

# Batching and Formulation

Safe and precise solutions for the production process



Specifically designed for industrial use: Minebea Intec supplies professional batching and formulation solutions ranging from manual through to fully automated applications. High-performance software and precise electronics guarantee reliable production processes, reduce incorrect quantities and ensure seamless traceability all the way back to the raw materials used.

# The true measure

Minebea Intec is a leading manufacturer of industrial weighing and inspection technologies. Our mission is to increase the reliability, safety and efficiency of our customers' production processes. To do this, we provide high-quality products, solutions and services that ensure a high level of safety.

Minebea Intec's excellent performance is based on 150 years of experience, our distinct German Quality and continuous investments in the development of innovative technologies. Our strong global presence and an extensive network of distribution partners ensure that our customers can rely on top Minebea Intec quality – any time, anywhere. Our goal is to set strong standards in all areas of our company, which is reflected in our brand slogan, 'the true measure'.

By purchasing Minebea Intec products, every day, customers all over the world are choosing more than just innovative technologies: they are also choosing top-quality service performance and comprehensive support throughout the entire life cycle of their product. Our aim is to fulfil our customers' requirements no matter what the industry, and to be the first port of call for weighing and inspection technologies. In short: the best expert you could have!

## Products and solutions from Minebea Intec are firmly established in many sectors





## The MinebeaMitsumi group

The MinebeaMitsumi group is a global precision electromechanical components manufacturer, providing products for various industries. Minebea was founded in 1951 in Japan, Mitsumi in 1954. The company currently employs around 80,000 people and has more than 120 production sites and sales and service locations around the world. For many products, the MinebeaMitsumi group is No. 1 in terms of its global market share.

# From manual to fully automated batching solutions

Minebea Intec provides high-quality solutions for a broad range of batching and formulation tasks. From manual and semi-automated manual formulation to one-component filling right through to fully automated multi-component batching systems.

Our wide range of industrial scales, load cells, electronic weighing systems and high-performance software applications and systems enable use in many industries and almost all application environments, even potentially explosive areas.

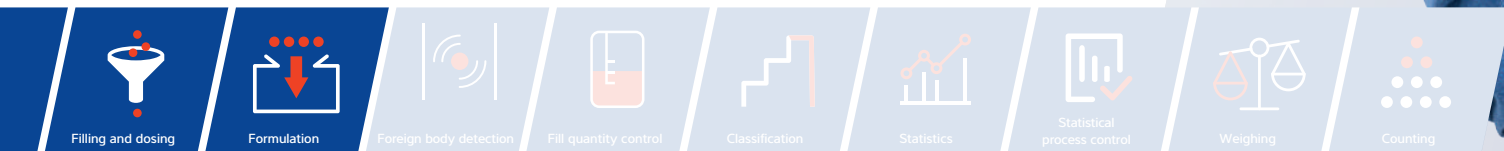
**Microsoft  
Partner**

ProRecipe XT® was developed using Microsoft tools and therefore conforms with the standard for the production and office software used.

## There are a number of benefits to Minebea Intec's batching and formulation solutions:

- Intuitive application reduces training costs and minimises incorrect use
- Seamless traceability as the entire weighing and batching process is logged
- Easy integration into the existing systems (PLC, ERP, MES, etc.) through a number of hardware and software interfaces
- International approval of our products, meaning that they can be used worldwide in compliance with country-specific standards and regulations
- The process workflows can be adjusted to each customer through flexible, project-specific adaptations

## Always the right solution for each of these applications:



## Why Minebea Intec?

Minebea Intec is a byword for quality and cutting-edge technology. Our innovative German Quality solutions have proved themselves all over the world, handling the very toughest of conditions and the strictest of requirements. We offer on-site support and services throughout the entire life cycle of our products. This means our customers always have the best possible solution for their requirements.



German Quality



*“Batching and formulation solutions like ProRecipe XT® ensure our consistent product quality and help us to effectively reduce production rejection.”*

# Manual and automatic recipe processes with ProRecipe XT<sup>®</sup> software

Ever stricter product quality and process efficiency requirements plus rising costs for raw materials require supporting systems that offer reliable user guidance and log the entire work process. The recipe management system ProRecipe XT<sup>®</sup> simplifies the monitoring and management of manual and automatic weighing and batching processes. The software solution has proven its worth to the food, pharmaceutical, chemical and cosmetics industries time and time again:

- ProRecipe XT<sup>®</sup> guarantees consistent product quality and optimal use of raw ingredients, saving time, money and resources
- The intuitive user interface ensures safe and efficient processes in production operations
- Extensive report functions guarantee seamless traceability
- Various interfaces make it easy to integrate the software into existing systems
- Optional scanning as an additional check of the materials and batches used

Upgrade 3.5  
Improved automatic  
batching



## ProRecipe XT<sup>®</sup> in action:

Scan the QR code to watch a video about ProRecipe XT<sup>®</sup>. The intelligent recipe management system logs the entire weighing and batching process – for seamless traceability.



### Data input via barcode reader

The barcode reader simplifies processing: the orders are simply scanned by the user and read by the machine. This avoids errors caused by manual data input.






### Simple user guidance

ProRecipe XT® is intuitive in its use and quick to learn. The layout provides a good overview, and symbols reduce the number of operating errors, ultimately decreasing waste and increasing efficiency.



### GHS symbols

GHS symbols and safety texts are clearly displayed for every material, which increases safety for the user and the process.

-  Risk of explosion
-  Use breathing protection
-  Mandatory action symbol

### FDA/GAMP compliance

With its extensive report and audit-trail functions, ProRecipe XT® meets the validation requirements in accordance with the FDA (e.g. FDA/CFR 21 Part 11) and GAMP. This guarantees seamless use in the pharmaceutical industry. Minebea Intec provides all the required documentation and an extensive support service by our experienced application specialists for hassle-free system validation.

Software ProRecipe XT®

# Automatic batching of components with ProRecipe XT® and EasyFill®

For raw materials that are automatically dosed in large quantities, our ProRecipe XT® software supports EasyFill® for one-component and multi-component filling. In this process, an electronic weighing system takes control of the necessary batching signals (coarse, fine) via integrated digital inputs and outputs. The Maxxis 5 weighing station and ProRecipe XT® EasyFill® application make automated batching procedures for up to 32 components on 4 weighing stations possible. In all cases, the ProRecipe XT® interface is used to operate the system. All required parameters, including the set-point value, positive and negative tolerances and overshoot value, are assigned to the components in the ProRecipe XT® management client. The following electronic weighing systems support EasyFill® or have the application pre-installed:

- Weight transmitter PR 5220 for assembly on DIN rails in switch cabinets
- Weight transmitter PR 5230 in field housing
- Weight indicator X3 in housing suitable for panel mounting
- Weight controller Maxxis 5



Weight controller Maxxis 5 with ProRecipe XT®



## From stationary single-workstation solutions to networked workstations

Thanks to ProRecipe XT®, operating errors and time-consuming data input are consigned to the history books. Its intuitive user interface ensures processes are reliable, guiding the user through each step of the recipe process. The software can be controlled via a Windows PC or the weight controller Maxxis 5. The recipe management system can thus be easily integrated into existing production processes. To ensure maximum flexibility, ProRecipe XT® has been optimised for touchscreens and can also be controlled via Windows tablets to guarantee reliability for recipes and maximum efficiency – anytime, anywhere.



## Tailored to your needs and operating environment

ProRecipe XT® and EasyFill® can be optimised for use on a number of devices as needed. The weight controller Maxxis 5 features a robust IP65 stainless steel housing with ProRecipe XT®, making it suitable for harsh production environments, as well as conditions requiring intensive cleaning or potentially explosive areas. Weight transmitters can reliably perform simple batching processes both when assembled on DIN rails and in the hygienic field housing using the pre-installed application EasyFill®.



Explosion protection



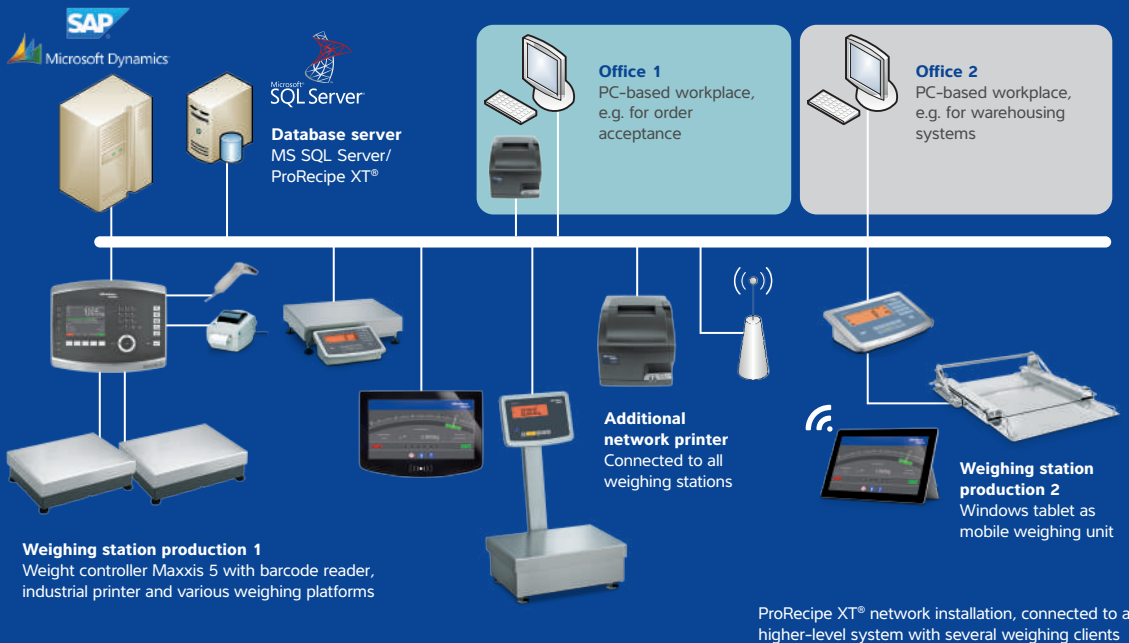
Hygienic Design

## Scalable software architecture

With its modular set-up, ProRecipe XT® can be adjusted to suit your specific software architecture requirements. A central server and your chosen number of management or weighing clients enable you to equip spatially extended areas with many weighing stations. This means you can even work in multiple locations with a central database.



Tablet PC with ProRecipe XT®



## Tailored project solutions

Special tasks require special software solutions. We can make project-specific adaptations for individual requirements upon request. With ProRecipe XT®, our customers get a recipe management system that can easily be integrated into complex processes.

## Connecting to higher-level systems

For flexible, customised integration into any production process: ProRecipe XT® can be connected to individual ERP or MES systems, such as your SAP system, using the optional import and export functions. The versatility provided by the ProRecipe XT® software interface also makes it easier to integrate new scales, batching systems and other equipment, keeping your processes flexible at all times.

# Multi-component batching with software application BATCH

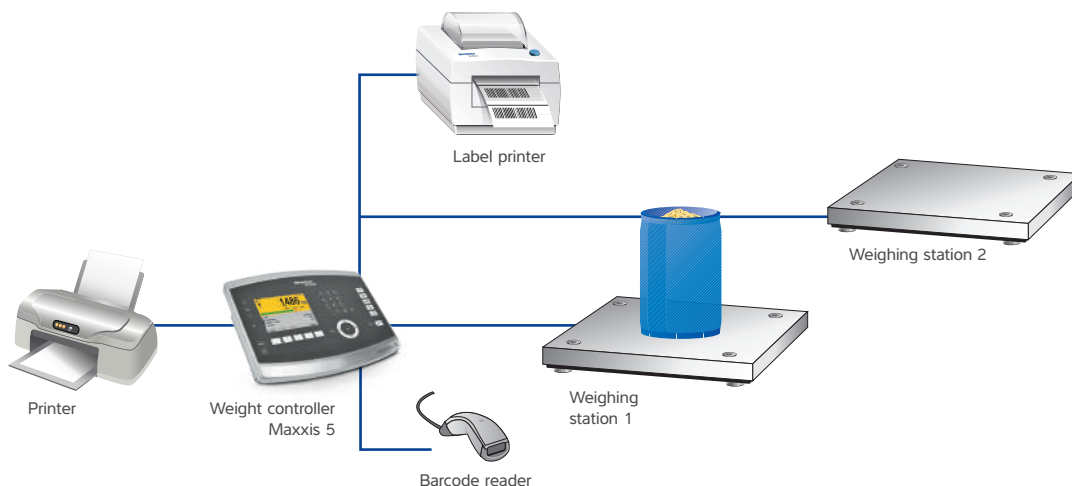
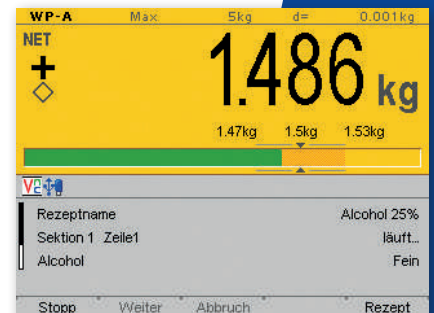
With the weight controllers Maxxis 4 and Maxxis 5, Minebea Intec offers compact all-in-one solutions that combine the scales, PLC and operator terminal for demanding batching applications. BATCH facilitates recipe-based, manual or automated weighing of products on up to four scales. The user can thereby create and manage orders, recipes and materials and start the batching process from a menu on the process controller's large colour display.

A simple synchronisation function and predefined process control components enable even inexperienced users to easily and clearly define process workflows. The simulation function, in which all weighing processes can be tested "dry", i.e. before production commences, makes process design easier than ever before. Extensive reporting functions help traceability, from the raw material right through to the finished product, and make documentation easier.

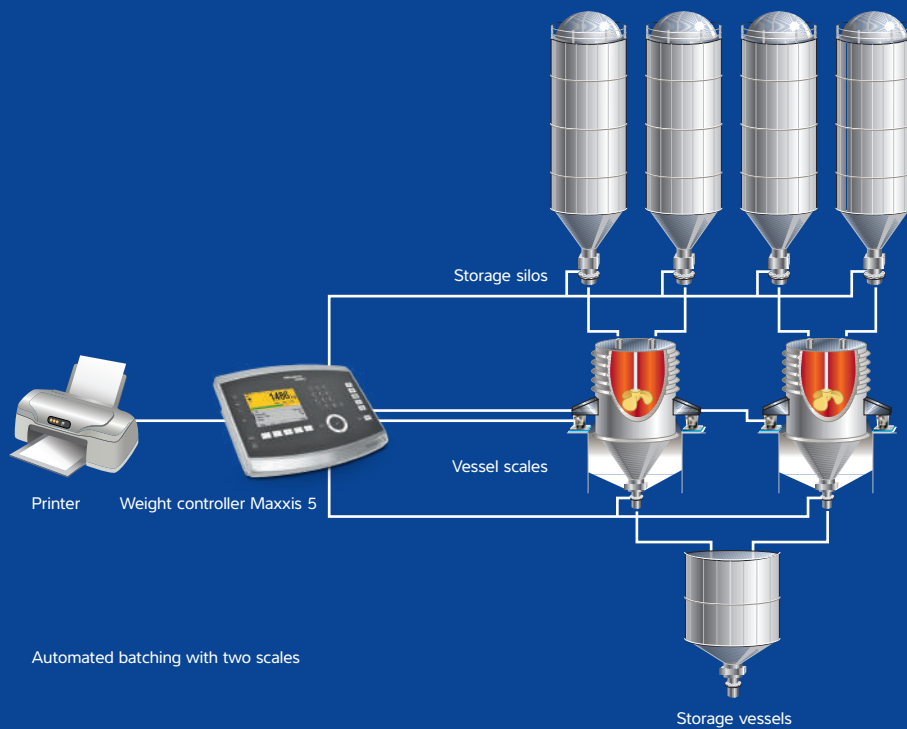
## Manual batching with BATCH

When combined with the weight controllers Maxxis 4 and Maxxis 5, BATCH provides a high-performance isolated application for manual dispensing:

- Network-independent operation through a built-in database for information on materials, recipes and orders
- Easy-to-follow operator dialogues
- Precise batching through a colour bar graph with tolerance limits
- Process safety through built-in material ID retrieval, e.g. using a barcode reader
- Recalculation function to minimise production rejection caused by overdosing



Manual batching with two scales



## Automated batching with BATCH

BATCH also gives you control over automated processes. Ideal for modular batching facilities with an optional connection to higher-level systems, Minebea Intec offers a tried and tested application package that can be configured to individual requirements:

- Orders, materials and recipes can be automatically dosed on up to four scales at the same time
- Built-in control functions, e.g. for controlling dispensing valves or a mixer, replace additional PLC
- Standard batching functions guarantee reproducible results
- Built-in overshoot correction automatically increases the accuracy of the dosage during production
- Intuitive displays offer a complete overview of all scales and process steps
- A number of interfaces such as OPC, Modbus TCP, ProfiBus DP, ProfiNet, Ethernet IP or DeviceNet enable integration into higher-level control systems, e.g. for set-point specification
- Freely configurable print layouts enable detailed documentation of the batching results



Interfaces for weight controller Maxxis 5

### The following electronic weighing systems support BATCH:

Weight controllers Maxxis 4 and Maxxis 5

# Batching with EasyFill® and IBC

In terms of one-component batching, Minebea Intec provides two different solutions tailored to each application's complexity. EasyFill® has been pre-installed in the weight transmitters PR 5220 and PR 5230 and the weight indicator X3 for simple batching tasks. For complex automated batching and filling applications in which additional process steps, such as shaking or pumping, need to be controlled, the software application IBC rounds off the portfolio alongside the weight controllers Maxxis 4 and Maxxis 5.

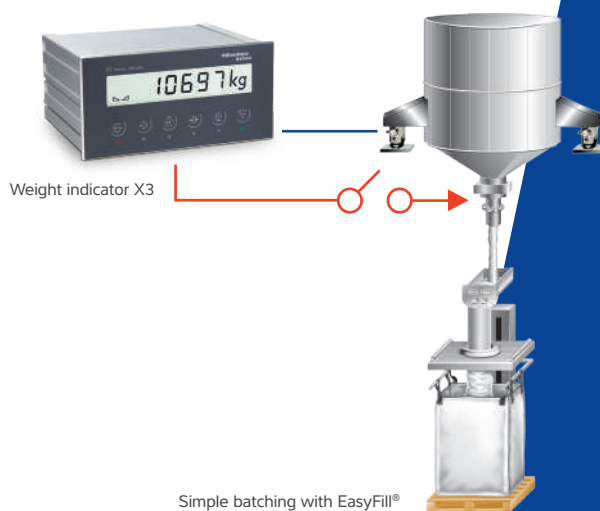
## EasyFill® for simple batching processes

EasyFill® is a simple solution for batching liquids, powders and granules. In this process, the electronic weighing system also controls the necessary batching signals (coarse, fine) via integrated digital inputs and outputs.

- Particularly cost-efficient application that does not require complex programming in a PLC
- Precise batching results through user-specific and configurable set-point, tolerance and overshoot values
- Time-saving web-based configuration
- Flexible use via a PC, front keypad, external push buttons or remote control via PLC
- Built-in database for up to ten vessel sizes

### The following electronic weighing systems support EasyFill®:

- Weight transmitters PR 5220 and PR 5230
- Weight indicator X3
- Weight controller Maxxis 5 (combined with ProRecipe XT®)



For more detailed information, please visit our website or contact [info@minebea-intec.com](mailto:info@minebea-intec.com)

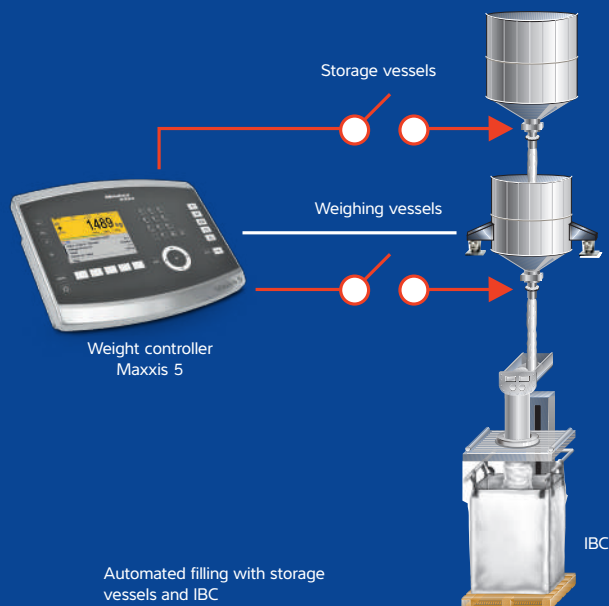
## Software application IBC for complex filling processes

IBC is ideally equipped for controlling all kinds of processes in which IBCs (intermediate bulk containers) are automatically filled or emptied. The standard software can be used to automatically control how vessels, such as big bags or storage vessels, are filled with liquid, powder or granulated products. Standard functions reduce the installation time and guarantee error-free, reproducible results.

- Precise results are guaranteed through high-performance batching algorithms for controlled, automated batching processes
- Built-in alibi memory function: our products can be used in situations where verification is required
- Flexible process definitions enable adjustments to be made to individual requirements through simple configuration
- The built-in overshoot correction automatically increases the accuracy of the dosage during production
- Integrated direct control of valves and feeders avoids the use of an additional PLC
- Extensive material and consumption reports provide precise information on material consumption

### The following electronic weighing systems support IBC:

Weight controllers Maxxis 4 and Maxxis 5



# Electronic weighing systems – the right device in all situations

Minebea Intec offers a broad range of electronic weighing systems for all batching and filling tasks, from simple weight transmitters right through to weight controllers with built-in PLC functionality.

## Electronic weighing systems and possible software solutions

	EasyFill®	IBC	BATCH	ProRecipe XT®
Weight transmitter PR 5220	x			
Weight transmitter PR 5230	x			
Weight indicator X3	x			
Weight controller Maxxis 4		x	x	
Weight controller Maxxis 5	(x)*	x	x	x

\* Combined with ProRecipe XT®

### Weight transmitter PR 5220

- High-precision weight transmitter with a resolution of up to 120,000 divisions
- Convenient and efficient calibration of the scale in one minute without weights
- Functionality for remote configuration and remote service via a built-in website
- Several data interfaces make it easier to integrate into process control systems and directly connect to a remote display
- Slim design for space-saving assembly on DIN rails



Weight transmitter PR 5220

### Weight transmitter PR 5230

The weight transmitter PR 5230 features all the specifications of the PR 5220 plus:

- An electro-polished stainless steel housing (IP66) for quick cleaning and maximum resistance to chemicals
- Direct status monitoring via a built-in graphic display
- Options to customise and configure the transmitter, e.g. a unit to connect up to four load cells



Hygienic Design



Weight transmitter PR 5230

## Weight indicator X3

- High-precision indicator with a resolution of up to 120,000 divisions
- Functionality for remote configuration and remote service via a built-in website
- Several data interfaces make it easier to integrate into process control systems and directly connect to a printer or remote display

### Fields of application:

- Displaying weight values
- Transmitting weight values to higher-level systems (e.g. PLC)
- Controlling simple batching processes with EasyFill®



Weight indicator X3

## Weight controller Maxxis 4

- Connects to analogue or digital scales or a digital load cell system in the Minebea Intec product range
- Several interface options: Ethernet TCP/IP, ModBus TCP, ProfiBus DP, DeviceNet, ProfiNet, Ethernet/IP and USB
- Internal web server enables Maxxis 4 to be configured and controlled via a standard web browser
- Freely programmable in accordance with IEC 61131, so process workflows can be adapted to individual customer needs

### Fields of application:

- Displaying weight values
- Transmitting weight values to higher-level systems (e.g. PLC)
- Stand-alone or remote control for complex filling and batching applications on a set of scales with BATCH and IBC



Weight controller Maxxis 4

## Weight controller Maxxis 5

- Connect to up to four scales
- Calibration approvals in accordance with OIML R51 (SWA) + R76 (NSW)
- 5.7-inch colour display with a multilingual user interface and built-in auxiliary functions for intuitive use
- Several interface options: Ethernet TCP/IP, ModBus TCP, ProfiBus DP, DeviceNet, ProfiNet, Ethernet/IP and USB
- Freely programmable in accordance with IEC 61131, so process workflows can be adapted to individual customer needs
- Use as a desktop unit or for assembly in switchgear cabinets

### Fields of application:

- Displaying weight values
- Transmitting weight values to higher-level systems (e.g. PLC)
- Stand-alone or remote control for complex filling and batching applications on up to four scales with BATCH and IBC



Weight controller Maxxis 5

# Our product portfolio



Acceptance and storage of loose materials

## Incoming goods

Acceptance of piece goods

## Automated production systems

Reliable checking of supplied and stored materials

For complete process control



Components and solutions for vehicle weighing (analogue/digital)



Components and solutions for silo weighing



Batching and formulation



Foreign object detection (metal detection/X-ray inspection)



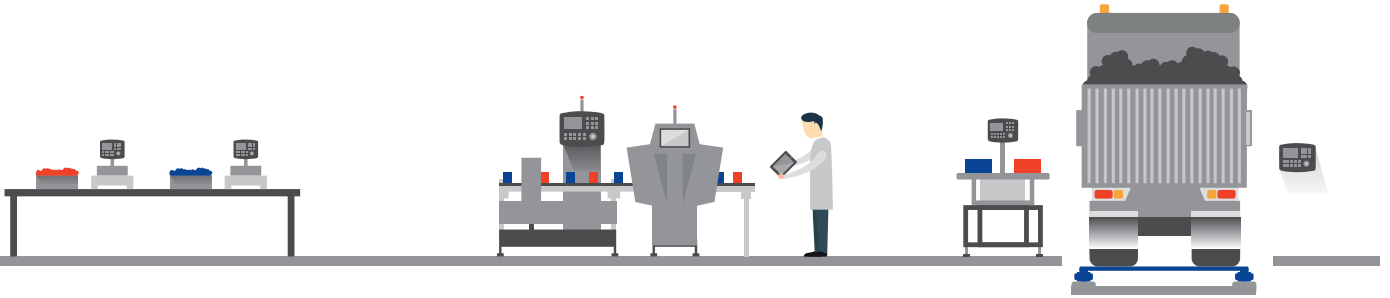
Weighing of incoming goods



Components and solutions for vessel weighing (analogue/digital)

This is a cross-section of our extensive product portfolio. We offer tailor-made solutions for a range of requirements: from simple to complex; from explosion protection solutions to hygienic design.





## Manual production

Solutions that ensure accuracy and traceability



Portioning and checkweighing



Formulation and formulation weighing

## Packaging

Guaranteeing product quality and food safety



Checkweighing/metal detection



X-ray inspection



Pre-packaging checking and statistical process control

## Outgoing goods

Quality assurance of final product



Weighing/order picking of outgoing goods



Checkweighers for heavy loads



Components and solutions for vehicle weighing (analogue/digital)

# Our services

Via our world-wide presence, we and our certified partners stand beside our customers across the globe throughout the entire life cycle of our products and solutions, from choosing the right equipment and systems to upgrades, replacement parts and training.

## Engineering Support and Global Solutions – ensuring optimal solutions

- Consultation on selecting the best products and solutions with regard to the desired performance, precision and costs
- Design-in support for the integration of our products and solutions in existing constructions
- Customer-specific products or solutions – tailored to individual requirements



For more detailed information, please visit our website or contact

[info@minebea-intec.com](mailto:info@minebea-intec.com)

**engineering support**  
by Minebea Intec

## Commissioning – for a timely start to production

- Mechanical and/or electrical installation, commissioning and training on set-up and use
- Calibration or conformity assessment of equipment and systems according to statutory requirements for measuring technology
- Equipment qualification (IQ/OQ)



## Upgrades – to update systems and improve performance

- Hardware and software upgrades
- Equipment refurbishment

## Training courses – to improve skills

- Practical training content that reduces operating errors, downtime and maintenance costs and therefore increases the performance of the equipment and the efficiency of the line
- Seminars providing knowledge of regulations and technologies

**academy**  
by Minebea Intec



## Maintenance and repair – for guaranteed availability and performance

- Calibration or verification preparation of equipment and systems according to statutory requirements for measuring technology
- Preventative maintenance safeguarding continued availability and performance
- Repair services, including emergency service contracts for a guaranteed response time
- Professional replacement parts service
- Remote services such as the service tool miRemote based on augmented reality – for first-line support on site



# Everything from a single source

Minebea Intec provides products, solutions and services to improve the reliability, safety and efficiency of production and packaging lines in virtually all industries.

From goods receipt to goods issue – our portfolio comprises a variety of automatic and manual weighing and inspection solutions, software and services for a wide range of applications and industries.

## Process weighing and automation

- Vessel and silo scales
- Components for truck scales
- Bench and floor scales
- Batching and formulation

## Quality assurance

- Checkweighers
- Metal detectors
- X-ray inspection systems
- Statistical process control

## Services

- Technical support
- Commissioning
- Maintenance and repair
- Upgrades
- Training courses



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The true measure