

OPERATION MANUAL

AM Series vibration isolating platforms and tables.

Congratulations on your purchase of an AM series platform and thank you for choosing Speirs Robertson.

This manual gives you easy instructions for installing our products but if you experience any problems you can contact us in the USA on our toll free number 1-800-747-4596 and in Europe (44)-1234-823410. You can Fax us on (44)-1234-825819 or e-mail us on sales@speirsrobertson.com

1. Product overview

Our AM series of vibration isolating platforms are designed for use on a rigid flat surface and are supplied in a wide range of sizes. They are available in two basic versions; AMP active self-levelling platforms and AMPT passive platforms. The active platforms require a continuous supply of pressurised air whereas the passive platforms are pumped up and left alone.

Standard platform working surface is Epoxy powder grey.

Option 03 specifies a ferromagnetic stainless steel surface

Option 02 specifies a dull-polished stainless steel surface

We supply a range of AMF series frames for use with the platforms. These can be fitted at any time to the platforms and provide a stable floor mounted base for the platforms. Standard frame finish is Epoxy powder grey unless otherwise specified.

Frames are supplied with nylon chrome feet as standard.

Other options are:

Option F02 lower shelf

Option F03 platform guard

Option F04 platform shelf

Option F05 monitor stand

Option F06 castor/feet

2. Getting started

Please take time to check that the packaging is not damaged and that our products have been delivered to you in good condition. Any damage to the products needs to be reported to us within 1 week of acceptance of receipt of goods at your premises.

3. Setting up the platform

a) Active platforms

These platforms allow loads on them to be varied without the need for any adjustments as air is introduced and exhausted to and from isolators according to load automatically.

These platforms require a continuous supply of pressurised dry air between 5 and 7.5 bar with a throughput of more than 0.6cfm, if you are in doubt about the quality of the air supply we recommend a 10bar pressure regulator fitted with a water filter fitted with a 5 Micron filter.

If you do not have a source of pressurised air you can use a compressor or an air bottle then we offer a Low Noise Compressor for use with our workstations. If an air bottle is used the pressure **MUST** be regulated down to 8 bar or less.

The air is supplied to the platform via a 6mm pneumatic push-fitting at the rear of the platform. We supply a length of 6mm OD nylon tube, which pushes into this fitting to make a connection. To release the tube you simply push in the black ring on the fitting and pull out the tube.

Setting up the levelling

After connecting the air supply slowly increase the pressure to 5bar. The top of the platform should float up from the base. If you push down on a corner you will feel the system pushing back against you and when you let go the system will exhaust air.

The inlet air pressure is **NOT** used to adjust the level or otherwise of the platform. It should simply be sufficient to exceed the maximum pressure required by the isolators for proper operation of the platform, typically use a supply in the range 5 to 7.5bar. In any event it should never exceed 8bar.

Let the air out of the platform and place you equipment onto the table as desired. Remember the maximum load for the platforms is 160kg at 7bar for a distributed load. You should not exceed 40kg at any corner.

If any of the corners of the top plate are not floating (ie: either at the top or bottom of their travel), then you need to adjust the levelling.

The levelling is adjusted via the four access ports on the sides of the platform. These ports are fitted with a replaceable black plastic closed grommet, which you need to remove. You can adjust the height of the platform using the four levelling socket head

screws mounted on the levelling arm , visible through the port. Turning a levelling screw clockwise raises the top whereas turning a bolt anticlockwise lowers it.

The easiest way to set up the platform is to set the supply pressure to 5Bar and then turn the levelling screws anticlockwise until any air is exhausted and the top is resting at all four corners on the base. Use the Allen wrench provided to turn the screws.

Next turn the levelling screws clockwise, on one side of the platform only, until the table floats about 5mm up from the base. Then proceed and turn the screws on the opposite side in until that side rises to about the same high. You may find you need to adjust the screws on the original side to lower it until the platform top is floating freely at all corners. You may then make minor adjustments to precisely level the top.

The reason for proceeding this way is that diagonally opposing isolators always support the same load whereas isolators on each side may not and have to be set to carry similar loads. You want to equalise the load supported by the isolators as much as possible. For a uniform load the isolators should all operate at the same pressure across diagonals but for non-uniform loads the pressures will vary between diagonal pairs.

Press down on each corner to check that the platform is self-levelling correctly.

b) Passive platforms and balance tables

These platforms feature four pneumatic isolators, which are placed at the corners. The isolators are inflated via the four bicycle type valves on the front face of the top. A pump should only be used to inflate these valves, such as a car or cycle type. Remove caps from valves to pump or deflate.

Before placing any equipment onto the platform, check that the unit is deflated. To deflate the isolators you simply slacken the valve ring to let out the air. When air is fully exhausted retighten the valve ring.

Place equipment as desired up to a maximum of 160kg (40kg per corner) onto the table and then inflate isolators in turn until the platform top lifts about 5mm above the base at each corner. Check that the top is floating freely at each corner.

Do not place static tables in direct sunlight or areas subject to temperature change, in these areas an active table should be used.

Stable operation

The damping on the platforms is set during manufacture to provide the optimum combination of isolation and damping. This level of damping will allow for loads with centres of gravity up a height equivalent to that of the platform width (length is taken always to be greater than or equal to width) to be supported. However, there may be instances where loads with very high centres of gravity require to be isolated from vibrations, in this case we can provide heavily damped platforms which will greatly extend the usable height.

4. Frame assembly

If you have ordered a frame with your platform you will need to assemble this first. Otherwise place the platform on a flat level surface and proceed to set up.

A frame comprises two H leg assemblies which are connected together by a frame strut which is held in place by the six M8 cap socket bolts provided.

After assembling the frame place it on the floor in the position it will be used and adjust the levelling feet such that the tops of the legs are level. You can use a builders level for this purpose.

The levelling feet screw in and out of the frame legs to allow the height to be adjusted. Use the feet locking nuts to tighten feet up after levelling.

Place the platform on top of the frame and secure using the four M6x20 socket screws provided and check that the top is level. Check all screws are fully tightened and that frame is rigid and sits on floor without any movement.

If guard option is specified it is normally supplied fitted to the platform. Otherwise attach the guard support bars to the underside of the platform using four M6x10 socket screws before attaching frame.

Before proceeding further, check that the top plate is free to move up and down at each corner.

If the castor/feet (option F02) have been selected, ensure the feet are wound down before proceeding to set up the platform. The feet are raised and lowered using the red thumbwheel.

5. Lower shelf option

The lower shelf is made from beech finish laminated board and is supported by four brackets attached to the side H leg assemblies. It is suitable for moderate loads.

Place the shelf into position on the rails and fix in place using the four screws provided.

6. Platform guard option

The guard for the platform comprises a front a back rail plus two optional side rails. These bolt together to form a shield, which completely surrounds the platform (with the side rail option) protecting it against accidental knocks. The rail sections are connected together by eight M5 screws, two at each corner of the guard.

Platforms ordered with a guard are normally supplied with it fitted. However, if you need to fit the guard, first fit the guard support bars to the platform. Four M6 screws are used to fix bars to the platform base when a frame is used the bars are bolted onto the frame using four M6x20 socket screws.

Attach the front guard using two M6x10 screws and then the back guard using four M8x10 cap socket bolts. The side guards are then fitted between the front and back guards using eight M5 screws

The arm & accessory bar (optional) acts both as an armrest and can also be used to allow other accessories such as articulating arm rests or monitor supports to be fitted and positioned as desired. It is finished in epoxy powder grey.

Two wing nuts are used to hold the accessory bar onto the front guard bar. These allow the arm bar to be adjusted in height by 75mm according to user preference.

7. Platform sliding shelf option

The platform shelves sit on the guard on the rails positioned along the front and back of the platform and are located by rubber bushes on the underside. They can be moved along the guard and positioned as desired.

8. Articulating arm rests and bar

These arm rests bolt to the arm & accessory support bar, ensure bracket faces towards table to allow arms to traverse over the platform.

9. Monitor support

The monitor platform is 300x300mm and bolts directly to the guard support bar using two M8x16 bolts. It will support a monitor up to 20kg and allows it to be tilted in all directions and rotated through 360 degrees.

10. Cleaning

The epoxy powder finish is resistant to attack from most chemicals and is hard and durable. It can be scratched or chipped if mistreated. It conforms to Class 10 and 100 cleanroom use. It can be cleaned with water, detergent and alcohol.

The stainless steel finish is resistant to attack from most chemicals and is suitable for particularly stringent environments such as in the Food industry and is suitable for use in Class 1 cleanrooms. Levelling valves exhausted air is piped and can be vented as required. Use approved stainless steel cleaners for cleaning.

WARRANTY

All equipment manufactured by Speirs Robertson Ltd is warranted against defects in materials and workmanship for one year from date of delivery. Products sold or resold but not manufactured by Speirs Robertson carry the warranty of the original manufacturer. We will replace or repair (at our discretion) products which prove to

be defective during the warranty period or employ our best efforts to effect repair or replacement of equipment sold but not manufactured by Speirs Robertson. No other warranty is expressed or implied. We are not liable for consequential damages.

It is the customers responsibility to return goods for replacement or repair to our premises at their expense. Return goods will not be accepted by us without written authorisation from an officer of Speirs Robertson. We will return repaired or damaged goods to the customer at our expense.

This warranty excludes:

Any components that required replacement or repair due to obvious abuse or unauthorised repair attempts or through incorrect use of the product or exposure to hostile environments.

Items of an expendable nature

General wear and tear that a product may endure through its normal use

Routine maintainance; including any operations, calibration, adjustments or alignment for which instructions are provided in this manual.

General cleaning. Repair of plumbing leaks with the exception of welded fittings.

Force maejure and acts of god