

# Instruction manual

# Shock and detection controller

# for treadmill AirPuff

April 2021 Revision 1.1



SKU: 47350-005

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# SAFETY CONSIDERATIONS

Although this instrument has been designed with international safety standard, this manual contains information, cautions and warnings which must be followed to ensure safe operation and to retain the instrument in safe conditions.

Service and adjustments should be carried out by qualified personnel, authorized by ugo basile organization.

Any adjustment, maintenance and repair of the opened instrument under voltage should be avoided as much as possible and, when inevitable, should be carried out by a skilled person who is aware of the hazard involved.

Capacitors inside the instrument may still be charged even if the instrument has been disconnected from its source of supply.



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# Product features and general informations

- This device is an add-on of the Ugo Basile Treadmill and can ONLY be used with the Ugo Basile Treadmill devices with the following SKU number:  
47300, 47300-001, 47302, 47303, 47313.  
This device itself without the Ugo Basile Treadmill MUST not be used.
- You CAN NOT use together the standard Treadmill shock assembly and this device, you need to decide before starting the test, which one of the 2 assembly use and mount only one at a time.
- This device provide a double choice incentive for the animal to run; the standard Ugo Basile Treadmill provide a smooth adjustable electric shock only, this "Shock and detection controller for treadmill AirPuff" provide booth, electric incentive and a smooth air puff.
- This device must be connected to an air delivery system by a provided tube of 6 mm of external diameter and 4 mm internal diameter. The maximum input air pressure has not to exceed the value of 1 MPa (10 Bar)  
If your air delivery system exceed the maximum value above indicated you will need to add a pressure regulator between your air delivery system and this device, to lower the input value at the Max indicated.
- The Ugo Basile Treadmill computer will automatically recognise the incentive assembly installed giving You the relatives options on the touch display.
- AirPuff add-on will provide a puff of a maximum 0.8 MPa (8 Bar) of air pressure.



## Check list

Your “Shock and detection controller for treadmill AirPuff” package contains the following items:

- The Shock and detection controller for treadmill AirPuff assembly itself
- The 3 Mt long plastic tube of 6 mm of external diameter and 4 mm internal diameter. to connect the AirPuff assembly to your air delivery system.
- 6 blockage nuts for the air flow configuration for different animals.
- 6 nozzles for the air flow configuration for different animals.
- 1 Allen key tool 2.5 mm to be used to open or close the nozzle and the plug.
- *Please ensure to load the latest firmware version of the treadmill software before installing the Shock and detection controller for treadmill AirPuff, minimum version required is 1.5.6.0*


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## **Install the AirPuff assembly in state of the standard shock assembly:**

1. Remove the standard shock assembly from the Treadmill:
  - a. Switch the Treadmill OFF and detach the power cord at the rear.
  - b. Remove the upper lane assembly.
  - c. Detach the right side grey connector pulling it to the right handling it by the grey part.
  - d. Lift all the shock assembly up, it will slide up and place it in a safe place.
2. Take the AirPuff assembly from the package and clear it from all the packaging material.
3. Slide the AirPuff assembly in the Treadmill in the same position of the one you just remove, pay attention to align guide carefully.
4. Connect the grey connector paying attention to the polarisation position, identify the position first and then push the connector in.
5. Mount the choosen lane assembly.

Connect power cord and switch on the treadmill, and after selecting the right animal on the display you should see the following icon  beside the Ugo Basile logo at the right. This will ensure you the AirPuff assembly has been recognized by the system.

***Please ensure to load the latest firmware version of the treadmill software before installing the Shock and detection controller for treadmill AirPuff, minimum version required is 1.5.6.0***

## Adapt the AirPuff assembly for mice or for rats

While the Treadmill can be used for rats or for mice, you need to configure the system before running the test, you also need to prior decide if you want to use the AirPuff or the standard shock incentive.

Treadmill wise if you need to use mice please load the lane assembly for mice (6 lane) and refer to the Treadmill instruction manual for infos.

If you need to use the Treadmill with rats, please load the 3 lane assembly for rats.

If you choose to use the standard electric shock assembly, please refer to the Treadmill instruction manual.

If you choose to use the Air Puff incentive assembly you need to configure it depending the animal you will use.

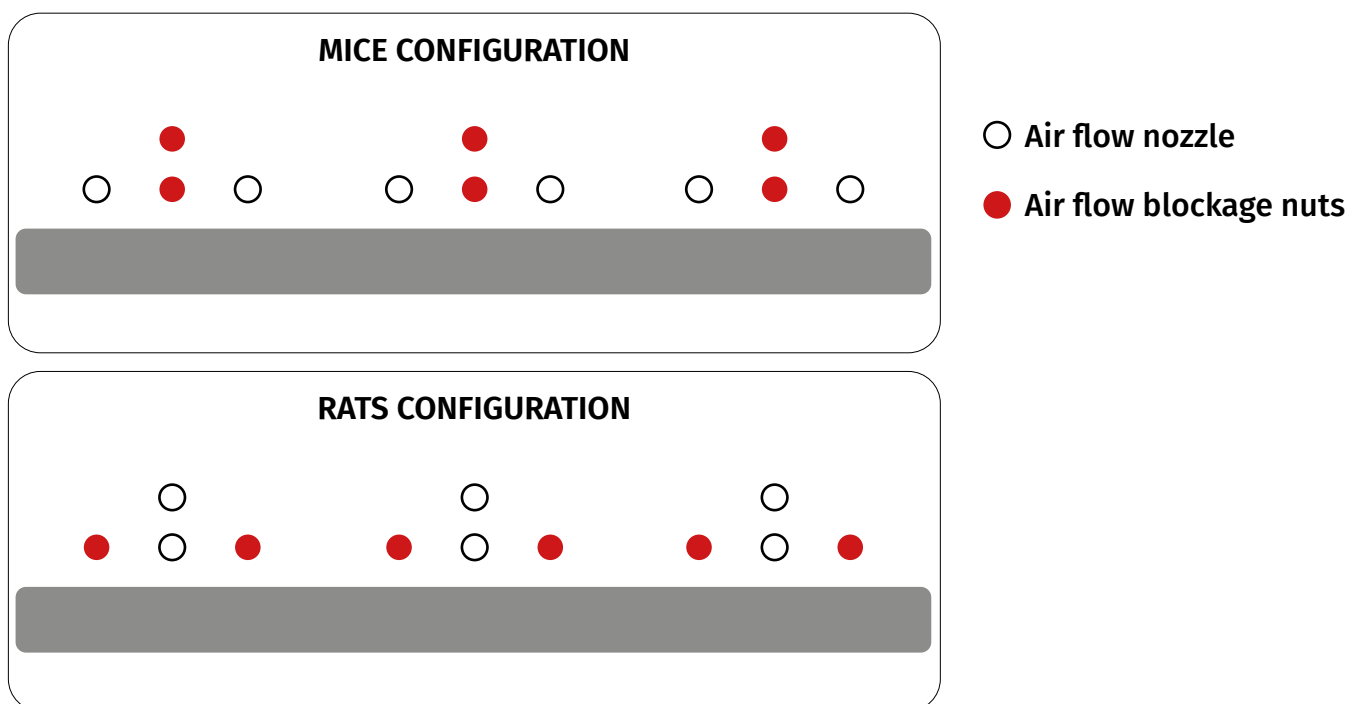
To configure your AirPuff for the use with rats or with mice you need to change the metal plug positions.

As standard AirPuff assembly is configured to be used with mice, if you need to use with rats please change the plug position as follow:

To remove a plug from the assembly use the provided alley key tool and unscrew (turning unclockwise)

To mount the plug screw it in, turning clockwise but please pay attention to avoid tighten too much.

Here follow the mice and rats plug configuration:



## Treadmill functions for AirPuff

While installing the AirPuff assembly the Treadmill will automatically recognize the added device and change some setting on the screen.

Please refer to the Treadmill instruction manual for general Treadmill functions. All the standard feature of the Treadmill with the electric shock assembly installed are available also with the AirPuff.

While you install the AirPuff you will have one more parameter you can set.

With the AirPuff assembly installed you can controll the *MINIMUM AIR PUFF TIME*

This is the minimum time the puff can be released.

Meaning:

If the animal stays land to the grid the AirPuff is activated and continue blowing for the “MINIMUM AIR PUFF TIME” set even if the animal esacpe the grid.

if the animal stays on the grid the Air puff will blow till the “Schock Cut off timer is reached”  
This parameter can be set in a range of 300 to 2000 ms. (0.3 to 2 Seconds.)

### ***How to set the Minimum Air puff time***

In the Setup windows You can press the *AirPuff* buttom to access this setting parameters.





## Performing the test with the AirPuff

With the AirPuff assembly installed you can control both of the running incentive; AirPuff and electric shock.

To control electric shock please refer to the Treadmill instruction manual.

AirPuff will blow in any case while AirPuff assembly installed and you can regulate the pressure of the puff using the left side pressure handle:



Turning the handle you can adjust the pressure of the AirPuff reading the value on the manometer; depending on the pressure of your air delivery system you will have different possible values.

eg. for mice a value of MPa 0.5 is normally enough to push mice to run away from the grid and start exercising on the Treadmill.

The way to activate or deactivate lanes for the AirPuff is exactly the same way you use for the standard shock incentive, please refer to the Treadmill instruction manual for use.



While in run mode you only need to press the related lane button to activate the incentive to run, be it electrical or air puff or a mix of both.