

VectorPro™ Software

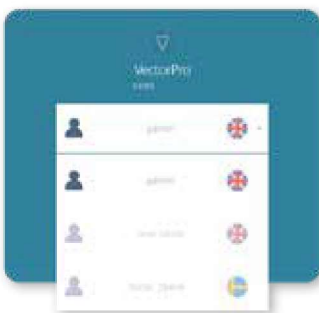
Core functionality

VectorPro™ is dedicated software for use with compatible Mecmesin force test systems. It builds and stores test routines, acquires data from force sensors and instrumentation, performs calculations and passes data and results to export, file or report.

By connecting the MultiTest-dV to a PC running in a VectorPro environment you can take advantage of these features to create a more sophisticated test system. Your configuration is automatically detected and the software guides you through the whole process with only the relevant parameters presented.

User access

VectorPro utilises separate user accounts for individuals, enabling personalised workspaces, in the language of choice. This provides security for the organisation and simplicity for the user.



▲ User login to a clean, customised workspace

Control

VectorPro has a drag and drop approach to test building, to enable rapid and intuitive creation of:

- operational sequences, relevant to your system
- calculation additions with pass/fail validation criteria
- report compiling



▲ Selected test system ensures all VectorPro screens are contextually relevant



▲ Drag and drop - operations test designer

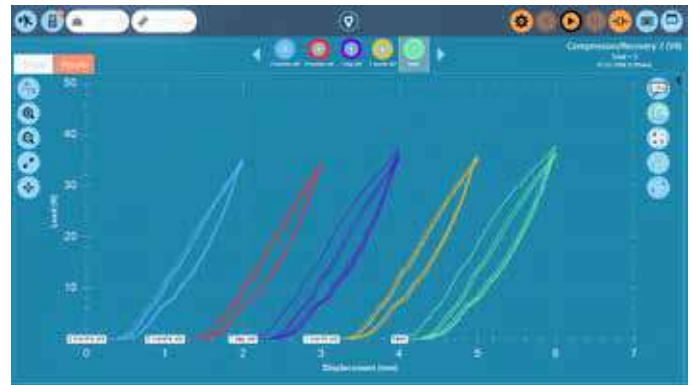


▲ Drag and drop – test calculations

Analysis

View real-time graph plotting of tests as they run, with instant calculation results. Sophisticated graph examination and comparison tools enable you to analyse the data further.

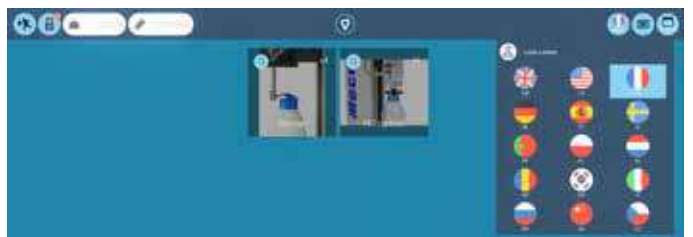
- switch axes
- zoom in
- pan across
- examine data point values
- offset sample traces for clarity and comparison



▲ Graphical output with tagged curves

Recall

A complete version history of every test profile is retained. Profiles can be edited, uploaded and run, with the available tests being relevant to the logged-in user.



▲ User-specific test available for recall

Report generation

Export raw data, or results, to delimited or Excel files, email a table of results. Create a report of results, graphs and notes to print or save as PDF.

Data export and report designer user-defined templates ▶

Audit trail

Particularly useful for medical and pharmaceutical clients the database architecture provides audit trail functionality to help facilitate meeting FDA 21 CFR Part 11 requirements.

- Time-stamped Event Log entries:
 - Operator ID
 - Description of action
 - Supervisor comment
- Supervisor authorisation
- Only viewable by the administrator
- Storage and auto-archive of event log



▲ Events are stored in the database for audit trail purposes

VectorPro™ Lite

Data Acquisition Software

VectorPro Lite captures load, displacement and time data from the AFG-equipped MultiTest-dV system and plots it live in a graph. It is ideal for applications where you need to know more from a test than just the peak load shown on the force gauge display.

From the collected data it provides test results from pre-defined calculations, generates a basic statistical analysis and allows you to create a customised report. The test routines and associated results are automatically stored together so you can recall and make comparisons between different batches.



Limited control

The test routine stored in VectorPro Lite is primarily limited by the functionality of the Advanced Force Gauge (AFG). An AFG is able to set force limits or detect a specimen break, at which the MultiTest-dV test stand can stop or reverse. VectorPro Lite does not have the power or flexibility to create more complex multi-stage test routines – for this you will need VectorPro MT software.

Operations

VectorPro Lite operations are equivalent to MultiTest-dV stand control panel Test Types:



Cycle between displacement positions



Move under AFG control to a load limit / break point. Once detected either stop or reverse to a limit switch



Cycle between physical limit switches



Move to a precise displacement position.

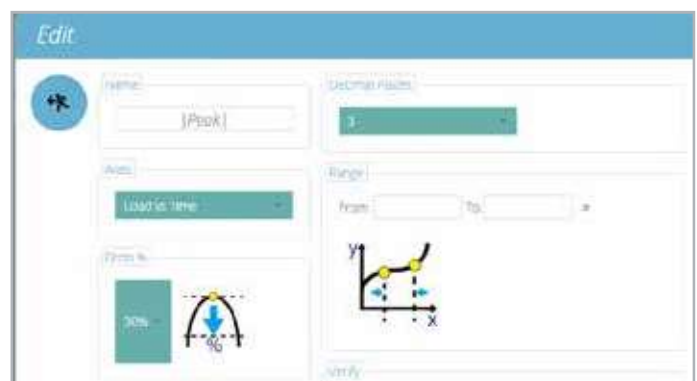
Calculations

The power of VectorPro Lite lies in its data analysis, enabling deeper insight into the test by setting your own tolerance criteria and clearly indicating values as pass/fail.

The main calculations available for the MultiTest-dV with AFG are:

- Peak and Trough
- Break point
- Average value (mean)
- Min and Max values

- Gradient
- Area under the curve
- Value of load at a displacement
- Value of displacement at a load



- ▲ **VectorPro Lite provides standard calculations against which samples can be determined as Pass or Fail**

VectorPro™ MT

Materials Testing Software

VectorPro MT adds materials testing calculations and sophisticated programmed control to the data acquisition and reporting features of the VectorPro environment. It is ideal for applications requiring extensive load and positional control of the test stand plus the analysis capability only delivered by a comprehensive array of materials testing calculations.



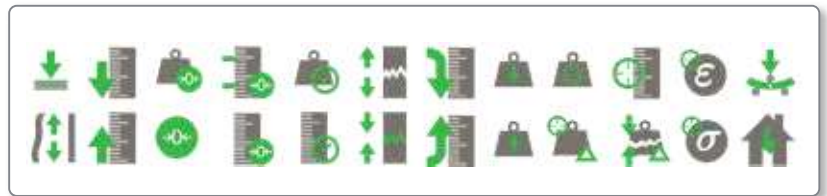
Multi-stage control

It both acquires data from and sends control commands to the test stand to obtain readings from the ELS load cells and extensometer in order to enable stress-strain testing of a variety of materials. Multi-stage test routines are easily constructed by using drag-and-drop icons in a simple step-by-step approach.

Operations

Select the appropriate measurement device to measure displacement from the stands internal encoder or strain from an extensometer.

Take advantage of user-prompts and icons to guide your operators at every stage of the testing process. Makes testing simple and improves repeatability.



▲ **Complex test routines are made simple with an extensive set of control icons**

Calculations

In addition to all the standard calculations within VectorPro Lite, use the dedicated Materials Testing calculations to fully analyse your specimens characteristics.

- Young's modulus (Elastic modulus)
- Yield strength
- Offset yield
- Ultimate Tensile Strength (UTS)
- Stress and strain at break
- Flexural modulus (3 point)



▲ **Select the appropriate form of your specimen and the extensometer setting**

VectorPro MT clearly displays stress-strain curves ▶

