

Data acquisition and control unit for triaxial tests

AUTOTRIAX²

- Manages pressure/volume controller, load frames, cell and back pressures, solenoid valves and transducers
- Transmits data and information between the software and all the active components
- Calibration data of connected transducers are saved in the firmware of the units
- Four different versions are available to offer maximum flexibility
- Can be stacked vertically reducing the footprint on the work bench
- The modular design concept allows easy extension of the system



Standards BS 1377:7 | ASTM D2850 | ASTM D4767 | BS 1377:8 | ASTM D7181

These are the brains of the AUTOTRIAX 2 system, transmitting data and information between the software and all the active components such as the pressure controllers and Trittech triaxial load frame. The units are produced in four different versions (see below) to offer maximum flexibility. They can be stacked vertically, making them very space-efficient, and power connectors of multiple units can be daisy-chained together, allowing them all to be run from a single mains socket. Transducer calibrations are saved directly in the firmware of the units.

Master unit

A Master unit is always required, whatever combination of systems you want to put together. It has four active control channels for connecting the transducers that are needed for feedback to the software (for controlling vertical load or displacement and cell and back pressure) and eight passive channels for connecting a pore pressure transducer plus any other additional transducers, including local measuring on-sample. The Trittech compression frame, Hydromatic pressure/volume controllers and

solenoid valves (for opening and closing the pressure lines) also connect to the unit.

One Master unit is all that is needed for a single standard effective stress system.

Connections:

- Hydromatic pressure/volume controllers (two line)
- 1 Trittech compression frame
- 12 transducers
- 2 solenoid valves

Pressure extension unit

Used in addition to a Master unit, this expansion unit provides control for one extra pressure system, with connections for a pressure transducer, Solenoid valve and Hydromatic pressure/volume controller, plus three spare passive transducer channels. It could be used, for example, in a system running permeability tests where three controlled pressures are required.

Connections:

- Hydromatic pressure/volume controller (one line)
- 4 transducers
- 1 solenoid valve

Triple pressure extension unit

Used in addition to a Master unit, this expansion unit provides control for three extra pressure systems, with connections for three pressure transducers, Solenoid valves and Hydromatic pressure/volume controllers, plus nine spare passive transducer channels.

Connections:

- Hydromatic pressure/volume controllers (three line)
- 12 transducers
- 3 solenoid valves

Pressure extension unit for unsaturated test module only

Used in addition to a Master unit, this expansion unit provides control for one air pressure system, with connections for a pressure transducer, Solenoid valve and Servoflow 2 Air pressure controller. There is also a connection for an Automatic Volume Change device to measure the change in cell volume, plus two spare passive transducer channels.

Connections:

- 1 Servoflow
- 4 transducers
- 1 solenoid valve
- 1 Automatic Volume Change device

Technical specification

Analogue/digital converter: 16-bit
Additional transducer gain ranges: +/- 20 mV and +/- 10V
Ethernet connection to PC: 100 Mb
Dimensions: WFD1A2 or WFD0A3: W330 x D240 x H144 mm, WFD0A1 or WFD0A1/UNS W330 x D240 x H70 mm
Weight: 5kg
Power supply: 110-240 V 50/60 Hz, 1 ph

Ordering information

29-WFD1A2

AUTOTRIAX 2 Data acquisition and control unit: Master unit
Consisting of 12 channels configured as follows:

- 4 reading and control active channels for vertical load, displacement, cell and back pressure
- 8 reading channels for pore pressure and any other additional transducers, including on-sample, TRITECH compression frame, HYDROMATIC pressure/volume controllers and solenoid valves are also connected to the unit.

110-240 V, 50-60 Hz, 1 ph

29-WFD0A3

AUTOTRIAX-2 Data acquisition and control unit: Triple pressure extension unit

It is used in addition to a Master Unit for providing control of three extra pressure systems,

- It may connect up to:
- 3 pressure transducers;
 - 3 solenoid valves;

- HYDROMATIC pressure/volume controllers (three line);
- 9 free channels for data acquisition;
- 110-240 V, 50-60 Hz, 1 ph

29-WFD0A1

AUTOTRIAX 2 Data acquisition and control unit: Pressure extension unit
It is used in addition to a Master Unit for controlling of one additional pressure system,

It may connect up to:

- 1 pressure transducer;
- 1 solenoid valve;
- HYDROMATIC pressure/volume controller (one line)
- 3 free channels for data acquisition
- 110-240 V, 50-60 Hz, 1 ph

29-WFD0A1/UNS

AUTOTRIAX 2 Data acquisition and control unit: Air pressure extension unit for unsaturated test

Used in addition to a Master Unit for controlling one additional air pressure system and one Automatic Volume Change device, suitable for unsaturated tests.

110-240 V, 50-60 Hz, 1ph

Accessories

29-WF4645/COMP

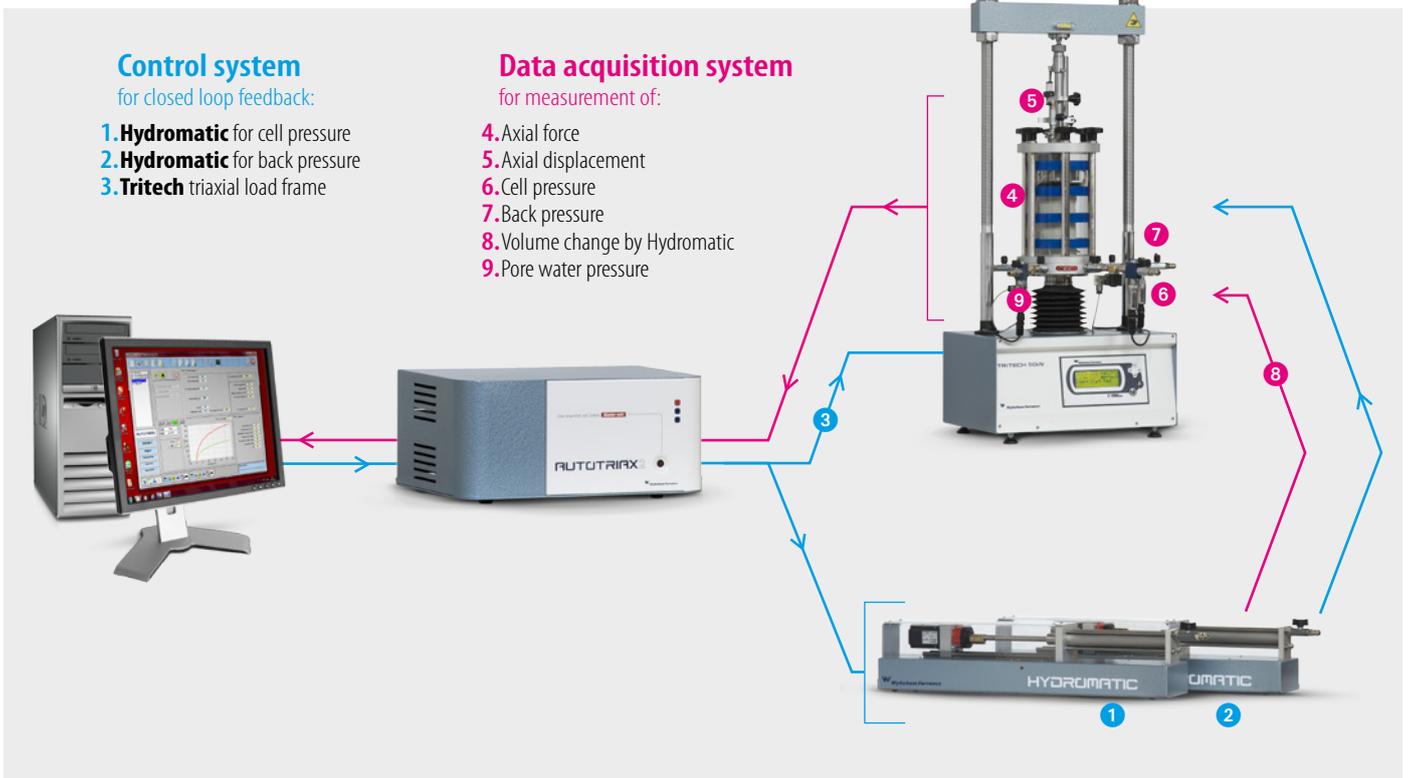
High specification desktop PC with LCD monitor. Operating system MS Windows pre-installed, 8 port LAN HUB converter for AUTOTRIAX 2 connection. 110-240V/50-60 Hz/ 1ph



Data acquisition and control unit - PRESSURE EXPANSION UNIT - 29-WFD0A1



Data acquisition and control unit - TRIPLE PRESSURE EXPANSION UNIT - 29-WFD0A3



AUTOTRIAX 2 flow chart: feedback controls and measurements



AUTOTRIAX 2 data acquisition and control units stacked vertically



Data acquisition and control MASTER UNIT - rear panel connectors

