◄INSIZE►

www.insize.com

ISF-RV61/RH62
MOTORIZED VERTICAL/HORIZONTAL
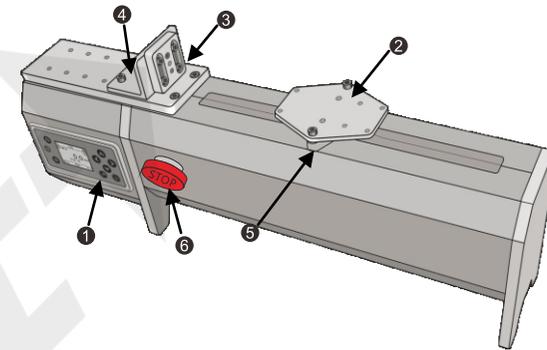**TEST STAND**
OPERATION MANUAL

V0

◄INSIZE►

Overview

1. Structure

❶ LCD & Panel

❷ Force gauge mounting plate

❸ Adapter plate

❹ L base plate

❺ Sliding table

❻ Emergency stop switch

Power Components

Communication port
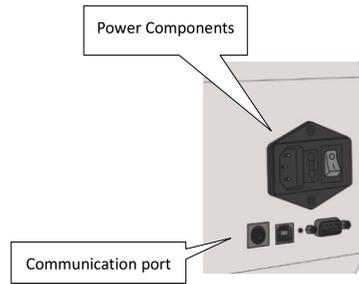
Vertical

Horizontal
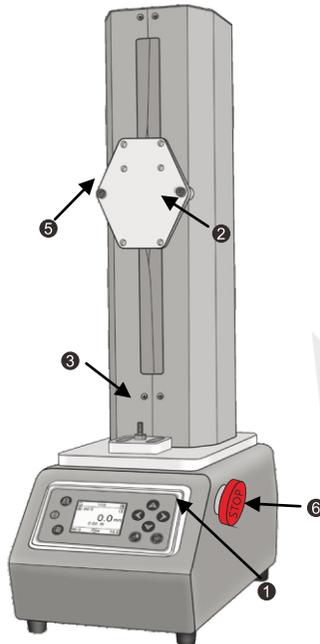
◀ ▶ Left, Right

▲ ▼ Up, Down

Menu/Enter

Start/Pause

Exit/Zeroing

Manual/Auto

Connect

Technical Parameters

Load capacity	650N (250lbf, 65kg)
Max. travel	220mm
Resolution of displacement	0.01mm
Accuracy of displacement	±0.3mm
Range of adjustable speed	30~720mm/min
Resolution of speed	1mm/min
Accuracy of speed	±2%
Data output	USB, RS232
Work temperature and relative humidity	10~40°C, 10%~80%RH
Power supply	100~230V

Installation

The test stand should be placed on a level, vibration-free work table.

1 Power

Plug the supplied power cable and connect it to a AC socket (100 ~ 240V) .

Turn the power switch on and check whether the normal display and so on.

No-load operation can be carried out to check whether operating normally,

and no abnormal noise.

2 Force gauge installation

Remove the force gauge mounting plate and installed on the force gauge.

Then install them back.

Install appropriate measurement head or jig on adapter plate and force gauge.

3 Install the specimen.

Key panel and functions
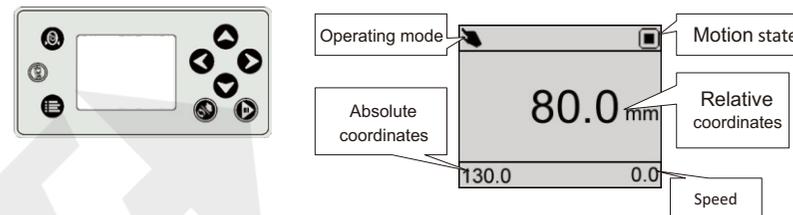
Manual operation: Move left or right (Speed adjustment for Vertical);

Menus: Item select.

Manual operation: Speed adjustment (Move up and down for Vertical);

Menus: Item select.

Enter menus, confirm select or setting.

Program operation: Start / Stop or pause.

Manual operation: Relative coordinates zeroing; Menus: Exit or Return.

Manual / Automatic.

Connect or disconnect to the force gauge.

Manual Operation

Power on, the system is in manual mode. Or Press 🔘 switch to Manual from Auto.

Move the sliding table

Press ◀ or ▶ to move, release before beep, moving is stopped. Long press, after a prompt beep release, moving will continue. Press ⊕ , ◀ or ▶ key to stop.

Adjusting speed

When the sliding table is moving, press ▲ or ▼ can adjust speed, increase or decrease.

Locating move

In stop state, press ⊕ can start a locating move. The icon L and the relative coordinate of anchor point will be displayed.
The coordinate can be set in "Location" of menus (Location).

Zeroing relative coordinates

In manual mode, press ⊗ , can clear current relative coordinates.

Menus

Some parameters related to system and operation can be set queried.
The menu items are shown in fig.1. Among them, D Cycle, F Cycle and Demo is described in Automatic Cycle.
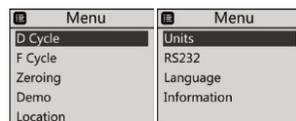
Fig.1

Basic of menus

In Manual Mode, press ⊜ to enter Menu.
Press ▲ or ▼ to select the item.
Press ◀ or ▶ to input data or select options.
Press ⊜ can confirm the setting and return.
Press ⊗ to discard changes and exit setup.

Zeroing

The test stand has a mechanical zero point, through the back to zero point can initialize the sliding table location. It be used for cancellation the offset as various causes.
Select "YES" and press ⊜ , the sliding table will return to the mechanical zero point automatically.(Fig.2b)
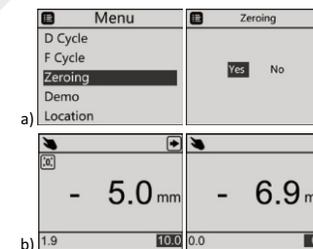
Fig.2

Location

You can set an anchor point, in order to reach or return it quickly used the locating move function(Manual Operation). A anchor point can be set. It be usually a start point for an operation.
The coordinate is set as Fig 3a.
In Manual Mode, press ⊕ to make the sliding table move to anchor point directly (Fig 3b).

Fig.3

Fig.4

Fig.5

Fig.6

Automatic Cycle

The test stand has the program operation functions(automatic cycle), for control the test procedure automatically.

The cycle is divided into 2 types: displacement-based cycle (D Cycle) and force-based cycle (F Cycle).

For each type of cycle, 9 programs can be saved, running a cycle by its cycle number.

① Displacement-based Cycle(D Cycle)

The cycle is programmed based on relative coordinates.(Fig.4)

The cycle number, relative coordinates of each section end, speeds, stop duration at each node and the cycle time can be set in menus. Also can be generated in Demo Mode automatically.

② Force-based Cycle (F Cycle)

The cycle is programmed based on the force reached.(Fig.5)

Connecting to and communicate with the force gauge is needed to run the F cycle.

The cycle number, force of each section end, speeds, stop duration at each node and the cycle time can be set in menus.
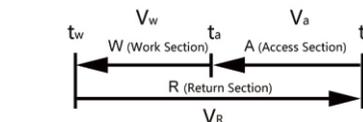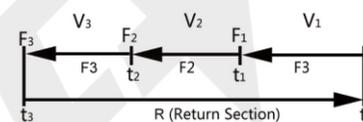
Program in menus
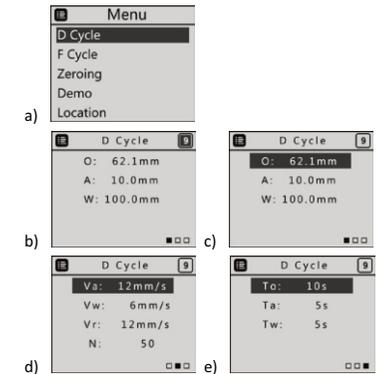
① D cycle

As shown in Fig.6. Enter "Menu" - "D cycle" to set or change the parameters (Table 1) of a cycle.

Sign	Meaning		Sign	Meaning	
O	*		V_a		Access Section
A	Relative Coordinate	End Point of A section	V_w	Speed	Working Section
W		End Point of W section	V_r		Return Section
T0	Stop Duration	Start Point	N		Cycle Time
Ta		End Point of A section			
Tw		End Point of W section		Table 1	

* Absolution coordinate of start point. (the relative coordinate is "0.0")

② F Cycle

As shown in Fig.7. Enter "Menu" - "F cycle" to set or change the parameters (Table 2) for a cycle.

Here, the force is just the value of loading force, no unit. In force gauge side, the unit of force must be set to you need.

In F Cycle, the speed of Return Section is fixed to the maximum speed of test stand and cannot be set.

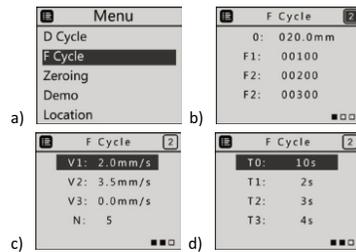| Sign		Meaning	Sign		Meaning
O	*		V1		F1 Section
F1		F1 Section	V2	Speed	F2 Section
F2	Force	F2 Section	V3		F3 Section
F3		F3 Section	N		Cycle Time
T0		Start Point			
T1	Stop	End Point of F1			
T2	Duration	End Point of F2			
T2		End Point of F3			

Table 2

Fig.7

Generating a program in Demo Mode

In Demo Mode, the program of a D cycle can be transfer from a manual operation procedure for running the same test procedure later.

Enter the menu and select "Demo", press to enter Demo interface(Fig.8a).

1 Set the start point

Move the sliding table to the start point of cycle. Press 🖶 to confirm, The relative coordinates will be cleared, and the absolute coordinates will be recorded. (Fig.8b~c)

2 Access section and Working section

Move the sliding table to the end of the section respectively, and adjusting the speed of each section. (Fig.8d, Fig.8e)

At the of each section, press 🖶 to confirm, the end coordinates and speeds will be recorded.

3 Confirm and modify operating parameters

As complete setting of all section, all cycle parameters will be displayed. You can confirm or edit them further. (Fig.8f)。

4 Save the setting

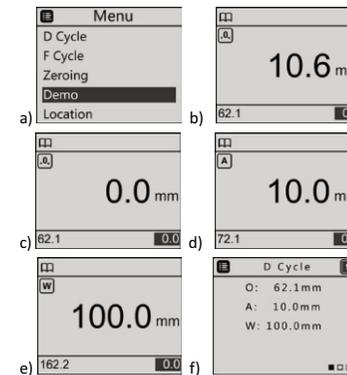Select a Cycle Number, press 🖶 to save and return.

Fig.8

Run a cycle

The test stand can store 9 D-Cycle programs and 9 F-Cycle programs. You must call the required Cycle Number before use.

1 In Manual Mode, press 🔲 to enter menus.

Select D Cycle or F Cycle, enter cycle setup, select the Cycle Number. Now you can edit the parameters also. Press 🔲 to confirm and return.

2 Press 🔘 to switch to Automatic Mode.

3 Press 🔘 to run the cycle. Press 🔘 to pause or rerunning the cycle.

4 Press 🔘 will switch to Manual mode and terminate the cycle.

NOTE

1. When a cycle is running, the relative coordinate of start point will be cleared to "0.0".

2. The Cycle Time(N) can be 1~99.

3. In F Cycle, the icon 📱✕ means not connecting to force gauge, the cycle will not run. Connect the force gauge with cable and press 🔘 to link it.

4. In F Cycle, If the force value cannot achieve the setting, cycle section will not end, may stop due to an alarm limit. You should be re-adjust the cycle parameters.

Communication interface

Test stand has a variety of data interface, choose according to your specific application.

MD8→Force gauge   USB→PC   DB9 -RS232
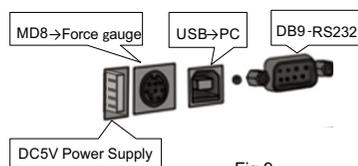
DC5V Power Supply

Fig 9

1 USB Ports

Standard USB interface, used to connect PC to upload the data.

Using the data upload, the data acquisition software must be installed and running in the computer.

2 Force Gauge Port (MD8)

Used for receive data and limit alarms from the force gauge (Table 3).

The protocol is RS232, the baud rate is fixed at 38400bps.

On force gauge side, baud rate must be set to 38400bps, then the test stand can receive data from it. See the user's manual of the force gauge for setting method.

Force gauge port (MD8)	
Pin	Description
1	RS232- Receive (RX)
2	RS232- Transmit(TX)
3	RS232- Ground
4	Alarm Output A+
5	Reserved
6	Alarm Output Com -
7	Alarm Output B+
8	Reserved

Table 3

3 RS232 Port

Used for transferring data to other equipment.

The specifications is shown in Table 4, baud rate setting in menus(Fig.10)

RS232 Specifications	
Data word length	8 bits
Stop bit	1bit
Parity	None
Baud rate	9600,19200,38400
Hardware Flow Control	None

Table 4

Menu		Baud Rate	
Units		9600 bps	
RS232		19200 bps	
Language		38400 bps	
Information		Off	
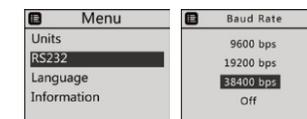
Fig.10

4 Power Supply

Used for Power Supply of force gauge.

DC5V 0.5A.

Alarm Sign

NAME	SIGN	MEANING	RELEASE
Stroke Overrun		Moving beyond stroke. Arrow icon indicates transfinite direction.	To move in the opposite direction to Leave the overrun position.
Force Overrun		Received overrun alarm from gauge	If in the automatic cycle, cycle will terminate. You can move manually to make force gauge relieving the alarm.
locked rotor Alarm		locked rotor over load	Press Stop
No connect		No connect with force gauge or not switch on the link.	Check the connection or set.
Travel switch alarm		Moving beyond the mechanical limit of test stand, motor power supply is cut off.	**

** Lift the travel switch alarm

Turn the power on, in manual mode.

Press a internal switch inside the reset hole with a fine rod or some like things.

At the same time, press the movement keys on the panel to make the sliding table back to the correct position.

Travel switch alarm often due to a device or parts damaged or shift, or by the abnormal strong electromagnetic interference etc.. If it often appear, should be examined or repaired by professional.
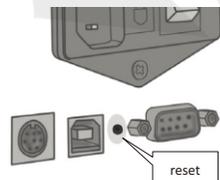
Fig.11