

## The New Entris®.

Just Weighing.



- Monolithic weigh cell for long-term high accuracy
- Built-in applications and function keys for convenient operation
- Backlit, high-contrast display for user-friendly guidance

### AC Adapter

|                             |  |
|-----------------------------|--|
| Sartorius AC adaptor module | 6971790 with interchangeable country-specific plug-in AC adaptors  |
| Primary                     | 100 – 240 V~, –10%   +10%, 50 – 60 Hz, 0.2 A   |
| Secondary                   | 15 V DC, ± 5%, 530 mA (max.)   8 Watt (max.): 0 to +40 °C and<br>15 V DC, ± 5%, 330 mA (max.)   5 Watt (max.): 0 to +50 °C |
| Other data                  | protection class II, in accordance with EN   IEC 60950-1 up to 3000 m above sea level; IP40 as per EN   IEC 60529          |

### Balance

|                   |  |
|-------------------|--|
| Power supply      | only via Sartorius AC adaptor module 6971790 |
| Input voltage     | 12.0 ... 18.0 V DC                           |
| Power consumption | 2 W (typically)                              |

### Ambient Conditions

|  |   |
|--|---|
| The specifications apply when the following ambient conditions are in place: |   |
| Environment  | for indoor use only   |
| Ambient temperature  | +10 °C to +30 °C  |
| Operational capacity   | guaranteed between +5 °C and +45 °C   |
| Storage and shipping   | –10 °C to +60 °C  |
| Elevation  | up to 3000 m above sea level  |
| Relative humidity  | 15% to 80% for temperatures up to 31 °C; non-condensing, decreasing linearly to 50% relative humidity at 40 °C and 20% at 50 °C |

|                                       |   |
|---------------------------------------|---|
| <b>Safety of electrical equipment</b> | in accordance with EN 61010-1/IEC 61010-1<br>Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements |
|---------------------------------------|---|

|                                      |  |
|--------------------------------------|--|
| <b>Electromagnetic compatibility</b> | in accordance with EN 61326-1/IEC 61326-1<br>Electrical equipment for measurement, control, and laboratory use – EMC requirements – Part 1: General requirements |
|--------------------------------------|--|

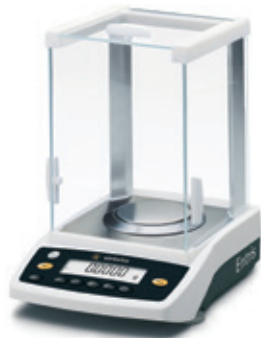
|                                  |                                      |
|----------------------------------|--------------------------------------|
| Defined immunity to interference | Suitable for use in industrial areas |
|----------------------------------|--------------------------------------|

|                       |   |
|-----------------------|---|
| Interference emission | Class B (suitable for use in residential areas and areas that are connected to a low voltage network that also supplies residential buildings). The device can therefore be used in both areas. |
|-----------------------|---|

## Technical Specifications

### Standard Equipment

|                                |  |
|--------------------------------|--|
| Levelling                      | Glass level indicator with air bubble for centering  |
| Calibration                    | - External calibration<br>- Internal calibration   |
| Selectable weight units        | Grams, Kilograms, Carats, Pounds, Ounces, Troy ounces, Hong Kong taels, Singapore taels, Taiwan taels, Grains, Pennyweights, Milligrams, Parts per pound, China taels, Mommies, Austrian carats, Tola, Baht, Mesghal, Tons, Pounds: ounces, Newton |
| Interface                      | RS232C 25-pin  |
| Display                        | White backlit, high-contrast display with 15 mm digits   |
| Standard built-in applications | Weighing, Density, Percentage, Counting, Animal Weighing, Conversion   |
| Languages                      | English, French, German, Italian, Polish, Russian, Spanish   |
| Anti-theft lock                | Lockdown capability for cable or chain   |
| Underfloor weighing            | Integrated   |



Design 1



Design 2



Design 3



Design 4

**Analytical Balances Entris®**

| Model                                       |            | ENTRIS224i-1S                      | ENTRIS124i-1S   | ENTRIS64i-1S    |
|---|------------|------------------------------------|-----------------|-----------------|
| Weighing capacity                           | g          | 220                                | 120             | 60              |
| Readability                                 | mg         | 0.1                                | 0.1             | 0.1             |
| Repeatability (standard deviation)          | mg         | 0.1                                | 0.1             | 0.1             |
| Linearity deviation                         | mg         | 0.2                                | 0.2             | 0.2             |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 3                                  | 3               | 3               |
| Typical stabilization time                  | s          | 2.5                                | 2.5             | 2.5             |
| Weighing pan size                           | mm         | Ø 90                               | Ø 90            | Ø 90            |
| Weighing chamber height                     | mm         | 173 × 176 × 240                    | 173 × 176 × 240 | 173 × 176 × 240 |
| Net weight, approx.                         | kg         | 4.8                                | 4.8             | 4.8             |
| Calibration                                 |            | Internal                           | Internal        | Internal        |
| Design                                      |            | 1                                  | 1               | 1               |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 330<br>11.9 × 9.1 × 13 |                 |                 |

**Precision Balances Entris®**

| Model                                       |            | ENTRIS<br>623i-1S                   | ENTRIS<br>423i-1S | ENTRIS<br>323i-1S | ENTRIS<br>153i-1S | ENTRIS<br>6202i-1S                 | ENTRIS<br>4202i-1S | ENTRIS<br>3202i-1S | ENTRIS<br>2202i-1S |
|---|------------|-------------------------------------|-------------------|-------------------|-------------------|------------------------------------|--------------------|--------------------|--------------------|
| Weighing capacity                           | g          | 620                                 | 420               | 320               | 150               | 6,200                              | 4,200              | 3,200              | 2,200              |
| Readability                                 | mg         | 1                                   | 1                 | 1                 | 1                 | 10                                 | 10                 | 10                 | 10                 |
| Repeatability (standard deviation)          | mg         | 1                                   | 1                 | 1                 | 1                 | 10                                 | 10                 | 10                 | 10                 |
| Linearity deviation                         | mg         | 2                                   | 2                 | 2                 | 2                 | 30                                 | 30                 | 30                 | 30                 |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 3                                   | 3                 | 3                 | 3                 | 4                                  | 4                  | 4                  | 4                  |
| Typical stabilization time                  | s          | 1.0                                 | 1.0               | 1.1               | 1.3               | 1.5                                | 1.5                | 1.5                | 1.5                |
| Weighing pan size                           | mm         | Ø 115                               | Ø 115             | Ø 115             | Ø 115             | 180 × 180                          | 180 × 180          | 180 × 180          | 180 × 180          |
| Weighing chamber height                     | mm         | –                                   | –                 | –                 | –                 | –                                  | –                  | –                  | –                  |
| Net weight, approx.                         | kg         | 3.6                                 | 3.6               | 3.6               | 3.0               | 3.5                                | 3.5                | 3.5                | 3.5                |
| Calibration                                 |            | Internal                            | Internal          | Internal          | Internal          | Internal                           | Internal           | Internal           | Internal           |
| Design                                      |            | 2                                   | 2                 | 2                 | 2                 | 4                                  | 4                  | 4                  | 4                  |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 136<br>11.9 × 9.1 × 5.4 |                   |                   |                   | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 |                    |                    |                    |

| Model                                       |            | ENTRIS822i-1S                      | ENTRIS8201i-1S                     | ENTRIS5201i-1S                     | ENTRIS2201i-1S                     |
|---|------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Weighing capacity                           | g          | 820                                | 8,200                              | 5,200                              | 2,200                              |
| Readability                                 | mg         | 10                                 | 100                                | 100                                | 100                                |
| Repeatability (standard deviation)          | mg         | 10                                 | 100                                | 100                                | 100                                |
| Linearity deviation                         | mg         | 30                                 | 300                                | 300                                | 300                                |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 4                                  | 8                                  | 8                                  | 8                                  |
| Typical stabilization time                  | s          | 1.5                                | 1.5                                | 1.5                                | 1.5                                |
| Weighing pan size                           | mm         | Ø 150                              | 180 × 180                          | 180 × 180                          | 180 × 180                          |
| Weighing chamber height                     | mm         | –                                  | –                                  | –                                  | –                                  |
| Net weight, approx.                         | kg         | 2.6                                | 3.5                                | 3.5                                | 3.5                                |
| Calibration                                 |            | Internal                           | Internal                           | Internal                           | Internal                           |
| Design                                      |            | 3                                  | 4                                  | 4                                  | 4                                  |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 87<br>11.9 × 9.1 × 3.4 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 |

**Analytical Balances Entris®**

| Model                                       |            | ENTRIS224-1S                       | ENTRIS124-1S    | ENTRIS64-1S     |
|---|------------|------------------------------------|-----------------|-----------------|
| Weighing capacity                           | g          | 220                                | 120             | 60              |
| Readability                                 | mg         | 0.1                                | 0.1             | 0.1             |
| Repeatability (standard deviation)          | mg         | 0.1                                | 0.1             | 0.1             |
| Linearity deviation                         | mg         | 0.2                                | 0.2             | 0.2             |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 3                                  | 3               | 3               |
| Typical stabilization time                  | s          | 2.5                                | 2.5             | 2.5             |
| Weighing pan size                           | mm         | Ø 90                               | Ø 90            | Ø 90            |
| Weighing chamber height                     | mm         | 173 × 176 × 240                    | 173 × 176 × 240 | 173 × 176 × 240 |
| Net weight, approx.                         | kg         | 4.4                                | 4.4             | 4.4             |
| Calibration                                 |            | External                           | External        | External        |
| Design                                      |            | 1                                  | 1               | 1               |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 330<br>11.9 × 9.1 × 13 |                 |                 |

**Precision Balances Entris®**

| Model                                       |            | ENTRIS<br>623-1S                    | ENTRIS<br>423-1S | ENTRIS<br>323-1S | ENTRIS<br>153-1S | ENTRIS<br>6202-1S                  | ENTRIS<br>4202-1S | ENTRIS<br>3202-1S | ENTRIS<br>2202-1S |
|---|------------|-------------------------------------|------------------|------------------|------------------|------------------------------------|-------------------|-------------------|-------------------|
| Weighing capacity                           | g          | 620                                 | 420              | 320              | 150              | 6,200                              | 4,200             | 3,200             | 2,200             |
| Readability                                 | mg         | 1                                   | 1                | 1                | 1                | 10                                 | 10                | 10                | 10                |
| Repeatability (standard deviation)          | mg         | 1                                   | 1                | 1                | 1                | 10                                 | 10                | 10                | 10                |
| Linearity deviation                         | mg         | 2                                   | 2                | 2                | 2                | 30                                 | 30                | 30                | 30                |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 3                                   | 3                | 3                | 3                | 4                                  | 4                 | 4                 | 4                 |
| Typical stabilization time                  | s          | 1.0                                 | 1.0              | 1.1              | 1.3              | 1.5                                | 1.5               | 1.5               | 1.5               |
| Weighing pan size                           | mm         | Ø 115                               | Ø 115            | Ø 115            | Ø 115            | 180 × 180                          | 180 × 180         | 180 × 180         | 180 × 180         |
| Weighing chamber height                     | mm         | -                                   | -                | -                | -                | -                                  | -                 | -                 | -                 |
| Net weight, approx.                         | kg         | 3.2                                 | 3.2              | 3.2              | 2.6              | 3.1                                | 3.1               | 3.1               | 3.1               |
| Calibration                                 |            | External                            | External         | External         | External         | External                           | External          | External          | External          |
| Design                                      |            | 2                                   | 2                | 2                | 2                | 4                                  | 4                 | 4                 | 4                 |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 136<br>11.9 × 9.1 × 5.4 |                  |                  |                  | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 |                   |                   |                   |

| Model                                       |            | ENTRIS822-1S                       | ENTRIS8201-1S                      | ENTRIS5201-1S                      | ENTRIS2201-1S                      |
|---|------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Weighing capacity                           | g          | 820                                | 8,200                              | 5,200                              | 2,200                              |
| Readability                                 | mg         | 10                                 | 100                                | 100                                | 100                                |
| Repeatability (standard deviation)          | mg         | 10                                 | 100                                | 100                                | 100                                |
| Linearity deviation                         | mg         | 30                                 | 300                                | 300                                | 300                                |
| Sensitivity drift between +10 °C and +30 °C | ± ppm/K    | 4                                  | 8                                  | 8                                  | 8                                  |
| Typical stabilization time                  | s          | 1.5                                | 1.5                                | 1.5                                | 1.5                                |
| Weighing pan size                           | mm         | Ø 150                              | 180 × 180                          | 180 × 180                          | 180 × 180                          |
| Weighing chamber height                     | mm         | -                                  | -                                  | -                                  | -                                  |
| Net weight, approx.                         | kg         | 2.0                                | 2.7                                | 2.7                                | 2.7                                |
| Calibration                                 |            | External                           | External                           | External                           | External                           |
| Design                                      |            | 3                                  | 4                                  | 4                                  | 4                                  |
| Dimensions, D × W × H                       | mm<br>Inch | 303 × 230 × 87<br>11.9 × 9.1 × 3.4 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 | 303 × 230 × 91<br>11.9 × 9.1 × 3.6 |

## Optional Accessories

### Printers and Communications

|                             |             |
|-----------------------------|-------------|
| Standard Laboratory Printer | YDP20-OCE   |
| - Printer paper             | 6906937     |
| - Ink ribbon rolls          | 6906918     |
| Data cable RS232C   USB     | YCC01-USBM2 |

### General

|  |           |
|--|-----------|
| Battery pack for Standard Lab Balances   | YRB11Z    |
| Second display, backlit LCD, character height: 15 mm                             | YRD03Z    |
| Ionizing blower, for electrostatically charge of samples                         |           |
| - 220-230 V  | YIB01-ODR |
| - 110-115 V  | YIB01-OUR |
| Stat pen, for neutralize static electricity on samples (100 – 230 V, 50   60 Hz) | YSTP01    |
| In-use cover for balances with rectangular weighing pan                          | 6960ED01  |
| In-use cover for balances with round weighing pan                                | 6960ED02  |

### Density Determination

|                                     |         |
|-------------------------------------|---------|
| Density kit for analytical balances | YDK01LP |
|-------------------------------------|---------|

### Calibration Weights

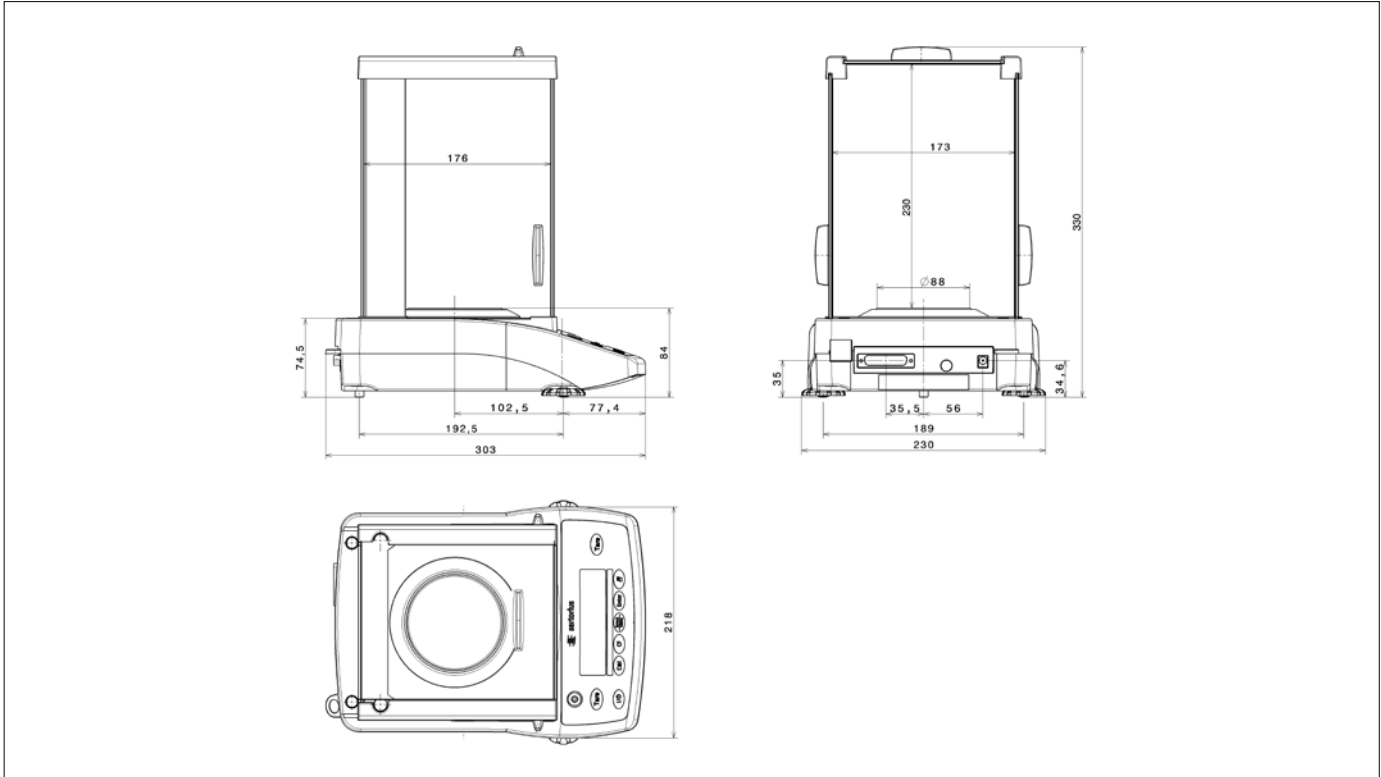
|   |              |
|---|--------------|
| Calibration for lab balance model 224                                 | YCW522-AC-02 |
| - Proof Line knob weight 200 g, OIML class E2, with DAkkS certificate |              |
| Calibration for lab balance model 124                                 | YCW512-AC-02 |
| - Proof Line knob weight 100 g, OIML class E2, with DAkkS certificate |              |
| Calibration for lab balance model 64                                  | YCW452-AC-02 |
| - Proof Line knob weight 50 g, OIML class E2, with DAkkS certificate  |              |
| Calibration for lab balance model 623                                 | YCW553-AC-02 |
| - Proof Line knob weight 500 g, OIML class F1, with DAkkS certificate |              |
| Calibration for lab balance model 423; 323                            | YCW523-AC-02 |
| - Proof Line knob weight 200 g, OIML class F1, with DAkkS certificate |              |
| Calibration for lab balance model 153                                 | YCW513-AC-02 |
| - Proof Line knob weight 100 g, OIML class F1, with DAkkS certificate |              |
| Calibration for lab balance model 6202                                | YCW653-AC-02 |
| - Proof Line knob weight 5 kg, OIML class F1, with DAkkS certificate  |              |
| Calibration for lab balance model 4202; 3202; 2202                    | YCW623-AC-02 |
| - Proof Line knob weight 2 kg, OIML class F1, with DAkkS certificate  |              |
| Calibration for lab balance model 822                                 | YCW554-AC-02 |
| - Proof Line knob weight 500 g, OIML class F2, with DAkkS certificate |              |
| Calibration for lab balance model 8201; 5201                          | YCW654-AC-02 |
| - Proof Line knob weight 5 kg, OIML class F2, with DAkkS certificate  |              |
| Calibration for lab balance model 2201                                | YCW624-AC-02 |
| - Proof Line knob weight 2 kg, OIML class F2, with DAkkS certificate  |              |



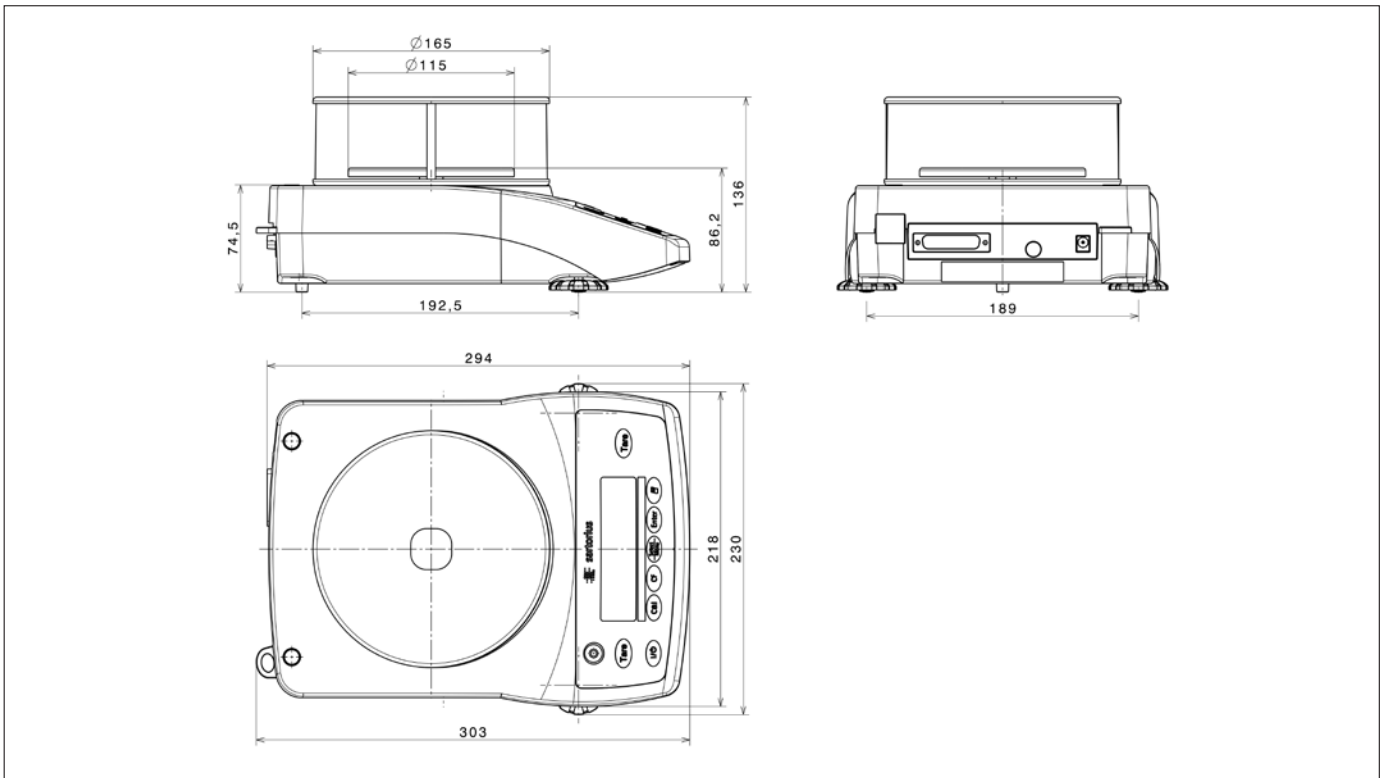
YDP20-OCE, Standard Laboratory Printer

Technical Drawings

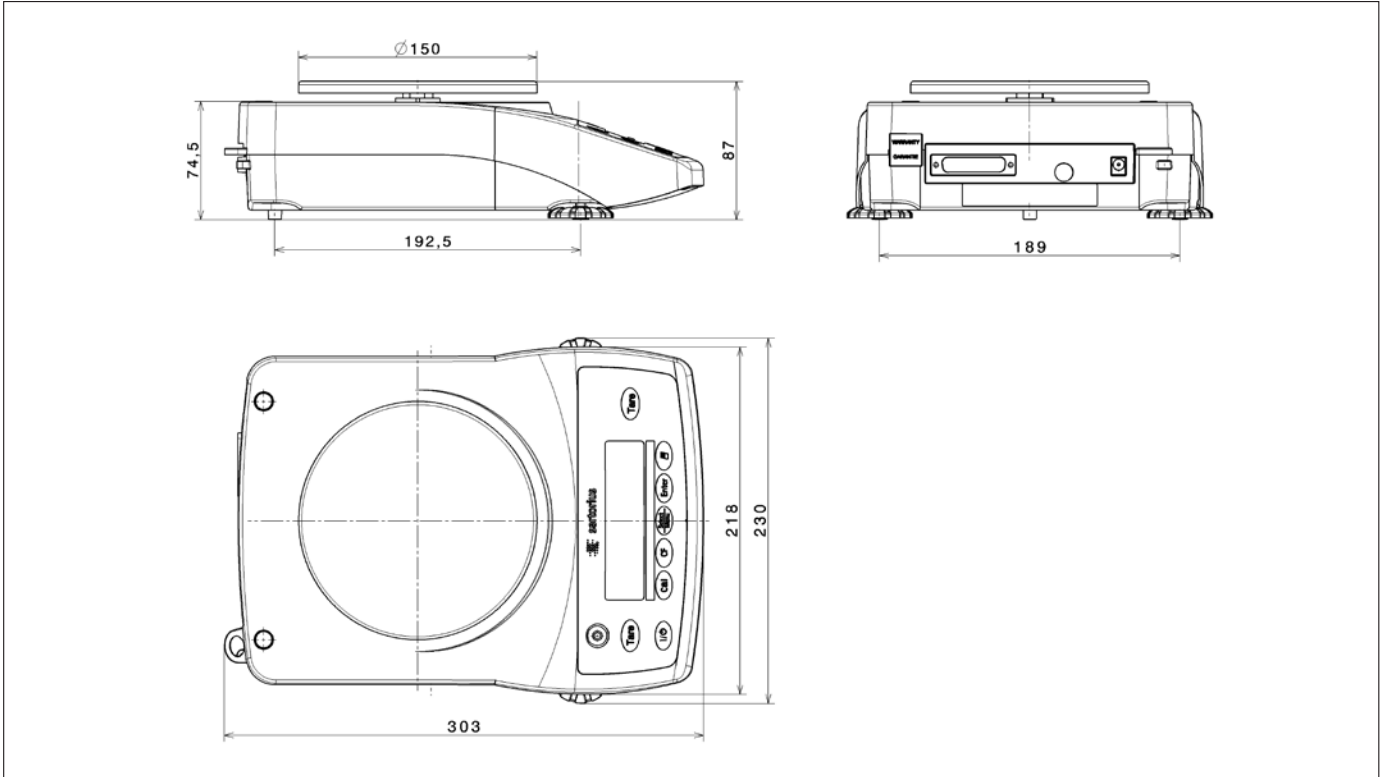
Models with a readability of 0.1 mg, in mm



Models with a readability of 1 mg, in mm



Models with a readability of  $\geq 10$  mg (in mm) and round weighing pan



Models with a readability of  $\geq 10$  mg (in mm) and rectangular weighing pan

