

Product Code

UTC-4870	Advanced Servo Controlled Automatic Power Pack with Servo Valve for 2 Frames, 220-240 V 50-60 Hz
UTC-4870/110	Advanced Servo Controlled Automatic Power Pack with Servo Valve for 2 Frames, 110 V 60 Hz
UTC-4880	Advanced Servo Controlled Automatic Power Pack with Servo Valve for 4 Frames, 220-240 V 50-60 Hz
UTC-4880/110	Advanced Servo Controlled Automatic Power Pack with Servo Valve for 4 Frames, 110 V 60 Hz

The UTC-4870 and UTC-4880 Automatic Power Packs with Servo Valve, are advanced power packs can be used on any testing system ideal for R&D laboratories and Universities for advanced tests with P.I.D. Closed loop control. It can perform tests under load displacement and strain controls. The frequency of the P.I.D controller and data acquisition is 1000 Hz. 4870 and UTC-4880 Automatic Power Packs are designed to supply the required oil to the load frames for loading, unloading or low cycle dynamic testing. All the operations of Data Acquisition and Controls System can be controlled from the touch screen front panel of a 240x320 LCD display or computer.

The UTC-4870 can control up to 2 different frames and UTC-4880 up to 4 frames. There is one load cell (or pressure transducer) input and one displacement transducer input for control. There are an extra three analogue channels for other sensors such as load cells, pressure transducers, displacement transducers etc. built in the system.

The power pack automatically controls and supplies oil to the frame which is chosen by the user via the touch screen LCD digital control unit or by choosing the test type from the computer software.

The type of displacement transducer can be TTL or analogue (It must be same type for all frames)

The main specifications of the UTC-4870 and UTC-4880 power packs are

- Up to 5 litre/minute pump delivery (max) 280 bar 3 kW motor rate
- Loading-unloading with $\pm 0,5\%$ rate accuracy
- Staying at constant load within 0,005% resolution of the maximum load
- The control of the load starts from 1 % of the maximum load capacity of the system.

Both power packs can be connected to the computer through Ethernet port for advanced test cycles, data acquisition and reporting. The modulus of elasticity, Poisson's Ratio and compressibility parameters is easily and properly evaluated by attaching displacement transducer or extensometers on to the sample. All the calibration values of the transducers and also all the test parameters for the last test is automatically stored on the control unit. All power packs incorporate a pressure safety valve for each frame separately and a cooling unit.



Main Features

- Pace rate control from 0.01 kN/s to 100kN/s (depend on the specimen stiffness)
- 3 analogue channels for displacement transducers, extensometers, etc. built in the system as an addition to frame loadcell (pressure transducer) or displacement transducer
- Instrumentation amplifiers for sensor excitation and amplification
- 1/65.000 resolution and 1.000 Hz control for each channel
- Ethernet port for connecting to computer
- 240x320 pixel LCD display
- Touchscreen operator panel
- Can control 2 frames (UTC-4850) or 4 frames (UTC-4860)
- Can execute load, displacement or strain controlled tests. For post peak applications UTC-4870 must be selected.
- Free of charge PC software for test control and advanced report printout
- Multiple language support
- Real time clock/date

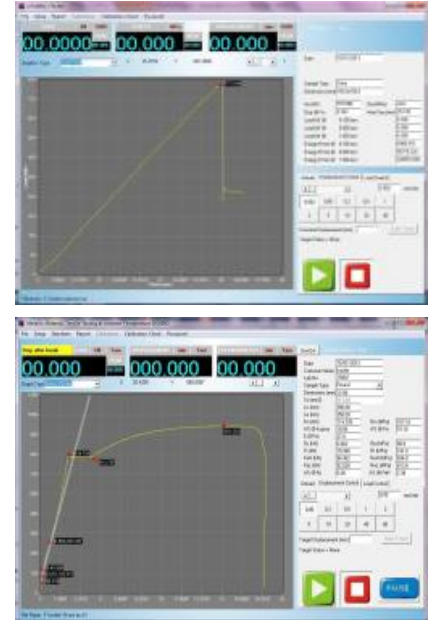
Data Acquisition & Control PC Software

Advanced Power Pack can be controlled (Start, Stop commands) by a computer with the software (given free of charge by UTEST). This software provides data acquisition and management for compression, flexure and splitting tensile test throughout the test execution for UTC-4870 and UTC-4880 advanced power packs.

The software is capable of running the machine in load control, displacement or strain control. The test rate and the type of test control (load, displacement or strain control) can be changed on the fly. When the user select the target load or displacement value and load rate or displacement rate, the machine runs up to the selected value and waits till the next command. Engineering functions of elasticity modulus, poisson ratio and energy is automatically calculated. The software can adjust the axes of graphs, supports different type of graphs and calculates 3 different type of elasticity modulus called tangent, linear and secant modulus. It also calculates poisson ratio. The gains of the closed loop control can be set to make calibration for the pressure transducer or loadcell. It has an easy calibration check facility such as machine keeps load constant at %2, %5, %10 of its maximum capacity.

Online speed or mode change is available by user-friendly buttons. Various types of graphs depending on the used sensors can be monitored during the test.

The advanced functions for data base management provide an easy navigation of all saved data. The test results certificate includes all descriptive information. Therefore, test parameters can be set and details about the test carried out such as client details, test type, specimen type, user info and other information required can be entered and printed out as well as test report and graph. The results are exported to Microsoft Excel for advanced research purposes. The data can also be filtered for obtaining intuitive results. The software prepares a summary report.



Following tests can be done with the UTEST software.

Standard Code	Description
EN 14651	Test method for metallic fibre concrete - Measuring the flexural tensile strength (limit of proportionality (LOP), residual)
EN 14488-3	Flexural strengths (first peak, ultimate and residual) of fibre reinforced beam specimens
BS-1881part121	Static Modulus of Elasticity
ASTM C 469	Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression
ASTM C 1609	Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading)
ISO 1920-9	Testing of concrete -Part 9: Determination of creep of concrete cylinders in compression
ISO 1920-10	Testing of concrete -Part 10: Determination of static modulus of elasticity in compression
EN 12390-13	Testing hardened concrete - Part 13: Determination of secant modulus of elasticity in compression

- Foreign Language Support and Customizable User Interface
- Capability to Save 24 test results of different specimens in one test folder
- Graphical data on the screen is refreshed simultaneously during test procedure
- Able to save frequently used texts in memory and recall them when necessary
- Capable to Access and use previously done test data
- Able to edit test parameters of the testing equipment through Software
- Graphical outputs and reports can be saved as a MS Excel worksheet
- Maximum Flexibility to edit report and graph templates

Dimensions	1100x700x1030
Weight (approx.)	210 kg
Power	1500 W