

# **Mechanics of Fluids**



P6246

## **HELE SHAW APPARATUS**

#### INTRODUCTION

Cussons P6246 is a two dimensional potential flow apparatus, based on the well-known Hele Shaw experimental method. This provides a parallel laminar water flow field to allow a full study of the low Reynolds number flow patterns around submerged models representing cylinder, aero foils, bluff bodies, knife edge weirs etc. or through various passages such as valve bodies, nozzles etc.

Independently controlled sinks and sources permit the study to be extended to more complex problems involving fluid removal or addition at discrete points in the potential flow. The apparatus is equipped with multiple dye injection to provide flow visualisation. Alternative passage and submerged models can be easily cut from the flexible sheet material supplied.



#### **DESCRIPTION**

The P6246 Hele Shaw apparatus comprises of a robust aluminium base plate, onto which is mounted a glass facia plate. The plate is clamped onto its seal by a number of wing nuts. The gap between the glass and base is constant. The rubber inserts are trapped between the glass and base.

Water is let in through the inlet tap, and wells evenly into the gap. As the water passes towards the outlet it passes over a row of small dye inlet holes, from which dye streams can be produced. The rate of flow of dye is controlled by the height of the dye header tank.

The well and sink arrangements are controlled by four small taps on each side of the apparatus, to provide a sink, source or doublet in any combination.

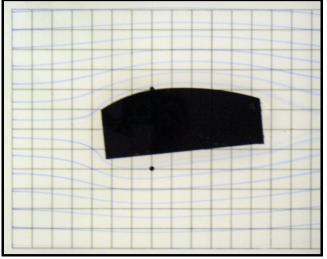
The unit is designed to sit within the work area of Cussons P6100 Hydraulics bench and P6242 Hydrostatics bench. The unit is provided with four adjustable feet to set it level.

## **INSTALLATION REQUIREMENTS**

Water supply - air free, 0.2 l/s at 1 bar pressure or less

### **DIMENSIONS AND WEIGHTS**

The unit is 600mm long by 500mm wide. The unit is shipped with the dye support disassembled.



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