

# Gas & Particle Filters



## Gas and particle filters

There are two major categories of filters: gas filters and particle filters.

Gas filters protect ONLY against gas or vapour.

Particle filters protect ONLY against particles.

If the atmosphere contains a mixture of gas and particles, both filter types must be used.

## Why can't one filter protect against EVERYTHING?

Because particle filters and gas filters work in very different ways.

A particle filter is a very fine fibre mesh which captures dust particles while letting clean air through. But it will not stop gas or vapour from getting through.

A gas filter contains activated carbon, which works like blotting paper: it absorbs the gas molecules and binds them to the carbon before they can reach your lungs. However, the carbon is not an effective barrier to fine dust particles.

## A single particle filter

There is only one particle filter in the Sundström range. The particle filter protects against all types of coarse and fine particles, such as:

- Dust
- Fibres
- Smoke & fume
- Aerosols (wet particles; spray, mist)
- Mould
- Bacteria
- Viruses
- Other solid particles



## Several gas filters

There are different gas filters for different gases or types of gas.

The various filters can be recognised by their colour coding on the labels.

## Colour coding of filters

Your Sundström filters are colour coded and marked with a letter code. Combination filters have more than one colour code and letter code.

These are:

<b>P</b>	<b>White P</b> Particles
<b>A</b>	<b>Brown A</b> Organic gas (e.g. solvents such as toluene, white spirits)
<b>AX</b>	<b>Brown AX</b> Organic gas with a boiling point below +65°C (e.g. methanol, acetone)
<b>B</b>	<b>Grey B</b> Inorganic gas (e.g. chlorine, hydrogen cyanide, hydrogen sulphide)
<b>E</b>	<b>Yellow E</b> Acid gas (e.g. sulphur dioxide)
<b>K</b>	<b>Green K</b> Ammonia
<b>Hg</b>	<b>Red Hg</b> Mercury

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## Filter classes

There are three filter classes, signified by the numbers 1, 2 and 3.

Your Sundström particle filter is a class-3 filter, which means the highest possible filtration efficiency. You will see 'P3' written on the filter label. It removes 99.997% of all particles from the air you breathe. Other particle filters with lower numbers cannot filter out particles to the same extent as your P3 filter.

Your Sundström gas filters are either class-1 or class-2 filters, for example 'A1', 'K2', and so on.

A class-2 filter lasts longer than a class-1 filter in the same atmosphere. Used with a full-face respirator, a class-2 filter can be used in higher concentrations than a class-1 filter. Check current regulations.

## **IMPORTANT: filter choice depends on the type of hazard.**



- Particle filters do NOT protect against gas and vapour.
- Gas filters do NOT protect against particles.
- Certain gas filters protect ONLY against certain gases and vapours.

## **Where should you NOT use filter protection?**



There are a few situations where filters cannot be used. In many of these situations, filter protection is inadequate, and you will need an external air supply:

- In oxygen-deficient areas (that is, there is not enough oxygen in the air for human breathing).
- Where the contaminant is unknown.
- Where the atmosphere is Immediately Dangerous to Life and Health (IDLH).
- Where the concentration of the hazard is too great to use filter protection according to your local laws and regulations.
- If you can smell or taste the contaminant, or if you experience irritation, dizziness, nausea or other discomfort.
- If you have a beard, moustache, sideburns, whiskers, stubble, severe acne or other skin conditions that could interfere with the face seal.
- If you have asthma or other respiratory problems.

## Storage

Keep new filters in their sealed, unbroken packaging. Do not open the bag until you need the filter.

Store your respirator and filters away from the work area.

Gas filters continue to absorb gas even when you are not using the respirator. Keep the respirator with filter/s in a sealed container, plastic bag or similar.

## **Tell your supervisor IMMEDIATELY if...**

- You are unsure whether you are using the correct filter or filters.
- You can smell or taste the contaminant through the filter.
- You feel dizzy or nauseous.
- You experience throat irritation or other discomfort.
- You experience any problems breathing through your respirator.
- You are unsure of the use or maintenance of your respirator and filters.