Operating Instructions

**METTLER
PJ12
PJ15
PJ1220** DeltaRange

METTLER   TOLEDO

To switch on scale	To calibrate	Stability detector (levels 1/ 2/ 3/ 4)	Integration time (levels 1/2 /3)	Taring and weighing

To switch off scale

 Press control bar briefly.

 Hold control bar down until required display appears.

▼ Display changes automatically.

🕐 Automatic return to weighing mode after 3 s.
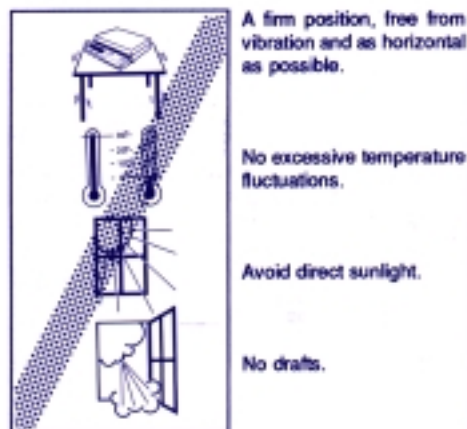
1 Operating sequence

What to do, if ...

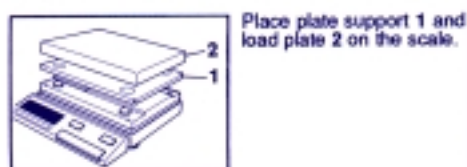| Display	Meaning	Cause	Remedy
	Display blank	- No power	- Check power supply (Are all cables connected?)
		- Scale not switched on	- Switch on scale
		- Power adapter not connected	- Connect power adapter
		- Short-lived fault	- Switch scale off/ on
	Zero not defined	- Weight on platform at switch-on	- Remove weight
	Underload	- Plate support and/ or load plate not on scale	- Put on plate support and/ or load plate
		- Protective cover rubbing	- Fit cover correctly
		- Weight below weighing range	- Tare scale
	Overload	- Weight above weighing range	- Reduce weight on scale
	Weighing result unstable	- Unstable weighing position	- Alter integration time
		- Protective cover rubbing	- Fit cover correctly
	Wrong result	- Operating error	- Take weight of scale, repeat weighing
			- Check calibration
Err 1	Calibration not completed	- Wrong calibration weight	- Use correct calibration weight
		- Not stable at -CAL-	- Load plate rubbing
Err 2	Taring in overload or underload range	- See overload or underload	
Error	Error signal from internal electronic monitoring system on automatic self-check	- Temperature outside permitted range	- Switch scale off/ on
			- If "Error" persists, notify METTLER service

METTLER PJ12, PJ15, PJ1220 DeltaRange®

Preparation

Choose the location with care

To obtain reliable results, select a suitable place for your scale.

A firm position, free from vibration and as horizontal as possible.

No excessive temperature fluctuations.

Avoid direct sunlight.

No drafts.

Put on the load plate

Place plate support 1 and load plate 2 on the scale.

Connect the power adapter

On the back of the scale is a plastic cap 3 (it protects against water splashes). Remove this (snap-fit) cap in the direction of the arrow.
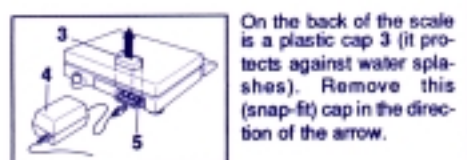
Plug in the power adapter 4 to the power socket 5 and to the mains supply.

Level the scale

The scale must be re-levelled whenever it is moved. To do this, turn the three adjusting feet 6 until the bubble in the level indicator 7 is central.
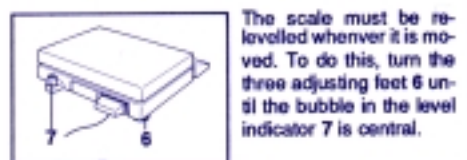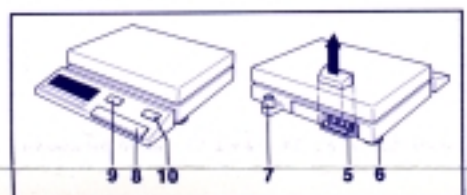
Note: Turn the rear left foot upwards ↑ (clockwise). Centralize the bubble by turning the two front feet, then screw the rear foot downwards ↓ until it rests on the surface (turn counterclockwise).
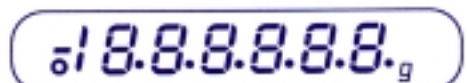
Operation

Controls and connections

5 Socket for power adapter
6 Adjusting foot
7 Level indicator
8 Control bar
9 OFF key
10 Print key

To switch scale on/off

- With the load plate 2 empty, briefly press the control bar 8; all the display segments light up for a few seconds:

$$\text{8.8.8.8.8.8.8.}_g$$

- Then the display shows zero. The scale is now ready for use.
- Press OFF key 9; the scale is switched off.

Calibrate your scale

Before the scale is used for the first time, it needs to be calibrated (to allow for the Earth's gravity).
Note: To obtain accurate results it is advisable to switch on the scale 30 minutes before calibrating.

- Press control bar 8 until -CAL- appears, then release it; the display changes to - - - - -, then to the calibration weight (flashing).
- Put on the specified calibration weight of 4000.0 g; the display changes to - - - - -, then 0.0 g flashes.
- Again clear the load plate 2; the display shows - - - - -, then changes to 0.0 g.

Your scale is now calibrated.

To alter the weighing accuracy or speed

By selecting the appropriate setting for the stability detector and for the integration time you can configure the scale to suit its location and your requirements.

Stability detector:
- Ring symbol on display indicates when scale is not stable
- As a check during taring and data transfer (printing)

Response threshhold of stability detector:
ASd-1- setting coarse
ASd-2-
ASd-3- ↓
ASd-4- setting fine

- Press control bar until -ASd- appears, then release it.
- Immediately press control bar briefly; the display changes to the next level.
- At the desired level, wait until the scale returns to weighing mode.

Note: Having set the stability detector, by holding the control down you can proceed straight to setting the integration time.

Integration time:

Int -1- If scale is on a very steady, vibration-free surface (short weighing time)
Int -2- Normal setting
Int -3- In unfavorable surroundings (long weighing time)

- Press control bar until -Int- appears, then release it.
- Immediately press control bar briefly; the display changes to the next level.
- At the desired level, wait until the scale returns to weighing mode.

Taring

- Place tare container on scale.
- Briefly press control bar; the display changes to zero.

The scale is now tared. The weighing range minus the weight of the tare container is now available for weighing in.
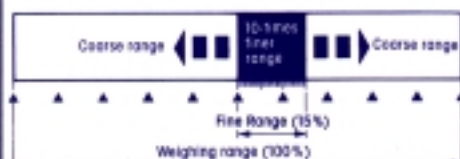
Weighing in

- Pour in required amount of material being weighed.
- Read the weight.

If different materials are to be weighed in one after the other, after each item you can tare and so weigh in every time from zero until the tare container and all the weighed materials have used up the weighing range.

METTLER DeltaRange scales ...

... have a fine range with ten times the accuracy. With a brief touch of the control bar (taring) you can call up this fine range anywhere throughout the weighing range, as often as you like:

Note: The tenfold accuracy of the fine range is available when weighing out as well.

Maintenance and cleaning

Your scale needs cleaning from time to time

Clean the load plate and the housing with a cloth and a little soapy water. Do not use any strong solvents on the housing.

To change the protective covers

If the protective covers get dirty, they can be changed as follows:

Changing the terminal cover:
Hold the cover at the corners as shown, and lift it off.
Fit new cover

Changing the platform cover:
Take off load plate and plate support.
Undo four screws 10 and remove the four plastic plugs 11; Lift off cover.

Put on new cover and fasten with the four screws 10. Make sure the toothed washers are underneath (against the housing). Insert the four plastic plugs 11. Put back the plate support and load plate.

Equipment and accessories

- See advertizing leaflet.
  Data interface Option 019, Order No. 34561.
  Note: The 019 Option enables interface (I-face) parameters to be configured and opens up the CL/RS232C data interface at the back of the scale. An instruction to print can then be given with the PRINT key on the terminal.

Technical specifications

		PJ12	PJ15	PJ1220 DeltaRange
Weighing range	g	12000	15000	12000
- Selectable fine range	g	-	-	2000
Readability	g	0,1	1	1
- Selectable fine range	g	-	-	0,1
Taring range (by subtraction)	g	12000	15000	12000
Reproducibility (standard deviation)	g	0,1	0,3	0,3
- In fine range	g	-	-	0,1
Linearity (+/-)	g	0,2	1	1
- In the fine range	g	-	-	0,2
Stabilization time (typical)	s	2,0	1,5	1,5
Update speed	s	0,16	0,16	0,16
Stability detector		choice of 4 levels, with display		
Integration time		choice of 3 levels, with display		
Sensitivity drift (10 ...30 °C)	/°C	6x10⁻⁶	6x10⁻⁶	8x10⁻⁶
Result deviation if not level (1:1000)	g	0,5	1	1
Digital display		6 1/2 digits, active		
Dimensions: - platform (chromium steel)	mm	322x232		
- housing (W x D x H)	mm	325x310x85		
- net weight	kg	8,0		
Power supply: - voltage		115/230 V; permitted fluctuation ±15%		
- frequency		50/60Hz		
- consumption		9VA		
Permitted ambient conditions (during operation)				
- Temperature	°C	0 ... 40		
- Relative humidity (not condensing)	% F	15 ... 85		
- Height below/above sea level	m	-300 ... +6000		
- Vibration	m/s²	0,3		
- Protection class (against water and dust) to IEC 529	IP	54		
Data input/output 019 Option: Order No. 34561				
- Interfaces		bidirectional RS232C (V24), CL passive 20 mA		
- Baud rate		choice of 110, 150, 300, 600, 1200, 2400, 4800, 9600 baud		
- Parity		choice of even, odd, mark, space		
- Handshake		selectable between Transfer and DTR		
- Data format		asynchronous 7 bit ASCII		
- Socket		15-pin Mini-Mettler		

Subject to technical changes and to the availability of the accessories supplied with the instruments.