TREE®
LW MEASUREMENTS, LLC

Professional Weighing Equipment

Stow-away VET Scales

Operation Manual

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Rev 2, 07.15.2019

Declaration of Conformity

Declaration of conformity for apparatus with CE mark

We hereby declare that the product to which this declaration refers conforms to the following standards.

Electronic scale: Stow-away Vet Scales series

Imperial version   Metric version

S-LVS 700

Mark applied	EU Directive	Standards
C E	2004/108/EC	EN 61326-1: 2006

Signature:

Boon Lim, R & D Manager

Date: 14. 11. 2012

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Customer Service

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Introduction

What you should know about these Operating Instructions:

Tree® Professional Weighing Equipment products are simple to operate.

Nevertheless, you should read through these operating instructions in their entirety, so that you can make optimum use of the full potential and the diverse possibilities of the weighing machine in your daily work.

These operating instructions contain guidance in the form of pictograms and keyboard diagrams, which should help you in finding the required information:

For the labelling of potential hazards and advice, please see Safety below.

Safety

Representations and symbols

Important instructions, which involve safety, are highlighted with the appropriate mark:

⚠ DANGER

Safety recommendations

When using the weighing equipment in surroundings with increased safety requirements, the corresponding regulations must be observed.

The weighing scale may only be used with the power adapter supplied.
Before connecting the power adapter to the scale, the user must ensure that the operating voltage stated on the power adapter is compliant with the mains voltage.
If not, please contact Customer Service at the address above.

If the power adapter or its cable is damaged, the weighing scale must immediately be disconnected from the electricity supply (pull out the power adapter).

If there should be any reason to believe that it is no longer safe to operate the scale, it should be immediately unplugged from the electricity supply (pull out power adapter) and secured against inadvertent operation.

In carrying out maintenance work, it is essential to follow the recommendations set out in maintenance and servicing.

The weighing scale must not be operated in an area subject to explosion risks.

Care must be taken when weighing liquids to ensure that no liquid is spilled into the inside of the scale or into connections on the rear of the equipment or the power adapter. If liquid is spilled on the scale, it must immediately be unplugged from the main electricity supply (pull out power adapter).

The weighing scale may be operated after it has first been inspected by a service technician.

These operating instructions must be read by each user and should be easily accessible at the workplace at all times.
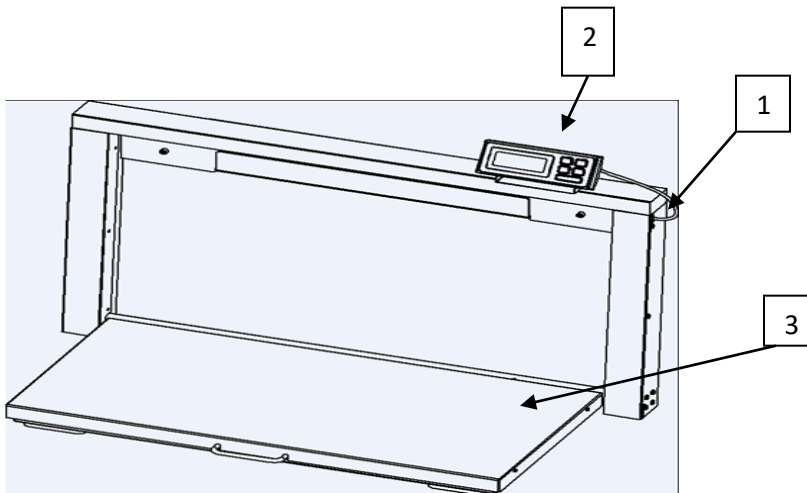
Weight Scale

Construction & Functions

The weighing scale consists of the following parts;

- The Scale body (1)
- The indicator (2)
- Rubber Mat (3)
- The adapter (4)
- Wall mount kit.

Figure   Your weighing machine

Functions

The Stow-away VET Scale Series are high-quality electronic precision weighing machines with the following specifications

Model number	Capacity	Graduation	Weighing Platform Size
S-LVS 700	700 lb	0.2 lb	50 cm x 95 cm / 19.7 in x 37.4 in
Net/gross weight	LVS 700: 35 kg/44kg /77 lb /99 lb		
Package (Standard carton)	131 x 78 x 16 (cm)3 51.6 x 30.7 x 6.3 (inch)3		
Operating Temp.	0-40℃ (32-104℉)		
Power source	6 x AA dry cells(not included) or AC/DC Adapter 9V DC /300mA		

Features

- Display options: 5 digital LCD
- Power: AC adapter 9V/300mA
- Auto back light (selectable)
- Auto shut off (selectable)
- Operating Temperature: 5~35C
- Operating Humidity: 25%~95%RH
- ZERO range (0% - 4% of full capacity)
- TARE range (4% - 100% of full capacity)
- Error Message indication:
  [Err-0] Overload
  [Err-2] Exceed zero track range when power is on
  [Err-5] Unstable when power is on
  [Err-c] Calibration code is not enough or operation error

   Low Battery
- AnyCal calibration software
- Optional calibration unit: kg or lb
- RS232
- Open calibration capacity
- Power on zero-setting range: +10%
- Zero range + 4% of full capacity
- Two modes: Normal mode/Setting mode

Part Description

・**TOP**
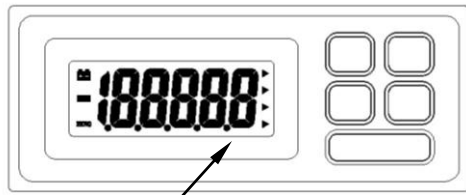
• **Display**

ON/OFF	HOLD
UNIT	ZERO
PRINT	

1. **ON/OFF:**
   Turn the scale power on/off.

1. **HOLD:**
   Press this key to store weight value.
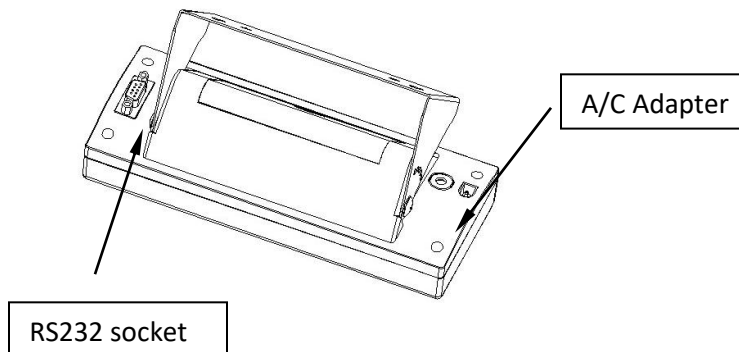
2. **UNIT：**
   Select weighing units：kg or lb .

3. **ZERO：(for TARE)**
   Set the display to zero or subtract the weight of container.

4. **PRINT:** Press once and send weight information once.

► ・**BOTTOM**

A/C Adapter

RS232 socket

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Work mode setting of the indicator:

1. Press and hold [UNIT] key and [HOLD] key, then press [ON/OFF] key to turn on the scale, the display will show Ani.Sw, press [UNIT] key to enter function setting menu, press [ZERO] key to select ON or OFF. (ON means animal mode, OFF means normal weighing mode), press [HOLD] key to confirm the selection.
2. Press [HOLD] key again to enter the next menu, the display will show Ani.Kd, press [UNIT] key to enter function setting menu, press [ZERO] key to select animal scale anti-shock range among 50, 100, 200, 400, press [HOLD] key to confirm selection.
3. Press [HOLD] key again to enter the next menu, the display will show Ani.fd, press [UNIT] key to enter function setting menu, press [ZERO] key to select animal scale filter range among 0.5, 3, 5, 10, press [HOLD] key to confirm the selection.
4. Press [HOLD] key again to enter the next menu, the display will show Ani.Ft, press [UNIT] key to enter function setting menu, press [ZERO] key to select animal scale filter time among 1,2,3,4 press [HOLD] key to confirm the selction

FUNCTION SETTINGS

Press and hold [HOLD] key then press [ON/OFF] key to turn on the scale, the display will show A-ON or A-OFF, press [ZERO] key to select on or off (ON means auto power off function activate, OFF means auto power off function inactivate). Press [UNIT] key, the display will show L-ON or L-OFF, press [ZERO] key to select on or off (ON means auto backlight function activate, OFF means auto backlight function inactivate).

Press [UNIT] key, the display will show P-XX. Press [ZERO] key to select OFF, key con and Stb. (OFF means RS232 function inactivate, KEY means that it will output the data by pressing [PRINT] key. Con means that it will output the data continually. Stb. Means it will output the data when reading is stable.

Press [UNIT] key, the display will show J-ON or J-OFF, press [ZERO] key to select ON or OFF. (ON means showing zero when you turn on the power, OFF means showing the weight placed when you turn on the power).

Application & Conformity

The weighing scale may only be used for the weighing of solid-materials and of liquids filled into secure containers.

The maximum capacity load of the weighing scale must never be exceeded, otherwise the weighing scale may be damaged.

In using the weighing scale in combination with other devices as well as with devices produced by other manufacturers, the appropriate regulations for the safe use of the relevant attachments and their application in accordance with instructions must be observed.

The weighing scale has been manufactured and tested in accordance with the standards and recommendations set out in the declaration of conformity.

The power adapter supplied for the weighing scale complies with the appropriate electrical protection class.

The following applies to VET Scale series
Power supply:
Input: 110 or 230V AC (+/-15-20%); 50 to 60Hz
Output: 9V DC 100mA

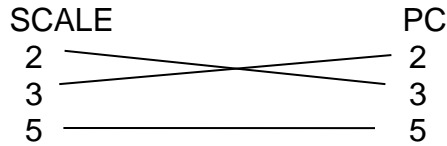**Allowable ambient conditions**
Temperature: 5°C - 40°C
Relative humidity: 25% - 85%, non-condensing

If you have any questions on the technical data or require detailed technical information on your balance, please contact your technical representative.

RS232 Data interface

1. Connector: DB9

```
      SCALE              PC
        2  ＼        ／    2
        3   ＼／         3
        5  ───────   5
```

2. Transmissions Settings

   Mode: Simplex Asynchronous Serial   Baud Rate: 9600
   Data Bit: 8   Parity Bit: None
   Stop Bit: 1   Data Format: ASCII

3. Transmission Information Format： 20 Byte， blank=20H

1~2	3	4~13	14~18	19	20
'W: '	P	DATA	UNIT	CR	LF

   W: Start of Data Transmission=57H+3AH
   P: Polarity   '+' = 2BH = Positive '-' = 2DH =Negative
   DATA: '12.345'= 20H+20H+20H+20H+31H+32H+2EH+33H+34H+35H
   UNIT: 'lb' =6CH+62H+20H+20H+20H
            'Kg' =6BH+67H+20H+20H+20H
   CR: = 0DH
   LF: = 0AH

HOLD FUNCTION

1) Place the item on the scale platform.

2) Wait for the stable weights to be displayed.

3) Press the [HOLD] key. The "**.**" Hold indicator will turn on.

4) Remove the item from the scale platform. The item's weight reading will remain on the display. Now you can also select unit (i.e. to pounds or kilograms) by pressing [UNIT] key.

5) Quit HOLD function: Once an item is weighed and the hold functions is enabled; you want to quit HOLD function, press the [HOLD] key again to cancel the "." Hold indicator and return the scale to weight mode.

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M= overload mode
W= normal weighing mode

：= weight information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
W/M	:	±																CR	LF

Weight information   **Unit formation**

Exampla:50kg

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
W	:	+							5	0	.	0	k	g				CR	LF

Getting Started

The scale is packaged in an environmentally-friendly carton, which provides optimum protection for the balance during transportation.

We suggest that you keep the original packaging in order to avoid damage if you are shipping or transporting the scale to a different location. It is also the best way to keep it in the best conditions if it will not be used for an extended period of time.

In order to avoid damage, please follow the instructions provided below, when unpacking the scale:

- Unpack the scale carefully.
- When outside temperatures are very low, the scale should be stored for a couple hours and kept in its box in a dry room at normal temperature, so that no condensation settles on the unit when opening the box.
- Check the scale immediately after unpacking for any external visual damage. If there is any damage on scale, contact customer service immediately.
- If the scale is not to be used immediately after purchase, it should be stored in a dry place where fluctuations in temperature are low. (Reference pg.).
- Read through these operating instruction, before you work with the unit and pay attention to the Safety recommendations (reference Safety pg. 6).

Delivery

Inspect delivery for completeness immediately on unpacking all components.

Checklist for complete delivery

	Component delivered present yes / no
Weighing unit body	
Rubber mat	
Wall mount kit	
Indicator	
Power adapter	
Operating manual	

Assembly & Installation

The weighing scale is delivered in a partly dismantled condition. Assemble the individual components in the following sequence:

- Place your machine on a level, clean, and dry surface to obtain accurate readings.

Connecting the AC Adapter

The following Safety recommendations must be observed when connecting the balance to the mains:

⚠ DANGER

The Scale should only be connected to the mains voltage socket with the power adapter supplied. Check before connecting the power adapter to the mains socket, that the operating voltage stated on the power adapter complies with the local mains voltage.
If the operating voltage is not the same as the mains voltage, the power adapter must not be connected to the mains socket and contact customer service.

Placement of Scale

The location in which the scale is placed is very important in order for the scale to work to its full potential. Certain conditions can affect the capabilities of the scale, conditions like: the presence of air flow, variations in temperature, and direct sunlight. Please follow the recommendations given below in choosing a location to place your scale.
- Place the scale on a solid, firm and preferably vibration-proof, horizontal base
- Make sure that the weighing machine cannot be shaken or knocked over
- Protect from direct solar radiation
- Avoid drafts and excessive temperature fluctuations
- Avoid placing the scale near or on any magnetic surfaces

When to calibrate

Note: Calibration is done in the factory. Do not re-calibrate the scale, unless it is not accurate.

Calibration Weight

Press and [ZERO] key then press [ON/OFF] key, the display will show CAPU=, press [UNIT] key to select full capacity unit kg or lb.

Press [HOLD] key again to enter the next menu, the display will show CAP

Press [UNIT] key to enter setting full capacity, press [UNIT] key to move the flash digit to right, press [ZERO] key to increase the flash digit

Press [HOLD] key to confirm the selection. Press [HOLD] key again to enter the next menu, the display will show CALU=

Press [UNIT] key to select calibration unit kg or lb, press [HOLD] key to confirm the selection. Press [HOLD] key again to enter the next menu, the display will show CAL

Press [UNIT] key to enter setting calibration weight, press [UNIT] key to move the move the flash digit to right, press [ZERO] key to increase the flash digit, press [HOLD] key to confirm the selection (the calibration weight should be more than 2/3 of full capacity).

Press [HOLD] key again to enter the next menu, the display will show DIV, press [UNIT] key to select division, press [HOLD] key to confirm the selection. Press [HOLD] key again to enter the next menu, the display will show ADC, press [UNIT] key to select 20, press [HOLD] key to confirm the selection.

Press [PRINT] key, the display will show Cal, then AD value

Press [UNIT] key when the stable indicator is displayed, the display will show flash calibration weight, place the shown weight on the platform.
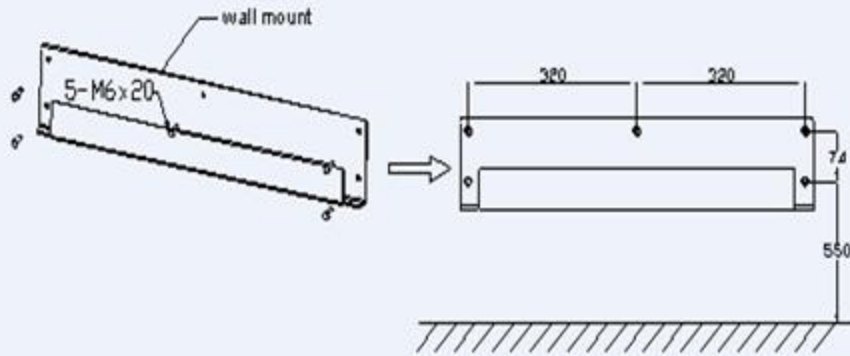
Press [UNIT] key when the stable indicator is displayed, the display will show -----, AD value.

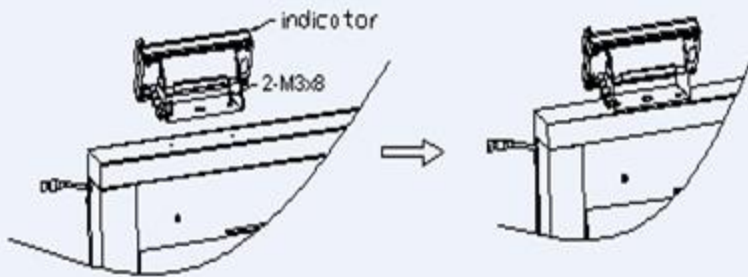Turn off the scale. Now the calibration is finished and you can remove the weights.

Turn on the scale, place tested weight to check if it is correct, if not repeat above steps.
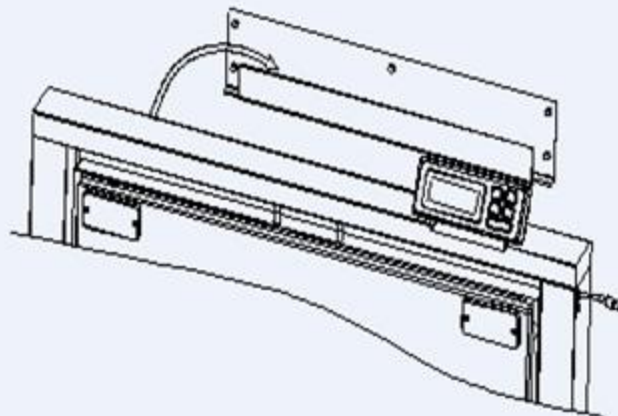
Wall mount kit and installation

①Fix the wall mount to the wall

wall mount

5-M6x20

320 220

74

550

②Install the indicator

indicator

2-M3x8

③Install the scale on the wall mount

Attach wall plate to wall – Bolts and wall plate included

Parts and Hardware
① Wall Plate
② Stud Finder
③ Expansion Bolt (5-M6x50)
④ Mat,washer,Nut (5pcs)
⑤ Lag Bolt(6x50)
⑥ Toggle Bolt (4-M6x60)
⑦ Self-tapping Screw(M6x50)

The position of the holes on the wall
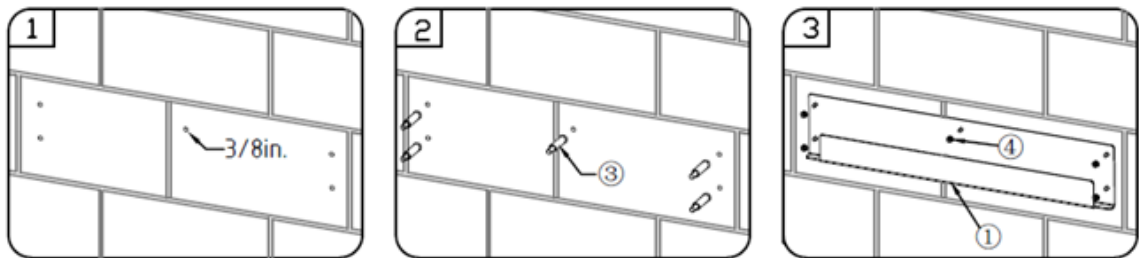
2 7/8in.

25 3/16 In.

21 5/8In.

FLOOR
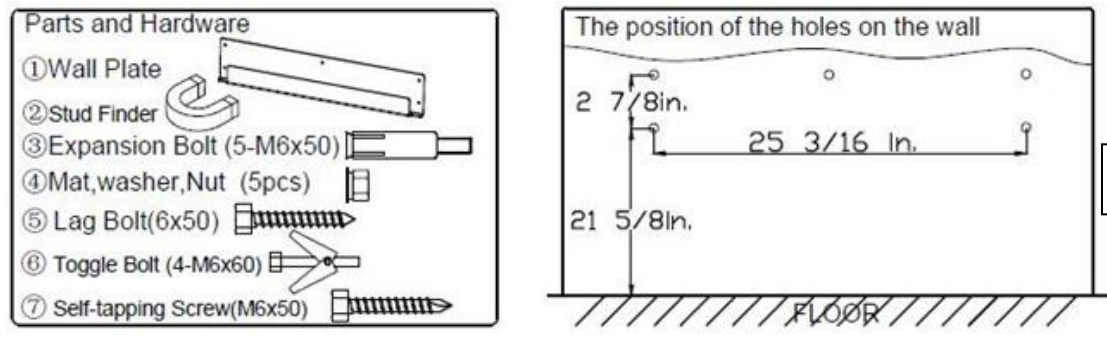
Fig. 1

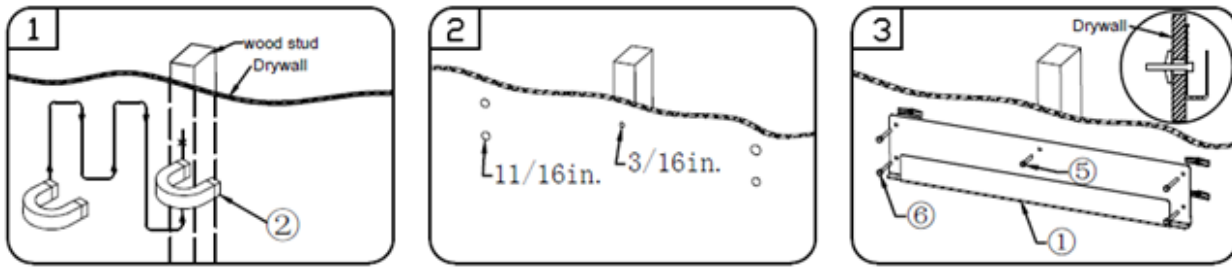Attach Wall Plate to Wall – Installation instructions of Toggle Bolt (6)
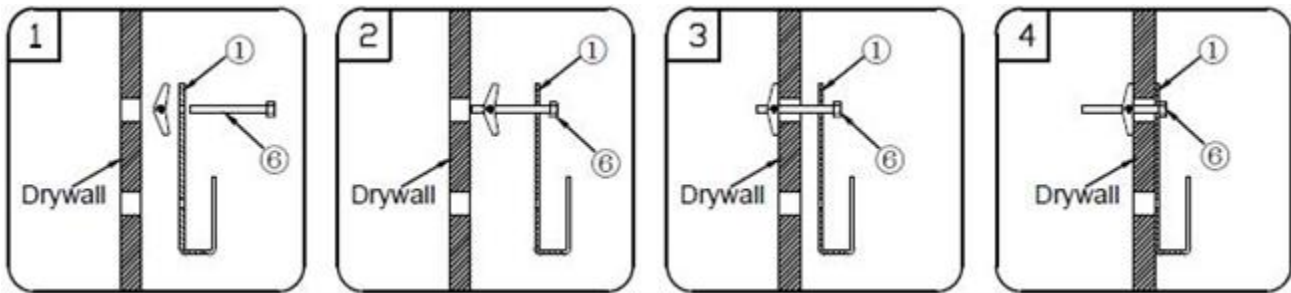

A. Solid Concrete or Concrete Block Option

1. Drill five diameter 3/8 in. holes with depth 1 3/8 in., according to the measurement in Fig. 1.
2. Insert the five expansion bolts (3) (M6x50) into the drilled holes.
3. Mount the wall plate (1) on the wall with five mat, washer, nut (4) (M6).

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B. Wood Stud Option

1. Use stud finer (2) to detect the nails on the wood stud and mark the center of the wood stud with a pencil.

2. Drill one diameter 3/16 in hole in the middle of the wood stud with 1 ½ in depth, and the other four side holes with the diameter 11/16 in. drill through the drywall.

3. Mount the wall plate (1) on the wall with one lag bolt (5) (6x50) in middle hole and the other four with Toggle Bolts (6) (M6x60).

C. Steel Stud Option
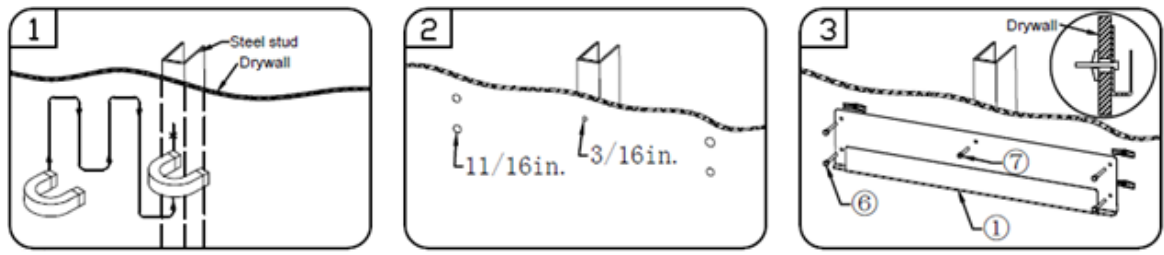
1. Use stud finder to detect the steel stud and mark the center of the steel stud.

2. Drill one diameter 3/16 in. hole with depth 1 ½ in. or through the steel stud, the other four side holes with the diameter 11/16 in. through the draywall.

3. Mount the wall plate (1) on the wall with one self-tapping screw (7) (m6x50) in the middle hole and four toggle bolts (6) (M6x60) in the side holes.

Installing the Scale
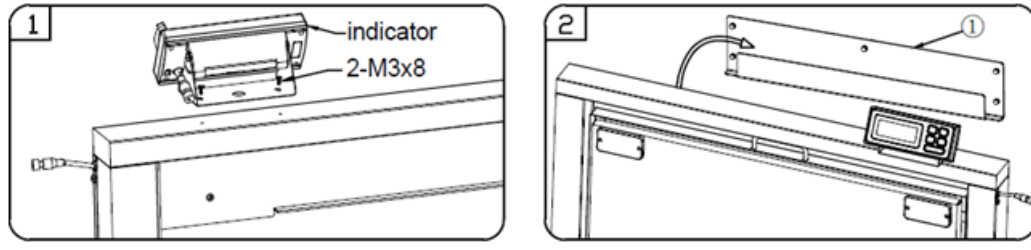
1. Install and mount the indicator onto the scale frame with two M3x8 screws
2. Hang the scale onto the wall mount (1)
3. Connect the scale cable to indicator
4. Connect power adapter to indicator and plug the adapter to A/C supply
5. Press the ON/OFF button to turn the scale on.

Maintenance and service

The weighing machine must be treated carefully and cleaned regularly. It is a precision instrument.

⚠ DANGER

For maintenance-work, the balance must be disconnected from the power supply (remove power adapter plug from socket). Also ensure that the balance cannot be connected to the power supply during the work by a third party.

Make sure that no liquid spills into the scale while performing maintenance work. If liquid is spilled on the scale, it must be inspected by a service technician.

Regularly perform maintenance to the weighing pan and the weighing pan holder by removing any dirt or dust from under the weighing pan and on the weighing scale housing. Use a soft brush or a soft, lint-free cloth, moistened with a mild soap solution.

Never use solvents, acids, alkalis, paint thinners, scouring powders or other aggressive or corrosive chemicals for cleaning; these substances can cause damage to the surfaces of the scale housing.

Transport & Storage

Your weighing machine is a precision instrument, treat it carefully. Avoid shaking, severe impacts and vibration during the transportation. Make sure that there are no marked temperature fluctuations during the transportation and that the weighing machine does not become damp (condensation).

If you would like to take the weighing machine out of service for an extended period, disconnect it from the electricity supply, clean it thoroughly (refer to Maintenance & Service) and store it in a place which

⚠ CAUTION
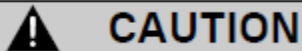
meets the following conditions:

- No violent shaking, no vibrations
- Minimum temperature fluctuations
- No direct solar radiation
- Minimum moisture

<u>Warranty</u>

The products are under warranty against factory defects for a period of two (2) years from the date of shipment.

For Customers within the lower 48 states of the continental United States. LW Measurements will pay for fright both ways for the first 30 days after purchase. After 30 days expire the customer is responsible for shipping the product back to us. After the product is received we will inspect it and as necessary we will repair or replace and will ship the product back to the customer at our expense.

Any new scales returned for warranty must be properly packaged in the original box. If they are not properly packed an in the original box, the customer pays for shipping cost. If we determine there is a factory defect, we will pay for the shipping back. If we determine that it is not a factory defect, the customer will pay shipping.

For Customers outside the lower 48 States, including Mexico, Canada, Puerto Rico, Hawaii, Alaska and all other countries, customers must pay for shipping.

Our warranty does not cover misuse or neglect including but not limited to battery or water damage, overloading, and chewed or cut wires. If the product is found to have been misused or damaged by the customer, LW measurements is not responsible for the cost of return.

For warranty claims please go online to lwmeasurements.com and fill out the warranty submission form or call your customer service representative.