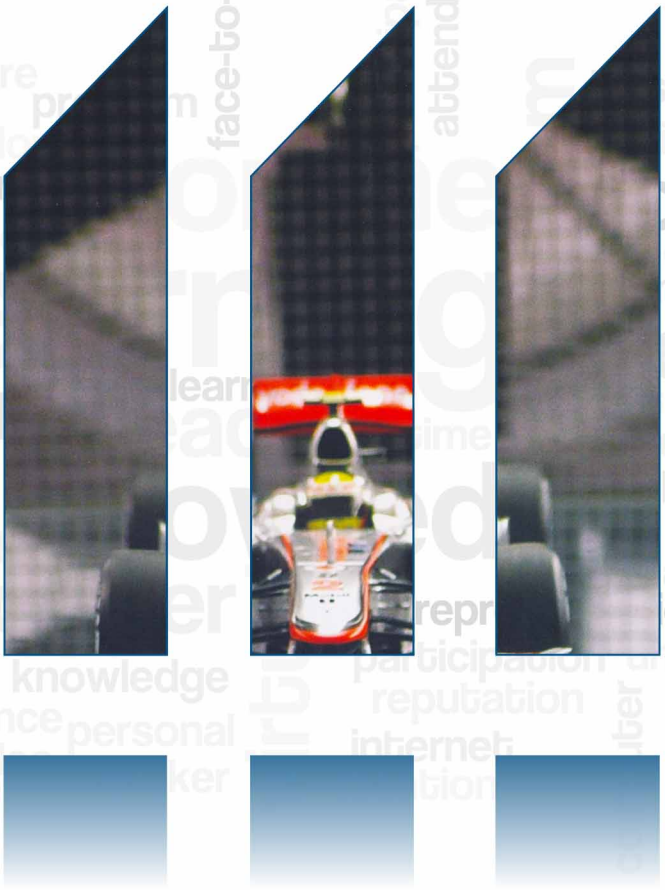


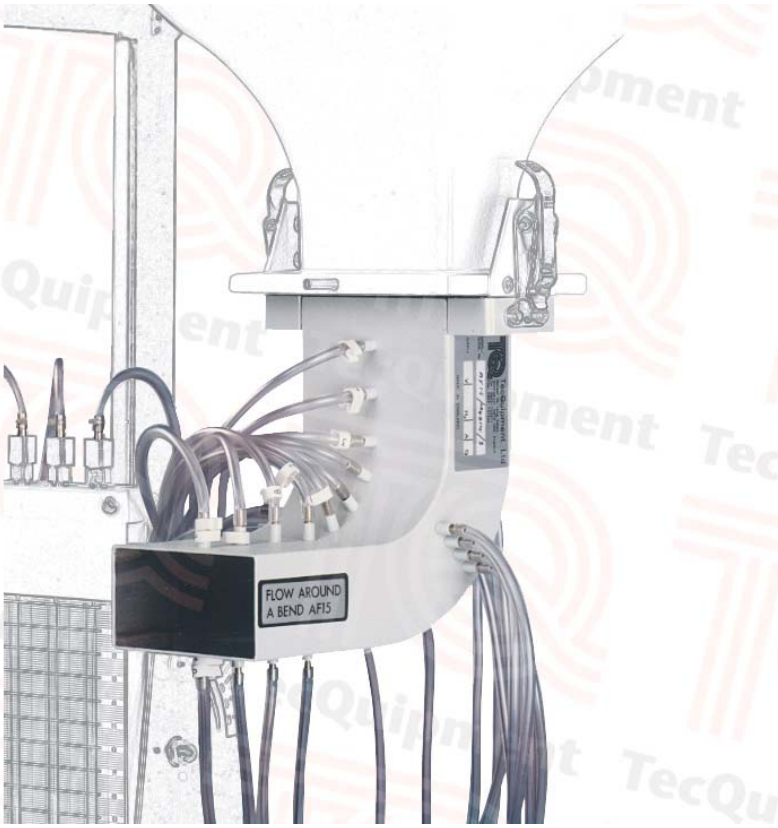
# Aerodynamics

infoWERK
medien & technik

# AF15

## Flow Around a Bend

***Allows students to measure the pressure distribution in a smooth rectangular bend***




- One of a series of eight experiment modules that fits 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 connections to the AF10a Manometer
- Highly visual plot of the pressure profile on the manometer

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# AF15 Flow Around a Bend

## 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

## Essential Base Unit

- Modular Air Flow Bench (AF10)

## Essential Ancillaries

- Multitube Manometer (AF10a)

## Experiments

- 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

*Packed dimensions and weight:*
0.2 $m^3$; 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

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