

The Fluid Science range is an innovative suite of products designed to be used to demonstrate energy losses due to the geometry of the flow path enabling students to gain an understanding of the fundamentals of Fluid Mechanics and Thermo Fluids by the process of learning via hands-on experimentation.

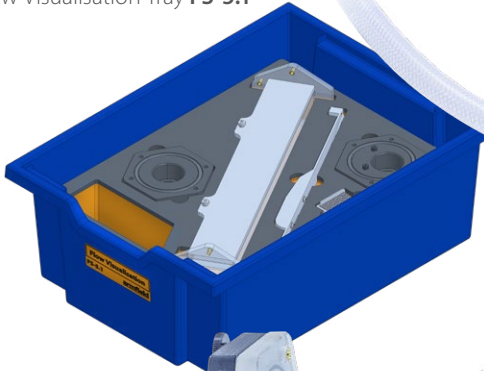
Flow Visualisation brings the beauty of fluid mechanics to life.

Art and science come together to inspire and inform to give students a transformative moment where they see for themselves key physical phenomena and connect theory to intuition.

The Flow Visualisation accessory gives every student an opportunity to discover fluid mechanics for themselves.

FLOW VISUALISATION – IN THE HANDS OF EVERY STUDENT.

Flow Visualisation Tray **FS-5.1**



Base Unit supplied separately



Dye injection can be performed at any depth giving endless options to explore



Description

The Flow Visualisation accessory is a transparent working section for a water flow loop, providing students with a hands-on experience to learn fluid mechanics. Designed for educational experiments, this accessory offers exceptional optical access and can be driven by the Armfield [base station] or other water sources.

With its transparent design, the Flow Visualisation accessory allows students to observe fluid flow patterns with clarity, enabling them to explore the dynamics of fluid mechanics in real time. The adjustable release points for coloured water gives student ownership over the experiment – creating their own streak lines. The option to use interchangeable bodies in the working section provides flexibility for customized experiments, giving students choice and variety to discover fluid mechanics by following their own interest.

From visualizing streamlines, streak lines, and path lines to studying potential flow, boundary layers, wakes, and creeping flow, this accessory offers a wide range of capabilities for qualitative and quantitative analysis of fluid flow. It bridges the gap between theory and practice, empowering students to connect theoretical concepts with practical observations.

Requirements

Scale



Electrical supply:

- ▶ 100-240V/1 Phase, 50-60Hz

Fluid Science Base Unit

Demineralised water, 5.5l

Essential Accessories / Equipment

Fluid Science Base Unit, FS-BU

Demonstration/instructional capabilities

- ▶ Hands-on experimentation with water flow visualization
- ▶ Observation and analysis of fluid flow patterns
- ▶ Adjustable release points for coloured water streak lines
- ▶ Interchangeable bodies for versatile experiments
- ▶ Exploration of various flow phenomena, such as streamlines, streak lines, path lines, potential flow, boundary layers, wakes, and creeping flow

Features

- ▶ Water flow loop with square, transparent working section perfect for observing and filming
- ▶ Streak line generation – three release points for coloured water, including one upstream adjustable position, and two release points on the body in the working section
- ▶ Interchangeable bodies in the working section gives teachers/ students control over the experiment including a range of bodies provided, and custom shapes if desired
- ▶ Visualise streamlines, streak lines, path lines, potential flow, boundary layers, wakes, creeping flow

Benefits

- ▶ A unique opportunity to visualise flow in both qualitative and quantitative ways
- ▶ Every student can do their own experiment
- ▶ Freedom to adjust the experiment and explore/discover
- ▶ Students say: "it really made sense" after this experiment
- ▶ Demystify fluid mechanics
- ▶ Engage and inspire students



Overall dimensions

Tray	
Length	0.430 m
Width	0.312 m
Height	0.160 m
Packed and crated shipping specifications	
Volume	0.02m ³
Dimensions of the unit	H150 x W312 x L427mm
Gross weight	10Kg

Related products

Fluid Science Range

- ▶ **FS-BU**. Fluid Science Base Unit
- ▶ **F1-38** Hele-Shaw Apparatus

Ordering codes

FS-BU
FS-5.1 Flow Visualizer.

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



armfield.co.uk

Aftercare

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Training
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