POSITIVE WEIGHING SOLUTIONS



Positive Weighing Solutions Ltd

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WEIGHING IN HAZARDOUS AREAS



ATEX

Positive Weighing works very closely with its suppliers in the design and production o f scales and weighing systems. The Weighing Solutions offered by PWS cover all weighing applications across covering all industry requirements.

PWS Also offer a range if interfaces and accessories guaranteeing maximium connectivity and flexibility of use.

All of the products and solutions we provide, besides conforming to the quality standards at an international level, are submitted to the best independent certification laboratories, accredited at a European level, in order to guarantee the maximum quality to the end user.













Dini Argeo, being our primary supplier of our ATEX weighing systems 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.



Dini Argeo, being the manufacturer of all our ATEX Weighing Instrumentation, is an ATEX notified company, in accordance with the 94/9/CE (Annex IV) Directive, since 20/04/2016 with 2014/34/UE directive and therefore authorised to produce and market equipment marked by Ex-symbol intended for use in potentially explosive atmospheres.



PWS Supplies approved or approvable instruments for a legal-fortrade use following the European regulation EN 45501 and the directive 2014/31/EU.

The metrological marking indicates that the instrument is covered by a type approval certificate, released by an european notified body, that validates the idoneity for a legal use. This approval is fundamental for all the instrument legal-for-trade uses, in relationship with third parties.



PWS Ltd Supplies 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

Gravimetric filling instruments approved to OIML R61.

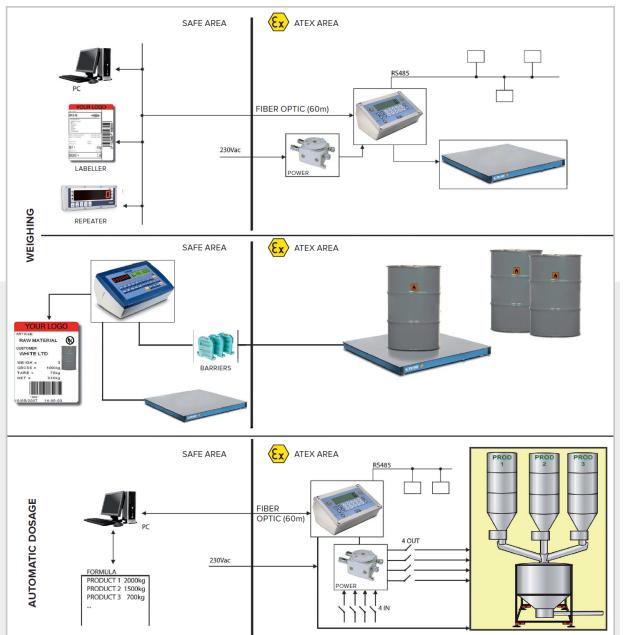
- OIML R134 approved dynamic weighers for vehicle transiting at a low speed.
- OIML R51 approved "start/stop" automatic catchweigher on belt conveyors.
- **POSITIVE** WEIGHING SOLUTIONS

POSITIVE WEIGHING ATEX SOLUTIONS



PWS Ltd offers weighing solutions for Hazardous environments clasified by the Atex 99/92/CE DirectIves. By working with our suppliers in the design of the electronic boards to the production of indicators, loadcells, platforms, pallet truck scales, crane scales and accessories, PWS Ltd offers a wide range of devices for weighing and controlling within ATEX Zones.

PWS is also able to supply a certification or declaration of conformity for the whole system, guaranteeing our clients, the safety of a purchased system and at the time of supply, our turn key offering to ensure systems are installed and comissioned in an excellent time frame.



EXAMPLES OF SOLUTIONS:



PRODUCT SUMMARY TABLE

| | | | | | ZO | NE | | |
|-----------------------|----------------------------|--|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| | | | | GASES | | | DUSTS | |
| PRODUCT | ТҮРЕ | PROTECTION DEGREE | II 1G (Zone 0) | II 2G (Zone 1) | II 3G (Zone 2) | II 1D (Zone 20) | II 2D (Zone 21) | II 3D (Zone 22) |
| MCWX2GD MCWATEX2GD | CRANE SCALE | II 2GD IIC T4 T197°C X | | 1 | 1 | | 1 | 1 |
| TPWX2GD TPWX2GDI | PALLET TRUCK | II 2GD IIB T4 T197°C X | | 1 | 1 | | 1 | 1 |
| TPWX3GD TPWX3GDI | PALLET TRUCK | II 3GD IIC T6 T130°C X | | | 1 | | | 1 |
| DFWATEX2GD | INDICATOR | II 2G Ex ib IIC T4 Gb II 2D Ex tb IIIC T197°C Db IP65 | | 1 | 1 | | 1 | 1 |
| DFWATEX2GDF | INDICATOR | II 2G Ex ib IIC T4 Gb II 2D Ex tb IIIC T197°C Db IP65 | | 1 | 1 | | 1 | 1 |
| 3590EXTxxBC3GD | INDICATOR | II 3G Ex nR IIC T6 Gc X II 3D Ex tc IIIC T135°C Dc IP68 X | | | 1 | | | 1 |
| 3590EGTC3GD | INDICATOR | II 3G Ex nR IIB T6 Gc X II 3D Ex tc IIIC T135°C Dc IP68 X | | | 1 | | | 1 |
| DGT603GD | INDICATOR | II 3G Ex nR IIC T6 Gc X II 3D Ex tc IIIC T130°C Dc IP68 X | | | 1 | | | 1 |
| DFWATEX3GD | INDICATOR | II 3G Ex nR IIC T6 Gc X II 3D Ex tc IIIC T130°C Dc IP68 X | | | 1 | | | 1 |
| DFWLKI3GD | INDICATOR | II 3G Ex nR IIC T6 Gc X II 3D Ex tc IIIC T130°C Dc IP68 X | | | 1 | | | 1 |
| DFWATEX3D | INDICATOR | II 3D Ex tc IIIC T130°C Dc IP65 X | | | | | | 1 |
| PW200XRD | POWER SUPPLIER | II (2)/2 G [Ex ib]/Ex d IIC T4 Gb II (2)/2 D [Ex ib]/Ex tb IIIC T140°C Db | | 1 | 1 | | 1 | 1 |
| DFWBP76ATEXD | RECHARGEABLE BATTERY | II 2G Ex ib IIC T4 Gb II 2D Ex tb IIIC T197°C Db IP65 | | 1 | 1 | | 1 | 1 |
| BP6ESTATEX3GD | RECHARGEABLE BATTERY | II 3G Ex nA IIC T6 Gc X II 3D Ex tc IIIC T130°C Dc IP65 X | | | 1 | | | 1 |
| OBRF3GD | RADIO FREQUENCY MODULE | II 3G Ex nA IIC T6 Gc X II 3D Ex tc IIIC T125°C Dc IP66 X | | | 1 | | | 1 |
| OBWIFI3GD | WIFI MODULE | II 3G Ex nA IIB T6 Gc X II 3D Ex tc IIIC T125°C Dc IP66 X | | | 1 | | | 1 |
| PLATFORMS | WEIGHING MODULE | II 2GD c IIC T6 85°C | | 1 | 1 | | 1 | 1 |
| LOAD CELLS | LOAD RECEPTORS | II 1G Ex ia IIC T6 (Ta -20÷+40°C) TX (Ta -20÷+65°C) Ga II 1D Ex ta IIIC TX°C (Ta -20÷+40°C) TX°C (Ta -20÷+65°C) Da IP65 | 5 | s | s | 1 | 1 | 1 |
| ZBPW ZBSG ZBSN | ZENER BARRIERS | II (1) GD [Ex ia Ga] IIC [Ex ia Da] IIIC | 1 | 1 | 1 | 1 | 1 | 1 |
| KMB4 | BOX WITH ZENER BARRIERS | II 3G Ex nA [ia Ga] IIC T4 Gc II 3D Ex tb [ia Da] IIIC T130°C Dc IP65 | | | 1 | | | |
| JB4QAI | JUNCTION BOX | II 2G Ex ib IIC T6 Gb II 2D Ex tb IIIC T115°C Db IP65 | | 1 | 1 | | 1 | 1 |

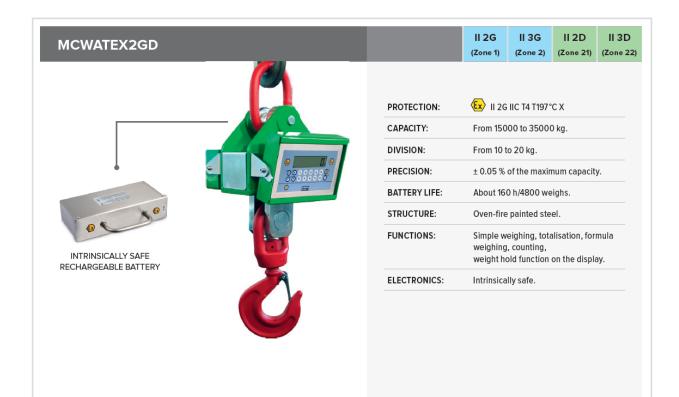


ELECTRONIC CRANE SCALES

These are quickly installed on the lifting system (cranes, crane bridges, etc.). The whole structure is in steel guaranteeing the maximum resistance to accidental knocks. Great resistance to overloads. Very little distance between upper ring and lower hook, in order to not reduce the load capacity of the lifting system.



| MCWX2GD | ll 2G | II 3G | II 2D | II 3D |
|----------|---|----------|--------------------------------------|-----------|
| | (Zone 1) | (Zone 2) | (Zone 21) | (Zone 22) |
| RECRETED | (Zone 1) TION: (Ex) II 2 Y: From 60 I: From 0, DN: ± 0.05 9 'LIFE: About 10 JRE: Stainles VNS: Simple weight | | °C X g. mum capacity eighs. | (Zone 22) |





PALLET TRUCK SCALES

For weighing quickly, directly where it is necessary. The TPWX pallet truck scales are precise, sturdy and easy to use. The dimensions are standardised for EUROPALLETS. The indication of the weight is clear and easy to read. The electronic parts are protected from knocks, sprays, and dust.



| TPWX2GD | | II 2G (Zone 1) | II 3G (Zone 2) | II 2D (Zone 21) | II 3D (Zone 22) |
|--|--|--|--|--------------------|--------------------|
| INTRINSICALLY SAFE RECHARGEABLE BATTERY | PROTECTION: CAPACITY: DIVISION: PRECISION: BATTERY LIFE: STRUCTURE: FUNCTIONS: | Ex II 20 From 500 From 0,2 ± 0.05 % About 15 Oven-fire indicator | GD IIB T4 T19 0 to 2500 kg 1 to 1 kg. 0 f the maxin 0 h/4800 we e painted ste | ı. num capacit | y. steel |
| | ELECTRONICS: | | g, counting, v on the displa ally safe. | | |
| | | | | | |
| | | ll 2G | II 3G | II 2D | II 3D |









WEIGHT INDICATORS

Suitable for the creation of weighing and dosage systems in hazardous areas, offering a wide range of functioning modes and interfaces for communicating with external devices, as well as a great versatility of use.



II 3D **II 2G** II 3G II 2D DFWATEX2GD (Zone 1) (Zone 2) (Zone 21) (Zone 22) **Multifunction weighing** PROTECTION: II 2G Ex ib IIC T4 Gb for GASES II 2D Ex to IIIC T197°C Db IP65 for DUSTS FUNCTIONS: Simple dosages (setpoint), totalisation, formula weighing, counting, input / output weighing, data 0 transmission. G INPUT / OUTPUT: 4 inputs + 4 outputs (all programmable). 000 DATA TRANSMISSION: Through RS485 or fiber optics, up to 60m (longer distances available upon request). Alibi memory for approved weight transmission. POWER SUPPLY: 10,5 Vdc with PW200XRD intrinsically safe power adapter or DFWBP76ATEXD intrinsically safe external rechargeable battery. CELL INPUTS: 4 independent inputs, for managing a single weighing system or for the equalisation of 4 load cells. CONNECTABLE CELLS: Up to four 350 Ohm load cells. ELECTRONICS: Intrinsically safe.

| DFWATEX2GDF | | | ll 2G (Zone 1 | II 3G (Zone 2) | II 2D (Zone 21) | II 3D (Zone 22 |
|-------------------|---------------|--------------------|--|------------------------------------|--------------------|-------------------|
| hing and dosage | | | | | | |
| 0 | | PROTECTION: | | o IIC T4 Gb for o IIIC T197°C D | | USTS |
| | | FUNCTIONS: | Single/multi-p products/15 fo formulas (sing | ormulas (multi | -product mo | |
| | 6 | INPUT / OUTPUT: | 4 inputs + 4 o | utputs (all prog | grammable). | |
| | | DATA TRANSMISSION: | Through RS48 distances ava for approved | ilable upon re | quest). Alibi | |
| 6 | | POWER SUPPLY: | 10,5 Vdc with power adapte | | trinsically sa | fe |
| Single-product | Multi-product | CELL INPUTS: | 4 independen weighing syst cells. | | | |
| Dosage | Dosage | CONNECTABLE CELLS: | Up to four 350 |) Ohm load ce | lls. | |
| | | ELECTRONICS: | Intrinsically sa | ıfe. | | |
| Loading Unioading | | | | | | |



3590EGT and 3590EXT

Advanced industrial applications

For industrial applications in which, in addition to the simple weighing, one needs the advanced management of the databases, totals and printouts. Particolarly suitable for interfacing with PC software.



| | | II 3G | II 3D | | | | |
|-----------------------|--|--|-------------|--|--|--|--|
| | | (Zone 2) | (Zone 22) | | | | |
| PROTECTION: | 3590EGT (Ex) II 3G Ex nR IIB T6 Gc X for GA (Ex) II 3D Ex tc IIIC T135°C Dc IP6 3590EXT II 3G Ex nR IIC T6 Gc X for GA (Ex) II 3G Ex nR IIC T6 Gc X for GA | 8 X for DUST | | | | | |
| DISPLAY: | Backlit graphic display with TOUC technology and multilanguage so 3590EGT model. Red LED display for clear visualiz and LCD display for visualizing th the 3590EXT model. | oftware, in th ation of the | weight | | | | |
| PROGRAMS: | "AF03" Input / output weighing. | "BATCH1" Single-product dosage. "BATCH" Multi-product dosage. | | | | | |
| INPUT / OUTPUT: | Up to 8 inputs and 16 outputs (all 16 bit programmable analogue of 010 Vdc, 020 mA and 420 n | utput: | ble). | | | | |
| DATA TRANSMISSION: | RS232 / RS485 / Ethernet serial p to printer (in safe area), PC or PLO Profibus, to install in safe area. Alibi memory for approved weigh | 2. | | | | | |
| POWER SUPPLY: | 110-240Vac or external recharged request). | able battery | (upon | | | | |
| CELL INPUTS: | 4 independent inputs, for manag systems or for the equalisation of | | | | | | |
| CONNECTABLE CELLS: | Up to sixteen 350 Ohm load cells | • | SEE PAGE 13 | | | | |





| | | (Zone 2) | (Zone 22) | | | | |
|---|--|--|-----------|--|--|--|--|
| PROTECTION: II 3G Ex nR IIC T6 Gc X for GASES | | | | | | | |
| DISPLAY: | Maxi 6-digit 60mm display made up of highly efficient SMT LEDs, clearly visible from a distance and from all angles. Brightness: 750mdc. Brightness intensity adjustable directly through the software. | | | | | | |
| FUNCTIONS: | counting, input / output weighing, o | Simple dosages (setpoint), totalisation, formula weighing, counting, input / output weighing, data transmission. Weight repeater with configuration of the input string. | | | | | |
| INPUT / OUTPUT: | 2 inputs + 2 outputs (all programmable). 16 bit, programmable analogue output: 010 Vdc, 020 mA and 420 mA. | | | | | | |
| DATA TRANSMISSION: | RS232 / Ethernet and RS485 por printer, or other external units (ir Integrated PROFIBUS. Available Modbus RTU protocol. Alibi memory for approved weigł | ı safe area), | PC. | | | | |
| POWER SUPPLY: | 110-240Vac | | | | | | |
| CELL INPUTS: | 4 independent inputs, for manag systems or for the equalisation o | 0 1 | 0 0 | | | | |
| CONNECTABLE CELLS: | Up to sixteen 350 Ohm load cells | 5. | | | | | |
| | | | | | | | |



SEE PAGE 13

DFWATEX3D and DFWATEX3GD

Weighing in general / Weight repeater



| DFWATEX3D PROTECTION: | € II 3D Ex tc IIIC T130°C Dc IP65 X for DUSTS |
|---------------------------|---|
| DFWATEX3GD PROTECTION: | Ex II 3G Ex nR IIC T6 Gc X for GASES X II 3D Ex tc IIIC T130°C Dc IP68 X for DUSTS |
| FUNCTIONS: | Simple dosages (setpoint), totalisation, formula weighing, counting, tolerance check, percentage weighing, input / output weighing, data transmission. Weight repeater with configuration of the input string. |
| INPUT / OUTPUT: | 4 inputs + 4 outputs (all programmable). 16 bit programma- ble analogue output: 010 Vdc, 020 mA and 420 mA. |
| DATA TRANSMISSION: | RS232 / RS485 / Ethernet for connection to PC. RS232 for data transmission to printer or labeller in safe area. Alibi memory for approved weight transmission. |
| POWER SUPPLY: | 110-240Vac and rechargeable battery (internal for DFWA- TEX3D and external, upon request, for DFWATEX3GD). |
| CELL INPUTS: | 4 independent inputs, for managing a single weighing system or for the equalisation of 4 load cells. |
| CONNECTABLE CELLS: | Up to eight 350 Ohm load cells. |
| | |
| | |
| | SEE PAGE 13 |

II 3D

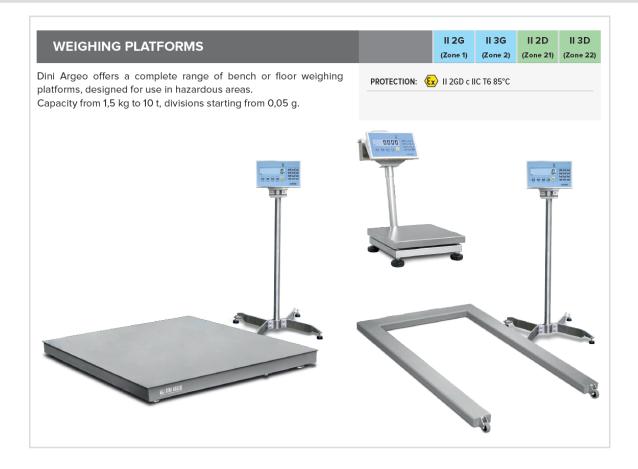
(Zone 2) (Zone 22)

ll 3G

| DFWLKI3GD | | II 3G II 3D (Zone 22) (Zone 22) |
|---------------------------------------|-----------------------|--|
| Neighing in general / Weight repeater | | |
| | PROTECTION: | Ex II 3G Ex nR IIC T6 Gc X for GASES Ex II 3D Ex tc IIIC T130°C Dc IP68 X for DUSTS |
| | FUNCTIONS: | Totalisation, formula weighing, counting, tolerance check, percentage weighing, input / output weighing, data transmission. Weight repeater with configuration of the input string. |
| The same of the same of the same | DATA TRANSMISSION: | RS232 / RS485 for connection to PC. RS232 for data transmission to printer or labeller in safe area. Alibi memory for approved weight transmission. |
| | POWER SUPPLY: | 110-240Vac or external rechargeable battery (upon request). |
| | CELL INPUTS: | 4 independent inputs, for managing a single weighing system or for the equalisation of 4 load cells. |
| | CONNECTABLE CELLS: | Up to eight 350 Ohm load cells. |
| | | SEE PAGE 13 |



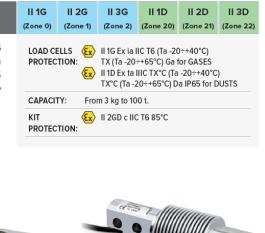
PLATFORMS AND LOAD CELLS



LOAD CELLS

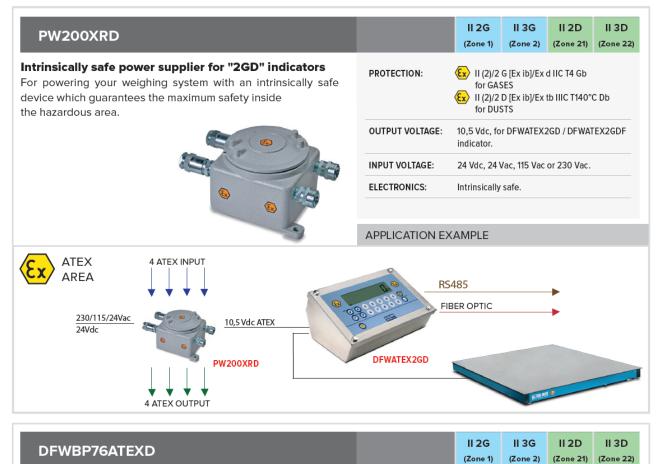
The range of load cells certified for hazardous environments allows you to create weighing systems for applications which range from dosing to logistics, from lifting to high precision. The assembly KITS are also available, simplifying the installation of the cell; these are also certified for ATEX zones.

> Individually tested one by one and supplied with ATEX II 1GD Certificate (CCATEX)





ACCESSORIES



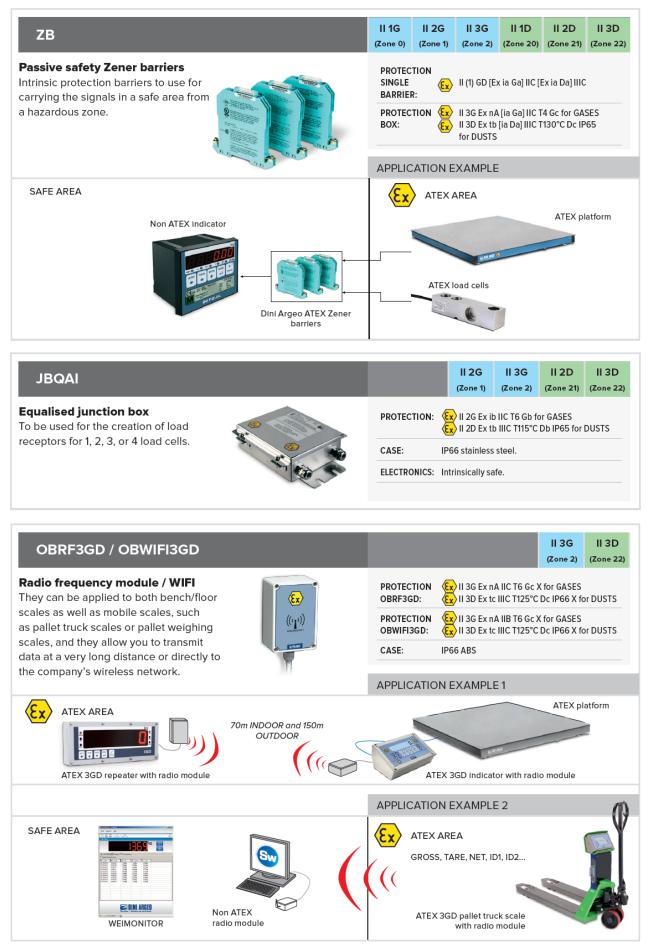
External rechargeable battery Supplied for mobile weighing systems or for 1 and 21 zones where there is no possibility to power the scale with a mains voltage.



| PROTECTION: | ⟨Ex⟩ II 2G Ex ib IIC T4 Gb for GASES ⟨Ex⟩ II 2D Ex tb IIIC T197°C Db IP65 for DUSTS |
|-----------------|--|
| OUTPUT VOLTAGE: | 9,6 Vdc. |
| OUTPUT CURRENT: | 7,6 Ah. |
| BATTERY LIFE: | Up to 160 h (depending on the system configuration). |
| ELECTRONICS: | Intrinsically safe. |
| | |









ANALYSIS OF THE SYSTEM, CERTIFICATES, AND DECLARATIONS OF CONFORMITY

Dini Argeo offers also a free pre-sales service with the purpose of creating a custom-made price estimate according to the customer's needs.

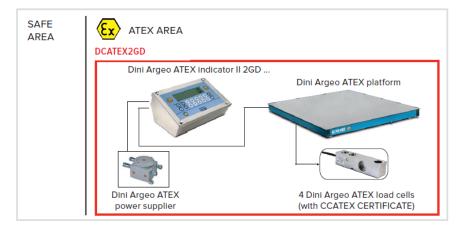
Once one has identified the classification of the hazardous area in which the scale will be installed as well as the desired weighing application, our authorised technical personnel will suggest the best solution for satisfying your requirements with our products. Each single scale or component for weighing is accompanied by the relative certificate or declaration of conformity, as a guarantee of safety.

Each weighing system can also be supplied with a relative declaration of conformity of the whole.

THE MAIN AVAILABLE DECLARATIONS OF CONFORMITY ARE:

DCATEX2GD and DCATEX3GD (for gases and dusts)

ATEX declaration of conformity of the whole system for a weighing system completely installed in a hazardous area. An example of a weighing system is a weight indicator powered by battery or power supplier, connected to a junction box with 4 load cells or to a weighing platform.



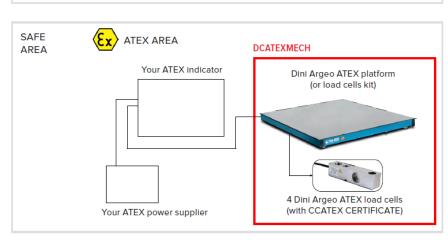
DCATEXMB4 (for gases and dusts)

ATEX declaration of conformity of the whole system which allows you to install the platform or the load cells in a hazardous area and the weight indicator in the safe area, with the aid of the ZENER barriers.



DCATEXMECH (for gases and dusts)

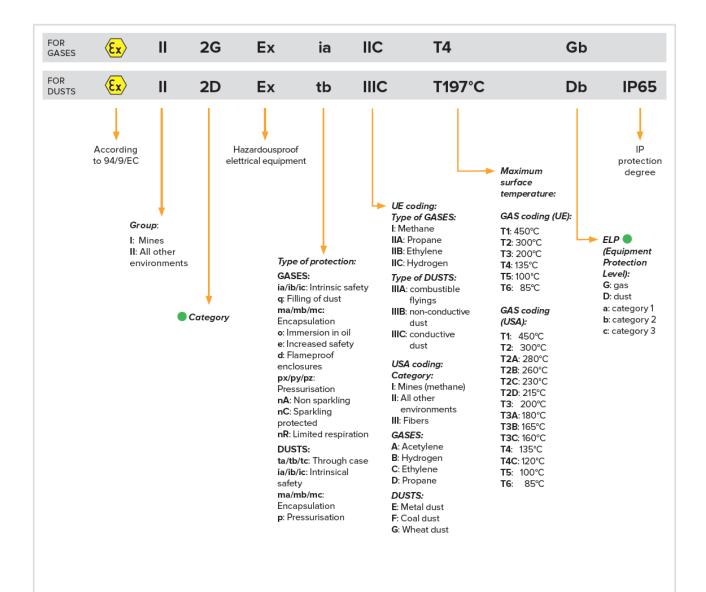
ATEX declaration of conformity of the whole system which allows to use the mechanical structure in the hazardous area. An example of a mechanical structure can be a KIT for installing a cell with a relative ATEX load cell or a platform, with a junction box and 4 ATEX load cells. This certification is useful, when, for example one purchases from Dini Argeo only the load receptor (i.e. the platform).



ATEX certification of conformity for each single load cell intended for use in hazardous areas.



DECODING EXAMPLE OF AN ATEX MARKING

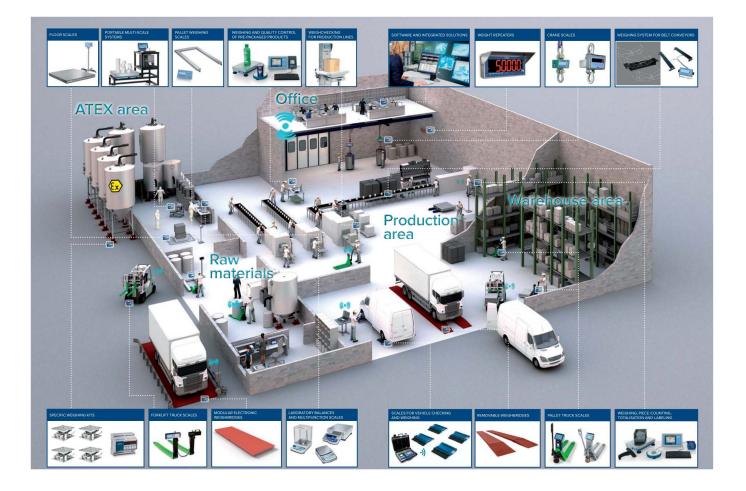


| Instrument category: | ZONE | Atmosphere G= gases D= dusts | EPL |
|--|---------|------------------------------------|----------|
| CATEGORY 1 Very high protection, for areas which are permanently or highly probable to be hazardous. | 0 20 | G D | Ga Da |
| CATEGORY 2 | 1 | G | Gb |
| High protection, for areas that are probably hazardous. | 21 | D | Db |
| CATEGORY 3 | 2 | G | Gc |
| Normal protection, for areas which are unlikely to be hazardous. | 22 | D | Dc |

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.







FOR THE COMPLETE SOLUTION - CALL THE POSITIVE WEIGHING SOLUTIONS TECHNICAL SALES TEAM ON

01684 561002