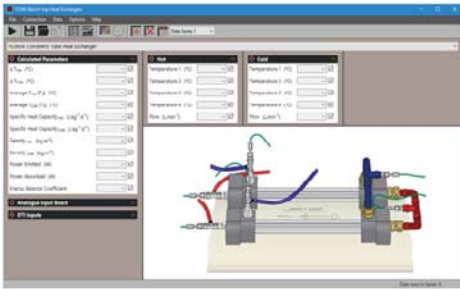




VDAS® TD360

HEAT EXCHANGER SERVICE MODULE

A bench-top base unit for examining and comparing small-scale heat exchangers to help students understand how they work. Requires at least one of the four associated experiments.



EXAMPLE SCREENSHOT OF THE OPTIONAL VDAS® SOFTWARE



KEY FEATURES

- A bench-top service module with optional small-scale demonstration heat exchangers – designed for teaching
- Optional heat exchangers include the most common types used in industry (tubular, plate, shell and tube, and a jacketed vessel with coil and stirrer)
- Simple and safe to use – foolproof fittings allow students to change and connect the optional heat exchangers quickly and easily – needs no tools
- Clear digital displays of all readings – you do not need a computer to work it or take readings
- Can connect to TecQuipment's Versatile Data Acquisition System (VDAS®)

HEAT EXCHANGER SERVICE MODULE

DESCRIPTION

The Service Module (TD360) is the core of the TD360 range. It provides hot and cold water to the heat exchangers and all the instruments needed to measure their performance. All fluid connections to the optional heat exchangers are self-sealing quick connectors – for safety and simplicity. The hot and cold fluid streams have different connectors to reduce errors.

The services module's hot water system includes a tank with a PID controlled electric heater, a pump and tank level indicators. An electrically operated valve opens to let water in to fill the tank. The tank has protection in case of over temperature, low water level and overfilling. The hot water system gives stable flow rates and temperatures.

The services module's cold water circuit has a flow regulator and connection for an external mains water supply.

Both the cold and hot water system have precision needle valves and turbine flow meters to control and measure the flow rates.

Thermocouples at the connectors measure hot and cold inlet and outlet fluid stream temperatures. Some heat-exchangers also have built-in thermocouples for extra temperature measurements. Clear, multiline digital displays show the temperatures and flow rates of the fluid streams.

All optional heat exchangers have the same nominal heat transfer area and wall thickness, so students can compare them directly.

You can do tests with or without a computer connected. However, for quicker tests with easier recording of results, TecQuipment can supply the optional Versatile Data Acquisition System (VDAS®). This gives accurate real-time data capture, monitoring and display, calculation and charting of all the important readings on a computer (computer not included).



SHOWN FITTED WITH ONE OF THE OPTIONAL HEAT EXCHANGER MODULES AND OPTIONAL VDAS-F INTERFACE

AVAILABLE EXPERIMENT MODULES

- Concentric Tube Heat Exchanger (TD360a)
- Plate Heat Exchanger (TD360b)
- Shell and Tube Heat Exchanger (TD360c)
- Jacketed Vessel with Coil and Stirrer (TD360d)

NOTE: You need at least one of the optional heat exchangers to do experiments. TecQuipment recommends that you buy the Concentric Tube Heat Exchanger (TD360a) first, because it has extra temperature measuring points.

RECOMMENDED ANCILLARIES

- VDAS-F (frame-mounted version of the Versatile Data Acquisition System)

STANDARD FEATURES

- Supplied with comprehensive user guide
- Five-year warranty
- Made in accordance with the latest European Union directives
- ISO9001 certified manufacturer

OPERATING CONDITIONS

OPERATING ENVIRONMENT:

Laboratory

STORAGE TEMPERATURE RANGE:

–25°C to +55°C (when packed for transport)

OPERATING TEMPERATURE RANGE:

+5°C to +40°C

OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

SOUND LEVELS

Less than 70 dB(A)

ESSENTIAL SERVICES

BENCH SPACE NEEDED:

800 mm x 700 mm

ELECTRICAL SUPPLY:

Single-phase 220 VAC 50 Hz or two-phase 220 VAC 60 Hz at 13 A

CLEAN WATER SUPPLY AND WASTE:

5 L.min⁻¹ at a minimum 1 bar and maximum 3 bar.

NOTE: Your water supply must be between 5°C and 20°C.

HEAT EXCHANGER SERVICE MODULE

SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

DIMENSIONS AND WEIGHT:

760 mm wide x 610 mm front to back x 600 mm high and 40 kg