



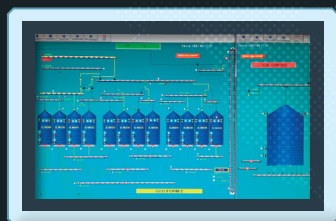
COMPLETE KIT
FOR SILO WEIGHING

SILOSMART4X

 **DINI ARGEO**
Scales - Weighing systems

A RICE LAKE WEIGHING SYSTEMS COMPANY

SILOSMART4X



PLC INTEGRATION



DINI ARGEO INDICATOR
DGT4X

THE WEIGHING KIT FOR SILOS

SILOSMART4X is the Dini Argeo solution created specifically for people who have to weigh silos. Durable, easy-to-install and high-quality SILOSMART4X is suitable for all silo weighing applications and allows precise and reliable weighing and weight diagnostics, even remotely.

FOR SILOS UP TO 400 TONNES.

THE COMPONENTS



HIGH-SPEED
FOUR-CHANNEL
WEIGHT
TRANSMITTER



LOAD CELLS
(analog
and digital)



ASSEMBLY KIT



REMOTE TECHNICAL ASSISTANCE



LOAD CELLS AND DINI ARGEO ASSEMBLY KIT



THE SILOSMART4X COMPONENTS

DGT4X



HIGH-SPEED, FOUR-CHANNEL WEIGHT TRANSMITTER for analog and digital load cells

The new DGT4X is a speed, performance and reliability explosion, designed for belt scales, microdosing and multiscale systems. Serial ports, USB and built-in fieldbus complement the DGT4X series, making it the perfect solution for industrial automation weighing.



AD CONVERSION UNIT

Type	4 channels 16 bit sigma/delta
Conversion rate	2600 Hz
Resolution	1.000.000 points / mV/V
Linearity	0,0007 % F.S.
Load cell power supply	5 Vdc, up to 230 mA
Load cell number	16 x 350 Ω
Min. voltage per increment	0,03 μV/increment
Maximum number of displayable increments	1.000.000



CALIBRATION MODES

1. Electronic adjustment without calibration weight
2. Adjustment using calibration weights by keyboard
3. Adjustment using calibration weights via serial port, using Dinitools® (PC tool)
4. Digital equalisation mode by keyboard
5. Remote adjustment via Modbus/Fieldbus commands
6. Pre-adjustment (linearisation) of the weighing circuit (via Dinitools®).



INTEGRATED FIELDBUS (DGT4FIELDBUS version)

Available fieldbus types

PROFINET I/O
ETHERNET IP
ETHERCAT
CANOPEN
DEVICENET
PROFIBUS DP
MODBUS-TCP

Weight refresh 8 ms



DIGITAL INPUTS

No.	2
Voltage	Max 12÷48Vdc



DIGITAL OUTPUT

No.	2
Voltage	Max 48 Vac o 60 Vdc
Current	Max 500 mA



USB PORT

USB Device port for quick configuration via PC with Dinitools®



ANALOG OUTPUT (DGT4XAN version)

4...20 mA
0...10 V
0...20 mA
0...5 V
16 bit internal resolution
Analog output refresh: up to 0,3 ms

Model DGT4X DIGITAL available for digital cells.
For more information, visit www.diniargeo.com



APPROVALS

Standard

OIML R76 - R51 - R61



DGT4X is available upon request in the version UL Recognized Component certified for the American and Canadian markets.

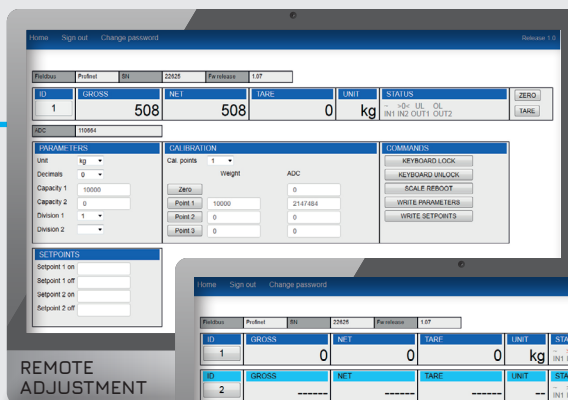
TWO PROGRAMS

DOUBLE EFFICIENCY

INTEGRATED WEB SERVER

for PROFINET, ETHERNET IP and MODBUS TCP

Using the integrated lowercase, you can communicate remotely and fully diagnose/calibrate the DGT4X transmitter.



REMOTE ADJUSTMENT



DIAGNOSTIC MENU



XSPEED TOOL

SPEED THAT IMPROVES PERFORMANCE

This PC tool is engineered to optimize the accuracy and performance of any weighing system.

The XSPEED tool allows users to analyse weighing results in order to identify mechanical influences or noises and set the best filtering mode in order to maximize weighing accuracy and speed. Graphic analysis charts and easy-to-set menus allow the expert to obtain very high performance in both static and dynamic applications.

Specifically for analog systems.



PROOF OF VIBRATIONS

Agitators, mixers and augers generate vibrations that can disrupt your weighing operations. The cutting-edge technology of the new DGT4X allows them to be filtered out, resulting in values of high-precision weights under any condition.

THE SILOSMART4X COMPONENTS

LOAD CELLS ANALOG

COMPRESSION

Dini Argeo analog compression load cells are suitable for weighing tanks and hoppers with high load capacities up to 100 t.

Made entirely of stainless steel, they feature a rugged construction ideal for harsher environments.

ANALOG CONNECTION

CPX and CPA SERIES

- Stainless steel.
- IP68 protection rating against dust, water and humidity, for use in harsh industrial environments or those with strict hygiene requirements.
- Extremely resistant and compact in size, available in legal-for-trade version.



CPX

CPA



TECHNICAL FEATURES

	CPX	CPA
Accuracy class	C3	C3
Protection rating	IP68/IP69K	IP68
Material	Stainless steel	Stainless steel
Combined error	0,05%	--
Nominal rated output	2 mV/V ± 0,5%	2 mV/V ± 0,1%
Temperature effect on zero	0,02% / 10°C	0,001% / °C
Temperature effect on full scale output	0,02% / 10°C	0,0013% / °C
Compensated temperature range	-10°C / +50°C	-10°C / +40°C
Operating temperature range	-20°C / +60°C	-30°C / +85°C
Creep at nominal load after 30 min	0,02% F.S.	0,03% F.S.
Nominal range of excitation voltage	5-15 Vdc	5-15 Vdc
Input resistance	750 ± 10 Ω	1100 ± 50 Ω
Output resistance	700 ± 5 Ω	1000 ± 10 Ω
Insulation resistance	>5000 MΩ	>5000 MΩ
Safe overload	120% F.S.	150% F.S.
Shielded cable, Ø 5 mm	4 pins - L 5 m (CPX 250 ... 5000) 4 pins - L 10 m (CPX 7500 ... 100000)	6 pins - L 5 m (CPA 150 ... 100000) --

CONFIGURATION

ANALOG

With the analog connection, each load cell sends the signal in mV directly to the transmitter, which converts it to digital. The system does not require a junction box.



LOAD CELLS
AND DINI ARGEO ASSEMBLY KIT



DINI ARGEO INDICATOR
DGT4X



THE SILOSMART4X COMPONENTS

LOAD CELLS DIGITAL

COMPRESSION

Reduce maintenance costs and streamline operations using a digital cascade connection for silo weighing systems.

Load cells made of stainless steel, with IP68 protection and certification to EN-1090, are robust and compact, easily handled by the operator. Ideal for high-capacity weighing kits: up to 30 t per bearing point.

DIGITAL CONNECTION

CPX-D SERIES

- Stainless steel.
- IP68 protection rating against dust, water and humidity, for use in harsh industrial environments or those with strict hygiene requirements.

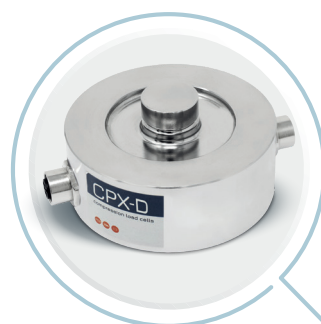


TECHNICAL FEATURES

	CPX-D
Accuracy class	C3
Protection rating	IP68
Material	Stainless steel
Combined error	0,05%
Nominal rated output	2 mV/V ± 0,5%
Temperature effect on zero	0,02% / 10°C
Temperature effect on full scale output	0,02% / 10°C
Compensated temperature range	-10°C / +50°C
Operating temperature range	-20°C / +60°C
Storage temperature limits	-10°C ~ +40°C
Creep at nominal load after 30 min	0,02% F.S.
Nominal range of excitation voltage	5-12 Vdc
Rated digital output	200.000 d
Conversion rate	640 conv./sec.
Safe overload	120% F.S.
Shielded cable, Ø 5 mm	L 5/10 m load cell to load cell L 10 m load cell to indicator

CONFIGURATION DIGITAL

Once installed, the digital load cells constantly monitor the weight of the silos and send it to the weight transmitter via a 485 communication protocol, making the system reliable even in the presence of interferences. The transmitter calculates the total weight of the silo and makes it available together with the diagnostic parameters via fieldbus port and on a web page.



LOAD CELLS
AND DINI ARGEO ASSEMBLY KIT



DINI ARGEO INDICATOR
DGT4X DIGITAL

ADVANTAGES

FOR INSTALLERS

over conventional analogue systems

- ✓ The “cascading” cell connection reduces and simplifies wiring and does not require a junction box
- ✓ Digital technology load cells that do not require calibration operations
- ✓ Predictive diagnostics
- ✓ Remote control and configuration via the integrated web server

ADVANTAGES

FOR USERS

over conventional analogue systems

- ✓ Lower maintenance costs
- ✓ Easier and faster load cell replacement, less downtime
- ✓ More reliability in the presence of interferences
- ✓ Remote monitoring of system status and performance via web server (Industry 4.0)
- ✓ Low energy consumption (Industry 5.0)

THE SILOSMART4X COMPONENTS

ASSEMBLY KIT

EASY TO INSTALL IN A FEW SIMPLE STEPS

The strength of this kit is the ease of installation of each of its components. This allows you to avoid downtime, minimise assembly time and speed up maintenance activities.

KCPN ASSEMBLY KIT

- AISI 304 stainless steel structure, for use in any industrial environment, even corrosive, and to meet food industry requirements.
- High resistance to lateral forces.
- Available in ATEX version for zones 1 & 21, 2 & 22 (for AISI 304 stainless steel version).



OPTIONS/ACCESSORIES

- Certified version EN 1090.
- Optional tensioner to protect the cell from stress due to expansion and contraction.
- Anti-vibration plate.
- Dummy load cell for mechanical testing and weighing of liquids.



TECHNICAL FEATURES - ASSEMBLY KIT (WITH CELL)

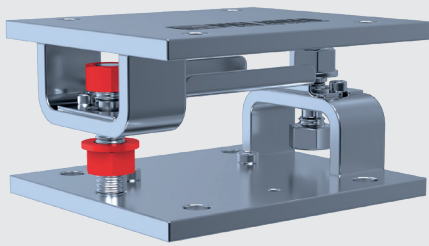
Material	Nickel-plated steel	AISI 304 Stainless steel
Weight (kg)	7	8
Compression safety load	120 kN	120 kN
Compression tensile strength	55 kN	55 kN
Traction safety load	45 kN	45 kN
Traction tensile strength	55 kN	55 kN
Safety load across the plate	20% of the load applied max 25 kN	20% of the load applied max 25 kN
Tensile strength across the plate	30% of the load applied max 35 kN	30% of the load applied max 35 kN
Maximum tilt angle of the support plate	+/- 1°	+/- 1°
Compensating for any expansion/contraction	+/- 3 mm	+/- 3 mm
ATEX Ex marking (upon request)	--	Ex II 2GD X

1



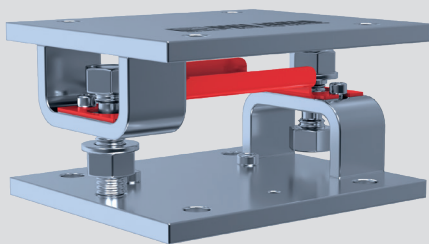
The low profile minimizes the overall height variation of the system and makes the kit easy to install even when space is limited.

2



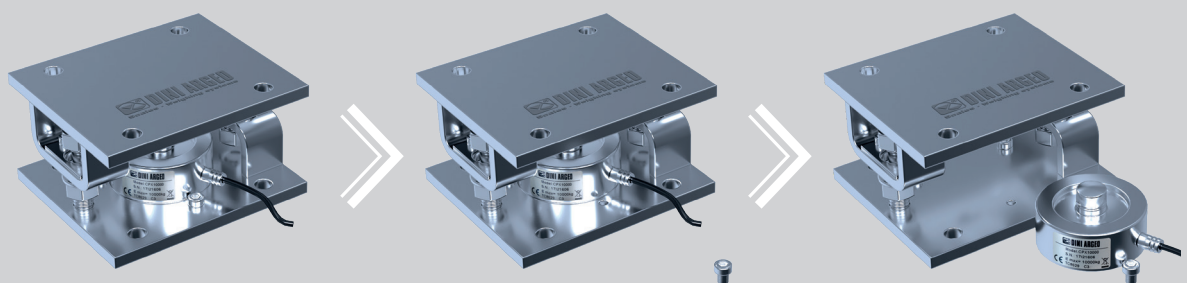
Dual-function supports: bypass to support the load during silo installation, maintenance and transport activities, and anti-tipping when the cell is in operation.

3



The self-centering plate simplifies installation and positioning of the kit even without the load cell.

4



Locking nuts provide easy removal of the load cells.



ALSO FOR ENVIRONMENTS AT RISK OF EXPLOSION

STRENGTH, RELIABILITY AND SAFETY

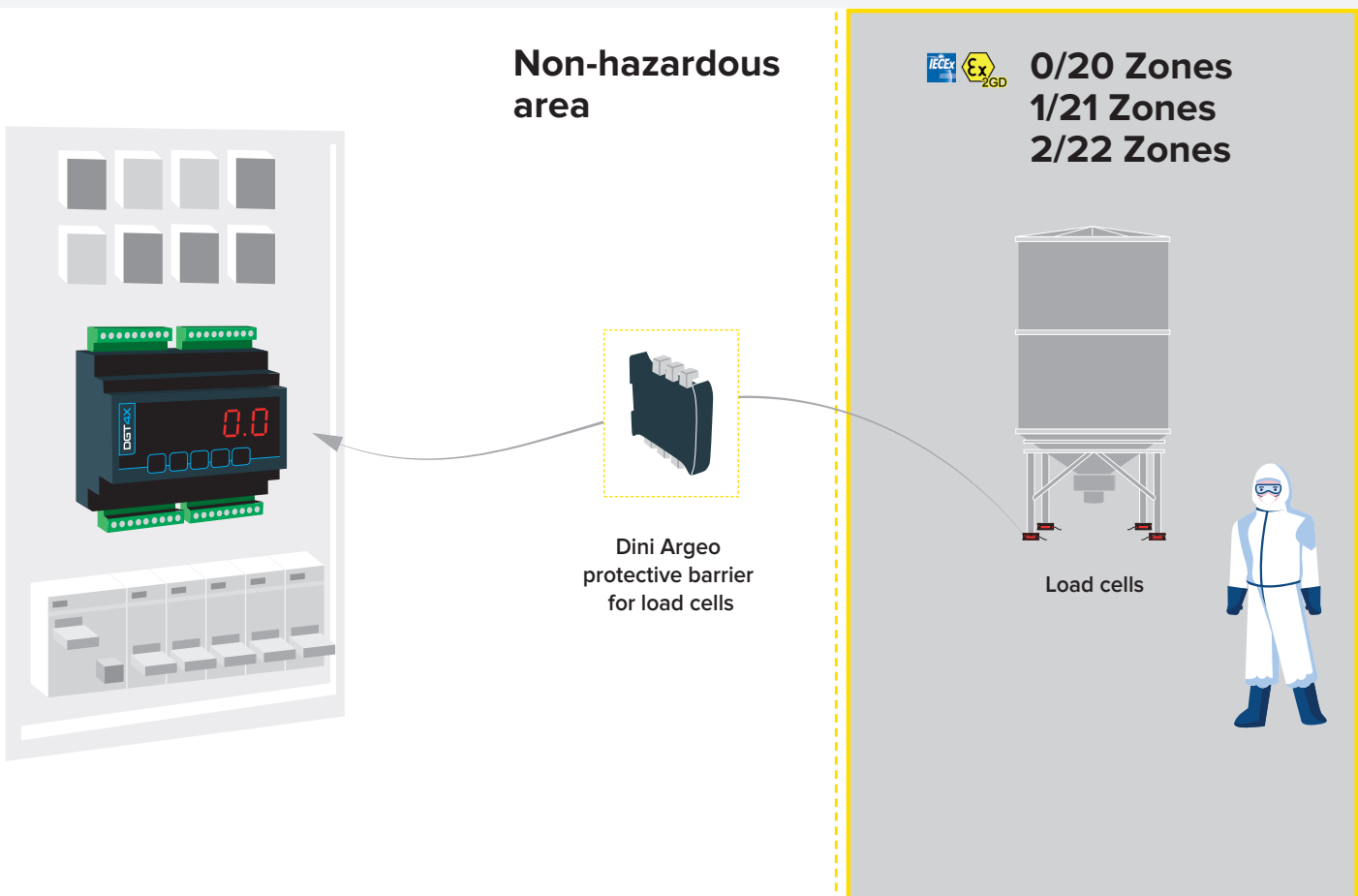
The SILOSMART4X solution by Dini Argeo is also available for ATEX and IECEx environments with certified cells for weighing in hazardous area zones 1 & 21 and 2 & 22, in compliance with European Directive 2014/34/EC.

Dini Argeo is also able to provide any certification or declaration of conformity in order to guarantee the customer the safety of the system purchased and at the same time provide complete service to speed up the development or installation time.

DATA TRANSMISSION

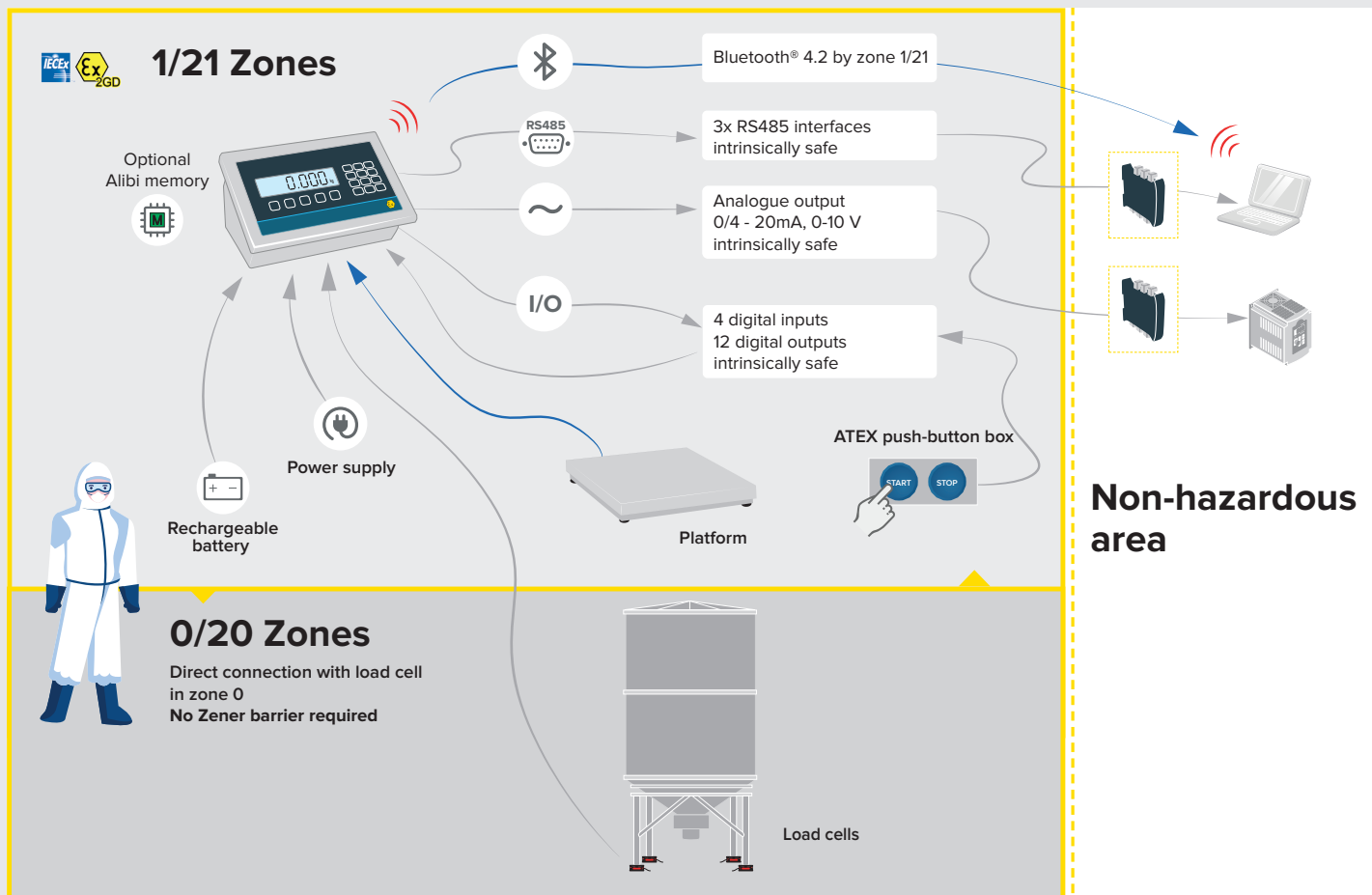
from EXPLOSIVE ZONE to SAFE ZONE

WITH WEIGHT TRANSMITTER





OPERATIONS
in EXPLOSION HAZARD ZONE
 WITH WEIGHT INDICATOR





ATEX SOLUTIONS FOR OVER 20 YEARS

Dini Argeo is an international reference point for the realization of weighing systems for hazardous areas.

Investments in research, development and staff training began in the 1990s, and allowed the company to broaden its skills before obtaining ATEX notification in 2004.

Today, Dini Argeo boasts the widest range of ATEX solutions available on the market, for every weighing need, with over 50,000 installations worldwide and a series of IECEx certified products for the international market.



WHAT DOES IT MEAN TO BE AN ATEX NOTIFIED COMPANY?

The Notification of quality assurance of the production process, according to Annex IV of the ATEX Directive 2014/34/EU, attests the validation of the Quality System for company production by an ATEX Notified Body.

The validation of the quality system is renewed annually, through an inspection carried out by a third-party body in charge. Each ATEX certified product is checked by specialized technicians through specific tests, mechanical and electrical verifications. Being an ATEX Notified Body also means keeping your staff up to date with all the news and changes in the regulations, through training courses, consultancy and constant study of new regulations.



A TEAM OF ATEX SPECIALISTS AT YOUR SERVICE

Each ATEX marked product undergoes scrupulous quality control testing, which guarantees its safety once installed in a hazardous area.


The testing of the products is entrusted to a specialized team coordinated by a product manager with over 20 years of experience. Dini Argeo also has all the necessary instrumentation to perform the tests required by the regulations.



INTERNATIONAL CERTIFICATION IECEx

Dini Argeo also has a range of IECEx-certified products for the international market, which complete the ATEX solution offering for every weighing need on the market.





Dini Argeo Dealer Network: Over 3500 Partners in More Than 130 Countries Across the World

“YOUR WORLDWIDE PARTNER
FOR WEIGHING”

WHY CHOOSE DINI ARGEO?



COMPANY HEADQUARTERS

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SERVICE ASSISTANCE

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Tel. +39.0536 921784

OTHER DINI ARGEO LOCATIONS

DINI ARGEO WEIGHING INSTRUMENTS Ltd
China

DINI ARGEO UK Ltd
United Kingdom

DINI ARGEO FRANCE sarl
France

DINI ARGEO GMBH
Germany

DINI ARGEO OCEANIA
Australia



WORLDWIDE SERVICE AND SHIPPING

International group
with offices in America,
Europe, India, China,
Mexico and Oceania,
over 1100 employees
and a network of
specialised partners
in 130 countries
worldwide.



FAST SHIPPING

Dini Argeo always
keeps complete
systems in stock that
can be shipped quickly.



MADE IN ITALY

Dini Argeo weighing
solutions are made in
Italy and guarantee
the highest quality
standards.

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.

SALES SERVICE AND TECHNICAL ASSISTANCE



SILOSM.CEN
REV. 01/01/2022