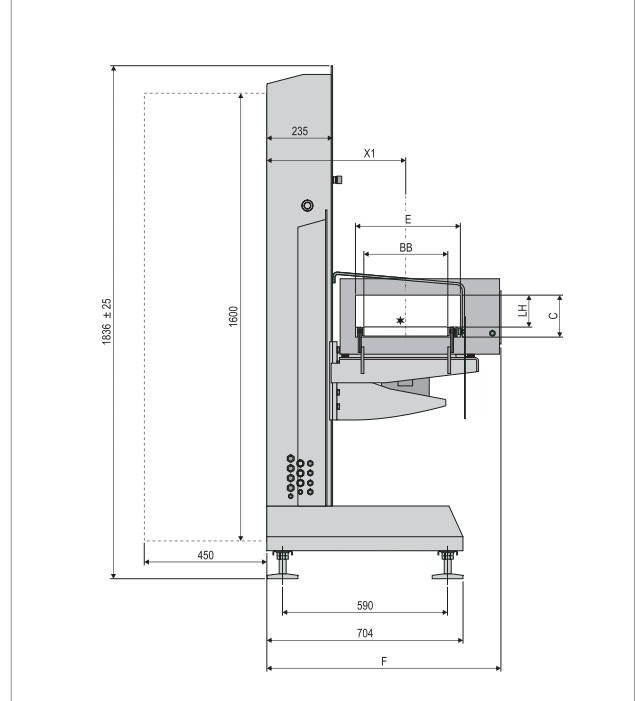
The technical data given are intended solely as a product description and should not be conceived as guaranteed properties in the legal sense.

# Technical diagrams

## Checkweigher CoSynus®



Front View

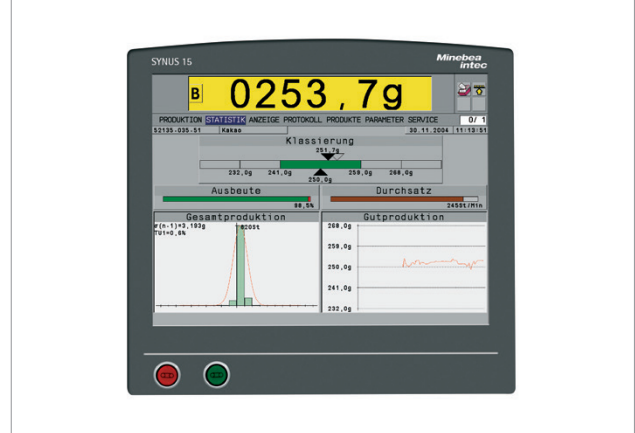


Side View

## Weight indicators CoSynus®



Synus® 10



Synus® 15

All dimensions in mm

The products and solutions presented in this data sheet make major contributions in the following sectors:



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Specifications subject to change without notice.  
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