



training



SR500
IP67

Sundström 

SR500

Powered Air Purifying
Respirator (PAPER)





Companion module:

Sundström SR500 PAPR — **HOW TO...**

Related material:

Sundström SR700 Particle PAPR

Sundström supplied-air hoods

Sundström filters

About your SR500 PAPR:

What is it?

The SR500 is a PAPR, which stands for Powered Air-Purifying Respirator.

Powered means battery-driven.

Air-purifying means filtering.

Respirator means that your lungs are separated from the surrounding contaminated atmosphere.



How does it work?

A battery-driven fan draws in the surrounding air through a pair of filters that clean the air from harmful substances. The clean air is then delivered to a face piece or air hood around your face or head.

The air pressure inside the mask or hood is higher than the surrounding air, which means that outside air cannot leak into the head piece.



Components

The SR500 PAPR is made up of three main parts:

- The fan unit with filters, motor, fan and a waist belt.
- The breathing hose that delivers the cleaned air to your face.
- The head piece or face piece, which can be one of several hard or soft hoods, face shields, helmets, or a tight-fitting full face mask.



IMPORTANT: when selecting suitable filters and head pieces, certain factors must be taken into consideration. It is best to consult a qualified person with training and experience in risk-assessment. Crucial factors include:



- Types of contaminants
- Concentrations
- Work load and breathing rate*
- Explosive or flammable atmosphere
- Other types of safety equipment that may be required

**) The breathing rate is important, because the SR500 delivers air at a maximum flow rate of 175 litres per minute (normal mode) or 240 l/min (boost mode). If you are using a loose-fitting head piece, and your peak inhalation air flow is greater than the supply rate, outside air will leak into the head piece.*

Where can the SR500 be used?

The SR500 PAPR can be used wherever negative-pressure filter respirators are allowed or recommended.

Because the fan unit helps to draw air through the filters, and because it delivers the air at pressure to the face and lungs, the PAPR is particularly suited for situations where work is hard, warm or long-term.



What is IP67?

IP stands for Ingress Protection.

Simply put, the IP rating tells you how resistant a mechanical casing or electric enclosure (such as a plug, socket, jack, connector etc.) is to dust particles and liquids entering the electronics of the device.

Words like 'dustproof' or 'waterproof' can be quite vague, as can 'dust-resistant' and 'water-resistant'. An IP rating gives you a better idea of how vulnerable the product is to contamination and damage caused by solids and liquids getting into the unit.

The SR500 has an IP rating of 67. The first digit signifies particles, and the second digit signifies liquids:

- 6 means that the fully assembled SR500 is dust-proof.
- 7 means that the fully assembled SR500 withstands 30 minutes in water to the depth of 1 metre.

SR500
IP 67

| <i>First digit (pink)</i> | <i>Second digit (green)</i> |
|---------------------------|-----------------------------|
| PARTICLES | LIQUIDS |

| | | | |
|---|--|----|--|
| 0 | No protection | 0 | No protection |
| 1 | Protected against objects (including parts of the body such as the back of a hand) larger than 50 mm in diameter | 1 | Protected against water drops straight from above |
| 2 | Protected against objects larger than 12.5 mm in diameter (such as a finger) | 2 | Protected against water drops at a 15 degree angle |
| 3 | Protected against objects smaller than 2.5 mm diameter (such as the tips of tools, thick wires and similar) | 3 | Protected against water spray at 60 degrees angle |
| 4 | Protected against objects smaller than 1 mm (such as thin wires, screws and similar) | 4 | Protected against water splashing at any angle |
| 5 | Protected against coarse dust particles but not all dust. 'Dust protected'. | 5 | Protected against a water jet at any angle |
| 6 | Protected against all dust. 'Dust tight' | 6 | Protected against powerful water jets at any angle |
| | | 7 | Protected against immersion for 30 minutes in water to a depth of 1 metre |
| | | 8 | Protected against continuous immersion in water. Normally described as 'hermetically sealed', but could also mean that water can penetrate the unit without causing damage |
| | | 9K | Protected against close-range, high-pressure, high temperature water, such as steam cleaning |

The battery

- Lithium-ion battery
- Can be recharged at least 500 times
- Available as standard (2.2 Ampere hours) or heavy duty (3.6 Ah)
- Can be recharged at any time — no need to wait until completely drained
- Charging time: less than 2 hours



The fan unit

- Operating time up to 13 hours
- Single-button operation
- Normal speed (175 litres/minute) and boost speed (240 l/min)
- Visual display panel shows normal/boost operation, disrupted air flow, low battery power
- Additional vibration and sound alarms
- Automatic air flow control
- Can be used with a variety of head pieces



Particle filter

- Class P3 high-efficiency particle filter
- Fits onto the SR500 through a threaded filter adapter
- If using gas filters, a particle filter must be fitted to the front of every gas filter



Gas filters

Several types of gas filters are available. Only threaded gas filters can be used in the SR500:

- A2 (organic vapour)
- ABE1 (organic vapour, inorganic vapour, acid gas)
- A1BE2K1 (organic vapour, inorganic vapour, acid gas, ammonia)
- A1BE2K1-Hg-P3 (organic vapour, inorganic vapour, acid gas, ammonia, mercury vapour + particles)



IMPORTANT:

- Only threaded gas filters can be used in the SR500
- Gas filters must not be used on their own: a particle filter must be fitted to the front of each gas filter



IMPORTANT: There are two filter ports. Identical filters or filter combinations must be fitted to both filter ports. You must not fit one type of filter to one port, and another type of filter to the other.



When should the SR500 respirator NOT be used?

- When the fan motor is turned off for any reason
- If there is not enough oxygen for human breathing in the ambient atmosphere
- If the contaminant is unknown
- If the contaminant is Immediately Dangerous to Life and Health (IDLH)
- If the ambient atmosphere is oxygen-enriched or pure oxygen
- If breathing becomes difficult
- If you can smell or taste any contaminant
- If you feel dizzy or nauseous, or suffer any discomfort



Before using the respirator:

- Make sure the SR500 PAPR and all its parts are clean, intact, and correctly assembled
- Make sure the appropriate filters are fitted to the fan unit
- If gas filters are used, particle filters must be fitted to the front of each gas filter
- A pre-filter must be attached to each particle filter
- Make sure the battery is fully charged
- Do a performance check and test the alarms
- Make sure you are familiar with the equipment and know how to use it



Watch this on **YouTube**

(using your SmartPhone, tablet or computer)



(<http://youtu.be/rOOfsf4xVqE>)
