



# **BOUNDARY LAYER INVESTIGATION** F100C



## Year 1 study

## Features

- ONE flat plate, TWO surfaces
- Interchangeable profile plates
- · Ability to increase/decrease pressure gradient
- · Compact and visually excellent
- Fine micrometer adjustment
- · Ability to add artificial 'roughness'
- · Simple set-up

## Description

The Optional Boundary Layer Investigation F100C components have been designed for operation with the Hilton Airflow System F100. The components allow students to quantitatively investigate the boundary layer that exists close to the surface adjacent to a moving air stream. A reversible flat plate located inside a rectangular duct has one smooth and one artificially roughened face. The duct has removable profile plates that can establish an increasing or decreasing pressure gradient in the direction of flow. To investigate the growth of the boundary layer profile in a variety of conditions along the plate a micro-pitot tube is provided. This may be moved toward the plate in measured intervals using a micrometer adjustment.



#### **Related Laws/Applications**

- · Reynold's Number
- Boundary layer
- Laminar Flow
- Turbulent Flow
- Pitot-Static tube
- · Leading Edge
- Transition Point
- · Viscous Sublayer
- Buffer Zone

## Learning capabilities

- · Investigation of the Boundary Layer along a Smooth Flat Plate
- The Effect of Pressure Gradient

## **Technical Specification**

- Micrometer adjustment: 0...15mm
- Jet Internal diameter: 50mm

## **Essential Ancillaries**

- F100
- F100A

#### What's in the Box?

- 1 x F100C
- 2m Plastic Hose
- 4 x fixing knobs
- Instruction manual
- Packing List
- Test sheet

#### Weights & Dimensions

- Weight: 8 kg
- Length: 500mm
- Width: 600mm
- Height: 800mm

## **Essential Services**

• F100

## Ordering information

To order this product, please call PA Hilton quoting the following code: F100C

All brand and/or product names are trademarks of their respective owners. Specifications and external appearance are subject to change without notice. The colour of the actual product may vary from the colour shown in the brochure. Copyright © 2018 P.A. Hilton Limited. All rights reserved. This technical leaflet, its contents and/or layout may not be modified and/or adapted, copied in part or in whole and/or incorporated into other works without the prior written permission of P. A. Hilton Limited. Hi-Tech Education is a registered trade mark of P. A. Hilton Limited. COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS