

The ESMH-DC is an advanced motorized test stand offering all the mechanical specifications of the ESMH. This horizontal test stand, with a capacity of 50 lbF, is designed for tension, compression, and friction testing. A smooth top surface makes this tester particularly well suited for coefficient of friction testing. Other typical applications include the testing of sealed pouches, fabrics, tubing, sutures, and many other items in virtually every industry. The tester features integrated limit switches for repetitive testing or other tests where travel limits are required. Modular design accommodates a wide variety of test sample shapes and sizes.

The ESMH-DC's controller adds a significant amount of sophistication, including an extended speed range, PC control capability, programmable cycling, auto return, overload protection, and other features.



The ESMH-DC is shown in a peel testing application, with Series BG digital force gauge, digital travel display, and pneumatic film & paper grips

## Features / Specifications

Maximum force: 50 lb [250 N]
Maximum travel: 13" [330 mm], 12" [305 mm] w/optional travel display
Speed range: 0.2 - 50 in/min [5 - 1270 mm/min] (extensions available)
Speed accuracy: $\pm 0.2\%$ of setting, $\pm 0\%$ variation with load
Limit switch repeatability: $\pm 0.001"$ [0.03 mm]
Universal power supply: 80-250 VAC
Remote controller
Mounting holes for bench mounting
Removable loading plate with 25 #10-32 threaded holes for fixture mounting
CE mark

## Optional Hardware

### ■ Digital travel display

12" [300 mm] travel, 0.0005" [0.01 mm] resolution, 0.001" [0.03 mm] accuracy, SPC output for automated data collection. For output of travel data to a PC, the following items are required: 09-1066 cable and MRS100A communication adapter.

### ■ Multi-function cable, BG gauge to controller

Connects a Series BG force gauge to the controller. This single cable is used to transmit set points, overload signals, and force data.

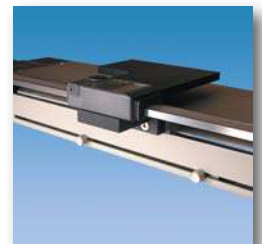
### ■ Serial cable, controller to PC

Bi-directional communication with a PC for computer control. Also sends force data from the controller to a PC.

### ■ Serial cable, gauge to PC

Connects a Series BG force gauge with a PC. Bypasses the controller.

» Adjustable limit switches



» Digital travel display



## Optional Controller Features

Any of the below option packages may be purchased at time of order or may be added in the field at a later date by entering an activation code.

### ■ Computer Control

An RS-232 port is provided to interface with a PC. The ESMH-DC accepts a number of commands pertaining to test stand motion and force gauge functions\*. The following additional items are required for PC control:

- Series BG force gauge
- 09-1056 serial cable (see Optional Equipment)
- 09-1143 multi-function cable (see Optional Equipment)

### ■ Overload Protection

Protects a force gauge against overload (requires a Series BG force gauge and 09-1143 multi-function cable). The user programs the desired percentage of full scale of the gauge. Adjustable analog output voltage setting allows the test stand to interface with virtually any force gauge with analog output.

### ■ Auto-return

The crosshead moves to a limit switch or force set point (requires a Series BG force gauge), stops, and reverses direction at maximum speed to the other limit switch or set point.

### ■ Cycling / Dwell Time

The crosshead moves up and down between limit switches or force set points (requires a Series BG force gauge). Configurable up to 99,999 cycles. Dwell time allows the operator to program the amount of time, up to 9,999.9 seconds, in 0.1 second intervals, for which the crosshead pauses at limits.

### ■ Programmable LEFT / RIGHT Button Functions

LEFT and RIGHT button operation can be configured in three user-configurable modes: Maintained: a short push produces continuous motion until STOP is pressed, Momentary: crosshead moves only while the button is pressed, and Auto: short push produces maintained motion, while holding down the button will produce momentary motion.

### ■ Independent Left and Right Speeds

Programmable independent speeds for left and right directions

### ■ Selectable Speed Units of Measurement (in/min & mm/min)

### ■ Password Protection

Prevents unauthorized changes to test parameters

\* Contains no integrated travel measurement. Travel information available only through the external ESMH001 digital travel display, requiring an additional serial port on the PC. For an integrated solution with full PC control, including travel distance, see test stand model ESM301.

## Ordering Information

Model No.	Description
ESMH-DC	Motorized test stand, 110 V
ESMH-DCE	Motorized test stand, 220 V
ESMH001	Digital travel display
09-1143	Multi-function cable, gauge to controller
09-1056	Serial cable, controller to PC
09-1048A	Serial cable, force gauge to PC
09-1066	Cable, travel display Mitutoyo
MRS100A	Communication adapter, Mitutoyo to RS-232

The ESMH-DC is supplied with a small hook, medium hook, 2" diameter compression plate, extension rod, and #10-32 coupler.

## Dimensions

in [mm]

