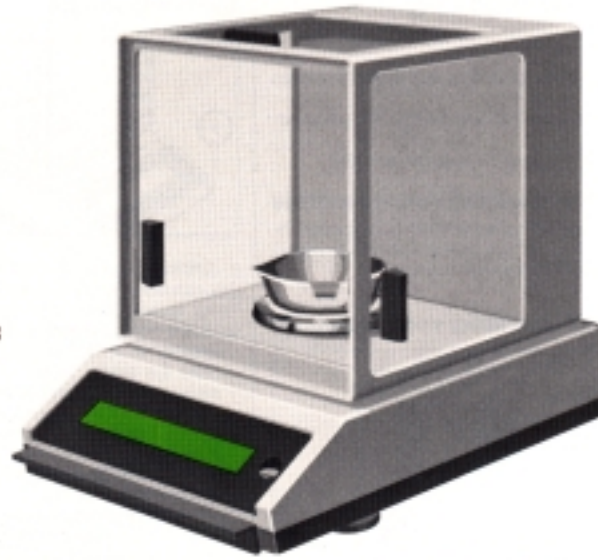


Mettler

Carat and precious metals balance with switching of displayed unit

Reliable for precious stones / metals values

CE150



METTLER

Operating Instructions

Switching on the display	Selecting the weight unit	Calibrating	Taring	Weighing

Mettler CE150

Conversion factors

Pennyweight	1 dwt = 1.55517384 g	1 g = 0.643014931 dwt
Troy ounce	1 ozt = 31.1034768 g	1 g = 0.032150747 ozt
Carat	1 ct = 0.2 g	1 g = 5 ct
Tael	1 fl = 37.4375 g	1 g = 0.02671185 fl

B SAH.V.L. nv, Chaussée de Louvain 1026-1048, B-1140 Brussels, Tel. (02) 720 4830, Telex 21064
 CH Mettler Verkauf Schweiz, Greifenseestrasse 25, CH-8604 Volketswil, Tel. (01) 945 16 16, Telex 56170
 D Mettler-Waagen GmbH, Postfach 110840, D-6300 Giessen, Tel. (0641) 5911, Telex 482912
 F Sohanis S.A., boîte postale 14-Z.A.E., 18-20, av. de la Pipinière, F-78220 Viroflay, France, Tel. (3) 024 1314, Telex 696840
 NL Mettler Instrumenten B.V., Postbus 6006, 4000 HA Tel. Holland, Tel. (03440) 11311, Telex 70179
 USA Mettler Instrument Corporation, Box 71, Hightstown, N.J. 08520, USA, Tel. (609) 448-3000, Telex 843362
 Headquarters: Mettler Instrumente AG, CH-8606 Greifensee, Switzerland, Tel. (01) 941 22 41, Telex 54592

PRELIMINARY STEPS

Location

- Select a stable, vibration-free and as flat a surface as possible.
- Make sure there are no large temperature fluctuations.
- Avoid placing the balance in direct sunlight.

Checking the operating voltage setting

Check to see if the operating voltage setting (look for the yellow sticker over the power cable connector) matches your local power-line voltage.

If necessary:

Changing the operating voltage setting



Make sure the power-line cable has been disconnected before removing the housing cover.

- Remove screw (6); carefully lift off housing cover.
- Check to see if the voltage selector (1) is on the pin that corresponds to your local power-line voltage.
- If necessary, place the voltage selector (1) on the correct pin. The two jumpers (2) should not be changed!

Note: When changing the operating voltage from 95...120 V to 190...240 V (or vice versa), the fuse must also be changed.

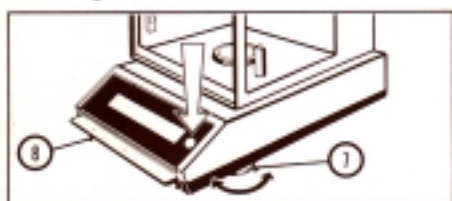
- 95 V, 105 V / 110 V, 120 V / 190 V, 210 V / 220 V, 240 V /
- Insert a 125 mA slow-blowing fuse
- Insert a 63 mA slow-blowing fuse
- Place housing cover back on balance, insert screw (6) and tighten it.

Installing the glass draft shield



- Place the draft shield (3) turned slightly to one side down on the balance, snap it into place and turn it counter-clockwise until it stops. It should then be parallel to the housing.
- Install the bottom plate (5) and weighing pan (4).
- Connect the power-line cable.

Leveling the balance



Every time the location of the balance is changed, it should be leveled. To do this, turn the two leveling feet (7) until the bubble is in the middle of the small circle in the level indicator.

Calibrating the balance

Before calibrating, the balance must have been left switched on for at least 60 minutes (warm-up time). Recheck leveling. Then select "Unit ct" using the single control bar (8) (see "Changing the weight unit").

- Press the control bar (8) again until "-CAL-" appears, then release it. Then "CAL 100 ct" appears in the display.
- Place a test weight on the pan, i.e., 100 ct (± 20 g). The balance will now calibrate itself automatically. The following appears in the display: "-----" followed by "+100.000 ct".
- Lift off test weight; a zero display appears.

Note: If a different weight unit other than ct is selected before carrying out calibration, the balance will require a test weight of 100 g. After calibration is completed, the 100 g will appear in the display in the weight unit selected. 100 g correspond to: 2.6711 fl / 3.2150 oz / 64.30 dwt.

Note:

- Every time the location of the balance is changed, the balance must be recalibrated.
- Calibration on a regular basis assures the accuracy of the results.
- Certified balances can be checked, but not calibrated.

OPERATION

Switching on the display

- With no weight on the pan, briefly press the control bar (8); all display segments light up for several seconds.



Switching off the display

- Lift the control bar (8); the display goes out.
- Note: When the display is switched off, the balance remains in the operating condition, i.e., as soon as the display is switched on again, the balance is ready to operate (warm-up time is eliminated).
- Recommendation: never disconnect the balance from the power supply.

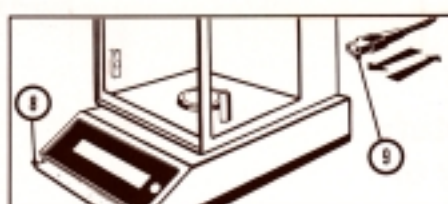
OFF display

If a power interruption occurs during operation, the following appears in the display:



As soon as the power-line voltage is restored, press the single control bar (8); a zero display appears.

Selecting the weight unit



In addition to the permanent weight unit, ct, CE balances can also be set to a second weight unit which is freely selectable by the user. The following weight units are also available: g, fl, oz and dwt.

- Disconnect the power-line cable (9).
- Hold the single control bar (8) down, and at the same time, plug the power-line cable back in.
- The word "Unit" appears in the display. In the right side of the display, the weight units appear in sequence.
- When the desired weight unit appears, release the single control bar (8).
- First, all numerals and characters appear in the display, as is the case in the normal switch-on routine, then a zero display.

Note: In certified balances, the weight unit must be selected before certification is carried out.

Changing the weight unit

The change between ct and the desired weight unit can be made by pressing and holding the single control bar.

- For example: dwt \rightarrow ct.
- Press and hold the single control bar (8) until "Unit dwt" appears in the display, then release. The unit "dwt" appears.
- Press and hold the control bar again until "Unit ct" appears, then release. The unit "ct" appears.

Taring

- Place a container on the weighing pan: its weight is displayed.
- Briefly press the control bar (8), i.e., tare: zero display appears.

The weighing range of the balance, minus container weight, is now available for weighing.

If tare is pressed before the balance stabilizes, i.e., while the stability detector lamp (10) is on, the entire display is blanked out until stability is achieved; only then will a zero display appear.

Reading weight



If an object is placed on the weighing pan, the last digit (11) is blanked out briefly. The weight should be read only when the last digit (11) reappears and the stability detector lamp (10) is off.

Overload display

If the weighing range is exceeded, the display blanks out except for the upper horizontal segments in the display. This means that the balance is overloaded.



SPECIFICATIONS

	CE150
Weighing range	150 ct/110 g
Readability	0.001 ct/0.01 g
Tare range (subtractive)	150 ct/110 g
Admissible ambient conditions (during operation)	
- Temperature	0...+40°C
- Altitude	-500...+6000 m
- Humidity (noncondensing)	15...85% rH
- Vibrations	0.3 m/s ²
Reproducibility (standard deviation)	0.001 ct/0.003 g
Linearity	± 0.002 ct / ± 0.01 g ± 0.001 ct
Stabilization time (typical)	3 s
Display change	0.2 s
Sensitivity drift (10...30°C)	$\pm 4 \cdot 10^{-4}$ °C
Power supply	
- Voltage, adjustable	100 V/115 V/200 V/230 V
- Tolerance	+10%/-15%
- Frequency	50...60 Hz
- Power consumption	approx. 5 VA
Weighing pan (stainless steel)	$\varnothing 80$ mm
Housing dimensions (W x D x H)	195 x 310 x 255 mm
Weighing chamber (W x D x H)	176 x 155 x 146 mm
Weight	5.9 kg

WHAT'S WRONG IF...

...the entire display does not light up?

Then...

- the display is not switched on. Briefly press the control bar.
- the power cable is not plugged in.
- no power reaching the instrument.
- the fuse is defective. If the fuse blows out repeatedly: check the operating voltage setting and fuse rating. If both are correct, contact Mettler Service.

...only the lower display segments light up?

- the weighing pan is not on the balance.
- the display was switched on while a weight was on the pan. Correction: press tare with no weight on pan.

...the weighing result is not stable?

- the balance is subject to drafts.
- the weighing table is not stable.
- the operating voltage is not set correctly.

...the weighing result is obviously incorrect?

- the balance has not been leveled.
- the calibration is not correct.
- tare was not pressed before carrying out the weighing.
- the weighing object is touching the draft shield.

... "no CAL" is displayed when calibrating?

- An improper calibration weight has been used.
- there is a disturbance in the balance electronics. Disconnect the power cable and plug it back in again, then press the control bar.

...the balance displays confused symbols or is blocked?

- the balance is in the calibration mode. Place a test weight on the pan or press the control bar several times.

...the balance displays "ERROR"?

- there is a defect in the balance electronics; contact Mettler Service