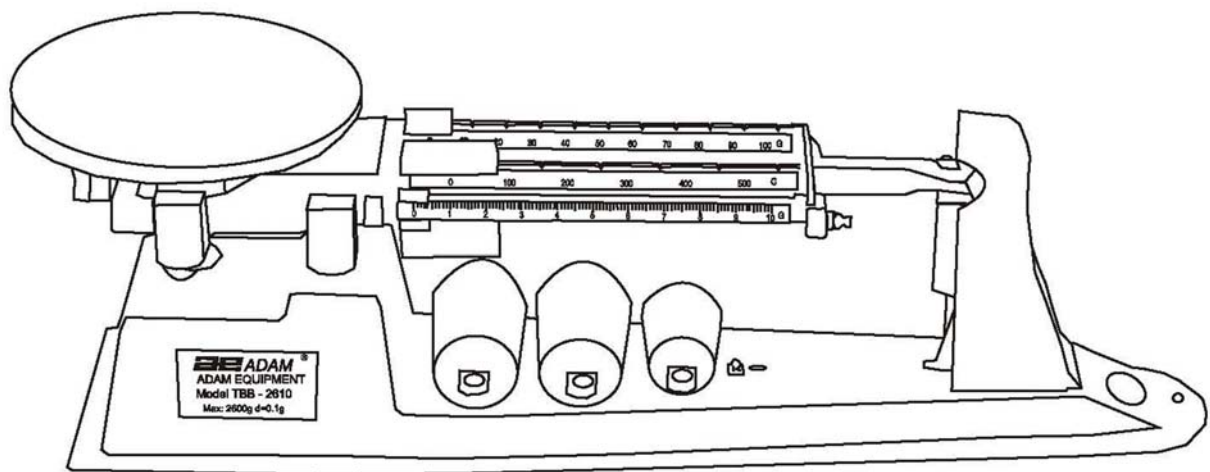


### TBB - TRIPLE BEAM Mechanical Balance

8141, RevD Nov2015 (ENG/FR/DE/ES/IT)



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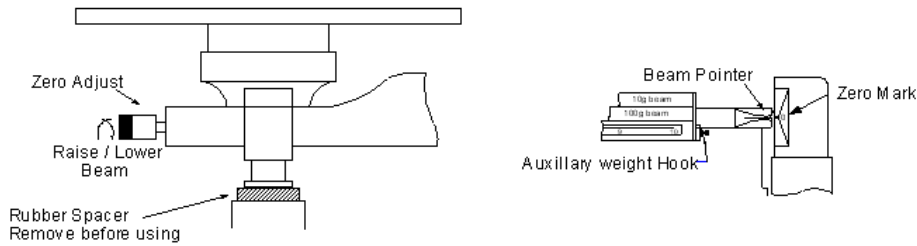


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## 1.1 INTRODUCTION

The TBB 610S, TBB 2610S and TBB 2610T are Single Pan Balances of unequal arm type with 3 beams. They are often referred to as Triple Beam Balances. The TBB 2610S and TBB 2610T models are supplied with counter-weights (3) for weighing up to a maximum capacity of 2610 g. The TBB 610S is identical to the TBB 2610S but without the counter weights or legs. The TBB 2610T has an additional counter-weight beam for Tare of up to 225 grams in addition to weighing up to 2610 grams.



## 1.2 SETTING UP

- Unpack carefully. The TBB 2610S and TBB 2610T balance consists of the main body and 3 auxiliary counter weights (2 each for 1kg loads, 1 for 500g load). Note that the counter weights are not 1kg or 500g masses -they are used only to balance this amount of mass.
- Place on a firm, level surface away from fans or open windows. Remove the rubber bumper from under the pan support. Slide all the weights to the left. Make sure the 2 largest weights fit into the notches on their beams. The front weight should point to zero.
- To lock the TBB down using the optional Security lock, insert the locking mechanism into the hole marked on the base of the TBB model. Follow the instructions supplied with the lock and wrap the cable around a fixed object. Make sure the cable does not hit the beams or the hanging weights.
- Check the zero. The pointer on the right end of the beam should align with the zero mark. Adjust the thumb screw on the left end of the beam, if necessary.

Capacity	2610 grams with counter weights 610 grams without counter weights		
Tare	+225 g on TBB 2610T only		
Readability	0.1 g		
Beam Calibration:	Beam	Range	Increment
	Front Beam	0-10 g	0.1 g
	2 <sup>nd</sup> Beam	0-500 g	100 g
	3 <sup>rd</sup> Beam	0-100 g	10 g
Damping	Magnetic		
Ruler	Inches ( " ) & centimetres (cm)		
Lock Down Device	Uses Security Lock		
Density Determination	✓		
Pan Size	152 mm (6") diameter Stainless Steel		
Overall Size (w x h x d)	505 x 110 x 160 mm (20" x 4.3" x 6.3")		
Net weight	2.7 kg (5.94 lb.)		

**English**

### 1.3 WEIGHING

To weigh using the TBB balances, place the item to be weighed on the stainless steel pan. The beam will move up. Adjust the weights on the 3 beams until the beam pointer is aligned with the zero mark again. Start with the largest weight and work towards the smallest. Each weight should be moved until the beam falls below zero then moved back one notch and then the next weight moved.

The last weight moved will be the sliding weight on the front beam. Slide this weight until the beam pointer aligns with the zero mark. Read the weight by adding the values for each weight. For example  $400+20+5.7 = 425.7\text{g}$

If the sample is more than 610 grams it will be necessary to add a weight to the hanger on the right side of the beam. Add the 500g counter weight first, then increase to 1kg, 1kg plus 500g or 2 of the 1kg masses. Add these counter masses to the readings from the sliding beams to determine the mass. Counter weights are supplied only with the TBB 2610S and TBB 2610T.

#### **USING A CONTAINER FOR THE SAMPLE, WITH THE TBB 2610S BALANCE**

If an empty beaker is placed on the scale you must first determine the weight of the empty beaker. Then add the material to the beaker and weigh again. The weight of the material within the beaker is the total weight minus the weight of the beaker when empty.

#### **USING A CONTAINER FOR THE SAMPLE, WITH THE TBB 2610T BALANCE**

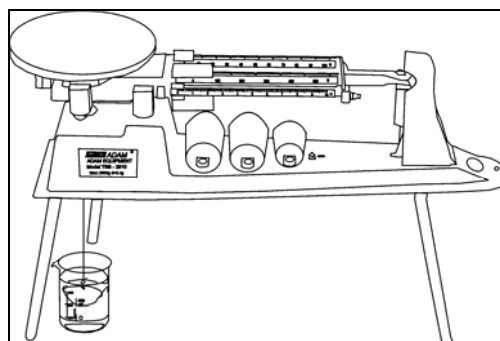
The tare mass on the back of the beam can be used to counteract the weight of the empty container, up to 225 grams. Set all the weights to show zero on the beams. When the empty beaker is placed on the scale slide the tare mass along the rod until the beam pointer is aligned with the zero mark. Then add the material to the beaker and weigh as normal. The weight of the material within the beaker is the weight being shown by the sliding weights.

### 1.4 FILLING TO A KNOWN WEIGHT

Place the empty beaker on the balance and determine the weight or zero the scale (TBB 2610T). Add the desired weight to this value to determine the final weight. Set the weights on the beam to represent this final value. Pour the material into the beaker slowly. As the desired weight is approached, the beam will rise. Stop filling when the beam pointer is aligned with the zero mark.

### 1.5 DENSITY DETERMINATION

The TBB 2610S and TBB 2610T balances are supplied as standard with three legs allowing the balance to be raised about 185mm (7") above the surface. There is also a small hook attached to the bottom of the TBB's weighing mechanism which allows products to be suspended via string (or wire) into a solution in a beaker below. This allows you to first weigh the product on the stainless steel top pan (in air) and then suspend the product in a solution using the below hook (in liquid) to allow you to calculate the density of the product. The TBB 610S does not include the legs.



**English**

## WARRANTY STATEMENT

Adam Equipment offers Limited Warranty (Parts and Labour) for any components that fail due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Adam Equipment Company. The company or its authorised Technician reserves the right to repair or replace the components at any of its workshops at no additional cost, depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the Service Centre should be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Adam Equipment.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorised modifications or attempted repair, or failure to observe the requirements and recommendations as given in this User Manual.

This product may include a rechargeable battery that is designed to be removed and replaced by the user. Adam Equipment warrants that it will provide a replacement battery if the battery manifests a defect in materials or workmanship during the initial period of use of the product in which the battery is installed.

As with all batteries, the maximum capacity of any battery included in the product will decrease with time or use, and battery cycle life will vary depending on product model, configuration, features, use, and power management settings. A decrease in maximum battery capacity or battery cycle life is not a defect in materials or workmanship, and is not covered by this Limited Warranty.

Repairs carried out under the warranty do not extend the warranty period. Components removed during warranty repairs become company property.

The statutory rights of the purchaser are not affected by this warranty. The terms of this warranty is governed by the UK law. For complete details on Warranty Information, see the terms and conditions of sale available on our web-site.

**English**



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