

Motorized Horizontal Test Stands Model FGS-50XH & 50XL

Instruction Manual



General Information

The Shimpo FGS motorized test stands are designed for a wide variety of tensile and compression force testing up to 110 pounds. The all steel construction guarantees durability and stability for production, laboratory and quality control applications.

Dual speed controls are optimally positioned to adjust test and return travel rates of the drive assembly. This assembly accepts a universal mounting plate which enables the interfacing of a large selection of force gauge models. Consult the compatibility table, found elsewhere in this manual, or contact Shimpo for specific models.

A 4 1/2 digit LED display indicates displacement or rate of the drive assembly. An analog output, labeled "Length Out" is convenient for data acquisition requirements.

Inspection

If any shipping damage is found, do not unpack test stand. Notify your shipping carrier immediately for damage claim instructions.

Check nameplate to confirm model number ordered and record serial number for future reference. Items included with test stand are:

- 1) Three M5 x 6 and four M4 x 8 screws
- 2) One 5mm Allen wrench

Cables (sold separately)

FGV-CTRL CABLE	FGV-RS232 CABLE
FGS-ANALOG CABLE	DFS-CTRL CABLE

Important Safety Instructions

- 1) Position test stand on a heavy duty, vibration free, level table.
- 2) Keep hands, hair and jewelry away from stand when drive assembly is in motion.
- 3) Confirm that the test stand case is properly grounded to the AC line.
- 4) Operate the membrane keypad with care. Do not use sharp objects that may puncture the overlay.
- 5) Make sure AC power is removed from test stand before making any adjustments.

Mounting Shimpo Force Gauges

With the 5mm Allen wrench, remove the mounting plate from the test stand. For the FGE/FGV series use four M4 x 8 mounting screws, supplied with stand, when mounting force gauge to mounting plate. When mounting DFS series use three M5 x 6 screws, supplied with stand, to mount force gauge to mounting plate. Reinsert mounting plate to test stand.

Note: For gauges of other manufacturers see page 3 Uni-Plate option.

Display Operation

- 1) Plug in line cord and turn on power switch located on rear of stand. All display segments and LEDs will execute a power-up self test for two seconds. After the self test, the 4-digit display defaults to length which is displayed in millimeters.
- 2) To change the display from length(mm) to rate(mm/min) press **LENGTH/SPEED** switch.
- 3) Press **ZERO** to reset display. The initial direction of the drive assembly always shows a positive number on the length meter.

The display ranges for length and rate are larger than what's listed in the specifications. This is due to a mechanical backlash which may occur if the drive assembly is subjected to excessive changes in direction.

Drive Assembly Control

Speed controls A & B can easily be adjusted and assigned to control the test and return travel rates of the force gauge. The position of the speed select switch determines which control is active.

Adjustable Travel Limits

The travel limits can be adjusted by loosening the thumb limit screws and sliding them to the desired position. **Don't forget** to hand tighten the limit screws when the desired position is reached.

Coarse Control

- 1) Press **PUSH** to lower the force gauge. The gauge will travel at the rate at which the active speed control is set. The gauge will stop when it reaches the lower limit or when the **STOP** button is pushed.
- 2) To raise the force gauge, press **PULL**. The force gauge will continue to move until the upper limit is reached or until the **STOP** button is pushed.

Note: If **PUSH** or **PULL** is pressed while pressing **ZERO**, the limit LED will flash and the length meter will automatically reset to zero when a limit position is reached.

Fine Control

While pressing the **STOP** button, press **PUSH** or **PULL**. The force gauge will travel a finite distance which is determined by the active speed control setting.

Drive Assembly Overload

The alarm LED will light if the drive assembly is overloaded. Turn off power switch and eliminate the overload condition. Wait at least two minutes before reapplying power to the test stand.

Input & Output Ports

Three ports are located on the right side of the test stand. Use these ports along with the necessary cable(s) to download information from a force gauge and upload information to a data acquisition device.

FGC.V.X Input Port

DFS Series (Requires DFS-CTRL CABLE)

Use this input port to receive overload information from a DFS series gauge. If an overload condition exists, the drive assembly will stop, thus preventing permanent load cell damage. Please note: The DFS must be turned on (display showing) for this safety feature to work.

FGV Series (Requires FGV-CTRL CABLE)

When interfacing to the FGV series force gauge, the test stand will receive overload and measuring data. If an overload condition exists, the drive assembly will stop, thus preventing permanent load cell damage. Please note: The FGV must be turned on (display showing) for this safety feature to work.

FGC.V Output Port

(Requires FGV-RS232 CABLE)

Use this output port to transmit RS232C data to an external device when a FGV series force gauge is mounted to the stand. This port is not needed for the DFS series.

Length Output Port

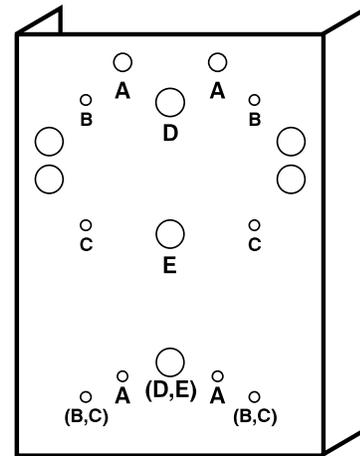
(Requires FGS-ANALOG CABLE)

This port transmits an analog output voltage proportional to the length meter display. The relationship between output and display is 10mV/mm.

Since the length meter data is generated by the test stand, this port can be used with any force gauge that's mounted to the stand. **Note:** if the LED display shows rate(mm/min), the voltage output will still reflect length meter data.

Uni-Plate Option (sold separately)

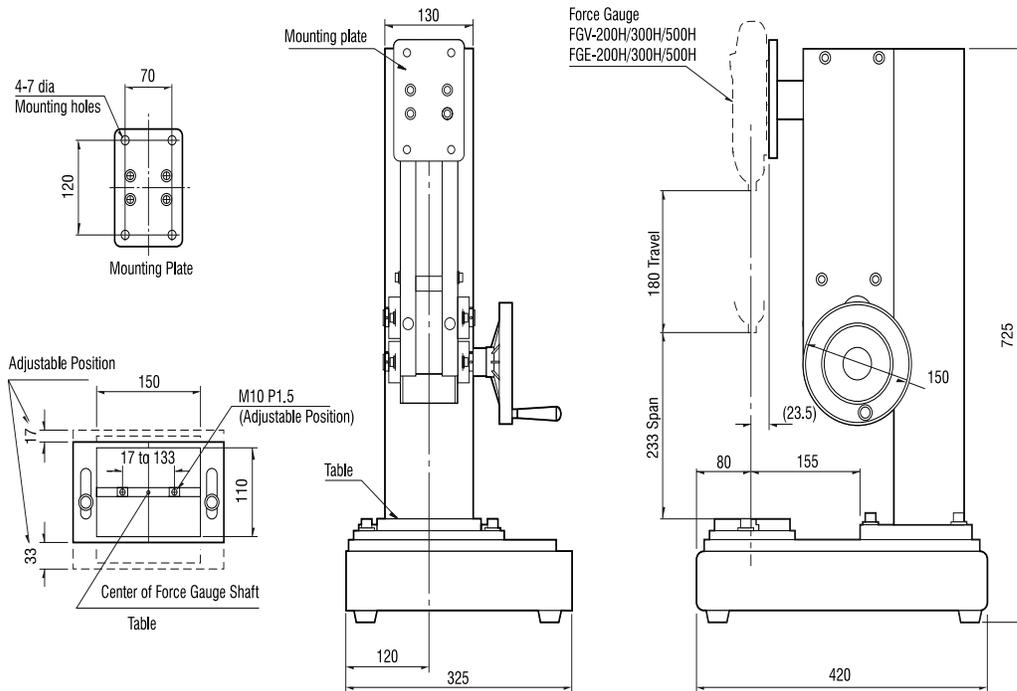
- Holes marked **A** are for mounting IMADA MF and EM series force gauges.
The IMADA units require four M3x14 mounting screws not included.
- Holes marked **B** are for mounting MARK-10 EG series force gauges.
- Holes marked **C** are for mounting MARK-10 MG series force gauges.
The MARK-10 units require four #6-32 1/4" long mounting screws not included.
- Holes marked **D** are for mounting AMETEK cadet series force gauges.
The AMETEK units require two #8-32 1/4" long mounting screws not included.
- Holes marked **E** are for mounting CHATILLON DFGS series force gauges.
The CHATILLON units require two #10-32 1/4" long mounting screws not included.



Uni-Plate

MANUFACTURER	FORCE GAUGE MODEL
Shimpo	All models
Ametek	Cadet Series
Chatillon	DFGS Series
Imada	Mechanical: MF, EM Series Digital: SX, SXT Series
Mark-10	BG, EG, MG Series

Dimensions in mm



- Model FGS-50XH (standard)
- Model FGS-50XL (low speed)
 - Capacity: 50 Kg (110 lbs.)
 - Stroke: 140 mm (5.5 in.)
 - Travel speed: (adjustable)
 - 50XH: 40 - 400 mm/min
 - 50XL: 10 - 100 mm/min
 - Travel distance: Displayed in mm with 0.1 resolution
 - Power: 120 VAC, 60 Hz
 - Weight: 18 Kg (40 lbs.)

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