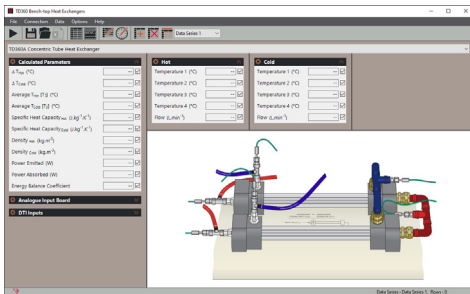


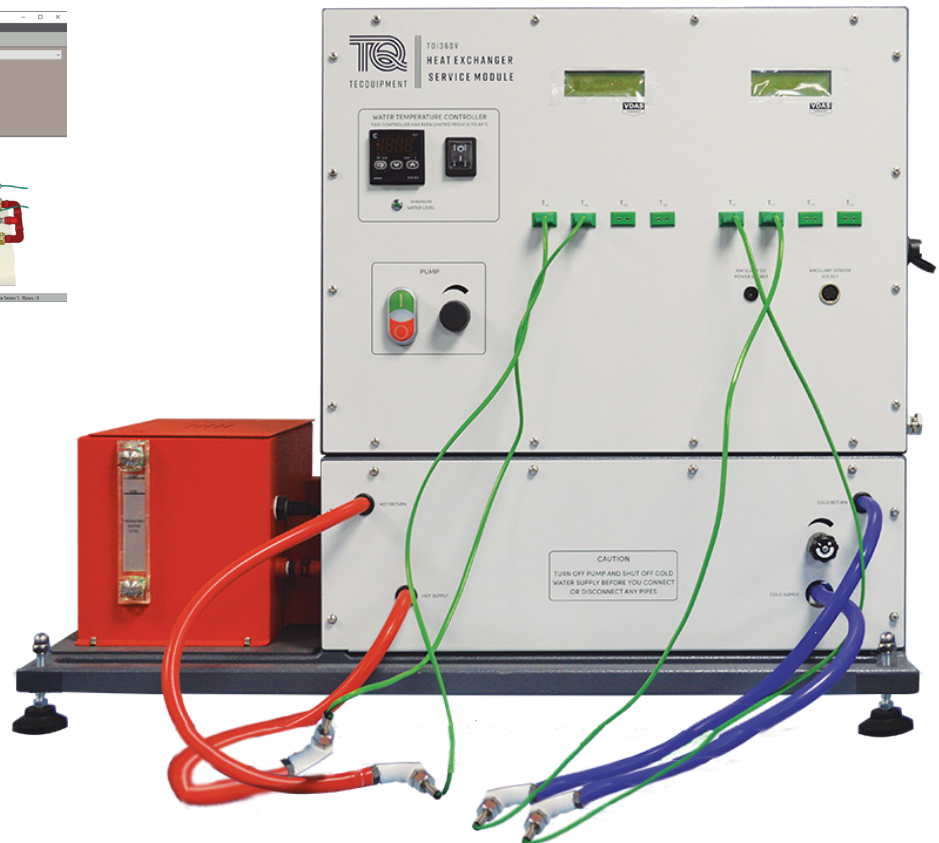
HEAT EXCHANGER SERVICE MODULE

 **TDI360V**

A benchtop base unit for examining and comparing small-scale heat exchangers to help students understand how they work. Requires at least one of the five associated experiments. Comes with VDAS® Onboard.



EXAMPLE SCREENSHOT OF THE OPTIONAL VDAS® SOFTWARE



KEY FEATURES

- Includes TecEquipment’s Versatile Data Acquisition System (VDAS® Onboard) for data acquisition via USB
- A benchtop 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, water-to-air and a jacketed vessel with coil and stirrer)
- Simple and safe to use, its foolproof fittings allow students to change and connect the optional heat exchangers quickly and easily without tools
- Clear digital displays of all readings (you do not need a computer to work it or take readings)
- Comes with TecEquipment’s Versatile Data Acquisition System (VDAS® Onboard) – simply connect to a suitable PC (not supplied)

HEAT EXCHANGER SERVICE MODULE



DESCRIPTION

The Heat Exchanger Service Module (TD1360V) is the core of the TD1360V 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 indicator. The tank has protection in case of over temperature, low water level and overflowing. The hot water system gives stable flow rates and temperatures.

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

The cold water system has a precision valve and flow meter to control and measure the flow rate.

The hot water system has an electric controller to vary the pump speed and a second flow meter to control and measure the water flow rate.

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.

Heat exchangers a, b, c and d only have the same nominal heat transfer area and wall thickness, so students can compare them directly.

Tests can be performed with or without a computer connected. However, for quicker tests with easier recording of results, the unit comes with TecQuipment's Versatile Data Acquisition System (VDAS® Onboard). This gives all the important readings on a computer (computer not included). Simply connect the computer with the VDAS® software (free to download from TecQuipment's website). to the unit.

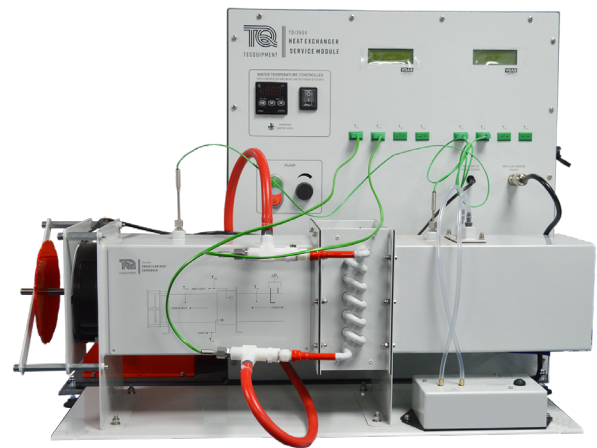
VDAS® SOFTWARE FEATURES INCLUDE:

- Recording data manually or automatically
- Data capture set by time or intervals
- Display of real-time data, in digital form or as an analogue meter
- Real-time traces of analogue signals
- Logging data for printing and later analysis
- Exporting data for use by other software
- Performing real-time calculations to generate user-defined data
- Creating and printing charts and data tables
- Customisable layouts

AVAILABLE EXPERIMENT MODULES

- Concentric Tube Heat Exchanger (TD1360a)
- Plate Heat Exchanger (TD1360b)
- Shell and Tube Heat Exchanger (TD1360c)
- Jacketed Vessel with Coil and Stirrer (TD1360d)
- Cross-Flow Water-to-Air Heat Exchanger (TD1360e)

NOTE: At least one of the optional heat exchangers is needed to do experiments. TecQuipment recommends that the Concentric Tube Heat Exchanger (TD1360a) is tried first, because it has extra temperature measuring points.



SHOWN FITTED WITH ONE OF THE OPTIONAL HEAT EXCHANGER MODULES (TD1360E)

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)

HEAT EXCHANGER SERVICE MODULE

VDAS[®] ONBOARD TDI360V

ESSENTIAL SERVICES

BENCH SPACE NEEDED:

900 mm x 650 mm

ELECTRICAL SUPPLY (SPECIFY ON ORDER):

Single-phase, 220 to 240 VAC, 50/60 Hz, 13 A

or

Two-phase 208 to 240 VAC, 50/60 Hz, 13 A

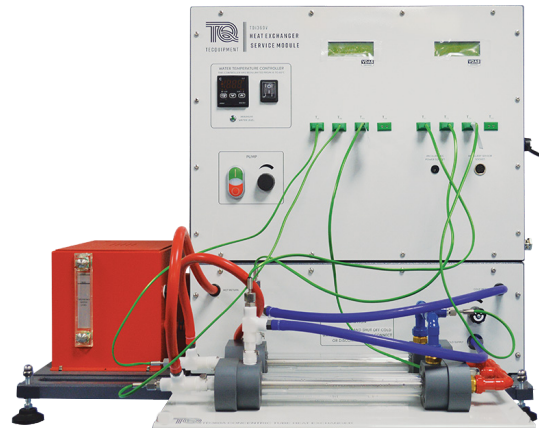
CLEAN WATER SUPPLY AND WASTE:

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

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

VDAS[®]:

Suitable PC (not supplied) please see the VDAS[®] datasheet for PC specification.



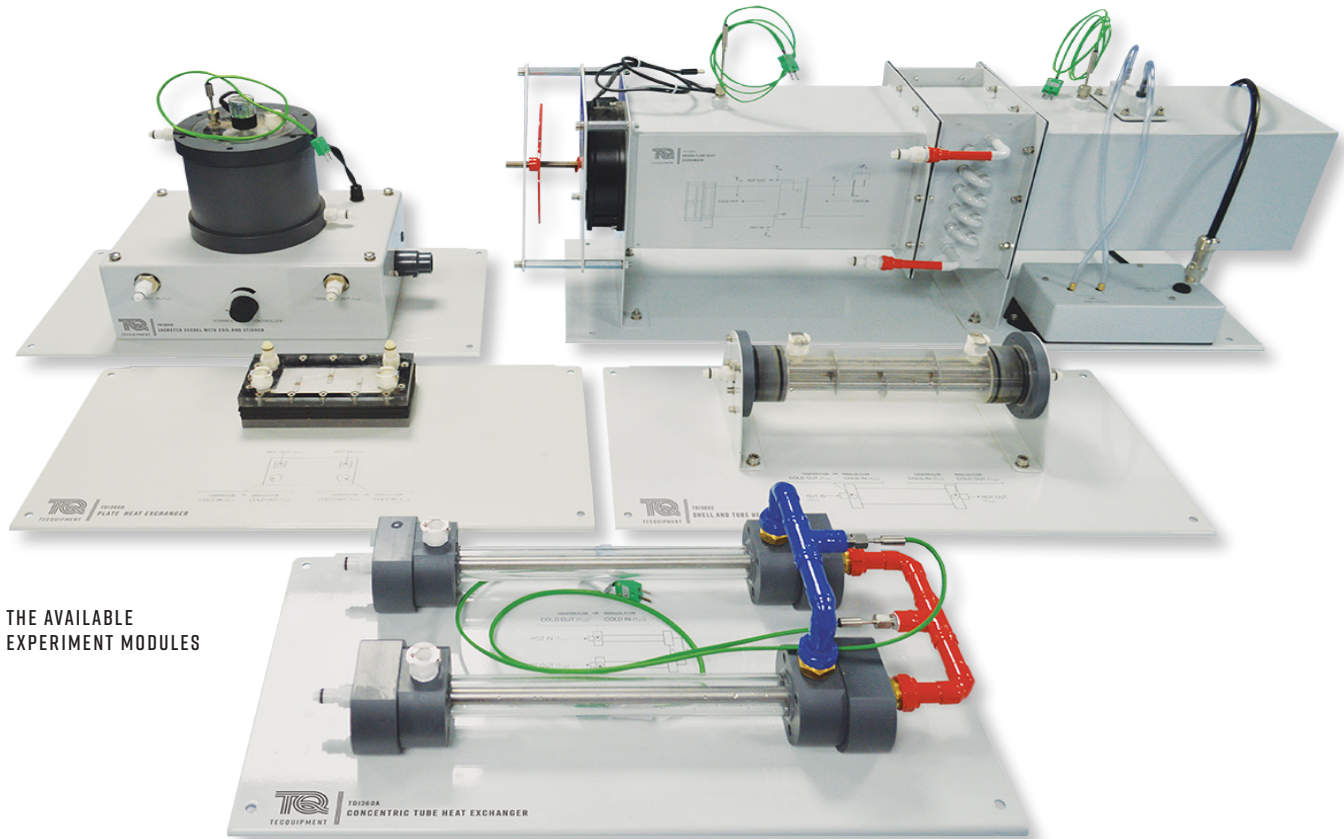
SHOWN FITTED WITH ONE OF THE OPTIONAL HEAT EXCHANGER MODULES (TDI360A)

SPECIFICATIONS

TecEquipment 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:

610 mm (height), 810 mm (width), 369 mm (depth), 30 kg



THE AVAILABLE EXPERIMENT MODULES