

### P3234 TURBULENT JET STUDIES

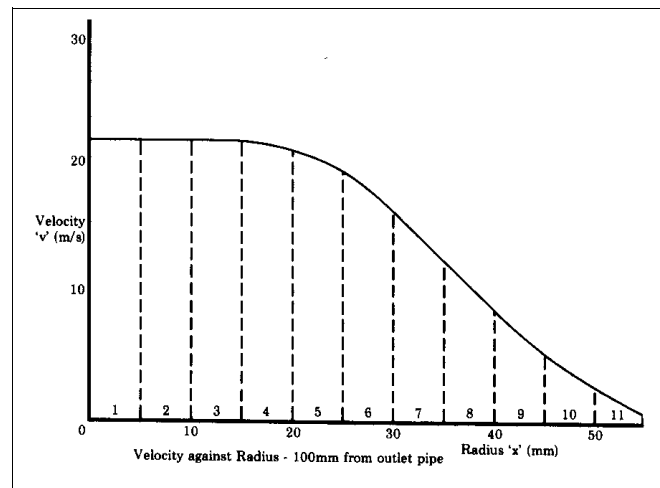
#### INTRODUCTION

Cussons P3234 Turbulent Jet Studies apparatus is designed to demonstrate the general behaviour of a jet of air emitted from a circular pipe into free surroundings. The student can then study air jet velocity in order to determine both velocity and momentum profiles of the air jet at various distances from the emission point.

#### DESCRIPTION

The equipment consists of a plenum chamber with outlet tube and a calibrated stand to mount the pitot tube which can then be traversed along the axis of the air flow at various heights. The apparatus is shown mounted on the working surface of the basic P3200 Air Flow Bench and connected to the 'blown' experiment duct of the fan by re-inforced plastic hose. The pitot tube is connected to the larger of the two sloping manometers which is levelled and zeroed before starting the experiments.

Although used with the basic Air Flow Bench the apparatus can be operated as a stand alone unit if supplied with an air flow of approximately 500 litres/second at a pressure of 600 Pascals.



A plot of air velocity against radius from the axis of flow is shown in the accompanying graph.