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### Competence in Process Weighing

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- Enhanced PLC communication
  - Broad fieldbus connectivity
  - Expanded process speed
  - Globally approved
  - Reliable for 100% uptime
  - Fits harsh and hazardous
  - Eliminate environmental noise
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**Process control made easy**

**METTLER TOLEDO**



# Boost your business

with reliable weighing equipment –  
for a safe process environment.



«Time is Money» – a wisdom seldom proven wrong.

**This is why world class manufacturers count on equipment and suppliers who support the relentless drive toward productivity improvement.**

We know how precious time is and are constantly developing weighing equipment and accessories tailored to your needs in a fast changing process environment; a process environment that demands instant access to reliable data, seamless connectivity to the factory network, 100% uptime and full regulatory compliance.

## **How can METTLER TOLEDO fulfill your demanding real-time application requirements?**

### **Measurement speed, reliability and accuracy for mission-critical applications**

Our equipment is capable of updating analog weigh data at a rate of 50Hz. To keep pace with this speed, the internal A/D converter processes above 300Hz to make weigh data available for other applications.

- Filters background noise (motors, vibrations, etc.) from measurement
- High accuracy in a dynamic environment
- Reliability for continuous uptime

### **Seamless connectivity**

Our broad range of connectivity options allow to get connected to any controller or PC no matter whether it is a PLC, a DCS or an ERP system.

- Broad fieldbus interfaces from Allen Bradley RIO, Profibus® DP, ModBus+, DeviceNet to ControlNet
- Ethernet/IP and Ethernet TCP/IP
- Serial interfaces
- Analog interfaces

### **Tailored applications that guarantee flexibility and regulatory compliance**

From simple weigh data capturing and re-routing of data to your next processor to complex batching, filling and formulation solutions in a fully automated environment.

- Globally approved
  - Legal for trade (OIML and NTEP approved)
  - Designed for cGMP and GAMP compliance
  - Haz Area approved: ATEX, FM, CSA
- Broad automated solution offering:
  - Simple tank weighing
  - Dynamic vessel weighing
  - Batching and blending
  - Flowrate control
  - Filling and dispensing
  - Material and recipe management
  - Material transfer control
  - Checkweighing
  - Statistical quality control system
- Enhanced service & maintenance
- Rugged design customized to your environment
- IP69K severe washdown solutions provide reliable weighing in even the most severe environments.



# We serve your industry

We have a long history in process weighing that began when plant engineers first attempted to automate processes which required simple network interfaces.

Leading-edge weighing technology from METTLER TOLEDO allows you to freely program your application and to customize it to remain compliant with the latest regulations.

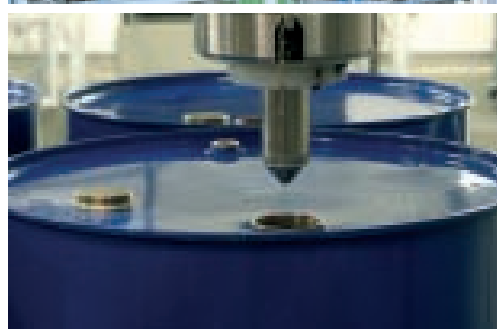
## Which industries do we serve?

METTLER TOLEDO has proven solutions for:

- Pharmaceuticals
- Biotech
- Fine & Specialty Chemicals
- Polymers
- Petrochemicals
- Base Chemicals
- Dyes & Inks
- Food & Beverage
- Metal Industry
- Machine Builders
- Flavors & Fragrances
- Cosmetics
- Electronics & Semiconductors
- Pulp & Paper
- Textile Industry
- ...

## Key requirements

- Speed
- High accuracy
- Broad connectivity
- Process control
- Reliability for continuous uptime
- Mobility



## Vessel weighing



Tank, vessel, and hopper weighing for inventory control, tank monitoring, and process control while mixing, agitating, and filling. We provide higher process uptime, better material handling, inventory management and reduction of product losses due to higher achieved accuracy and reliability: from 5kg up to 90 000kg with an accuracy of up to 10 000d.

## Filling & Dispensing



When filling intermediate bulk containers, totes, drums or big bags; we provide very fast, precise, and repeatable results. High-performance weighing terminals from METTLER TOLEDO with precision scales, weigh modules and high precision cells are designed to provide unmatched accuracy. Terminals are designed to have direct connectivity to standard PLCs via fieldbus interfaces. Our systems continuously monitor the output of your process and ensures your filling process remains in tolerance.

## Formulation



If valuable raw materials need to be added accurately to produce the right mixture the METTLER TOLEDO line of terminals and scale bases is the right choice. Minor shifts or variations in ingredients mean failure while repeatable adherence to the formula delivers profits. From manual up to automatic weighing indicators, simply hook-it up to a PLC, DCS or even to an ERP system like SAP.

## Batching & Blending



Consistent mixtures, batch after batch, 24/7 with almost no downtime or shutdown – day-in and day-out – batching systems from METTLER TOLEDO guarantee consistent and fast batches and mixtures. Their flexibility and scalability allows for adaptation to the continuously changing and growing requirements from simple to most complex applications. That is why duplication of a recipe from the first batch to the millionth batch is the hallmark of our batching solutions. METTLER TOLEDO helps you to optimize your ROI.



### IND110 analog load cell signal converter – for direct interface to PLCs

Connect your analog load cells directly to your PLC or DCS – an excellent solution for simple applications like tank monitoring (inventory management) or simple filling:

- Input: max. 4 x 350 Ω load cells
- Connectivity: 4 – 20mA analog signal
- DIN-rail, steel type 7/9 or hazardous area enclosure
- Low and High Level setpoints with related discrete outputs and LED indicators
- Power supply: 24VDC



### IND130 smart weight transmitter – for enhanced process integration

Connect your analog load cells directly to your PLC or DCS for batching, filling, tank and hopper weighing, and for inventory control

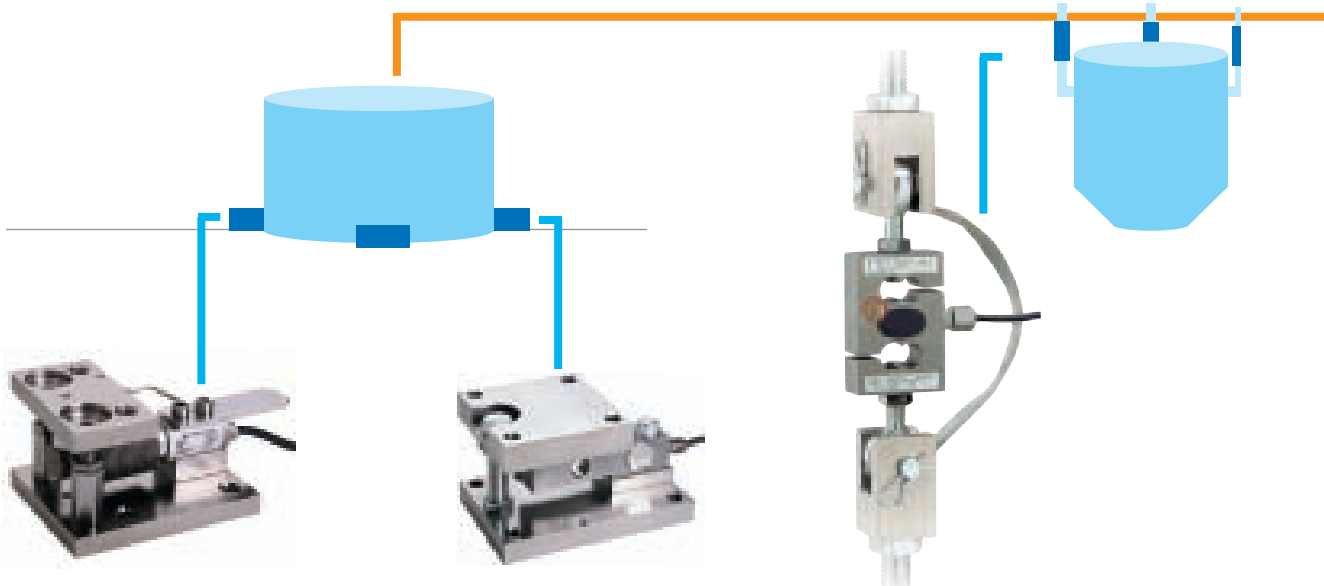
- Input: max. 4 x 350 Ω load cells
- Connectivity: RS232, Profibus® DP or Allen Bradley RIO
- DIN-rail or stainless steel enclosure
- Easy configuration/calibration via PC-tool
- CalFREE™ Calibration without test weights
- Digital vibration filtering
- Setpoint with related discrete output and LED indicator
- Power supply: 24VDC



### Panther – put speed and accuracy in your process control applications

For simple weighing, batch process weighing or manual checkweighing:

- Input: max. 8 x 350 Ω load cells
- Connectivity: 4 – 20mA, RS232, Profibus® DP, Modbus+ or Allen Bradley RIO
- I/Os: 1 input/3 outputs
- Update rate: >300Hz
- Accuracy: 10 000d
- Panel mount or stainless steel enclosure
- 2 built-in setpoints
- TraxDSP™ vibration rejection and superior noise filtering



### Ultramount weigh modules – reliable for low capacity tanks and hoppers

- Stainless steel suspension hardware for accurate, repeatable weights
- Stainless steel load cells
- Accuracy: 1000d and 3000d OIML version and 1000d, 4000d and 5000d NTEP version (depending on capacity)
- Capacity range: 5 kg to 100 kg

### Flexmount / Flexmount HD weigh modules – convert any tank, hopper, silo or vessel into a scale

- Anti-lift device restrains tank from tipping
- Jacking bolt ensures easy load cell replacement > less downtime
- Mounting plates painted or stainless steel
- Stainless steel load cells
- Accuracy: 3000d OIML version and 3000d, 5000d, 6000d and 10 000d NTEP version (depending on capacity)
- Flexmount capacity range 220 kg to 20 412 kg
- Flexmount HD capacity range 22 000 kg to 90 000 kg

### Tension weigh modules – whenever your tank, hopper or vessel has to be suspended

- Nickel-plated steel, electroless
- Stainless steel load cell
- Accuracy: 3000d OIML and NTEP
- Capacity range: 25 kg – 5000 kg



Connection to  
DCS and ERP  
systems

### DeviceNet bridge – share your weight data within your network

The DeviceNet bridge allows you to easily get connected to your DeviceNet network.

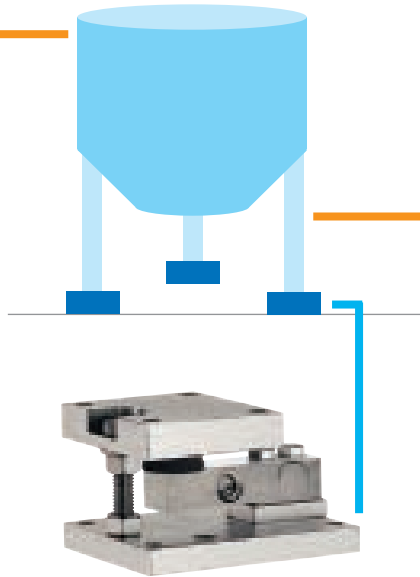
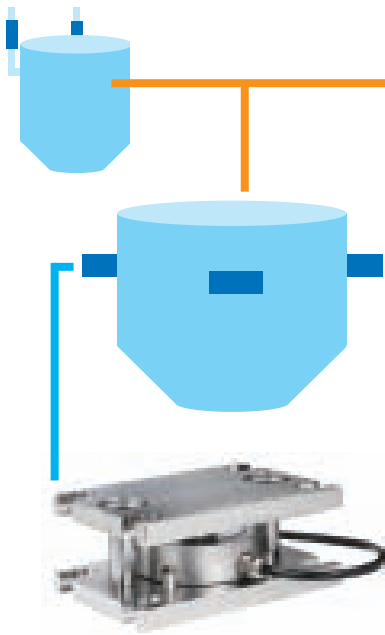
- Approvals: UL, CSA, CE
- ODVA certified
- RS232 to DeviceNet
- DIN-rail mount

### Puma/ID3sTx

- Wire up the standard fiber optic port to a converter (RS232 or CL) and get hooked-up to the PLC
- Rugged stainless steel enclosure with IP65 protection degree
- 5 different power supply options: 230VAC, 110VAC, 24VDC or an internal or external battery. Low power consumption for a long battery life up to 380h
- Connect weighing modules and a huge range of platforms with approved resolution up to 4000e

### Lynx & LynxBatch controller – command your quality

- For stand alone, single or multiple-material, manual and automated, filling and batching applications with data upload capability.
- Input: max. 16 x 350 Ω load cells
  - Connectivity: RS232, RS485, RS422, CL
  - I/Os: 3 inputs/5 outputs (low and high-level), max. 8 I/Os
  - Panel mount or stainless steel enclosure
  - TraxDSP™ vibration rejection and superior noise filtering
  - Setpoint capability
  - Extended material inventory and recipe management
  - Learn mode for automated filling/batching
  - Batch size and target size adjustments
  - Datavault recipe & data management software



### Ringmount weigh modules – where accuracy and sanitation are vital

- All stainless steel construction
- Smooth design void of exposed threads, limited holes and cavities
- Ultra-low profile, 58.4 mm (2.3 in) up to 5000 kg
- Accuracy: 3000d and 6000d OIML version and 5000d NTEP version (depending on capacity)
- Capacity range: 250 kg – 5000 kg

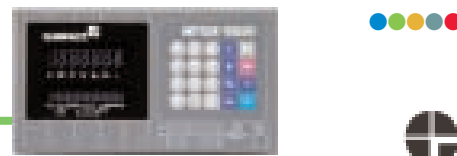
### Centerline weigh modules – for dynamic or static weighing applications

- Mounting plates painted or stainless steel
- Stainless steel load cells
- Accuracy: 3000d and 6000d OIML version and 5000d NTEP version (depending on capacity)
- Capacity range: 220 kg – 20 412 kg

### Intrinsic Safety Barrier ISB – for intrinsically safe, accurate weighing in hazardous environments

- The ISB for analog load cells is designed specifically for use in high accuracy/high resolution weighing applications.
- Powers up to 8 x 350 Ω load cells
  - DIN-rail or harsh environment enclosure

ISB – connect your load cells installed in the hazardous area to a weighing indicator in the safe area



### IND690 – tough but sensitive, even in hazardous areas

High performance filling and batching or free programmable to easily adapt to any application with extensive interfacing capabilities. Learn mode for quick and easy adaption to any filling material and speed.

- Broad application pacs available for filling, batching, etc.
- Input: max. 8 x 350 Ω load cells
- High precision platforms and precision balances
- Connectivity: analog and serial, Profibus® DP, Ethernet
- I/Os: up to 64
- All stainless steel enclosure
- Alibi memory

#### IND690xx

for Zone 2/22 and Div 2 environments

- Freely programmable for your application
- I/Os: 4 inputs/4 outputs
- Connect up to three independent scales
- Connectivity: analog and serial, Profibus® DP, Ethernet

#### ID7sx

for Zone 1/21 and Div 1 environments

- Manual, semi-automatic or automatic filling
- I/Os: 8 inputs/8 outputs
- Alibi memory module
- Connectivity: serial, Profibus® DP, Ethernet
- Connect up to 3 high precision scales
- Stainless steel and IP65/66 protection grade housing

### JagXtreme – achieve higher levels of functionality and interoperability

#### Total maintenance:

- Predictive maintenance through TraxEMT™
- Schedules and tracks its own maintenance
- Notifies maintenance checks via e-Mail, etc.
- Monitors scale condition
- Embedded web-server allows access for global communications

#### Total connectivity:

- Ethernet (LAN & WAN)
- Various serial communication interfaces
- Analog interface
- Profibus® DP, Allen Bradley RIO, ModBus+, ControlNet/Ethernet/IP interface

#### Wide variety of connectable scales with concurrent operation:

- Up to 4 analog scales or 4 vessels on weigh modules
- Up to 4 DigiTOL scales
- Up to 2 high precision scales

#### Total flexibility:

- JagBASIC programming language for free programmability
- 5 freely definable setpoints
- Up to 12 discrete I/Os

#### Ultra fast control while mixing and agitating:

- Update rate: > 300Hz
- TraxDSP™ vibration rejection and superior noise filtering

### Optimize your batch with blending and filling control operations

For manufacturing facilities that use batch, blending or filling control systems, Q.i can add to your success and is the innovative material feed measurement & cut-off control system from METTLER TOLEDO. Comprised of hardware, advanced process control technology, internet enabled software, and collaborative services, Q.i:

#### Reduces cycle time

- Increases material transfer speed by up to 30%
- Supports parallel feed operations using flow meters and scales
- Increases throughput by increasing batch cycle time

#### Improves accuracy

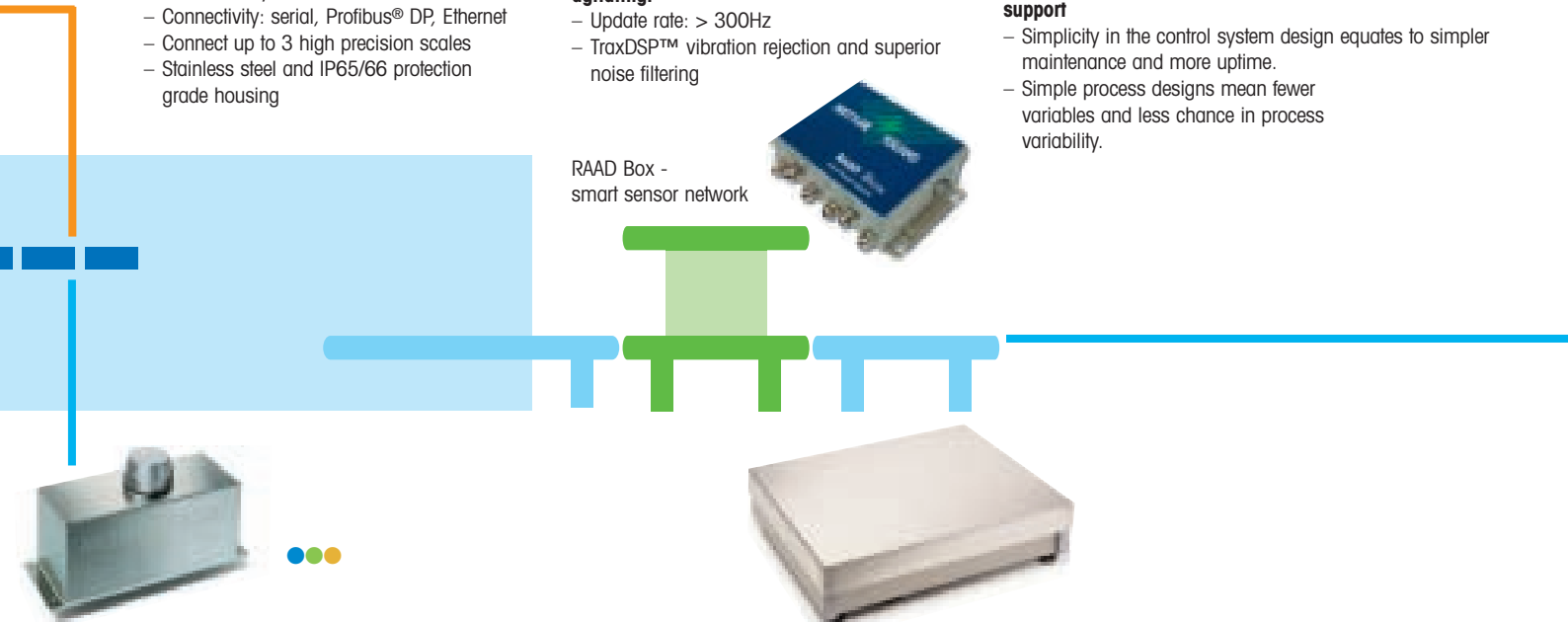
- Improves batch quality and consistency with more product within specification
- Reduces material waste by filling within tighter tolerances
- Little or no operator intervention required for under tolerance transfer
- Formulate products with tighter specifications that are more difficult to imitate.

#### Improves process knowledge

- Predictive maintenance tools TraxEMT™ monitor and support calibration requirements and identify when performance may be deteriorating
- Data management / SPC tools enable you to compare performance of materials and control system against another

#### Reduces engineering maintenance and support

- Simplicity in the control system design equates to simpler maintenance and more uptime.
- Simple process designs mean fewer variables and less chance in process variability.



RAAD Box - smart sensor network



### Modulo – for highly accurate solutions

- Process automation, filling, dosing applications
- Milligram-weighing in fractions of a second
- Stainless steel housing – up to IP66/67
- Direct connection to PLC over RS232, RS422, Profibus® DP or DeviceNet
- Automatic detection of defects
- Built-in adjustment weight
- Fast update rate
- Capacity range: from 0,120 kg – 6 kg
- Resolution: 0.1 mg – 10 mg

### Bench, portable, pallet, and floor scales – the right solution for many applications

- Ultralow profile design available
- Designed for mobile solutions
- Easy to clean
- Sturdy frame construction
- Painted, hot galvanised or stainless steel
- High resolution scales available up to 32000e/320000d
- Capacity up to 30t/60 000lb



### Supreme noise and vibration control with TraxDSP™

Embedded in our weighing indicators, TraxDSP™ is synonym for super-fast, multi-stage digital filtering that can be configured to provide maximum of process integration – where speed and accuracy counts.

TraxDSP™ updates weight signals at a rate > 300Hz and allows filtering of data through multistage digital filters to remove noise. For example, adjust the low-pass filter to match your cutoff corner frequency, set a notch filter to eliminate any noise in a predefined bandwidth, and set a stability filter for settled weight data. Thanks to this true digital signal processing, you will measure all-time reliable and accurate weights:

- While you're mixing, agitating or simply during your process where dynamic and accurate weighing is a must
- In spite of nearby machinery, which generates noise and vibrations
- In unstable environments

Products, that features TraxDSP™, are: Panther, Lynx & LynxBatch, and JagXtreme. IND130 features a light version of TraxDSP™.



### Efficient asset management with TraxEMT™

High performance maintenance & global communication with TraxEMT™ turns strain

- gauge load cells into intelligent sensors:
- Predicts failures before they occur and alerts individuals of potential failures or maintenance needs
  - Monitors the condition of each individual load cell and alerts designated individuals of potential failures or maintenance needs by e-Mail/SMS, so that a defective load cell can be replaced, guarding you against costly downtime or product waste
  - On load cell failure, «Run Flat» technology allows to continue production runs until the load cell can be replaced
  - Schedules and tracks its own maintenance

Products, that feature TraxEMT™, are: JagXtreme and RAAD Box.



### MTConnections Complete™ software – easily collect and transfer your weight data

The complete solution for connecting METTLER TOLEDO weighing equipment to your PC.

- Can manage up to 32 scales connected over Ethernet or serially
- Drop-in components for Microsoft™ – Excel/ Access/Visual Basic, and more...
- Use to produce reports, charts and graphs, and build databases
- Gather weight data for statistical control
- Monitor the health of your scale



### Sanitary compliance at ease

METTLER TOLEDO supplies weighing equipment such as floor scales, indicators, bench and portable scales designed specifically for maintaining sanitation in harsh and/or wash-down areas:

- Easy cleanability due to lifting device & avoidance of dead spots
- GMP certified scales using best practice GMP pharma cleaning procedures
- Glass-bead surface preparation provides a finish that resists scratching and chemical staining
- Up to IP69K enclosure protection
- Full stainless steel construction
- Customer specific scales on demand
- Scales have been manufactured according to the recognised EHEDG guidelines



# Process control made easy



### No Risk – Full Safety

Explosive areas need special consideration, but performance should not be compromised. That's why METTLER TOLEDO has built the most extensive range of hazardous area (Ex) products available, ranging from milligrams up to 2000 tons. Almost all of our products are globally certified for explosive environments ranging from Zone 1 or Class I-III, Div 1 up to Zone 22 / Div 2. The right certifications plus the right weighing equipment help assure that regulatory requirements such as NEC, CSA and ATEX are always met.

Some of the images are used with kind courtesy of the companies Altana Chemie and Clariant

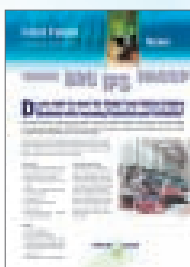
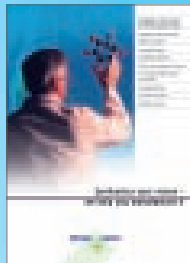


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## Weighing in the Chemical & Pharmaceutical Industry

Synthesize your vision – we help you manufacture it!

## Hazardous Area Focus

Where Safety comes first!

## Predictive Maintenance

Keep your process up and running – all the time!

## Food Competence Focus

Meet Food Safety standards and increase productivity and profitability.

**ServiceXXL**  
 Tailored Services



### Service XXL

- Integral service concept
- Individually assembled service packages
- Priority service status
- Calibration certificate issued on site
- Minimum weight defined with MinWeigh

### Quality certificate

Development, production and testing to ISO 9001. Environmental management system to ISO 14001.

### CE conformance

The CE mark means that you can rest assured that our products meet the requirements of the latest EU guidelines.

Sales and service:

**nefton**  
 Ζύγιση  
 Σήμανση  
 Συμμόρφωση

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