

Pharmaceutical
Research Centre

STANDARD OPERATING PROCEDURE

2 THE USE & CALIBRATION OF ANALYTICAL BALANCE

VERSION 1

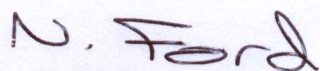
Pharmaceutical Research Centre
Nottingham Science Park,
Nottingham,
NG1 2AA

WRITTEN BY:


D TURNER

DATE: 24/07/2005

APPROVED BY:


N FORD

INSTRUMENTATION SUPERVISOR

DATE: 02.08.2005

1 INTRODUCTION

The purpose of this Standard Operating Procedure is to describe the use and calibration of the Analytical Balance.

2 RESPONSIBILITIES

All members of staff using this equipment must comply with the requirements of this procedure.

3 PROCEDURE

3.1 Prior to use, level the balance using the levelling feet (6) (see figure 1) so that the air bubble is centred within the circle of the level indicator (5).

3.2 The weight display (12) shows the following status messages for information:

BUSY - The processor is still busy processing a function and will not accept commands to perform functions at this time.

STANDBY - The balance has been turned off with the ON/OFF key (7) and is now in standby mode and ready to operate without warm-up.

POWER OFF - The balance was disconnected from line power.

CALIBRATION - The calibration function has been activated.

3.3 Press the ON/OFF key (7) to turn the balance on or off. You can also turn it on with the tare control (11).

3.4 After the balance has been plugged into the AC adapter, the weight display will go out whenever the balance is turned off, (Standby mode).

3.5 After the power is turned on, a test of all essential electronic functions is run automatically. The self-test ends with the read out 0.0000g.

3.6 To determine the weight of the sample or object open the doors & place it on the pan (1) & close the doors. Read off the weight indicated in the weight display (12) as soon as the weight unit (g) appears as the stability

symbol. If you wish to use a container or if the weight display does not indicate 0.0000 g press the tare control (11) to zero the display.

3.7 Any spills should be wiped up immediately.

3.8 The pan should be cleaned on a weekly basis.

3.9 There are no routine maintenance functions with this balance except cleaning.

4 TOLERANCE LIMITS FOR DAILY BALANCE CALIBRATION

4.1 Only the nominal working weights noted below will be used for the daily balance calibration. Each individual working weight is placed on the balance and the value recorded on the balance calibration records (see appendix 1).

4.2 These tolerance limits are the accepted divergence from the known "True Weight" of the working weights as determined by calibration against Standard Weights.

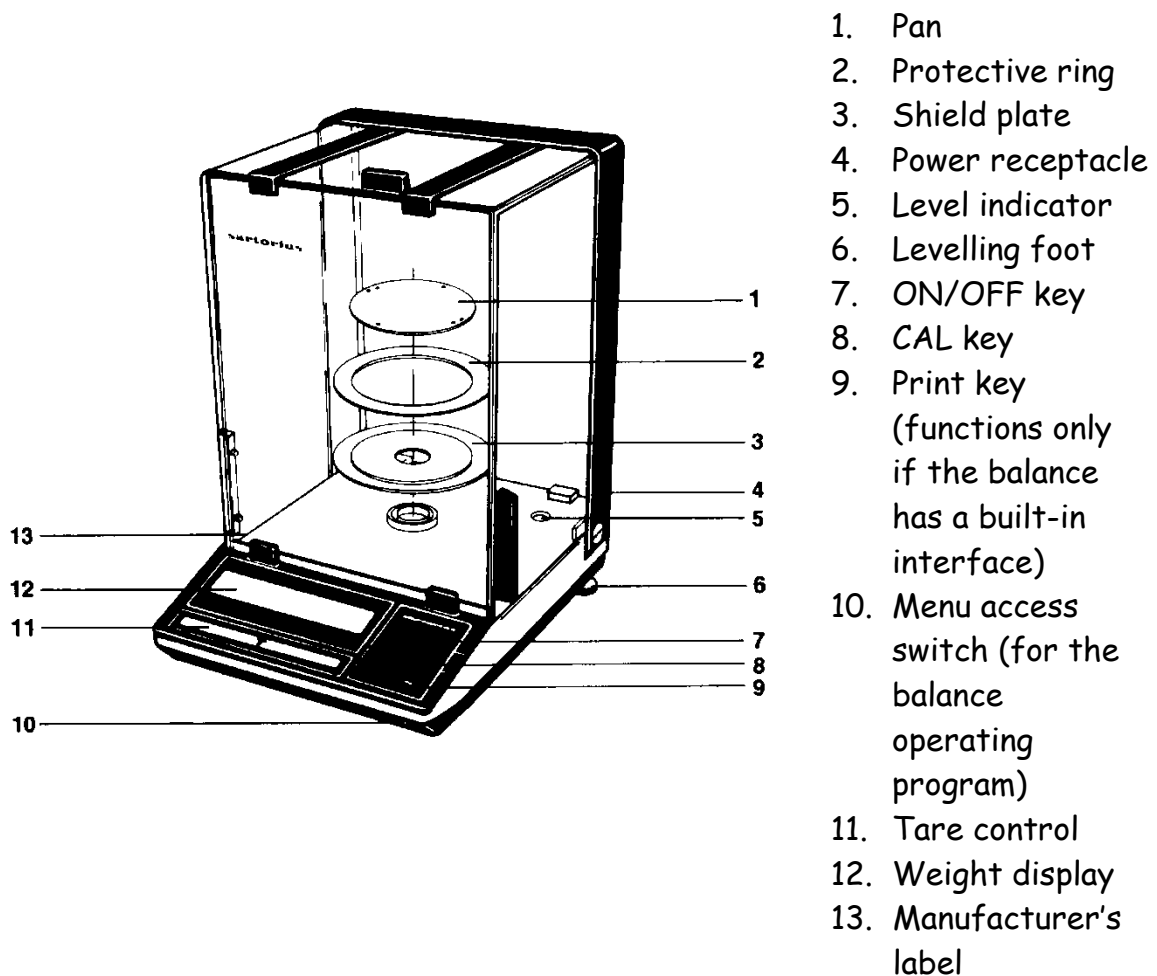
Nominal weight (g)	Tolerance limits (g)	
	Lower	Upper
0.1000	0.0997	0.1003
0.2000	0.1997	0.2003
0.5000	0.4997	0.5003
1.0000	0.9997	1.0003
10.0000	9.9995	10.0005
100.0000	99.9950	100.0050
1,000.000	999.9500	1,000.0500

4.3 If the initial calibration is outside these guidelines the balance should be recalibrated. If it is still outside the tolerance limits then the "Auto-Calibration" routine will be undertaken. As soon as the display indicates 0.000 g press the CAL key (8). "C" will now be displayed. A built in calibration weight is internally applied and automatically removed at the end of the calibration process. If "CE" is displayed

instead, zero the display by pressing the tare control and press the CAL key again.

- 4.4 During calibration the microprocessor uses the factor already stored to calculate the exact value of this calibration weight. Failure of the balance to come within tolerance limits again will require a service visit from a qualified engineer.

FIGURE 1



APPENDIX I

BALANCE CALIBRATION RECORDS

[illegible]