

**OPTIKA<sup>®</sup>**  
B A L A N C E S  
I T A L Y



**LABORATORY ELECTRONIC BALANCES**



# OPTIKA®

I T A L Y

In 1971 **OPTIKA** was founded by a physics teacher with great capabilities in combining design skills with teaching sensitivity. In 1990's the second generation started to manufacture microscopes. The company is growing fast, passing from few employees to more than 60.

A team of physicists, chemists, biologists and scientists work to meet market demands by designing and producing durable, user-friendly scientific lab equipment.

Nowadays **OPTIKA** is a leading manufacturer and supplier of scientific instruments for educational, laboratory, industrial and medical use. Our mission is driven by the desire to exceed customers' expectations and provide our selected distribution network with valuable products.



<b>SemiMicro Touchscreen Balances</b>	
<b>SemiMicro Touchscreen TS and TSI</b> resolution 0,01 mg	<b>8-9</b>
<b>Analytical Touchscreen Balances</b>	
<b>Analytical Touchscreen TS and TSI</b> resolution 0,1 mg	<b>10-11</b>
<b>Precision Touchscreen Balances</b>	
<b>Precision Touchscreen TS and TSI</b> resolution 0,001g - 0,01g - 0,1g	<b>12-13</b>
<b>SemiMicro Balances</b>	
<b>SemiMicro SM and SMG</b> resolution 0,01 mg	<b>14-15</b>
<b>Analytical Balances</b>	
<b>Analytical A and AG</b> resolution 0,0001g	<b>16-17</b>
<b>Analytical B and BG</b> resolution 0,0001g	<b>18-19</b>
<b>Precision Balances</b>	
<b>Precision C and CH</b> resolution 0,001g	<b>20-21</b>
<b>Precision CG and CGH</b> resolution 0,001g	<b>22-23</b>
<b>Precision D and DG</b> resolution 0,01g	<b>24-25</b>
<b>Precision E and EH</b> resolution 0,001g	<b>26-27</b>
<b>Precision EG and EGH</b> resolution 0,001g	<b>28-29</b>
<b>Precision F and FG</b> resolution 0,01g	<b>30-31</b>
<b>Precision G and GG</b> resolution 0,1g	<b>32-33</b>
<b>Precision H</b> resolution 0,001g	<b>34</b>
<b>Precision I</b> resolution 0,01g	<b>35</b>
<b>Precision L</b> resolution 0,1g	<b>36</b>
<b>Precision M</b> resolution 0,01g - 0,1g	<b>37</b>
<b>High Capacity Balances</b>	
<b>High Capacity TS-HC</b> resolution 0,01g - 0,1g - 0,5g - 1g	<b>38</b>
<b>High Capacity HCG</b> resolution 0,01g - 0,1g - 0,5g - 1g	<b>39</b>
<b>High Capacity HC</b> resolution 0,01g - 0,1g - 0,5g - 1g	<b>40</b>
<b>Moisture Analyzers</b>	
<b>Moisture analyzers TG</b> resolution 0,0001g - 0,001g - 0,01g	<b>41-42</b>
<b>Moisture analyzers T GRAPHIC</b> resolution 0,0001g - 0,001g - 0,01g	<b>43-44</b>
<b>TS-IDens - Balance for Density Index</b>	
<b>TS-IDens - Balance for Density Index</b> resolution 0,1g - 0,2g - 0,5g - 1g	<b>45-46</b>
<b>Jewelry Balances</b>	
<b>Jewelry balances JW</b> resolution 0,001ct - 0,001g - 0,01g	<b>47</b>
<b>PT Series - Complete System for Pipette Checking</b>	
<b>Pipette balances PT</b> resolution 0,01mg - 0,1mg	<b>48-49</b>
<b>Accessories</b>	<b>50</b>
<b>Certified weights</b>	<b>55</b>

# Legend

-  **Electromagnetic Force Restoration.** Coil in a permanent magnet for the the most accurate weighings
-  **High Resolution Load Cell.** Strain gauge measure the deformation as change in electrical resistance
-  **RS232 Data Interface.** To connect the balance to printer, PC, peripheral devices.
-  **Measuring Units.** Select the measuring unit that balance will use to display weight
-  **Piececounting.** Function to count identical items, reference quantities are selectable.
-  **Checkweighing.** Upper and lower limits can be set individually, for dosing and portioning.
-  **Percentual Weighing.** Function calculates the variation of a sample from reference value (100%)
-  **Totalization Function.** Measures cumulative weight of multiple items. Shows total and current weight
-  **Animal Weighing.** Accurate readings under unstable conditions such moving laboratory animals.
-  **Density Determination.** This function accurately determines density of a solid object or a liquid
-  **Max Load (Peak hold).** This function retains the peak value in a series of consecutive weights
-  **GlP Setup.** Allows storing identification data of balance, project and user. Date and Time
-  **Date & Time.** Balance shows current date and time
-  **Multi Language.** Several languages can be selected from the menu of the balance
-  **Formulation.** Allows setting recipes with name and tolerances for each ingredient. Automatic reportioning
-  **Suspended Weighing.** A support with hook can be loaded on the underside of the balance
-  **Initial verification.** According to 2014/31/EU available for balance with EC(/OIML) Type approval
-  **Accumulator.** Balance has internal accumulator or can be used with optional external accumulator
-  **Battery Operating.** Balance can work using AA batteries
-  **Statistics Function.** Shows Min, Max, Sum, Average, Standard deviation
-  **Gross-Net-Tare.** Function shows simultaneously gross, net weight and tare.
-  **Database.** Internal database to store data and drying methods
-  **Textile Function.** Determines the title of a thread, measuring units: Tex, Td, Nm, Nc.
-  **Drying Modes:** different temperature profiles are available for drying process
-  **Infrared Sensors.** Touchless, to call TARE or PRINT functions without touching the balance
-  **Touchscreen Display.** 5 inch resistive display, user friendly, easy to use and intuitive.
-  **LCD Display.** Standard 8 digit LCD display with backlight
-  **Graphic Display** Text/graphical LCD dot matrix display with backlight.
-  **Ioniser.** Integrated ioniser on the back of the balances
-  **Bluetooth.** It is possible to connect bluetooth devices
-  **USB interface.** It is possible to connect a usb pendrive
-  **Graph.** Real time drying process graph visualization
-  **Password.** User profile can be password protected
-  **Memory.** It is possible to store up to 5 different drying programs

# OPTIKA quick finder

Resolution	Weighing Range	Family Name	Page	M Verification	Internal Calibration	External Calibration	Windshield
0,01mg	62g...220g	<b>TS - TSI</b>	8-9		■		■
0,01mg	62g...220g	<b>SM</b>	14		■		■
0,01mg	62g...220g	<b>SMG</b>	15		■		■
0,1mg	220g...610g	<b>TS - TSI</b>	10-11		■		■
0,1mg	410g...610g	<b>A</b>	16		■		■
0,1mg	410g...610g	<b>AG</b>	17		■		■
0,1mg	120g...310g	<b>B</b>	18	□	□	■	■
0,1mg	120g...310g	<b>BG</b>	19	□	□	■	■
0,001g	310g...2100g	<b>TS</b>	12-13		■	■	□
0,001g	520g...1200g	<b>C</b>	20	□	□	■	□
0,001g	520g...2100g	<b>CH</b>	21	□	□	■	■
0,001g	520g...1200g	<b>CG</b>	22	□	□	■	□
0,001g	520g...2100g	<b>CGH</b>	23	□	□	■	■
0,001g	210g...420g	<b>E</b>	26		□	■	□
0,001g	210g...420g	<b>EG</b>	28		□	■	□
0,001g	210g...420g	<b>EH</b>	27		□	■	■
0,001g	210g...420g	<b>EGH</b>	29		□	■	■
0,001g	210g...420g	<b>H</b>	34			■	■
0,001ct / 0,001g - 0,01g	330g...4200g	<b>JW</b>	42		▲	■	▲
0,01g	3100g...6200g	<b>TS</b>	12-13		■	■	
0,01g	4200g...6200g	<b>D</b>	24	□	□	■	
0,01g	4200g...6200g	<b>DG</b>	25	□	□	■	
0,01g	1000g...5200g	<b>F</b>	30	□	□	■	
0,01g	1000g...5200g	<b>FG</b>	31	□	□	■	
0,01g	620g...4200g	<b>I</b>	35			■	
0,01g	200g...420g	<b>M</b>	37			■	
0,01g/0,1g	3200g...10000g	<b>TS</b>	12-13			■	
0,1g	4500g...10000g	<b>G</b>	32			■	
0,1g	4500g...10000g	<b>GG</b>	33			■	
0,1g	3200g...6500g	<b>L</b>	36			■	
0,1g	420g...2200g	<b>M</b>	37			■	
0,01g-0,1g-1g	6200g...32000g	<b>TS-HC - HCG - HC</b>	38-39-40			■	

## Moisture Balances

Resolution	Weighing Range	Family Name	Page	Thermometer Calibration	Halogen Infrared Lamp
0,0001mg	60g	<b>TG</b>	41-42	□	■
0,0001mg	60g	<b>T GRAPHIC</b>	43-44	□	■
0,001g	200g	<b>TG</b>	38-39	□	■
0,001g	160g/200g	<b>T GRAPHIC</b>	43-44	□	■
0,01g	60g	<b>T GRAPHIC</b>	43-44	□	■

( ■ = Standard □ = Optional ▲ = Only For Some Models )

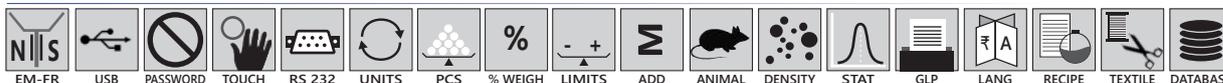
# OPTIKA quick finder

Lcd Display	Graphic Display	Touch Screen display	Integrated Ioniser	Rs232	Units	Glp	Multi Language	Hook	Power Bank
		■	▲	■	■	■	■		
■			▲	■	■				
	■		▲	■	■	■	■		
		■	▲	■	■	■	■		
■			▲	■	■				
	■		▲	■	■	■	■		
■			▲	■	■				
	■		▲	■	■	■	■		
		■		■	■	■	■	▲	
■				■	■			▲	
■				■	■			■	
	■			■	■	■	■	■	
	■			■	■	■	■	■	
■				■	■			▲	□
	■			■	■	■	■	▲	□
■				■	■			▲	□
	■			■	■	■	■	▲	□
■				■	■				□
■				■	■			■	
		■		■	■	■	■	□	
■				■	■			■	
	■			■	■	■	■	■	
■				■	■			▲	□
	■			■	■	■	■	▲	□
■				■	■			■	□
■				■	■				□
		■		■	■	■	■	■	
■				■	■			■	□
	■			■	■	■	■	■	□
■				■	■			■	□
■				■	■				□
▲	▲	▲		■	■	▲	▲	■	□

Graphic Display	Touch Screen Display	Rs232	Units	Glp	Multi Language	Internal Database, Save results	Password protection
	■	■	■	■	■	■	■
■		■	■	■	■		
	■	■	■	■	■	■	■
■		■	■	■	■		
■		■	■	■	■		



TS semi-micro balances are the top level, most innovative and advanced series by OPTIKA. Equipped with large 5" color touch screen display, it gives an user-friendly access to all the balance's advanced applications and internal databases. The user has easy and intuitive access to all the functions thanks to the icon-driven menus. This means more efficiency, productivity and interactivity. The TSI models are equipped with an integrated ioniser on the back of the balance with the purpose to neutralize static electricity on charged samples like plastic parts, containers or films for acquiring the most accurate results. A double case structure protects the heart of the balance: an aluminum inner case and a composite plastic external case. The many on-board functions already included, up to 6 operating languages, the large 5" inch display and the RS232 serial output close the circle of a complete product, reliable and truly convenient.



### Features

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Automatic internal calibration
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable Measuring units
- Internal Database
- GLP
- Multi Languages (EN-DE-FR-IT-SP-PT)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistics report
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Weights adding
- Animal weighing
- Max load determination (Peak hold)
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed.

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
TS-SM625i	62	0,01	Ø 80	0,02	± 0,05	≤ 6
TSI-SM625i	62	0,01	Ø 80	0,02	± 0,08	≤ 6
TS-SM105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
TSI-SM105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
TS-SM1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
TSI-SM1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
TS-SM2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
TSI-SM2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
TS-SM22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
TSI-SM22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6



### Balance technical data

- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA
- Net Weight: 6,7 Kg
- Net Weight -ION models: 7,2 Kg

### Ioniser technical data

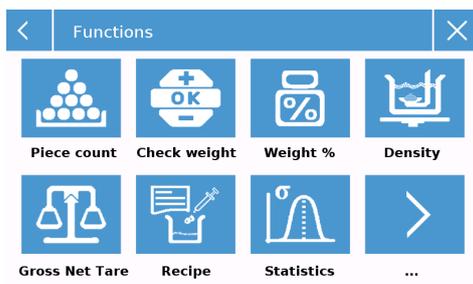
- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 500mA

### Accessories

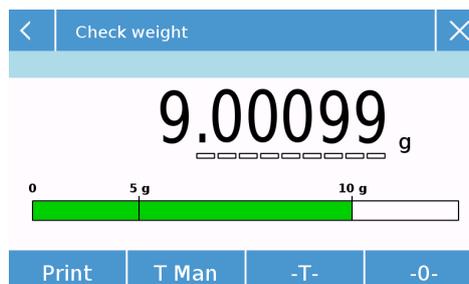
- Portable ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Stylus pen for touchscreen (CNS021)
- Factory Calibration certificate (CNS0333)



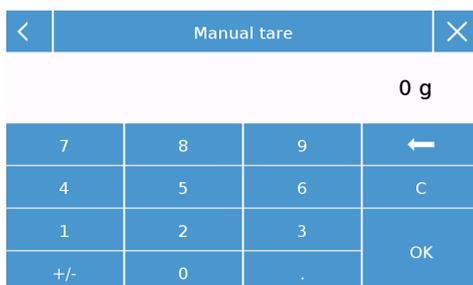
TSI models equipped with integrated ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.



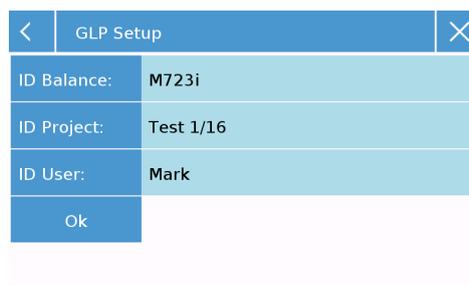
Main functions page for easy working



Live color indication for check weighing



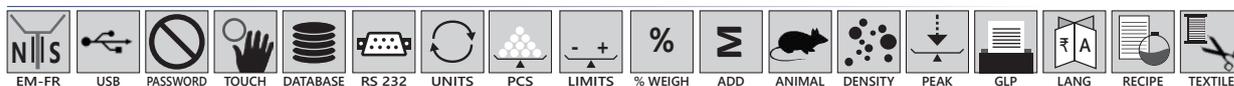
Manual tare input



Clear and easy input for GLP function



TS analytical balances are the most innovative and advanced series by OPTIKA. Equipped with large 5" color touch screen display, it gives an user-friendly access to all the balance's advanced applications and internal databases. The user has easy and intuitive access to all the functions thanks to the icon-driven menus. This means more efficiency, productivity and interactivity. The TSI models are equipped with an integrated ioniser on the back of the balance with the purpose to neutralize static electricity on charged samples like plastic parts, containers or films for acquiring the most accurate results. A double case structure protects the heart of the balance: an aluminum inner case and a composite plastic external case. The many on-board functions already included, up to 6 operating languages, the large 5" inch display and the RS232 serial output close the circle of a complete product, reliable and truly convenient.



### Features

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Automatic internal calibration
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable Measuring units
- Internal Database
- GLP
- Multi Languages (EN-DE-FR-IT-SP-PT)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistics report
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Weights adding
- Animal weighing
- Max load determination (Peak hold)
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
TS-B214Ai	220	0,1	Ø 80	0,1	± 0,0003	≤ 4
TSI-B214Ai	220	0,1	Ø 80	0,1	± 0,0003	≤ 4
TS-B314Ai	310	0,1	Ø 80	0,1	± 0,0003	≤ 4
TSI-B314Ai	310	0,1	Ø 80	0,1	± 0,0003	≤ 4
TS-A514i	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
TSI-A514i	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
TS-A614i	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4
TSI-A614i	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4



TSI models equipped with integrated ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.

### Balance technical data

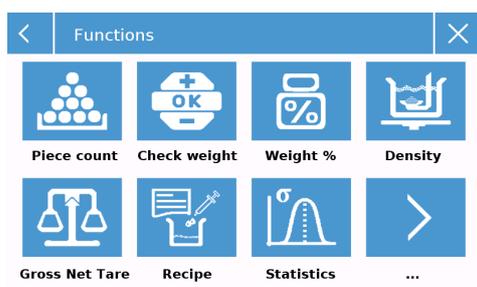
- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA
- Net Weight: 6,7 Kg
- Net Weight -ION models: 7,2 Kg

### Ioniser technical data

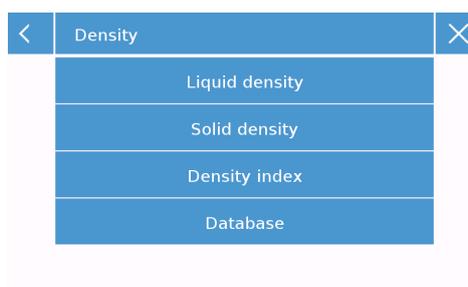
- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 500mA

### Accessories

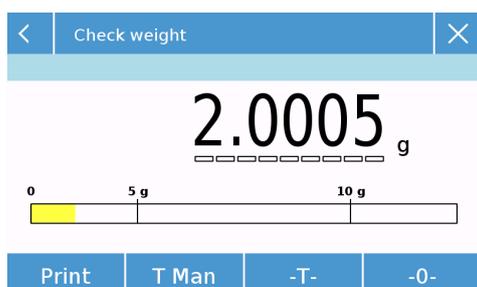
- Portable ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Stylus pen for touchscreen (CNS021)
- Factory Calibration certificate (CNS0333)



Main functions page for easy working



Easy selection for density function



Live color indication for check weighing



Main page with easy access to the menus



TS precision balances are the most innovative and advanced series by OPTIKA. Equipped with large 5" color touch screen display, it gives an user-friendly access to all the balance's advanced applications and internal databases. The user has easy and intuitive access to all the functions thanks to the icon-driven menus. This means more efficiency, productivity and interactivity. A double case structure protects the heart of the balance: an aluminum inner case and a composite plastic external case. With resolution from 0,001g to 0,1g this serie offers a wide choice of models for many application with the simplicity of a touch screen interface. The many on-board functions already included, up to 6 operating languages, the large 5" inch display and the RS232 serial output close the circle of a complete product, reliable and truly convenient.



### Features

- Electromagnetic force restoration weighing system ( for models TS-C / TS-D)
- Highly integrated weighing cell ( for models TS-C / TS-D)
- High resolution load cell weighing system ( for models TS-E / TS-F/ TS-G)
- Automatic internal calibration ( for models TS-C / TS-D / TS-E / TS-F)
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable Measuring units
- Internal Database
- GLP
- Multi Languages (EN-DE-FR-IT-SP-PT)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistics report
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Weights adding
- Animal weighing
- Max load determination (Peak hold)
- Hook for below weighing (for some models)
- Round glass windshield

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
TS-E303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
TS-C523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
TS-C723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2
TS-CH1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
TS-CH2103i	2100	0,001	Ø 110	0,001	± 0,003	≤ 3
TS-F3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3
TS-D6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3

### External Calibration

TS-G10001	10000	0,1	175x195	0,1	± 0,2	≤ 2
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<sup>(1)</sup> Only TS-C523i, TS-C723i, TS-CH1203i, TS-CH2103i, TS-D4202i, TS-D6202i, TS-D8202

<sup>(2)</sup> Only TS-E303i, TS-F3202i, TS-G10001



### Balance technical data

- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber diameter-Height (mm) 0,001g res. models: 150x70
- Power supply M models 110-230Vac, 50/60Hz; output 24V 500mA 13VA
- Power supply L models 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 6,7 Kg

### Accessories

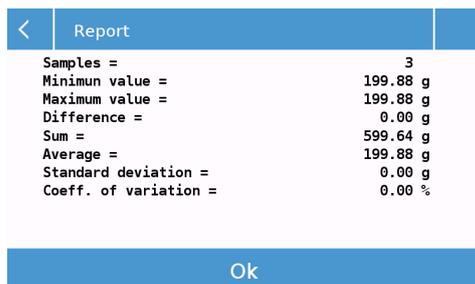
- Portable ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002) 0,001g res.
- Density KIT for solids and liquids (CNS004) 0,01/0,1g res.
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Stylus pen for touchscreen (CNS021)
- Factory Calibration certificate (CNS0333)



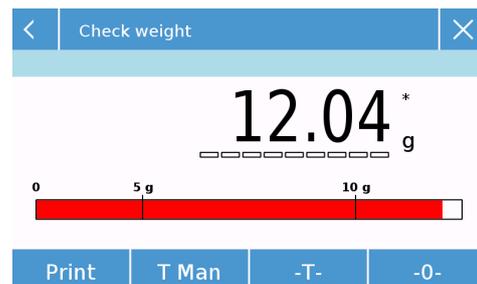
Main page with easy access to the menus



Qwerty touch keypad for easy input



Easy reading reports



Live color indication for check weighing



Optional Ioniser model ION-A15



The OPTIKA series of SemiMicro SM balances is equipped with the new highly integrated electromagnetic cell, with automatic internal calibration on all models, they are characterized by a high level of precision and repeatability.

As in the tradition of OPTIKA products, SemiMicro SM balances deliver an excellent performance/price ratio.

### I-Model



I-models equipped with integrated ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.



### Features

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Automatic internal calibration
- Efficient filtering to deliver quick and accurate results
- LCD with backlight with adjustable contrast
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover for keypad

### Balance Technical data

- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Dimensions of external electronics box LxWxH: 175x105x50 (mm), weight 500g
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA
- Net Weight: 7Kg

### Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
<b>SM625i</b>	62	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>I-SM625i</b>	62	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>SM105i</b>	102	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>I-SM105i</b>	102	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>SM1265Di</b>	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
<b>I-SM1265Di</b>	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
<b>SM2285Di</b>	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>I-SM2285Di</b>	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>SM22105Di</b>	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>I-SM22105Di</b>	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6

### Accessories

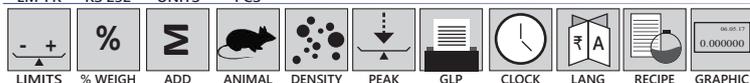
- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)



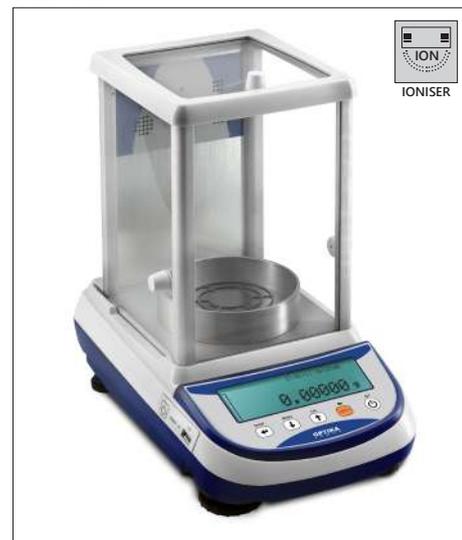
Optional Ioniser model ION-A15



All SMG models are equipped with the large graphic display for easy operations.



### I-Model



I- models equipped with integrated ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.

### Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
SMG625i	62	0,01	Ø 80	0,05	± 0,08	≤ 6
I-SMG625i	62	0,01	Ø 80	0,05	± 0,08	≤ 6
SMG105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
I-SMG105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
SMG1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
I-SMG1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
SMG2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
I-SMG2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
SMG22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
I-SMG22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)

### Features

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

### Ioniser Technical data

- Operation modes: 2 minutes or continuous for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 500mA

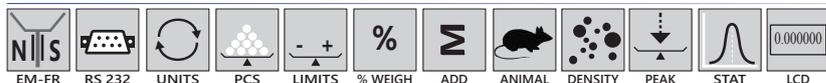
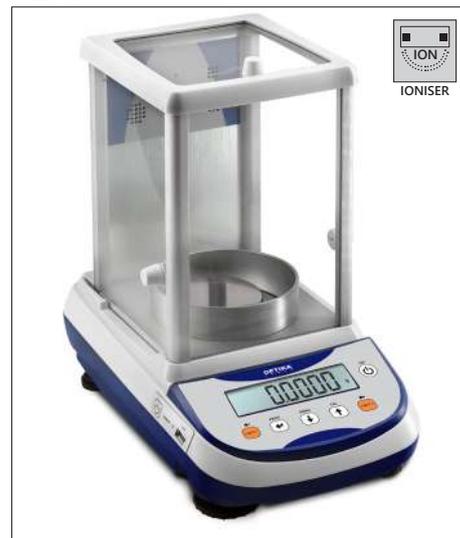


Optional Ioniser model ION-A15



A series family includes Analytical Balances that reach the highest measuring performance. They are equipped with a highly integrated weighing cell whose benefits are high stability against temperature changes and time, quick response thanks to reduced mass and overall reduction of total number of components. A balances have -as standard- automatic internal calibration that allows always precise measurements, practically independent from environment temperature changes. All models are equipped with backlit LCD display, a glass draft windshield that protects a large volume inner measuring chamber. Each balance is equipped with RS232 output interface.

### I Model



I- models equipped with integrated Ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.

### Features

- Electromagnetic force restoration weighing system
- Highly integrated weighing
- Automatic internal calibration
- Efficient filtering
- LCD with backlight with adjustable contrast
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

### Balance Technical data

- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Dimensions of external electronics box LxWxH: 175x105x50 (mm), weight 500g
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA
- Net Weight: 7,2Kg
- Net Weight I-model: 7,6Kg

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (mg)	Linearity (g)	Response time (sec.)
A414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,0005	≤ 4
I-A414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,0005	≤ 4
A514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
I-A514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
A614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4
I-A614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)



Optional Ioniser model ION-A15

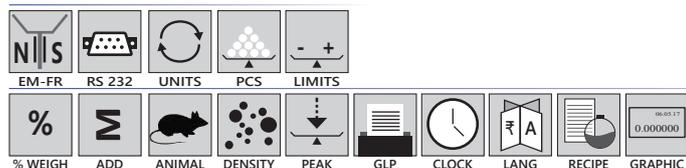


AG models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Others features are a backlit large graphic display, a glass draft windshield that protects a large volume inner measuring chamber and RS232 output interface.

### I Model



I- models are equipped with integrated ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.



### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
AG414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,0005	≤ 4
I-AG414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,0005	≤ 4
AG514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
I-AG514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,0005	≤ 4
AG614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4
I-AG614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)

### Features

- Electromagnetic force restoration weighing system.
- Highly integrated weighing.
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients.
- Large Graphic display allows efficient and easy operations.
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number.
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed.
- Plastic protection cover

### Ioniser Technical data

- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 500mA

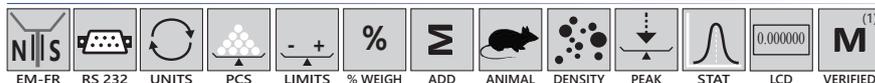


Optional Ioniser model ION-A15



A Top Quality series of Analytical Balances that combine elegance with highly reliable measuring performance. Double case structure, ergonomic keypad, external or internal calibration. Many embedded advanced features make them perfect for use in laboratory, research departments, formulation and quality control applications.

### I Model



I- models equipped with integrated Ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

Net Weight: 6,3Kg

### Internal calibration models

Net Weight: 6,6Kg

I-models net weight: 7,0Kg

### External Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(1)</sup> M)
<b>B124A</b>	120	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
<b>B214A</b>	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
<b>B254A</b>	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(1)</sup> M)
<b>B124Ai</b>	120	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
<b>B214Ai</b>	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
<b>I-B214Ai</b>	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
<b>B254Ai</b>	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
<b>I-B254Ai</b>	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
<b>B314Ai</b>	310	0,1	Ø 80	0,0001	± 0,0004	≤ 4	–
<b>I-B314Ai</b>	310	0,1	Ø 80	0,0001	± 0,0004	≤ 4	–

### Accessories

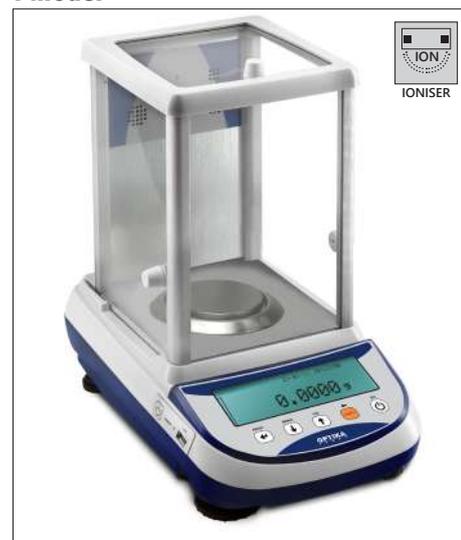
- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Communication KIT for balances (CNS0476)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(1)</sup>)

<sup>(1)</sup>To order Verification please add -M to name, e.g. B214Ai-M

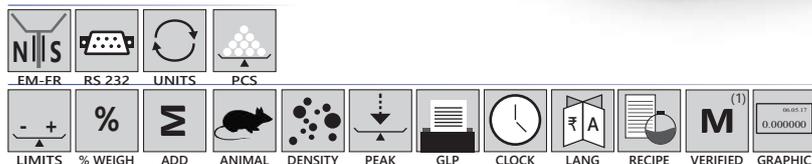


BG models are equipped with a large graphic display for easy reading and user friendly operations with many functions. BG balances have an extensive recipe database, GLP and many embedded advanced features make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### I Model



I-models equipped with integrated Ioniser on the back of the balance. The ioniser has two way of operating: 2 minutes or continuously for max 8 hours.



### External Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(1)</sup> )M
BG124A	120	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
BG214A	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
BG254A	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(1)</sup> )M
BG124Ai	120	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
BG214Ai	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
I-BG214Ai	220	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
BG254Ai	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	<b>M</b>
I-BG254Ai	250	0,1	Ø 80	0,0001	± 0,0003	≤ 4	–
BG314Ai	310	0,1	Ø 80	0,0001	± 0,0004	≤ 4	–
I-BG314Ai	310	0,1	Ø 80	0,0001	± 0,0004	≤ 4	–

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(1)</sup>)

<sup>(1)</sup>To order Verification please add -M to name, e.g. B214Ai-M

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

### Ioniser Technical data

- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 500mA

### External calibration models

Net Weight: 6,3Kg

### Internal calibration models

Net Weight: 6,6Kg

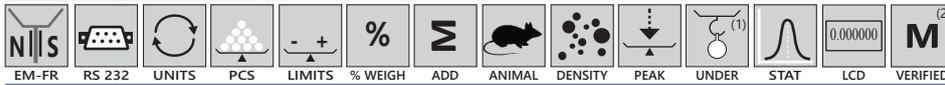
I-models net weight: 7,0Kg



A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. Double case structure, ergonomic keypad, external or internal calibration. Many embedded advanced features make them perfect for use in laboratory, research departments, formulation and quality control applications.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Round glass windshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x155
- Weighing chamber dimensions diameter-Height (mm): 150x70
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

Net Weight: 4,6Kg

### Internal calibration models

Net Weight: 4,9Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Factory Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)
- Communication KIT for balances (CNS0476)

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
C523	520	0,001	Ø 110	0,001	± 0,002	≤ 2	–
C723	720	0,001	Ø 110	0,001	± 0,002	≤ 2	–
C1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	–
C1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	–

### Internal Automatic Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
C523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	M
C723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2	M
C1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	–
C1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	–

<sup>(1)</sup> Not available for verified models

<sup>(2)</sup> To order Verification please add -M to name, e.g. B214Ai-M



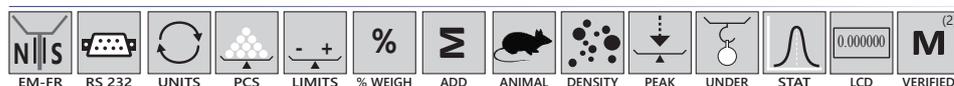
Optional Ioniser model ION-A15



CH models are equipped with a large glass draught shield.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Internal Automatic Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
CH523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	<b>M</b>
CH1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	–
CH2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3	–

### Only Verified (M) Version

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
CH723i-M	720	0,001	Ø 110	0,001	± 0,002	≤ 2	

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### Internal calibration models

Net Weight: 6,3Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for output to printer/PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)
- Communication KIT for balances (CNS0476)

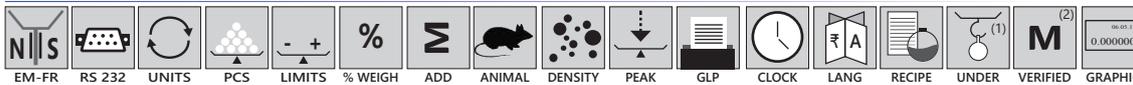
<sup>(2)</sup>To order Verification please add -M to name, e.g. B214Ai-M



Double case structure, ergonomic keypad. CG balances have an extensive recipe database and many embedded advanced features make them perfect for use in laboratory, research departments, formulation and quality control applications.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Round glass windshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x155
- Weighing chamber dimensions diameter-Height (mm): 150x70
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

Net Weight: 4,6Kg

### Internal calibration models

Net Weight: 4,9Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
CG523	520	0,001	Ø 110	0,001	± 0,002	≤ 2	-
CG723	720	0,001	Ø 110	0,001	± 0,002	≤ 2	-
CG1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
CG1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

### Internal Automatic Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
CG523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	M
CG723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2	M
CG1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
CG1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

<sup>(1)</sup> Not available for verified models

<sup>(2)</sup> To order Verification please add -M to name, e.g. B214Ai-M



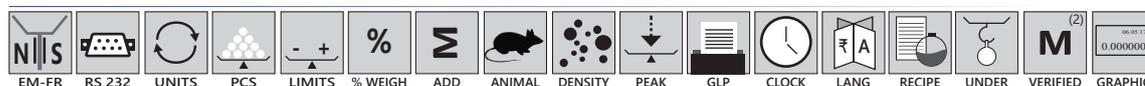
Optional Ioniser model ION-A15



Equipped with a large glass draught shield, CGH balances have an extensive recipe database and many embedded advanced features make them perfect for use in laboratory, research departments, formulation and quality control applications.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Large glass draught shield with 3 sliding doors for easy access to the items
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Internal Automatic Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
CGH523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	<b>M</b>
CGH1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	–
CGH2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3	–

### Only Verified (M) Version

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
CGH723i-M	720	0,001	Ø 110	0,001	± 0,002	≤ 2

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### Internal calibration models

Net Weight: 6,3Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)

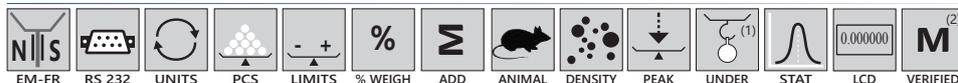
<sup>(2)</sup> To order Verification please add -M to name, e.g. B214Ai-M

Balances series D combine design with high level performance, guaranteed by the electromagnetic force restoration weighing cell. Double case structure, ergonomic keypad, external or internal calibration. Many embedded advanced features make them ideal instruments for your work in laboratory, research and quality control applications.



### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>
- PQ models have a rectangular pan 175x195mm



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

Net Weight: 4,6Kg

### Internal calibration models

Net Weight: 5,1Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
D4202	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	–
D5202	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
D6202	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
D5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	–

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
D4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	<b>M</b>
D5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
D6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
D5502Di	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	–

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS004)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)
- Communication KIT for balances (CNS0476)

<sup>(1)</sup> Not available for verified models

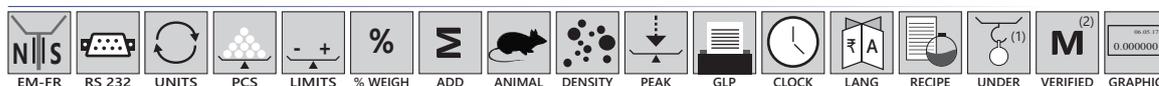
<sup>(2)</sup> To order Verification please add -M to name, e.g. B214Ai-M



DG balances have an extensive recipe database and many embedded advanced features make them ideal for your work in laboratory, research departments, formulation and quality control applications.

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>
- PQ models have a rectangular pan 175x195mm



### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
DG4202	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	–
DG5202	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
DG6202	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
DG5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	–

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

Net Weight: 4,6Kg

### Internal calibration models

Net Weight: 5,1Kg

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
DG4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	<b>M</b>
DG5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
DG6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
DG5502Di	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	–

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS004)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)

<sup>(1)</sup> Not available for verified models

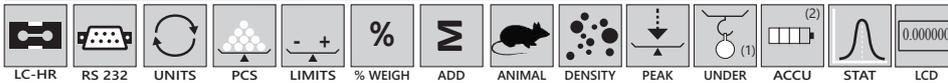
<sup>(2)</sup> To order Verification please add -M to name, e.g. B214Ai-M

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. E series balances are a synthesis of design, performance and convenience. Thanks to a sophisticated software and to a high-performance load cell, these balances deliver top performance at competitive prices. Double case structure, ergonomic keypad, external or internal calibration. Many embedded advanced features make them perfect for your work.



### Features

- High resolution load cell weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Round glass windshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x155
- Weighing chamber dimensions diameter-Height (mm): 150x70
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### External calibration models

Net Weight: 3,3Kg

### Internal calibration models

Net Weight: 3,6Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
E203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
E303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
E423	420	0,001	Ø 110	0,001	± 0,004	≤ 4

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
E203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
E303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
E423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Portable rechargeable battery pack (CNS015)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)

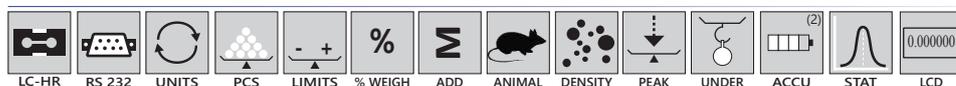
<sup>(1)</sup> Only for external calibration model

<sup>(2)</sup> Optional external battery pack (CNS015)



### Features

- Large glass draught shield with 3 sliding doors for easy access to the items
- High resolution load cell weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
EH203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
EH303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
EH423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### Internal calibration models

Net Weight: 4,6Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Portable rechargeable battery pack (CNS015)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)

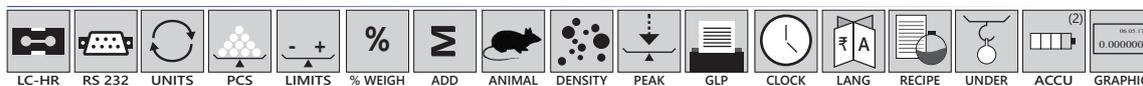
<sup>(2)</sup> Optional external battery pack (CNS015)

All EG models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. EG balances have an extensive recipe database and many embedded advanced features make them perfect for use in laboratory, research departments, formulation and quality control applications.



### Features

- High resolution load cell weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Round glass windshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x155
- Weighing chamber dimensions diameter-Height (mm): 150x70
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### Internal calibration models

Net Weight: 3,6Kg

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
EG203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
EG303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
EG423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

### Accessories

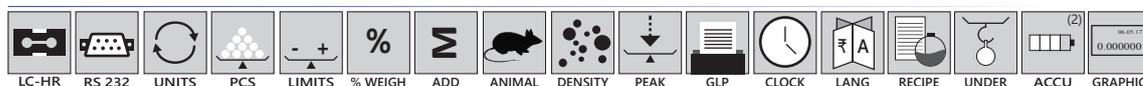
- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)

<sup>(2)</sup> Optional external battery pack (CNS015)



### Features

- Large glass draught shield with 3 sliding doors for easy access to the items
- High resolution load cell weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
EGH203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
EGH303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
EGH423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### Internal calibration models

Net Weight: 4,6Kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)

<sup>(2)</sup> Optional external battery pack (CNS015)

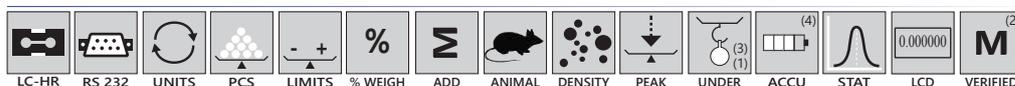


Optional Ioniser model ION-A15

F Series balances are a synthesis of design, performance and convenience. Thanks to a sophisticated software and to a high-performance load cell, these balances deliver top performance at competitive prices. Double case structure, ergonomic keypad, external or internal calibration. Many embedded advanced features make them perfect for your work.

### Features

- High resolution load cell weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 5ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### External calibration models

Net Weight: 3,3Kg

### Internal calibration models

Net Weight: 3,6Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
F1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	–
F2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
F3202	3200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
F4202	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	–
F5202	5200	0,01	Ø 160	0,01	± 0,04	≤ 4	–

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
F1002i	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	M
F2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	M
F3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3	M
F4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	–

### Only Verified (M) Version

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
F3102i-M	3100	0,01	Ø 160	0,01	± 0,03	≤ 3	M

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Portable rechargeable battery pack (CNS015)
- Density KIT for solids and liquids (CNS004)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)
- Communication KIT for balances (CNS0476)

<sup>(1)</sup> Not available for verified models

<sup>(3)</sup> Only for external calibration model

<sup>(2)</sup> To order Verification please add -M to name, e.g. F1002i-M

<sup>(4)</sup> Optional external battery pack (CNS015)



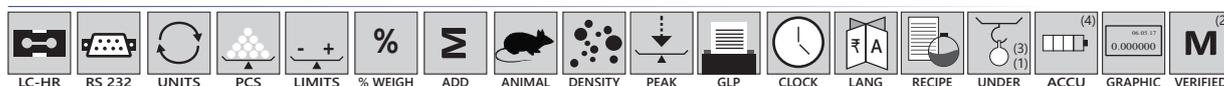
Optional Ioniser model ION-A15



FG balances have an extensive recipe database and many embedded advanced features make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### Features

- Large Graphic display allows efficient and easy operations
- High resolution load cell weighing system
- External or automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>



### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
FG1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	–
FG2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
FG3202	3200	0,01	Ø 160	0,01	± 0,03	≤ 3	–
FG4202	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	–
FG5202	5200	0,01	Ø 160	0,01	± 0,04	≤ 4	–

### Automatic Internal Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification (optional <sup>(2)</sup> )M
FG1002i	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	
FG2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
FG3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3	<b>M</b>
FG4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	–

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 5ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

### External calibration models

Net Weight: 3,3Kg

### Internal calibration models

Net Weight: 3,6kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS004)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Conformity Declaration (Verification<sup>(2)</sup>)

<sup>(1)</sup> Not available for verified models

<sup>(4)</sup> Optional external battery pack (CNS015)

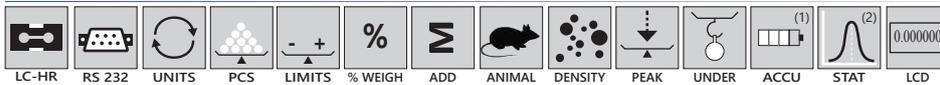
<sup>(2)</sup> To order Verification please add -M to name, e.g. F1002i-M

<sup>(3)</sup> Only for external calibration model

G Series balances are a synthesis of design, performance and convenience. Thanks to a sophisticated software and to a high-performance load cell, these balances deliver top performance at competitive prices. Double case structure, ergonomic keypad, maximum capacity 20Kg. Many embedded advanced features make them perfect for your work.

### Features

- High resolution load cell weighing system
- External calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- Under hook weighing



### Technical data

#### Common features

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 3,5Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>G4501</b>	4500	0,1	175x195	0,05	± 0,1	≤ 2
<b>G5201</b>	5200	0,1	175x195	0,05	± 0,1	≤ 2
<b>G6501</b>	6500	0,1	175x195	0,05	± 0,1	≤ 2
<b>G8001</b>	8000	0,1	175x195	0,05	± 0,2	≤ 2
<b>G10001</b>	10000	0,1	175x195	0,05	± 0,2	≤ 2

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)

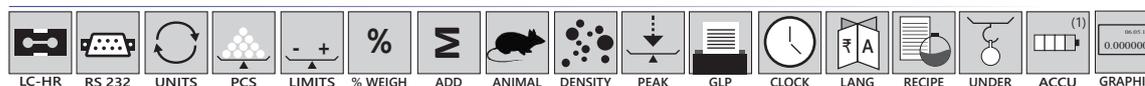
<sup>(1)</sup> Optional external battery pack (CNS015)

GG balances have an extensive recipe database and many embedded advanced features make them perfect for use in laboratory, industry and quality control applications.



### Features

- Large Graphic display allows efficient and easy operations
- High resolution load cell weighing system
- External calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record keeping of weight values with date, time and serial number
- Plastic protection cover
- Under hook weighing



### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>GG4501</b>	4500	0,1	175x195	0,05	± 0,1	≤ 2
<b>GG5201</b>	5200	0,1	175x195	0,05	± 0,1	≤ 2
<b>GG6501</b>	6500	0,1	175x195	0,05	± 0,1	≤ 2
<b>GG8001</b>	8000	0,1	175x195	0,05	± 0,2	≤ 2
<b>GG10001</b>	10000	0,1	175x195	0,05	± 0,2	≤ 2

### Technical data

#### Common features

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 3,5Kg

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)

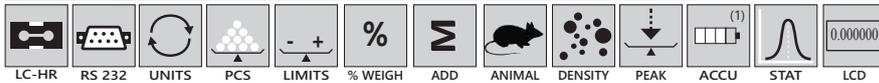
<sup>(1)</sup> Optional external battery pack (CNS015)

A fusion of design and quality, H Series balances enclose all the experience of higher class models in a small footprint portable balance. Thanks to the sophisticated software and to a high-performance load cell, these balances reach maximum capacity of 420 grams. Solid structure, ergonomic keypad and the many embedded software functions make this balance a complete product at a very competitive price.



### Features

- High resolution load cell weighing system
- Small footprint
- External calibration
- LCD with backlight with adjustable contrast
- Round glass windshield
- Plastic protection cover



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 5ppm/°C
- Dimensions LxWxH (mm): 190x255x130
- Weighing chamber dimensions diameter-Height (mm): 133x70
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 1,6Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
H203	210	0,001	Ø 80	0,001	± 0,003	≤ 3
H303	310	0,001	Ø 80	0,001	± 0,003	≤ 3
H423	420	0,001	Ø 80	0,001	± 0,004	≤ 3

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS002)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)
- Rechargeable battery pack external (CNS015)

<sup>(1)</sup> Optional external battery pack (CNS015)



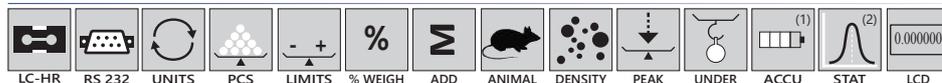
Optional TLP-50 Label Printer



A fusion of design and quality, I Series balances enclose all the experience of higher class models in a small footprint portable balance. Thanks to the sophisticated software and to a high-performance load cell, these balances reach maximum capacity of 4200 grams. Solid structure, ergonomic keypad and the many embedded software functions make this balance a complete product at a very competitive price, ideal for use in school scientific laboratories.

### Features

- High resolution load cell weighing system
- Small footprint
- External calibration
- LCD with backlight with adjustable contrast
- Under hook weighing
- Plastic protection cover



### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
I622	620	0,01	Ø 130	0,01	± 0,02	≤ 2
I1002	1000	0,01	Ø 130	0,01	± 0,02	≤ 2
I2202	2200	0,01	Ø 130	0,01	± 0,03	≤ 3
I3102	3100	0,01	Ø 130	0,01	± 0,03	≤ 3
I4202	4200	0,01	Ø 130	0,01	± 0,04	≤ 3

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 190x255x80
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 1,4Kg

### Accessories

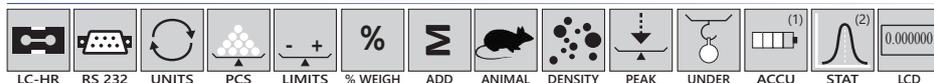
- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Density KIT for solids and liquids (CNS004)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)
- Rechargeable battery pack external (CNS015)

<sup>(1)</sup> Optional external battery pack (CNS015)

A fusion of design and quality, L Series balances enclose all the experience of higher class models in a small footprint portable balance. A sophisticated software and a high-performance load cell allow always reliable weighings and fast response. Solid structure, ergonomic keypad and the many embedded software functions make this balance a complete product at a very competitive price.

### Features

- High resolution load cell weighing system
- Small footprint
- External calibration
- LCD with backlight with adjustable contrast
- Under hook weighing
- Plastic protection cover



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 190x255x80
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 1,4Kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
L3201	3200	0,1	150x140	0,05	± 0,2	≤ 2
L5201	5200	0,1	150x140	0,05	± 0,2	≤ 2
L6501	6500	0,1	150x140	0,05	± 0,2	≤ 2

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Calibration certificate (CNS0333)
- Communication KIT for balances (CNS0476)
- Rechargeable battery pack external (CNS015)
- Density KIT for solids and liquids (CNS004)

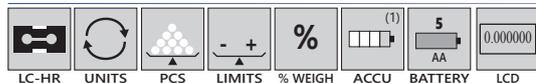
<sup>(1)</sup> Optional external battery pack (CNS015)



The entry level of balances keeping all the quality of higher level balances. Is the essential for having always precise and reliable results with the minimum investment. The refined design, the small dimensions, the backlit LCD display, the possibility of operating also with AA type batteries (5 pcs) and the many on-board software functions already included make this balance a product with the best quality over price.

### Features

- High resolution load cell weighing system
- Small footprint, portable
- External calibration
- LCD with backlight
- Operates also with AA batteries (not included)
- Plastic protection cover



### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
M422	420	0,01	Ø 110	0,01	± 0,02	≤ 2
M2201	2200	0,1	150x140	0,1	± 0,3	≤ 2

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 190x255x80
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 1 Kg

### Accessories

- Calibration certificate (CNS0333)

<sup>(1)</sup> Optional external battery pack (CNS015)



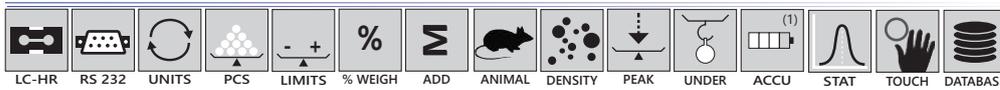
The new TS-HC high capacity balances bring robustness, reliability and a high level of performance. The TS-HC models are equipped with a large 5" color touchscreen display that gives an user-friendly access to all the balance's advanced applications and internal databases.

The user has easy and intuitive access to all the functions thanks to the icon-driven menu. This means more efficiency, productivity and interactivity.

The many embedded functions make these balances an ideal instrument of work for many applications inside and outside laboratory and factory.

### Main features

- Electromagnetic force restoration weighing system (for 0,01g resolution)
- High readability load cell weighing system (for 0,1g resolution)
- External calibration
- Large 5" color touchscreen 800x480 display
- Selectable and customizables measuring units
- Internal Database
- GLP/ISO record of last stored calibration data
- Multi Languages (EN-DE-FR-IT-SP-PT)
- Multi-user with password protection
- USB port for import/export database data
- RS232 serial interface
- Advanced piececounting function with Statistics report
- Textile function to measure fibers with Statistics report
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Weights adding
- Animal weighing
- Max load determination (Peak hold)
- Plastic protection cover
- Under hook weighing



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 360x355x130
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA (0,01g res)
- Net Weight: 8Kg (0,01 res), 7,5 kg

### External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
TS-HC8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
TS-HC16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
TS-HC25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
TS-HC32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
TS-HC32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
TS-HC32000	32000	1	320x220	0,5	± 1	≤ 3
TS-HC32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3

### Accessories

- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- PC data collection software (CNS0476)
- Serial to USB converter (CNS1002)
- Factory Calibration certificate (CNS0333)
- Portable rechargeable battery pack (CNS015)
- Ioniser Ion-A15 (CNS0371)

TS-HC6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
TS-HC8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
TS-HC10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
TS-HC12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

<sup>(1)</sup> Optional external battery pack (only for 9V models) (CNS015)

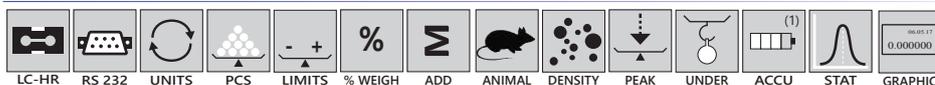
The new HCG high capacity balances bring robustness, reliability and a high level of performance.

All the HCG models are equipped with a large graphic display for easy reading and user friendly operations with many functions. RBG balances with solid structure and ergonomic keypad have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, compounds formulation and quality control applications.



## Features

- Electromagnetic force restoration weighing system (for 0,01g resolution)
- High readability load cell weighing system (for 0,1g resolution)
- Dot Matrix graphical display
- External calibration
- GLP/ISO record of last stored calibration data
- Multi Languages (EN-DE-FR-IT-SP-PT)
- RS232 serial interface
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Weights adding
- Animal weighing
- Max load determination (Peak hold)
- Plastic protection cover
- Under hook weighing



## External Calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
HCG8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
HCG16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
HCG25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
HCG32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
HCG32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
HCG32000	32000	1	320x220	0,5	± 1	≤ 3
HCG32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3

HCG6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
HCG8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
HCG10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
HCG12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

<sup>(1)</sup> Optional external battery pack (only for 9V models) (CNS015)

## Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 360x355x130
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA (0,01g res)
- Net Weight: 8Kg (0,01 res), 7,5 kg

## Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- PC data collection software (CNS0476)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Portable rechargeable battery pack (CNS015)
- Factory Calibration certificate (CNS0333)

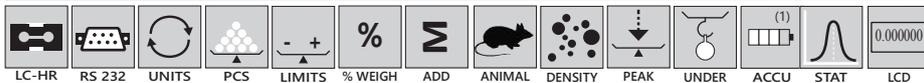
The new HC high capacity balances bring robustness, reliability and a high level of performance.

HC serie is synthesis of design, performance and convenience. The models are equipped with LCD display, with solid structure and ergonomic keypad these balances deliver top performance at competitive prices.

These balances are an ideal instrument of work for many applications inside and outside laboratory and factory.

### Features

- Electromagnetic force restoration weighing system (for 0,01g resolution)
- High readability load cell weighing system (for 0,1g resolution)
- External calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- Under hook weighing



### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 360x355x130
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA (0,01g res)
- Net Weight: 8Kg (0,01 res), 7,5 kg

### Accessories

- Ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- PC data collection software (CNS0476)
- Portable rechargeable battery pack (CNS015)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Factory Calibration certificate (CNS0333)

### External Calibration

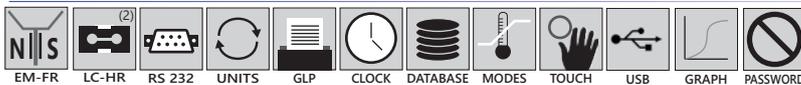
Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
HC8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
HC16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
HC25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
HC32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
HC32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
HC32000	32000	1	320x220	0,5	± 1	≤ 3
HC32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3

HC6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
HC8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
HC10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
HC12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

<sup>(1)</sup> Optional external battery pack (CNS015)



TG - Series balances are moisture balances with large 5" color touchscreen display that gives a user-friendly access to all the balance advanced applications and internal databases. The user has easy and intuitive access with fast programming of drying cycles, thanks to icon-driven menus. This means more efficiency, productivity and interactivity. A double case structure protects the heart of the balance: an aluminum inner case and a composite plastic external case. The many on-board functions already included, the possibility of calibrating the internal thermometer using the optional KIT, up to 6 operating languages, the large 5" inch display and the RS232 serial output close the circle of a complete product, reliable and truly convenient. The models in the family allow reaching up to 0,001% drying resolution.



**External Calibration**

Model	Capacity (g)	Resolution (g)	Moisture Resolution	Pan (mm)	Repeatability (g)	Linearity (g)	Precision (2g)	Response time (sec.)
<b>TGA64M</b>	60	0,0001	0,001%	100mm Samples Pan	0,0001	± 0,0003	0,18%	≤ 3
<b>TG203M</b>	200	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,18%	≤ 3

**Technical data**

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [TGA64M]; +/- 4ppm/°C [other models]
- Dimensions LxWxH (mm): 345x215x235
- Maximum dimension of container on the pan: 100mm (Ø) x 25mm (height)
- Power supply: AC 220-240 V (at request AC 110 Volt) 50/60Hz; plugs EU,UK
- Power consumption: rating 430 VA; Heat source lamp: 400Watt
- Net Weight: 6,1Kg (A64M and 163M)
- Net Weight: 4,7Kg (163L and 62L)

**Accessories**

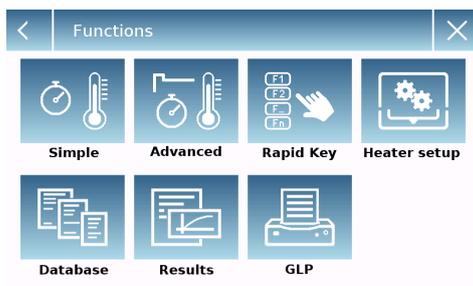
- Thermometer calibration KIT (CNS02)
- Serial Printer TLP-50, with date/time (CNS054)
- TEST pans (Ø 100mm x 0,5mm) (CNS753)
- Ioniser Ion-A15 (CNS0371)
- Calibration certificate (CNS0333)
- Touchscreen Stylus pen (CNS021)
- Fiber glass test panz Ø 90 (CNS026)



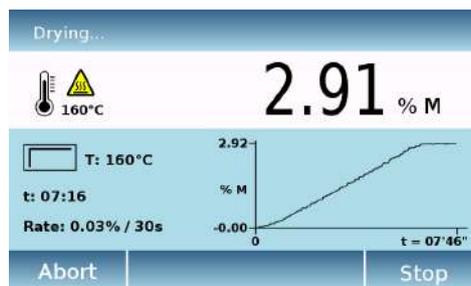
Export/import results and database to USB

## Features

- Electromagnetic force restoration weighing system (A64M and 163M)
- High resolution load cell weighing system (163L and 62L)
- Halogen-infrared lamp
- External calibration
- Large 5" color touchscreen 800x480 display
- RS232 serial interface
- Drying resolution 0,001% (-A64M), 0,01% (-163M and -163L), 0,1% (-62L)
- Drying modes: Time mode (1-99 min.), Autostop % or absolute autostop in grams, Manual
- Live Graph of humidity content changing
- Temperature range: 35-160°C, step of 1°C
- Temperature Profiles: Standard, fast, mild, steps
- Results in: Humidity%, Dry residue%, ATRO%, Weight
- Test results complete of full drying cycle Graph
- Up to 10 hot keys for fast recall of drying cycles from internal database
- Default database stored already with more than 30 products
- Saving results with test reports and drying graphic up to 300 records, for each user.
- Customizable settings for up to 10 users with the possibility of password protection.
- Serial output for connection to printer, USB port for export or import database, test results, etc.



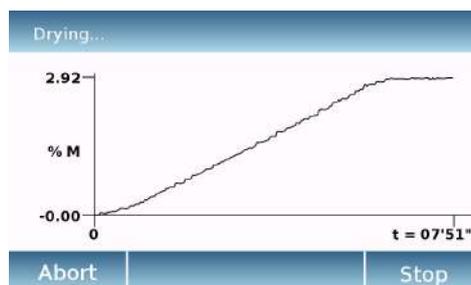
Main functions page for easy working



Live color indication for check weighing



Manual tare input



Clear and easy input for GLP function

# T GRAPHIC SERIES - Resolution 0,0001g-0,001g-0,01g

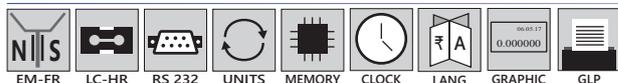


The new T GRAPHIC - Series are rugged instruments for moisture determination of raw materials and finished samples in the food, cosmetics, ceramics, agriculture and construction industry.

The Dot Matrix graphical display with backlite makes much easier and friendly using the instrument and gives easy and intuitive guidance through the operating process thanks also to his advanced software. On the display are shown all the parameters regarding the drying process and all the relative results, all viewable at once.

This instrument brings features such as one key pressing for starting automatically the last drying cycle memorized or the default one, possibility to print the drying session by interval time set by the user, automatic session starting just by closing the heater etc...

Drying readability are 0,001%, 0,01% and 0,1%. Possibility of calibrating the internal thermometer (with optional KIT CNS02).



## External Calibration

Model	Capacity (g)	Resolution (g)	Moisture Resolution	Pan (mm)	Repeatability (g)	Linearity (g)	Precision (2g)	Response time (sec.)
TA64MG	60	0,0001	0,001%	100mm Samples Pan	0,0001	± 0,0003	0,18%	≤ 3
T203MG	200	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,18%	≤ 3
T163LG	160	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,20%	≤ 4
T62LG	60	0,01	0,1%	100mm Samples Pan	0,01	± 0,03	0,50%	≤ 3

## Technical data

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [TA64MG]; +/- 4ppm/°C [other models]
- Dimensions LxWxH (mm): 345x215x235
- Maximum dimension of container on the pan: 100mm (Ø) x 25mm (height)
- Power supply: AC 220-240 V (at request AC 110 Volt) 50/60Hz; plugs EU,UK
- Heater: 230V AC 50/60Hz, 400Watt
- Net Weight: 6,1Kg (TA64MG and T163MG)

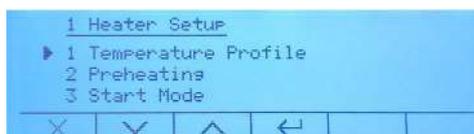
## Accessories

- Portable ioniser Ion-A15 (CNS0371)
- Thermometer calibration KIT (CNS02)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Serial to USB converter (CNS1002)
- Serial cable for output to printer/PC (CNS743)
- Test pans (Ø 100mm x 0,5mm) (CNS753)
- Fiber glass test pans Ø 90mm (CNS026)
- Factory Calibration certificate (CNS0333)

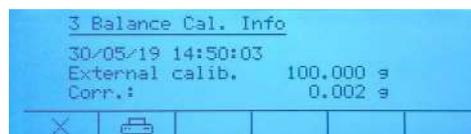


## Features

- Electromagnetic force restoration weighing system (TA64MG and T163MG)
- High readability load cell weighing system (T163LG and T62LG)
- Halogen-infrared lamp
- Large Graphic display allows efficient and easy operations
- Date and time indication
- Multilanguage: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- Two heating modes: standard and rapid
- Pre-heating on/off
- Time (1-99 min) and Autostop operating modes
- Temperature range: 35-160°C/1°C
- Moisture, dry residue in percentage and ATRO indications
- RS232 serial interface
- View and print the moisture analyzer and heater's last stored calibration data
- Measuring unit g or mg
- Automatic starting of sessions by closing the heater
- Plastic protection cover



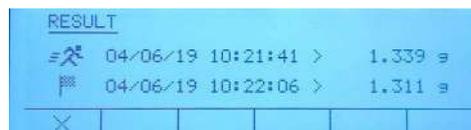
Easy set up of the heater parameters



Moisture analyzer calibration data overview



All the parameters all visible at once during drying session



Clear and detailed results view

# TS-iDens - Balance for Density Index



TS-iDens is a Balance for density calculation, in particular it is designed to easily determine the Density Index of a solid sample without need of any computer software or external database.

## All-in-one product

With TS-iDens, calculating the density index is easy and fast. Without the necessity to connect the balance to computer for using a specific software, all the data and results can be seen directly in the large screen of the balance, with the possibility to print also all the data with an optional printer.

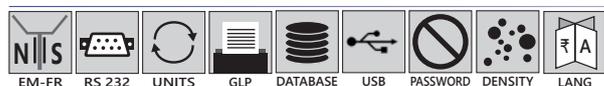
## The strenght of technology

TS-iDens is derived from the sophisticated M5 balances family and therefore takes full advantage of all the strenghts of this series, that is, the large 5" color display, the touchscreen interface and the icon-driven menus, which make your work, respectively, intuitive, efficient and user-friendly.

## Database

As reference liquid for the density etermination of the solid sample, the balance has already stored in the database the density values (at different temperatures) of distilled water or Ethanol so that one less thing for the user to care about; of course the user can use whatever other liquid as reference, provided its density value is known or calculated (thanks to the optional liquid density kit).

Density values of the reference liquid (distilled water or Ethanol) used during density etermination of the solid sample are stored in the internal database. The user can choose another liquid as reference, provided its density value is known or he calculates (thanks to the optional liquid density kit).



## Automatic internal calibration

Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
TS-iDens	3100	0,01	80	0,01	± 0,02	≤ 2

## Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 215 x 345 x 300
- Power supply 110-230Vac. 50/60Hz, output 24V 1A 13VA
- Net Weight: 7 / 8,5 Kg

## GLP

Internal Clock, date/time make work easier while GLP capability allow user to record Sample name, Project names and Balance ID, for traceability.

## Internal calibration

As standard feature this balance has internal automatic calibration, to ensure daily accurate measurements also during flow of time or conditions changing. User can also choose to switch to external calibration, using his calibration weight value.

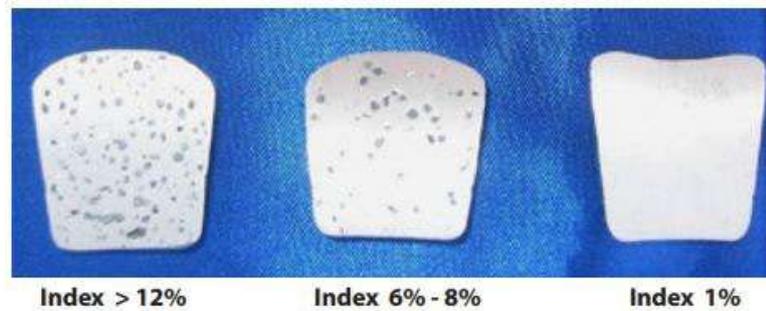
## Multi-language and Multiuser

Choice of language among English, French, German, Italian, Spanish, Portuguese. rotection of own settings, preferences and database is ensured by the multi-user structure with password protection. The user has easy and intuitive access to all the functions thanks to the icondriven menus. This means more efficiency, productivity and interactivity. A double case structure protects the heart of the balance: an aluminum inner case and a composite plastic external case.

# TS-iDens - Balance for Density Index

## Density Index

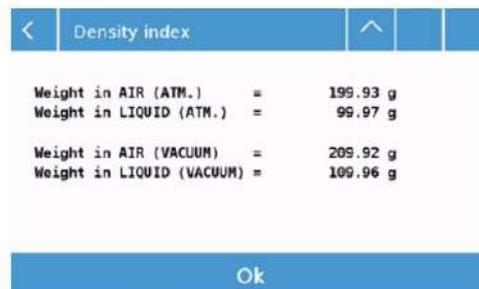
In foundries, especially for aluminium casting plants, the quality of molten metals is very important to assure the quality of the final cast product. In fact defects created during the melting stage (due to solid and gaseous impurities) could create problems to the final microstructure of the cast. Density index value of a metal sample is an index of how clean is the metal sample and how much free from pores that may have formed during the melting process. By measuring the density index (DI) of the metal, it is possible to control and optimize the process of production of the cast, improving the overall quality of final metal product, and thus drastically reducing rejection rate.



## Touchscreen interface screen shots



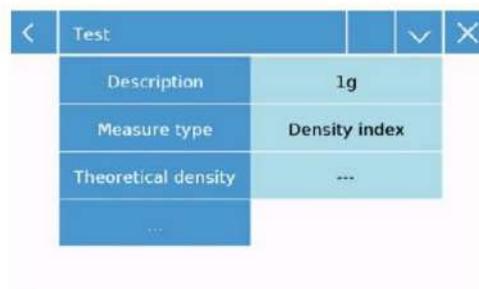
User can start a function or recall data from (internal) database.



Clear report of Density Index calculation is shown.



Instructions on the large display drive the user.



Easy and intuitive menu to insert data.



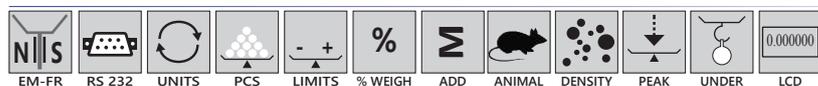
The JW family of balances was designed for use in jewelry applications. This family includes the Carat Series with high precision and the Gold Series for higher capacity weighing of precious metals. JW balances are all provided with RS232 connectivity; **0.1mg and 1mg models are equipped with a large protection draftshield.**

### Features

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- g/ct swapping button on keypad
- Glass draught shield with 3 sliding doors for easy access to the items being weighed
- 0,01 resolution models are not provided with glass draught shield
- Plastic protection cover



Optional Ioniser model ION-A15



Model	Capacity	Resolution	Pan (mm)	Repeatability	Linearity	Response time (sec.)
<b>Carat series - Automatic internal calibration</b>						
JW124Ai	600ct/120g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4
JW214Ai	1050ct/220g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4
<b>Gold series - Automatic internal calibration</b>						
JW723i	720g	0,001g	Ø 110	0,001g	± 0,002g	≤ 2
JW4202i	4200g	0,01g	Ø 160	0,01g	± 0,04g	≤ 2

### Technical data

- Dimensions LxWxH (mm): 345x215x290 (models 0,1mg and 1mg)
- Weighing chamber LxWxH (mm): 162x171x170 (models 0,1mg and 1mg)
- Dimensions LxWxH (mm): 345x215x100 (models 0,01g)
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA

### External calibration models

- Net Weight 0,1mg: 6,2Kg
- Net Weight 0,001g: 6,2Kg
- Net Weight 0,01g: 4,6Kg

### Internal calibration models

- Net Weight 0,1mg: 6,5Kg
- Net Weight 0,001g: 6,5Kg
- Net Weight 0,01g: 5,1Kg

### Accessories

- Portable ioniser Ion-A15 (CNS0371)
- Serial Printer TLP-50, with date/time (CNS054)
- Serial Printer DPP-250 (CNS007)
- Serial to USB converter (CNS1002)
- Serial cable for serial output to printer or PC (CNS743)
- Factory Calibration certificate (CNS0333)

## PT Series - Complete system for pipette checking



Pipettes are widely used instruments in laboratories and their proper maintenance is essential to ensure correct and reliable results. Each laboratory should establish a regular verification program, in order to carry out their preventive maintenance or (re) calibration, if necessary.

### Pipette check

This series of balances is designed for the verification of piston pipettes using the gravimetric method.

The embedded "Pipette Check" software allows you to test the correct operation of a pipette by selecting a verification method.

At the end, a detailed report is generated with the overall test result (compliant or not-compliant pipette) and the relative partial values.

#### Automatic internal calibration

Model	Capacity (g)	Resolution (mg)	Pan (mm)	Calibration	Evaporation trap
TS-SM105i-PT	102	0,01	80	automatic internal	included
TS-B214Ai-PT	220	0,1	80	automatic internal	included

#### Main features:

- 5 inch color touch-screen display (800x480)
- Draftshield with 3 sliding doors
- RS232 serial output
- Selectable measuring units
- On-board Software functions: Pipette Check, Piece counting, Check weighing, Percentage weighing, Statistics, Animal weighing, Peak hold, Density determination, Recipe, Textile
- Multi-user with password protection, Multi-language
- GLP protocol
- Internal Database
- USB port to import/export data of database

#### Verifiable pipette types:

- Fixed Volume / Variable Volume
- Air displacement / Positive displacement (reusable) / Positive displacement (disposable)

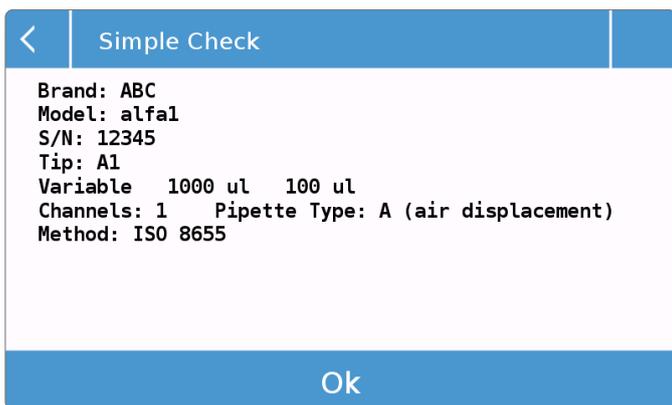
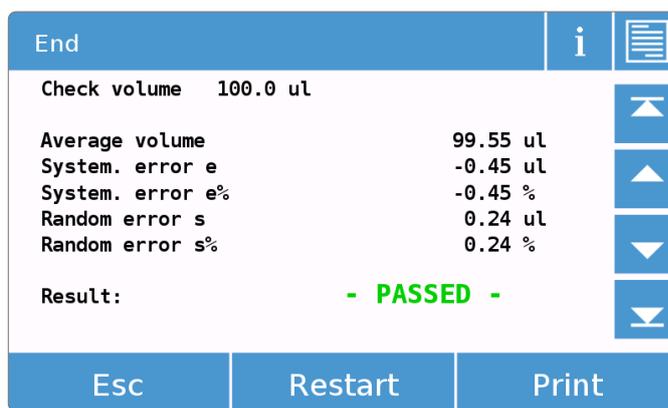
#### Verification methods:

- ISO8655
- 4x (100% 10%): 4 samples at 100% and 10% of the nominal volume
- 4x (100%): 4 samples at 100% of the nominal volume
- Custom: number of samples and percentage of the volume of your choice

# PT - Complete system for pipette checking

## ISO8655 compliance

It is possible to identify whether a pipette needs maintenance or (re) calibration by assessing its performance according to the specifications given by the ISO8655 directive, which describes exactly the procedure and the results that must be obtained to consider a pipette compliant. The messages on the balance's screen guide the user through the required steps to carry out the test in complete compliance with the requirements of the directive.

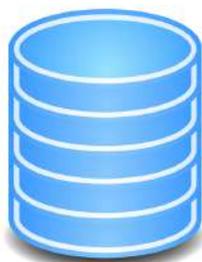


## Verification methods

Customized control methods can also be defined: the volumes to be checked and the number of samples can be entirely defined by the user. Two predefined methods are available: 100% and 10% volume test with 4 samples each or only 100% volume test with 4 samples. Internal laboratory procedures can use these control methods for faster daily checks.

## Database

For frequent or many pipette checks at a time, pipette informations (model, serial number, pipette type, tip, number of channels, nominal value, ...) can be stored in the balance's internal database for easy recall and greater speed of the control procedure.



## Evaporation trap

This accessory consists of a special weighing container designed to considerably reduce the evaporation of the liquid which occurs naturally during the pipette test procedure. If not well taken into consideration, this effect will negatively affect the tests by increasing the measurement error leading to an incorrect final result, especially in the case of small volumes. The evaporation trap creates a saturated area of water vapor above the test tube containing the liquid coming from the pipette, thus the evaporation of the latter is minimal during the procedure and reliable results can be obtained.

## Which balance's model to choose

The balance must be chosen based on the volume of the pipette to be checked. Smaller volumes will need higher resolution balances. Within the current family of balances for pipette checking it is possible to check the following volumes, in accordance with the ISO 8655 standard:

Volume* of the pipette to be checked V	Minimum requirement for the resolution of the balance to be used mg
10 µl < V ≤ 100 µl	0.01
100 µl < V ≤ 1000 µl	0.1
1 ml < V ≤ 10 ml	0.1
10 ml < V ≤ 200 ml	1

\* the nominal value can be considered [ISO8655-6:2002]

However, the balances of this series can always be used for normal laboratory weighing operations; in the case of -PT models, the evaporation trap is easily removable.

## CNS007



### Portable thermal printer DPP-250 (cable version)

DPP-250 and printer is a small footprint portable printer that can be used with OPTIKA laboratory balances. Weight values are printed quickly and sharply. The internal rechargeable battery grants mobility. Printer DPP-250 is supplied with connection cable to be connected directly to OPTIKA balances.

Type	Line Thermal printer
Print width	48mm (384dots/line)
Print speed	Up to 80mm/sec
Battery	Rechargeable battery (Li-Ion 7.4V, 1150mAh). Battery charge time: 2 hours. 20 000 lines with one charge
Paper roll	Width 57mm
External power supply unit (included)	AC 100 to 240 V, 50 to 60 Hz, DC 9 V/1 A
Interface	- RS232 for DPP-250
Operating temperature	5 - 40°C
Humidity	Max 85% relative (not condensing)
Dimensions	66 x 105 x 57h mm
Weight	295g (excl. paper roll)
Connection cable	Included for DPP-250

## CNS030



### Dot-matrix serial printer

TX-110 is a high-speed dot-matrix printer suitable for long-term data retention. It is compliant with ISO/GLP procedures, it is equipped with a bright OLED display and has various operating modes:

#### Features:

- DIRECT. Prints out current weight value
- TARE/NET/GROSS. Prints out these values separately
- SUM. Prints out the total value of samples
- AVERAGE. Prints out the average of samples
- FORMULATION. Print out each sample's weight independently when mixing samples
- PIPETTE CALIBRATION. Calibrate capacity of pipette
- USER DEFINED. Operator can set a multiplicative coefficient
- COMPARATOR. Prints out weight value only when inside a defined range
- AUTOMATIC TIMING. Prints out weight value at defined time intervals

Type	Impact dot-matrix serial printer
Character size	1,7mm (W) x 2,6mm (H) (approx.)
Printer paper	Normal paper, 57mm width, 50mm in diameter
Print speed	1,7lines/sec (approx.)
Printer head life	1.000.000 lines
Display	OLED 128x64 Dot matrix 0,96"
Clock	Built in
Display	OLED 128x64 Dot matrix 0,96"
Baud rate	300, 600, 1200, 2400, 4800, 9600, 14.4k, 19.2k, 38.4k, 115.2k
External power supply unit (included)	Input 100-240 V AC, 50/60Hz; Output 12 V DC / 2A
Power consumption	8W (printing) 0,5W (standby)
Operating conditions	5-45°C ; humidity 10-80% not condensing

# ACCESSORIES

## CNS054



### Line thermal dot printer TLP-50

TLP-50 printer is a compact printer that can be used with OPTIKA laboratory balances. This printer has internal clock so it can print date/time together with weight values. Paper type is label.

Type	Line thermal dot printing
Print width	54mm (432 dots)
Print resolution	203 x 203 dpi
Print speed	50mm/sec
Prints	Date/time
Paper type	Thermal paper rolls Label rolls
Paper roll	Width 58mm
External power supply unit (included)	AC 100-240 V, 50/60 Hz, DC 12V /2.5A
Interface	RS-232C
Operating temperature	5 - 40°C
Humidity	Max 85% relative (not condensing)
Dimensions	106 x 184 x 110h mm
Weight	950g (incl. power supply)

## CNS010-CNS011-CNS012-CNS031



### Paper rolls for printers

CODE	MODEL
<b>CNS010</b>	Roll of 54x24mm labels (500) for <b>CNS054</b>
<b>CNS011</b>	Roll of paper for <b>CNS054</b>
<b>CNS012</b>	Roll of paper for <b>CNS007</b>
<b>CNS031</b>	Paper roll for <b>CNS030</b> serial dot-matrix printer

## CNS027



### Draft Shield rear panel with integrated ioniser

To neutralize static charges on samples to weigh. The user can easily and quickly mount this panel on a balance already in his possession, upgrading the balance with an integrated ioniser. The ioniser is easily activated by pressing a button. There are two ways of operating: 2 minutes or continuously for max 8 hours.

Suitable for following families:

- Semimicro 0,01 mg balances
- Analytical 0,1 mg balances
- CH and CGH 1 mg balances
- EH and EGH 1 mg balances

Includes:

rear panel with integrated ioniser, power supply.

## CNS0371



### Ioniser model ION-A15, for all balances

Static charges accumulate in many kind of samples that are being weighed during the laboratory routine. By blowing ions, the portable Ionizer ION-A15 neutralizes static electricity on charged samples like plastic parts, containers or films. Within seconds the sample is ready to be weighted free from static charges giving the operator accurate results.

The Ionizer ION-A15 is small and light, easy to transport and use everywhere in the laboratory.

Distance sample-ion source	about 5-40 cm
Discharge time	9s/5cm, 13s/10cm, 100s/40cm (with fan turned on)
Ozone concentration	0-0.05 ppm (2cm from ion source)
Maximum air volume	0.06 cm <sup>3</sup> /min
Ambient conditions	0-50°C, 20-80% air humidity (non-condensing)
AC adapter (primary)	AC 100-240V, 50/60Hz
Dimensions	11 x 10,5 x 4,5 cm
Weight	310 g
Installation site	device may be only used indoors

## CNS02



### Thermometer calibration KIT

Small, fast-response thermometer for verify and calibrate the heating source of OPTIKA moisture Analyzers T Series & TG Series. A calibrated moisture analyzer's heater allows to have always accurate results. Essential for application where are required certified results.

Temperature range	40...+200°C
Resolution	1°C
Precision	+/-2°C
Diameter	Ø 46 mm
Indicator casing	AISI 304
Box Dimensions	200x210x60h mm; weight 260g

## CNS0476



### Communication KIT for balances

Complete kit to connect OPTIKA balances to a computer. It allows data collection, Statistics, creation of graphs and export results to Excel file.

The software included allows to perform all the functions of the balance from the PC such as Piececount, Density, Peak hold, Limits set etc...from your computer.

The Kit includes:

- RS232-to-USB converter
- Serial cable
- i-Weight Software for data collection and analysis

Operating systems: Windows 7, 8, 10 (32&64bit)

**NOT compatible with OPTIKA moisture analyzers.**

## CNS015



### Portable rechargeable battery pack

Portable Li-Ion rechargeable battery pack. Can connect and power balances for outdoor use or for enhance the portability of the balance.

Input	9/12V
Output	5V 2100mA x 2 USB and 1xDC 9V/12V 2000mA
Battery charge time	5 hours
Battery duration	40 hours about (depends on use and on the device connected)
Charge status indication	By 4 LEDs
Capacity	10000mAh/37Wh
Dimensions	120x80x23mm
Weight	304g

**CNS002** - Density KIT for solids and liquids (res. 0,01mg/0,0001g/0,001g)

**CNS004** - Density KIT for solids and liquids (res. 0,01g/0,1g not available for M series)



### Density KIT for solids and liquids

Density KIT for density calculation of SOLIDS and LIQUIDS for OPTIKA balances with resolution 0,1mg/0,001g/0,01g.

It contains:

2 Glass graduated Beaker: height 150mm Ø 50mm 250ml and height 95mm Ø 65 mm 250ml
Analogic thermometer 10°C - 40°C/1°C
Glass Plummet
Basket for floating and not floating samples
Suspension arm for basket or plummet
Support for plummet/basket
Support base for beaker

# ACCESSORIES

## CNS753

### Aluminum Test pans for moisture analyzers

Aluminium sample dishes are essential for using with moisture analyzers. Reusable, diameter 100mm, thickness 0.5mm. One box contains 80 pans.



## CNS026

### Glass fiber discs for moisture analyzers

Glass fibre discs are used when analysing liquids and semi solid samples. They are used in conjunction with the aluminium test disc code CNS753 (see photo on left). It ensures accurate results when testing samples that contain large amounts of liquid and prevent liquid splashing during the sample drying process. It also facilitate a better distribution of heat throughout the sample. Diameter 90mm. One box contains 200 discs.



## CNS1002 - CNS743

### Communication cables

CODE	MODEL
<b>CNS1002</b>	RS232/USB converter balance/PC
<b>CNS743</b>	Serial cable 9pins M/M for serial output printer/PC



## Protection cover

Protection covers replacement are available on request for all the models.



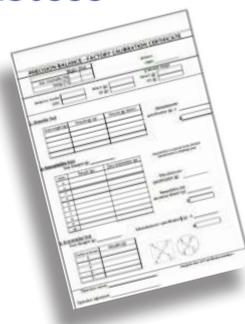
# ACCESSORIES

## CNS0290



**Certificate of Origin**  
(must be requested when order is placed)

## CNS0333



**Factory Calibration certificate**  
(request together with the order)

## CNS021



**Stylus pen for touchscreen monitor**

# CALIBRATION WEIGHTS



CODE	MASS	CLASS	MATERIAL
PS020E1	20g	E1	Stainless steel
PS020E2	20g	E2	Stainless steel
PS020F1	20g	F1	Stainless steel
PS100E1	100g	E1	Stainless steel
PS100E2	100g	E2	Stainless steel
PS100F1	100g	F1	Stainless steel
PS200E1	200g	E1	Stainless steel
PS200E2	200g	E2	Stainless steel
PS200F1	200g	F1	Stainless steel
PS500E1	500g	E1	Stainless steel
PS500E2	500g	E2	Stainless steel
PS500F1	500g	F1	Stainless steel
PS1F1	1kg	F1	Stainless steel
PS2F1	2kg	F1	Stainless steel
PS2F2	2kg	F2	Stainless steel
PS5E2	5kg	E2	Stainless steel
PS5F1	5kg	F1	Stainless steel
PS5F2	5kg	F2	Stainless steel
PS5M1	5kg	M1	Stainless steel
PS10F1	10kg	F1	Stainless steel
PS10F2	10kg	F2	Stainless steel
PSGN10M1	10kg	M1	Nickelated cast iron



Distributor



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