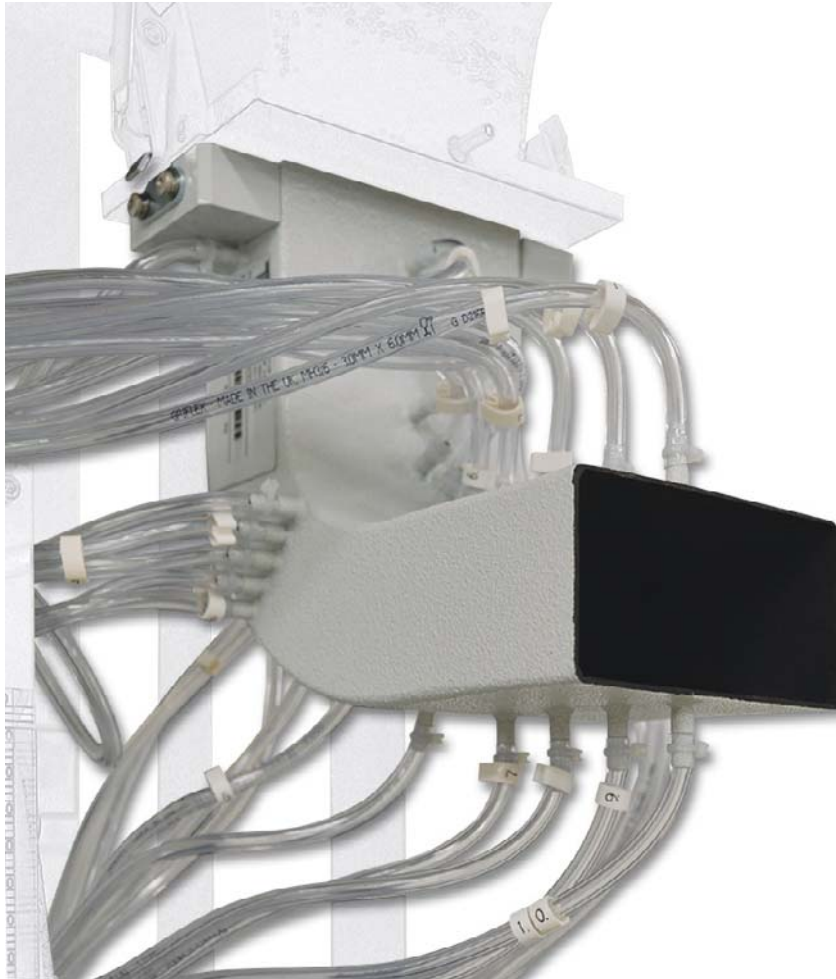




## ≡ FLOW AROUND A BEND

AF15

Allows students to measure the pressure distribution in a smooth rectangular bend via tapping points on the curved walls and radius.



### KEY FEATURES

- One of a series of eight experiment modules that fit to the Modular Air Flow Bench (AF10)
- Shows the pressure distribution in a smooth rectangular bend as an example of internal flow problems
- Toggle clamp connections to the Modular Air Flow Bench contraction for quick and easy fitment
- Quick-release couplings for rapid and reliable pressure measurement connection to the AF10a Manometer
- Highly visual plot of the pressure profile on the manometer



# ≡ FLOW AROUND A BEND

AF15

## DESCRIPTION

This module consists of a smooth rectangular bend with ten static tapping points on both the inner and outer curved walls, plus a further nine along the radius. Each one of the tapping points has a flexible tube with quick-release connector for connection to the AF10a Multi-tube Manometer (ancillary).

When air passes through the bend it creates areas of high and low pressure. The resulting pressure plots on the multi-tube manometer are highly visual which enhances student understanding. The readings allow the students to plot the pressure profile and calculate a value for the loss coefficient ( $K$ ).

## STANDARD FEATURES

- Supplied with a comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- An ISO 9001 certified company

## ESSENTIAL BASE UNIT

- Modular Air Flow Bench (AF10)

## ESSENTIAL ANCILLARIES

- Multitube Manometer (AF10a)

## LEARNING OUTCOMES

- Pressure distribution along the curved inner and outer walls
- Radial pressure distribution and comparison with that predicted assuming free vortex velocity distribution
- Calculation of loss coefficient ( $K$ )

## SPECIFICATIONS

TecEquipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

### PACKED DIMENSIONS AND WEIGHT:

0.2 m<sup>3</sup>; 10 kg

### INNER WALL:

10 tappings

### OUTER WALL:

10 tappings

### 45° RADIAL SECTION:

9 tappings

### REFERENCE AT INLET:

1 tapping

## 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