

QUALITY THAT WEIGHS



## Symbols



**Electromagnetic Force Restoration:** coil in a permanent magnet for the most accurate weighings



**High Readability Load Cell:** strain gauge measure the deformation as change in electrical resistance



**LCD Display:** standard 8 digit LCD display with backlight



**Graphic Display:** text/graphical LCD dot matrix display with backlight



**Touch Screen Display:** 5" inch resistive user friendly, easy to use, intuitive display



**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:** calculates the weight of a sample as a percentage from a reference weight (100%)



**Totalization:** measure cumulative weight of multiple items. Shows total and current weight



**Animal Weighing:** accurate readings under unstable conditions such moving laboratory animals.



**Density Determination:** accurately determines density of a solid object or a liquid



**Max Load (Peak hold):** 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



**Accumulator:** balance has internal accumulator or can be used with optional external accumulator



**Battery Operating:** balance can work using AA batteries



**Statistics:** shows Min, Max, Sum, Average, Standard deviation



**Gross-Net-Tare:** shows simultaneously gross, net weight and tare.



**Database:** internal database to store data and drying methods



**Textile:** 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



**Bluetooth:** possibility to connect devices



**USB :** possibility 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



**Ioniser:** integrated ioniser on the rear of the balance



**Initial Verification:** according to 2014/31/EU available for balance with EC (/OIML) Type approval

SemiMicro M5 balances 0,01mg	<b>6-7</b>		<b>High Capacity RB-M5 balances 0,1g-0,2g-0,5g</b>	<b>41</b>
Analytical M5 balances 0,1g	<b>8-9</b>		<b>High Capacity RBG balances 0,1g-0,2g-0,5g</b>	<b>42</b>
Precision M5 balances 0,001g-0,01g-0,1g	<b>10-11</b>		<b>High Capacity RB balances 0,1g-0,2g-0,5g</b>	<b>43</b>
SemiMicro HPB high performance balances 0,01mg	<b>12-13</b>		Density Index Balance M5-iDens	<b>44-45</b>
SemiMicro HPBG high performance balances 0,01mg	<b>14-15</b>		Jewelry MJ balances 0,001ct-0,001g-0,01g	<b>46</b>
Analytical M and MG balances 0,1g	<b>16-17</b>		Accessories	<b>47-52</b>
Precision M and MW balances 0,001g	<b>18-19</b>			
Precision MG and MGW balances 0,001g	<b>20-21</b>			
Precision M and MG balances 0,01g	<b>22-23</b>			
Precision L and LG balances 0,001g	<b>24-25</b>			
Precision LW and LGW balances 0,001g	<b>26-27</b>			
Precision L and LG balances 0,01g	<b>28-29</b>			
Precision L and LG balances 0,1g	<b>30-31</b>			
Precision S portable balances 0,001g-0,01g-0,1g	<b>32-33-34</b>			
Precision ES portable balances 0,01g-0,1g	<b>35</b>			
M5-Thermo moisture analyzers	<b>36-37</b>			
 <b>i-Thermo G moisture analyzers</b>	<b>38-39</b>			
i-Thermo moisture analyzers	<b>40</b>			

# Quick Finder

Readability [d]	Weighing Range	Family Name	Page	Verification [M]	Internal Calibration	Draftshield	Integrated Ioniser
0,01mg	42g...220g	M5	6		▲	■	▲
0,01mg	42g...220g	HPB	12		▲	■	▲
0,01mg	42g...220g	HPBG	14		▲	■	▲
0,1mg	220g...610g	M5	8		▲	■	▲
0,1mg	410g...610g	HPB	12		▲	■	▲
0,1mg	410g...610g	HPBG	14		▲	■	▲
0,1mg	120g...310g	M	16	□	▲	■	▲
0,1mg	120g...310g	MG	17	□	▲	■	▲
0,001g	310g...1000g	M5	10		▲	■	
0,001g	220g...2100g	M	18	□	▲	■	
0,001g	220g...2100g	MW	19	□	▲	■	
0,001g	220g...2100g	MG	20	□	▲	■	
0,001g	220g...2100g	MGW	21	□	▲	■	
0,001g	160g...520g	L	24		▲	■	
0,001g	160g...520g	LG	25		▲	■	
0,001g	160g...520g	LW	26		▲	■	
0,001g	160g...520g	LGW	27		▲	■	
0,001g	120g...420g	S	32			■	
0,01g	3100g...6200g	M5	10		▲	■	
0,01g	2200g...8200g	M	22	□	▲		
0,01g	2200g...8200g	MG	23	□	▲		
0,01g	1000g...5200g	L	28	□	▲		
0,01g	1000g...5200g	LG	29	□	▲		
0,01g	620g...4200g	S	33				
0,01g	200g...420g	ES	29				
0,1g	10kg...20kg	M5	10		▲	■	
0,1g	4500g...20kg	L	30		▲		
0,1g	4500g...20kg	LG	31		▲		
0,1g	3200g...6500g	S	34				
0,1g	1000g...2200g	ES	35				
0,1g-1g	8000g...32kg	RB	42				

## Moisture Balances

Readability [d]	Weighing Range	Family Name	Page	Thermometer Calibration	Halogen Infrared Lamp	Database	Internal Database, Save results
0,1mg	60g	M5-Thermo	36	□	■	■	■
0,1mg	60g	i-Thermo G	38	□	■		
0,001g	160g	M5-Thermo	36	□	■	■	■
0,001g	160g	i-Thermo G	38	□	■		
0,01g	60g	M5-Thermo	30	□	■	■	■
0,01g	60g	i-Thermo G	38	□	■		

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

	Lcd Display	Graphic Display	Touch Screen Display	Rs2332	Units	Glp	Multi-Language	Hook	Battery Pack
	■		■	■	■	■	■		
	■			■	■				
		■		■	■	■	■		
	■		■	■	■	■	■		
	■			■	■				
	■			■	■	■	■		
	■			■	■				
		■		■	■	■	■		
	■		■	■	■	■	■	■	
	■			■	■			■	
	■			■	■			■	
		■		■	■	■	■	■	
		■		■	■	■	■	■	
	■			■	■			▲	□
		■		■	■	■	■	▲	□
	■			■	■			▲	□
		■		■	■	■	■	▲	□
	■			■	■				□
	■		■	■	■	■	■	■	
	■			■	■			■	
		■		■	■	■	■	■	
	■			■	■			▲	□
		■		■	■	■	■	▲	□
	■			■	■			■	□
	■				■				□
	■		■	■	■	■	■	■	
	■			■	■			■	□
		■		■	■	■	■	■	□
	■			■	■			■	□
	■				■				□
	■			■	■			■	□

	Graphic Display	Touch Screen Display	Rs2332	Units	Glp	Multi-Language	Real time Graph View	Password protection
		■	■	■	■	■	■	■
	■		■	■	■	■		
		■	■	■	■	■	■	■
	■		■	■	■	■		
		■	■	■	■	■	■	■
	■		■	■	■	■		

M5 semi-micro balances are the top level, most innovative and advanced series made by BEL Engineering. 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 -ION models are equipped with an integrated ioniser on the rear 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.

### Main features

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Automatic internal calibration
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable and customizables 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 pieccounting 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 draftshield with 3 sliding doors for easy access to the items being weighed



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
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#### Automatic internal calibration

<b>M5-HPB-425i</b>	42	0,01	Ø 80	0,02	± 0,05	≤ 6
<b>M5-HPB-425i-ION</b>	42	0,01	Ø 80	0,02	± 0,05	≤ 6
<b>M5-HPB-105i</b>	102	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>M5-HPB-105i-ION</b>	102	0,01	Ø 80	0,05	± 0,08	≤ 6
<b>M5-HPB-1265Di</b>	62/120	0,01/0,1	Ø 80	0,03/ 0,1	± 0,08 / ± 0,2	≤ 6
<b>M5-HPB-1265Di-ION</b>	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
<b>M5-HPB-2285Di</b>	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>M5-HPB-2285Di-ION</b>	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>M5-HPB-22105Di</b>	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
<b>M5-HPB-22105Di-ION</b>	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6



1 -ION models equipped with integrated ioniser on the rear of the balance.

### Accessories

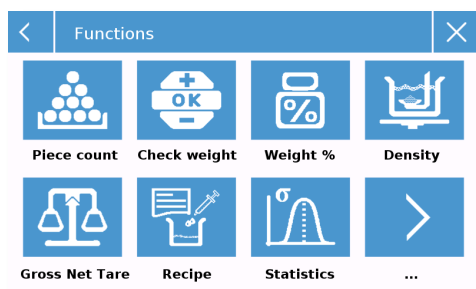
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- USB pendrive 8 Gigabyte
- Stylus pen for touchscreen
- Factory Calibration certificate (BL0333)

### Balance technical data

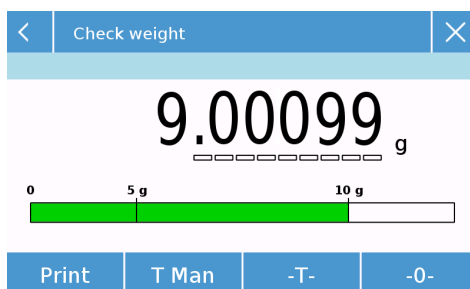
- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA
- Net Weight: 6,7 Kg
- Net Weight -ION models: 7,2 Kg

### Ioniser technical data

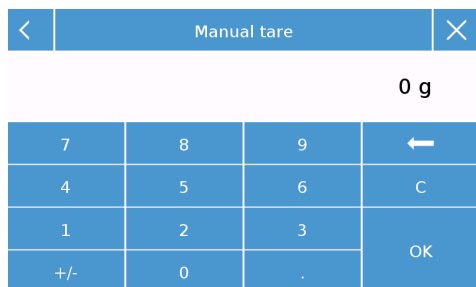
- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 1A



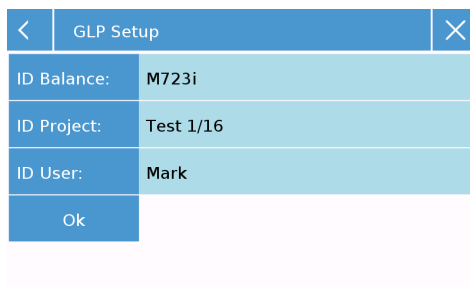
Main functions page for easy working



Live color indication for check weighing



Manual tare input



Clear and easy input for GLP function

M5 analytical balances are the most innovative and advanced series made by BEL Engineering. 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 -ION models are equipped with an integrated ioniser on the rear 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.

**Main features**

- Electromagnetic force restoration weighing system
- Highly integrated weighing cell
- Automatic internal calibration
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable and customizables 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 pieccounting 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 draftshield with 3 sliding doors for easy access to the items being weighed



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (g)	Response time (sec.)
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**Automatic internal calibration**

<b>M5-M214Ai</b>	220	0,1	Ø 80	0,1	± 0,0003	≤ 4
<b>M5-M214Ai-ION</b>	220	0,1	Ø 80	0,1	± 0,0003	≤ 4
<b>M5-M314Ai</b>	310	0,1	Ø 80	0,1	± 0,0003	≤ 4
<b>M5-M314Ai-ION</b>	310	0,1	Ø 80	0,1	± 0,0003	≤ 4
<b>M5-HPB 514i</b>	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
<b>M5-HPB 514i-ION</b>	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,0005	≤ 4
<b>M5-HPB 614i</b>	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
<b>M5-HPB 614i-ION</b>	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





1 -ION models equipped with integrated ioniser on the rear of the balance.

### Accessories

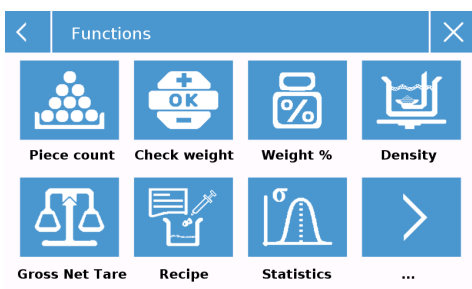
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- USB pendrive 8 Gigabyte
- Stylus pen for touchscreen
- Factory Calibration certificate (BL0333)

### Balance technical data

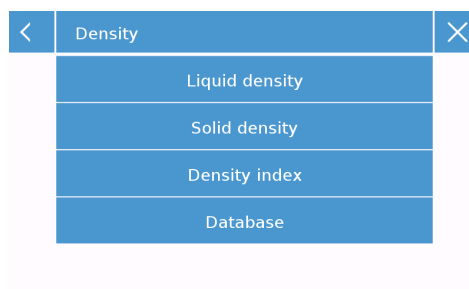
- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA
- Net Weight: 6,7 Kg
- Net Weight -ION models: 7,2 Kg

### Ioniser technical data

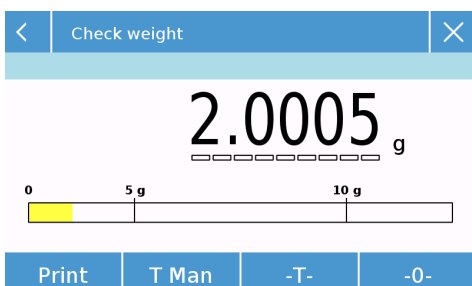
- Operation modes: 2 minutes or continuously for max 8 hours
- Ozone concentration: 0-0.05 ppm (2cm from ion source)
- Distance sample-ion source: about 5-40 cm
- Discharge time: 9s/5cm, 13s/10cm
- Ambient conditions: 0-50°C, 20-80% air humidity (non-condensing)
- Ioniser Power supply: IN AC 100-240V 50/60Hz, OUT DC 12V, 1A



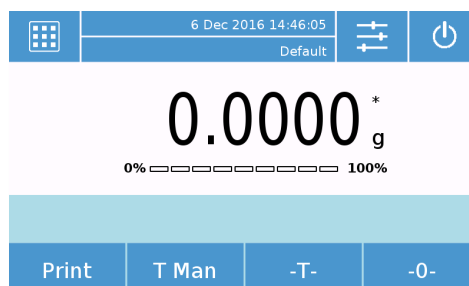
Main functions page for easy working



Easy selection for density function



Live color indication for check weighing

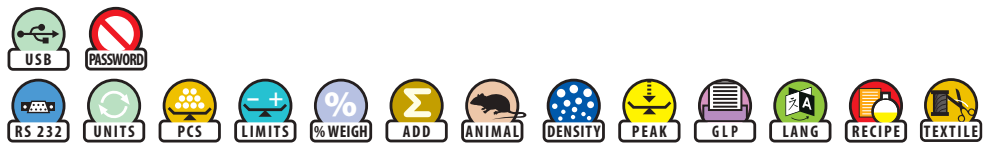


Main page with easy access to the menus

M5 precision balances are the most innovative and advanced series made by BEL Engineering. 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 readability 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.

**Main features**

- Electromagnetic force restoration weighing system (-M models)
- High readability load cell weighing system (-L models)
- Automatic internal calibration or external calibration
- 5" Touch-screen Display 800x480
- RS232 serial interface
- Selectable and customizables 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 <sup>(1)</sup>
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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**Automatic internal calibration**

<b>M5-L203i</b>	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
<b>M5-M523i</b>	520	0,001	Ø 110	0,001	± 0,002	≤ 2
<b>M5-M723i</b>	720	0,001	Ø 110	0,001	± 0,002	≤ 2
<b>M5-MW1203i</b>	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
<b>M5-MW2103i</b>	2100	0,001	Ø 110	0,001	± 0,003	≤ 3
<b>M5-L2202i</b>	2200	0,01	Ø 160	0,01	± 0,03	≤ 3
<b>M5-M4202i</b>	4200	0,01	Ø 160	0,01	± 0,04	≤ 4
<b>M5-M6202i</b>	6200	0,01	Ø 160	0,01	± 0,03	≤ 3

**External calibration**

<b>M5-M8202</b>	8200	0,01	Ø 160	0,01	± 0,04	≤ 3
<b>M5-L10001</b>	10000	0,1	175x195	0,05	± 0,2	≤ 2
<b>M5-L20001</b>	20000	0,1	175x195	0,1	± 0,4	≤ 4

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

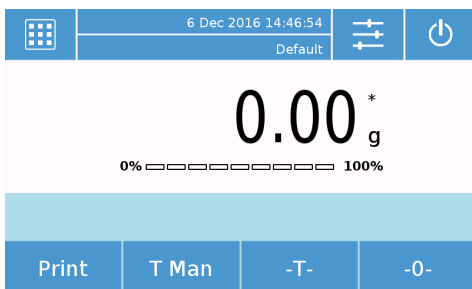


### Accessories

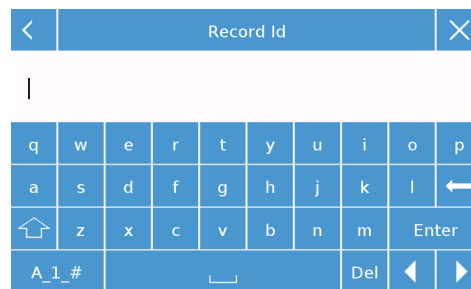
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002-AC004)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- USB pendrive 8 Gigabyte
- Stylus pen for touchscreen
- Factory Calibration certificate (BL0333)

### Technical data

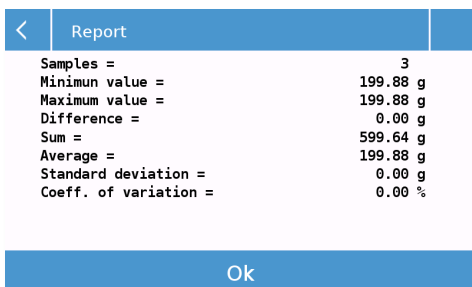
- Span drift (+ 10...+ 30 °C): +/- 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber diameter-Height (mm) 0,001g res. models: 150x70
- Power supply M models 110-230Vac, 50/60Hz; output 24V 1A 13VA
- Power supply L models 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 6,7 Kg



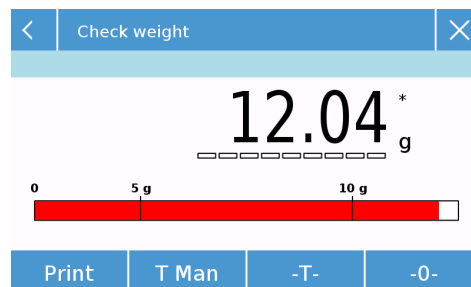
Main page with easy access to the menus



Qwerty touch keypad for easy input



Easy reading reports



Live color indication for check weighing

BEL Engineering introduces the new series of semiMicro HPB balances with a readability of 0.01 mg. 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.

The -ION models are equipped with an integrated ioniser on the rear 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.

**Main 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 draftshield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover for keypad

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Serial Printer STAT, with Statistics functions (AC022)
- Communication KIT balance/PC (BL0476)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
<b>Automatic internal calibration</b>						
HPB-425i	42	0,01	Ø 80	0,05	± 0,05	≤ 6
HPB-625i	62	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-1245Di	42/120	0,01/0,1	Ø 80	0,02 / 0,1	± 0,05 / ± 0,2	≤ 6
HPB-1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-2245Di	42/220	0,01/0,1	Ø 80	0,02 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-2265Di	62/220	0,01/0,1	Ø 80	0,03 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB 414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,5	≤ 4
HPB 514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,5	≤ 4
HPB 614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,5	≤ 4

<sup>(1)</sup> If connected to optional STAT printer (AC022)



1 -ION models equipped with integrated Ioniser on the rear of the balance. The ioniser has two ways of operating: 2 minutes or continuously for max 8 hours.

### Balance technical data

#### Common features

- 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 1A 13VA
- Net Weight: 7Kg
- Net Weight -ION models: 7,4 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, 1A



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
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#### Automatic internal calibration

HPB-425i-ION	42	0,01	Ø 80	0,05	± 0,05	≤ 6
HPB-625i-ION	62	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-105i-ION	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-1245Di-ION	42/120	0,01/0,1	Ø 80	0,02 / 0,1	± 0,05 / ± 0,2	≤ 6
HPB-1265Di-ION	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-2245Di-ION	42/220	0,01/0,1	Ø 80	0,02 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-2265Di-ION	62/220	0,01/0,1	Ø 80	0,03 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-2285Di-ION	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB-22105Di-ION	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPB 414Ai-ION	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,5	≤ 4
HPB 514Ai-ION	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,5	≤ 4
HPB 614Ai-ION	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,5	≤ 4

Bel Engineering introduces the new series of semiMicro HPB balances with a readability of 0.01 mg. 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.

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

The -ION models are equipped with an integrated ioniser on the rear 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.

**Main 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 draftshield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover for keypad

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
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**Automatic internal calibration**

HPBG-425i	42	0,01	Ø 80	0,05	± 0,05	≤ 6
HPBG-625i	62	0,01	Ø 80	0,05	± 0,08	≤ 6
HPBG-105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPBG-1245Di	42/120	0,01/0,1	Ø 80	0,02 / 0,1	± 0,05 / ± 0,2	≤ 6
HPBG-1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPBG-2245Di	42/220	0,01/0,1	Ø 80	0,02 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-2265Di	62/220	0,01/0,1	Ø 80	0,03 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-2285Di	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG 414Ai	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,5	≤ 4
HPBG 514Ai	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,5	≤ 4
HPBG 614Ai	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,5	≤ 4



- GRAPHIC
- GLP
- ION

1 -ION models equipped with integrated ioniser on the rear of the balance.

### Balance technical data

#### Common features

- 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 1A 13VA
- Net Weight: 7Kg
- Net Weight -ION models: 7,4 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, 1A

- EM-FR
- PCS
- LIMITS
- %WEIGH icon"/> %WEIGH
- ADD
- ANIMAL
- DENSITY
- PEAK
- RS 232
- UNITS
- CLOCK
- LANG
- RECIPE

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (mg)	Response time (sec.)
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#### Automatic internal calibration

HPBG-425i-ION	42	0,01	Ø 80	0,05	± 0,05	≤ 6
HPBG-625i-ION	62	0,01	Ø 80	0,05	± 0,08	≤ 6
HPBG-105i-ION	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPBG-1245Di-ION	42/120	0,01/0,1	Ø 80	0,02 / 0,1	± 0,05 / ± 0,2	≤ 6
HPBG-1265Di-ION	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPBG-2245Di-ION	42/220	0,01/0,1	Ø 80	0,02 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-2265Di-ION	62/220	0,01/0,1	Ø 80	0,03 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-2285Di-ION	82/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG-22105Di-ION	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,1 / ± 0,2	≤ 6
HPBG 414Ai-ION	410	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 410g	± 0,5	≤ 4
HPBG 514Ai-ION	510	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 510g	± 0,5	≤ 4
HPBG 614Ai-ION	610	0,1	Ø 80	0,1mg if weight ≤ 220g 0,3mg from 220g to 310g 0,35mg from 310g to 610g	± 0,5	≤ 4

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. The -ION models are equipped with an integrated ioniser on the rear of the balance with the purpose to neutralize static electricity on charged samples like plastic parts, containers or films.

**Main features**

- Electromagnetic force restoration weighing system
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Integrated ioniser on rear of balance for -ION models
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer STAT, with Statistics functions (AC022)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- PC data collection software (BL0476)
- Serial to USB converter (E1002)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification) <sup>(2)</sup>

**Technical data**

**Common features**

- 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 1A 13VA

**External calibration models**

- Net Weight: 6,3Kg

**Internal calibration models**

- Net Weight: 6,6Kg



Optional portable ioniser model ION-A15



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
<b>External calibration</b>							
M124A	120	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M164A	160	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M214A	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M254A	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	-

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
<b>Automatic internal calibration</b>							
M124Ai	120	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1 mg]
M164Ai	160	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1 mg]
M214Ai	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1 mg]
M214Ai-ION	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M254Ai	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1 mg]
M254Ai-ION	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M314Ai	310	0,1	Ø 80	0,1	± 0,0004	≤ 4	-
M314Ai-ION	310	0,1	Ø 80	0,1	± 0,0004	≤ 4	-

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. M214Ai-M

<sup>(3)</sup> If connected to optional STAT printer (AC022)





Optional bench Ioniser model ION-A15



Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (mg)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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### External calibration

MG124A	120	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
MG164A	160	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
MG214A	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
MG254A	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	-

### Automatic internal calibration

MG124Ai	120	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1mg]
MG164Ai	160	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1mg]
MG214Ai	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1mg]
MG214Ai-ION	220	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
M254Ai	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	[e=1mg]
MG254Ai-ION	250	0,1	Ø 80	0,1	± 0,0003	≤ 4	-
MG314Ai	310	0,1	Ø 80	0,1	± 0,0004	≤ 4	-
MG314Ai-ION	310	0,1	Ø 80	0,1	± 0,0004	≤ 4	-

All MG models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. MG balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications. The -ION models are equipped with an integrated ioniser on the rear 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.

### Main 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 of last stored calibration data
- Integrated ioniser on rear of balance for -ION models
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed
- Plastic protection cover

### Accessories

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

### Technical data

#### Common features

- 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 1A 13VA

#### External calibration models

- Net Weight: 6,3Kg

#### Internal calibration models

- Net Weight: 6,6Kg

<sup>(2)</sup> To order Verification please add -M to name, e.g. MG214Ai-M

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

**Main features**

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

**Optional functions**

- Paper Grammage Function (T219)

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Density KIT for solids and liquids (AC002)
- PC data collection software (BL0476)
- Density KIT for solids (AC001)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- 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 1A 13VA

**External calibration models**

- Net Weight: 4,6Kg

**Internal calibration models**

- Net Weight: 4,9Kg



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
<b>External calibration</b>							
<b>M523</b>	520	0,001	Ø 110	0,001	± 0,002	≤ 2	-
<b>M723</b>	720	0,001	Ø 110	0,001	± 0,002	≤ 2	-
<b>M1003</b>	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
<b>M1203</b>	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

<b>Internal Automatic Calibration</b>							
<b>M523i</b>	520	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
<b>M723i</b>	720	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
<b>M1003i</b>	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
<b>M1203i</b>	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-
<b>M1003Di</b>	500/1000	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]
<b>M1203Di</b>	720/1200	0,001/0,01	Ø 110	0,001/0,005	±0,002/±0,01	≤ 2	[e=0,01g]

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. M523i-M

<sup>(3)</sup> If connected to optional STAT printer (AC022)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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**External calibration**

MW523	520	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MW723	720	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MW1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MW1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

**Internal Automatic Calibration**

MW523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MW723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MW1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MW1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MW2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3	-
MW1003Di	500/1000	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]
MW1203Di	720/1200	0,001/0,01	Ø 110	0,001/0,005	± 0,002/± 0,01	≤ 2	[e=0,01g]

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 and quality control applications.

**Main features**

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

**Optional functions**

- Paper Grammage Function (T219)

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Density KIT for solids and liquids (AC002)
- PC data collection software (BL0476)
- Serial to USB converter (E1002)
- Serial cable for output to printer/PC (E743)
- Factory Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- 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 1A 13VA

**External calibration models**

- Net Weight: 6,1Kg

**Internal calibration models**

- Net Weight: 6,3Kg

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. MG214Ai-M

<sup>(3)</sup> If connected to optional STAT printer (AC022)

Double case structure, ergonomic keypad. MG 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.

**Main 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 of last stored calibration data
- Round glass draftshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- 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 1A 13VA

**External calibration models**

- Net Weight: 4,6Kg

**Internal calibration models**

- Net Weight: 4,9Kg



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
<b>External calibration</b>							
MG523	520	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MG723	720	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MG1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MG1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

<b>Internal Automatic Calibration</b>							
MG523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MG723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MG1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MG1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MG1003Di	500/1000	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]
MG1203Di	720/1200	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. M214Ai-M



A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. MGW balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### Main 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 of last stored calibration data
- Large glass draftshield with 3 sliding doors for easy access to the items
- Plastic protection cover
- Under hook weighing<sup>(1)</sup>

### Accessories

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
<b>External calibration</b>							
MGW523	520	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MGW723	720	0,001	Ø 110	0,001	± 0,002	≤ 2	-
MGW1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MGW1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-

### Internal Automatic Calibration

MGW523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MGW723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2	[e=0,01g]
MGW1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MGW1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3	-
MGW2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3	-
MGW1003Di	500/1000	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]
MGW1203Di	720/1200	0,001/0,01	Ø 110	0,001/0,005	± 0,001/± 0,01	≤ 2	[e=0,01g]

### Technical data

#### Common features

- 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 1A 13VA

#### External calibration models

- Net Weight: 6,1Kg

#### Internal calibration models

- Net Weight: 6,3Kg

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. MGW523i-M

Balances M series combine the nice BEL 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.



**Main 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>

**Optional functions**

- Paper Grammage Function (T219)

**Accessories**

- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- PC data collection software (BL0476)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA

**External calibration models**

- Net Weight: 4,6Kg

**Internal calibration models**

- Net Weight: 5,1Kg



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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**External calibration**

M4202	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	-
M5202	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
M6202	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
M8202	8200	0,01	Ø 160	0,01	± 0,04	≤ 3	-
M5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	-
M5502D-PQ	800/5500	0,01/0,1	175x195	0,005/0,03	± 0,01/± 0,1	≤ 2	-

**Automatic internal calibration**

M4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	[e=0,1g]
M5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
M6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
M5502Di	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	[e=0,1g]
M5502Di-PQ	800/5500	0,01/0,1	175x195	0,005/0,03	± 0,01/± 0,1	≤ 2	-
M6202Di	4000/6200	0,01/0,1	Ø 160	0,01/0,03	±0,03/±0,1	≤ 3	[e=0,1g]

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. M4202i-M

<sup>(3)</sup> If connected to optional STAT printer (AC022)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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### External calibration

MG4202	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	-
MG5202	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
MG6202	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
MG8202	8200	0,01	Ø 160	0,01	± 0,04	≤ 3	-
MG5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	-
MG5502D-PQ	800/5500	0,01/0,1	175x195	0,005/0,03	± 0,01/± 0,1	≤ 2	-

### Automatic internal calibration

MG4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2	[e=0,1g]
MG5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
MG6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
MG5502Di	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2	[e=0,1g]
MG5502Di-PQ	800/5500	0,01/0,1	175x195	0,005/0,03	± 0,01/± 0,1	≤ 2	-
MG6202Di	4000/6200	0,01/0,1	Ø 160	0,01/0,03	± 0,03/± 0,1	≤ 3	[e=0,1g]

Balances MG series combine the nice BEL design with high level performance, guaranteed by the electromagnetic force restoration weighing cell. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. MG balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### Main 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 of last stored calibration data
- Plastic protection cover
- Under hook weighing<sup>(1)</sup>

### Accessories

- Serial Printer TLP-50, with date/time (C054)
- Communication KIT balance/PC (BL0476)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

### Technical data

#### Common features

- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x100
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA

#### External calibration models

- Net Weight: 4,6Kg

#### Internal calibration models

- Net Weight: 5,1Kg

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. MG4202i-M

# L - Readability 0,001g

Balances L series 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.

### Main features

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

### Optional functions

- Paper Grammage Function (T219)

### Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Portable rechargeable battery pack (AC015)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- PC data collection software (BL0476)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Factory Calibration certificate (BL0333)



Optional STAT printer



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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#### External calibration

L163	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
L203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303D	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
L423	420	0,001	Ø 110	0,001	± 0,004	≤ 4

#### Automatic internal calibration

L163i	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
L203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303Di	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
L423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

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

<sup>(2)</sup> Optional external battery pack (AC015)

<sup>(3)</sup> If connected to optional STAT printer (AC022)





Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>External calibration</b>						
LG163	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG303D	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/±0,02	≤ 3
LG423	420	0,001	Ø 110	0,001	± 0,004	≤ 4

<b>Automatic internal calibration</b>						
LG163i	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG303Di	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/±0,02	≤ 3
LG423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. LG balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### Main features

- High readability 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 of last stored calibration data
- Round glass draftshield
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>

### Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Portable rechargeable battery pack (AC015)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

### Technical data

#### Common features

- 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

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

<sup>(2)</sup> Optional external battery pack (AC015)

Balances LW series 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.

**Main features**

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

**Optional functions**

- Paper Gammage Function (T219)

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

**Technical data**

**Common features**

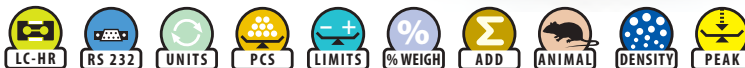
- Span drift (+ 10...+ 30 °C): +/- 4ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber dimensions LxWxH (mm): 162x171x225
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA

**External calibration models**

- Net Weight: 4,3Kg

**Internal calibration models**

- Net Weight: 4,6Kg



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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**External calibration**

LW163	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW303D	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
LW423	420	0,001	Ø 110	0,001	± 0,004	≤ 4

**Automatic internal calibration**

LW163i	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW303Di	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
LW423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

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

<sup>(2)</sup> Optional external battery pack (AC015)

<sup>(3)</sup> If connected to optional STAT printer (AC022)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>External calibration</b>						
LGW163	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW303D	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
LGW423	420	0,001	Ø 110	0,001	± 0,004	≤ 4

<b>Automatic internal calibration</b>						
LGW163i	160	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW303Di	150/310	0,001/0,01	Ø 110	0,0006/0,005	± 0,003/± 0,02	≤ 3
LGW423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. LGW balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

**Main features**

- High readability 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 of last stored calibration data
- Plastic protection cover
- Under hook weighing

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Portable rechargeable battery pack (AC015)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- 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

**External calibration models**

- Net Weight: 4,3Kg

**Internal calibration models**

- Net Weight: 4,6Kg

(1) Only for external calibration model

(2) Optional external battery pack (AC015)

Balances L series 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.

**Main features**

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

**Optional functions**

- Paper Grammage Function (T219)

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

**Technical data**

**Common features**

- 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

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. L1002i-M

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

<sup>(4)</sup> Optional external battery pack (AC015)

<sup>(5)</sup> If connected to optional STAT printer (AC022)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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**External calibration**

L1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	-
L1502	1500	0,01	Ø 160	0,01	± 0,02	≤ 3	-
L2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
L3102	3100	0,01	Ø 160	0,01	± 0,03	≤ 3	-
L4202	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	-
L5202	5200	0,01	Ø 160	0,01	± 0,04	≤ 4	-

**Automatic internal calibration**

L1002i	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	[e=0,1g]
L1502i	1500	0,01	Ø 160	0,01	± 0,02	≤ 3	[e=0,1g]
L2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
L3102i	3100	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
L4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	-



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)	Verification <sup>2</sup>
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### External calibration

LG1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	-
LG1502	1500	0,01	Ø 160	0,01	± 0,02	≤ 3	-
LG2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	-
LG3102	3100	0,01	Ø 160	0,01	± 0,03	≤ 3	-
LG4202	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	-
LG5202	5200	0,01	Ø 160	0,01	± 0,04	≤ 4	-

### Automatic internal calibration

LG1002i	1000	0,01	Ø 160	0,01	± 0,02	≤ 3	[e=0,1g]
LG1502i	1500	0,01	Ø 160	0,01	± 0,02	≤ 3	[e=0,1g]
LG2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
LG3102i	3100	0,01	Ø 160	0,01	± 0,03	≤ 3	[e=0,1g]
LG4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4	-

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. LG 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.

### Main features

- High readability 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 of last stored calibration data
- Plastic protection cover
- Under hook weighing <sup>(1)</sup>

### Accessories

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- Portable rechargeable battery pack (AC015)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

### Technical data

#### Common features

- 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

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

<sup>(2)</sup> To order Verification please add -M to name, e.g. L1002i-M

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

<sup>(4)</sup> Optional external battery pack (AC015)

Balances Series L 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.

**Main features**

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

**Accessories**

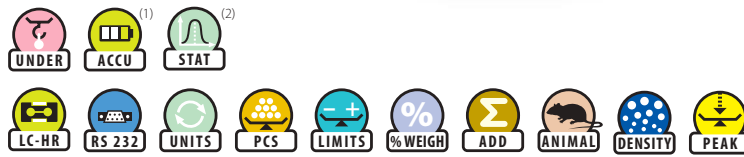
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

**Technical data**

- 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



Portable rechargeable battery pack



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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**External calibration**

L4501	4500	0,1	175x195	0,05	± 0,1	≤ 2
L5201	5200	0,1	175x195	0,05	± 0,1	≤ 2
L6501	6500	0,1	175x195	0,05	± 0,1	≤ 2
L8001	8000	0,1	175x195	0,05	± 0,2	≤ 2
L10001	10000	0,1	175x195	0,05	± 0,2	≤ 2
L12001	12000	0,1	175x195	0,05	± 0,2	≤ 3
L16001	16000	0,1	175x195	0,08	± 0,3	≤ 3
L20001	20000	0,1	175x195	0,1	± 0,4	≤ 4

<sup>(1)</sup> Optional external battery pack (AC015)

<sup>(2)</sup> If connected to optional STAT printer (AC022)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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### External calibration

LG4501	4500	0,1	175x195	0,05	± 0,1	≤ 2
LG5201	5200	0,1	175x195	0,05	± 0,1	≤ 2
LG6501	6500	0,1	175x195	0,05	± 0,1	≤ 2
LG8001	8000	0,1	175x195	0,05	± 0,2	≤ 2
LG10001	10000	0,1	175x195	0,05	± 0,2	≤ 2
LG12001	12000	0,1	175x195	0,05	± 0,2	≤ 3
LG16001	16000	0,1	175x195	0,08	± 0,3	≤ 3
LG20001	20000	0,1	175x195	0,1	± 0,4	≤ 4

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. precision and repeatability. All models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. LG balances have an extensive recipe database, GLP and many embedded advanced features that make them perfect for use in laboratory, research departments, compounds formulation and quality control applications.

### Main features

- High readability load cell weighing system
- External 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 of last stored calibration data
- Plastic protection cover
- Under hook weighing

### Accessories

- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Portable rechargeable battery pack (AC015)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

### Technical data

- 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

<sup>(1)</sup> Optional external battery pack (AC015)

S - Readability 0,001g

A fusion of design and quality, balances S series 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.

**Main features**

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

**Optional functions**

- Paper Grammage Function (T219)

**Accessories**

- Rechargeable battery pack external (AC015)
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Density KIT for solids and liquids (AC002)
- Density KIT for solids (AC001)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

**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



Portable rechargeable battery pack



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>External calibration</b>						
<b>S123</b>	120	0,001	Ø 80	0.0008	± 0,003	≤ 3
<b>S203</b>	210	0,001	Ø 80	0,001	± 0,003	≤ 3
<b>S303</b>	310	0,001	Ø 80	0,001	± 0,003	≤ 3
<b>S303D</b>	150/310	0,001/0,01	Ø 80	0,001/0,008	± 0,003/± 0,02	≤ 3
<b>S423</b>	420	0,001	Ø 80	0,001	± 0,004	≤ 3

(1) If connected to optional STAT printer (AC022)

(2) Optional external battery pack (AC015)





Optional DPP250 printer, can be portable



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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### External calibration

<b>S622</b>	620	0,01	Ø 130	0,01	± 0,02	≤ 2
<b>S1002</b>	1000	0,01	Ø 130	0,01	± 0,02	≤ 2
<b>S1202</b>	1200	0,01	Ø 130	0,01	± 0,02	≤ 2
<b>S1502</b>	1500	0,01	Ø 130	0,01	± 0,02	≤ 2
<b>S2202</b>	2200	0,01	Ø 130	0,01	± 0,03	≤ 3
<b>S3102</b>	3100	0,01	Ø 130	0,01	± 0,03	≤ 3
<b>S4202</b>	4200	0,01	Ø 130	0,01	± 0,04	≤ 3
<b>S5202</b>	5200	0,01	150X140	0,01	± 0,04	≤ 4

A fusion of design and quality, balances S series 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.

### Main features

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

### Optional functions

- Paper Grammage Function (T219)

### Accessories

- Rechargeable battery pack external (AC015)
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- PC data collection software (BL0476)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

### 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

(1) If connected to optional STAT printer (AC022)

(2) Optional external battery pack (AC015)

# S - Readability 0,1g

A fusion of design and quality, balances S series 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.

### Main features

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

### Accessories

- Rechargeable battery pack external (AC015)
- Density KIT for solids and liquids (AC004)
- Density KIT for solids (AC003)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

### 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



Portable rechargeable battery pack



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>External calibration</b>						
<b>S3201</b>	3200	0,1	150x140	0,05	± 0,2	≤ 2
<b>S5201</b>	5200	0,1	150x140	0,05	± 0,2	≤ 2
<b>S6501</b>	6500	0,1	150x140	0,05	± 0,2	≤ 2

(1) If connected to optional STAT printer (AC022)  
 (2) Optional external battery pack (AC015)



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 and the many on-board software functions already included make this balance a product with the best quality over price.

### Main features

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

### Accessories

- Rechargeable battery, type AA (E803) (balances ES require five)
- Factory Calibration certificate (BL0333)

### 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



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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#### External calibration

ES202	200	0,01	Ø 110	0,01	± 0,02	≤ 2
ES422	420	0,01	Ø 110	0,01	± 0,02	≤ 2
ES1001	1000	0,1	150x140	0,1	± 0,2	≤ 2
ES1501	1500	0,1	150x140	0,1	± 0,2	≤ 2
ES2201	2200	0,1	150x140	0,1	± 0,3	≤ 2

<sup>(1)</sup> Optional external battery pack (AC015)

M5-iThermo balances are moisture analyzers with large 5" color touch screen 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 readability.

**Main features**

- Electromagnetic force restoration weighing system (A64M and 163M)
- High readability load cell weighing system (163L and 62L)
- Halogen-infrared lamp
- External calibration
- Large 5" color touchscreen 800x480 display
- RS232 serial interface
- Drying readability 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.



Model	Max (g)	Readability [d] (g)	Moisture Readability	Pan (mm)	Repeatability (g)	Linearity (g)	Precision (2g)	Response time (sec.)
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**External calibration**

<b>M5-Thermo A64M</b>	60	0,0001	0,001%	100mm Samples Pan	0,0001	± 0,0003	0,18%	≤ 3
<b>M5-Thermo 163M</b>	160	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,18%	≤ 3
<b>M5-Thermo 163L</b>	160	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,20%	≤ 4
<b>M5-Thermo 62L</b>	60	0,01	0,1%	100mm Samples Pan	0,01	± 0,03	0,50%	≤ 3

<sup>(1)</sup> only A64M, 163M

<sup>(2)</sup> only 163L, 62L



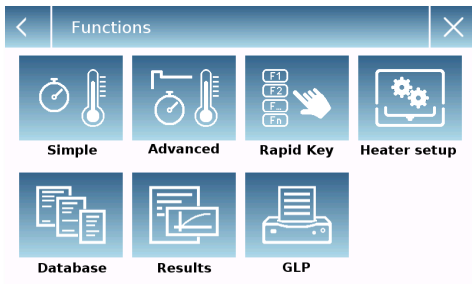
Export/import results  
and database to USB

## Accessories

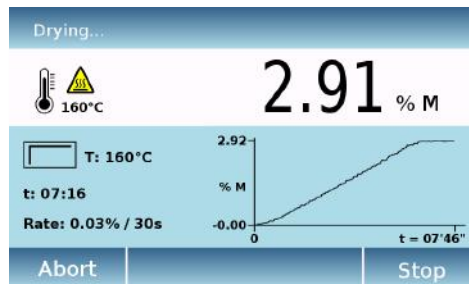
- Thermometer calibration KIT (STCi-02)
- Serial Printer TLP-50, with date/time (C054)
- TEST pans (Ø 100mm x 0,5mm) (A753)
- Portable ioniser Ion-A15 (BL0371)
- Factory Calibration certificate (BL0333)
- Usb pendrive 8Gbyte (AC020)
- Touchscreen Stylus pen (AC021)

## Technical data

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [i-Thermo A64M]; +/- 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;
- Power consumption: rating 430 VA; Heat source lamp: 400Watt
- Net Weight: 6,1Kg (A64M and 163M)
- Net Weight: 4,7Kg (163L and 62L)



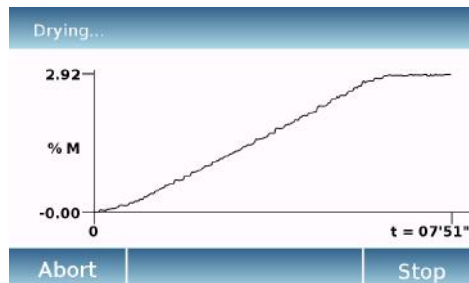
Main functions page for easy working



Drying cycle page with graph, with parameters



Internal database of products/processes



Real time Live Graph View, full screen

The new i-Thermo G 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).

**Main features**

- Electromagnetic force restoration weighing system (A64MG and 163MG)
- High readability load cell weighing system (163LG and 62LG)
- 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



Model	Max (g)	Readability [d] (g)	Moisture Readability	Pan (mm)	Repeatability (g)	Linearity (g)	Precision (2g)	Response time (sec.)
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**External calibration**

<b>i-Thermo A64MG</b>	60	0,0001	0,001%	100mm Samples Pan	0,0001	± 0,0003	0,18%	≤ 3
<b>i-Thermo 163MG</b>	160	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,18%	≤ 3
<b>i-Thermo 163LG</b>	160	0,001	0,01%	100mm Samples Pan	0,001	± 0,003	0,20%	≤ 4
<b>i-Thermo 62LG</b>	60	0,01	0,1%	100mm Samples Pan	0,01	± 0,03	0,50%	≤ 3

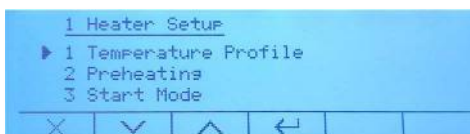


### Accessories

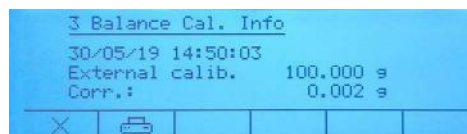
- Portable ioniser Ion-A15 (BL0371)
- Thermometer calibration KIT (STCi-02)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial to USB converter (E1002)
- Serial cable for output to printer/PC (E743)
- Test pans (Ø 100mm x 0,5mm) (A753)
- Fiber glass test pans Ø 90mm (AC026)
- Factory Calibration certificate (BL0333)

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [i-Thermo A64MG]; +/- 4ppm/°C [other models]
- Dimensions LxWxH (mm): 345x215x235
- Maximum dimension of container on the pan: 100mm (Ø) x 25mm (height)
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA [i-Thermo A64MG]; output 9V 1,2A 10VA [other models]
- Heater: 230V AC 50/60Hz, 400Watt
- Net Weight: 6,1Kg (A64MG and 163MG)
- Net Weight: 4,7Kg (163LG and 62LG)



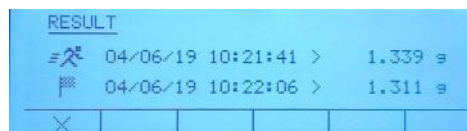
Easy set up of the heater parameters



Moisture analyzer calibration data overview



All the parameters all visible at once during drying session



Clear and detailed results view

i-Thermo are rugged instruments for moisture determination of raw materials and finished samples in the food, cosmetics, ceramics, agriculture and construction industry. Backlit LCD display, drying resolution 0,001%, 0,01% and 0,1%. Possibility of calibrating the internal thermometer (w/ optional KIT).

### Features

- Electromagnetic force restoration weighing system (A64M and 163M)
- High resolution load cell weighing system (163L and 62L)
- Halogen-infrared lamp
- External calibration
- LCD with backlight with adjustable contrast
- Time (1-99 min) and Autostop operating modes
- 5 drying programs can be stored
- Temperature range: 35-160°C/1°C
- Moisture, dry residue in percentage and ATRO indications
- Drying resolution 0,001% - 0,01% - 0,1%
- Plastic protection cover

### Accessories

- Ioniser Ion-A15 (BL0371)
- Thermometer calibration KIT (STCi-02)
- BEL Tablet System for balances. USB version (BL0329) or BLUETOOTH version (BL0330).
- Bluetooth printer DPP-250-BT for BEL Tablet system (AC013)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for output to printer/PC (E743)
- TEST pans (Ø 100mm x 0,5mm) (A753)
- Factory Calibration certificate (BL0333)

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [i-Thermo A64M]; +/- 4ppm/°C [other models]
- Dimensions LxWxH (mm): 345x215x235
- Maximum dimension of container on the pan: 100mm (Ø) x 25mm (height)
- Power supply 110-230Vac, 50/60Hz; output 24V 500mA 13VA [i-Thermo A64M]; output 9V 1,2A 10VA [other models]
- Heater: 230V AC 50/60Hz, 400Watt
- Net Weight: 6,1Kg (A64M and 163M)
- Net Weight: 4,7Kg (163L and 62L)

## i-Thermo - Res. 0,0001g-0,001g-0,01g



Model	Capacity (g)	Resolution (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Precision (2g)	Response time (sec.)
<b>External calibration</b>							
<b>i-Thermo A64M</b>	60	0,0001	100mm Samples Pan	0,0001	± 0,0003	0,18%	≤ 3
<b>i-Thermo 163M</b>	160	0,001	100mm Samples Pan	0,001	± 0,003	0,18%	≤ 3
<b>i-Thermo 163L</b>	160	0,001	100mm Samples Pan	0,001	± 0,003	0,20%	≤ 4
<b>i-Thermo 62L</b>	60	0,01	100mm Samples Pan	0,01	± 0,03	0,50%	≤ 3

<sup>(1)</sup> only A64M, 163M

<sup>(2)</sup> only 163L, 62L



The new M5-RB high capacity balances bring robustness, reliability and a high level of performance. The M5-RB models are equipped with a large 5" color touchscreen 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 menus. 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.



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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#### External calibration

M5-RB8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
M5-RB16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
M5-RB25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
M5-RB32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
M5-RB32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
M5-RB32000	32000	1	320x220	0,5	± 1	≤ 3
M5-RB32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3
M5-RB6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
M5-RB8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
M5-RB10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
M5-RB12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

### 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

### Accessories

- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- PC data collection software (BL0476)
- Serial to USB converter (E1002)
- Factory Calibration certificate (BL0333)

### 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

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

All the RBG 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.

**Main features**

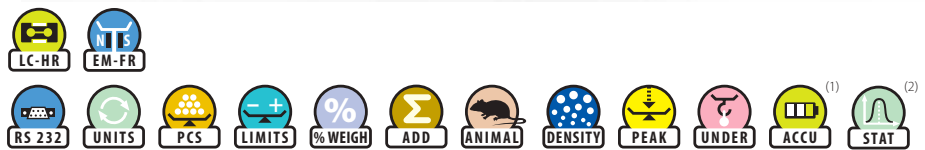
- Electromagnetic force restoration weighing system (for 0,01g resolution)
- High readability load cell weighing system (for 0,1g resolution)
- Dot Matrix graphical display
- External calibration
- GLP/ISO record of last stored calibration data
- Multi Languages (EN-DE-FR-IT-SP-PT)
- RS232 serial interface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

**Accessories**

- Ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- PC data collection software (BL0476)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

**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



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>External calibration</b>						
RBG8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
RBG16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
RBG25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
RBG32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
RBG32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
RBG32000	32000	1	320x220	0,5	± 1	≤ 3
RBG32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3
RBG6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
RBG8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
RBG10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
RBG12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

<sup>(1)</sup> Optional external battery pack (AC015)

<sup>(2)</sup> If connected to optional STAT printer (AC022)



### Main 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

### Accessories

- Ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
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#### External calibration

RB8001	8000	0,1	320x220	0,05	± 0,2	≤ 3
RB16001	16000	0,1	320x220	0,05	± 0,3	≤ 3
RB25001	25000	0,1	320x220	0,1	± 0,3	≤ 4
RB32001	32000	0,1	320x220	0,1	± 0,4	≤ 4
RB32001.5	32000	0,5	320x220	0,5	± 0,4	≤ 3
RB32000	32000	1	320x220	0,5	± 1	≤ 3
RB32001D	4500/32000	0,1/1	320x220	0,05/0,5	± 0,2/ ± 1	≤ 3
RB6202	6200	0,01	195x175	0,01	± 0,03	≤ 4
RB8202	8200	0,01	195x175	0,01	± 0,03	≤ 4
RB10102	10100	0,01	195x175	0,01	± 0,03	≤ 4
RB12102	12100	0,01	195x175	0,01	± 0,03	≤ 4

### 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

(1) Optional external battery pack (AC015)

(2) If connected to optional STAT printer (AC022)

M5-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 M5-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

M5-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 touch-screen interface and the icon-driven menus, which make your work, respectively, intuitive, efficient and user-friendly.

### Database

As reference liquid for the density determination 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 determination 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).

### GLP

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



Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (g)	Linearity (g)	Response time (sec.)
<b>Automatic internal calibration</b>						
M5-iDens	3100	0,01	Ø 80	0,01	± 0,02	≤ 2

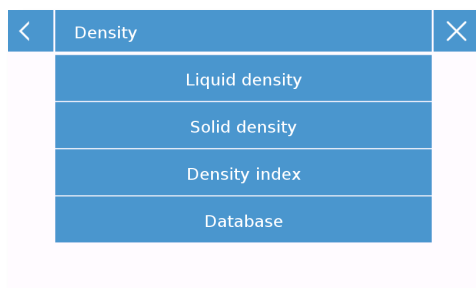
### Density Index

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.

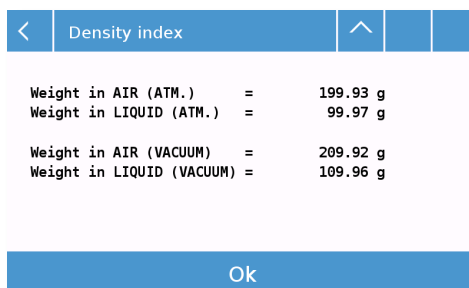
Density index value of a metal sample is an index of how clean is the metal sample and how much free from pores that may have formed during the melting process. By measuring the density index (DI) of the metal, it is possible to control and optimize the process of production of the cast, improving the overall quality of final metal product, and thus drastically reducing rejection rate.



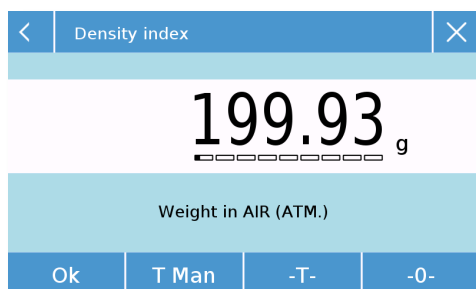
### Touchscreen interface screen shots



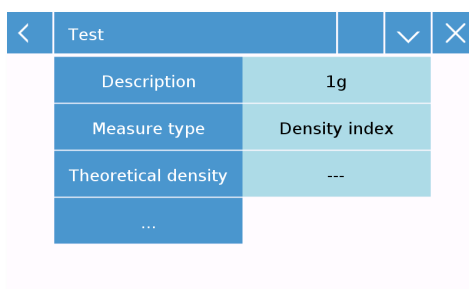
User can start a function or recall data from (internal) database.



Clear report of Density Index calculation is shown.



Instructions on the large display drive the user.



Easy and intuitive menu to insert data.

### 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 Multi-user

Choice of language among English, French, German, Italian, Spanish, Portuguese. Protection 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 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.

### Technical data

- Span drift (+ 10...+ 30 °C): +/- 6ppm/°C
- Dimensions LxWxH (mm): 330x325x245
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA
- Net Weight: 6,2Kg

The MJ 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. MJ balances are all provided with RS232 connectivity; 0.1mg and 1mg models are equipped with a large protection draftshield.

**Main features**

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

**Accessories**

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Serial Printer STAT, with Statistics functions (AC022)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- Factory Calibration certificate (BL0333)

**Technical data**

**Common features**

- 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 1A 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



Model	Max	Readability [d]	Pan (mm)	Repeatability)	Linearity	Response time (sec.)
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**Carat series - Automatic internal calibration**

<b>MJ124Ai</b>	600ct/120g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4
<b>MJ214Ai</b>	1050ct/220g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4

**Gold series - Automatic internal calibration**

<b>MJ723i</b>	720g	0,001g	Ø 110	0,001g	± 0,002g	≤ 2
<b>MJ4202i</b>	4200g	0,01g	Ø 160	0,01g	± 0,04g	≤ 2

**Gold series - External calibration**

<b>MJ333</b>	330g	0,001g	Ø 110	0,0005g	± 0,002g	≤ 2
<b>MJ2202</b>	2200g	0,01g	Ø 160	0,01g	± 0,02g	≤ 2



**CODE:**  
**AC007 (cable version)**

### Portable thermal printer model DPP-250/DPP250-BT

DPP-250 and DPP-250-BT printers are small footprint portable printers that can be used with BEL 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 BEL 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 9V/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



**CODE: C054**

### Line thermal dot printer model TLP-50

TLP-50 printer is a compact printer that can be used with BEL 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 readability	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)
Connection cable	Included

**CODE: AC022**

only for HPB, M, MW, L, LW, KL, S series

### Serial Printer with Statistics function model STAT

STAT printer is a thermal printer that can be used with BEL laboratory balances. It can print weight values and, when requested, a full statistical analysis of the values including: number of values, mean value, sum, minimum, maximum, standard deviation, etc.. The printer can also record and print date/time and calibration details in compliance with GLP.

Printer is supplied with connection cable to be connected directly to HPB, M, L, MW, LW, S and KL balances.

Features:

- Count and total of all measurements, Minimum, Maximum values, Range (Max-Min)
- Average value, Standard deviation
- GLP Record keeping of balance calibration with date/time print
- Available units: mg, g, Kg, pcs
- Languages: English, French, German

Type	Bidirectional RS-232 Thermal printer
Print speed	0,75 lines/sec ; 40/80 characters/line
Paper roll	Width 112mm, length 20m
External power supply unit (included)	230V 50Hz 0,12A / 9V DC 1,3A
Energy consumption (average)	min 0.5A (4W) - max 1.1A (9W)
Baud rate	1200-2400-4800-9600 Baud
Operating temperature	5 - 35°C
Humidity	Max 80% relative (not condensing)
Working life	5000 hours or 500000 lines
Dimensions	165 x 140 x 50 mm
Weight	450 g (excl. paper roll)
Connection cable	Included



### Paper rolls for printers

CODE	MODEL
AC010	roll of 54x24mm labels (500) for TLP-50 printer
AC011	roll of paper for TLP-50 printer
AC012	roll of paper for DPP250 printer
AC025	roll for STAT printer

**CODE: AC005**

### Alphanumeric external keyboard model KEYMODULE

External keyboard for inserting alphanumeric values into the balances. With TARE function button and manual pre-tare value inserting button.

Interface	RS232
Dimensions	115x210x35h mm
Weight	250 g





CODE: BL0371

### Ioniser model ION-A15

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 weighed 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



CODE: AC027

### Draft Shield rear panel with integrated ioniser

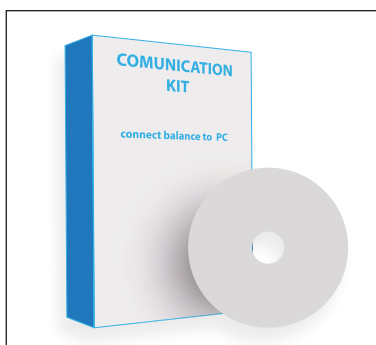
To neutralize static charges on samples to weigh. The user can easily and quickly mount this panel on a balance already in his possession, upgrading the balance with an integrated ioniser. The ioniser is easily activated by pressing a button. There are two ways of operating: 2 minutes or continuously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

Suitable for following families:

- Semimicro 0,01mg balances
- Analytical 0,1mg balances
- MW and MGW 1mg balances
- LW and LGW 1mg balances

Includes:

rear panel with integrated ioniser, power supply



CODE: BL0476

### PC data collection software

Complete kit to connect BEL 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 BEL balances series M5-Thermo, i-Thermo*



CODE: AC015

### Portable rechargeable battery pack

Portable Li-Ion rechargeable battery pack. Can connect and power balances LW, LG, LGW and KL series 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



### Protection cover

CODE	MODEL
A731	plastic cover for Balances series i-Thermo
A913	plastic cover for Balances series M, MG Analytical
NA0091	plastic cover for Balances series M, MG, L, LG
T222	plastic cover for Balances series L 0,1g (-PQ)
A132	plastic cover for Balances series S and ES
A851	plastic cover for Balances series KL



### Communication cables

CODE	MODEL
E1002	RS232/USB converter balance/PC
E743	Serial cable 9pins M/M for serial output printer/PC
E744	Serial cable 9pins M/F for serial output PC

**CODE:**

**AC001: Density kit for solid (0.01mg, 0.0001g and 0.001g balances)**

**AC002: Density kit for solid and liquid (0.01mg, 0.0001g and 0.001g balances)**

**AC003: Density kit for solid (0.01g balances, 0.1g only S models)**

**AC004: Density kit for solid and liquid (0.01g balances, 0.1g only S models)**

## Density KIT

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

It contains:

2 Glass graduated Beaker: height 150mm Ø 50mm 250ml and height 95mm Ø 65 mm 250ml
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Analogic thermometer 10°C - 40°C/1°C
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Glass sinker
--------------

Basket for floating and not floating samples
--

Suspension arm for basket or plummet
--------------------------------------

Support for plummet/basket
----------------------------

Support base for beaker
-------------------------

**CODE: BL0364**

## Thermometer calibration KIT model STCi-02

Small, fast-response thermometer for verify and calibrate the heating source of BEL moisture Analyzers i-Thermo & M5-Thermo 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
Readability	1°C
Precision	+/-2°C
Diameter	Ø 46 mm
Indicator casing	AISI 304
Box Dimensions	200x210x60h mm; weight 260g

**CODE: A753**

## Aluminum Test pans for moisture analyzers

Aluminium sample dishes are essential for using with moisture analysers.

Reusable, diameter 100mm, thickness 0.5mm.

One box contains 80 pans



CODE: AC026

## Fiber glass 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 A753 (see photo below).

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.

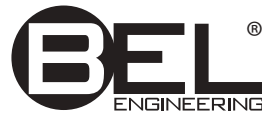
Diameter 90mm.

One box contains 200 discs.



## Calibration weights

CODE	MASS	CLASS	MATERIAL
M0021	20g	E1	MEC finely turned stainless steel
M0001	20g	F1	MEC finely turned brass
M0019	20g	E2	MEC finely turned stainless steel
M0022	100g	E1	MEC finely turned stainless steel
M0002	100g	E2	MEC finely turned stainless steel
M0003	100g	F1	MEC finely turned brass
M0004	200g	E1	MEC finely turned stainless steel
M0005	200g	E2	MEC finely turned stainless steel
M0006	200g	F1	MEC finely turned brass
M0020	500g	E1	MEC finely turned stainless steel
M0007	500g	E2	MEC finely turned stainless steel
M0017	500g	F1	MEC finely turned stainless steel
M0008	1000g	F1	MEC finely turned stainless steel
M0009	2000g	F1	MEC finely turned stainless steel
M0018	2000g	F2	MEC finely turned stainless steel
M0010	5000g	E2	MEC finely turned stainless steel
M0011	5000g	F1	MEC finely turned stainless steel
M0012	5000g	F2	MEC finely turned stainless steel
M0013	5000g	M1	MEC finely turned brass
M0014	10000g	F1	MEC finely turned stainless steel
M0015	10000g	F2	MEC finely turned stainless steel
M0016	10000g	M1	MEC finely turned brass



BEL Engineering® s.r.l. is an Italian company manufacturer of Electronic Precision Balances and laboratory scientific instruments, with headquarters in Monza (Milano), ITALY.

The company was born at the beginning of the '80s, taking care from the very beginning to its own production through a deep scientific and technological research. Each step of the production process (mechanics, electronics, software, design) is completely followed, ensuring a full quality check on each part related to the electronic balance and to other products.

The experience acquired in more than 40 years and the direct design of our products ensures to BEL Engineering srl to be strongly innovative and to be able to give an accurate and quick service thanks to a qualified and skilled personell. Thanks to all this and to a refined italian style,

each product of Bel Engineering combines Quality, Design and Performance.

BEL Photonics® is a division of BEL Engineering® s.r.l. concerned with Optical instruments design and Optical Microscopy. Bel Photonics leads the field of Optical Microscopy with a innovative range of video Microscopes, biological, stereo, inverted microscopes and high-readability cameras for Microscopy.

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