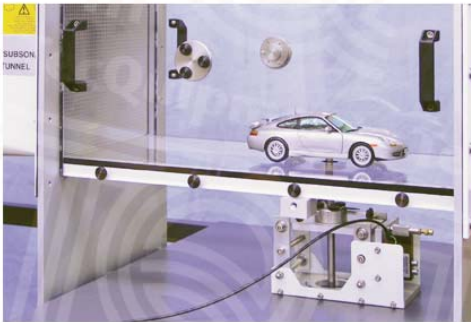


## AFA2

## Basic Lift and Drag Balance

**Measures lift and drag forces on models mounted in a TecEquipment Subsonic Wind Tunnel (AF100)**

Works with  
**VDAS**<sup>®</sup>



Base mounted with model car to measure drag



Mounted on side of wind tunnel to measure both lift and drag. Shown fitted with the protractor from the Wind Tunnel.



- Optional ancillary to TecEquipment's modular Subsonic Wind Tunnel (AF100)
- Single-component balance to measure lift and drag forces on models mounted in the tunnel
- Transmits the force on the model directly to a strain gauged load cell with digital display
- Fully compatible with TecEquipment's Versatile Data Acquisition System (VDAS<sup>®</sup>) to enable accurate real-time data capture, monitoring and display on a computer
- Includes power supply

- TecEquipment Ltd, Bonsall Street, Long Eaton, Nottingham NG10 2AN, UK
- **T** +44 115 972 2611 • **F** +44 115 973 1520 • **E** info@tecquipment.com • **W** www.tecquipment.com
- An ISO 9001 certified company
- VDAS is a registered trademark of TecEquipment Ltd

# AFA2

## Basic Lift and Drag Balance

### Description

A single-component balance which measures the lift and drag forces on models mounted in TecQuipment's Subsonic Wind Tunnel (AF100).

The balance mechanism enables test models with a rigid support arm to be mounted and held securely in position in the working section of the wind tunnel. The arm transmits the force on the test model directly to a strain gauged load cell. The load cell is connected to a readout unit with a digital display, which is powered by a desktop power supply (included).

In addition, the equipment is fully compatible with TecQuipment's Versatile Data Acquisition System (VDAS®) and can quickly and conveniently connect to the frame-mounting interface unit (VDAS-F, not included). Using VDAS® enables accurate real-time data capture, monitoring, display, calculation and charting of all relevant parameters on a suitable computer (computer available separately).

To measure the lift and drag forces on models (airfoils for example, available separately), the balance mounts on the side of the working section of the wind tunnel. The drag force is measured first, then students rotate the balance mechanism through 90 degrees and repeat the test to measure the lift force. When mounted in the base of the wind tunnel working section, the balance measures the drag force only. This is useful for a variety of investigations such as wind loadings on tall buildings. It can also be used to measure drag forces on model vehicles enabling students to determine and compare coefficients of drag.

**Note:** For experiments requiring measurement of pitching moment as well as drag and lift forces, a three-component balance, such as TecQuipment's AFA3, is required.

### Standard Features

- Supplied with comprehensive user guide
- Five-year warranty
- Made in accordance with the latest European Union directives

### Ancillary for:

- Subsonic Wind Tunnel (AF100)
- Cylinder Model with Pressure tapping (AF101)
- 150 mm Chord NACA0012 Aerofoils (AF104)
- 100 mm Diameter Flat Plate (AF105)
- Three-dimensional Drag Models (AF109)

### Operating Conditions:

*Operating environment:*  
Laboratory

*Storage temperature range:*  
-25°C to +55°C (when packed for transport)

*Operating temperature range:*  
+5°C to +40°C

*Operating relative humidity range:*  
80% at temperatures < 31°C decreasing linearly to 50% at 40°C

### Essential Services:

*Electrical supply:*  
100 VAC to 240 VAC, 50 Hz to 60 Hz, 1 A with earth

**Note:** A suitable electrical supply outlet is included at the rear of the Wind Tunnel controller

### Specification:

*Dimensions (packed for export):*  
0.045 m<sup>3</sup>

*Weight:*  
Nett: 6 kg  
Packed: 12 kg

*Maximum load:*  
10 kg (100 N)

*Power supply output:*  
12 V d.c.

*Typical scale for models:*  
1/18th

- TecQuipment Ltd, Bonsall Street, Long Eaton, Nottingham NG10 2AN, UK
- **T** +44 115 972 2611 • **F** +44 115 973 1520 • **E** info@tecquipment.com • **W** www.tecquipment.com
- An ISO 9001 certified company
- VDAS is a registered trademark of TecQuipment Ltd