



P3203

FLOW MEASUREMENT APPARATUS

INTRODUCTION

Cussons P3203 Flow Measurement Apparatus consists of additional items for use with the basic P3200 Air Flow Bench. The unit is designed to introduce the student to the study of air flow measurement using various types of measuring devices based on the specifications given in BS848 'Fans for General Purpose' and BS 1042 'Methods of Measurement of Fluid Flow in Closed Circuits'. Orifice plates or nozzle can be used at the Air Flow Bench flow inlet to enable fan tests, based on BS 848, to be carried out and the derived flow rates can be compared with those results obtained by a pitot static tube traverse.

EXPERIMENTAL TOPICS

- ◆ Flow measurement by traversing duct with a pitot static tube.
- ◆ Fan test to BS 848 using orifice plate or nozzle inlets.
- ◆ Comparison of flow measurement devices at entry to a duct.

orifice plate
nozzle
venturi nozzle

DESCRIPTION

The fan inlet and outlet ports are designed to accept standard sections of ductwork 146 mm dia. manufactured in aluminium and connected by deep spigoted sockets sealed by 'O' rings and clamped with quick-release over centre toggle catches. All sections conform with either British Standard BS 848 or BS 1042 and comprise:

- 65 mm orifice plate at entry to the 146 mm dia. duct.
- 95 mm orifice plate at entry to the 146 mm dia. duct.
- 65 mm nozzle at entry to the 146 mm dia. duct.
- 95 mm-146 mm dia. venturi nozzle.
- Pitot static tube and traversing mechanism.

To accommodate the extra measuring devices, two items of duct work are included with the apparatus together with a duct support stand, these are:

- 146 mm dia. inlet adaptor with static pressure tapping for mounting orifice plates or venturi nozzle.
- 146 mm dia. 1000 mm long duct incorporating a honeycomb flow straightener and 3 mounting pads for the pitot static tube.