

OPERATION MANUAL

Desktop type Vibration Isolation System

DT-M Series

HERZ Co. , Ltd.

#1 Caution items before using

Caution / Warning / Advice against Danger

Do not use before reading this caution.

The purpose of this passive vibration isolation system is to isolate sensitive equipment from vibrations.

Caution / Warning / Advice against Danger

● **Use this system as vibration isolation equipment.**

Do not use the system for any other purpose.

● **Vibration isolation table with Automatic leveling sensor**

Be sure to deflate the table when adjusting or removing the equipment from the table top.

Re-inflate after the equipment has been reloaded onto the table top.

Do not connect to air source before loading equipment on the table.

There is a strong possibility to damage air diaphragm in case you load and take down the loading equipment from the table when the table is inflated.

Also when you change the position of loading equipment after inflating,

1. Close the valve of air source by way of precaution.
2. And then deflate air pressure in the vibration table.
3. Then change the position.

This procedure has effect to prevent bursting of air diaphragm and extend the lifetime of air diaphragm by reducing the burden to air diaphragm.

● **Manual leveling type vibration isolation table using Accessory hand pump**

It is basically same as automatic leveling sensor type.

Deflate isolation system when removing the load, or adjusting the location of the equipment mounted on the tabletop.

Deflate isolation system as described in the manual.

Remove and replace loading equipment.

Re-inflate and adjust the level.

● **IMPORTANT**

There is a mechanism that fixes movement during transport and prevents excessive floating the system. It has 'Fixing Bolt for Transportation' one each near four air diaphragms. Be sure to take out these four 'Fixing Bolt for Transportation' before using.

#2 Caution items before using

Caution / Warning / Advice against Danger

Do not use before reading this caution.

- **A vibration isolation table has Air diaphragms.**

Each air diaphragm is made of synthetic rubber material and other component parts. Degradation by oxidation in the air, chemical degradation, and mechanical degradation can occur. So these parts are exhausted for sure regardless of using period.

If there is degradation to any piece of the air diaphragm, notify your dealer immediately for repair.

- **Working life of air diaphragm is generally about from 3 to 5 years.**

Lifetime is affected by the environment.

The following items can affect the lifetime of the air diaphragm:

Direct sunlight

Ozone environments

Volatile solvents

Oils

Excessive or unbalanced loading

Frequent load changes, and changing center of gravity

If your system is subject to any of the above, lifetime might be decreased.

Contact a Herz representative if the air diaphragm fails.

- **In case the system seems to be unusual, stop using and see the section of “trouble shooting” of this manual.**

Call us before practicing the countermeasure that is stated in the section for security.

It is dangerous to keep on using and take countermeasure forcibly.

- **Part of the leg is an air pressure chamber.**

If you are planning to drill any holes in the leg after delivery, contact your representative before drilling any holes to insure the integrity of the pressure chamber is not breached.

- **Do not apply oils to components of the isolation system**

Oils near the air diaphragm could degrade performance.

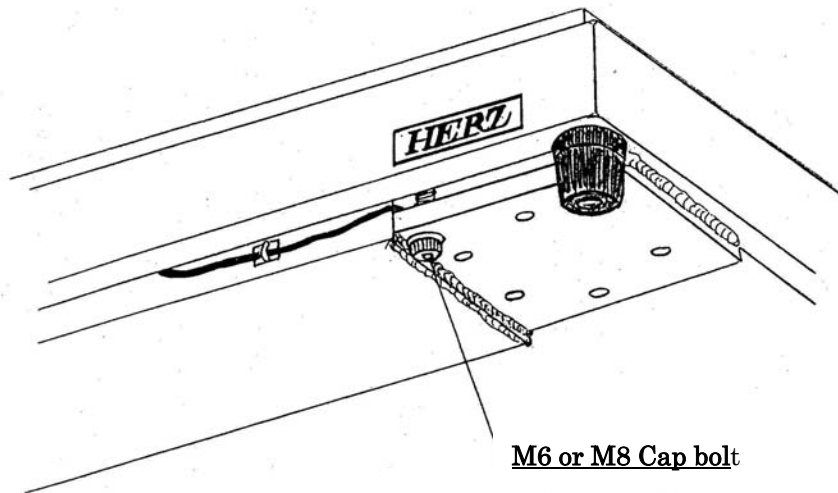
- **Leaving the isolation system without air supply for over 2 months could cause degradation of the air diaphragm system.**

- During using the system, do not knock the bench corner of vibration isolation table and not touch the sensor.

Do not sit on the bench because it is dangerous.

- When transporting to a new location after installation, contact Herz representative for advice on packing.

- Read caution that is final section of this manual.



M6 or M8 Cap bolt

M6 for 4048,5548 size

M8 for 6050,8060 size

※Before using, please remove four stopper bolts from the bottom.

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※ Before using, please remove four stopper bolts (M6 cap bolt) from the bottom

1) Nomenclature

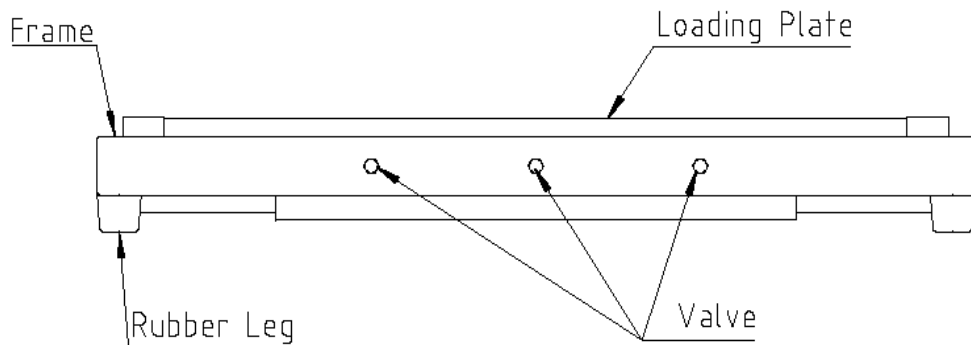


Figure-1

2) Setting

Set the vibration isolator on the rigid and leveled desk.

Fix the valve and the pressure gage for your easy operation.

CAUTION : DO NOT SET THE VIBRATION ISOLATOR WHERE IT IS EXPOSED TO DIRECT SUNLIGHT OR WHERE THERMAL FLUCTUATION IS EXCESSIVE.

3) Loading the equipment

Load only what should be free from vibration on the loading plate.

Load the equipment on the loading plate and to make sure it does not overhang.

Its center of gravity should be in the approximate center of the loading plate. Check to insure that cables or other components do not inhibit the free movement of the loading plate.

4) Air-supply

a. Remove the three caps from the valves.

b. Supply air in the order shown in Figure-2.

For ②, provide air to the heaviest side (right or left) of the equipment on the loading plate.

Fit the provided hand pump to the valve, push slightly and pump air.

Make sure fit the hand pump at a right angle to the valve. Draw the pump away quickly when air supply finished.

CAUTION : USE ONLY ACCESSORIED HAND PUMP WHEN SUPPLYING AIR TO THE VIBRATION ISOLATOR. NEVER USE COMPRESSED AIR.

c. Pump air until the bottom surface of the loading plate becomes the same height with the top of the frame. (See Figure-3)

Never pump too much air when the loading plate projects above the top of the frame.

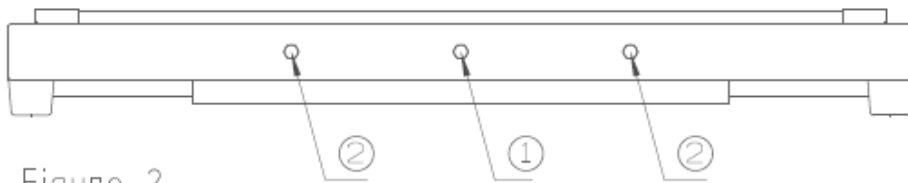


Figure-2

Before floating the loading plate

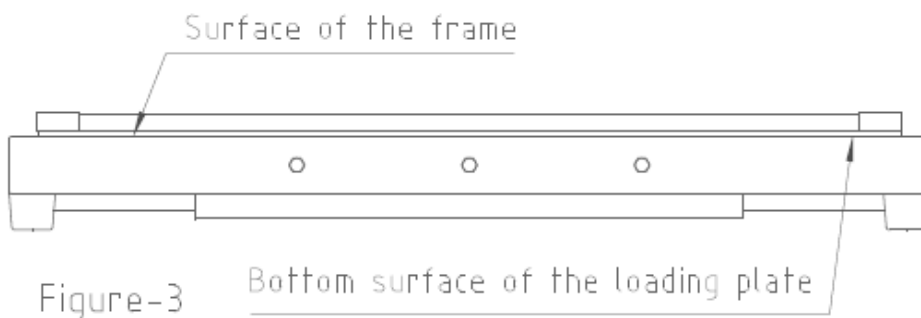


Figure-3

After floating the loading plate

5) Adjusting the height and level of the loading plate

Align the bottom surface of the loading plate with the frame horizontally by deflating the air-suspensions bit by bit from the highest air-suspension. (See Figure-1)

Deflating air can be done by pressing the valve core in the valve. (see Figure-4)

Each valve is independently connected to one or two suspension(s) as shown in Figure-5.

If too much air is exhausted, supply air again as in the procedure 4).

After level adjustment, note each pressure gage value. Later on, you will be able to adjust with the gage data.

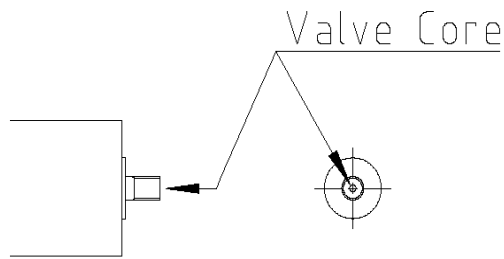


Figure-4

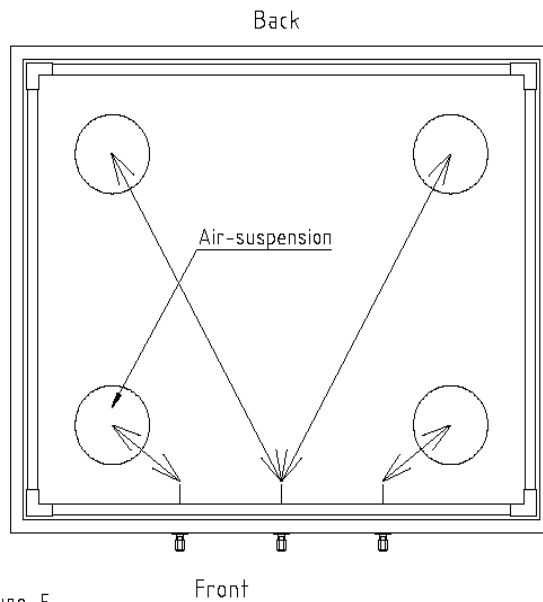


Figure-5

6) Final checking

The isolator is in service condition if the loading plate moves up and down two or three times a second when the loading plate is pushed off.

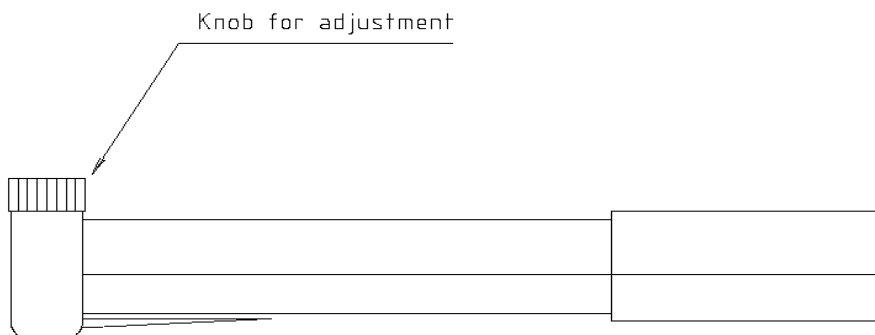
Screw in the caps on the valves after the checking.

Do not over-tighten.

7) Cautions

- a. Load the equipment on the loading plate before supplying air to the vibration isolator.
- b. Do not remove the loading equipment from the loading plate before releasing air from air-suspension system. When the valve core in the valve is pressed, air is vented.
- c. The surface of the loading plate must always be at the same level to the table top. If the position of the loading plate changes, adjust it again using the procedures 3) and 4).
- d. Tighten the valve core with the provided screwdriver about once a year. Do not over-tighten.
- e. When the vibration isolator is replaced, or the loading equipment is unloaded or changed, be sure to release the air from the air-suspension systems before adjusting the load.
- f. Do not apply any oil or solvent to the rubber parts. These materials can degrade them.
- g. When the vibration isolator is not in use, do not release the air from the air-suspension system, except when in transport.

HAND PUMP OF DT-M SERIES



Before use this hand pump, loosen this knob.

Trouble shooting

Phenomenon	Check	Countermeasurement
The top plate does not float	Have you taken out the fixing bolt for transportation?	See page 6-4)
	Is air supplied?	Check air supply valve.
	Is there trouble with the pump?	Check air coming out from the mouth of the hand pump.
	Is anything clogging up the valve?	Remove the alien substance from the valve.
	Is there unbalance of the loading weight?	Arrange the load as equally as possible
Air suspensions do not work	Is there air-suspension which isn't inflated?	See page 6-4)
Loading height and level of the loading plate has changed	Was volume of air adjusted after changing the balance of the loading equipments?	See page 6-4)
	Is the valve core loose?	Tighten the valve core with the provided screwdriver.
	Did the room temperature change a lot?	Slight change of the height of the loading plate by changing of the room temperature is normal. Re-adjust by following the procedure P.6-4)
The loading plate loses air quickly	Is the valve core loose?	Tighten the valve core with the provided screwdriver.
	Do you hear the sound of air leaking?	Contact your distributor
Performance becomes poor	Confirm the above items	
	Is the air supply proper volume?	See page 6-4)
	Has the balance or the loading equipment changed?	The balance is important. Please recheck it.
	Are there any vibration sources on the loading plate?	Reduce the vibration source as much as possible.
	Are there acoustic or wind pressure influences?	Redirect or eliminate acoustic or wind pressure.

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