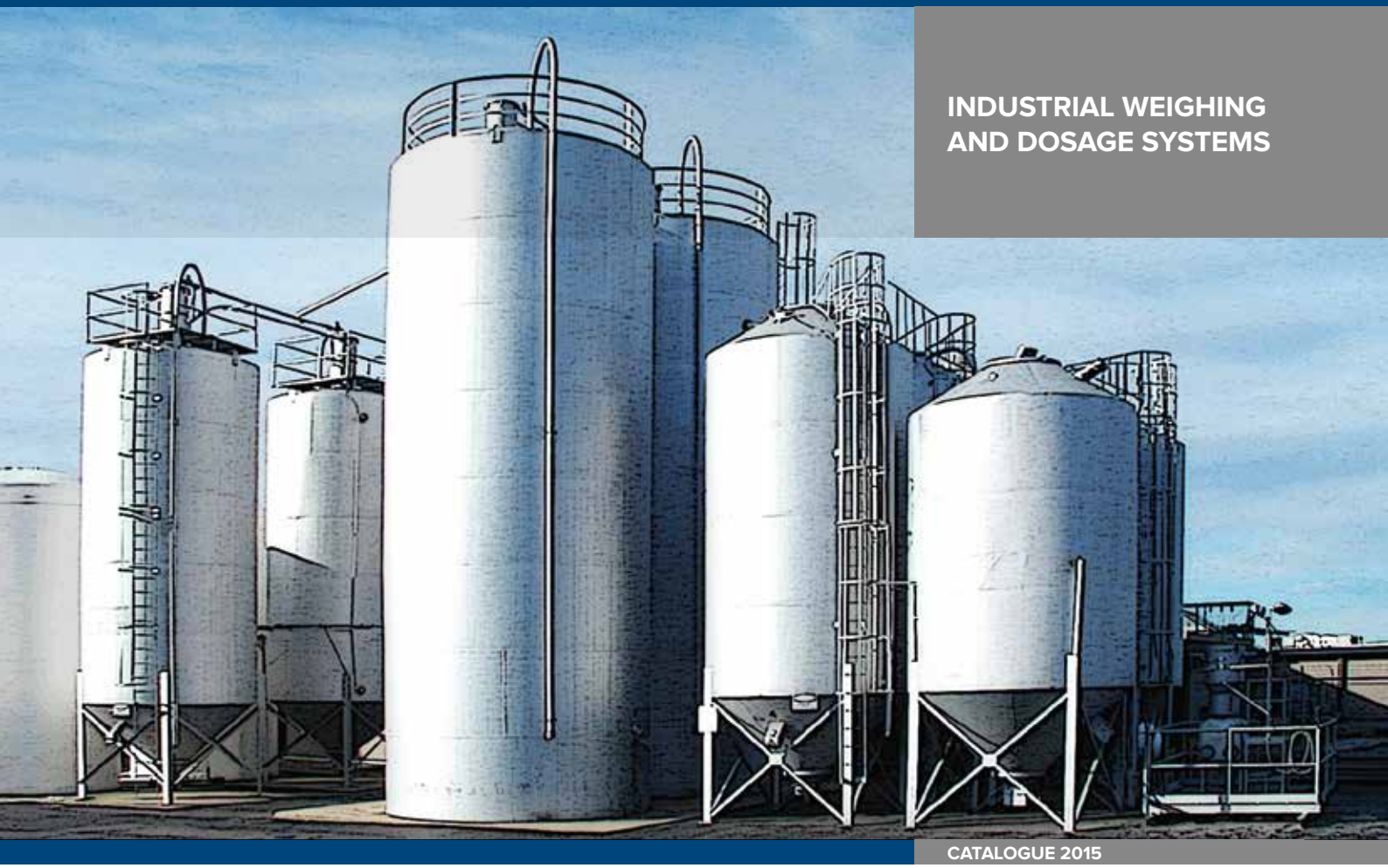
DINI ARGEO
Scales - Weighing systems

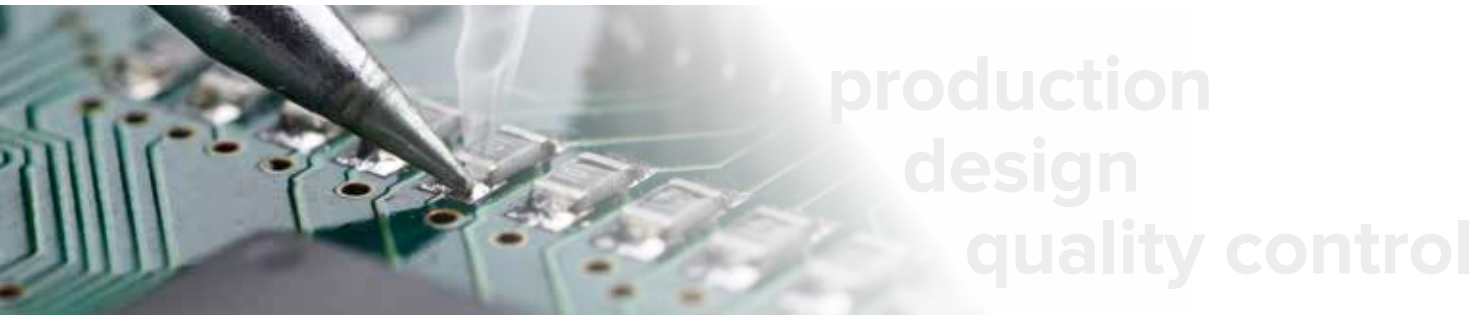


# INDUSTRIAL WEIGHING AND DOSAGE SYSTEMS

CATALOGUE 2015

www.diniargeo.com

# SUMMARY




# Scales and weighing systems

**Dini Argeo** is a company specialising in the design and manufacturing of scales and weighing systems worldwide-known for quality and reliability**.**

The solutions created by **Dini Argeo** are suitable for any industrial weighing application:

- reading, collection, processing and transfer of weight data
- simple, sequential, simultaneous dosage, in-loading or unloading, single or multicomponent dosage, continuous dosage on belt conveyors or loss-in-weight feeding.
- Weighing in areas endangered by potentially explosive atmospheres (ATEX)
- piece counting, labelling
- control of production lines, statistical check of prepackaged products
- logistics weighing (pallet scales, pallet truck scales, weighing forks for lift trucks, crane scales)
- vehicle weighing (weighbridges, wheel weighers, static and dynamic axle weighers).

A full range of interfaces and communication protocols is available as standard thus making Dini Argeo products easily integrable into industrial automation and processing for the development of OEM systems with customisable functions.

Dini Argeo, a company which has been producing scales and weighing systems since 1846, has been registered since 02/04/1906 at the Registry of Metric Manufacturers provided by the Royal Decree nr. 226 of 12/06/1902.

Dini Argeo has obtained the Quality Management System certification according to the UNI EN ISO 9001: 2008 for the design, manufacture and after sales service in respect of measuring instruments, scales and weighing systems, components and software.

The instruments produced by Dini Argeo are approved for legal-for-trade application according to the European standard EN 45501 - Directive 2009/23/EEC. The CE-M mark certifies that the instrument is supplied with the CERTIFICATE OF EC TYPE-APPROVAL issued by the Central Metric Office validating the suitability for legal-for-trade use.

Dini Argeo is a certified company pursuant to ATEX Directive 94/9/EC (Annex IV) and therefore authorised to produce and market equipment marked by Ex-symbol intended for use in potentially explosive atmospheres.

# Dini Argeo Group

## A COMPREHENSIVE SERVICE

**Dini Argeo** offers the customer a complete service ranging from the working out of customised solutions and supply of weighing components to the development of software for PC and communication networks, calibration and approval services of OEM systems. Dini Argeo has grown into a group with a strong international calling, composed of subsidiaries in Europe and Asia, alongside a distribution and customer service network in more than 70 countries around the world. Dini Argeo works in cooperation with the other companies of the Group, which are market leaders in their specific field of activity:

DINI ARGEO
Scales - Weighing systems

HELMAC
weighing food machines • retail data systems
Retail scales
**www.helmac.it**

Syntweb
System Integrator & Web Technology
Software and Web solutions
**www.syntweb.it**

CIBE
LABORATORIO PESI E MISURE
Weights and Measures Laboratory
Metrological laboratory
**www.cibelab.it**

SERVISTAR
ASSISTENZA E TARATURA BILANCE
Calibration, installation, maintenance services network
**www.servistar.it**

selene
electronic engineering
Hardware development
**www.selene-electronics.it**

DG
0126

Dini Argeo manufactures non-automatic weighing instruments in conformity with the 2009/23/EEC Directive. The DG0126 mark states the instrument is subject to the EC verification by the manufacturer according to the Certificate of EC approval of the Production Quality Assurance System.

OIML

Dini Argeo produces instruments in compliance with the requirements laid down by the recommendations of the International Organization of Legal Metrology (OIML):

- Load cells approved to OIML R60
- Non-automatic weighing instruments approved to OIML R76
- OIML R134 approved dynamic weighers for vehicle transiting at a low speed.
- OIML R51 approved “start/stop” automatic catchweigher on belt conveyors.
- Gravimetric filling instruments approved to OIML R61.

EAC

Dini Argeo obtained the GOST-R certification ensuring that its instruments comply with the regulations provided for by the Russian Federation.


# Visit our website **www.diniargeo.com**

for full product, technical information and advice for your weighing applications.

## Enter

THE INFORMATION **area**
and send the request form
**directly from the site.**

## Download

Dini Argeo weighing apps
free of charge
from **Google play**.

### SYMBOLS LEGEND

The products bearing this mark can be used in potentially explosive environments 1 and 21 or 2 and 22, classified by the **ATEX** directives.

The products bearing this mark are usually constructed in STAINLESS STEEL for use in environments with very strict hygiene requirements or for providing greater protection from all types of corrosion.

The IP classification indicates the protection degrees which the instrument may have in relation to penetration of solid bodies (1st digit) and/or liquids (2nd digit). Many of Dini Argeo weighing systems ensure total protection from dust, humidity, and water sprays (IP65 and IP67 protection), up to hermetic sealing in submersion (IP68 protection).

These symbols represent, in a simplified way, the typical use of the load cell. In particular, they indicate:
1. suspended hoppers / tanks
2. silo of any size
3. horizontal tanks, whether or not containing liquids
4. 4-cell platforms
5. single-cell platform.

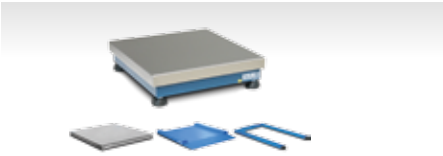
# The complete range
## OF DINI ARGEO PRODUCTS

### WEIGHT INDICATORS

Weight indicators, repeaters, and transmitters for easy or advanced industrial applications of: totalization, parts counting, statistical checking, industrial price computing, weigh bridges or wheel and axle weighing systems management, single or multi product dosages in filling and discharging, etc.

### LOAD CELLS

Off center, bending beam, shear beam, double shear beam, compression, tension, column load cells, junction boxes, and kits for creating small, medium, large-capacity weighing systems.

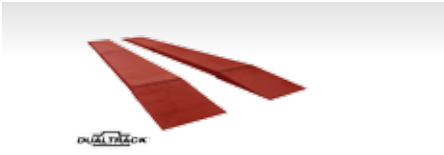


### WEIGHING MODULES

Single or 4-cell platforms, pallet-weighers, levers platforms for weighing of metal profiles, rods or pipes, overhead monorail and wall quarter weighing modules.

### MOBILE WEIGHING

Pallet truck scales, crane scales, weighing kit for forklift trucks, pallet weighing which allow to integrate the weighing in the logistics warehousing, the materials handling and the lifting of suspended loads.




### WEIGH BRIDGES

Classic and dual track weigh bridges for fixed or mobile installations, particularly suitable in industrial, agricultural, and commercial fields, and platforms for the axle dynamic weighing of a vehicle in transit.

### WHEEL AND AXLE WEIGHING PLATFORMS

Analog or wireless platforms suitable for creating vehicle weighing mobile stations, directly where one needs, on any type of flat surface, by saving time and money.

### INDUSTRIAL SCALES

Multifunction, flexible, precision scales for counter-top and floor, and high versatility modular weighing systems. Suitable for industrial, commercial, and laboratory use.

### LABORATORY SCALES

“Scale House” is a brand that distinguishes products for industry, laboratory, retail as well as weighing in general, carefully selected in order to have the best quality/price ratio.


### WEIGHTS, SETS OF WEIGHTS, MASS SAMPLES, AND CALIBRATION SERVICES

Cibe Metrological Laboratory offers a wide range of weights, sets of weights, mass samples, and accessories as well as calibration services and Periodic Verification of automatic and non automatic weighing instruments.


### SCALES, CASH POINTS AND AUTOMATIC MACHINES FOR RETAIL

Helmac designs and manufactures price computing, bench, and hanging scales, for use in shop, supermarket, and mobile sales, POS systems, cash registers and price computing automatic machines for agro-food industries.


### WEIGHING SOFTWARE

Syntweb offers software solutions connected to the weighing world, including programs for: reading, checking and recording of weighs; manual of automatic dosage; vehicle IN/OUT weighing with weighbridge; management of the production cycle, disposal and traceability of waste; pieces counting; statistical check of the filling processes; etc.

## EASY-TO-USE INDICATOR, TRANSMITTER
FOR WEIGHING AND AUTOMATION

# PROCESS CONTROL

INDUSTRY · LOGISTICS · BUILDING · BOATYARD · WOOD INDUSTRY · FUELS

The weight indicators of the PROCESS CONTROL range are the most economical and practical solution to read the weight of the load cells and transmit it to external devices (PCs, PLCs, microcontrollers etc), via RS232, RS485 serial port, relay output or programmable analog output.
Thanks to the plug and play external switching, the user can communicate in Ethernet, WIFI, PROFIBUS and RADIO FREQUENCY.
Each instrument is designed to be installed on a DIN rail, or panels with standard fixings, easily adaptable with existing installations.
The multifunction software will allow you to convert the weight into other units of measurement (Newton, litres, pieces...), measure the peak weight, perform consecutive accumulation, and transmit the total.

The design of the hardware and the operating software is carried out in Italy by a technical staff who provide the knowledge for the production of OEM systems, with customised protocols and features. All indicators are approved for legal for trade use, according to EN45501, OIML R76.

**OIML R76 (EN45501)**
**OIML R61 - MID**

## THE RANGE

**DGT1S**
Weight transmitter in a slim case, 1 weighing channel and “quick connect” system

**DGT1**
Weight transmitter in a compact case, 1 weighing channel

**DGT4**
Weight transmitter with 4 weighing channels

**DGTQ**
Weight transmitter for panel mounting, with 4 weighing channels


**CLEAR EASY-TO-READ VIEW**

The LED display allows for quick and easy check of the weight status of any load applied to the load cells. It also greatly simplifies the implementation of any changes to the configuration.

**STANDARD DIN SIZES**

The DGTQ and DGTP series indicators have standard DIN sizes.


**SIMPLIFIED WATERPROOF KEYBOARD**

The simplified keyboard ensures simplicity and immediacy of use. The DGTPK series provides a numeric/functional keypad, ideal for handheld applications.

## DiniTools

**QUICKLY CONFIGURATION FROM PC WITH DINITOOLS**

The Dinitools software for PC, supplied as standard, helps to quickly program and calibrate the indicator and create a database of the installations. These functions help to quickly replicate the installed systems, saving time when installing new equipment.


**DGTP**

Weight transmitter for panel mounting with 4 weighing channels and 20mm display


**DGT20**

Weight indicator for table/ panel/wall mounting, with 4 weighing channels


**DGTPK**

Weight indicator for table/panel/ wall mounting, with 4 weighing channels and extended keyboard


**DGT100**

Weight indicator / Weight repeater with 100mm maxi display.

# MAIN TECHNICAL FEATURES

For **DIN BAR** installation



*Visit* **www.diniargeo.com** *web site for more information.*

- ● *As standard*
- o *As option (>> page 26)*
- – *Not available for this model*

| | | DGT1S | DGT1SAN | DGT1 | DGT1AN | DGT1IO | DGT4 | DGT4AN | DGT4PB |
|---|---|---|---|---|---|---|---|---|---|
| COMMUNICATION INTERFACES | Profibus DP (>> page 26) | o | o | o | o | o | o | o | ● |
| | Ethernet TCP/IP (>> page 26) | o | o | o | o | o | o | o | - |
| | Modbus TCP / DeviceNET / CanOpen / EtherCat / ProfiNet | o | o | o | o | o | o | o | - |
| | Modbus RTU protocol | ● | ● | ● | ● | ● | ● | ● | ● |
| | RS485 serial port | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - |
| | RS232 serial port | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | USB connection for PC programming with Dinitools software | o | o | o | o | o | o | o | o |
| | Alibi memory | o | o | o | o | o | o | o | o |
| | Bluetooth | o | o | o | o | o | o | o | o |
| | 868MHz Radio frequency module | o | o | o | o | o | o | o | o |
| IN/OUT | Electronic outputs | 2 | 2 | - | - | 2 | 2 | 2 | 2 |
| | Digital inputs | 2 | 2 | - | - | 2 | 2 | 2 | 2 |
| | Analog output (0...5 Vdc, 0...10 Vdc, 0...20 mA, 4...20 mA) | - | ● | - | ● | - | - | ● | - |
| HARDWARE | Dimensions (mm) (lxhxw - Large x hight x width) | 22,5 x 111 x 120 | | 53 x 90 x 58 | | | 106 x 90 x 58 | | |
| | Red LED display | 8 mm | | 8 mm | | | 13 mm | | |
| | “Quick Connect” system (>> pag. 28) | ● | | - | | | - | | |
| | Keyboard | Waterproof mechanic | | | | | | | |
| | case | ABS | | | | | | | |
| | Power supply | 12/24 Vdc, 5 W | | | | | | | |
| | Operating Temperature Range: Internal use / CE-M / Humidity | -20...+60°C / -10...+40°C / 85% | | | | | | | |
| | IP protection | - | | | | | | | |
| WEIGHING | Connectable load cells | up to 16 of 350Ω | | | | | | | |
| | Conversions / Resolution / F.S. max of Display Screen | 3200 Hz / 24 bit / ± 999999 | | | | | | | |
| | Converter / Number of scale inputs | 24 bit / 4 channels | | | | | | | |
| | Theoretical calibration (mV/V) | ● | | | | | | | |
| | Multifunctional firmware | ● | | | | | | | |
| | OIML features | 3000e, 2x3000e, 6000e, 2x6000e, 10000e | | | | | | | |
| | OIML certifications | OIML R76 - R61 (MID) | | | | | | | |

(1) *with option (>> page 26)*

For **PANEL** mounting

For **BENCH/PANEL/WALL** mounting

For a **WALL** mounting

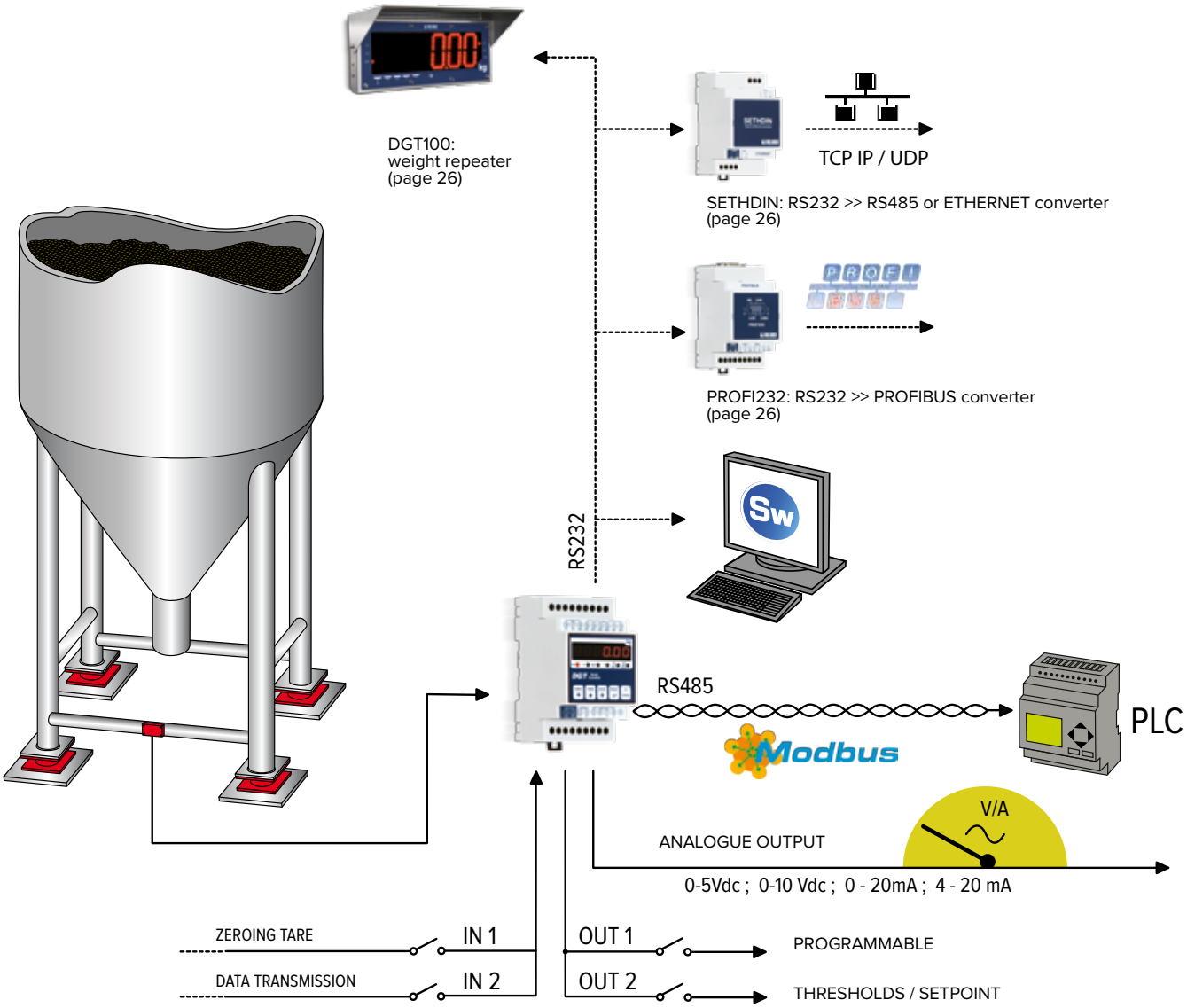




| DGTQ | DGTQAN | DGTQPB | DGTP | DGTPAN | DGTPPB | DGT20 | DGT20AN | DGT20PB | DGTPK | DGTPKAN | DGTPKPB | DGT100 | DGT100AN | DGT100PB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| o | o | ● | o | o | ● | o | o | ● | o | o | ● | o | o | ● |
| o | o | - | o | o | - | o | o | - | o | o | - | o | o | - |
| o | o | o | o | o | - | o | o | - | o | o | - | o | o | - |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 1 | 1 | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | - | 1 | 1 | - |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| o | o | o | o | o | o | o | o | o | o | o | o | o | o | o |
| o | o | o | o | o | o | o | o | o | o | o | o | o | o | o |
| o | o | o | o | o | o | o | o | o | o | o | o | o | o | o |
| o | o | o | o | o | o | o | o | o | o | o | o | o | o | o |
| 2 + 6 (1) | 2 + 6 (1) | 2 + 6 (1) | 6 | 6 | 6 | 2 | 2 | 2 | 6 | 6 | 6 | 2 | 2 | 2 |
| 2 | 2 | 2 | 4 | 4 | 4 | 2 | 2 | 2 | 4 | 4 | 4 | 2 | 2 | 2 |
| - | ● | - | - | ● | - | - | ● | - | - | ● | - | - | ● | - |
| 96 x 96 x 80 | | | 144 x 72 x 129 | | | 214 x 157 x 150 | | | 214 x 196 x 150 | | | 433 x 205 x 202 | | |
| 13 mm | | | 20 mm | | | 20 mm | | | 20 mm | | | 100 mm | | |
| - | | | - | | | - | | | - | | | - | | |
| Waterproof mechanic | | | | | | Waterproof mechanic | | | | | | Waterproof mechanic | | |
| ABS | | | | | | Aluminium / Painted steel | | | | | | Stainless Steel | | |
| 12/24 Vdc, 5 W | | | | | | 12/24 Vdc, 5 W | | | | | | 12/24 Vdc, 5 W | | |
| -20...+60°C / -10...+40°C / 85% | | | | | | -20...+60°C / -10...+40°C / 85% | | | | | | -20...+60°C / -10...+40°C / 85% | | |
| IP40 | | | | | | IP40 | | | | | | IP68 | | |
| up to 16 of 350Ω | | | | | | up to 16 of 350Ω | | | | | | up to 16 of 350Ω | | |
| 3200 Hz / 24 bit / ± 999999 | | | | | | 3200 Hz /24 bit / ± 999999 | | | | | | 3200 Hz / 24 bit / ± 999999 | | |
| 24 bit / 4 channels | | | | | | 24 bit / 4 channels | | | | | | 24 bit / 4 channels | | |
| ● | | | | | | ● | | | | | | ● | | |
| ● | | | | | | ● | | | | | | ● | | |
| 3000e, 2x3000e, 6000e, 2x6000e, 10000e | | | | | | 3000e, 2x3000e, 6000e, 2x6000e, 10000e | | | | | | 3000e, 2x3000e, 6000e, 2x6000e, 10000e | | |
| OIML R76 - R61 (MID) | | | | | | OIML R76 - R61 (MID) | | | | | | OIML R76 - R61 (MID) | | |

# DESIGNED FOR THE INDUSTRIAL AUTOMATION AND THE PROCESS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22




**Example of system with DGT 1**

# FUNCTIONS

## OF THE STANDARD PROGRAM

- Digital or theoretical calibration and configuration from indicator keyboard or PC via Dinitools, with the functionality of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Programmable signal linearization of up to 8 points.
- Quick recalibration of the zero point.
- Control of the overload and underload status of the load cells.
- Keyboard locking functions and limited menu access through programmable password.
- Fast and accurate weight reading with adjustable speed of up to 3200Hz.
- Modbus RTU protocol, as standard fitted
- Dini Argeo protocol for creating control programs on a PC that can read the weight, read the digital inputs, drive the relay outputs.
- Event log
- Possibility to create customized software according to the needs (OEM).
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.


kg
0.00
NET
ZERO
TARE
MODE
PRINT
ON/Stb
DGT-Q
HUMIDIFIER
OFF ON

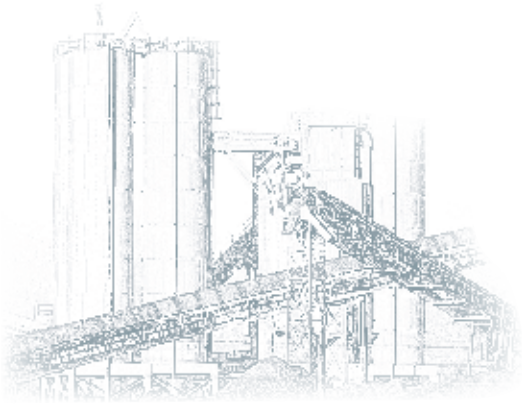
## INDICATORS
FOR FILLING, DOSAGE AND PROCESS

# BATCHING AND FILLING

The indicators for dosage of the BATCHING line offer state of the art technology for weighing and dosing, at a very competitive price. All the indicators are fully designed and manufactured in Italy and offer great performance and versatility.
The multifunction dosage software is fully configurable and adaptable to any application, thanks to a rich and full programming menu and to the internal development area for the implementation of fully customized programs.

The range of Touch Screen indicators offers the possibility to create customized display interfaces, in order to simplify the user operations and reducing mistakes.

All instruments are fitted with programmable databases and different accumulator totals (daily, weekly, mounthly, annual, per formula, per ingredient).



**OIML R76 (EN45501)**
**OIML R51 - MID**
**OIML R61 - MID**
**OIML R134**

**Three different dosage modes are available on the same product**

**SINGLE COMPONENT DOSAGE FOR FILLING**

**SINGLE COMPONENT DOSAGE FOR DISCHARGING**

**MULTI COMPONENT DOSAGE**

## THE RANGE

**DGTQF**
Indicator for dosage systems, for panel mounting

**DGTP**
Indicator for dosage systems, for panel mounting, with 20mm display

**DGTPK**
Indicator for dosage systems with extended keyboard

### CUSTOMIZABLE DISPLAY SCREEN

The backlit graphic LCD display allows a clear and immediate view of all the main data. The displayed data can also be easily customized to show descriptions, texts, totals, dosage quantity, etc.

### KEYBOARD FUNCTIONS FREELY PROGRAMMABLE

It is possible to customize the functions of each keys, by creating specific configurations and automatic sequences, according to the needs. This feature is essential for making simple and immediate, the functions which the operator must perform daily. It is also possible to inhibit the function of each single key, by creating the perfect combination.

### CUSTOMIZABLE PRINTOUTS

The print layout is fully customizable according to the specifications.

### IP65 / IP68 PROTECTION

All the indicators of the batching line offer a high protection degree against dust and water, and are designed for use in harsh industrial environments.

### USB MEMORY

The USB memory stick allows you to download all of the production data of the completed dosages, for further processing from PC.

### BLUETOOTH OUTPUT (optional)

This option can be used for quickly programming the formulas inside the instrument, using a smart phone, a tablet or a portable PC.

## DiniTools

### QUICKLY CONFIGURATION FROM PC WITH DINITOOLS

The Dinitools software for PC, supplied as standard, allows to quickly program and calibrate the indicator and create a database of the installations. These functions allow to quickly replicate the installed systems, saving time.

## DBManager

### SOFTWARE FOR THE QUICK CONFIGURATION OF DATABASES

The PC software DBMANAGER allows the quick programming of the databases by using Bluetooth, Ethernet or WiFi interface.

**CPWE**
Microcontroller for advanced dosage plants

**3590ETB**
Touch screen microcontroller for advanced batching plants

**3590ETT**
Touch screen weight indicator for advanced batching plants in a stainless steel case, fitted with bracket.

**3590EGT**
Touch screen weight indicator for advanced batching plants with mechanical keyboard and integrated traffic light.

# MAIN TECHNICAL FEATURES

for **DOSAGE/FILLING, BENCH/PANEL PUNTING**



*Visit* **www.diniargeo.com** *web site for more information.*

- ● *As standard*
- o *As option (>> page 26)*
- – *Not available for this model*

| | | DGTQF | DGTQFAN | DGTPF | DGTPFAN | DGTPKF | DGTPKFAN |
|---|---|---|---|---|---|---|---|
| PROGRAMMABILITY | Dosage functionalities | - | - | - | - | - | - |
| | Firmware development area, for customized programs | - | - | - | - | - | - |
| | Fully customizable display | - | - | - | - | - | - |
| | Databases | - | - | - | - | - | - |
| | Standard database for ingredients/formulas | ● | ● | ● | ● | ● | ● |
| | Programmable communication strings | - | - | - | - | - | - |
| | Fully programmable printouts/labels | - | - | - | - | - | - |
| | Selectable multi-language operator interface | - | - | - | - | - | - |
| | USB memory for weighing data storing | - | - | - | - | - | - |
| SOFTWARE | Single product dosage in load/unload | ● | ● | ● | ● | ● | ● |
| | Multi-product dosage | ● | ● | ● | ● | ● | ● |
| | Flow rate meter / continuous dosage on conveyor belt | - | - | - | - | - | - |
| | Loss in weight dosage | - | - | - | - | - | - |
| COMMUNICATION INTERFACES | Ethernet TCP/IP / WiFi | o | o | o | o | o | o |
| | Modbus TCP / DeviceNET / CanOpen / EtherCat / ProfiNet / Profibus DP | o | o | o | o | o | o |
| | Modbus RTU protocol | ● | ● | ● | ● | ● | ● |
| | RS485 serial port | ● | ● | ● | ● | ● | ● |
| | RS232 serial port | 1 | 1 | 1 | 1 | 1 | 1 |
| | 868MHZ Radio frequency module | o | o | o | o | o | o |
| | Alibi memory | - | - | - | - | - | - |
| | USB connection for PC programming with Dinitools software | o | o | o | o | o | o |
| | Bluetooth | - | - | - | - | - | - |
| IN/OUT | Electronic outputs | 2 + 4 (1) | 2 + 4 (1) | 6 | 6 | 6 | 6 |
| | Digital inputs | 2 | 2 | 4 | 4 | 4 | 4 |
| | Analog output (0...5 Vdc, 0...10 Vdc, 0...20 mA, 4...20 mA) | - | ● | - | ● | - | ● |
| HARDWARE | dimensions (mm) (lxhxw - Large x hight x width) | 96 x 96 x 80 | | 144 x 72 x 129 | | 214 x 196 x 150 | |
| | Display | RED LED 13 mm | | RED LED 20 mm | | RED LED 20 mm | |
| | Waterproof keyboard / integrated traffic light | 5 keys / - | | 5 keys / - | | 20 keys / - | |
| | Case | ABS | | | | | |
| | Power supply | 12/24Vdc, 5W | | | | | |
| | Operating Temperature Range: Internal use / CE-M / Humidity | -20...+60°C / -10...+40°C / 85% | | | | | |
| | IP protection | IP40 front panel | | | | | |
| WEIGHING / OIML | Connectable load cells | up to 16 of 350Ω, 45 of 1000Ω | | | | | |
| | Conversions / Resolution / F.S. max of Display Screen | 3200Hz / 24 bit / ± 999999 | | | | | |
| | Converter / Number of scale inputs | 24 bit, 1 channel / 1 scale | | | | | |
| | Theoretical calibration (mV/V) | ● | | | | | |
| | OIML features | 3000e, 2x3000e, 6000e, 2x6000e, 10000e | | | | | |
| | OIML certifications | R76 / R61 - MID | | | | | |

(1) *with option (>> page 26)*

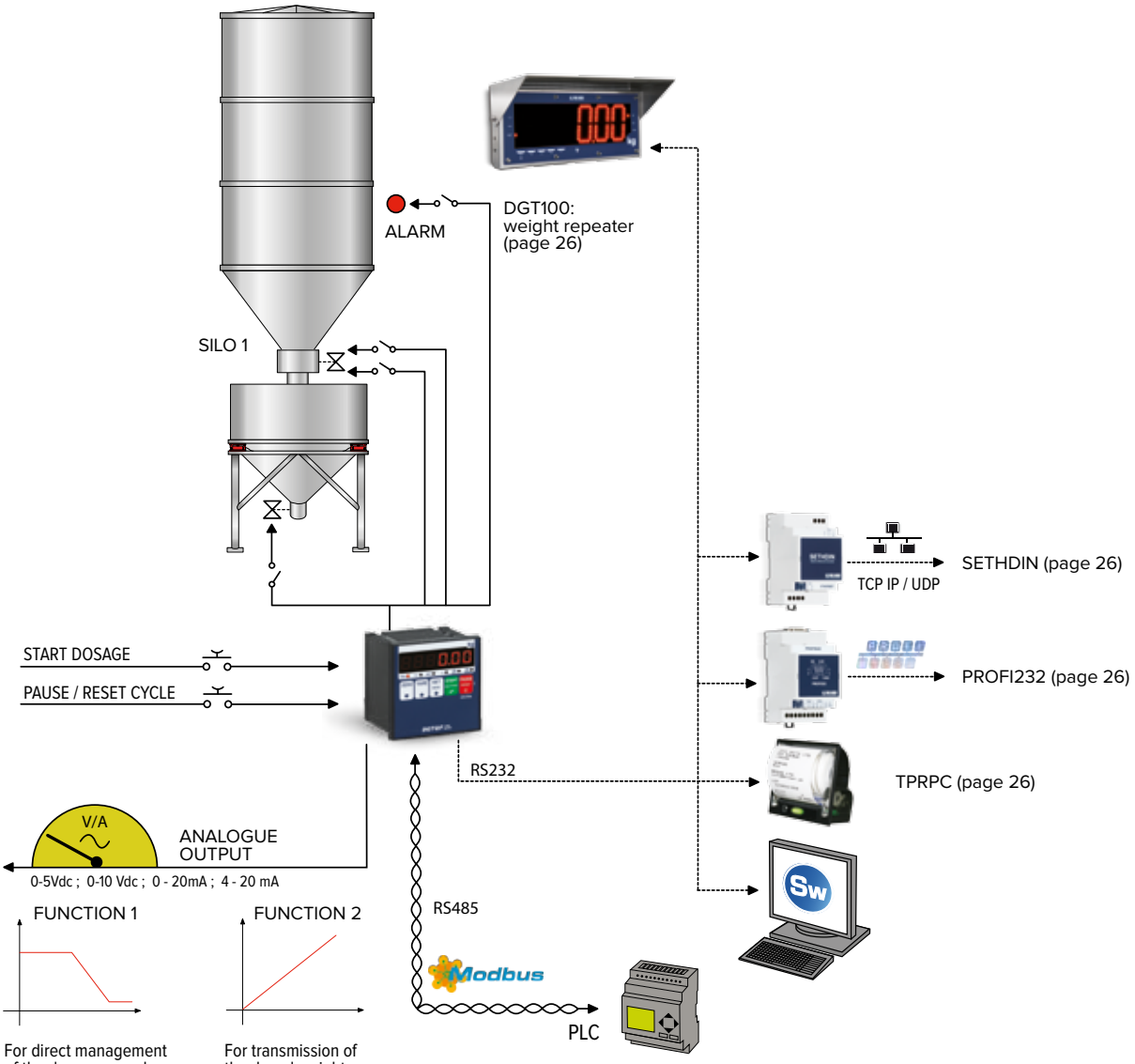
for andvanced **DOSAGE**, **PANEL** mounting

for advanced **DOSAGE**, **BENCH/WALL** mounting




| CPWE | 3590ETB | 3590ETT | 3590EGT |
|---|---|---|---|
| ● | ● | ● | ● |
| ● | ● | ● | ● |
| - | ● | ● | ● |
| ● | ● | ● | ● |
| ● | ● | ● | ● |
| ● | ● | ● | ● |
| ● | ● | ● | ● |
| ● | ● | ● | ● |
| o | o | o | o |
| ● | ● | ● | ● |
| o | o | o | o |
| o | o | o | o |
| o | o | o | o |
| o | o | o | o |
| o | o | o | o |
| ● | ● | ● | ● |
| o | o | o | o |
| 3 | 3 | 3 | 3 |
| o | o | o | o |
| o | o | o | o |
| o | o | o | o |
| o | o | o | o |
| 4 + 12 (1) | 4 + 12 (1) | 4 + 12 (1) | 4 + 12 (1) |
| 2 + 6 (1) | 2 + 6 (1) | 2 + 6 (1) | 2 + 6 (1) |
| o | o | o | o |
| 202 x 105 x 148 | 265 x 175 x 90 | 298 x 203 x 110 | 280 x 143 x 185 |
| graphic LCD | Touch screen 5,7” | Touch screen 5,7” | Touch screen 5,7” |
| 24 keys / - | - / - | - / - | 15 keys / ● |
| ABS/Aluminium | ABS/Stainless Steel | ABS/Stainless Steel | Stainless Steel |
| 12/24Vdc, 30W | 12/24Vdc, 50W | 230Vac, 50W | 230Vac, 50W |
| -20...+60°C / -10...+40°C / 85% | | | -20...+60°C / -10...+40°C / 85% |
| IP65 front panel | IP65 front panel | IP65 | IP68 |
| up to 16 of 350Ω, 45 of 1000Ω | | up to 16 of 350Ω, 45 of 1000Ω | |
| 3200Hz / 24 bit / ± 999999 | | 3200Hz / 24 bit / ± 999999 | |
| 24 bit, 4 channels / 4 indipendent scales | | 24 bit, 4 channels / 4 indipendent scales | |
| ● | | ● | |
| 3000e, 2x3000e,3x3000e, 6000e, 2x6000e, 10000e | | 3000e, 2x3000e,3x3000e, 6000e, 2x6000e, 10000e | |
| R76 / R61 - MID | | R76 / R51 - MID / R 134 | |

# SINGLE COMPONENT DOSAGE IN LOADING




**Example of dosage system using the DGTQF for loading routine**

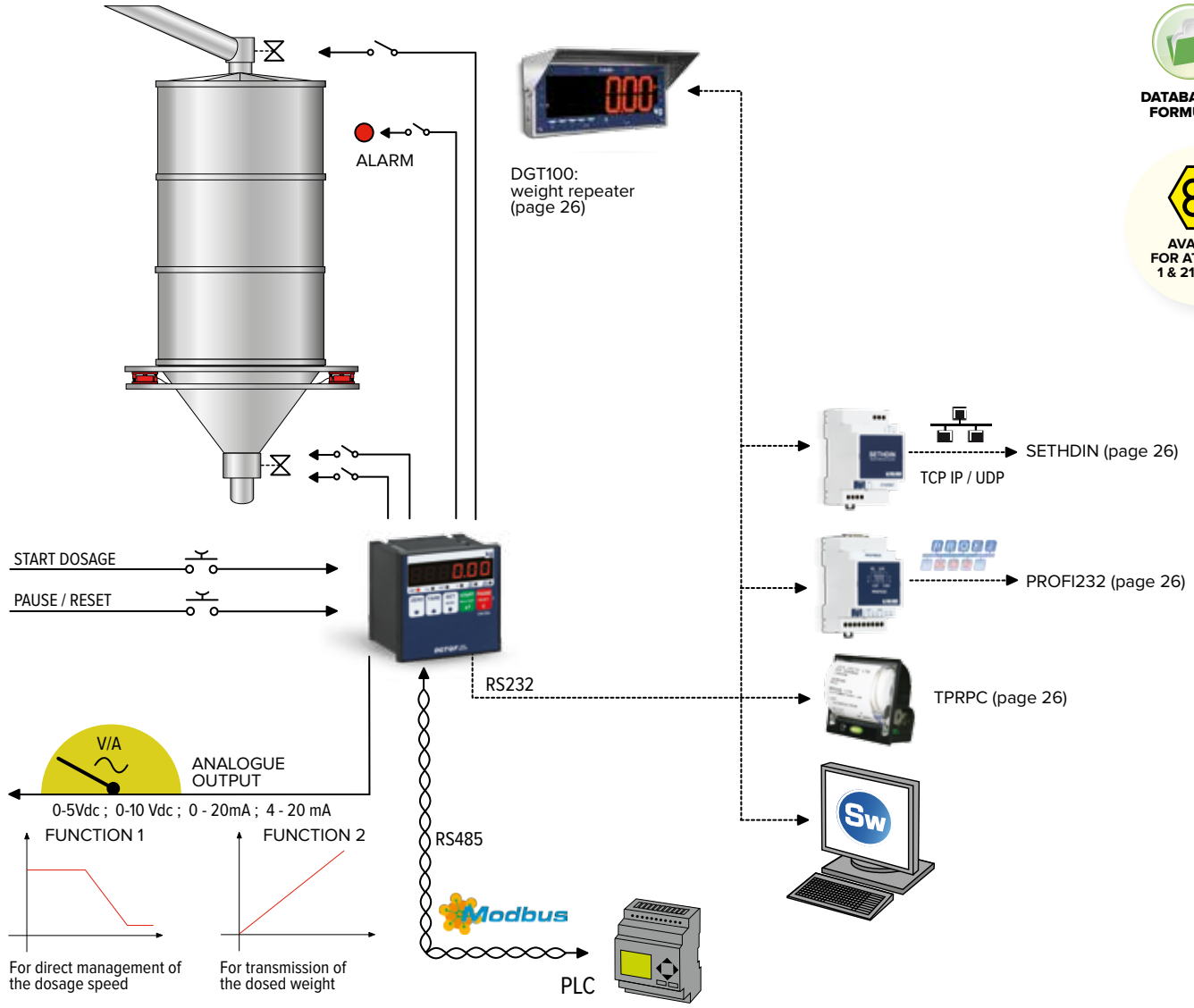
## FUNCTIONS
### OF THE STANDARD PROGRAM

- Automatic dosage in loading with dual speed.
- Quick change of the target to be dosed.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic printing of the dosage data.
- Recording and printing of the quantities.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.

## WORK CYCLE

1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slowed down through the dedicated output.
3. When the TARGET cutoff point is reached, the slow dosage output is disabled and then it waits (for the configured time) for the in-flight material to complete the cycle.
4. The dosed weight is then checked for tolerance and if correct added to the ingredient total and the overall machine total.
5. Completed discharging can be controlled through enabling of dedicated outputs.
6. End dosage or automatic restart for following cycle, with update of the ingredient and machine totals.

# SINGLE COMPONENT DOSAGE FOR DISCHARGE




**Example of dosage system for discharging with the DGTQF**

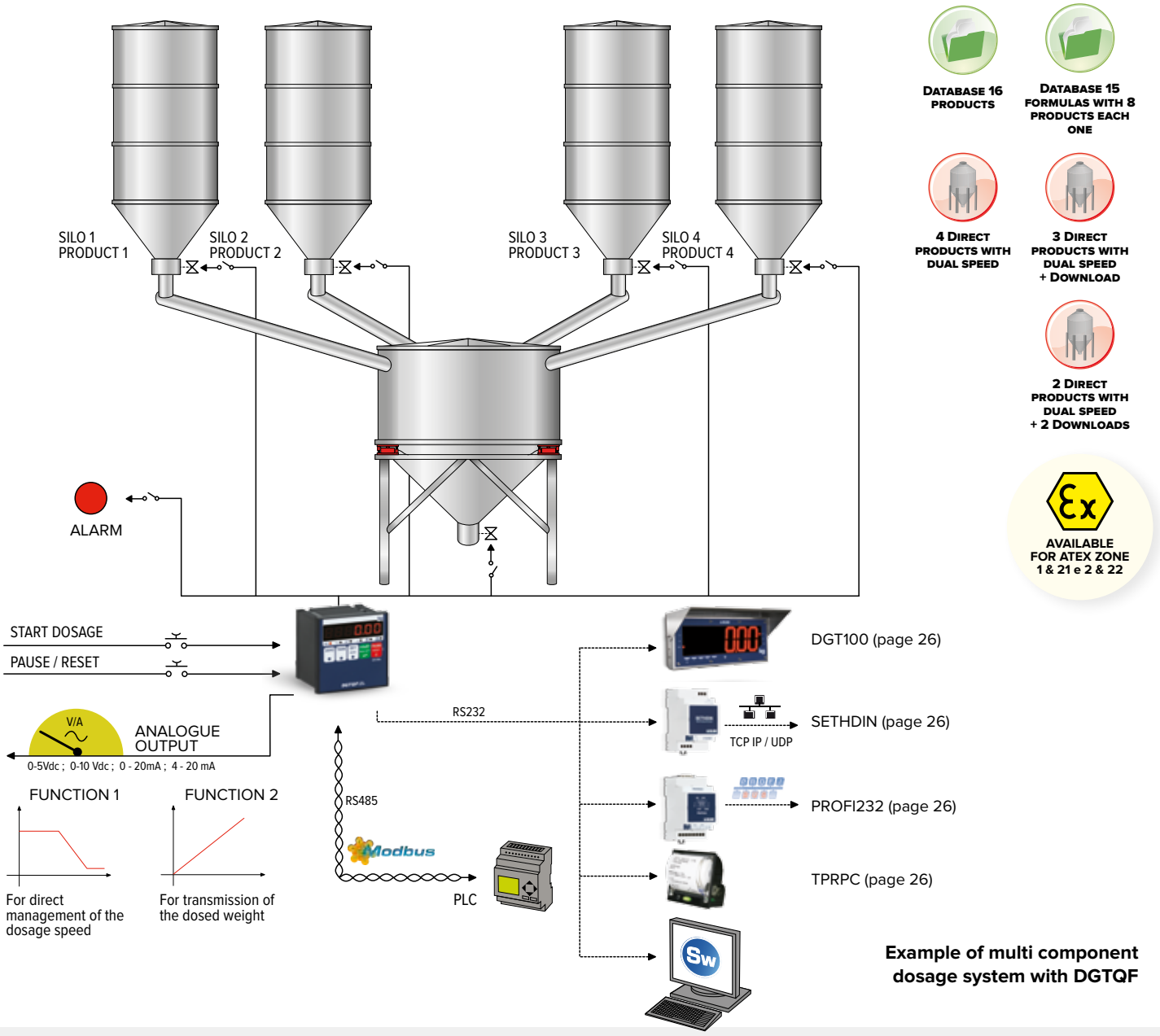
## FUNCTIONS
### OF THE STANDARD PROGRAM

- Automatic dosage for discharge with dual speed.
- Quick change of the target to be dosed.
- Automatic printing of the dosage data.
- Automatic management of the refilling of the silo using a dedicated contact.
- Recording and printing of the quantities.
- Automatic correction of in-flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, and replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for remote programming of new formulas.
- Quick interface with ETHERNET, PROFIBUS, WIFI, USB module, IN / OUT expansion.

## WORK CYCLE

1. Once the dosage start command is received, the instrument verifies that the quantity of material is sufficient to execute the programmed cycle. If the weight is sufficient, it executes the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.
3. When the TARGET cutoff point is reached, the slow dosage output is disabled and then it waits (for the configured time) for the in-flight material to complete the cycle.
4. The dosed weight is then checked for tolerance and if correct added to the ingredient total and the overall machine total.
5. Recharge of the silo up to the programmed threshold or automatically restarts with the following cycle.

# MULTI COMPONENT DOSAGE




**Example of multi component dosage system with DGTQF**

## FUNCTIONS
### OF THE STANDARD PROGRAM

- Database 16 products/phases.
- Database 15 formulas.
- Automatic management of 4 products in filling with dual speed, or 3 products in filling with dual speed and total discharging, or 2 products in filling and 2 discharging etc.
- Checking the presence of the tare at the dosage start.
- Automatic printing of the dosage data.
- Automatic correction of in-flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.

## WORK CYCLE

1. Once the dosage start command has been received, the following takes place:
   - the presence of the tare and weight stability is verified,
   - the execution of the automatic tare and the enabling of the automation through the dedicated outputs: the instrument executes the first phase of the formula.
2. Once the first phase is finished, the instrument automatically passes to the following phase, executing the automatic tare.
3. At the end of the last configured phase, the instrument enables the fine cycle contact and waits for the start of the new dosage, or automatically restarts with the following cycle.

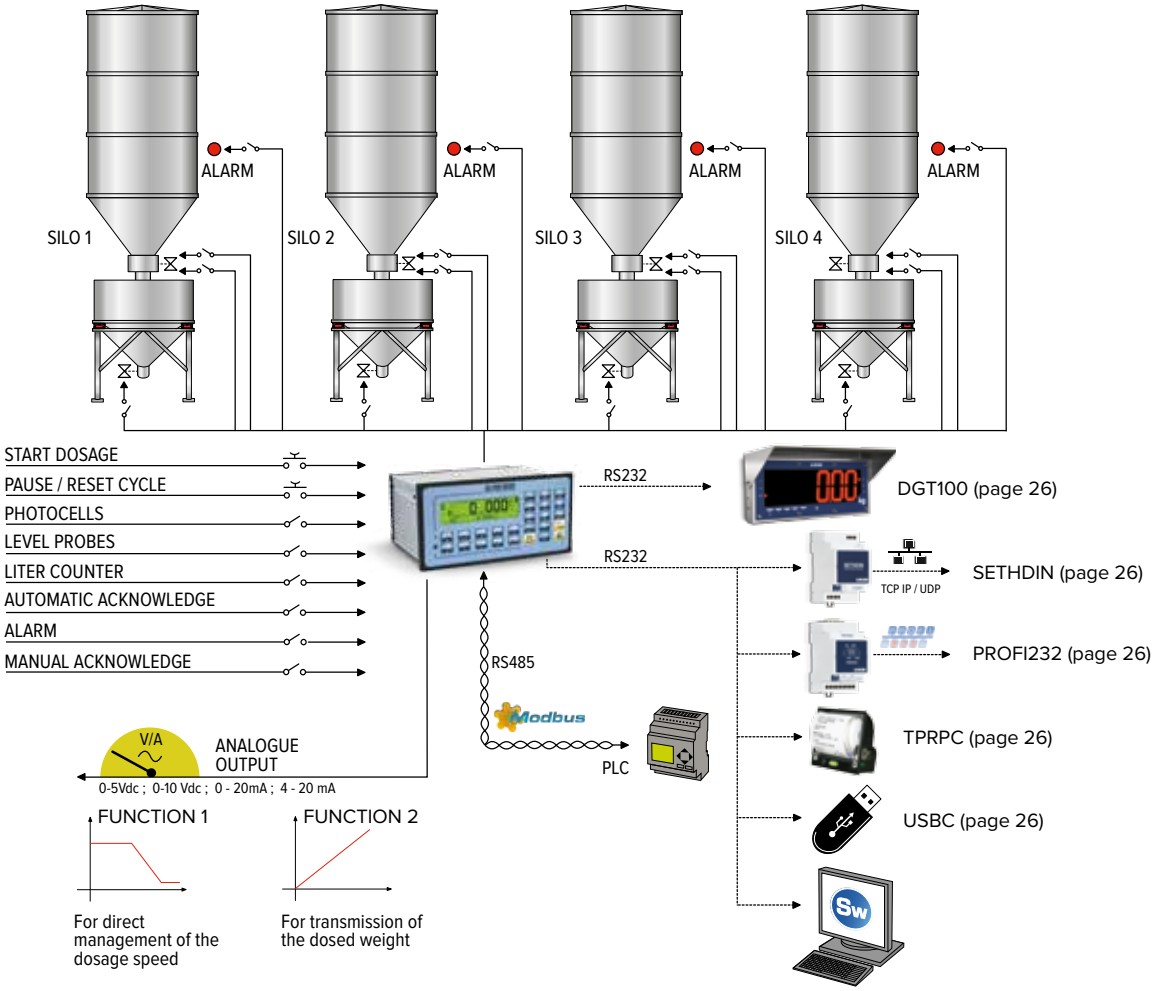
# SINGLE COMPONENT DOSAGE IN FILLING (UP TO 4 SILOS)

Dini Argeo offers a complete range of indicators for single component dosage filling, featured by high performances, easy-to-use and fitted with various functions.

The standard input/output allows you to create advanced automations directly managed from the indicator; the keyboard functions and the displayed data are completely customizable.
All indicators are approved for legal for trade use, according to EN45501, OIML R76.

DATABASE 500 FORMULAS

AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22




**Example of filling dosage system with CPWE**

## FUNCTIONS
### OF THE STANDARD PROGRAM

- Single component, multi scale dosage in filling with dual speed.
- Database 500 formulas which can be quickly recalled from keyboard and programmed from Dinitools.
- Quick change of the target to be dosed.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic printing of the dosage data.
- Recording and printing of the quantities.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.

## WORK CYCLE

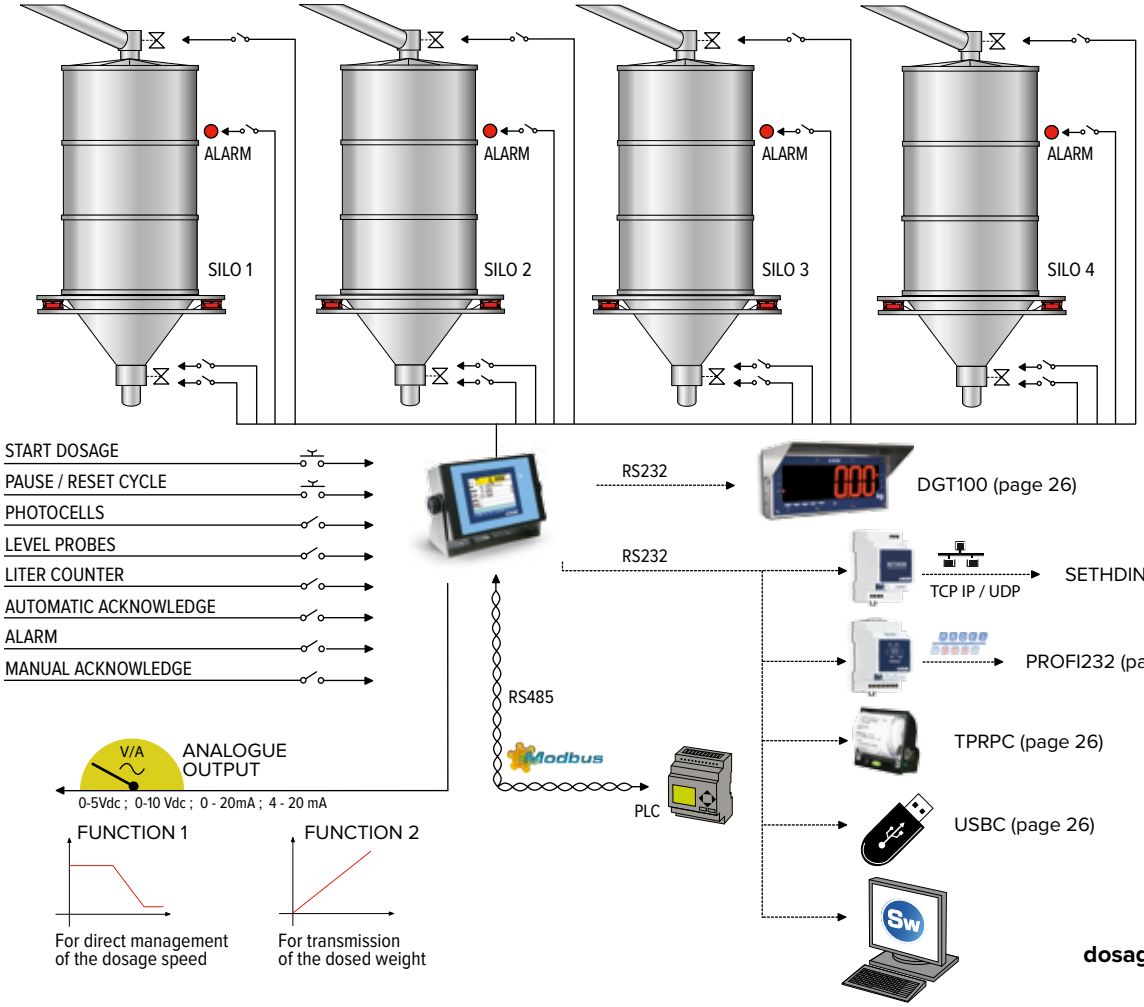
1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.
3. When the TARGET is reached and the configured flight weight is missing, the slow dosage output is disabled and then it waits (for the configured time) for the dropping of the material.
4. Tolerance test on the dosed weight, storage of the formula consumptions and increment of the dosed general total.
5. Complete unloading request, through enabling of dedicated output.
6. End dosage or automatic restart for following cycle, with increment of the consumptions and the totals.

# SINGLE COMPONENT DOSAGE IN UNLOADING (UP TO 4 SILOS)

Dini Argeo offers a complete range of indicators for single component dosage in discharging, featured by high performances, easy-to-use and fitted with various functions.

The standard input/output allows you to create advanced automations directly managed from the indicator; the keyboard functions and the displayed data are completely customizable.

All indicators are approved for legal for trade use, according to EN45501, OIML R76.




**Example of discharging dosage system with 3590ETT**

**DATABASE 500 FORMULAS**

**AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22**

## FUNCTIONS
### OF THE STANDARD PROGRAM

- Single component, multi scale dosage in unloading with dual speed.
- Database 500 formulas which can be quickly recalled from keyboard and programmed from Dinitools.
- Quick change of the target to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Digital or theoretical calibration and configuration from keyboard.
- Digital or theoretical calibration and configuration from PC via Dinitools, with the possibility of storing the setup of the instrument to backup, simplify the technical assistance, or replicate the same configuration on other instruments (OEM).
- Quick recalibration of the zero point.
- Dini Argeo protocol for programming the formulas at distance.

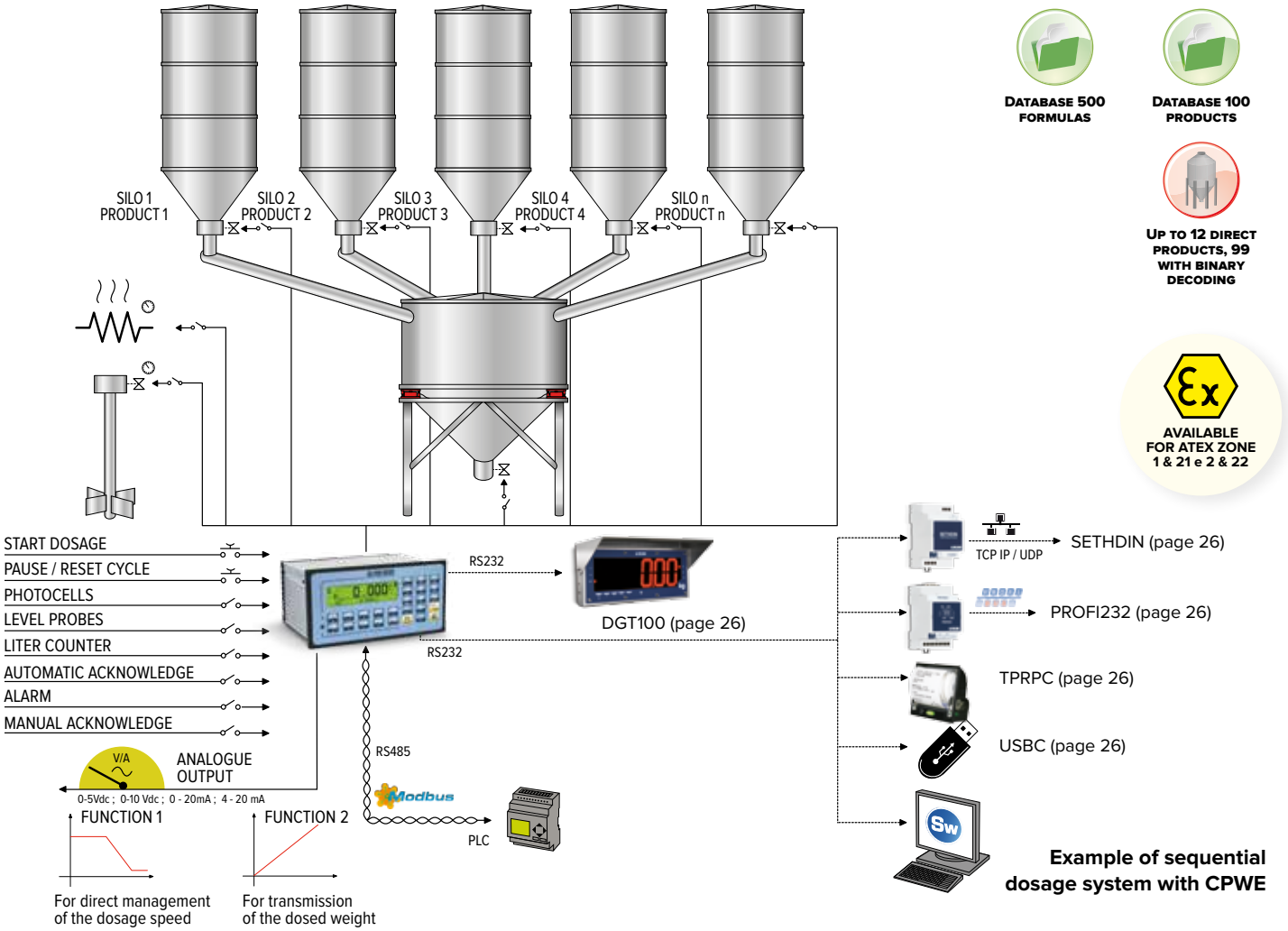
## WORK CYCLE

1. Once the dosage start command is received, the presence of the tare and weight stability is verified, with the execution of the automatic tare and the enabling of the automation through its dedicated outputs: the dosages start at maximum speed.
2. Once the speed change threshold is reached, the dosage is slow down through the dedicated output.
3. When the TARGET is reached and the configured flight weight is missing, the slow dosage output is disabled and then it waits (for the configured time) for the dropping of the material.
4. Tolerance test on the dosed weight, storage of the formula consumptions and increment of the dosed general total.
5. End dosage or automatic restart for following cycle, with increment of the consumptions and the totals. Possible automatic recharge of the silo through a dedicated relay.

# MULTI-PRODUCT SEQUENTIAL DOSAGE

Dini Argeo offers a complete range of advanced indicators for the sequential automatic dosage with various products (up to 100). The basic functioning provides a quick and easy programming of formulas which recall sequentially the dosage activities at two speeds and the discharging activities of the final mixture, with the possibility of a time management of the mixers or burners in parallel to the dosage activity.

Thanks to the great configurability and integrated development area, one can completely customize the dosage cycle and the keyboard functions according to one's needs, adapting the instrument to every application.




**Example of sequential dosage system with CPWE**

## FUNCTIONS
### OF THE STANDARD PROGRAM

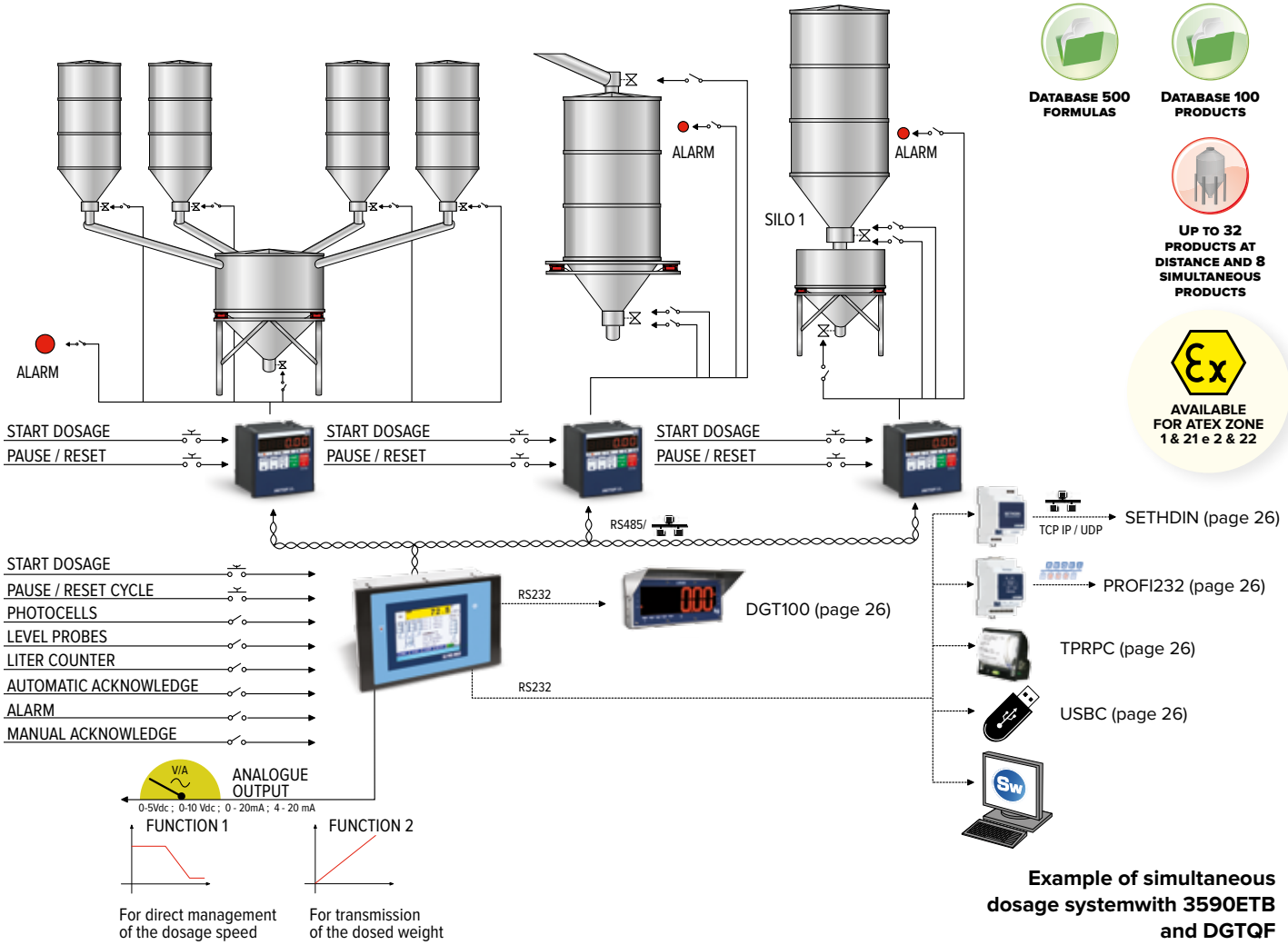
- Management of the dosage on various scales (up to 4 independents), with automatic change of the scale during the dosage.
- Database 100 products/activities.
- Database 500 formulas; each formula contains 20 products/activities.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic recalculation of the formula targets, by entering the total weight to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities with quick recall of the printouts from keyboard.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

## WORK CYCLE

1. Once the dosage start command has been received, the following takes place:
   - the presence of the tare and weight stability is verified,
   - the execution of the automatic tare and the enabling of the automation through the dedicated outputs: the instrument executes the first phase of the formula.
2. Once the first phase is finished, the instrument automatically passes to the following phase, executing the automatic tare.
3. At the end of the last configured phase, the instrument enables the fine cycle contact and waits for the start of the new dosage, or automatically restarts with the following cycle.

# SIMULTANEOUS MULTI-PRODUCT DOSAGE/BATCHING PLANTS

This application is realized by using a BATCHING main indicator connected in a RS485 network with two or more FILLING indicators, each one able to manage the dosage of one or more products. The main advantages of this application are the execution speed of the formula, thanks to the simultaneous dosage of various products, and the system modularity, which can be implemented in any moment with new modules. The dosage formulas are contained in the main control unit, while the dosage of each single product is inside the system. In this way, each remote indicator can be managed also in manual mode out of the dosage cycle.




**Example of simultaneous dosage systemwith 3590ETB and DGTQF**

# FUNCTIONS
## OF THE STANDARD PROGRAM

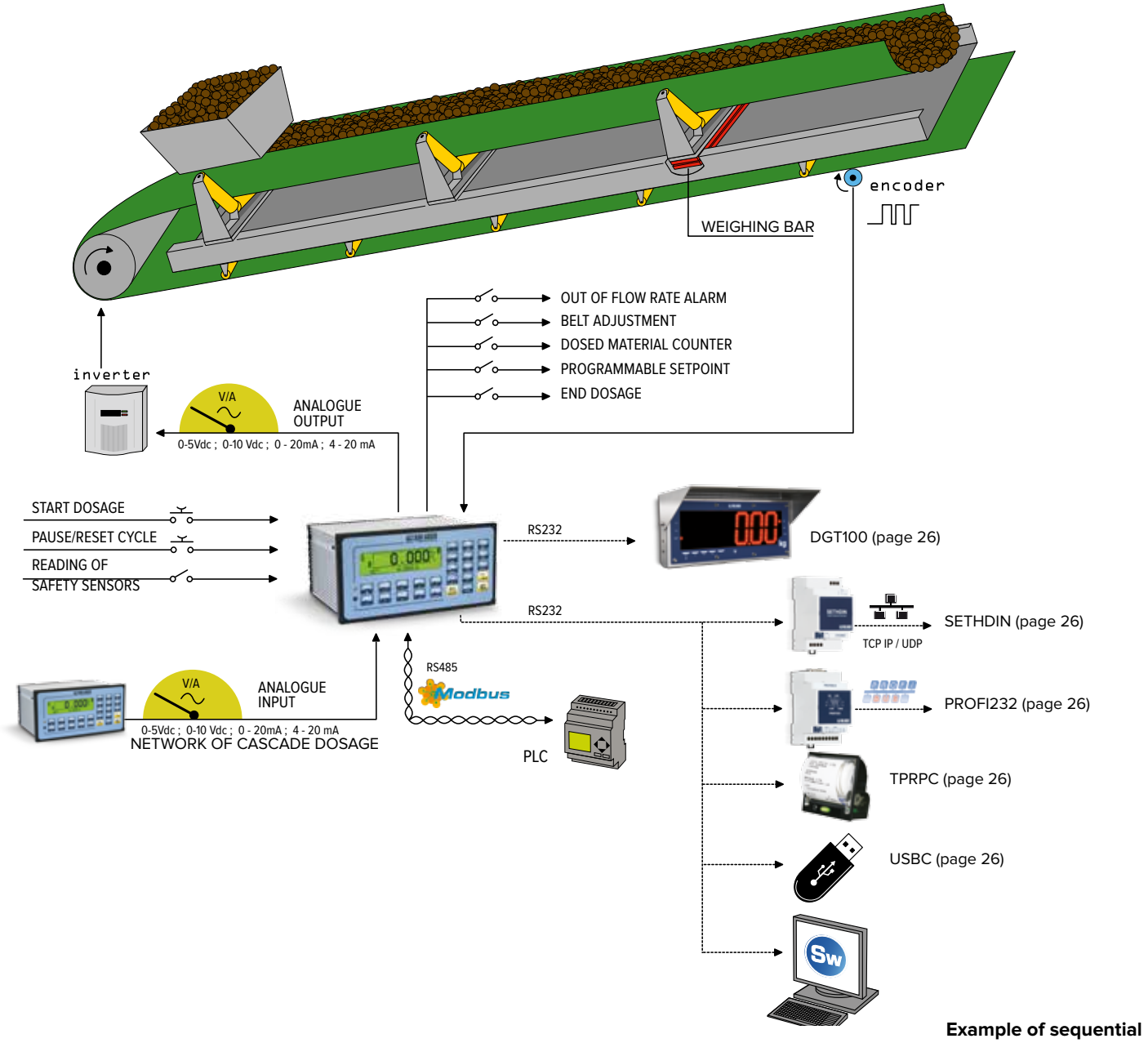
- Management of the dosage on various scales (up to 4 independents), with automatic change of the scale during the dosage.
- Database 100 products/activities.
- Database 500 formulas; each formula contains 20 products/activities.
- Checking of the tare presence at the dosage start; the tare values are programmable for each formula.
- Automatic recalculation of the formula targets, by entering the total weight to be dosed.
- Automatic printing of the dosage data.
- Recording and printing of the quantities with quick recall of the printouts from keyboard.
- Automatic correction of flight weight.
- Programmable repetitions of the dosage cycles / infinite cycle function.
- Tolerance test on the dosed weight, with guided correction on display.
- Check of the maximum dosage time.
- Alarms indication on display.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

# WORK CYCLE

1. Once the dosage start command has been received, the main control unit commands the dosage of each component, by sending specific commands to remote indicators interested.
2. During the dosage, the main control unit checks in real time each indicator, by alerting the operator about faults. Each indicator doses simultaneously to the others.
3. At the end of the dosage, the check on each dosed weight is executed and it is possible to communicate all the data to PC or print the total report.

# **BELT:** CONTINUOUS DOSAGE ON BELT

Dini Argeo offers solutions for conveyor belts, for the real-time weighing and dosage of the material in transit.
The system is made up of one or more weighing bars / load cells, connected to the main weight indicator, which can read and adjust the hourly flow rate of the material flow and automatically stop the dosage once the programmed set point is reached.
Thanks to the Modbus RTU and Profibus DP protocol, it is possible to interface the system with a PLC, or via Ethernet interface, connect it to the information company network.



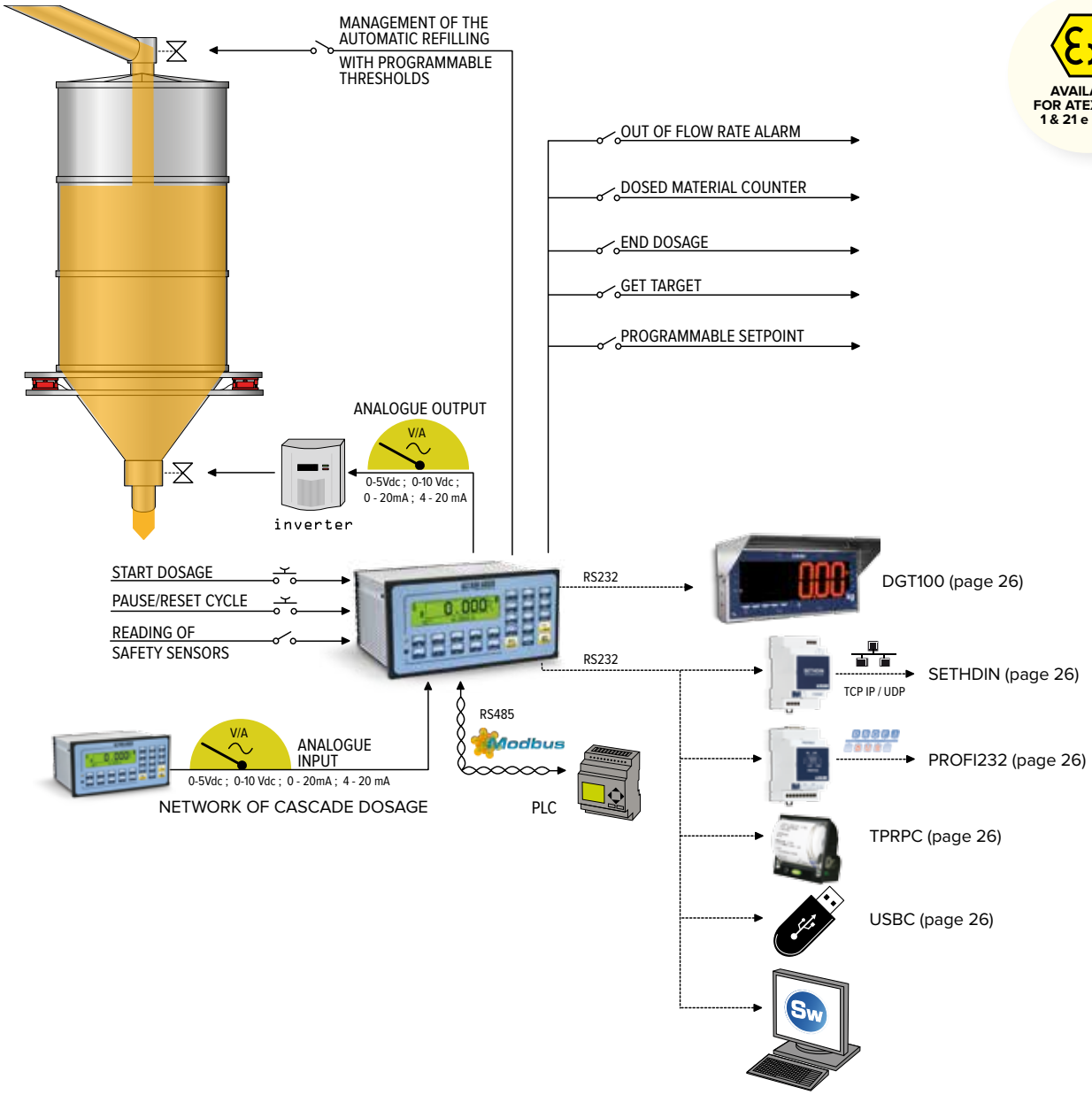

**Example of sequential dosage system with CPWE**

# FUNCTIONS
## OF THE STANDARD PROGRAM

- 2 selectable operation modes:
  - Instantaneous reading of the flow, in kg/h or t/h with displaying of the status of the system and of the dosed total.
  - Adjustment of the dosage hourly flow, in function of the pre-set target, with PID algorithm.
- Display of the hourly flow graph and wide range of data displayed on the display.
- Calibration of the flow reading function, for controlling the dosage performances.
- Reading filter of the hourly flow with configurable incidence and speed depending on the system.
- Programmable dosage target upon weight or upon time, with relative contact.
- Programmable start dosage delay, for synchronisation of various E-BELT systems in the dosage of material mixtures.
- Management of the slow flow with programmable activation threshold, for more precise dosages.
- Management of the dosage total under way and general total of dosages, printable and clearable independently from each other.
- Management of the automatic dosage from remote master or through Profibus DP or Modbus RTU protocol.
- Printing of the dosage data and the total.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

# **LW:** CONTINUOUS DOSAGE IN UNLOADING

Software version for the measurement/ integration of the weight, the flow of material exiting from silos, tanks, or hoppers, with recording of the quantity of dosed material; possibility of adjusting the flow through the 16 bit analogue output and the PID control. Option of the remote management of the instrument through Modbus RTU or Profibus protocols.




AVAILABLE FOR ATEX ZONE 1 & 21 e 2 & 22

## FUNCTIONS
### OF THE STANDARD PROGRAM

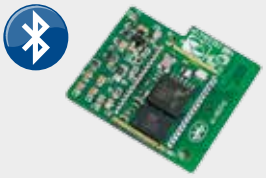
- 2 selectable operation modes:
  - Instantaneous reading of the flow, in g/h, kg/h or t/h with displaying of the status of the system and of the dosed total.
  - Adjuster of the dosage hourly flow, in function of the pre-set target, with PID algorithm.
- Display of the hourly flow graph and wide range of data displayed on the display.
- Calibration of the flow reading function, for perfecting the dosage performances.
- Reading filter of the hourly flow with configurable incidence and speed depending on the system.
- Programmable dosage target upon weight or upon time, with relative contact.
- Programmable delay at the start, for synchronisation of various E-LW systems in the dosage of material mixtures.
- Management of the slow flow with programmable activation threshold, for more precise dosages.
- Management of the dosage total under way and general total of dosages, printable and clearable independently from each other.
- Management of the automatic dosage from remote master or through Modbus RTU or Profibus protocols.
- Printing of the dosage data and the total.
- Completely programmable printouts, for compatibility with any ASCII printer manageable through the serial port.

**THE FUNCTIONS OF THE WEIGHT INDICATORS CAN BE EXTENDED**
THANKS TO THE WIDE RANGE OF AVAILABLE ACCESSORIES

# INTERFACE, EXPANSIONS AND ACCESSORIES

## ETH
**Ethernet interface**

| | |
|---|---|
| Network interface | 10/100 Base-T |
| Protocols | TCP, UDP, DHCP, SNMP, SSL 3.0/TLS 1.0, HTTP, SMTP, ICMP, IGMP, ARP |



## BLTH
**Bluetooth interface**

| | |
|---|---|
| Class | 2 |
| Maximum working distance (in optimal conditions) | 10m |
| Transmission speed | 9600 baud/300 kbps |
| Standard bluetooth | 2.0 + EDR |

## DAC160
**Analogue output**

| | |
|---|---|
| Configurations | 0..5Vdc / 0..10Vdc / 0..20mA / 4..20mA |
| Resolution / Precision | 16 bit / 0,08% F.S. |
| Update frequency | 50Hz |

## WIFIT
**Wi-Fi interface**

| | |
|---|---|
| Type | WiFi IEEE 802.11b |
| Capacity | 70m outdoor - 30m indoor |
| Frequency | 2.4 GHz |
| Data Rate | 11 Mbps con automatic fallback |
| Protocols and functioning modes | foreseen by the IEEE 802.11b, including WEP (criyptography) |

## ADC16I
**Analogue input**

| | |
|---|---|
| Configurations | 0..5Vdc / 0..10Vdc / 0..20mA / 4..20mA |
| Resolution / Precision | 16 bit / 0,08% F.S. |
| Reading speed | 100Hz |

## SETDIN
**Ethernet / RS485 / RS232 Converter for DIN bar**

| | |
|---|---|
| Ethernet protocols | TCP, UDP, DHCP, SNMP HTTP, SMTP, SSL 3.0/TLS 1.0, ICMP, IGMP, ARP. |
| Ethernet network interface | 10/100 Base-T |
| Ethernet communication speed | 10-100Mbps |
| Operating temperature | -10..+50°C |

## DGT100R
**Universal weight repeater**

| | |
|---|---|
| Case | Stainless steel IP68 |
| Display | 100mm very bright red SMD LEDs |

## PROFI232
**RS232 / PROFIBUS DP Converter for DIN bar**

| | |
|---|---|
| Power supply | 12/24Vdc - 12W |
| Speed | 9,6 Kbit/s..12Mbit/s |
| Input | RS232 |
| Output | Profibus DP slave (IEC 61158) |

## RSCBUSB
**USB 2.0 interface**

| | |
|---|---|
| interface support | UART for 7 or 8 data bits, 1 or 2 stop bits and odd / even / mark / space / no parity |

## USBDIN
**RS485 / RS232 Converter for DIN bar**

| | |
|---|---|
| Input | RS232 o RS485 |
| USB port for data storing, more than 5.000.000 weighs | |
| Remote data reading by serial communication | |

## OBRF232
**Radio frequency module 868 MHz**

| | |
|---|---|
| Power supply | external power supplier |
| Input signal | RS232 |
| Case | ABS IP65 120x80x55mm |
| Cable | RS232, 3m long |

## USBC
**USB memory with extractable key**

| | |
|---|---|
| Recording weighs | up to 5.000.000 |
| Recording format | Text (.txt) or Excel (.csv) |

## TPRPC
**Thermal printer for panel mounting**

| | |
|---|---|
| Paper width / Roll max. diameter | 58mm / 50mm |
| Print speed | up to 50mm/sec |
| Resolution | 203 dpi |

## PROFIBUS1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | Profibus DP |

## WIFI1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | WiFi |

## ETHERCAT1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | EtherCat |

## ETHERNET1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | Ethernet TCP/IP - UDP |

## PROFINET1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | ProfiNet |

## DEVICENET1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | DeviceNET |

## CANOPEN1S

| | |
|---|---|
| Input | RS485 (Quick Connect) or RS232 |
| Output | CanOpen |

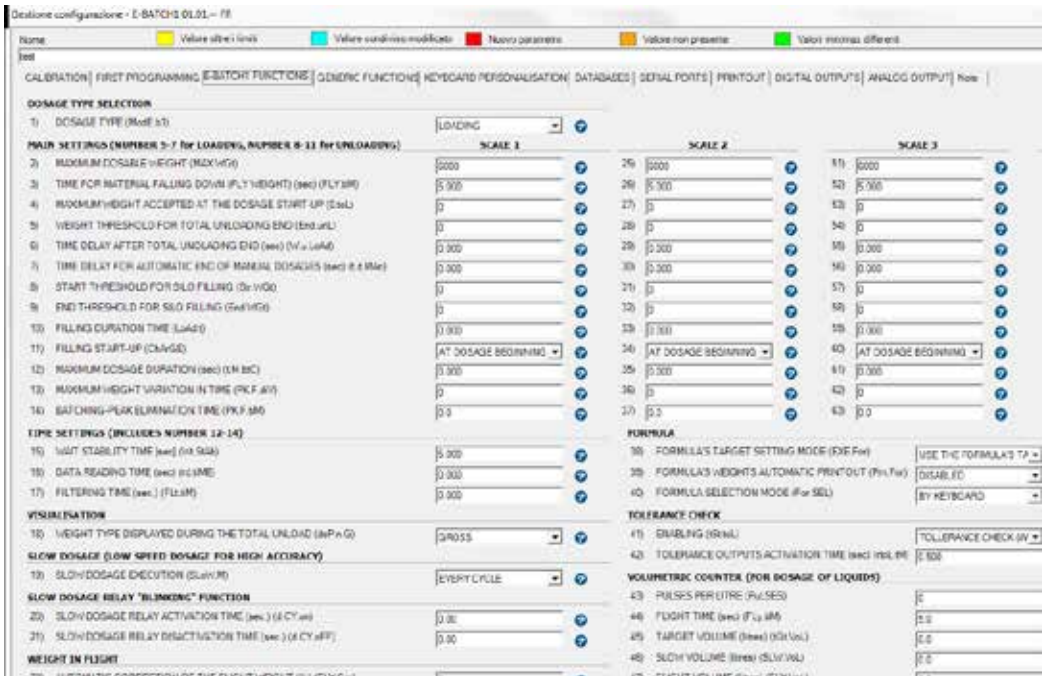
## QUICK CONNECT

Thanks to the “quick connect” system, available on the SLIM case devices, the connection between modules is faster and easier.

## PC SOFTWARE FOR CONFIGURING
THE WEIGHT INDICATORS

# DINITOOLS

- Management of the customers and designers systems databases, with recording of attachments, pictures, etc.
- Recording of the current configuration of the designed system to simplify and speed up any future replies.
- Calibration of the scale with use of the sample weights, with up to 8 linearisation points.
- Theoretical calibration, by entering the data of the system to be made.
- Pre-calibration of the indicator's electronic card.
- Digital equalization.
- Modify/send/receive all the set-up parameters of the connected scale, with the subsequent recording of the executed configuration.
- Quick and easy compilation of the databases.
- Customization of the printout layout.






## SOFTWARE FOR MANAGING THE WEIGHTS
FROM DINI ARGEO SCALES

# WEIMONITOR

WeiMonitor is our PC program which allows you to monitor and record in real time all the weights made on the connected scale, storing them in a text or Excel file for further processing.

**WEIGHING**
AND **DOSAGE SYSTEMS**

INDUSTRY · LOGISTICS · BUILDING · BOATYARD · WOOD INDUSTRY · FUELS

# LOAD CELLS and MOUNTING KITS

Dini Argeo offers a complete range of high quality load cells and mounting kits, manufactured with the latest technology ensuring accuracy and reliability.

### HIGH QUALITY MATERIALS

The load cells and assembly kits, offered by Dini Argeo, are made of electro-polished stainless steel.

### COMPACT SIZES

The kits are designed for an easy installation at the bottom of the silos, hoppers, tanks, minimizing the change in the overall height of the system.

**OIML R60**

Each load cell is made according to the specifications indicated on the OIML R60.

The SBX, DSBI, FXC, FXD, SP, SPS and ST load cells are also approved for legal for trade use.

### OVERLOAD-PROOF SCREW JACKS

The overload-proof screw jacks are essential for quickly installing / replacing the load cell and ensuring the maximum protection during the transport, even if already installed.

### IP68 PROTECTION DEGREE

The load cells are hermetically protected from dust, water and moisture, suitable for use in harsh industrial environments or with strict hygiene requirements.

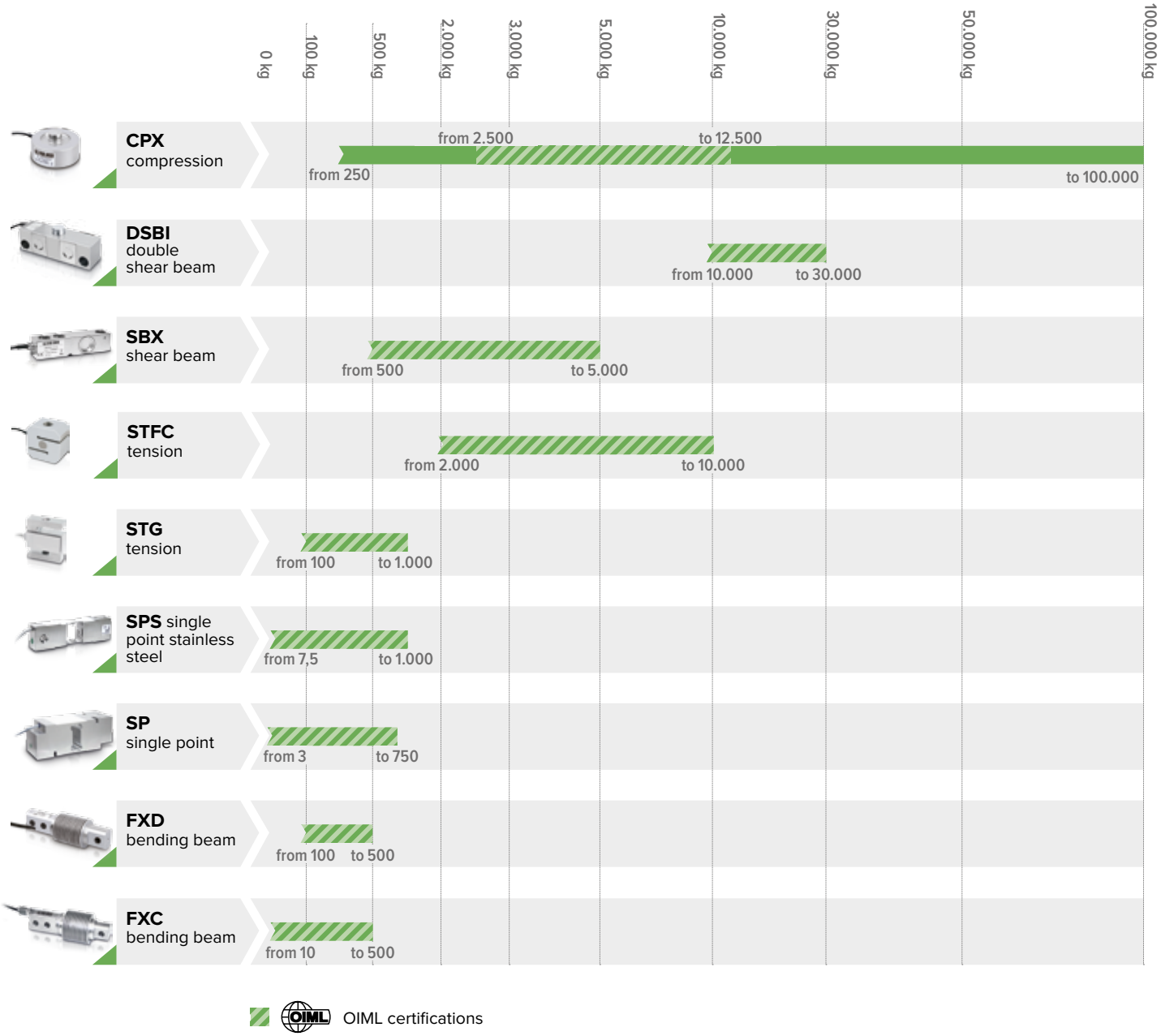
## THE RANGE

**SBX**
Shear Beam

**CPX**
Compression

**DSBI**
Double Shear Beam

# LAOD CELLS
## CAPACITIES

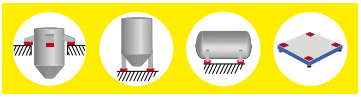



**FXC•FXD**
Bending Beam

**SP•SPS**
Single Point

**ST**
Tension

# SHEAR BEAM LOAD CELLS
FROM 500 TO 5000 kg



# SBX

High performance, stainless steel shear beam load cells, extremely robust and resistant, with IP68 protection classification.

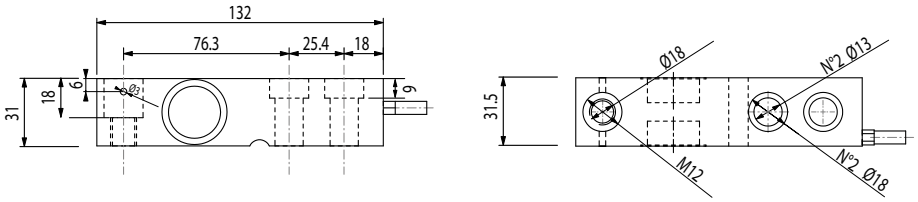
Particularly suitable for creating CE-M approved 4-cell scales with medium capacity, and for weighing tanks, silos, and hoppers, thanks to the KSB and KSBN assembly kits.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

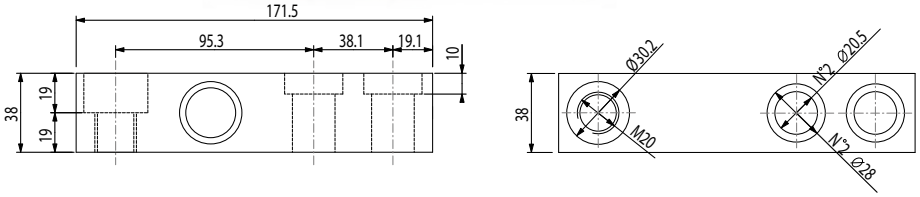
## SBX FROM 500 TO 2000 kg

CE M Ex IP68 INOX


## SBX FROM 3000 TO 5000 kg

CE M Ex IP68 INOX




### TECHNICAL FEATURES

| | |
|---|---|
| Accuracy class | C3 |
| Protection classification | IP68 |
| Construction | 17-4 PH stainless steel |
| Minimum load cell verification interval (Vmin) | EMax/10000 |
| Maximum number of verification intervals | nLC=3000 |
| Combined error of Full Scale Output (F.S.) | 0.017% |
| Full Scale Output | 2mV/V ± 0.5% |
| Temperature effect on zero | 0.002% / °C |
| Temperature effect on full scale output | 0.002% / °C |
| Compensated Temperature | -10°C / +50°C |
| Operating Temperature | -20°C / +60°C |
| Creep error after 30 minutes | 0.02% F.S |
| Maximum tolerated excitation voltage | 15 Vdc |
| Input Resistance | 1100 ± 20 Ohm |
| Output Resistance | 1000 ± 20 Ohm |
| Insulation Resistance | >5000 MOhm |
| Safe Overload | 150% F.S |
| Ultimate Overload | >300% F.S |
| Shielded cable | 5m, Ø 5mm / 6-wire |

| Code | Max capacity (kg) |
|---|---|
| **SBX500-1K / 1000-1KL / 2000-1KL** | 500 / 1000 / 2000 |
| **SBX3000-1K / 5000-1KL** | 3000 / 5000 |

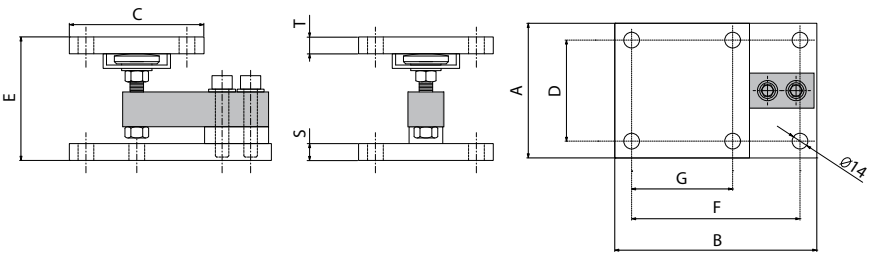
# **KSB:** ASSEMBLY KIT FOR SHEAR BEAM LOAD CELLS

Assembly kits for SBX series shear beam load cells, suitable for creating high-capacity weighing platforms, or for weighing silos, hoppers, horizontal or vertical tanks with a medium or large size.

- The special articulation ensures excellent measurement accuracy even with an expanded or bent structure to be weighed.
- Adjustable height for an optimal leveling of the structure to be weighed.

- **KSB2 AND KSB5 VERSIONS: EXECUTION IN AISI304 STAINLESS STEEL WITH HINGE ADJUSTABLE IN HEIGHT**
- **KSBN2 VERSION: EXECUTION IN GALVANIZED STEEL WITH SPHERICAL JOINT**
- **MECHANICAL COMPENSATION OF THERMAL SWELLINGS AND TRANSVERSAL FORCES**

KSB


KSBN

| Code | Max capacity (kg) | Dimensions (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | S | T |
| **KSBN2** | from 500 to 2000 | 120 | 180 | 120 | 90 | 127,5 | 150 | 90 | 20 | 10 |
| **KSB2** | from 500 to 2000 | 120 | 180 | 120 | 90 | 110 | 150 | 90 | 15 | 15 |
| **KSB5** | from 3000 to 5000 | 120 | 215 | 120 | 90 | 150 | 185 | 90 | 25 | 15 |

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION:**
ATEX II 1G Ex ia IIC T6 (Ta -20÷+40°C) TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C (Ta -20÷+40°C) TX°C (Ta -20÷+65°C) Da IP65

# **SBFI:** ARTICULATED FOOT FOR HIGH RESOLUTION

Stainless steel articulated feet designed in order to obtain the best weighing performances, particularly suitable for creating scales with 4 load cells. Extremely compact and easy to install, the feet minimize the height of the platform and ensure a perfect decoupling of the lateral forces during the weighing operation.

INOX AISI 304

SBFI

SBFI3K

- **COMPLETELY AISI304 STAINLESS STEEL CONSTRUCTION**
- **BUILT-IN NON-SLIP RUBBER**
- **FITTED WITH ANTI-VIBRATION GASKET**
- **EXTERNAL TREATMENT RESISTANT TO CORROSION**

| Code | Max capacity (kg) |
|---|---|
| **SBFI** | from 500 to 2000 |
| **SBFI3K** | from 3000 to 5000 |

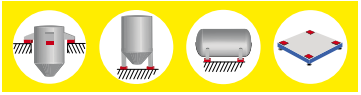
# **PLX:** CELL KITS FOR ASSEMBLING FLOOR SCALES

The kit is made up of four SBX load cells together with hypersanitizable adjustable mounting feet and a junction box with a built-in equalisation board. Suitable for creating various sizes and capacities scales, connectable to any type of weight indicator.

| | |
|---|---|
| **Load cells** | • **17-4PH stainless steel**<br>• **C3 class**<br>• **IP68 protection** |
| **Leveling feet** | • **stainless steel**<br>• **adjustable height**<br>• **anti-slip rubber** |
| **Junction box** | • **ABS**<br>• **IP67 protection**<br>• **5 fairleads** |

| Code | Provided cell |
|---|---|
| PLX1K405C3 | SBX500-1K |
| PLX1K410C3 | SBX1000-1K |
| PLX1K420C3 | SBX2000-1K |

# **COMPRESSION** LOAD CELLS
FROM 250 TO 100.000 kg



# CPX

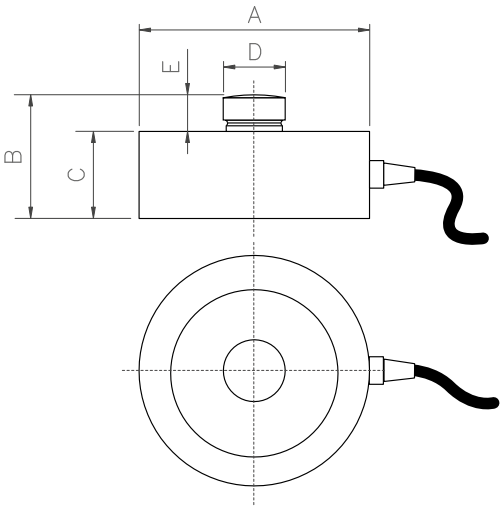
Stainless steel load cells with IP68 protection classification, suitable for use in industrial environments.

- Ensure a high performance and an excellent resistance to great stress.
- Particularly suitable in the foodstuff and chemical industries, in industrial process and automation, for the weighing of tanks, hoppers, and silos.
- Quick and simple installation / replacement of the load cells thanks to the KCPN assembly kit.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP68


OIML | Ex | IP68 | INOX




## TECHNICAL FEATURES

| | |
|---|---|
| Accuracy class | C3 |
| Protection classification | IP68 |
| Construction | 17-4 PH stainless steel |
| Combined error of Full Scale Output (F.S.) | 0.2% |
| Full Scale Output | 2mV/V ± 0.5% |
| Temperature effect on zero | 0.02% / 10°C |
| Temperature effect on full scale output | 0.02% / 10°C |
| Compensated Temperature | -10°C / +50°C |
| Operating Temperature | -20°C / +60°C |
| Creep error after 30 minutes | 0.02% F.S |
| Maximum tolerated excitation voltage | 10 Vdc |
| Input Resistance | 750 ± 10 Ohm |
| Output Resistance | 700 ± 5 Ohm |
| Insulation Resistance | >5000 MOhm |
| Safe Overload | 120% F.S |
| 4-wire shielded cable, Ø 5mm | • 5m (CPX 250 ... 5000)<br>• 10m (CPX 7500 ... 100000) |

| Code | Max capacity (kg) | Dimensions (mm) | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| **CPX250 / 500 / 1000** | 250 / 500 / 1000 | 82 | 44 | 32 | 22 | 12 |
| **CPX2500 / 5000 / 7500 / 10000 / 12500** OIML | 2500 / 5000 / 7500 / 12500 | 82 | 44 | 32 | 22 | 12 |
| **CPX15000** | 15000 | 100 | 47 | 35 | 28 | 12 |
| **CPX30000** | 30000 | 126 | 54 | 40 | 35 | 14 |
| **CPX50000** | 50000 | 165 | 80 | 60 | 60 | 20 |
| **CPX100000** | 100000 | 165 | 80 | 60 | 60 | 20 |

# **KCPN:** ASSEMBLY KIT FOR COMPRESSION LOAD CELLS

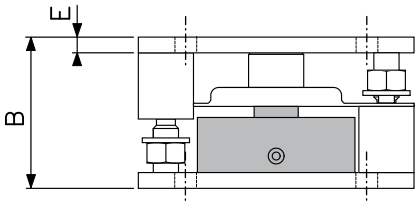
Assembly kits for CPX series compression load cells, suitable for weighing silos, hoppers, horizontal or vertical tanks with a medium to large size or high-capacity weighing platforms.

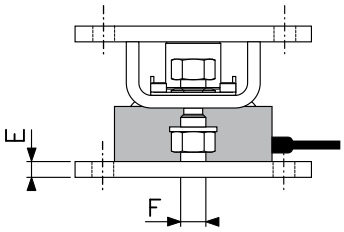
- Designed to ensure the correct functioning of the load cell and to ensure the optimum weighing accuracy and high measure reliability over time.
- Simple installation / replacement of the load cells even when the kit is already installed.

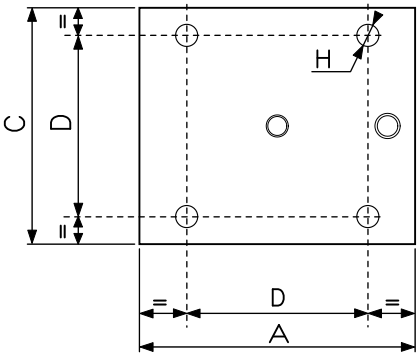
- **ESECUZIONE IN ACCIAIO INOX AISI304**
- **ELEVATA RESISTENZA A FORZE LATERALI**
- **MARTINETTI DI SOLLEVAMENTO PER FACILE INSTALLAZIONE E/O SOSTITUZIONE CELLA**
- **LAMINA AUTOCENTRANTE DI COLLEGAMENTO TRA PIASTRA INFERIORE E PIASTRA SUPERIORE**


**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

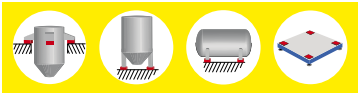



| Code | Max capacity (kg) | Dimensions (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | H |
| **KCPN10** | from 250 to 10000 | 175 | 96 | 150 | 115 | 10 | M16 | Ø 14 |
| **KCPN15** | 15000 | 175 | 96 | 150 | 115 | 10 | M16 | Ø 14 |
| **KCPN30** | 30000 | 230 | 118 | 200 | 160 | 10 | M20 | Ø 17 |
| **KCPN100** | from 50000 to 100000 | 320 | 154 | 320 | 250 | 15 | M30 | Ø 23 |

# **DOUBLE SHEAR BEAM** LOAD CELLS FROM 10.000 TO 30.000

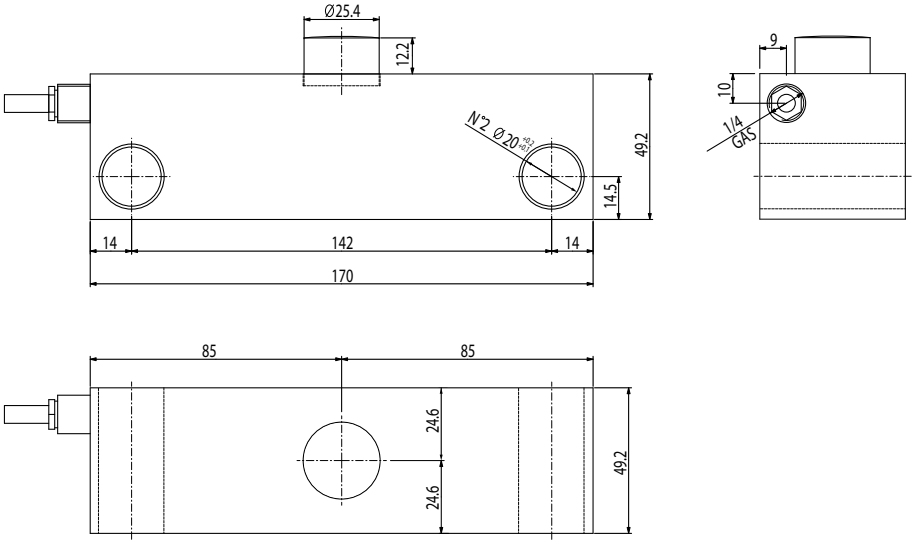


# DSBI

Stainless steel double shear beam load cells, extremely robust and resistant, with IP68 protection classification. Particularly suitable for creating CE-M approved 4-cell scales with high capacity, and for weighing tanks, silos, and hoppers, thanks to the KDSBN assembly kit. They ensure a high accuracy even in case of expansion of the structure to be weighed.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP68




## TECHNICAL FEATURES

| | |
|---|---|
| Accuracy class | C4 |
| Protection classification | IP68 |
| Construction | 17-4 PH stainless steel |
| Minimum load cell verification interval (Vmin) | EMax/10000 |
| Combined error of Full Scale Output (F.S.) | 0,03% |
| Full Scale Output | 2mV/V ± 0,1% |
| Temperature effect on zero | 0,00116% / °C |
| Temperature effect on full scale output | 0,00097% / °C |
| Compensated Temperature | -10°C / +40°C |
| Operating Temperature | -30°C / +85°C |
| Creep error after 30 minutes | <0,02% F.S |
| Maximum tolerated excitation voltage | 15 Vdc |
| Input Resistance | 700 ± 7 Ohm |
| Output Resistance | 700 ± 7 Ohm |
| Insulation Resistance | >5000 MOhm |
| Zero Balance | ± 1% |
| Safe Overload | 150% F.S |
| Ultimate Overload | 300% F.S |
| 6-wire shielded cable | 15m |

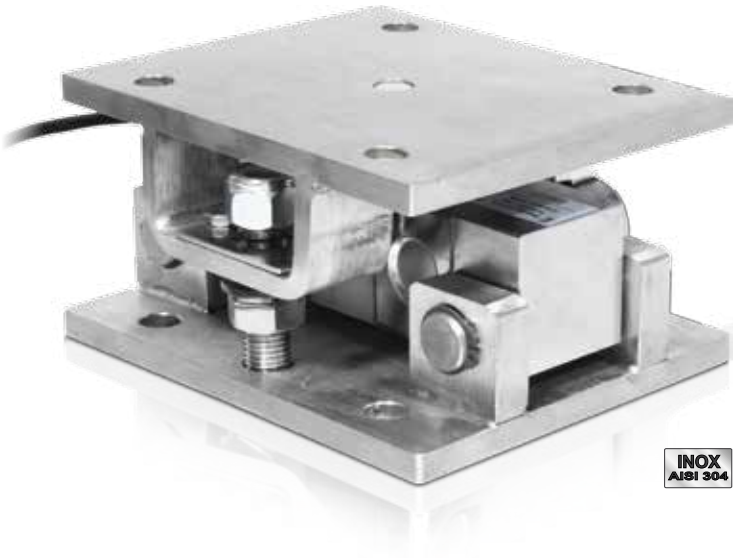
| Code | Max capacity (kg) |
|---|---|
| **DSBI10 / 20 / 30** | 10000 / 20000 / 30000 |

# **KDSBN:** ASSEMBLY KIT FOR DOUBLE SHEAR BEAM LOAD CELLS

Assembly kits for DSBI series double shear beam load cells, suitable for weighing silos, hoppers, horizontal or vertical tanks with a large size or high-capacity weighing platforms.

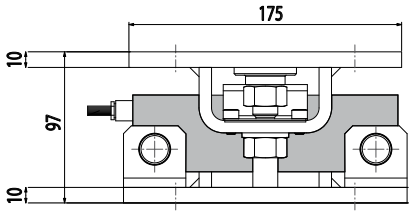
- Ensure the correct functioning of the load cell.
- Guarantee excellent weighing accuracy and high measure reliability even in case of an expanded or bent structure to be weighed.

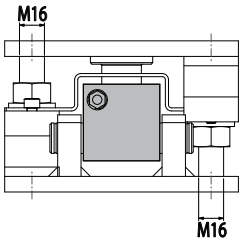
- **CONSTRUCTION IN AISI304 STAINLESS STEEL**
- **GREAT RESISTANCE TO LATERAL FORCES**
- **OVERTURN-PROOF SCREW JACKS FOR EASY INSTALLMENT AND/OR SUBSTITUTION OF THE LOAD CELL**
- **SELF-CENTERING CONNECTION SEGMENT BETWEEN LOWER AND UPPER PLATES**

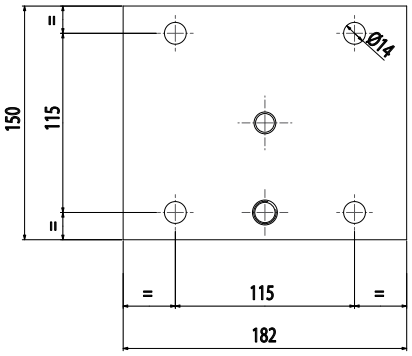



**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65



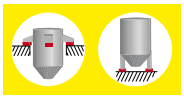




| Code | Max capacity (kg) |
|---|---|
| **KDSBN** | up to 30000 |

## **BENDING BEAM** LOAD CELLS
FROM 10 TO 500 kg

# FXC and FXD



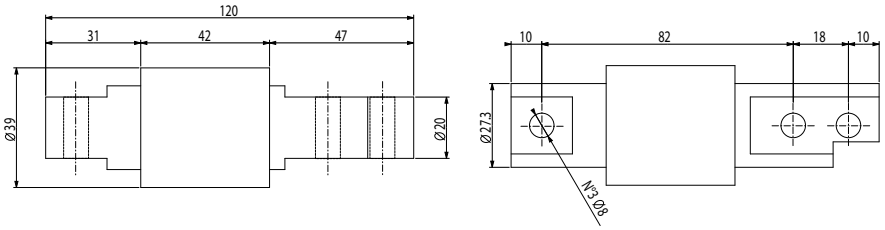
Stainless steel bending beam load cells, with IP68 protection classification, suitable for using in industrial automations.
Ideal for hoppers and mixers with small and medium size and for the integration in the dosage systems, thanks to the KFXDN assembly kit.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6 (Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C (Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

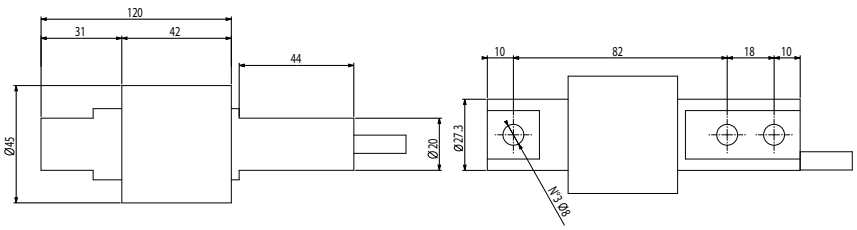
## FXC

CE M Ex IP68 INOX




## FXD

CE M Ex IP68 INOX




| Code | Max capacity (kg) |
|---|---|
| **FXC10 / 20 / 50 / 100 / 200 / 300 / 500** | 10 / 20 / 50 / 100 / 200 / 300 / 500 |

| Code | Max capacity (kg) |
|---|---|
| **FXD100 / 200 / 300 / 500** | 100 / 200 / 300 / 500 |

### TECHNICAL FEATURES

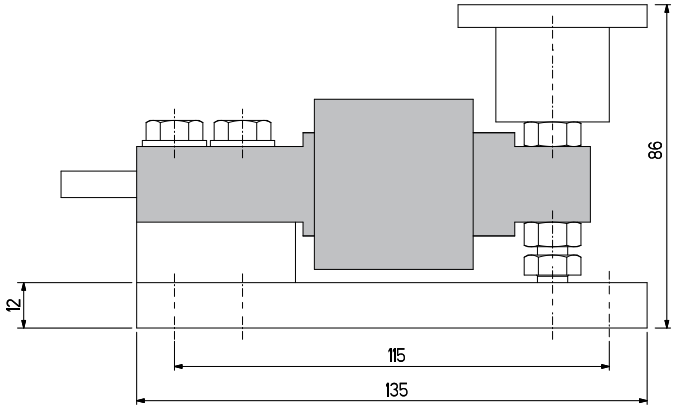
| | FXC | FXD |
|---|---|---|
| Accuracy class | C3 | C3 |
| Protection classification | IP68 | IP68 |
| Construction | stainless steel | stainless steel |
| Minimum load cell verification interval (Vmin) | EMax / 10000 | EMax / 10000 |
| Maximum number of verification intervals | nLC=3000 | nLC=3000 |
| Combined error of Full Scale Output (F.S.) | 0,017% | 0,017% |
| Full Scale Output | 2mV/V ± 0,1% | 2.0 ± 0,002mV/V |
| Non-Repeatability | ± 0,015% | ± 0,015% |
| Temperature effect on zero | 0,002% / °C | ± 0,02% F.S./10°C |
| Temperature effect on full scale output | 0,0012% / °C | ± 0,02% F.S./10°C |
| Compensated Temperature | -10°C / +40°C | -10°C / +40°C |
| Operating Temperature | -20°C / +60°C | -30°C / +70°C |
| Creep error after 30 minutes | 0,016% F.S. | 0,016% F.S. |
| Maximum tolerated excitation voltage | 15 Vdc | 15 Vdc |
| Input Resistance | 385 ± 20 Ohm | 400 ± 20 Ohm |
| Output Resistance | 350 ± 5 Ohm | 352 ± 3 Ohm |
| Insulation Resistance | >5000 MOhm | >5000 MOhm |
| Safe Overload | 200% F.S. | 120% F.S. |
| Ultimate Overload | 300% F.S. | 150% F.S. |
| Nominal displacement | <0,4mm | <0,4mm |
| 4-wire shielded cable | 3m, Ø 4mm | 3m, Ø 5mm |

# **KFXDN:** ASSEMBLY KIT FOR BENDING BEAM LOAD CELLS

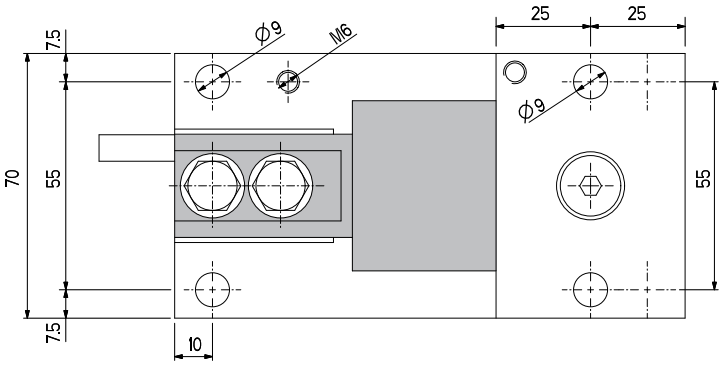
Assembly kits for FXC and FXD series bending beam load cells, suitable for weighing hoppers, mixers, and tanks with small or medium size.

- Designed to ensure the correct functioning of the load cell.
- Ensure optimum weighing accuracy, thanks to the articulated joint which guarantees the vibration damping and the compensation of the thermal expansion of the structure to be weighed.

- **CONSTRUCTION IN STAINLESS STEEL**
- **SAFETY LOCK FOR THE TRANSPORT**
- **FITTED WITH AN ARTICULATED JOINT FOR VIBRATIONS ABSORPTION AND EXPANSIONS COMPENSATION**



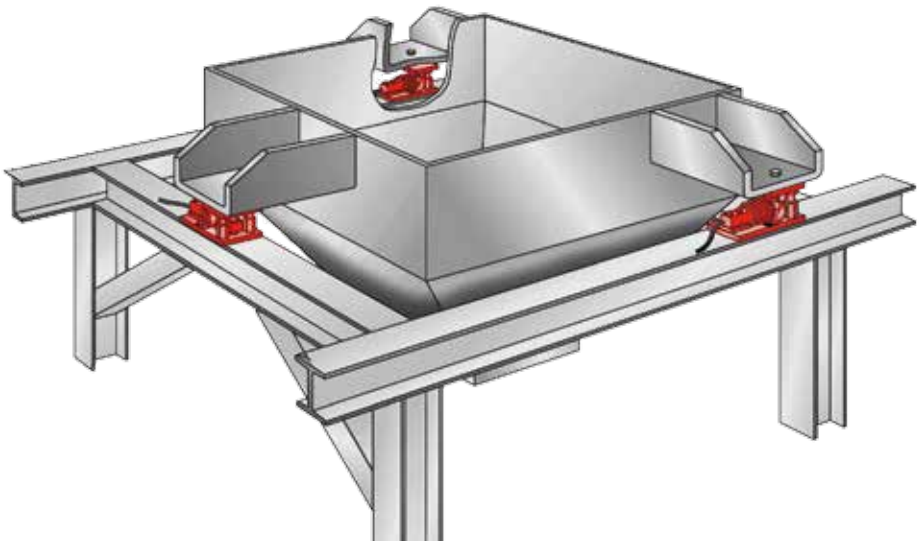

Suitable for **weigh hoppers.**




**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

| Code | Max capacity (kg) |
|---|---|
| **KFXDN** | up to 500 |



# **ALUMINIUM SINGLE POINT** LOAD CELLS
FROM 3 TO 750 kg

# SP

Single point load cells suitable to build CE-M approved scales with a single load cell. Guarantee high weighing accuracy thanks to the off-center loads compensation.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

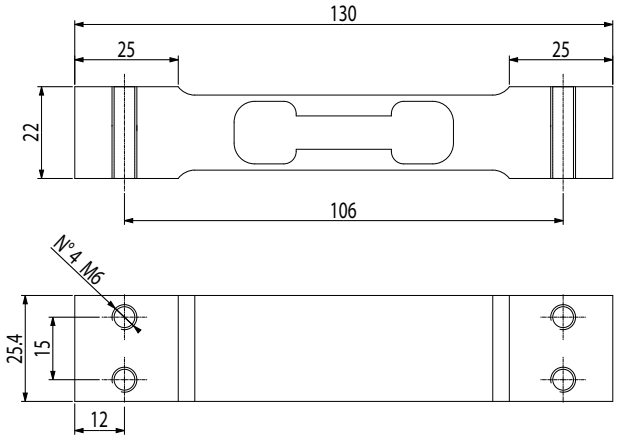
## TECHNICAL FEATURES

| | SPO | SPG | SPG | SPM | SPN |
|---|---|---|---|---|---|
| Accuracy class | C3 | C3 | C6 | C3 | C3 |
| Protection classification | IP67 | IP67 | IP67 | IP67 | IP67 |
| Minimum load cell verification interval (Vmin) | EMax / 15.000 | EMax / 15.000 | EMax / 20.000 | EMax / 15.000 | EMax / 15.000 |
| Full Scale Output | 2mV/V +/- 10% | 2mV/V +/- 10% | 2mV/V +/- 10% | 2mV/V +/- 10% | 2mV/V +/- 10% |
| Temperature effect on zero | 0,01% F.S./10K | 0,01% F.S./10K | 0,01% F.S./10K | 0,01% F.S./10K | 0,01% F.S./10K |
| Temperature effect on full scale output | 0,001% F.S./10K | 0,001% F.S./10K | 0,001% F.S./10K | 0,001% F.S./10K | 0,001% F.S./10K |
| Compensated Temperature | -10°C/+40°C | -10°C/+40°C | -10°C/+40°C | -10°C/+40°C | -10°C/+40°C |
| Operating Temperature | -10°C/+50°C | -10°C/+50°C | -10°C/+50°C | -10°C/+50°C | -10°C/+50°C |
| Creep error after 30 min. | 0,01% F.S. | 0,01% F.S. | 0,01% F.S. | 0,01% F.S. | 0,01% F.S. |
| Maximum tolerated excitation voltage | 15 Vdc | 15 Vdc | 15 Vdc | 15 Vdc | 15 Vdc |
| Input Resistance | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm |
| Output Resistance | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm | 300..500 Ohm |
| Insulation Resistance | >2000 MOhm | >2000 MOhm | >2000 MOhm | >2000 MOhm | >2000 MOhm |
| Safe Overload | 150% F.S. | 150% F.S. | 150% F.S. | 150% F.S. | 150% F.S. |
| Ultimate Overload | 300% F.S. | 300% F.S. | 300% F.S. | 300% F.S. | 300% F.S. |
| Nominal displacement | < 0,5 mm | <0,3mm | <0,3mm | < 0,5 mm | < 0,5 mm |
| Shielded cable | 40cm, Ø 3.2mm / 4-wire | 3m, Ø 4.7mm / 6-wire | 3m, Ø 4.7mm / 6-wire | 3m, Ø 5mm / 6-wire | 3m, Ø 5mm / 6-wire |

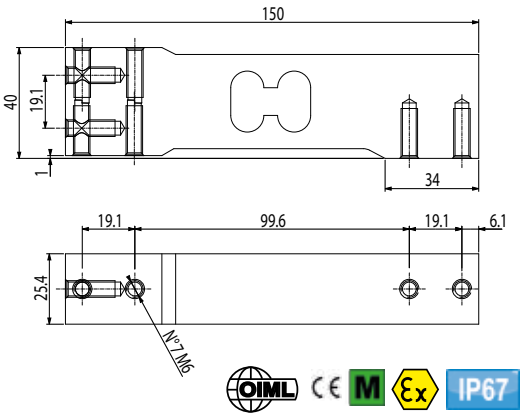
The values of temperature effects in the table are indicative, the sum of these errors (including hysteresis and linearity) remain within the limit of the errors sum, according to OIML R60.

## SPO


| Code | Capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| **SPO3** | 3 | 150 x 150 |
| **SPO5** | 5 | 300 x 300 |
| **SPO10** | 10 | 300 x 300 |
| **SPO15** | 15 | 300 x 300 |
| **SPO20** | 20 | 300 x 300 |
| **SPO30** | 30 | 300 x 300 |



## SPG



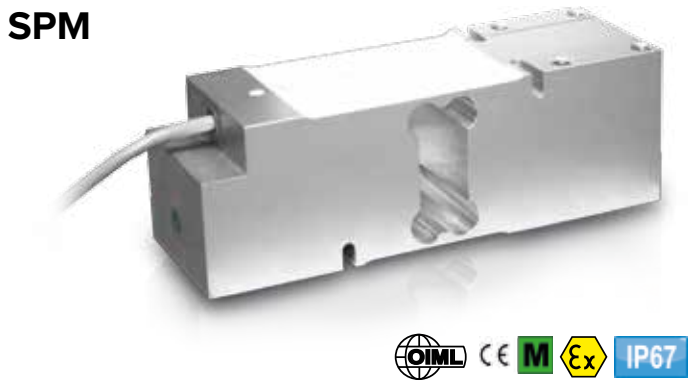

**Versions in C3 class**

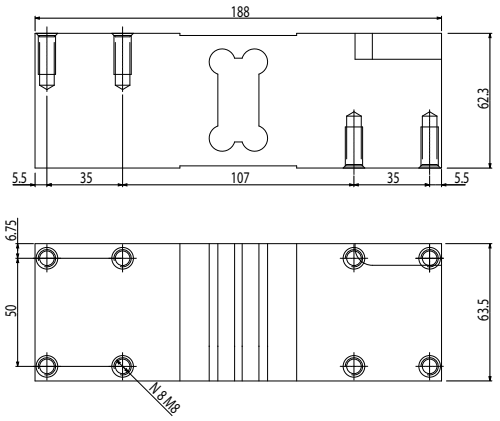
| Code | Capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPG10 | 10 | 300 x 300 |
| SPG15 | 15 | 400 x 400 |
| SPG20 | 20 | 450 x 450 |
| SPG30 | 30 | 450 x 450 |
| SPG50 | 50 | 600 x 600 |
| SPG100 | 100 | 600 x 600 |
| SPG200 | 200 | 600 x 600 |

**Versions in C6 class**

| Code | Capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPG7C6 | 7 | 300 x 300 |
| SPG18C6 | 18 | 400 x 400 |
| SPG36C6 | 36 | 450 x 450 |

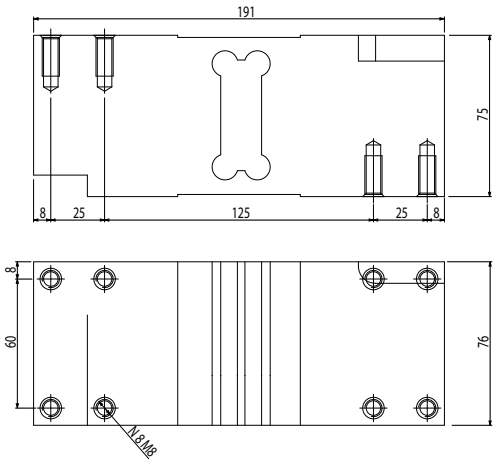
## SPM






| Code | Capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPM100 | 100 | 600 x 600 |
| SPM200 | 200 | 600 x 600 |
| SPM500 | 500 | 600 x 600 |

## SPN




| Code | Capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPN300 | 300 | 800 x 800 |
| SPN500 | 500 | 800 x 800 |
| SPN750 | 750 | 800 x 800 |

# **STAINLESS STEEL SINGLE POINT** LOAD CELLS
FROM 7.5 TO 1000 kg

# SPS

Single point load cells suitable to build CE-M approved scales with a single load cell. Guarantee high weighing accuracy thanks to the off-center loads compensation.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

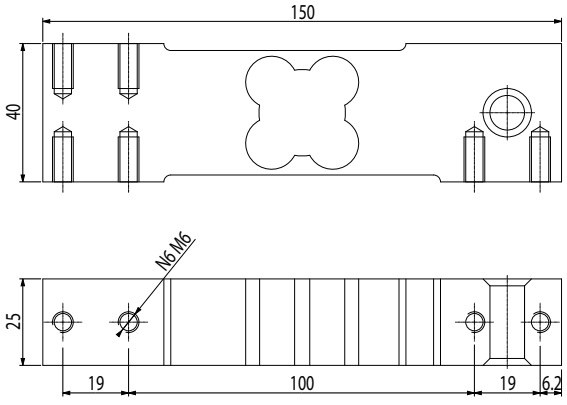
## TECHNICAL FEATURES

| | SPSW | SPSY | SPSX | SPSZ |
|---|---|---|---|---|
| Accuracy class | C3 | C3 | C3 | C3 |
| Protection classification | IP67 | IP68 | IP67 | IP68 |
| Minimum load cell verification interval (Vmin) | EMax / 10.000 | EMax / 10.000 | EMax / 15.000 | EMax / 10.000 |
| Full Scale Output | 2mV/V +/- 0,2% | 2mV/V +/- 10% | 2mV/V +/- 10% | 2mV/V +/- 10% |
| Temperature effect on zero | 0,01% F.S./10K | 0,01% F.S./10K | 0,01% F.S./10K | 0,01% F.S./10K |
| Temperature effect on full scale output | 0,001% F.S./10K | 0,001% F.S./10K | 0,001% F.S./10K | 0,001% F.S./10K |
| Compensated Temperature | -10°C/+40°C | -10°C/+40°C | -10°C/+40°C | -10°C/+40°C |
| Operating Temperature | -10°C/+50°C | -10°C/+50°C | -10°C/+50°C | -10°C/+50°C |
| Creep error | after 30 minutes ± 0,01% F.S. | after 30 minutes ± 0,01% F.S. | after 30 minutes ± 0,01% F.S. | after 30 minutes ± 0,01% F.S. |
| Maximum tolerated excitation voltage | 15 Vdc | 15 Vdc | 15 Vdc | 15 Vdc |
| Input Resistance | 380 ± 15 Ohm | 380 ± 15 Ohm | 390 ± 15 Ohm | 380 ± 15 Ohm |
| Output Resistance | 359 ± 5 Ohm | 350 ± 10 Ohm | 359 ± 5 Ohm | 350 ± 10 Ohm |
| Insulation Resistance (100V) | >1000 MOhm | >2000 MOhm | >1000 MOhm | >2000 MOhm |
| Safe Overload | 300% F.S. | 300% F.S. | 300% F.S. | 300% F.S. |
| Ultimate Overload | 300% F.S. | 300% F.S. | 300% F.S. | 300% F.S. |
| Nominal displacement | < 0,5 mm | < 0,5 mm | < 0,5 mm | < 0,5 mm |
| Shielded cable | 3m, Ø 5mm / 6-wire | 3m, Ø 5mm / 6-wire | 3m, Ø 5mm / 6-wire | 3m, Ø 5mm / 6-wire |

The values of temperature effects in the table are indicative, the sum of these errors (including hysteresis and linearity) remain within the limit of the errors sum, according to OIML R60.

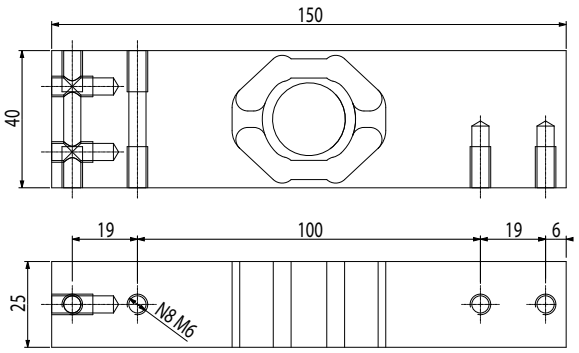
## SPSW


| Code | Max capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| **SPSW7.5** | 7,5 | 500 x 400 |
| **SPSW15** | 15 | 500 x 400 |
| **SPSW30** | 30 | 500 x 400 |
| **SPSW50** | 50 | 500 x 400 |
| **SPSW100** | 100 | 500 x 400 |

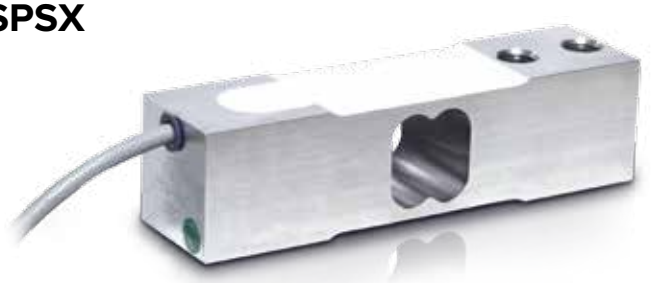


## SPSY

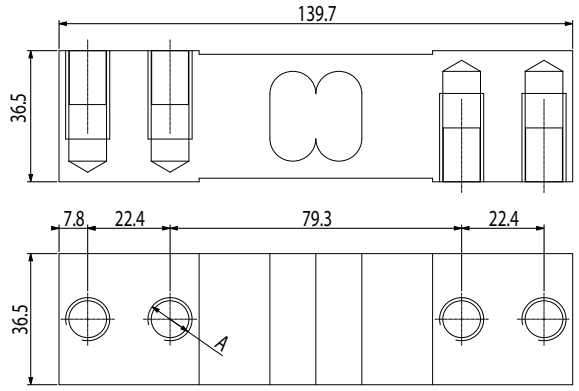
| Code | Max capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPSY50 | 50 | 500 x 400 |
| SPSY100 | 100 | 500 x 400 |




## SPSX

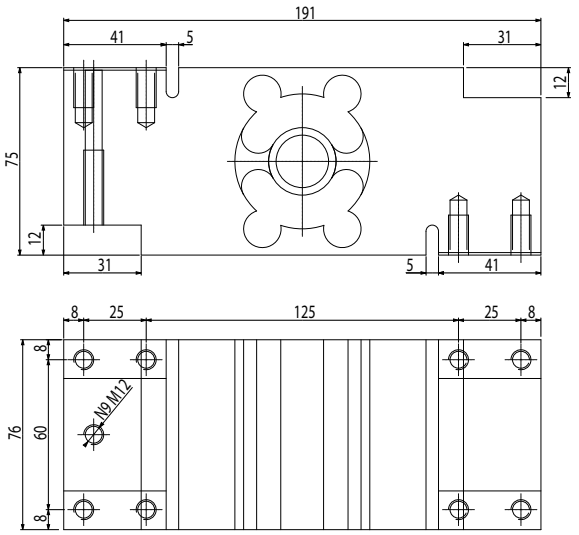


| Code | Max capacity (kg) | Dimensions (mm) | Platform l x w max. (mm) |
|---|---|---|---|
| | | A | |
| SPSX300 | 300 | M10 | 600 x 800 |
| SPSX500 | 500 | M12 | 600 x 800 |

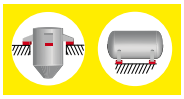



## SPSZ

| Code | Max capacity (kg) | Platform l x w max. (mm) |
|---|---|---|
| SPSZ500 | 500 | 800 x 800 |
| SPSZ1000 | 1000 | 800 x 800 |



## **TENSION** LOAD CELLS
## FROM 100 TO 10.000 kg



# STG and STFC

Tension load cells, fitted with robust structure and IP67 protection classification, particularly suitable for using in industrial environments.

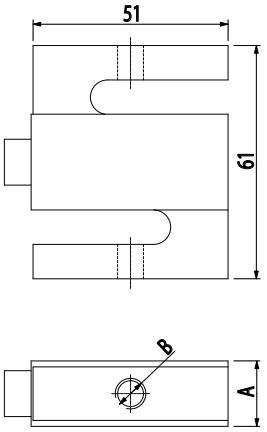
Ideal for weighing suspended loads, hoppers, tanks, and lever scales, thanks to the KST kits.

**AVAILABLE ALSO IN ATEX CERTIFIED VERSION**

ATEX II 1G Ex ia IIC T6
(Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C
(Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

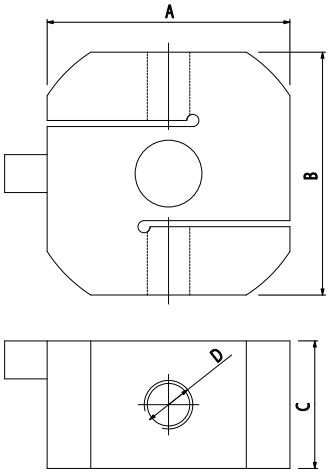
## STG

CE M Ex IP67 INOX




## STFC

CE M Ex IP67




### TECHNICAL FEATURES

| | STG | STFC |
|---|---|---|
| Accuracy class | C3 | C3 |
| Protection classification | IP67 | IP67 |
| Construction | stainless steel | Nickel-plated steel |
| Minimum load cell verification interval (Vmin) | •EMax / 7.000 (STG100 version) •EMax / 10.000 (STG500 & STG1000 version) | EMax / 10000 |
| Maximum number of verification intervals | nLC=3000 | nLC=3000 |
| Combined error of Full Scale Output (F.S.) | 0,02% | 0,02% |
| Full Scale Output | 3mV/V ± 0,08% | 2mV/V ± 0,1% |
| Non-Repeatability | 0,017% / °C | 0,0013% / °C |
| Temperature effect on zero | 0,014% / °C | 0,0014% / °C |
| Temperature effect on full scale output | -10°C / +40°C | -10°C / +40°C |
| Compensated Temperature | -35°C / +65°C | -20°C / +60°C |
| Operating Temperature | after 30 minutes 0,02% F.S. | after 4 hours 0,03% F.S. |
| Creep error after 30 minutes | 18 Vdc | 10 Vdc |
| Maximum tolerated excitation voltage | 430 ± 60 Ohm | 1100 Ohm |
| Input Resistance | 350 ± 3.5 Ohm | 1000 Ohm |
| Output Resistance | >5000 MOhm | >5000 MOhm |
| Insulation Resistance | ±1% F.S. | ±1% F.S. |
| Safe Overload | 150% F.S. | 130% F.S. |
| Ultimate Overload | 300% F.S. | 300% F.S. |
| 4-wire shielded cable | 6m, Ø 5mm | 5m, Ø 5mm |

| Code | Max capacity (kg) | Dimensions (mm) | |
|---|---|---|---|
| | | A | B |
| **STG100** | 100 | 15 | M8 |
| **STG500** | 500 | 21 | M12 |
| **STG1000** | 1000 | 28 | M12 |

| Code | Max capacity (kg) | Dimensions (mm) | | | |
|---|---|---|---|---|---|
| | | A | B | C | D |
| **STFC2000** | 2000 | 80 | 80 | 42 | M16 |
| **STFC5000** | 5000 | 80 | 80 | 42 | M24x2 |
| **STFC10000** | 10000 | 80 | 80 | 52 | M24x2 |

# **KST:** JOINTS FOR TENSION LOAD CELLS

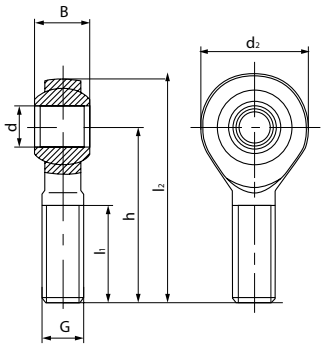
Articulated joint kits for STG and STFC series tension load cells, suitable for suspended loads weighing.

- Installed at the two ends of the cell, the joints assure the correct functioning in accordance with the directives for the cells installation.
- Ensure optimum weighing accuracy and high measure reliability with static tension forces.

AVAILABLE ALSO IN ATEX CERTIFIED VERSION

ATEX II 1G Ex ia IIC T6 (Ta -20÷+40°C)
TX (Ta -20÷+65°C) Ga
ATEX II 1D Ex ta IIIC TX°C (Ta -20÷+40°C)
TX°C (Ta -20÷+65°C) Da IP65

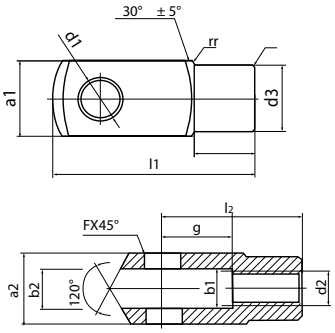
## RBJ




| Code | Dimensions (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | d | G H6 | $l_1$ min | $d_2$ | h | $l_2$ | B |
| **RBJM8** | 8 | M8x1,25 | 22 | 24 | 42 | 54 | 8 |
| **RBJM12** | 12 | M12x1,75 | 28 | 34 | 54 | 71 | 10 |
| **RBJM16** | 17 | M16x2,0 | 36 | 46 | 69 | 92 | 14 |
| **RBJM24** | 25 | M24x2,0 | 53 | 64 | 94 | 126 | 20 |

| Code | Max capacity (kg) |
|---|---|
| **RBJM8** | 600 |
| **RBJM12** | 1.000 |
| **RBJM16** | 2.000 |
| **RBJM24** | 5.000 |

## CLV



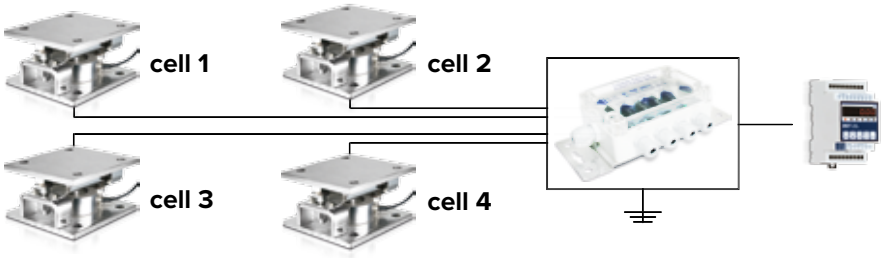

| Code | Dimensions (mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | d1 H9 | g | a1 | a2 | b1 | d2 | d3 | l1 | $l_2$ | $l_2$ var. max |
| **CLVM8** | 8 | 161 | 16 | 16 | 8 | M8x1,25 | 14 | 42 | 32 | 0,4 |
| **CLVM12** | 12 | 24 | 24 | 24 | 12 | M12x1,75 | 20 | 62 | 48 | 0,4 |
| **CLVM16** | 17 | 32 | 32 | 32 | 12 | M16x2,0 | 26 | 83 | 64 | 0,4 |
| **CLVM24** | 25 | 50 | 50 | 50 | 25 | M24x2,0 | 42 | 132 | 100 | 0,4 |

# JUNCTION BOXES

# JB

The junction boxes have an important role in the configuration of multi-load cell systems. The ABS or stainless steel cases are both designed for use in the presence of water and dust, offering different protection degrees according to the model.
The junction and equalization electronic boards are fitted with screw terminals for an easy connection of cells, and a signal regulation trimmer for an accurate and reliable equalization.
In the version with 10 inputs, the card is also fitted with a protection system against overloads and shocks.

## SCHEME OF USE




## JBQ

IP67

Ex Available also in ATEX version

| | |
|---|---|
| Case | ABS |
| Protection classification | IP67 |
| Maximum input voltage | 24 Vdc |
| Maximum input current | 700 mA |
| Maximum input load cell signal | 1000 mV |

## JB10Q

IP68

| | |
|---|---|
| Case | Polyester |
| Protection classification | IP68 |
| Maximum input voltage | 24 Vdc |
| Maximum input current | 700 mA |
| Maximum input load cell signal | 1000 mV |

## JBQI

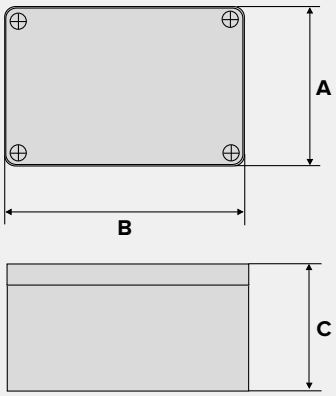
INOX

IP65

Ex Available also in ATEX version

| | |
|---|---|
| Case | Stainless steel |
| Protection classification | IP65 |
| Maximum input voltage | 24 Vdc |
| Maximum input current | 700 mA |
| Maximum input load cell signal | 1000 mV |

| Code | Dimensions (mm) | | |
|---|---|---|---|
| | A | B | C |
| JB2Q | 80 | 120 | 55 |
| JB3Q | 80 | 120 | 55 |
| JB4Q Ex | 80 | 120 | 55 |
| JB4QI INOX | 155 | 158 | 45 |
| JB6QI INOX | 132 | 190 | 50 |
| JB10Q | 120 | 220 | 90 |
| JB1QAI INOX Ex | 130 | 190 | 45 |
| JB2QAI INOX Ex | 130 | 190 | 45 |
| JB3QAI INOX Ex | 130 | 190 | 45 |
| JB4QAI INOX Ex | 130 | 190 | 45 |

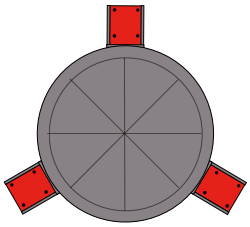


# INSTALLATION TIPS

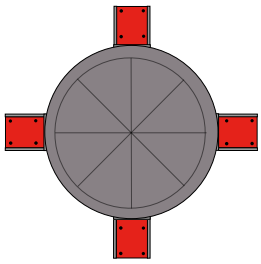
The surface under the load cells must be rigid and stable. The absence of linearity may be compensated through the use of the appropriate mounting kits.

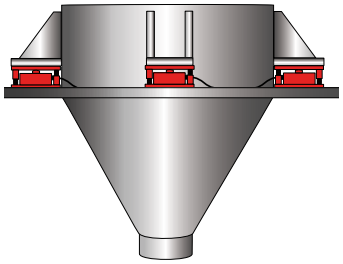
These accessories are suitable for weighing hoppers, tanks, and silos, also suspended inside bearing structures.

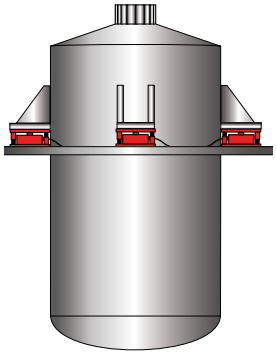
## SUSPENDED HOPPERS / TANKS



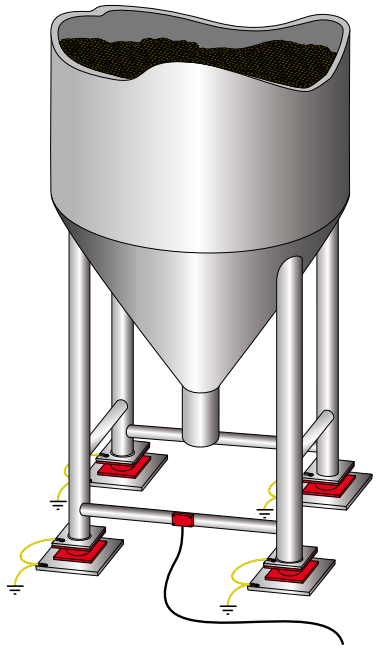
Cells positioned at 120°





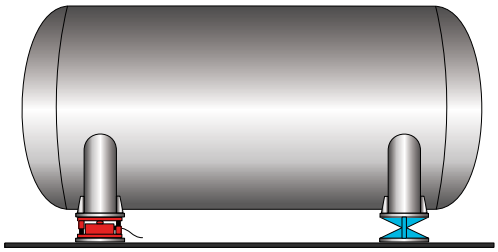


## MEDIUM / LARGE SIZE SILOS



## HORIZONTAL TANKS

In case of large-size horizontal tanks containing liquid, which can be particularly affected by expansion of the structure, a cheaper system to weigh the content with a precision around 1% is to install two load cells on one side and two false cells or joints on the other, in order to compensate the movement of the structure.

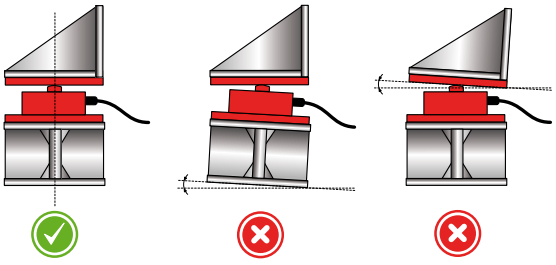


To complete a correct installation of the tank it must be:

- symmetrical in comparison to the line which crosses the center of gravity of the content;
- perfectly in level;
- not subject to the wind forces.

In this way one can ensure the best condition for the weighing.

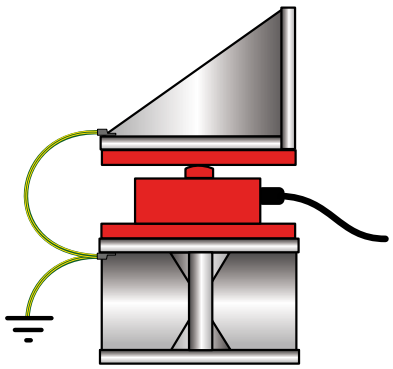
## NOTES ABOUT THE SYSTEM INCLINATION



For a correct functioning of the weighing system and to obtain the best accuracy:

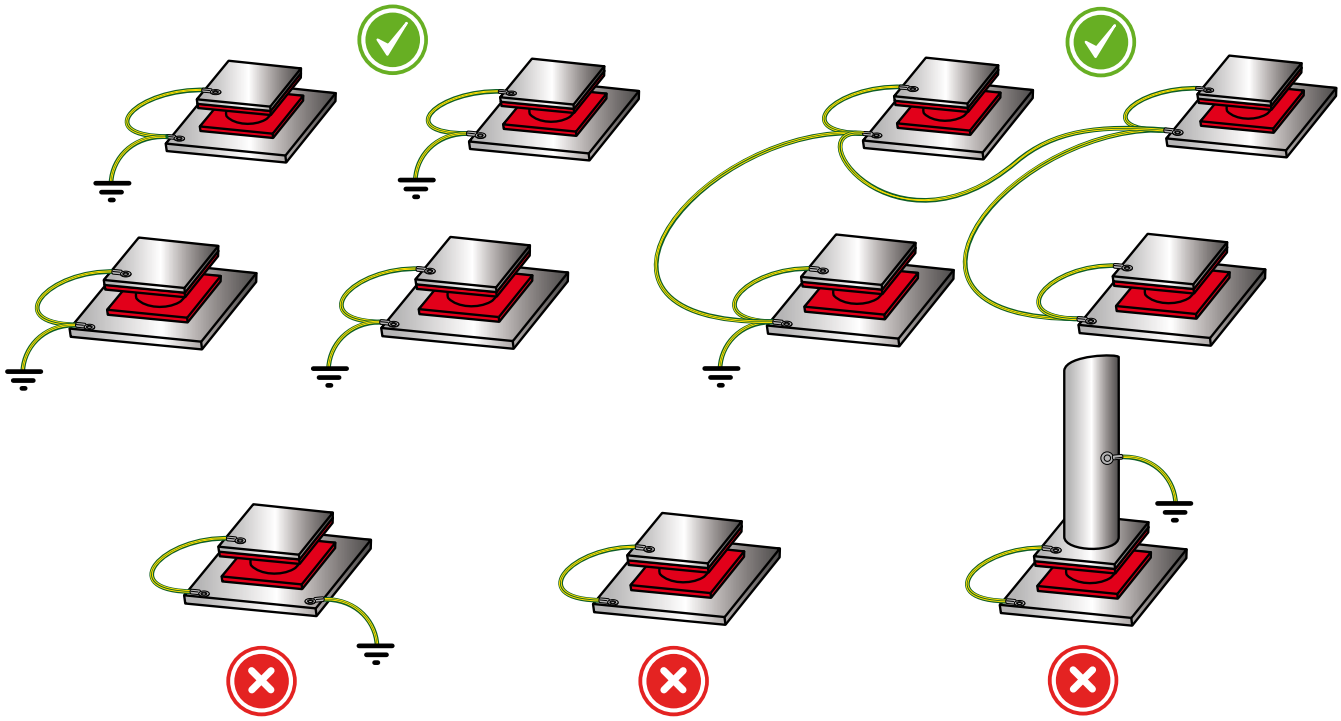
- The upper and lower plate of the kit must be perfectly flat and aligned with each other.
- The center of the surface imposed on the kit (for example the center of the foot of a silo) must match with the center of the upper plate of the kit.

## GROUNDING THE WEIGHING SYSTEM

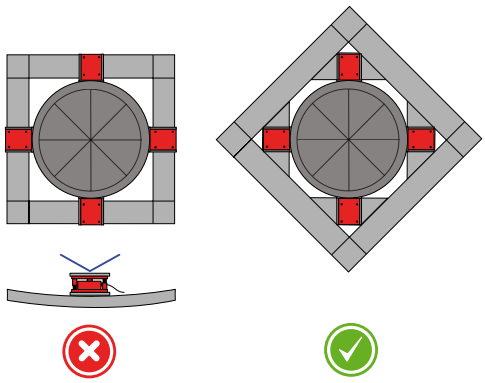


The grounding of the structure is indispensable to guarantee an optimum protection of the load cells from electrostatic discharge.
A bridge between the upper plate and the lower plate of the kit is necessary and it could be created by using a cable or a copper braid of appropriate diameter.

The failure of this assembly may not immediately affect the functioning of the system, but it can cause failure, even irreversible, of all the load cells and the attached weight indicator.



## NOTES ABOUT THE BEARING STRUCTURE



It is necessary to study with great attention the placement of the load cells and the mechanical features of the structure, avoiding any irregular bending and deformation.
The support surface, on where the kit will be installed, must be rigid and stable.
If during the use of the system any bending or abnormal deformations are noted, it will be appropriate to reinforce the system by applying supports, tie rods, etc.

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SALES AND TECHNICAL ASSISTANCE SERVICE

The information in this document is approximate and can be subject to variations without prior notice by Dini Argeo, with respect of the norms in force. The official technical data is available in the updated version on the www.diniargeo.com web site or by contacting the Dini Argeo Customer Service.

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