

NBC-Filtration & Ventilation System

Rainbow 72 R



Rainbow 72 R is a compact system that delivers breathing air for up to 8 persons in an airtight residential shelter.

During a non-conventional warfare alert, or under a severe pollution from an industrial disaster, the high capacity filter purifies the incoming air from Nuclear fallout particles, Biological pathogens and Chemical gases (NBC) for several weeks in a row.. The Blower and Overpressure blast valve build positive pressure in the shelter to prevent pollutants from entering via cracks and other leakage points.

In conventional times the system brings in fresh outside air to protect the occupants in the sealed airtight shelter from oxygen depletion without compromising the shelter blast resistance.

The system was designed and manufactured by Beth-El Industries in compliance with the stringent Israeli standards.

Certified in compliance with the Israeli Standard 4570, by the **STANDARDS INSTITUTION OF ISRAEL**, and the **ISRAELI CIVIL DEFENCE COMMAND**, as well as with the requirements of the **SINGAPORE CIVIL DEFENCE FORCE**.

HIGHLIGHTS:

- NBC protection for up to 8 persons (Up to 48 m³ shelters)
- High filter capacity provides weeks of continuous protection
- Quick and easy operation without the use of tools
- Backup manual blower easy-to-operate in case of power outage
- Multi installation configurations allowing fitting into any shelter design

Development - Design - Production - Installation



Certified Quality Assurance Program According to **AQAP-2110**





CERTIFICATIONS:

- Certified by the Israeli Defence Command
- Tested and certified by the Standards Institution of Israel
- Certified to carry the CE label for electrical safety
- Quality Assurance of ISO 9001 and QMS AS 9100

INSTALLATION REQUIREMENTS:

- Air inlet: Flange 8" or 4" according to Israeli Standard 4422
- Installation minimum height: 1.50m from floor / 25cm from ceiling / 35cm from nearest corner
- Air outlet: 8" or 4" according to Israeli Standard 4422; Minimum 1.90 m from floor / 25 cm from ceiling
- The horizontal distance between air inlet and air outlet should not be less than 2.50m



Beth-El Industries

Specifications of the Rainbow 72 R

Product number	B92058		
A) Blast valve ESVF 54 with quick connection			
Airflow rate:	48/72 (28/42)		m ³ /h (cfm)
Pressure drop:	100/212 (0.4/0.85)		Pa (inch WC)
Incident pressure durability:	900 (130.5)		kPa (psi)
B) NBC – filter HF 48 F			
Air flow rate:	48 (28)		m ³ /h (cfm)
Pressure drop:	550 (2.2)		Pa (inch WC)
Total weight:	6 (13.2)		kg (lbs)
Toluene adsorption capacity:	980,000		mg*min/m ³
CK adsorption capacity:	250,000		mg*min/m ³
Separation efficiency with aerosol filter against particles size 0.3 micron	99.995		%
C) Blower L 72/48			
Air flow rate:	Ventilation	72 (42)	m ³ /h (cfm)
	Filtration	48 (28)	m ³ /h (cfm)
Air pressure:	Ventilation	800 (3.2)	Pa (inch WC)
	Filtration	1200 (4.8)	Pa (inch WC)
Mains electricity connection (single phase , 50/60 Hz):	100-240		Volt
Current	0.75		Ampere
Backup manual blower operation:	1		Person
D) Overpressure blast valve A 54 with visual air-flow indicator			
Airflow rate:	48/72 (28/42)		m ³ /h (cfm)
Pressure drop @ 48 m ³ /h:	200 (0.8)		Pa (inch WC)
Pressure drop @ 72 m ³ /h:	370 (1.5)		Pa (inch WC)
Incident pressure durability	900 (130.5)		kPa (psi)
Cabinet measurements			
Height:	41 (16.1)		cm (inch)
Width:	68 (26.8)		cm (inch)
Depth:	22 (8.7)		cm (inch)
Overall weight:	19 (42)		kg (lbs)

Specifications are subject to change without prior notice.

System description

The Ventilation and Filtration system Rainbow 72 R is a collective protection system intended for safeguarding up to 8 persons in an airtight shelter according to Israeli Standard 4570.

The system builds overpressure inside the protected area and creates a safe and convenient environment that relieves the occupants from having to wear gas masks and protective clothing.

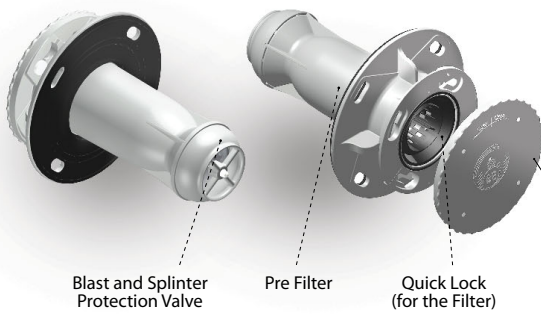
The air inlet and outlet valves protect from blast waves and their adverse effects. The airflow indicator (vane) spins when the required overpressure level is achieved inside the protected room.



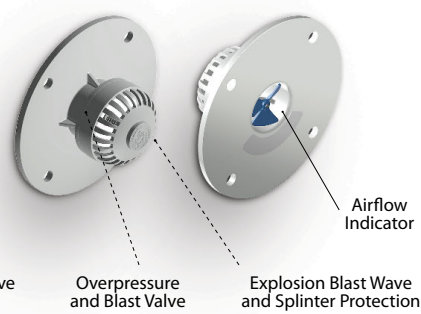
SYSTEM FEATURES:

- Unique and patented carbon technology to ensure long filter life
- Continuous usage for weeks in case of an emergency
- Manual backup operated easily
- Inlet and outlet blast protection

A. Air Inlet Unit



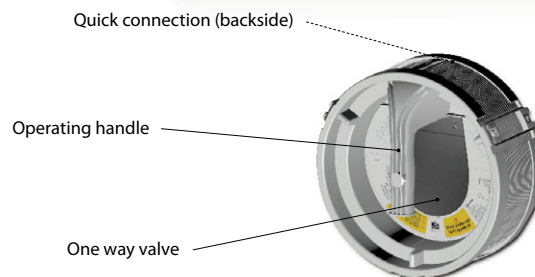
D. Air Outlet Unit



Rainbow 72 R system



C. Manual Blower LH 48:





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Installation with Flange position up to 160 cm

System installation in the protected room



Filter position when the system is activated



Installation with flange position above 160 cm

System installation in the protected room



Filter position when the system is activated



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