

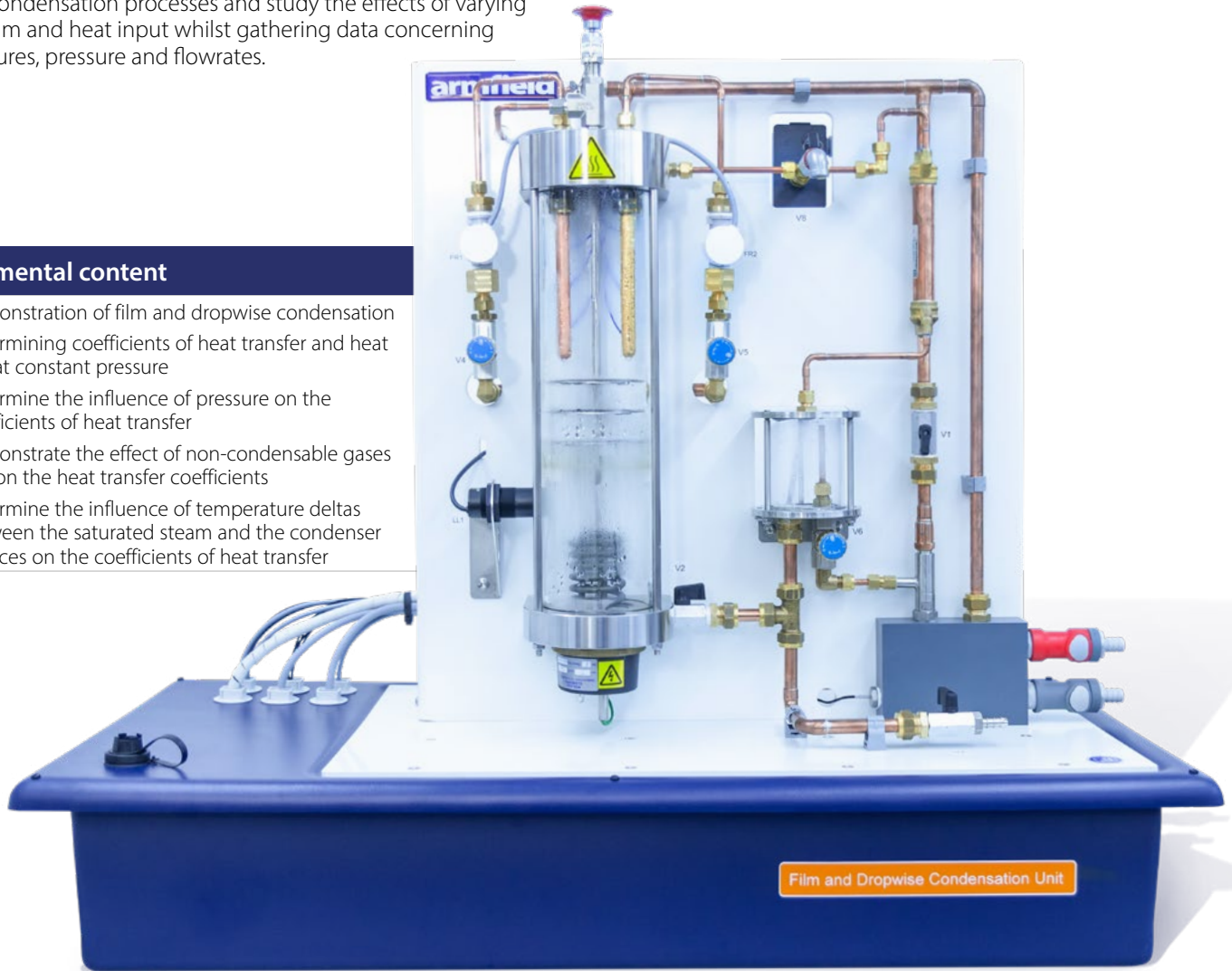
Film and Dropwise Condensation Demonstration unit – TH6

The Armfield TH6 Dropwise and Film Condensation Unit has been designed as a highly visual means for students to observe the two condensation processes and study the effects of varying the vacuum and heat input whilst gathering data concerning temperatures, pressure and flowrates.

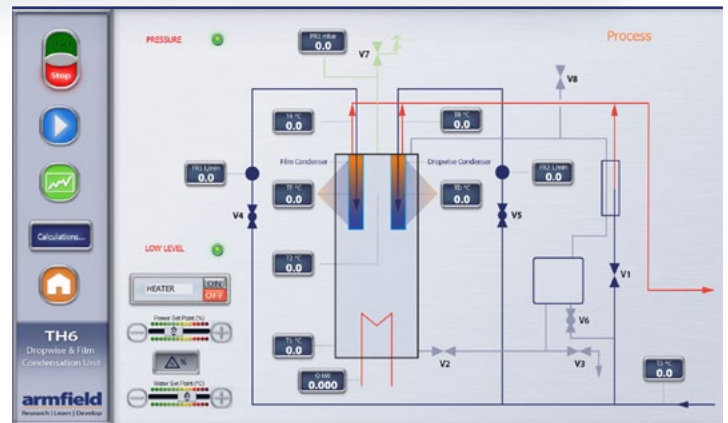
COMPUTER CONTROLLED APPARATUS PROVIDING THE VISUALISATION OF DIFFERENT CONDENSATION PROCESSES

Experimental content

- ▶ Demonstration of film and dropwise condensation
- ▶ Determining coefficients of heat transfer and heat flux at constant pressure
- ▶ Determine the influence of pressure on the coefficients of heat transfer
- ▶ Demonstrate the effect of non-condensable gases (air) on the heat transfer coefficients
- ▶ Determine the influence of temperature deltas between the saturated steam and the condenser surfaces on the coefficients of heat transfer



TH6 Heating element



TH6 Process screen

Description

The Armfield TH6 Dropwise and Film Condensation Unit has been designed as a highly visual means for students to observe the two condensation processes and study the effects of varying the vacuum and heat input whilst gathering data concerning temperatures, pressure and flowrates to be able to undertake a variety of calculations involved in the condensation process. Additionally, the unit will allow the operator to understand the influence of air as a non-condensable gas on the condensation processes.

The unit uses the latest ArmBUS technology to collect, display and store data in a clear format as well as control certain parameters. Other parameters can be controlled manually by the student by manipulation of valves on the working face of the unit. Safety features are also designed into both software and hardware to greatly reduce the risk of over-pressurisation and thus safeguard students undertaking experimental work.



Overall dimensions

| | |
|--------|-------|
| Length | 1.00m |
| Width | 0.50m |
| Height | 0.92m |

Packed and crated shipping specifications

| | |
|--------------|------|
| Net weight | TBC |
| Gross weight | 50Kg |

Technical specifications

| | |
|--|---------------------------------------|
| Matt finished copper cold finger condenser | 90-100mm length 12.7mm OD |
| Polished copper cold finger condenser | Gold plated 90-100mm length 12.7mm OD |
| Flow rates to each condenser | 0-7.5l/min |
| Flow rate to the vacuum educator | 0-15l/min |
| Electronic flowmeters | 0-7.5l/min |
| Operational pressure | 100-1500 mbara |
| 11x PT100 Thermocouples | 1 -120 °c |
| 1 x electronic pressure sensor | 0-2500 mbar |
| Water level | Optical Sensor |

Requirements

Scale



Electrical supply: 100-250vAC, 50-60Hz single phase

Software requires a computer running Windows 7 or above with a USB port (computer not supplied by Armfield)

Cold water supply and drain: 5 Litres/minute at 1 bar gauge (min)



The TH range for the study of Thermodynamics

- TH1: Temperature Measurement and Calibration
- TH2: Pressure Measurement and Calibration
- TH3: Saturation Pressure
- TH4: Recycle Loops
- TH5: Expansion Processes of a Perfect Gas
- TH6: Film and Dropwise Condensation Demonstration Unit

Essential accessories / equipment

PC - Running Windows 7 or higher

Ordering codes

TH6: Film and Dropwise Condensation Demonstration Unit

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

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com