



AF10

## MODULAR AIR FLOW BENCH

A mobile bench providing the base unit for a wide range of air flow experiment modules



- The base unit for a comprehensive system for teaching aerodynamic principles.
- Works with eight different interchangeable experiment modules each designed to convincingly demonstrate a particular air flow principle or phenomena
- Easy setup, all the experiment modules can be fitted and removed in minutes.
- Simple and safe to use allowing students to gain hands-on practical experience with minimal supervision
- Compact, mobile and simple to install

# MODULAR AIR FLOW BENCH

## DESCRIPTION

The AF10 is a small-scale wind tunnel with an electric fan and adjustable air flow control. It is the essential base unit for eight different experiment modules that demonstrate key principles and phenomena of air flow.

The unit consists of a sturdy steel framework on which is mounted a fan which supplies air via a flow-control valve to a specially designed plenum chamber and aerodynamically shaped contraction.

Each of the experiment modules fits either to the plenum chamber or to the contraction. The air then exits the experiment module through the bench top and emerges at an exhaust at the rear of the unit. When smoke is used in experiments for visualisation purposes users can fit flexible ducting to the exhaust to direct waste smoke safely away.

Toggle clamps hold the experiment modules, reducing the need for tools. Pressure measurement connections use reliable quick-release couplings. Both of these features make the changeover from one experiment to another simple and quick.

The bench format of the equipment makes it compact, easy to move and store. The unit also has handy shelves and storage space which is ideal to store experiment modules when they are not in use.

The minimum requirement is the AF10 and one of the experiment modules, plus the AF10a manometer as required. Other experiments can be purchased at a later date allowing a complete system to be built up as time and budgets allow.



## AVAILABLE EXPERIMENT MODULES

- Bernoulli's Equation (AF11)
- Drag Force (AF12)
- Round Turbulent Jet (AF13)
- Boundary Layer (AF14)
- Flow Around a Bend (AF15)
- Coandă Effect and Jet Flow (AF16)
- Flow Visualisation (AF17)
- Tapped Aerofoil (AF18)

## RECOMMENDED ANCILLARY

- Multi-Tube Manometer (AF10A)

## STANDARD FEATURES

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

## ESSENTIAL SERVICES

### FLOOR SPACE NEEDED:

1.5 m x 1.5 m

### ELECTRICAL SUPPLY:

Single-phase 230 VAC 50 Hz or  
Two-phase and neutral 220 V 60 Hz  
(other supplies available – specify on order)

## SPECIFICATIONS

### NETT DIMENSIONS:

740 mm front to back x 950 mm wide x 1900 mm high and 125 kg

### APPROXIMATE PACKED DIMENSIONS:

2.37 m<sup>3</sup> and 150 kg

## 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