HELAGO® CZ

BEL®

ENGINEERING

QUALITY THAT WEIGHS

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 as 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

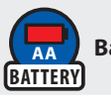
Date & Time: balance shows current date and time

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 reproportioning

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

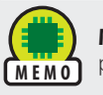
Infrared Sensors: touchless, to call TARE or PRINT functions without touching the balance

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

Pipette Check: test a pipette by selecting a verification method (ISO8655).

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How to identify the proper product model

For example:

MGW1203D

↓

M This indicates the key category of the balance, as explained below

M5 = Advanced Balances with 5"Touchscreen display

HPB, HPBG\ SHPBG = Eletromagnetic force, High Performance Balance with highly integrated block

M, MG, MGW = Eletromagnetic force, High Precision, Fast response

L, LG, LGW = Strain gauge load cell balance, Precision, Convenient

S = Strain gauge load cell balance, Portable, Affordable price

ES = Strain gauge, Portable, Economic line

RB, RBG, M5-RB = Electromagnetic force or load cell, High capacity, Rugged

i-Thermo G = Moisture Balances with Graphic display

M5-Thermo = Moisture Balances with 5"Touchscreen display

G Indicates that the Balance has large graphic display, otherwise has standard LCD display

W indicates that the Balance has 3-door draftshield (only for 1mg Balances) instead of standard round draftshield

1203 stands for capacity and resolution of the balance, as explained below:

Last digit of this number represents the resolution:

5 means	0,00001g resolution
4 means	0,0001g resolution
3 means	0,001g resolution
2 means	0,01g resolution
1.2 means	0,2g resolution
1.5 means	0,5g resolution
0 means	1g resolution

So, 1203 means a 1200g capacity balance with 0,001g resolution

D indicates that the Balance is a Double Range one

i indicates that the Balance has automatic internal calibration

-M indicates that the Balance is verified and will be supplied together with a Conformity Declaration (first verification)

-ION indicates that the balance is equipped with an embedded Ionizer

↓

MGW1203Di-M is a 0.001g balance, double range,
Max capacity is 1200g,
with Graphic display,
with 3-sliding doors draftshield
with automatic internal calibration
supplied with legal Conformity declaration

Quick Finder

Readability [d]	Weighing Range	Family Name	Page	Verification [M]	Internal Calibration	Draftshield	Integrated Ioniser
0,01mg	62g...220g	HPB	6		■	■	▲
0,01mg	62g...220g	HPBG-SHPBG	8		■	■	▲
0,01mg	62g...220g	M5-HPB	10		■	■	▲
0,1mg	120g...310g	M	12		▲	■	▲
0,1mg	120g...1010g	MG-HPBG	13		▲	■	▲
0,1mg	220g...1010g	M5-HPB	14		■	■	▲
0,001g	520g...1200g	M	16		▲	■	
0,001g	520g...2100g	MW	17		■	■	
0,001g	520g...1200g	MG	18		▲	■	
0,001g	520g...2100g	MGW	19		■	■	
0,001g	210g...420g	L	22		▲	■	
0,001g	210g...420g	LG	23		■	■	
0,001g	210g...420g	LW	24		■	■	
0,001g	210g...420g	LGW	25		■	■	
0,001g	120g...420g	S	32			▲	
0,001g	310g...1000g	M5	30		▲	■	
0,01g	3200g...6200g	M5	30		▲	▲	
0,01g	1000g...4200g	L	26		▲		
0,01g	1000g...4200g	LG	27		▲		
0,01g	620g...4200g	S	32				
0,01g	0g...420g	ES	33				
0,01g	4200g...6200g	M-MG	20-21		▲		
0,1g	5200g...10kg	L	28				
0,1g	5200g...10kg	LG	29				
0,1g	3200g...6500g	S	32				
0,1g	1000g...2200g	ES	33				
0,1g-1g	4500g...32kg	RB-RBG-M5-RB	39-41				
0,1g-0,001g	120g...6200g	M/MW/L/MG/MWG/LG..-M	34-35	❑	▲	■	

Moisture Analyzers

Readability [d]	Weighing Range	Family Name	Page	Thermometer Calibration	Halogen 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	i-Thermo G	38	❑	■		

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

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

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

HPB - Readability 0,01mg

BEL Engineering introduces the new series of semi micro 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.

Main features

- Electromagnetic force restoration weighing system
- User selectable environmental filter
- 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
- RS232 serial interface
- Plastic protection cover for keypad

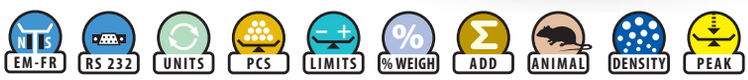
Accessories

- 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)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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)

EM-FR RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK

Automatic internal calibration

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
HPB-625i	62	0,01	Ø 80	0,03	± 0,08	≤ 6
HPB-105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-2285Di	82/220	0,01/0,1	Ø 80	0,04 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,08 / ± 0,2	≤ 6



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.

Balance technical data

Common features

- 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 multi plug
- 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 multi plug

Automatic internal calibration

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
HPB-625i-ION	62	0,01	Ø 80	0,03	± 0,08	≤ 6
HPB-105i-ION	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPB-1265Di-ION	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-2285Di-ION	82/220	0,01/0,1	Ø 80	0,04 / 0,1	± 0,08 / ± 0,2	≤ 6
HPB-22105Di-ION	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,08 / ± 0,2	≤ 6

HPBG - SHPBG - Readability 0,01mg

BEL Engineering introduces the new series of semiMicro HPBG 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 feature 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.

Main features

- Electromagnetic force restoration weighing system
- User selectable environmental filter
- 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
- Multi Language: 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
- RS232 serial interface
- 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)
- 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 (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
Automatic internal calibration						
HPBG-625i	62	0,01	Ø 80	0,03	± 0,08	≤ 6
HPBG-105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
HPBG-1265Di	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPBG-2285Di	82/220	0,01/0,1	Ø 80	0,04 / 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

GRAPHIC GLP ION

EM-FR PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK RS 232 UNITS CLOCK LANG FORMULA

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
Automatic internal calibration						
HPBG-625i-ION	62	0,01	Ø 80	0,03	± 0,08	≤ 6
HPBG-105i-ION	102	0,01	Ø 80	0,05	± 0,08	≤ 6
SHPBG-125i-ION	122	0,01	Ø 80	0,05	± 0,1	≤ 6
SHPBG-165i-ION	162	0,01	Ø 80	0,05	± 0,1	≤ 6
SHPBG-215i-ION	212	0,01	Ø 80	0,05	± 0,1	≤ 6
HPBG-1265Di-ION	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
HPBG-2285Di-ION	82/220	0,01/0,1	Ø 80	0,04 / 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

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.

Balance technical data

Common features

- 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 multi plug
- 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

M5-HPB - Readability 0,01mg

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.

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
- User selectable environmental filter
- 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-CN)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistcs report
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Accumulation function
- Animal weighing
- Max load determination (Peak hold)
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed

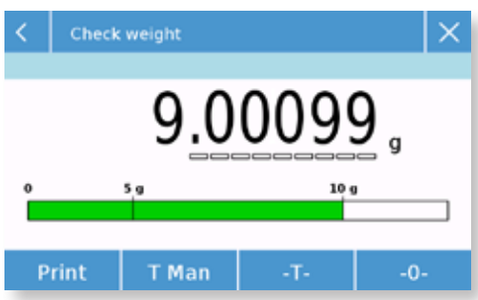
TOUCH DATABASE

USB PASSWORD CHECK

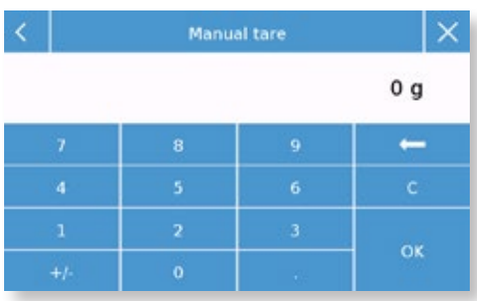
RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY STAT GLP LANG FORMULA TEXTILE

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
Automatic internal calibration						
M5-HPB-625i	62	0,01	Ø 80	0,03	± 0,08	≤ 6
M5-HPB-105i	102	0,01	Ø 80	0,05	± 0,08	≤ 6
M5-HPB-105i-ION	102	0,01	Ø 80	0,05	± 0,08	≤ 6
M5-HPB-1265Di	62/120	0,01/0,1	Ø 80	0,03/ 0,1	± 0,08 / ± 0,2	≤ 6
M5-HPB-1265Di-ION	62/120	0,01/0,1	Ø 80	0,03 / 0,1	± 0,08 / ± 0,2	≤ 6
M5-HPB-2285Di	82/220	0,01/0,1	Ø 80	0,04 / 0,1	± 0,08 / ± 0,2	≤ 6
M5-HPB-2285Di-ION	82/220	0,01/0,1	Ø 80	0,04 / 0,1	± 0,08 / ± 0,2	≤ 6
M5-HPB-22105Di	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,08 / ± 0,2	≤ 6
M5-HPB-22105Di-ION	102/220	0,01/0,1	Ø 80	0,05 / 0,1	± 0,08 / ± 0,2	≤ 6

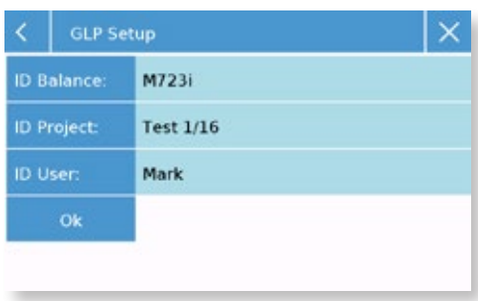
Main functions page for easy working



Bright color indication for check weighing



Manual tare input



Clear and easy input for GLP function

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.

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 multi plug
- 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

M-HPB - Readability 0,1mg

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
- User selectable environmental filter
- 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
- RS232 serial interface
- Plastic protection cover

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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) [2]

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 multi plug

External calibration models

- Net Weight: 6,3Kg

Internal calibration models

- Net Weight: 6,6Kg

Verified models: see page 34

EM-FR RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK VERIFIED

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
External calibration						
M124A	120	0,1	Ø 80	0,1	± 0,3	≤ 4
M214A	220	0,1	Ø 80	0,1	± 0,3	≤ 4
M254A	250	0,1	Ø 80	0,1	± 0,3	≤ 4
Automatic internal calibration						
M124Ai	120	0,1	Ø 80	0,1	± 0,3	≤ 4
M214Ai	220	0,1	Ø 80	0,1	± 0,3	≤ 4
M254Ai	250	0,1	Ø 80	0,1	± 0,3	≤ 4
M314Ai	310	0,1	Ø 80	0,1	± 0,4	≤ 4
M314Ai-ION	310	0,1	Ø 80	0,1	± 0,4	≤ 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-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	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
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
HPB-1004Ai	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6
HPB-1004Ai-ION	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6

MG-HPBG - Readability 0,1mg

Verified models: see page 35

All these models are equipped with a large graphic display for easy reading and user friendly operations with many functions. Double case structure, ergonomic keypad. These balances have an extensive recipe database, GLP and many embedded advanced features that make them well suited 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
- User selectable environmental filter
- 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
- Multi Language: 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
- RS232 serial interface
- 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 multi plug

External calibration models

- Net Weight: 6,3Kg

Internal calibration models

- Net Weight: 6,6Kg

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
External calibration						
MG124A	120	0,1	Ø 80	0,1	± 0,3	≤ 4
MG214A	220	0,1	Ø 80	0,1	± 0,3	≤ 4
MG254A	250	0,1	Ø 80	0,1	± 0,3	≤ 4
Automatic internal calibration						
MG124Ai	120	0,1	Ø 80	0,1	± 0,3	≤ 4
MG214Ai	220	0,1	Ø 80	0,1	± 0,3	≤ 4
MG254Ai	250	0,1	Ø 80	0,1	± 0,3	≤ 4
MG314Ai	310	0,1	Ø 80	0,1	± 0,4	≤ 4
MG314Ai-ION	310	0,1	Ø 80	0,1	± 0,4	≤ 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-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	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
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
HPBG-1004Ai	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6
HPBG-1004Ai-ION	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6

M5 - Readability 0,1mg

M5 analytcal 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.

TOUCH

DATABASE

USB PASSWORD CHECK

RS 232 UNITS PCS LIMITS % WEIGH ADD ANIMAL DENSITY PEAK GLP LANG FORMULA TEXTILE

Main features

- Electromagnetic force restoration weighing system
- User selectable environmental filter
- 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-CN)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistcs report
- Pipette check
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Accumulation function
- Animal weighing
- Max load determination (Peak hold)
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed

Automatic internal calibration

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Repeatability (St.Dev.) (mg)	Linearity (mg)	Response time (sec.)
M5-M214Ai	220	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-M214Ai-ION	220	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-M254Ai	250	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-M254Ai-ION	250	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-M314Ai	310	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-M314Ai-ION	310	0,1	Ø 80	0,1	± 0,3	≤ 4
M5-HPB-514i	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
M5-HPB-514i-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
M5-HPB-614i	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
M5-HPB-614i-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
M5-HPB-1004i	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6
M5-HPB-1004i-ION	1000	0,1	Ø 80	0,3mg if weight ≤ 500g 0,4mg from 500g to 1000g	± 0,5	≤ 6

TOUCH

DATABASE

ION

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)

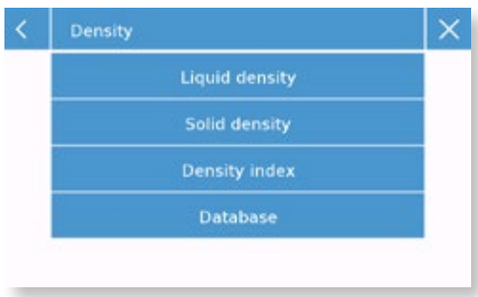
Balance technical data

- 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 multi plug
- Net Weight: 6,7 Kg
- Net Weight -ION models: 7,2 Kg

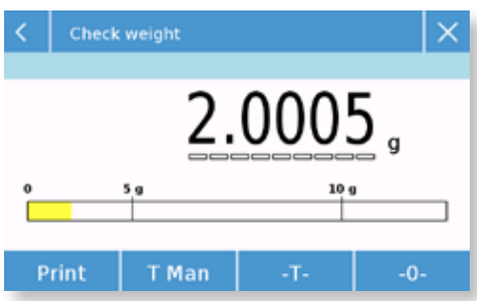
Ioniser technical data

- 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 multi plug

Main functions page for easy working



Easy selection for density function



Bright color indication for check weighing

Main page with easy access to the menus

M - Readability 0,001g

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
- User selectable environmental filter
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Round glass draftshield
- Plastic protection cover
- RS232 serial interface
- Under hook weighing (only for external calibration models)

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- Density KIT for solids and liquids (AC002)
- PC data collection software (BL0476)
- 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 multi plug

External calibration models

- Net Weight: 4,6Kg

Internal calibration models

- Net Weight: 4,9Kg

EM-FR · RS 232 · UNITS · PCS · LIMITS · %WEIGH · ADD · ANIMAL · DENSITY · PEAK · UNDER · VERIFIED

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
M523	520	0,001	Ø 110	0,001	± 0,002	≤ 2
M723	720	0,001	Ø 110	0,001	± 0,002	≤ 2
M1003	1000	0,001	Ø 110	0,001	± 0,003	≤ 3
M1203	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
Automatic internal calibration						
M523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
M723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2
M1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3
M1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3

Verified models: see page 34

MW - Readability 0,001g

LCD

EM-FR PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK RS 232 UNITS VERIFIED

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
MW523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
MW1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
MW2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3

Verified models: see page 35

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
- User selectable environmental filter
- Automatic internal calibration
- LCD with backlight with adjustable contrast
- Large glass draftshield with 3 sliding doors for easy access to the items being weighed
- RS232 serial interface
- Plastic protection cover

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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 multi plug

Internal calibration models

- Net Weight: 6,3Kg

MG - Readability 0,001g

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
- User selectable environmental filter
- 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
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- Round glass draftshield
- Plastic protection cover
- RS232 serial interface
- Under hook weighing [1]

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)
- 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 multi plug

External calibration models

- Net Weight: 4,6Kg

Internal calibration models

- Net Weight: 4,9Kg

[1] Only for external calibration model

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
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
Internal Automatic Calibration						
MG523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
MG723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2
MG1003i	1000	0,001	Ø 110	0,001	± 0,003	≤ 3
MG1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3

Verified models: see page 35

MGW - Readability 0,001g

GRAPHIC

GLP

EM-FR

PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK RS 232 UNITS CLOCK LANG FORMULA VERIFIED

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Internal Automatic Calibration						
MGW523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
MGW1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
MGW2103i	2100	0,001	Ø 110	0,001	± 0,005	≤ 3

Verified models: see page 35

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. All models offer 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 QC applications.

Main features

- Electromagnetic force restoration weighing system
- User selectable environmental filter
- Automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multi Language: 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
- RS232 serial interface
- 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)
- 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 24V 1A multi plug

Internal calibration models

- Net Weight: 6,3Kg

(1) Only for external calibration model

M - Readability 0,01g

Balances M series combine the unique 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
- User selectable environmental filter
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- RS232 serial interface
- Under hook weighing (1)

Accessories

- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- Density KIT for solids and liquids (AC004)
- 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 multi plug

External calibration models

- Net Weight: 4,6Kg

Internal calibration models

- Net Weight: 5,1Kg

EM-FR · RS 232 · UNITS · PCS · LIMITS · %WEIGH · ADD · ANIMAL · DENSITY · PEAK · UNDER · VERIFIED

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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
M5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2
Automatic internal calibration						
M4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2
M5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3
M6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3
M5502Di	800/5500	0,01/0,1	Ø 160	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

Verified models: see page 34

MG - Readability 0,01g

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
- User selectable environmental filter
- External or automatic internal calibration
- Formulation database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- RS232 serial interface
- Plastic protection cover
- Under hook weighing [1]

Accessories

- Serial Printer TLP-50, with date/time (C054)
- Communication KIT balance/PC (BL0476)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- Density KIT for solids and liquids (AC004)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- Factory Calibration certificate (BL0333)
- Conformity Declaration (Verification)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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
MG5502D	800/5500	0,01/0,1	Ø 160	0,005/0,03	± 0,01/± 0,1	≤ 2
Automatic internal calibration						
MG4202i	4200	0,01	Ø 160	0,01	± 0,03	≤ 2
MG5202i	5200	0,01	Ø 160	0,01	± 0,03	≤ 3
MG6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3
MG5502Di	800/5500	0,01/0,1	Ø 160	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

Verified models: see page 35

Technical data

Common features

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

External calibration models

- Net Weight: 4,6Kg

Internal calibration models

- Net Weight: 5,1Kg

[1] Not available for verified models/ internal calibration models

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
- User selectable environmental filter
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Round glass draftshield
- Plastic protection cover
- RS232 serial interface
- Under hook weighing [1]

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- Portable rechargeable battery pack (AC015)
- Density KIT for solids and liquids (AC002)
- PC data collection software (BL0476)
- Alphanumeric external keyboard (AC005)
- Serial to USB converter (E1002)
- 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 multi plug

External calibration models

- Net Weight: 3,3Kg

Internal calibration models

- Net Weight: 3,6Kg

LCD

UNDER (1) ACCU (2)

LC-HR RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
L203	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
L423	420	0,001	Ø 110	0,001	± 0,004	≤ 4
Automatic internal calibration						
L203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
L303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
L423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

[1] Only for external calibration model

[2] Optional external battery pack (AC015)

LG - Readability 0,001g

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
- User selectable environmental filter
- Automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- Round glass draftshield
- RS232 serial interface
- Plastic protection cover
- Under hook weighing [1]

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)
- 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 multi plug

Internal calibration models

- Net Weight: 3,6Kg

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
LG203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LG423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

[1] Only for external calibration model

[2] Optional external battery pack (AC015)

LW - Readability 0,001g

Balances LW series combine 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
- User selectable environmental filter
- 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
- RS232 serial interface
- Under hook weighing [1]

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- 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)

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 multi plug

Internal calibration models

- Net Weight: 4,6Kg

[1] Optional external battery pack (AC015)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
LW203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
LW423i	420	0,001	Ø 110	0,001	± 0,004	≤ 4

LGW - Readability 0,001g

GRAPHIC

GLP

LC-HR

RS 232 UNITS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK PCS CLOCK LANG FORMULA ACCU (1)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
LGW203i	210	0,001	Ø 110	0,0006	± 0,003	≤ 3
LGW303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 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
- User selectable environmental filter
- Automatic internal calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- RS232 serial interface
- 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)
- 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 multi plug

Internal calibration models

- Net Weight: 4,6Kg

(1) Optional external battery pack (AC015)

L - Readability 0,01g

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
- User selectable environmental filter
- External or automatic internal calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- RS232 serial interface
- Under hook weighing

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- PC data collection software (BL0476)
- Portable rechargeable battery pack (AC015)
- Density KIT for solids and liquids (AC004)
- 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 multi plug

External calibration models

- Net Weight: 3,3Kg

Internal calibration models

- Net Weight: 3,6Kg

LC-HR RS 232 UNITS

PCS LIMITS % WEIGH ADD ANIMAL DENSITY PEAK UNDER (2) ACCU (3) VERIFIED

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
L1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3
L2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3
L3202	3200	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
L2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3
L3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3
L4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4

Verified models: see page 34

(2) Only for external calibration model

(3) Optional external battery pack (AC015)

LG - Readability 0,01g

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 QC applications.

Main features

- High readability load cell weighing system
- User selectable environmental filter
- 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
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- RS232 serial interface
- 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 (AC004)
- 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 multi plug

External calibration models

- Net Weight: 3,3Kg

Internal calibration models

- Net Weight: 3,6kg

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
LG1002	1000	0,01	Ø 160	0,01	± 0,02	≤ 3
LG2202	2200	0,01	Ø 160	0,01	± 0,03	≤ 3
LG3202	3200	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
LG2202i	2200	0,01	Ø 160	0,01	± 0,03	≤ 3
LG3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3
LG4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4

Verified models: see page 35

(2) Only for external calibration model

(3) Optional external battery pack (AC015)

L - Readability 0,1g

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 10Kg. Many embedded advanced features make them perfect for your work.

Main features

- High readability load cell weighing system
- User selectable environmental filter
- External calibration
- LCD with backlight with adjustable contrast
- Plastic protection cover
- RS232 serial interface
- Under hook weighing

Accessories

- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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 multi plug
- Net Weight: 3,5Kg

[1] Optional external battery pack (AC015)

Portable rechargeable battery pack (optional)

UNDER ACCU[1]

LC-HR RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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

LG - Readability 0,1g

GRAPHIC

GLP

LC-HR RS 232 UNITS

LIMITS % WEIGH ADD ANIMAL DENSITY PEAK PCS CLOCK LANG FORMULA UNDER ACCU (1)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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

A Top Quality series of Precision Balances that combine elegance with highly reliable measuring performance. precision and repeatability. All models feature 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 QC applications.

Main features

- High readability load cell weighing system
- User selectable environmental filter
- External calibration
- Recipe database: 99 recipes can be stored, each with up to 20 ingredients
- Large Graphic display allows efficient and easy operations
- Multi Language: EN-DE-FR-IT-ES-PT
- GLP/ISO record of last stored calibration data
- RS232 serial interface
- 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 multi plug
- Net Weight: 3,5Kg

(1) Optional external battery pack (AC015)

M5 - Readability 0,001g - 0,01g - 0,1g

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 range offers a wide choice of models for many applications with the simplicity of a touch screen interface.

Main features

- Electromagnetic force restoration weighing system (-M models)
- User selectable environmental filter
- 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-CN)
- Multi-user with password protection
- USB port for import/export database data
- Advanced piececounting function with Statistcs report
- Textile function to measure fibers with Statistics report
- Advanced Density function, with density index (DI) calculation
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Accumulation function
- Animal weighing
- Max load determination (Peak hold)
- Hook for below weighing (1)
- Round glass draft shield

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
M5-L303i	310	0,001	Ø 110	0,0006	± 0,003	≤ 3
M5-M523i	520	0,001	Ø 110	0,001	± 0,002	≤ 2
M5-M723i	720	0,001	Ø 110	0,001	± 0,002	≤ 2
M5-MW1203i	1200	0,001	Ø 110	0,001	± 0,003	≤ 3
M5-MW2103i	2100	0,001	Ø 110	0,001	± 0,003	≤ 3
M5-L3202i	3200	0,01	Ø 160	0,01	± 0,03	≤ 3
M5-M4202i	4200	0,01	Ø 160	0,01	± 0,04	≤ 4
M5-M6202i	6200	0,01	Ø 160	0,01	± 0,03	≤ 3
External calibration						
M5-L10001	10000	0,1	175x195	0,05	± 0,2	≤ 2

(1) Only for external calibration models

Accessories

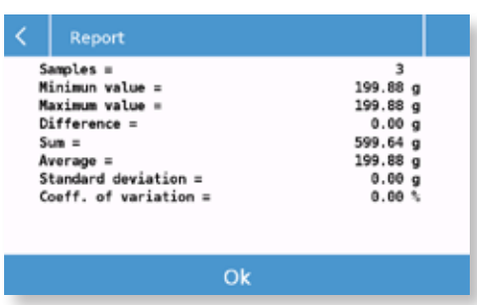
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Density KIT for solids and liquids (AC002-AC004)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- USB pendrive 8 Gigabyte
- Stylus pen for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

Technical data

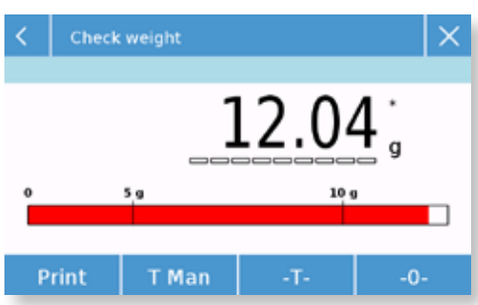
- Span drift (+ 10...+ 30 °C): +/– 2ppm/°C
- Dimensions LxWxH (mm): 345x215x345
- Weighing chamber diameter-Height (mm) 0,001g res. models: 150x70
- Power supply M models 110-230Vac, 50/60Hz; output 24V 1A multi plug
- Power supply L models 110-230Vac, 50/60Hz; output 9V 1A multi plug
- Net Weight: 6,7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

Main page with easy access to the menus

Qwerty touch keypad for easy input



Easy reading reports



Bright color indication for check weighing

S - Readability 0,001g-0,01g-0,1g

A fusion of design and quality, balances S series encompass all the experience of higher class models in a small footprint portable balance. Thanks to a sophisticated software and a high-performance load cell, these balances reach superior weighing capacity. Solid structure, ergonomic keypad and the many embedded software functions make this balance a well featured product at a very competitive price.

Main features

- High readability load cell weighing system
- User selectable environmental filter
- Small footprint
- External calibration
- LCD with backlight with adjustable contrast
- Round glass draftshield
- RS232 serial interface
- Plastic protection cover
- Can power with external battery pack (optional)

Accessories

- Rechargeable battery pack external (AC015)
- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- PC data collection software (BL0476)
- Density KIT for solids and liquids (AC002 and AC004)
- 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 (1 mg) diameter-Height (mm): 133x70
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A multi plug
- Net Weight: 1,6Kg

[1] Optional external battery pack (AC015)

Portable rechargeable battery pack (optional)

LC-HR · RS 232 · UNITS · PCS · LIMITS · % WEIGH · ADD · ANIMAL · DENSITY · PEAK · ACCU [1]

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
S123	120	0,001	Ø 80	0,001	± 0,003	≤ 3
S203	210	0,001	Ø 80	0,001	± 0,003	≤ 3
S303	310	0,001	Ø 80	0,001	± 0,003	≤ 3
S423	420	0,001	Ø 80	0,001	± 0,004	≤ 3
S622	620	0,01	Ø 130	0,01	± 0,02	≤ 2
S1002	1000	0,01	Ø 130	0,01	± 0,02	≤ 2
S2202	2200	0,01	Ø 130	0,01	± 0,03	≤ 3
S3102	3100	0,01	Ø 130	0,01	± 0,03	≤ 3
S4202	4200	0,01	Ø 130	0,01	± 0,04	≤ 3
S3201	3200	0,1	150x140	0,05	± 0,2	≤ 2
S5201	5200	0,1	150x140	0,05	± 0,2	≤ 2
S6501	6500	0,1	150x140	0,05	± 0,2	≤ 2

ES - Readability 0,01g-0,1g

The entry level of balances keeping all the quality of higher level balances. This model has all necessary features to obtain precise and reliable results with a low price. The refined design, the small dimensions, the backlit LCD display, the possibility of operating also with AA type batteries (not included) 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
- User selectable environmental filter
- Small footprint, portable
- External calibration
- Backlight LCD display
- Operates also with AA batteries (not included)
- Plastic protection cover

Accessories

- 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 1A multi plug
- Net Weight: 1 Kg

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
External calibration						
ES422	420	0,01	Ø 110	0,01	± 0,02	≤ 2
ES2201	2200	0,1	150x140	0,1	± 0,3	≤ 2

M-MW-L

The electronic balances must have metrological verification if operated in some specific areas: commercial trade when a price is to be determined by weighing, in pharmaceutical and medical laboratories, determination of a price/fee, trading. Every balance with verification has a verification mark and conformity certificate that confirms its tolerances are within the framework of permissible errors indicated in the EU directive balances

This series has a double case strucutre, ergonomic keypad and internal automatic calibration that ensures always best performance. The many embedded features complete a product that combines style and highly reliable performance.

LCD

Main features

- User selectable environmental filter
- Automatic internal calibration
- LCD with backlight with adjustable contrast
- RS232 serial interface
- Plastic protection cover

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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)

Technical data

- Span drift (+ 10...+ 30 °C): +/– 3ppm/°C (M 0.1mg) +/– 4ppm/°C (M 1g - MW 1mg - M 0.01g) +/– 5ppm/°C (L 0.01g)
- Dimensions LxWxH (mm): 345x215x345 (M 0.1mg - MW 1mg) / 345x215x155 (M 1mg) / 345x215x100 (M 0.01g - L 0.01g)
- Weighing chamber dimensions LxWxH (mm): 162x171x225 (M 0.1mg - MW 1mg)
  Weighing chamber dimensions Diam x H (mm): 150x70 (M 1mg)
- Power supply 110-230Vac, 50/60Hz; output 24V 1A multi plug (Models M-MW)
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A multi plug (Model L)
- Net Weight: 6,6Kg (M 0.1mg - MW 1mg) / 5Kg (M 1mg - M 0.01g) / 3,6Kg (L 0.01g)

EM-FR · RS 232 · UNITS · PCS · LIMITS · % WEIGH · ADD · ANIMAL · DENSITY · PEAK · VERIFIED

Model	Max (g)	Readability [d] (g)	Approved Readability [e] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration – square draft shield							
M124Ai-M	120	0,0001	0,001	Ø 80	0,0001	± 0,0003	≤ 4
M214Ai-M	220	0,0001	0,001	Ø 80	0,0001	± 0,0003	≤ 4
M254Ai-M	250	0,0001	0,001	Ø 80	0,0001	± 0,0003	≤ 4
MW523i-M	520	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
MW723i-M	720	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
Automatic internal calibration – round draft shield							
M523i-M	520	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
M723i-M	720	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
M1203Di-M	720/1200	0,001/0,01	0,01/0,1	Ø 110	0,001/0,005	± 0,002/0,01	≤ 2
Automatic internal calibration							
M4202i-M	4200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 2
M5202i-M	5200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
M6202i-M	6200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
M5202Di-M	3000/5200	0,01/0,1	0,1/1	Ø 160	0,01/0,03	± 0,02/0,1	≤ 3
L2202i-M	2200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
L3202i-M	3200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3

GRAPHIC
GLP

EM-FR RS 232 UNITS

PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK CLOCK LANG FORMULA VERIFIED

Model	Max (g)	Readability [d] (g)	Approved Readability [e]	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration – square draft shield							
MG124Ai-M	120	0,0001	0,001	Ø 80	0,0001	± 0,3	≤ 4
MG214Ai-M	220	0,0001	0,001	Ø 80	0,0001	± 0,3	≤ 4
MG254Ai-M	250	0,0001	0,001	Ø 80	0,0001	± 0,3	≤ 4
MWG523i-M	520	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
MWG723i-M	720	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
Automatic internal calibration – round draft shield							
MG523i-M	520	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
MG723i-M	720	0,001	0,01	Ø 110	0,001	± 0,002	≤ 2
MG1203Di-M	720/1200	0,001/0,01	0,01/0,1	Ø 110	0,001/0,005	± 0,002/0,01	≤ 2
Automatic internal calibration							
MG4202i-M	4200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 2
MG5202i-M	5200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
MG6202i-M	6200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
MG5202Di-M	3000/5200	0,01/0,1	0,1/1	Ø 160	0,01/0,03	± 0,02/0,1	≤ 3
LG2202i-M	2200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3
LG3202i-M	3200	0,01	0,1	Ø 160	0,01	± 0,03	≤ 3

Electronic balances must have metrological verification if operated in some specific areas: commercial trade when a price is to be determined by weighing, in pharmaceutical and medical laboratories, determination of a price/fee, trading. Every balance with verification has a verification mark and conformity certificate that confirms its tolerances are within the framework of permissible errors indicated in the EU directive balances.

This series has a double case structure, ergonomic keypad and internal automatic calibration that ensures always best performance. Extensive recipe database, GLP and many embedded advanced features complete a product that combines style and highly reliable performance.

Main features

- User selectable environmental filter
- 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
- RS232 serial interface
- Plastic protection cover

Accessories

- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)

Technical data

- Span drift (+ 10...+ 30 °C): +/– 3ppm/°C (MG 0.1mg) +/– 4ppm/°C (MG 1g - MGW 1mg - MG 0.01g) +/– 5ppm/°C (LG 0.01g)
- Dimensions LxWxH (mm): 345x215x345 (MG 0.1mg - MGW 1mg) / 345x215x155 (MG 1mg) / 345x215x100 (MG 0.01g - LG 0.01g)
- Weighing chamber dimensions LxWxH (mm): 162x171x225 (MG 0.1mg - MGW 1mg)
  Weighing chamber dimensions Diam x H (mm): 150x70 (MG 1mg)
- Power supply 110-230Vac, 50/60Hz; output 24V 1A 13VA (Models MG-MGW)
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A 10VA (Model LG)
- Net Weight: 6,6Kg (MG 0.1mg - MGW 1mg) / 5Kg (MG 1mg - MG 0.01g) / 3,6Kg (LG 0.01g)

M5-Thermo - Readability 0,1 mg-0,001g

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.

Several built-in functions, 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
- User selectable environmental filter
- Halogen lamp
- External calibration
- Large 5" color touchscreen 800x480 display
- RS232 serial interface
- Drying readability 0,001% (-A64M), 0,01% (-163M)
- 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	Moisture repeatability (g)	Pan (mm)	Drying temperature range	Response time (sec.)
External calibration							
M5-Thermo A64M	60	0,0001	0,001%	0,05% (2g sample) 0,01% (10g sample)	100mm Samples Pan	35~160°C	≤ 3
M5-Thermo 163M	160	0,001	0,01%	0,05% (2g sample) 0,01% (10g sample)	100mm Samples Pan	35~160°C	≤ 3
M5-Thermo 163L	160	0,001	0,01%	0,1% (2g sample) 0,05% (10g sample)	100mm Samples Pan	35~160°C	≤ 4
M5-Thermo 62L	60	0,01	0,1%	0,1% (2g sample) 0,05% (10g sample)	100mm Samples Pan	35~160°C	≤ 3

Export/import results and database to USB

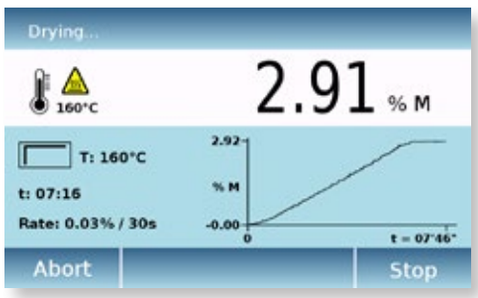
Accessories

- 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

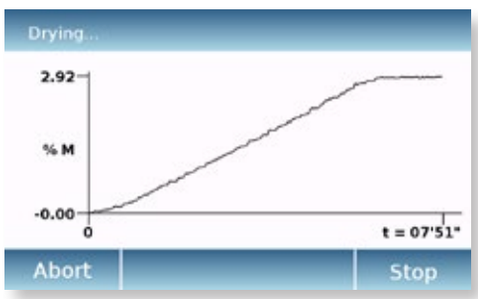
- Span drift (+ 10...+ 30 °C): +/- 3ppm/°C [i-Thermo A64M]; +/- 4ppm/°C [other models]
- Dimensions LxWxH (mm): 345x215x235
- Maximum dimension of container on the pan: 100mm (Ø) x 25mm (height)
- Power supply: AC 220-240 V (at request AC 110 Volt) 50/60Hz;
- Power consumption: rating 430 VA; Heat source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

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

i-Thermo G - Res. 0,1mg-0,001g-0,01g

The 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 backlit makes much easier and friendly using the instrument.

The display shows 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.

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 (GA64M and G163M)
- User selectable environmental filter
- High readability load cell weighing system (G163L and G62L)
- Halogen 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
- Automatic starting of sessions by closing the heater
- Plastic protection cover

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 GA64M]; +/- 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 multi plug [i-Thermo GA64M]; output 9V 1,2A [other models]
- Heater: 230V AC 50/60Hz, 400Watt
- Net Weight: 6,1Kg (GA64M and G163M)
- Net Weight: 4,7Kg (G163L and G62L)

Model	Max (g)	Readability [d] (g)	Moisture readability	Moisture repeatability (g)	Pan (mm)	Drying temperature range	Response time (sec.)
External calibration							
i-Thermo GA64M	60	0,0001	0,001%	0,05% (2g sample) 0,01% (10g sample)	100mm Samples Pan	35~160°C	≤ 3
i-Thermo G163M	160	0,001	0,01%	0,05% (2g sample) 0,01% (10g sample)	100mm Samples Pan	35~160°C	≤ 3
i-Thermo G163L	160	0,001	0,01%	0,1% (2g sample) 0,05% (10g sample)	100mm Samples Pan	35~160°C	≤ 4
i-Thermo G62L	60	0,01	0,1%	0,1% (2g sample) 0,05% (10g sample)	100mm Samples Pan	35~160°C	≤ 3

M5- RB - Readability 0,01g-0,1g-0,5g

The 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 display that gives an user-friendly access to all the balance's advanced applications and internal databases.

The user has easy and intuitive access to all the functions thanks to the icon-driven 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.

Main features

- Electromagnetic force restoration weighing system (for 0,01g resolution)
- User selectable environmental filter
- 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-CN)
- Multi-user with password protection
- USB port for import/export database data
- RS232 serial interface
- Advanced piececounting function with Statistcs report
- Textile function to measure fibers with Statistics report
- Formulation (Recipe)
- Checkweighing
- Percentual weighing
- Accumulation function
- 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 multi plug
- Power supply 110-230Vac, 50/60Hz; output 24V 1A multi plug (0,01g res)
- Net Weight: 8Kg (0.01g) / 7kg (0.1g)

(1) Optional external battery pack only for 0,1g models (AC015)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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

RBG - Readability 0,01g-0,1g-0,5g

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)
- User selectable environmental filter
- 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
- Accumulation function
- Animal weighing
- Max load determination (Peak hold)
- Plastic protection cover
- Under hook weighing
- RS232 serial interface
- Plastic protection cover

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 multi plug
- Power supply 110-230Vac, 50/60Hz; output 24V 1A multi plug (0,01g res)
- Net Weight: 8Kg (0.01g) / 7kg (0.1g)

[1] Optional external battery pack only for 0,1g models (AC015)

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

RB - Readability 0,01g-0,1g-0,5g

LCD

LC-HR EM-FR

RS 232 UNITS PCS LIMITS %WEIGH ADD ANIMAL DENSITY PEAK UNDER ACCU (1)

Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
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

The RB high capacity balances feature robustness, reliability and a high level of performance.

RB serie is synthesis of design, performance and convenience. All models are equipped with LCD display, with solid structure and ergonomic keypad these balances deliver top performance at competitive prices. These balances are an ideal instrument of work for many applications inside and outside laboratory and factory.

Main features

- Electromagnetic force restoration weighing system (for 0,01g resolution)
- User selectable environmental filter
- High readability load cell weighing system (for 0,1g resolution)
- External calibration
- LCD with backlight with adjustable contrast
- RS232 serial interface
- Plastic protection cover
- Under hook weighing

Accessories

- Ioniser Ion-A15 (BL0371)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- 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): 360x355x130
- Power supply 110-230Vac, 50/60Hz; output 9V 1,2A multi plug
- Power supply 110-230Vac, 50/60Hz; output 24V 1A multi plug (0,01g res)
- Net Weight: 8Kg (0.01g) / 7kg (0.1g)

(1) Optional external battery pack only for 0,1g models (AC015)

Density Index Balance

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 strength 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 touchscreen interface and the icon-driven menus, which makes your work 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 other liquids can be used 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.

GLP

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

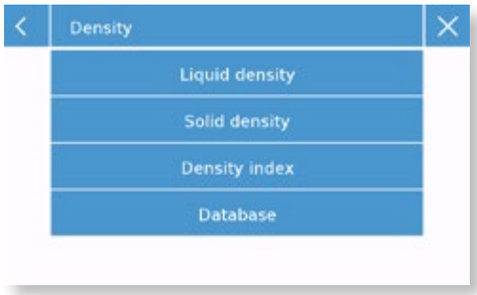
Model	Max (g)	Readability [d] (g)	Pan (mm)	Repeatability (St.Dev.) (g)	Linearity (g)	Response time (sec.)
Automatic internal calibration						
M5-iDens	3100	0,01	Ø 80	0,01	± 0,02	≤ 2

Density Index

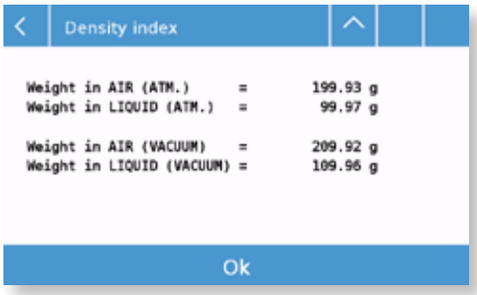
In foundries, especially for aluminium casting plants, the quality of molten metals is very important to assure the quality of the final cast product. In fact defects created during the melting stage (due to solid and gaseous impurities) could create problems to the final microstructure of the cast.
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.

Index > 12% **Index 6% - 8%** **Index 1%**

Touchscreen interface screen shots

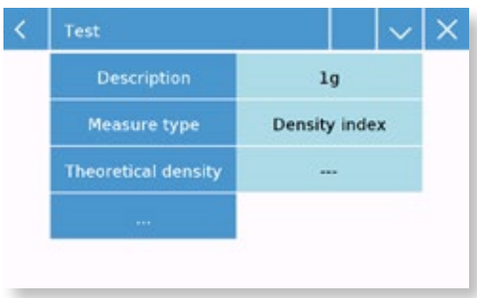


User can start a function or recall data from (internal) database.



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, Portoguese. 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 24V 1A multi plug
- Net Weight: 6,2Kg

MJ - Res. 0,001ct-0,001g-0,01g

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 connection; 0.1mg and 1mg models are equipped with a large protection draftshield.

Main features

- Electromagnetic force restoration weighing system
- User selectable environmental filter
- 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
- RS232 serial interface
- Plastic protection cover

Accessories

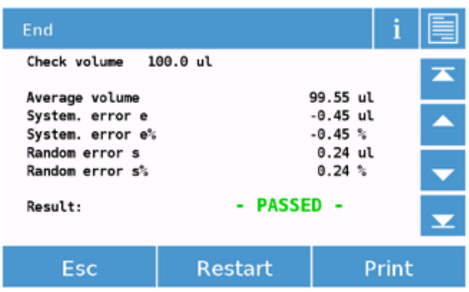
- Portable ioniser Ion-A15 (BL0371)
- Communication KIT balance/PC (BL0476)
- Serial Printer TLP-50, with date/time (C054)
- Serial Printer DPP-250 (AC007)
- Dot-matrix Printer TX-110, with functions (AC030)
- Serial to USB converter (E1002)
- Serial cable for serial output to printer or PC (E743)
- 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 multi plug
- 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 (St.Dev.)	Linearity	Response time (sec.)
Carat series - Automatic internal calibration						
M124Ai-M-J	600ct/120g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4
M214Ai-M-J	1050ct/220g	0,001ct	Ø 80	0,001ct	± 0,003ct	≤ 4
Gold series - Automatic internal calibration						
M723i-M-J	720g	0,001g	Ø 110	0,001g	± 0,002g	≤ 2
M4202i-M-J	4200g	0,01g	Ø 160	0,01g	± 0,04g	≤ 2



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

Volume* of the pipette	Minimum requirement for balance readability
10 µl < V ≤ 100 µl	0.01mg
100 µl < V ≤ 1000 µl	0.01mg
1 ml < V ≤ 10 ml	0.1mg

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

Models with Evaporation trap already included:

Model	Max (g)	Readability [d] (mg)	Pan (mm)	Calibration	Evaporation trap (AC032)
M5-HPB-105i-PT	102	0,01	Ø 80mm	Internal automatic	Included
M5-M214Ai-PT	220	0,1	Ø 80mm	Internal automatic	Included

Pipettes are widely used instruments in laboratories and their proper maintenance is essential to ensure correct and reliable results.

All M5 series touchscreen balances include pipette check function designed for the verification of piston pipettes using the gravimetric method. It allows to test the correct operation of a pipette by selecting a verification method.

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

Verification methods

- ISO8655 directive compliance
- 4x samples (100% 10%)
- 4x samples (100%)
- Custom defined

Main features

- 5 inch color touch-screen display (800x480)
- RS232 serial output
- Multi-user with password protection
- Multi-language
- GLP protocol
- USB port to import/export data of database
- Internal Database: pipette informations (model, nominal volume,..) can be stored for easy recall and speed during repeated controls.

Evaporation trap (code AC032)

This accessory is designed to considerably reduce the evaporation of the liquid which occurs naturally during the pipette test procedure. The evaporation trap creates a saturated area of water vapor above the test tube containing the liquid allowing realiable results.

Evaporation trap is suitable for balance models: M5-HPB-105Di [0.01mg] and M5-M214Ai [0.1mg]

CODE: AC007

Portable thermal printer model DPP-250

DPP-250 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 9 V/1 A
Interface	RS232
Operating temperature	5 - 40°C
Humidy	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: labels or thermal paper.

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
Humidy	Max 85% relative (not condensing)
Dimensions	106 x 184 x 110h mm
Weight	950g (incl. power supply)
Connection cable	Included

CODE: AC030
only for HPB, M, MW, L, LW, RB, S series

TX-110 dot-matrix serial printer

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

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

Features:

- DIRECT. Prints out current weight value nd total of all measurements, Minimum, Maximum values, Range (Max-Min)
- TARE/NET/GROSS. Prints out these values separately
- GLP Record keeping of balance calibration with date/time print
- SUM. Prints out the total value of samples
- AVERAGE. Prints out the average of samples
- FORMULATION. Print out each sample's weight independently when mixing samples
- PIPETTE CALIBRATION. Calibrate capacity of pipette
- USER DEFINED. Operator can set a multiplicative coefficient
- COMPARATOR. Prints out weight value only when inside a defined range
- AUTOMATIC TIMING. Prints out weight value at defined time intervals

Type	Impact dot-matrix serial printer
Print speed	1,7lines/sec (approx.)
Font size	1,7mm (W) x 2,6mm (H) (approx.)
Printer head life	1.000.000 lines
Display	OLED 128x64 Dot matrix 0,96"
Clock	Built in
Interface	RS232C
Paper roll	Normal paper, 57mm width, 50mm in diameter
External power supply unit (included)	Input 100-240 V AC, 50/60Hz; Output 12 V DC / 2A
Baud rate	300, 600, 1200, 2400, 4800, 9600, 14.4k, 19.2k, 38.4k, 115.2k
Operating temperature	5 - 35°C
Power consumption	8W (printing) 0.5W (standby)
Operating conditions	5-45°C ; humidty 10-80% not condensing
Dimensions	114,6 x 188,2 x 86,6 mm
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: 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 weighted free from static charges giving the operator accurate results.

The Ioniser 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 cm3/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

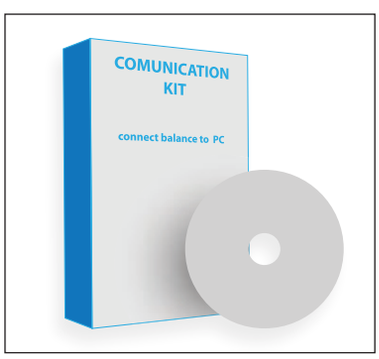
CODE: AC027

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 inluced 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:

AC002: Density kit for solid and liquid (0.01mg, 0.0001g and 0.001g balances)
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
Analogic thermometer 10°C - 40°C/1°C
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 verifying 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 certified results 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

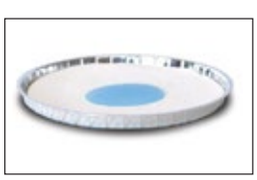
CODE: A753

Aluminum Test pans for moisture analyzers

Aluminium sample dishes are essential to be used 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 facilitates a better distribution of heat throughout the sample.
Diameter 90mm.
One box contains 200 discs.

Calibration weights

CODE	MASS	CLASS	MATERIAL
M0023	1g	E1	MEC finely turned stainless steel
M0024	2g	E1	MEC finely turned stainless steel
M0025	5g	E1	MEC finely turned stainless steel
M0026	10g	E1	MEC finely turned stainless steel
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

Set of weights

CODE	MASS	CLASS	MATERIAL
M0027	1mg – 200g	E1	polished stainless steel, wooden box
M0028	1mg – 500g	E1	polished stainless steel, wooden box
M0029	1mg – 500g	E2	polished stainless steel, wooden box
M0030	1mg – 1Kg	E2	polished stainless steel, wooden box
M0031	1g – 2Kg	E2	polished stainless steel, wooden box

Italian production: quality, design and performance.

BEL Engineering® s.r.l. is an Italian company producing electronic balances and laboratory scientific instruments, based in Monza (MB), ITALY.
The company was founded in the early 1980s, taking care of its production from the very beginning through in-depth scientific and technological research. Each phase of the production process (mechanics, electronics, software, design) is followed completely, guaranteeing a complete quality control on every part relating to the electronic scale and other products.
The specific experience in the world of weighing, acquired in over 40 years, and the direct design of our products guarantees us:

- to offer a range of products in constant expansion and improvement
- to provide an accurate and rapid pre and post sales service, also at the application level, with high qualified personnel.

Thanks to all this and a refined Italian style, each BEL Engineering product combines quality, design and performance at competitive prices.

Today we are present in about 70 countries worldwide with resellers, area exclusive dealers or commercial branches. The after-sales activity is carried out either at our headquarters or through our authorized resellers. In terms of additional services for the customer, we provide our scales with instruction manuals in various languages, and on request we also provide IQ / OQ / PQ qualification protocols.

BEL Photonics® is a division of BEL Engineering® s.r.l. interested in the design of optical instruments and optical microscopy. BEL Photonics is a leader in the field of optical microscopy with an innovative range of video microscopes, biological, stereo, inverted and high resolution cameras for microscopy.

The BEL Engineering quality system is ISO9001: 2018 certified. Production quality is CE-NAWI certified.

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