

MULTISPEED
34-V0107

The NEW generation of MULTISPEED digital testers combining high **FLEXIBILITY** and **ERGONOMICS**.

As extremely interesting **PERFORMANCE** Vs **PRICE RATIO**.

The ideal machine for **ROAD LABORATORIES**. Performs tests under **DISPLACEMENT CONTROL**.

A modern machine that can be equipped either in the analogical mode (ex. for field use) or digital mode for central laboratories.



Marshall test in the digital mode.



CBR test in the digital mode.



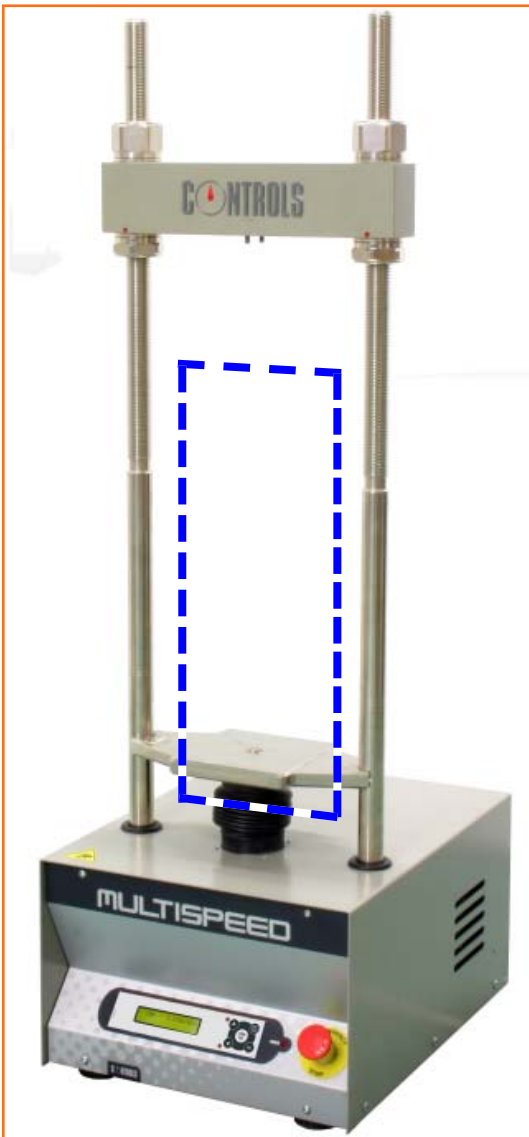
Marshall test in the analogical mode.



CBR test in the analogical mode.

- ⊙ Accurate control of test speed and platen displacement.
- ⊙ Fast and easy test speed selection from 0.2 to 51 mm/min covering CBR, Marshall and a number of other tests including Indirect tensile, Quick Triaxial, Unconfined, etc.
- ⊙ Firmware specially designed to suit the most important operator requirement: accuracy, productivity, safety.
- ⊙ Special and unique features as:
 - "Home" function, for fast test restart.
 - Test stroke adjustable from digital control panel, allowing automatic test to stop.

MULTISPEED 34-V0107



34-V0107

General description

The new **MULTISPEED 34-V0107** tester is the ideal solution for Road testing laboratory. The 50 kN capacity and the fully variable test speed of 0.2 to 51 mm/min allow to perform the CBR and Marshall tests, and many other applications as Indirect Tensile, Quick Triaxial, Unconfined and Uniaxial on soil and, in general, any test under displacement control. The machine can be equipped with analogical or digital load/displacement measurement systems as well as with the specific accessories, to suit either the field or central laboratory requirement.

The **MULTISPEED** tester features a rigid two column structure with upper cross beam which can be set at various height. The load jack, DC motor and CPU are housed in a specially designed base cabinet. When fit in the digital mode, test data are processed by the Digimax Plus 76-Q0802/C or by other similar instruments.

One of the main features of the new **MULTISPEED 34-V0107** is the control of test speed which is easily set and shown on the display. The test stroke can be set at the beginning of the test with automatic stop, avoiding to overload the machine and the specimen, assuring the operator safety. This important feature also permits the speed calibration by micrometric manual adjustment. The display also shows the travel direction. The front panel is also fit with an emergency button and two operating led: machine switched on and travel direction.

Specifications

- Max. capacity: 50 kN
- Test speed range, infinitely variable: 0.2 to 51 mm/min
- Power: DC motor
- Horizontal clearance (distance between columns): 270 mm
- Max. vertical daylight (without accessories): 730 mm
- Platen travel: 100 mm
- Overall dimensions (lxwxh):
- Net weight approx.:

Ordering information

Code	Description
34-V0107	MULTISPEED , compression tester, 50 kN cap., testing speed steplessly adjustable from 0.2 to 51 mm/min. 230 V, 50-60 Hz, 1 ph
34-V0107/Z	MULTISPEED , compression tester, 50 kN cap., testing speed steplessly adjustable from 0.2 to 51 mm/min. 110 V, 60 Hz, 1 ph

MULTISPEED 34-V0107

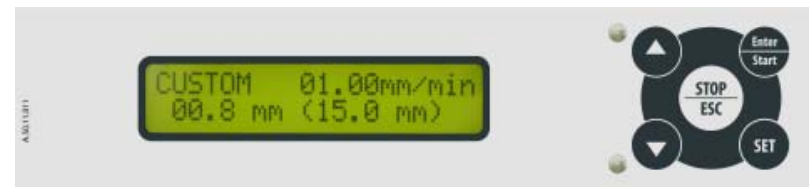
MENU DRIVEN FUNCTIONS

The firmware provides the digital speed control and a number of important test functions as follows:

CBR and MARSHALL test speed can be selected by default to speed up the test execution.



Other testing speeds (Custom) between 0.2 and 51 mm/min.



Selection of test speed and platen displacement. The display shows the selected test (CBR or Marshall as example), the relevant speed (1.27 or 50.8 mm/min) and, between brackets, the maximum platen displacement which can be set by the operator. The machine, failing the operator intervention, will stop automatically avoiding any overloading.



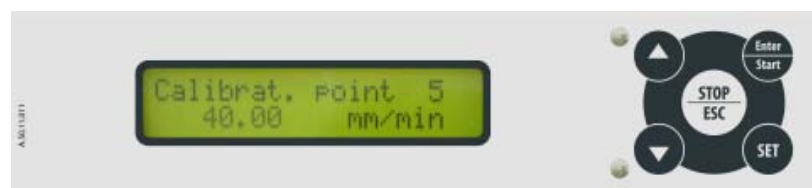
Rapid approach function. For quick platen displacement to reduce the testing time.



Rapid platen return. To speed up the platen base return at the end of the test.



Speed calibration function by firmware. The test speed is originally factory calibrated using a polynomial interpolation. A test point is provided to verify the speed with a standard tachometer.



The front panel also includes an Emergency stop button as required by the CE prescriptions.

MULTISPEED 34-V0107 : CBR and MARSHALL applications**CBR****EN 13286-47,
ASTM D1883, AASHTO T193**

Analogical mode



Digital mode

MARSHALL**EN 12697-34,
ASTM D1559, ASTM D6927**

Analogical mode



Digital mode

Accessories**Introduction**

Very often this machine is used for both CBR and Marshall tests. In order to speed up your selection, we propose complete sets of accessories to perform the above tests either in the analogical or digital mode. In the digital mode, the complete testing system shall also include the 82-Q0802/C Digimax Plus data acquisition processing system.

As specified, this machine can also be equipped to perform other tests.

Analogical mode, accessories required for**CBR: EN 13286-47, ASTM D1883, AASHTO T193**

82-T1009/C Load ring, 50 kN capacity
34-T0103/3C Penetration piston with dial gauge

Marshall: ASTM D1559, ASTM D6927

82-T1007/F Load ring, 30 kN capacity with stem brake feature
34-T0104/10 Compression device
76-B0033 Stability mould
76-B0034 Flow meter

Digital mode, accessories required for**CBR: EN 13286-47, ASTM D1883, AASHTO T193**

34-V0107/ CBR Test set to perform the CBR test in the digital mode, including:
-82-P0375 Load cell 50 kN capacity
-82-P0375/C Adapter to fit load cell (two pieces)
-82-P0322 Displacement transducer, 25 mm travel
-34-T0104/81 Adjustable transducer holder
-34-T0103/1 Adjustable CBR penetration piston
76-Q0802/C Digimax Plus, dual channel graphic digital display and processing unit, suitable for CBR, Marshall and other load/displacements tests. 230 V, 50-60 Hz, 1 ph.
 All above items can be ordered individually.

Marshall: EN 12697-34, ASTM D1559, ASTM D6927

34-V0107/MAR Test set to perform the Marshall test in the digital mode, including:
-82-P0375 Load cell 50 kN capacity
-82-P0375/C Adapter to fit load cell (two pieces)
-82-P0322 Displacement transducer, 25 mm travel
-34-T0104/81 Adjustable transducer holder
-34-T0104/13 Compression device extension
-34-T0104/10 Compression device
-76-B0033 Stability mould
76-Q0802/C Digimax Plus, dual channel graphic digital display and processing unit, suitable for CBR, Marshall and other load/displacements tests. 230 V, 50-60 Hz, 1 ph.
 All above items can be ordered individually.

CBR and Marshall

(To avoid duplications when both test have to be performed)

34-V0107/CM Test set to perform the CBR and Marshall test in the digital mode, including:
 Load cell 82-P0375, two adapters 82-P0375/C, Adjustable transducer holder 34-T0104/81, Transducer 82-P0322, CBR penetration piston 34-T0103/1, Compression device extension 34-T0104/13, Compression device 34-T0104/10, Stability mould 76-B0033.

76-Q0802/C Digimax Plus, dual channel graphic digital display and processing unit, suitable for CBR, Marshall and other load/displacements tests. 230 V, 50-60 Hz, 1 ph.

Important note

The EN standards concerning the Marshall test prescribe a machine in the digital configuration with recording unit.

MULTISPEED 34-V0107 : Other applications

ASPHALT: INDIRECT TENSILE TEST. EN 12697-12, EN 12697-232

Accessories (continued)



Analogous mode



Digital mode

Other MULTISPEED applications

As specified, the MULTISPEED 34-V0107 can be profitably used for many other applications where the displacement control is requested. We list the most popular tests and the appropriate accessories for both the digital and analogical mode (when applicable).

Asphalt: Indirect tensile test. EN 12697-12, EN 12697-23

Digital mode.

The 34-V0107 Multispeed has to be completed with the following accessories:

Load cell **82-P0375**, Adapter **82-P0375/C** (two pieces), Displacement transducer **82-P0322**, Transducer holder **34-T0104/81**, Compression device **34-T0104/10**, Compression device extension **34-T0104/13**, Tensile splitting device **76-B0078/C**, Digimax plus digital display and processing unit **76-Q0802/C**.

Analogical mode

The 34-V0107 Multispeed has to be completed with the following accessories:

Load ring 30 kN cap. **82-T1007/F**, Compression device **34-T0104/10**, Tensile splitting device **76-B0078/C**, Flow meter 76-B0034.

SOIL: UNCONFINED COMPRESSION. ASTM 2166, AASHTO T208, BS 1377:7

Soil: Unconfined compression. ASTM D2166, AASHTO T208, BS 1377:7

Digital mode.

The 34-V0107 Multispeed has to be completed with the following accessories:

Load cell 2.5 kN cap. **82-P0370**, Adapter **82-P0375/C** (two pieces), Load cell extension **70-T0108/5**, Displacement transducer **82-P0322**, Transducer holder **34-T0104/81**, Upper and lower platen set **34-T0104/4**, Digimax plus digital display and processing unit **76-Q0802/C**.

Analogical mode

The 34-V0107 Multispeed has to be completed with the following accessories:

Load ring 50 kN cap. **82-T1009/C**, Upper and lower platen set **34-T0104/4**, Dial gauge 10x0.01 mm **82-D1255**, Adjustable dial gauge holder **34-T0104/7**



Digital mode

Soil: Uniaxial compression test. ASTM D1633

Digital mode

The 34-V0107 Multispeed has to be completed with the following accessories:

Load cell 2.5 kN cap. **82-P0370**, Adapter **82-P0375/C** (two pieces), Load cell extension **70-T0108/5**, Lower and upper plate spherically seated **34-T0104/3**, Digimax plus digital display and processing unit **76-Q0802/C**.

Analogical mode

The 34-V0107 Multispeed has to be completed with the following accessories:

Load ring 50 kN cap. **82-T1009/C**, Lower and upper platen spherically seated **34-T0104/3**.

SOIL MECHANICS: QUICK TRIAXIAL. ASTM D2850, ISO/TS 17892-8

Soil: Quick triaxial. ASTM D2850, ISO/TS 17892-8

Digital mode

The 34-V0107 Multispeed has to be completed with the following accessories:

Load cell 2.5 kN cap. **82-P0370** with adapters **82-P0370/T**, Linear transducer 50 mm travel with mounting block **30-WF6209**, Mounting bracket for displacement transducer **28-WF6221**, Geodatalog 16 channels data acquisition system for geotechnical tests **30-WF6016**.



Analogous mode



Digital mode

MULTISPEED 34-V0107 : Other applications

Accessories (continued)
Other MULTISPEED applications

**Adhesive for tiles.
EN 12002**



Adhesive for tiles. EN 12002

Digital mode

The **34-V0107** Multispeed has to be completed with the following accessories:

70-T0107/1M test set for flexural test on adhesive strips including load cell , Digimax plus digital display and processing unit **76-Q0802/C**.

**Clay block for flooring.
Punching test UNI 9730-3**



**Clay block for flooring. Punching test
UNI 9730-3**

Digital mode

The **34-V0107** Multispeed has to be completed with the following accessories:

Load cell 50 kN cap. **82-P0375**, Adapter **82-P0375/C** (two pieces), Punching test device **70-T0108/6**, Digimax plus digital display and processing unit **76-Q0802/C**.

**.....and
many
others.....**

MULTISPEED 34-V0107

Data acquisition and processing for MULTISPEED 34-V0107 Digital mode versions

76-Q0802/C

Digimax Plus, CBR/Marshall Data acquisition and processing system

The Multispeed 34-V0107 can be fit with load cell and displacement transducer connected to the Digimax Plus data acquisition and processing system. Load and penetration are displayed in real time on the large graphic screen together with the curve. The Digimax Plus can be connected, by the RS 232 port, to a PC and printer to provide, using the specific software (code 82-S1001), the calculation of test parameters, test data (e.g. client name, weight and density of the specimen) and the test certificate.



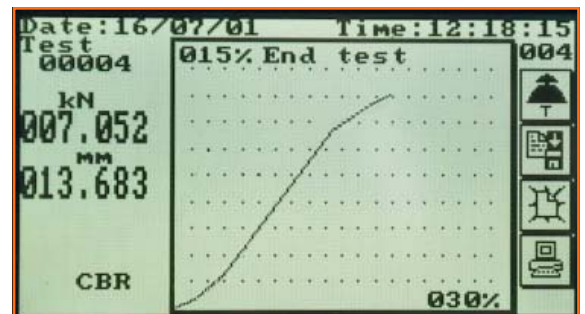
76-Q0802/C

Hardware specifications

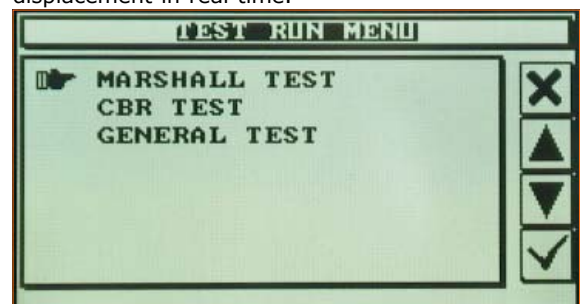
- Chip clock calendar
- Large permanent memory to store test data and results
- No. 2 RS 232 serial ports for connection to PC and printer for real time transmission of data
- No. 2 analogic channels: one for strain gauge transducer and one for linear transducer
- Real resolution of each channel: 130000 points
- Large graphic display 240x128 pixel
- No. 10 keys membrane keyboard: No. 4 of which interactive with the specific software.

Firmware

- Simultaneous measurement of load and displacement (Marshall test) or Indirect tensile strength
- Choice of language
- Input of operator name
- Automatic or manual zeroing option.
- Simultaneous display of load, displacement, and graph option
- Permanent memory to store results including date, time, test number, operator, test type, load and displacement, and curves
- File management including test display, print, test certificate to printer by the dedicated serial port, downloading data to PC, delete single or all files, etc....
- Calibration function using different coefficient for the two channels.



Perform Test Menu: CBR test final screen with graph enabled. The display shows load/displacement in real time.



Test Run Menu: Marshall test selection.

MULTISPEED 34-V0107

Data acquisition and processing for MULTISPEED 34-V0107 Digital mode versions

82-S1001

PC software for CBR, Marshall, and Indirect tensile test with up to 4 displacement transducers

General description

This program is written to run in MS Windows® for data acquisition, from CONTROLS instruments used for Marshall, CBR and Indirect tensile tests with up to 4 displacement transducers.

Graphical and numerical display of data in real or deferred time.

Input of descriptive data used to create a test report.

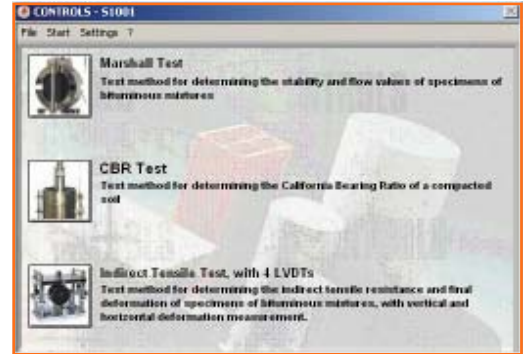
Saving and management of tests through single files.

Data export to MS Excel®.

Language selection between English, Italian, French, and Spanish plus an extra language that can be input by the user by editing the various messages.

The minimum PC requirements are as follows:

- Processor with clock 500 MHz or better
- At least 200 Mb of free space on hard disk
- 256 Mb of RAM memory (recommended 512 or more)
- CD-ROM Reader
- MS Windows®
- Recommended MS Excel®
- Recommended A4 printer



82-S1001 test selection menu



CBR test data Window®



Example of CBR test certificate after export to Excel®