Model 793.35 Elastomer

Quality control/Quality assurance software

MTS Model 793.35 Elastomer Quality Control/Assurance software is a member of a family of software applications engineered specifically for elastomer testing applications.

The Model 793.35 package is an extension of Model 793.31 Dynamic Characterization and Model 793.33 Static Deflection applications which are used to determine the basic material properties of the test specimen. Because it is designed for the QC/QA environment, Model 793.35 software has a simplified user interface as well as a pass/fail test criteria determination. With it you can pre-define upper and lower limits for any of the parameters measured by the Dynamic and Static deflection applications. Based on the established pass/fail criteria, the operator will be notified of the test result and instructed to insert a new specimen.

The following example describes a typical test operation in a quality control/audit environment. A flow chart is provided in Figure 1.

This example assumes that the frame is equipped with a light curtain installed in front of the load frame, two switches which must be engaged (one with each hand) for operator safety, and that there is a continuous supply of test specimens to be subjected to the same test.

» The test begins with the operator moving the actuator to mount the specimen to the load frame.

» The light curtain is disabled.

» Operator mounts the specimen.

» The operator controls the actuator to establish contact with the specimen.

» The light curtain is enabled. From this point, no manual intervention can be made to the test. This is to protect the operator from accidental injury.

» The operator activates the test by holding down two switches (one with each hand – another safety feature).

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At the conclusion of the test, results are checked against pre-defined limits. If the result falls outside any of the limits a message will be sent to the PC monitor and the Remote Workstation Controller. The operator is required to acknowledge this message in order to complete the specimen test. This is achieved by pressing the "Fail Test" acknowledge switch.
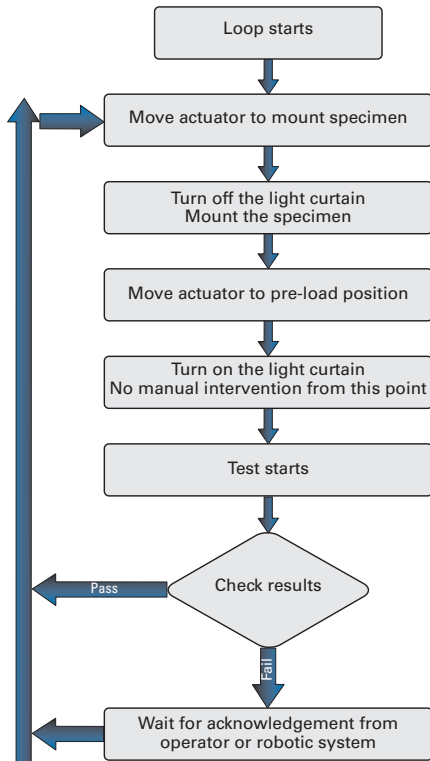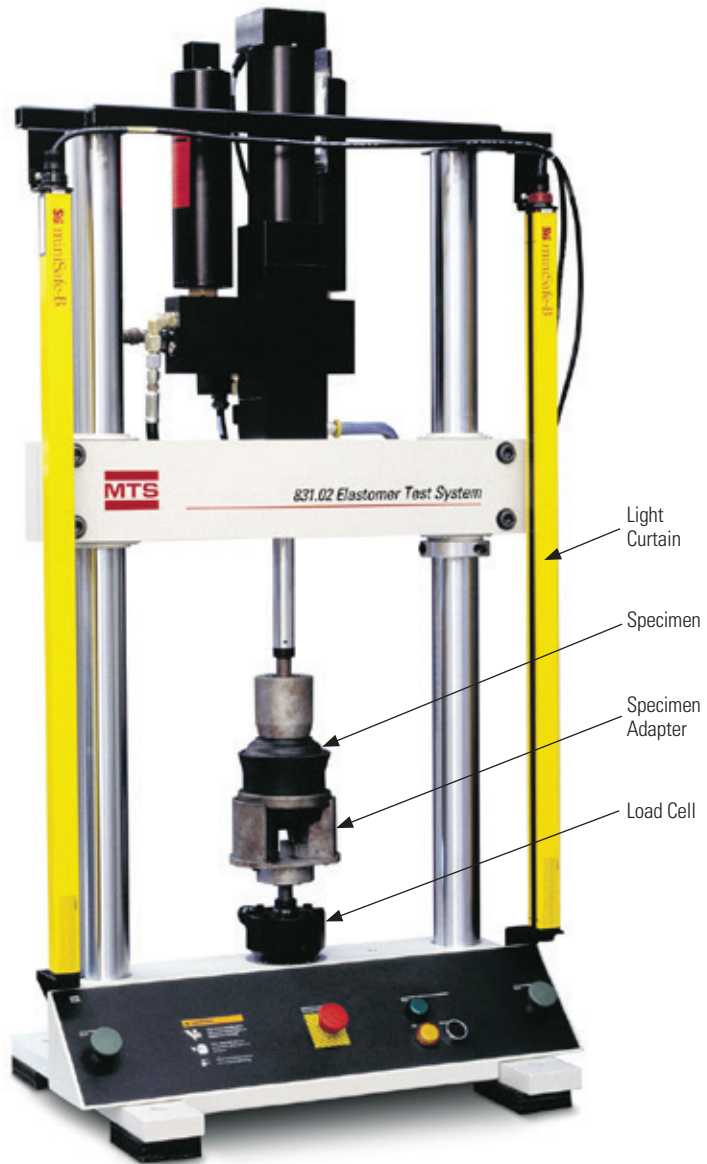

Figure 1. Operation flow chart for QC test

Light Curtain

Specimen

Specimen Adapter

Load Cell

Test Activation Switch

Emergency Stop

Pass Fail Indicators

Fail Acknowledge Switch

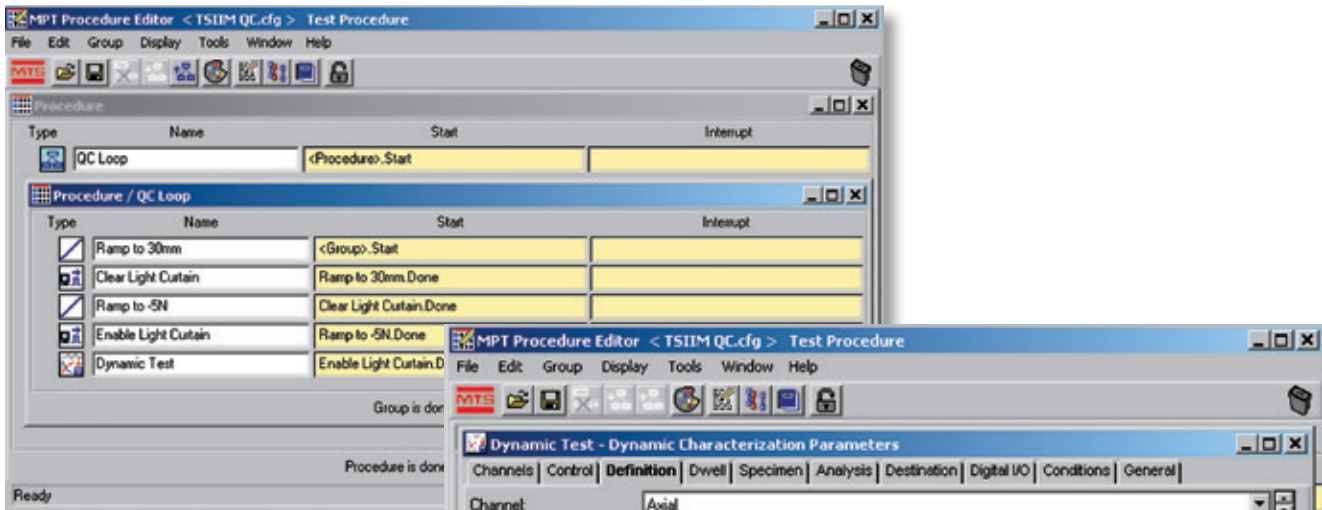Test Activation Switch

User Interface

Fig. 2. MPT test template

This is the test setup using
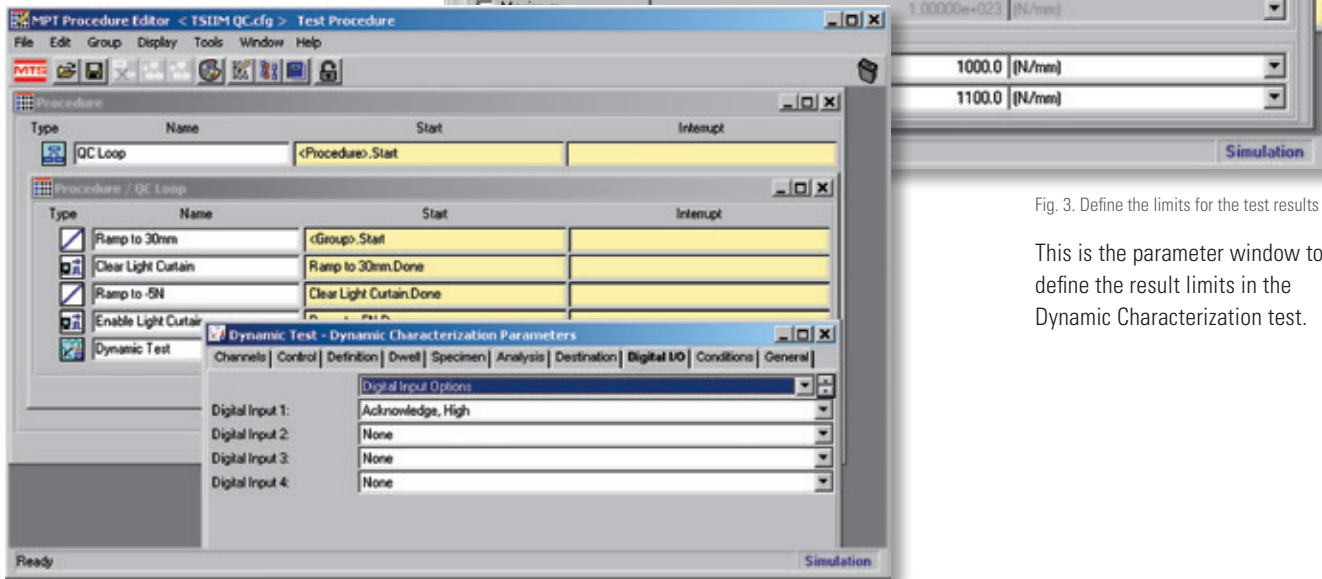MultiPurpose TestWare® software.

Fig. 3. Define the limits for the test results

This is the parameter window to
define the result limits in the
Dynamic Characterization test.

Fig 4. Define the digital input channel for acknowledgement

Operator can use the digital input channel
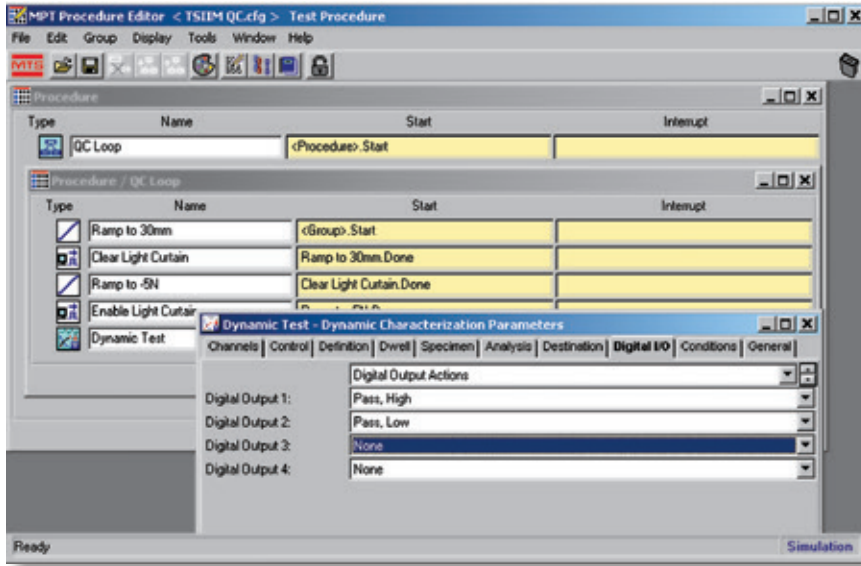to signal the acknowledgement.

Fig 5. Define the digital outputs for communicating the test results to the external digital devices.

Operator can use the digital output channels to pass the test results to the external digital devices.

QC Part file format

Part file description
User comments

Control Channel		Channel 1			
Condition		1			
Part ID	Time	K*	Status	Phase	Status
Part ID-1	7/18/2001 10:07:45	1518.408	3	7.95E-08	1
Part ID-2	7/18/2001 10:07:55	1518.408	3	-4.5E-08	3
Part ID-3	7/18/2001 10:08:06	1518.408	3	-2.3E-08	3
Part ID-4	7/18/2001 10:08:16	1518.408	3	3.45E-08	1
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
Part ID-1000	7/18/2001 10:58:16	1518.408	3	3.45E-08	1

Status code: 1 Pass
2 Warn
3 Fail

QC part file contains the date/time stamp, test result to be checked and pass/fail status. You can select the file format using Microsoft Excel tab delimited format, or using serial port (COM1 or COM2) to spool the result to an external data logger.

For More Information

Contact your local MTS field sales engineer for more information on MTS Elastomer QC software and the MTS Elastomer QC test system. You may also contact the company directly, or send e-mail to: info@mts.com. You are invited to visit our web site at www.mts.com.