

Rainbow 72 R User's Manual

Ventilation & Air Filtration System for a Residential Safe Room



Approved by the **Civil Defense** Command
and the **Standards Institution** of Israel
In accordance with Israel **Standard 4570**



Certified Quality
Assurance
Program
According to
AQAP-2110



NBC-Filtration & Ventilation Systems





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Ventilation and Air Filtration System for a Residential Safety Room

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Dear Customer,

Thank you for choosing the Rainbow 72 R ventilation and air filtration system for installation in your house. This system saves lives.

For your safety, we recommend that you read this guide carefully. Keep the guide in a suitable place so that it will be available and accessible in the event of an emergency.

It is recommended to practice operating the system from time to time without removing the filter sealing caps and without connecting the filter to familiarize yourself with the operation of the system.

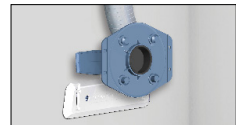
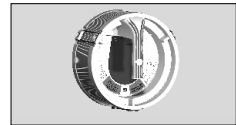
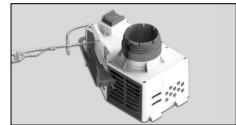
Safety Instructions

1. Use the system only in accordance with the instructions in this manual.
2. The system must not be used for any purpose other than for the purpose of ventilation and filtration of a residential safety room, and protection from biological and chemical warfare substances while staying in the safety room.
3. The system must be connected only to the standard voltage of the safe room (100- 240 VAC / 50-60 Hz). Other types of power supply may damage the system and jeopardize its operation.
4. The system must be protected from extreme weather conditions and humidity.
5. The system should be stored out of the reach of children. Do not allow children under the age of 10 to operate the system.
6. Various repairs, including disassembly for repair, should only be performed by professional and certified technicians on behalf of the company and in accordance with terms specified in the warranty certificate.

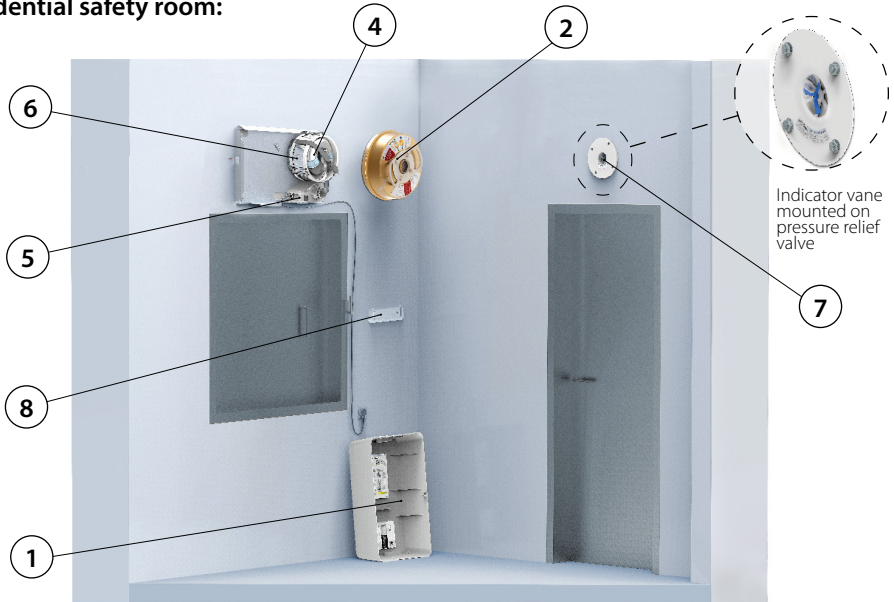


System Parts List

- 1. System cover
- 2. CBRN filter including adapter for ventilation
- 3. Air inlet – blast valve with prefilter
- 4. Connection hose for manual blower
- 5. Electrical blower
- 6. Manual blower
- 7. Air outlet – overpressure blast valve with indicator vane
- 8. Manual blower bracket
(Available in systems where the inlet valve is 1.6 meters high)



The following illustration displays the parts of the system and their location in a residential safety room:



Principle of system operation

When the system is operating according to the instructions, air is introduced to the room via the air inlet valve and the NBC filter (2). The filtered air is circulated through the room and creates an overpressure, thus preventing the entry of polluted air through crevices or concealed openings

When the room is in a state of overpressure, the indicator vane (7) spins around. In this state, it is possible to remain in the room without the personal NBC masks (on condition that the room is not contaminated by NBC before operating the system). Overpressure created in the room is not harmful to humans and pets.

Instructions for operating the system in filtration mode

Caution!

- The system should only be operated in an actual emergency situation.
- When you start the system, make sure that the doors, windows, pipe openings, air conditioner, water and sewage if any, and any other openings are closed and sealed as required.

1

Remove the system cover. Grasp both handles on the sides of the cover and pull it towards you.



2

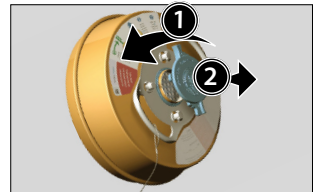
Observe the quickstart guide operating instructions on the inner wall of the system cover.



3

Slightly loosen the filter strap and remove the adapter for ventilation.

Hold the filter with one hand and with the other hand release the strap to the end.



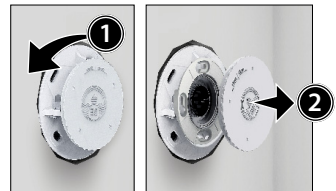
4

Open the seal on the filter and remove the sealing caps on both sides.

To remove the sealing caps, rotate the cap counterclockwise (1), and pull it outwards (2).

Remove the air intake valve cover. To remove the cover turn the cover counterclockwise (1).

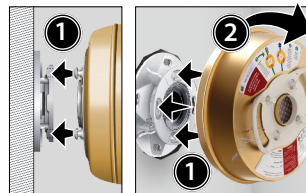
Pull outwards (2).



5

Attach the filter to the air inlet valve with the blue arrow pointing up, insert the pins into the holes in the flange on the wall (1).

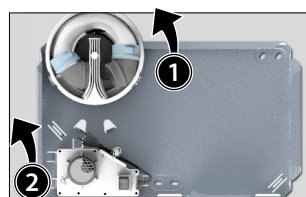
Rotate clockwise until the green line is in a vertical position and can no longer be rotated (2).



6

Remove the manual pump from the cabinet (1).
Remove the electric blower.

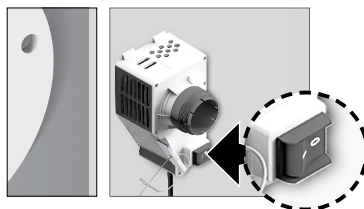
To remove the blower, lift it upwards until it exits the holder (2).



7

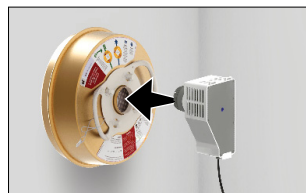
Connect the power cord of the blower to a wall outlet, press the power switch on the blower.

Wait a few seconds for the blower to start operating.



8

Connect the electric blower to the filter opening.



9

Attention! The indicator vane on the air outlet valve will start to spin after a few seconds. This indicates that the room is in the required state of overpressure. In the event that the indicator vane doesn't spin, this is a warning that the room is not properly sealed.



Operation with a manual blower

In the event of a power failure or in cases of other problems with the electric blower the system should be operated with the help of the manual blower.

There are two modes for connecting the manual blower:

Installation option 1:

Manual blower connection directly to the filter in the safe room where the air inlet valve is located at a height lower than 1.6 meters.

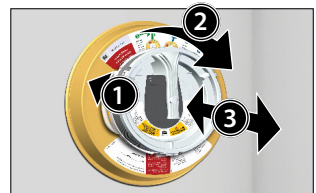
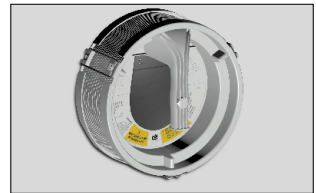


Remove the manual blower from the system. Adjust the blower to the pins on the filter **(1)**.

Connect it by a short counterclockwise rotation and then rotate it clockwise to the end **(2)**.

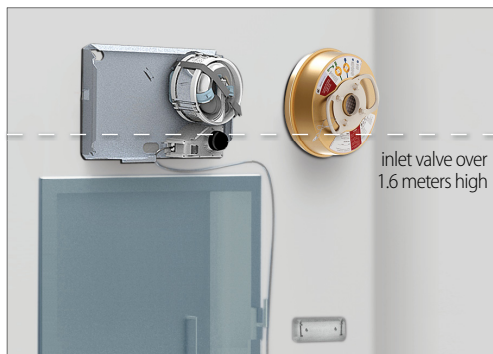
Start operation with an alternating pull and push action **(3)**.

Run at 40 cycles per minute, making sure the indicator vane spins.



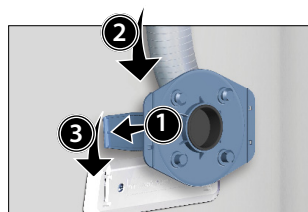
Installation option 2:

Connection of a manual blower to an adapter (mounted on the wall) in a safe room where the air-inlet valve is located at the height of over 1.6 meters.



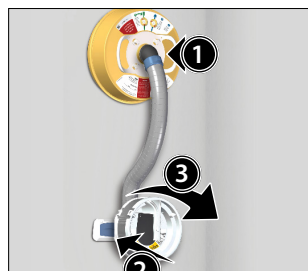
1

Remove the bracket from the cabinet (the bracket is located at the bottom of the manual blower). Open the two rear tabs **(1)** and attach the flexible hose **(2)** to it. Attach the bracket to the adapter on the wall by means of sliding the bottom of the tabs into the appropriate slots, as much as possible **(3)**. Follow steps 1-6 in the Air Filter Operating Instructions on pages 6-7.



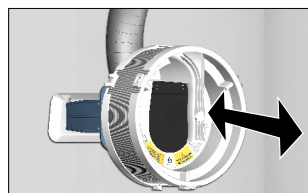
2

Make sure that the other end of the connecting pipe is connected to the air outlet opening in the filter **(1)**. Attach the manual blower to the bracket using the connecting pins. Adjust the blower to the pins on the adapter **(2)**. Connect it by a short counterclockwise rotation and then rotate it clockwise to the end **(3)**.



3

Start operation with an alternating pull and push action. Run at 40 cycles per minute, making sure the indicator vane spins. This operation should be continued until power supply returns.



Operating a system in ventilation mode

1

Remove the system cover. Grasp both handles on the sides of the cover and pull it towards you.

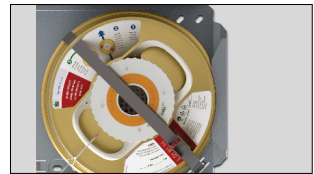
Observe the quickstart guide operating instructions on the inner wall of the system cover.



2

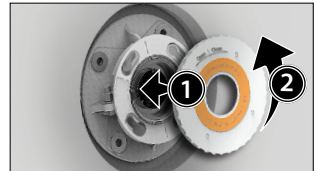
Loosen the strap of the filter and remove the ventilation adapter.

Tighten the filter back into place using the strap.



3

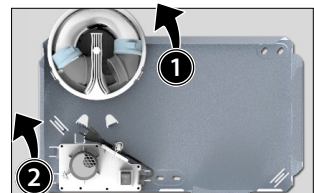
Remove the inlet valve cover and place instead the adapter for ventilation for the blower. To mount it, insert its four pins into the four holes of the flange (1) and turn it clockwise (2).



4

Remove the manual blower from the cabinet (1). Remove the electrical blower.

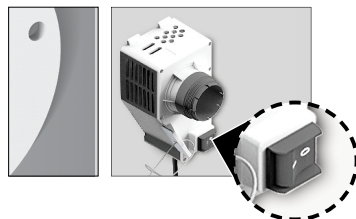
To remove the electrical blower, lift it upwards until it exits the holder (2).



5

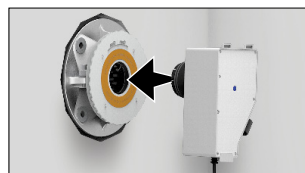
Connect the power cord of the blower to a wall outlet. Press the power switch on the blower.

Wait a few seconds for the blower to start operating.



6

Connect the electric blower to the inlet valve.



Filter handling after use

- The filter has a very high adsorption capacity.
- At the time of an NBC attack and afterwards, do not detach the filter from the air inlet opening.
- If the filter has adsorbed NBC substances, proceed in accordance with the instructions of the local authorities.
- **At the end of the emergency if there was no NBC attack, but the filter was attached to the wall nonetheless, it is possible to detach it from the valve, to close the openings with the sealing caps, and to arrange for a service check of the system.**

Routine storage

- Close the air inlet valve (shock valve) by means of the decorative cover.
- Do not open or damage the original seal of the filter in any way.
- In order to maintain the proper functioning of the system, perform a service check once every three years.



Beth-El Industries

Trouble shooting

Part Name	Quantity
The blower does not work	When operating, carefully check the connection of the power cord to the outlet and the blower itself. If it still does not work, try plugging into another outlet.
The flexible hose disconnects and falls off the filter and adapter to a manual blower	Carefully inspect and tighten the end of the pipe into the appropriate opening in the filter / adapter for the manual blower
The filter does not fit in the inlet valve	<ol style="list-style-type: none"> Make sure you fit the small filter pins to the openings in the inlet valve. Rotate slightly counterclockwise so that the pins go into place and then, rotate clockwise to the end to lock the filter in place Make sure you fit the small filter pins to the openings in the inlet valve. Rotate slightly counterclockwise so that the pins go into place and then, rotate clockwise to the end to lock the filter in place
The indicator vane does not spins	This is an indication that the room is not properly sealed. Verify that the door and windows are closed to the point of being completely sealed, and similarly verify that there are no additional openings or leaks that are not properly closed off.



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Disposal

No.	Part Name	Identification No.	Disposal
1.1	Blast Valve with Pre-Filter ESVF 54	B00160AA	According to local regulations
1.1.1	Prefilter for ESVF 54	H02396	According to local regulations
1.2	Overpressure Blast Valve A 54 RA 9003	B10150-01AB	According to local regulations
1.3	NBC-Filtration System Rainbow 72 R	B70190AB	Only through manufacturer/ official importer
1.4	Hand blower extension adapter	HL5084	According to local regulations

Beth-El Industries Ltd.

1 Avshalom Road
P.O. Box 166
Zikhron Yaaqov 3095101, Israel
Tel: + 972-4-629 9999
israel@beind.com
www.beind.co.il
rainbow.beind.co.il

We would be happy to assist you!

Telephone: +972-4-6299988

E-mail: Rainbow@beind.co.il



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