AIRFLOW SYSTEM
F100



Year 1
study

Features

- A Flexible Air Flow System Designed For Student Use.
- 11 optional interchangeable experiments available in the range.
- The Optional Modules allows Investigation Of Fundamental Aspects Of Air Flow, Aerodynamics And Heat Transfer.
- Safe and Suitable For Unsupervised Student Operation
- Responds Immediately To System Changes Allowing Efficient Use of Laboratory Time
- Negligible Operating and Maintenance Costs
- Space saving and mobility advantage over conventional wind tunnels.
- Lower noise emittance over conventional wind tunnels.
- Designed to operate on US style 1 Phase (115V version)
- Inverter driven fan for precise air speed control.

Description

The Hilton F100 Airflow System has been specifically designed to allow students to investigate a wide range of and low speed air flow phenomena and fundamental aerodynamics. The base unit consists of a large capacity variable speed centrifugal fan with a separate aerodynamically designed plenum chamber containing multiple screens, flow straightener and acceleration section. The fan and plenum chamber are connected by a length of flexible hose and this allows the two components to be arranged in a variety of convenient locations either at bench or floor level. A large number of optional ducts may be attached to the plenum discharge that allow investigation of airflow on the positive side of the fan. In addition there are optional items that attach to the suction or intake side of the fan. The ability to utilise both the intake and discharge sides of the fan, together with a continuously expanding range of optional accessories makes the Hilton F100 Airflow System a very flexible and cost effective unit.

Related Laws/Applications

- Bernoulli's Equation
- Aeronautical Engineering
- Mechanical Engineering
- Fluid Mechanics
- Nuclear Engineering
- Chemical Engineering
- Control and Instrumentation
- Plant and Process Engineering
- Building Services
- Engineering Physics
- Marine Engineering

Learning capabilities

- Bernoulli’s equation
- Drag forces on various shapes
- Investigation of a turbulent jet
- Investigation of boundary layer development
- Pressure distribution of flow around a bend
- Fan performance characteristics
- Jet attachment
- Pressure distribution around a cylinder
- Pressure distribution around an aerofoil
- Flow visualisation studies.
- Air flow measurement methods.

Technical Specification

- Plenum Discharge: 100mm x 50mm

Essential Ancillaries

- F100A
- F100B
- F100C
- F100D
- F100E
- F100F
- F100G
- F100H
- F100J
- F100K
- F100L
- F100M

What’s in the Box?

- 1 x F100 Base unit, plenum chamber and duct
- 1 x Transformer (115V version only)
- 5m hosing
- Instruction manual
- Packing List
- Test sheet
- Power Cable

Weights & Dimensions

- Centrifugal Fan
- Weight: 34 kg
- Length: 440mm
- Width: 650mm
- Height: 440mm
- Plenum Chamber
- Weight: 25 kg
- Length: 540mm
- Width: 740mm
- Height: 480mm

Essential Services

- 220-240 Volts, Single Phase, 50Hz (With earth/ground).
- Line current up to 10A at 230v.
- 110-120 Volts, Single Phase, 60Hz (With earth/ground).
- Line current up to 20A at 110v.

Ordering information

To order this product, please call PA Hilton quoting the following codes:
F100/230
F100/115

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS