

The Fluid Science range is an innovative suite of products designed to enable student to gain an understanding of the fundamentals of Fluid Mechanics and Thermo Fluids by the process of learning via hands-on experimentation.

The high precision elements are supplied as modular tray-based systems which operate in conjunction with the Fluid Science service unit, multifunctional work panel and instrumentation enabling the student to conduct their individual or group experiments.

The experiments are supplied with a highly visual user-friendly operational guide, allowing the students to understand the theory of the subject by the application of practical experimentation.

The range includes experiments ranging from simple flow measurements, losses in hydraulic circuits through to more complex heat exchanger processes.

Experiment trays are sold separately, see **Related Products**



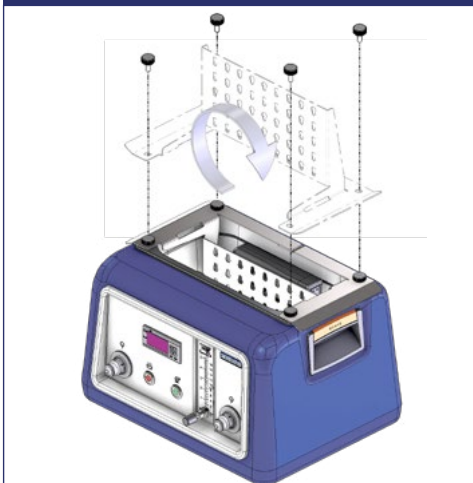
UNIQUE SMALL-SCALE MODULAR TEACHING SYSTEM FOR FLUID MECHANICS AND THERMO FLUIDS



Back plates is easily stored inside the unit

Configurable as hot or cold water supply

Supplied with digital manometer and thermometer



Description

The Fluid Science Service Unit FS-SU is designed to be used in conjunction with the fluid science experiments offered by Armfield. The unit incorporates a pump and rotameter to vary the water flow rate and a heating system. The built-in safety features of the unit include a thermal cut out that prevents the hot water circuit exceeding 55°C and a low voltage water resistant power supply unit. The unit is supplied as standard with.

Requirements

Scale



Electrical supply:

- ▶ 100-240V/1 Phase, 50-60Hz
- ▶ Level Surface
- ▶ FS Experiment Trays

Initial fill of 5ltrs water. Drain to empty water away once experiment is complete. During use, water supply or drainage are not required.

Technical specifications

Water Operational temperature range	Ambient to 55°C (131°F)
Water Flow Rate	0–3.5 litres/minute
Water Volume	5 litres
Digital Thermometer	
Measuring range:	-50°C to 1350°C (-58°F to 2462°F)
Accuracy:	0.015%
Digital Manometer	
Measuring range:	13.78kPa
Accuracy:	0.3%
Hardwired thermal cut out switch to prevent over temperature of water	
Operating Voltage:	24vDC power supply
PSU voltage:	100VAC to 240 VAC, 50-60Hz
IP65 rated	
Ce certified for Worldwide use.	

Overall dimensions

Dimensions Stowed (excluding power supply)	
Length	0.385m
Width	0.314m
Height	0.249m
Dimensions Set Up (excluding power supply)	
Length	0.385m
Width	0.314m
Height	0.387m
Packed and created shipping specifications	
Net weight	7.7Kg (inc. power supply) (Subject to change)
Gross weight	8.5Kg (Subject to change)

Demonstration / Instructional Capabilities

The entire FS Fluid Science range is designed to work with the service unit. See individual FS datasheets for specific demonstration experimental capabilities

Features

- ▶ Integrated Pump
- ▶ Integrated flowmeter with needle valve
- ▶ Each service unit can be used as either a hot or cold-water supply
- ▶ Quick connect couplings for easy connection to experiment modules, self-sealing on supply unit to minimise water loss
- ▶ Digital Manometer and Thermometer provided
- ▶ Bespoke system for experimental modules that reduces the risk of spillage
- ▶ Low voltage within the supply unit to protect users

Benefits

- ▶ Applied student learning via experimentation
- ▶ Common service unit can be used for either hot or cold water supply
- ▶ Tool-less assembly
- ▶ Built in thermal cut-out to prevent overheating
- ▶ Low voltage 24vDC power supply
- ▶ Manual control for in depth student learning

Related products

Fluid Mechanics Trays

- ▶ FS-01 – Fluid Science Cross Flow Heat Exchanger Tray
- ▶ FS-02 – Fluid Science Fluidised Bed Tray
- ▶ FS-03 – Fluid Science Flow Meter Tray
- ▶ FS-04 – Fluid Science Shell and Tube Heat Exchanger Tray
- ▶ FS-05 – Fluid Science Tubular Heat Exchanger Tray
- ▶ FS-06 – Fluid Science Energy Losses in Hydraulic Systems Tray
- ▶ FS-07 – Fluid Science Pressure Measurement (Manometers) Tray
- ▶ FS-08 – Fluid Science Plate Heat Exchanger Tray

Essential Accessories / Equipment

One of the range of Fluid Science service trays



Ordering codes

FS-SU

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



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Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com