



# PAPR SYSTEM

**CBRN**



The Powered Air Purifying Respirator (PAPR) System provides continuous purified airflow through advanced filtration and positive-pressure technology, ensuring reliable respiratory protection and enhanced comfort in hazardous environments.

## Key Features:

- ▶ Positive Pressure Respiratory Protection.
- ▶ Brushless DC High-Efficiency Blower.
- ▶ HEPA / P100 / CBRN Filtration Compatibility.
- ▶ 80–120 LPM Adjustable Airflow.
- ▶ Rechargeable Li-Ion Battery.
- ▶ Low Flow & Low Pressure Alarm.
- ▶ Audible & Visual Fault Indication.
- ▶ Lightweight Belt-Mounted Design.
- ▶ IP54 Protected Housing.
- ▶ 8–12 Hour Runtime.



## Battery Management System:

The integrated Battery Management System (BMS) continuously monitors battery voltage, remaining capacity, charging status, and fault conditions to ensure reliable operation and enhanced safety. The system provides visual status indication and an audible low-battery warning approximately 15 minutes before battery depletion.

## Battery Specs :

Parameter	Specification
Battery Type	Rechargeable Lithium-Ion
Battery Voltage	12 VDC
Capacity	8–12 Ah
Operating Runtime	8–12 Hours
Recharge Time	3–5 Hours

## Battery Status Indicators :

Status	Indicator
Full Charge	Green LED
Medium Charge	Amber LED
Low Charge	Red LED
Critical Battery	Blinking Red LED + Audible Alarm



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## Technical Specs :

Category	Parameter	Specification
<b>Electrical Characteristics</b>	Input Voltage	12 VDC
	Maximum Current	5 A
<b>Airflow Characteristics</b>	Motor Type	Brushless DC Motor
	Protection	Reverse Polarity Protection
	Charging Interface	DC Charging Port
	Operating Mode	Battery / External Power
	Low Flow Rate	80 LPM
	Medium Flow Rate	100 LPM
	High Flow Rate	120 LPM
	Positive Pressure	Maintained Continuously
<b>Filtration Performance</b>	Pressure Monitoring	Electronic
	Filter Types	HEPA / P100 / CBRN Compatible
	Filtration Efficiency	≥99.97% @ 0.3 Micron
	Protection Against	Dust, Smoke, Aerosols, Biological Contaminants & Toxic Particulates

## CONTROL AND MONITORING SYSTEM :

### Power Control

A sealed push-button switch enables:

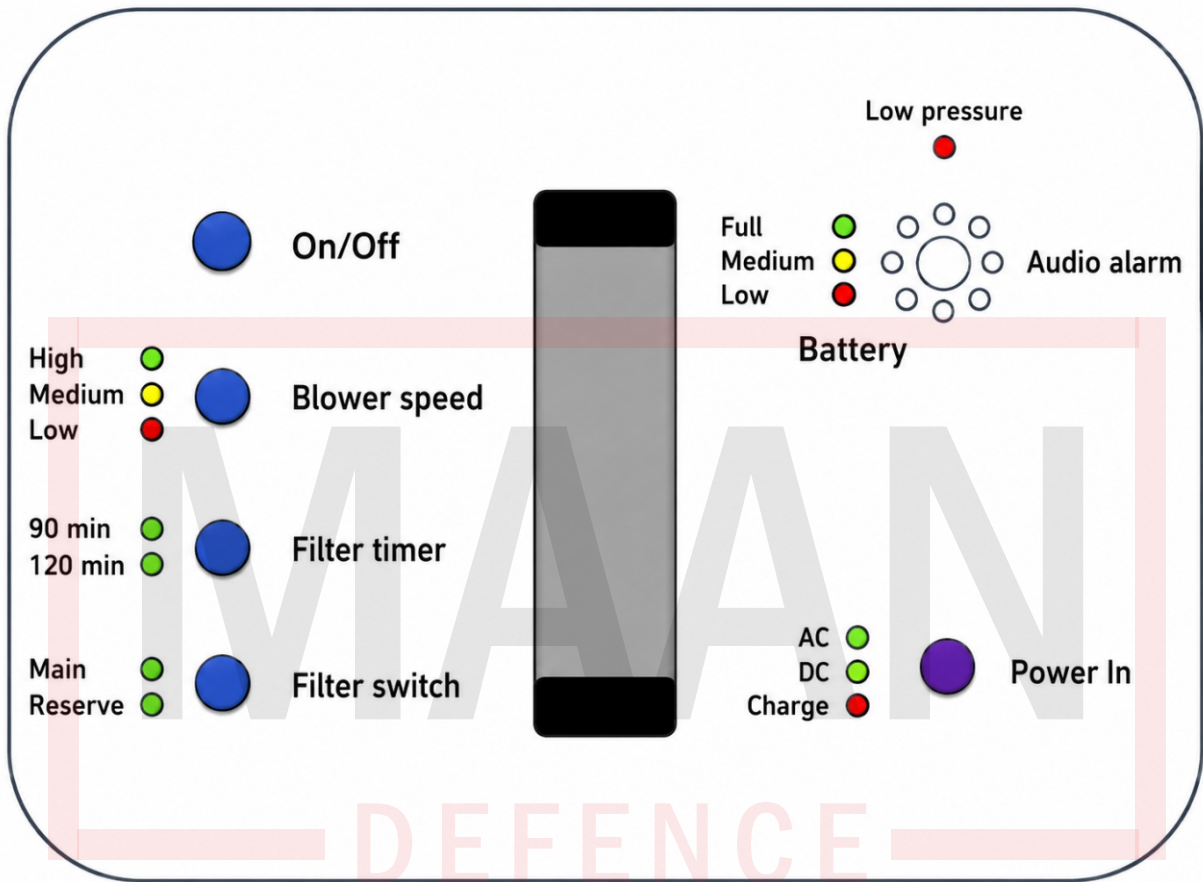
- System Power ON
- System Power OFF
- Safe operation with gloved hands.

LED indication provides real-time operational status.

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## Automatic Monitoring:

- ▶ Advanced versions may incorporate:
  - ✓ Filter Life Tracking
  - ✓ Pressure Drop Monitorin

- ✓ Predictive Replacement Alerts

## Filtration Performance:

- ▶ The system provides protection against:
  - ✓ Radioactive Particulates
  - ✓ Biological Aerosols
  - ✓ Toxic Industrial Chemicals

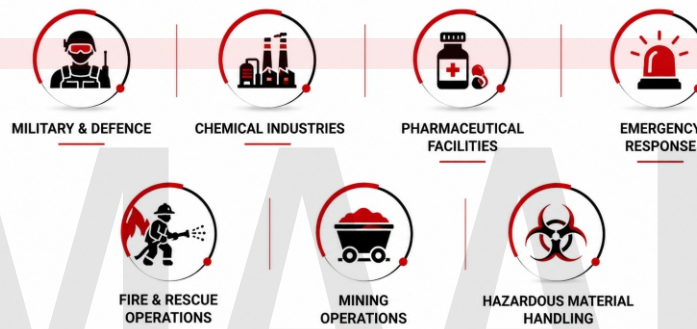
- ✓ Smoke Particles
- ✓ Dust & Airborne Contaminants
- ✓ Pathogenic Microorganisms

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## Applications:

- Military & Defence
- Chemical Industries
- Pharmaceutical Facilities
- Emergency Response
- Fire & Rescue Operations
- Industrial Safety
- Healthcare & Medical
- Hazardous Material Handling



## 2-D Block Diagram - PAPR Blower Unit:

