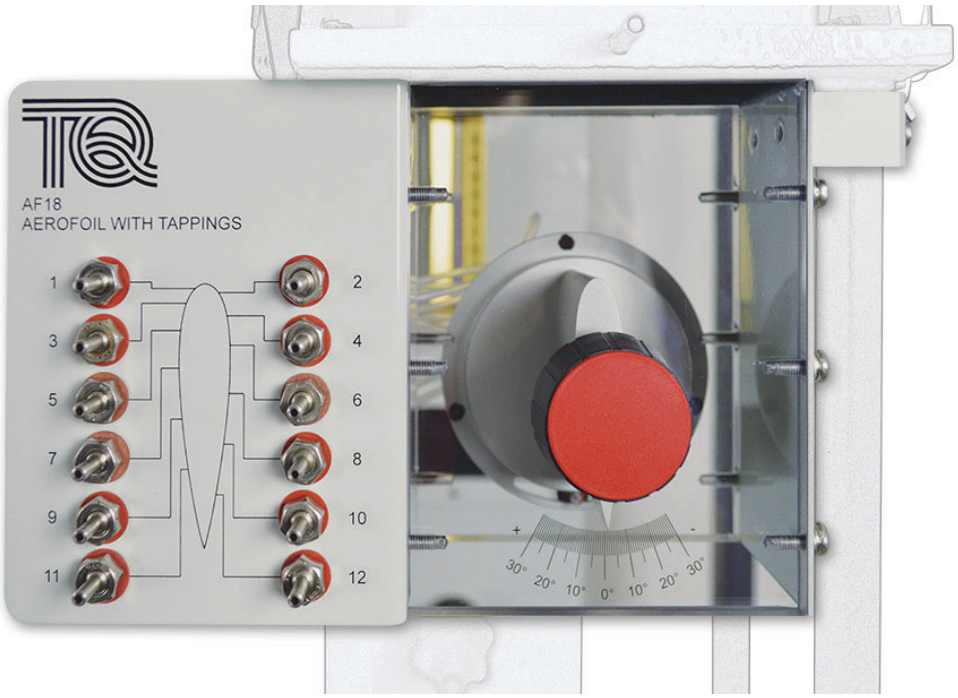
TAPPED AEROFOIL

AF18

Allows students to investigate the pressure distribution around a two-dimensional NACA aerofoil that has 12 tapping points along the chord.



KEY FEATURES

- One of a series of eight experiment modules that fit to the Modular Air Flow Bench (AF10)
- Provides both a visual and analytical experience for students as the manometer readings clearly show both the pattern and magnitude of the pressure distribution
- Serves as a useful companion experiment to the Drag Force Apparatus (AF12)
- Toggle clamp connections to the Modular Air Flow Bench contraction for quick and easy fitment
- Quick-release couplings and clear printed schematic for rapid and reliable pressure measurement connections to the AF10a Manometer
- Transparent front and rear to the test duct with a printed scale allows the experiment to be clearly seen and allows the aerofoil angle to be accurately set

TECQUIPMENT LTD, BONSALL STREET, LONG EATON, NOTTINGHAM NG10 2AN, UK
TECQUIPMENT.COM +44 115 972 2611 SALES@TECQUIPMENT.COM

TAPPED AEROFOIL

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DESCRIPTION

This module consists of a duct with transparent front and rear, between which is mounted a symmetrical aerofoil with a NACA profile. The aerofoil has 12 tapping points at various chordwise positions on its surface allowing the pressure to be measured at that point. The tapping points are permanently connected to a manifold mounted on the duct showing the tapping position and number for easy reference.

The experiment mounts on the Air Flow Bench contraction using toggle clamps. Each one of the tappings connects to the AF10a manometer (ancillary) via flexible tubes fitted with quick-release couplings. The aerofoil may be accurately rotated to various angles of incidence (attack) to the air using the control and printed scale on the front of the duct.

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

- The visualisation and measurement of the pressure distribution around an aerofoil section.
- Lift characteristics and stall angle of an aerofoil.

SPECIFICATIONS

TecQuipment 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^3; 10 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

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