

## Vessel and Silo Weighing

Cutting-edge weighing technology for measuring content



Whether storage tank or outdoor silo, batching tank, mixer or reactor – Minebea Intec offers tailor-made equipment for almost every vessel scale: digital and analogue load cells, innovative electronic weighing electronics, reliable cable junction boxes and mounting kits for a wide range of application requirements.

# 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







- Minebea Intec Sales - Service
- Minebea Intec Production - Sales - Service
- Distribution Partners (size refers to amount of Partners)
  - up to 5
  - up to 20
  - above 20

## 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.

# Weighing for content determination

There are various technologies available for determining the content or fill-level of process vessels, tanks and silos. Of all these technologies, **weighing** offers the most advantages:

- Weighing provides accurate and reliable readings independent of the shape of the tank and the properties of the material it contains
- Weighing does not require periodic maintenance or recalibration
- Vessel and silo weighing systems are extremely durable and robust



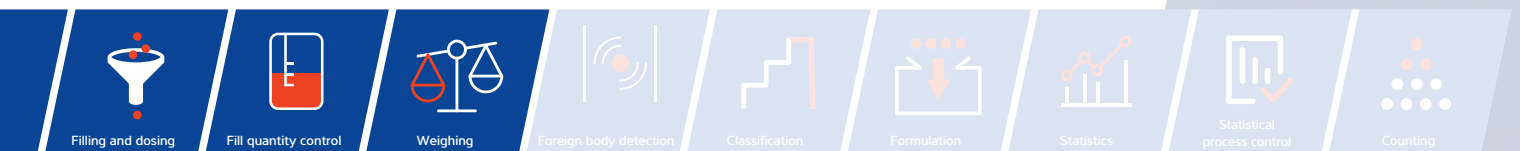
Scan this QR code and see how you can calibrate your scale via SMART calibration within one minute.

## Minebea Intec provides a complete range of components for weighing any type of vessel or silo, from very small process tanks up to extremely large outdoor silos

The benefits of our systems include:

- All required components are from a single source: load cells, mounting kits, accessories and weighing electronics. All components are perfectly matched, ensuring optimal performance
- Mechanical and electrical installation and commissioning is intuitive and fast. Our so-called SMART calibration function allows you to calibrate the scale within one minute without having to put weights on the tank or fill it with water
- Global certifications legal for trade and Ex applications
- Full range of data interfaces allowing you to connect the scale to any process management system
- Our weighing electronics can be configured, operated and monitored remotely via an Ethernet connection

**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



*'Load cells and electronics from Minebea Intec are THE solution for turning a vessel or a silo into a scale.'*

# Load cells

We offer a wide range of solutions for weighing vessels and tanks, both for storage and batching applications. This includes, at the one end of the spectrum, cost-effective solutions for inventory control where a weighing system accuracy of a few per cent is fully sufficient. At the other end, our customers find high accuracy solutions that allow them to very precisely dose a small component into a large batching vessel. This can even be done while a mixer is turning or the vessel is being heated.

The core element of every process vessel scale is the load cell. Minebea Intec has decades of experience in designing and producing a wide range of load cells for different applications. All of our load cells feature:

- German quality ensuring superior accuracy and reliability
- Robustness, allowing overload capacities of up to 500 %
- Optimum IP protection guaranteeing a long lifetime even under harsh conditions. Minebea Intec load cells can even be immersed in water with a depth of 1.5 meters for 10,000 hours
- Wide operating temperature range of up to  $-30\text{ }^{\circ}\text{C}$  to  $+95\text{ }^{\circ}\text{C}$  making them suitable for virtually all weighing applications and production conditions. Our load cell PR 6212 even features an operating temperature range of up to  $+180\text{ }^{\circ}\text{C}$



German Quality



Load cell Inteco® and converter Connexx®

## Compression load cell Inteco®

- Consistent further development of the well-known PR 6201. Also with converter Connexx® as a digital weighing solution
- Load cell capacity range from 500 kg to 75 t
- Accuracy classes up to C6
- Error class: 0.04%–0.008%
- Output signal 2 mV/V
- Corresponding mounting kits (certified according to EN 1090):
  - Mounting plate kit PR 6145 without constrainer
  - MiniFlexLock PR 6143 with integrated constrainer
  - Universal vessel foot PR 6001 without constrainer
  - Maxi FlexLock PR 6001 with integrated constrainer



Load cell Inteco® and converter Connexx®



Scan this QR code to discover more about analogue and digital weighing solutions with Inteco®.

## Compact compression load cell PR 6211

- Compact design ensuring a low system height
- Load cell capacity range from 30 kg to 300 kg
- Error class: 0.05 %
- Extreme wide temperature range
- Corresponding mounting kits:
  - Mounting kits with or without constrainer PR 6011
  - Mounting kits with or without constrainer and additional functions PR 6012



Load cell PR 6211

## Compact compression load cell PR 6212

- Compact design ensuring a low system height
- Maximum corrosion resistance
- High-temperature version available for up to 180 °C
- Load cell capacity range from 500 kg to 10 t
- Error class: 0.04 %
- Corresponding mounting kit: PR 6012



Load cell PR 6212

## Beam type load cell LC Nito PR 79T

- For economical solutions in vessel weighing
- Load cell capacity range from 91 kg to 5.099 t
- Error class: 0,02 %
- Corresponding mounting kits:
  - Elastomeric bearing mounting kit PR 92
  - MaxiFLEX and MaxiFLEXLOCK mounting kit PR 95T



Load cell LC Nito

## S-type compression load cell PR 6241

- Ultra-high precision load cell for batching applications
- Load cell capacity range from 100 kg to 5 t
- Error class: 0.04 % - 0.008 %
- Corresponding mounting kits: PR 6043 Mini FlexLock, PR 6041 without constrainer, PR 6044 with additional functions and constrainer



Load cell PR 6241

## S-type tension load cell PR 6246

- Ultra-high precision load cell for batching applications
- Load cell capacity range from 100 kg to 3 t
- Error class: 0.04 % - 0.008 %
- Corresponding mounting kit: PR 6046



Load cell PR 6246

## S-type tension load cell LC Tigo

- For suspended process scales
- Load cell capacity range from 60 kg to 5 t
- Error class: 0.03 % - 0.025 %
- Corresponding mounting kit: PR 96



Load cell LC Tigo



## Level sensor load cell PR 6251 PanCake

- Ultra-flat load cell for low precision tank weighing as alternative to level sensors
- Load cell capacity range from 500 kg to 16 t
- Error class: L (0.5 %)
- Corresponding mounting kit: PR 6051



Load cell PR 6251

## Single point load cell LC Solo Stainless steel PR 57 & PR 58

- Perfect for installation in floor scales
- Load cell load range from 100 kg to 500 kg
- Error class: 0.02%



Load cell LC Solo stainless steel

## Beam type load cell LC Nito PR 77

- For weighing process vessels and use in belt and platform scales
- Load cell capacity range from 10 kg to 500 kg
- Error class: 0.02%
- Corresponding mounting kit: PR 97



Load cell LC Nito PR 77

# Mounting kits

Mounting kits are an important element of vessel scales. They neutralise both horizontal forces on the load cell that affect system accuracy and vertical lift-off forces that could make a vessel fall over. Such forces can e.g. be caused by the vessels' piping, mixers or blenders that are mounted on the vessel or (thermal) expansion of the vessel. Minebea Intec mounting kits are designed for intuitive, fast and error-free installation. For this purpose, the mounting kits can be ordered with an integrated dummy and jack-up function.

CAD files are available for easy integration of the mounting kits in drawings.

## Load cells with corresponding mounting kits

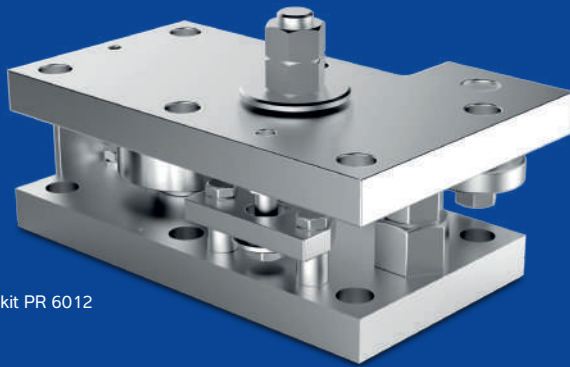
Load cell	Corresponding mounting kit	Integrated functions				Material
		Load cell dummy	Jack-up	Lift-off protection	Constrainer	
Inteco®	Mounting plate kit PR 6145	No	No	No	No	Steel or stainless steel
	Mini FlexLock PR 6143	No	No	No	Yes	Steel or stainless steel
	Universal vessel foot PR 6001	Yes	Yes	Yes	No	Steel or stainless steel
	Maxi FlexLock PR 6001	Yes	Yes	Yes	Yes	Steel or stainless steel
PR 6211	Mounting kit PR 6011	No	No	Yes	Yes	Steel or stainless steel
PR 6212	Mounting kit PR 6012	Yes	Yes	Yes	Yes	Steel or stainless steel
LC Nito PR 77	Mounting kit PR 97	Yes	Yes	Yes	No	Steel
PR 6241	Mounting plate kit PR 6041	No	No	No	No	Steel or stainless steel
	Mini FlexLock PR 6043	Yes	No	No	Yes	Steel or stainless steel
	Mounting kit PR 6044	Yes	Yes	Yes	Yes	Stainless steel
PR 6246	Swivel bearing PR 6046	No	No	No	No	Steel or stainless steel
LC Tigo PR 76	Swivel eye MP 96	No	No	No	No	Steel
PR 6251	PR 6051 adapter sets	No	No	No	No	Stainless steel
LC Nito PR 79T	PR 92	No	No	No	No	Steel
	PR 95T/0x	Yes	Yes	Yes	No	Stainless steel
	PR 95T/1x	Yes	Yes	Yes	Yes	Stainless steel

All of our mounting kits are designed using FEM (Finite Element Method) analyses, ensuring optimum safety.



## Mounting kit PR 6012 for load cell PR 6212

- Integrated jack-up and dummy function
- Low installation height
- Integrated constrainer to protect against horizontal forces
- Integrated lift-off protection with extended horizontal tolerances absorbs temperature fluctuations
- Inverted installation of the load cell provides corrosion protection
- Large mounting holes for flexible installation
- Optional: reinforced lift-off protection for lift-off forces of up to 45 kN



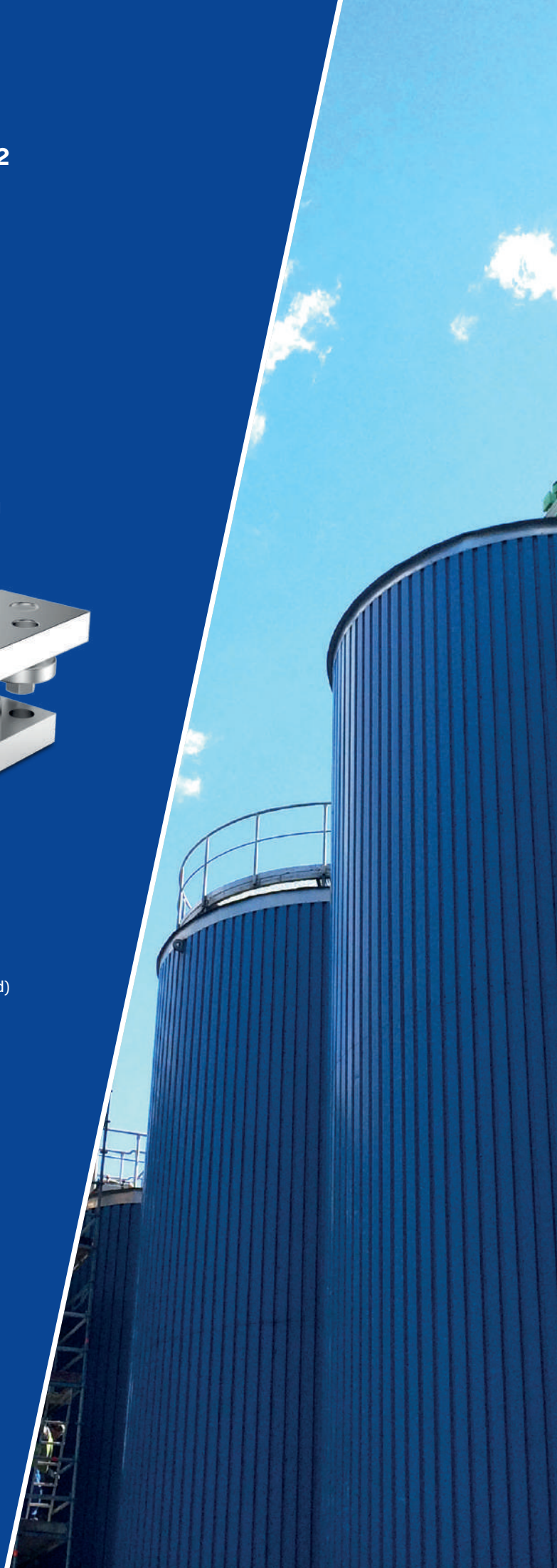
Mounting kit PR 6012

## Mounting kit PR 6001 – for compression load cell Inteco® and PR 6201

- Load cell capacity range from 500 kg to 300 t
- Statement of compliance with GL specifications (Germanischer Lloyd)
- Certification according to EN 1090
- Integrated load cell dummy, jack-up function, lift-off protection and constrainer (optional)
- Slotted holes ensure simple positioning of the mounting kit
- 100 % maintenance-free



Mounting kit PR 6001





# Ex solutions

For weighing process vessels and silos in hazardous areas, Minebea Intec offers:

- A full product portfolio with the required certifications: load cells, transmitters, indicators, controllers and accessories. Certifications include approvals by ATEX, FM, GOST, NEMA and UL\*
- Certifications for different countries and regions
- Engineering support, including choice of the right equipment and installation advice



Explosion protection

\*Valid certification depending on actual type and model



Scan the QR code and learn more about the use of weighing equipment in hazardous areas.



Please don't hesitate to get in touch with us! We will be happy to advise you on our explosion-proof solutions, how they can be used and country-specific approvals.

**[sales.hh@minebea-intec.com](mailto:sales.hh@minebea-intec.com)**

# Weighing electronics

## Weight transmitters

Minebea Intec weight transmitters connect process vessel or silo scales to a process control system. We provide weight transmitters available for DIN rail mounting in electrical cabinets and for field mounting.

Transmitter	Resolution	SMART calibration	Remote service	EasyFill® function	Housing	I/O	Fieldbus interface	Protocols available
MP 20	up to 50,000 d @ 2 mV/V	No	No	No	Din rail mounting	0/4 - 20 mA 0 - 10 VDC		
MP 26	up to 20,000 d	No	No	No	Din rail mounting	0/4 - 20 mA 0/2 - 10 VDC 1 dig. Input 3 dig. Outputs		
PR 5211	up to 120,000 d @ 2 mV/V load cell	Yes	No	No	Din rail mounting	0/4 - 20 mA 3 dig. I/O RS 422/485	Profibus DP	Remote Display SMA
PR 5220	up to 120,000 d @ 2 mV/V load cell	Yes	Yes	Yes	Din rail mounting	0/4 - 20 mA 3 dig. I/O RS 485 Ethernet TCP/IP	Profibus DP Profinet I/O Ethernet/IP DeviceNet	Remote Display, xBPI, SMA, Modbus RTU + TCP, OPC
PR 5230	10,000 d (with PR 5110) up to 120,000 d @ 2 mV/V load cell	Yes	Yes	Yes	Stainless steel field housing	0/4 - 20 mA 3 dig. I/O RS 485, RS 232 Ethernet TCP/IP	Profibus DP Profinet I/O Ethernet/IP DeviceNet CC-Link	Remote Display, Printer, xBPI, SMA, EW-Com, Modbus RTU (Slave) + TCP, OPC
CSD-892-76	up to 50,000 d @ 2 mV/V load cell	No	No	No, but similar functions available	DIN rail mounting	3 dig. inputs 5 dig. outputs RS-422/485		

## Weight transmitter PR 5220

- High-precision weight transmitter offering a resolution of up to 120,000 increments
- Convenient and efficient scale calibration in one minute without weights
- Remote configuration and service functionality through integrated website
- EasyFill® function for one-component dosing of liquids, powders and granules with configurable target, tolerance and overshoot value
- Multiple data interfaces allow easy integration into process control systems and direct connection of a remote display
- Slim design for space-saving installation on DIN top hat rails



Includes EasyFill®

Weight transmitter PR 5220

## Weight transmitter in field housing PR 5230

The weight transmitter PR 5230 offers the same specification as the PR 5220, with the following exceptions:

- Electropolished stainless steel housing (IP66) for fast cleaning and highest chemical resistance
- The integrated graphic display enables direct status monitoring
- Multiple options allow the customer individual configuration of the transmitter e.g. load cell connection unit for up to 4 load cells



Includes EasyFill®

Weight transmitter PR 5230

## Weight indicator X3 – with clearly readable display and integrated dosing function

- High-precision weight indicator offering a resolution of up to 120,000 increments
- Large, clearly readable display of weight values, even in direct light
- Convenient and efficient scale calibration in one minute without weights
- Remote configuration and service functionality through integrated website
- EasyFill® function for one-component dosing of liquids, powders and granules with configurable target, tolerance and overshoot values
- Multiple data interfaces allow easy integration into process control systems and direct connection of a printer or remote display
- Housing suitable for panel mounting
- Perfect in conjunction with the digital weighing solution Inteco® plus converter Connexx®



Weight indicator X3

Indicator	Internal resolution	SMART calibration	Remote service	EasyFill® function	Housing	I/O	Fieldbus interface	Protocols available	Display
MP 30	up to 10.000 d @ 1 mV/V load cell up to 20.000 d @ 2 mV/V load cell	No	No	No	Panel mounting	0/4 - 20 mA 0 - 10 V <sub>DC</sub> up to 4 dig. Output RS 232 RS 485	No	Printer	Backlighted 5 digits, 7 segments
X3	7,5 nV 10.000 e acc. to OIML R76 up to 60.000 d @ 1 mV/V load cell up to 120.000 d @ 2 mV/V load cell	Yes	Yes	Yes	Panel mounting	0/4 - 20 mA up to 4 dig. Output RS 232 RS 485	Profibus DP Profinet I/O Ethernet/IP DeviceNet CC-Link	Remote Display, Printer, xBPI, SMA, EW-Com, Modbus RTU (Slave), Modbus TCP, OPC	Transflective, 6 digits, 7 segments
CSD-903-07	up to 50.000 d @ 1mV/V load cell up to 100.000 d @ 2 mV/V load cell	No	No	No, but similar functions available	Panel mounting	0/4-20 mA; 9 dig. I/O; RS-485	No		VFD, 7 digits, 7 segments





## Weight controllers

Weight controllers are weight indicators with integrated control functionality for the automation of weighing processes. Minebea Intec offers two weight controllers which are freely programmable (IEC61131 programming language) or can be equipped with the following predefined software applications:

- BASIC – for simple weighing applications
- IBC – for single-component filling applications
- BATCH – for complex manual and/or automatic batching applications
- ProRecipe XT® – for manual recipe and dispensing applications (Maxxis 5 only)
- Truck – for truck scale applications (Maxxis 5 only)
- COUNT – for parts counting and manual checkweighing applications (Maxxis 5 only)

### Weight controller Maxxis 4 for panel mounting

- Connection of one analogue or one digital scale or Pendeo® digital load cell system
- 4.3" large colour display with multilingual interface and integrated help function for intuitive operation
- Multiple interface possibilities: Ethernet TCP/IP, Modbus TCP, Profibus DP, DeviceNet, Profinet, Ethernet/IP and USB
- Equipped with an internal web server, the Maxxis 4 can be configured and controlled via any standard web browser
- Automatic backup function saving data to SD cards for full transparency and traceability



Weight controller Maxxis 4

### Weight controller Maxxis 5 for table-top use or panel mounting

- Connection of up to four scales
- 5.7" large colour display with multilingual interface and integrated help function for intuitive operation
- Multiple interface possibilities: Ethernet TCP/IP, Modbus TCP, Profibus DP, DeviceNet, Profinet, Ethernet/IP and USB
- Equipped with an internal web server, the Maxxis 5 can be configured and controlled via any standard web browser
- Automatic backup function saving data to SD cards for full transparency and traceability



Weight controller Maxxis 5

# High capacity weighing

When it comes to weighing outdoor silos, mechanical stability and safety play a decisive factor. Where the whole weight of a large silo with a diameter and height of several metres is supported by load cells and mounting kits, the risks must be kept at a minimum.

Minebea Intec has decades of experience in providing solutions for weighing large silos:

- We offer a full range of high-capacity load cells (up to 520 t) and corresponding mounting kits, even for areas exposed to strong winds and earthquakes
- We use FEM (Finite Element Method) analyses during development to ensure maximum stability for our installation solutions
- Guaranteed performance and safety. Our weighing solutions fully meet the requirements of DIN EN 1090 and comply with the GL specifications (Germanischer Lloyd)
- Our mounting kits with additional functions not only ensure an optimal load application, but they also make external constrainer constructions, lift-off protectors and the manufacturing of load cell dummies redundant



Load cell PR 6201

## Load cells with corresponding mounting kits

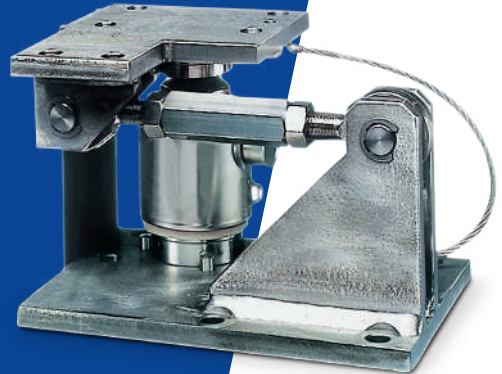
Load cell	Load cell type	Capacity	Corresponding mounting kit
PR 6201	Compression	100 t–520 t	Mini FlexLock PR 6143
			Compact mounting kit PR 6001
			Maxi FlexLock PR 6001
			Seismic Mount PR 6144



# Mounting kits for compression load cell Inteco® and PR 6201

## Mini FlexLock PR 6143

- Load cell capacity range from 500 kg to 300 t
- With integrated constringer for absorbing wind and other side forces



Mini FlexLock  
PR 6143

## Maxi FlexLock PR 6001

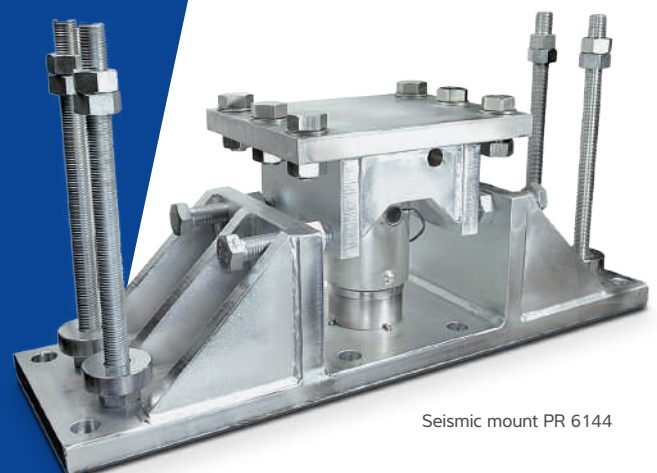
- Load cell capacity range from 500 kg to 300 t
- Statement of Compliance with GL specifications (Germanischer Lloyd)
- Integrated load cell dummy, jack-up function, lift-off protection and constringer (optional)
- Slotted holes facilitate simple positioning of the mounting kit
- 100 % maintenance-free



Maxi FlexLock  
PR 6001

## Seismic mount PR 6144

- For load cell capacities of 50 t to 520 t
- Designed to compensate extreme high side and lift-off forces
- Integrated lift-off protection and supplied with load cell dummy



Seismic mount PR 6144

All of our mounting kits are designed using FEM (Finite Element Method) analyses, ensuring optimum safety.



# Digital solutions

In combination with the converter Connexx<sup>®</sup>, the load cell Inteco<sup>®</sup> converts into a digital weighing solution equipped with digital assistance technology (DAT). With the help of this technology, weighing solutions can be commissioned more quickly, monitored completely and serviced efficiently.

Digital Assistance Technology offers:



Digital Assistance  
Technology

## Quick and easy installation and set-up

- Automatic load cell detection
- Field bus protocol means cable junction box is no longer needed
- Use of standard connectors
- Status LED for simple maintenance
- Connection of up to 4 load cells without external power supply
- Automatic corner adjustment
- Indication of uneven load distribution

## Increase of OEE (Overall Equipment Effectiveness) during operation via the extensive diagnostic function

- The digital version guarantees fast signalling times for reliable dosing processes
- Standard CANopen protocol enables simple data processing
- Load cell status information
- Load distribution display
- Alarm for load cell failure/defect

## For maintenance and service

- Compensation of a defective load cell in applications not for use in legal metrology. Faulty load cells can be simulated, keeping production running until the cell is replaced
- Weight values can also be generated individually – per load cell – meaning that defective load cells can be identified more easily
- Exporting all scale parameters and saving them in a text file
- Recording of overload



## Digital precision compression-type load cell Inteco® with converter Connexx®

- Capacity: 500 kg to 75 t
- Proven rocker pin principle for best compensation of expansion and shear forces
- High overload capacity (up to 300%)
- Hermetically sealed  
Inteco®: IP68/IP69 (1.5 m water depth/10,000 hours)  
Connexx®: IP68 (1.5 m water depth/100 hours)
- Verifiable according to OIML R60 (Inteco®) and OIML R76 (Connexx®)
- CANopen allows for extra-long communication paths of up to 200 m

The load cell Inteco® can be used together with the weight indicator X3 (as of 2020/2021).



Scan the QR code and learn more about application areas and advantages of the load cell Inteco®.



Inteco® with Converter Connexx®

# Hygienic vessel weighing solutions

When weighing vessels and tanks in the food, beverage or pharmaceutical industry, hygienic design of the installation is important, specifically where there is a potential risk of product contamination by microorganisms.

Minebea Intec offers a full range of solutions for weighing process vessels and tanks that have been developed according to EHEDG guidelines. These solutions feature:

- Easy cleanability through accessibility and avoidance of screws and slots
- Short cleaning times
- Low consumption of detergents
- Self-draining design, cleaning fluids can run off easily
- Used materials with an optimum resistance to detergents
- Maximum capacities 125 kg–2 t and accuracy class C3 (according to OIML R60)



Hygienic Design

## Hygienic weighing module Novego®

- Preassembled weighing module, including load cell, integrated constrainer and lift-off protection, saving installation time
- Made of extremely corrosion-resistant stainless steel 1.4418, which is new to weighing technology
- Maximum transverse force stability guarantees precise measuring results, e.g. even for mixers
- With integrated height adjustment and innovative tilt correction



Scan the QR code to find out more about application areas and advantages of the weighing module Novego®.



## Hygienic weighing module Contego®

- Preassembled weighing module, including load cell, integrated constrainer and lift-off protection, saving installation time
- Integrated jack-up function to quickly lift the vessel without hydraulic lifters
- Sophisticated sealing technology ensures an optimum hygienic design
- EHEDG-certified product



Weighing module Contego®

## Hygienic load cell PR 6202 with mounting kit PR 6002

- Made of stainless steel AISI 304
- Including lift-off protection
- With integrated dummy function for easy installation
- Mounting kit available with and without constrainer up to 25 kN
- Hygienic Design and surface finish of the load cell according to EHEDG guidelines



Load cell PR 6202

## Weight transmitter in field housing PR 5230

- High-precision transmitter offering a resolution of up to 120,000 increments. The integrated graphic display enables direct status monitoring. Electropolished stainless steel housing (IP66) for fast cleaning and highest chemical resistance
- Convenient and efficient scale calibration in one minute without weights
- Remote configuration and service functionality through integrated website
- EasyFill® function for one-component dosing of liquids, powders and granules with configurable target, tolerance and overshoot value
- Multiple data interfaces allow an easy integration into process control systems and direct connection of a printer or remote display
- Optional load cell connection unit for up to 4 load cells saves additional junction box

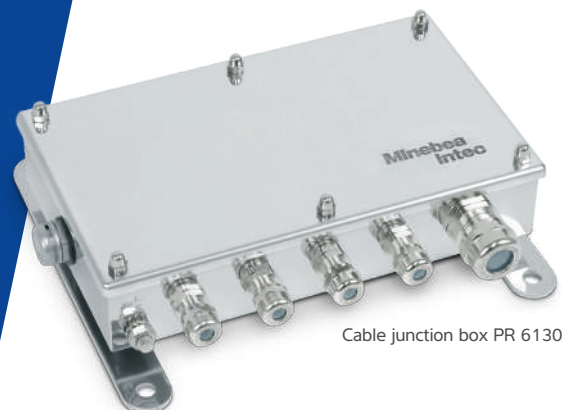


Weight transmitter PR 5230

Including EasyFill®

## Cable junction box PR 6130

- Electropolished stainless steel housing with membrane for pressure compensation, preventing humidity access
- Protection class IP68/IP69
- Approved for Ex applications
- For connection of 4 or 8 load cells



Cable junction box PR 6130

# Accessories

## Installation cable PR 6135/36

- Double-shielded installation cable with optimum resistance to electromagnetic interference.
- Operating temperature range: -40 to +90 °C
- Flame resistant, EN 50265-2-1, IEC 60332-1
- Test voltage 500 V (50 Hz, 1 min), VDE 0472 Part 508 Test B
- PR 6135 for use in non-hazardous areas, PR 6136 for use in hazardous areas
- High-strength armoured version available for optimum protection against cutting or rodents



## Plastic cable junction box MP 90

- For connecting 1 to 4 load cells
- Available for 4-wire or 6-wire load cells
- IP65 protection class



## Installation cable MP 80

- 6 wires
- Material: TPE
- Adjustment, calibration and conformity assessment

## Support

A wide range of services are available for our products. Detailed information can be found on our website.

- Advice on mechanical constructions, e.g. vessel design and foundation, optimum cable connections and adherence to hygienic design requirements
- Selection of optimal components with regard to the desired performance and costs
- Calculation of weighing system accuracy and (indicative) side and lift-off forces
- Provision of load cell and mounting kit CAD files for easy integration into existing drawings
- Provision of customised products and solutions to suit individual needs, e.g.:
  - mounting arrangements with customised flanges
  - project documentation and product tagging
  - special coatings for maximum protection in highly corrosive areas

## Cable junction box PR 6130

- Robust cable junction box for connecting load cells
- Equipped with pressure-equalising membrane, preventing moisture from entering the box during temperature changes
- For four and six-wire technology
- Extremely high insulation resistance for optimum measuring signals
- ATEX and FM-approved versions available for use in hazardous areas



Explosion protection

	PR 6130/08	PR 6130/04N	PR 6130/34Sa	PR 6130/35S	PR 6130/38S	PR 6130/64Sa	PR 6130/65S	PR 6130/68S
Number of load cells	1 ... 8	1 ... 4	1 ... 4	1 ... 4	1 ... 8	1 ... 4	1 ... 4	1 ... 8
Material	Polycarbonate	Aluminium, painted	1.4301, AISI 304	1.4301, AISI 304	1.4401, AISI 316L	1.4301, AISI 304	1.4301, AISI 304	1.4401, AISI 316L
Protection class	IP65	IP67	IP68   IP69	IP68   IP69	IP68   IP69	IP68   IP69	IP68   IP69	IP68   IP69
ATEX   FM approval	No	No	No	No	No	Yes	Yes	Yes





# 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)

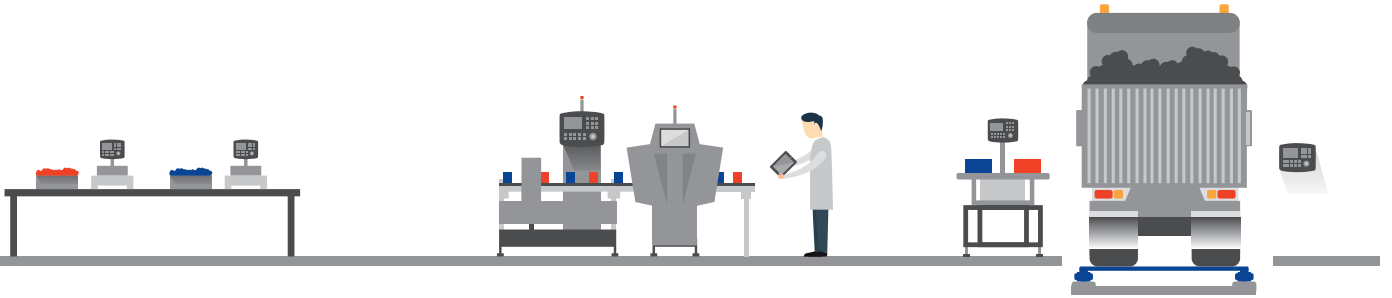


Weighing of incoming goods



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

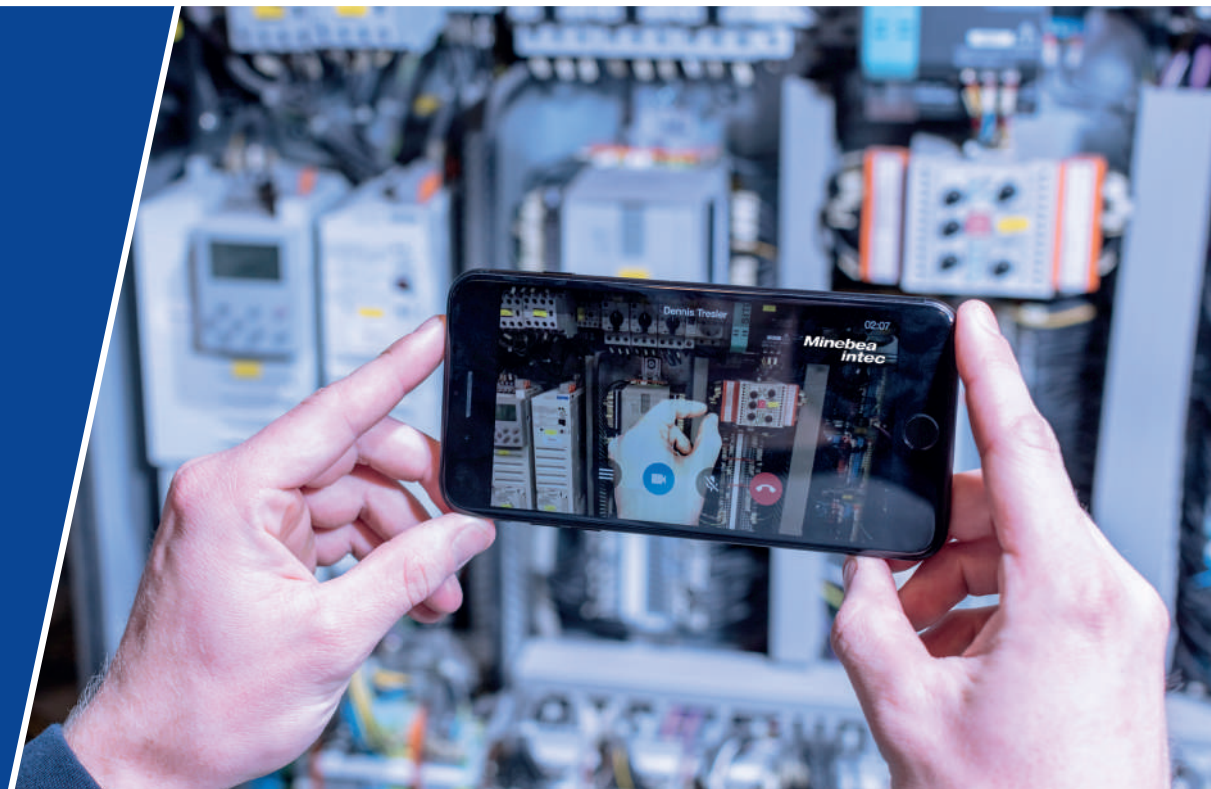
- Practical training content that reduces operating errors, downtime and maintenance costs and therefore increases the performance of the equipment and the efficiency of the line
- Seminars providing knowledge of regulations and technologies

**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