



Sundström Safety develop, manufacture and market technically superior, world-class respiratory protective products.

# RESPIRATORY PROTECTION





When all other measures have been taken to reduce dangerous levels of exposure, respiratory protection is the last but important step to prevent harmful air contaminants from entering the body through the airways.

## Two types of Respiratory Protection

**Air Purifying Respirators (APR)** where the surrounding air passes through filters/chemical cartridges that remove contaminants. This type is used where sufficient oxygen level is present and known contaminants can be captured in the filters/chemical cartridges. The contaminants must have clear warning properties in the form of odors or taste in concentrations below the Permissible Exposure Limit (PEL). Air Purifying Respirators (APR) must not be used where the contaminant concentrations are Immediately Dangerous to Life and Health (IDLH) or oxygen deficiency.

Examples of air Air Purifying Respirator (APR) are half and full face masks with replaceable filters/chemical cartridges as well as Powered Air Purifying Respirator (PAPR) for half and full masks or hoods, visors and helmets. For contaminants in gas and vapor form, appropriate chemical cartridges are used with activated/impregnated carbon that adsorbs the gas and vapor. As the chemical cartridge becomes saturated the gradual breakthrough starts, therefore it is important to set up a chemical cartridge change out schedule.

Particles such as dust, smoke and mist are captured in particulate filters. As the degree of clogging rises, breathing resistance increases and the filter must be replaced if it is damaged or breathing becomes difficult. Combinations of filter and chemical cartridge are used in the presence of Particles, Gas and Vapors.

**Supplied Air Respirator (SAR)** supplies the user with air from an independent source, from cylinders with compressed air or breathable air from a compressor. Supplied Air Respirators (SAR) with hose is used with half and full face masks, or hoods, visors and helmets.

SAR protection may be used in all environments suitable for APR or PAPR and in which a higher level of protection is required. Some substances cannot be adsorbed in cartridges, and in such SAR is the only alternative.

## 4 things to consider

- **IDENTIFICATION:** Which hazardous gases, vapors, dust, smoke or aerosols do we need to protect ourselves from?

Make workplace measurements and monitor the concentrations of the hazardous substances.

- **RISK ASSESSMENT:** Is sufficient oxygen level present during the entire period of exposure? What are the effects on health of the substances present? Are there any Permissible Exposure Limits (PEL) for these substances?

Are there any other risks, such as splashing, sparks or explosive mixtures?

- **SELECTION OF RESPIRATORY PROTECTION:** APR; PAPR or SAR

- **TRAINING:** Fit test, seal check, function checks, donning, storage and maintenance. Routines for cleaning the respirator and change out schedule for filters and chemical cartridges and wearing parts.

## Respiratory protective devices are classified

Air Purifying Respirators (APR)	Supplied Air Respirators (SAR)	Self Contained Breathing (SCBA)	Combined Respirators
<ul style="list-style-type: none"> <li>• Particulate removing.</li> <li>• Vapor &amp; Gas removing.</li> <li>• Particulate and Vapor &amp; Gas removing.</li> <li>• Powered Air Purifying Respirator (PAPR).</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous Flow.</li> <li>• Pressure Demand.</li> </ul>	<ul style="list-style-type: none"> <li>• Closed Circuit (Rebreather).</li> <li>• Open Circuit.</li> </ul>	<ul style="list-style-type: none"> <li>• SAR / SCBA.</li> <li>• SAR / APR.</li> </ul>



# AIR PURIFYING RESPIRATOR (APR)

## Half mask

There are half masks that enable the user to work strenuously during part, or the entire day. There are also half masks for light recreational work. All masks in Sundström's program use the same range of filters/chemical cartridges which can be combined for any working situation. In their design, Sundström half masks are known for having an excellent fit, high protection level and very low breathing resistance. Air Purifying Respirators should never be used in conditions that are Immediately Dangerous to Life and Health (IDLH).



### SR 100

The **SR 100 half mask (APR)** is made of silicone and is available in three sizes, S/M, M/L and L/XL. The material and pigment in the face piece are FDA and BGA approved for food contact, and minimize the risk of contact allergies. All exposed plastic parts are made of polyamide. The mask is equipped with two exhalation valves, which ensures very low exhalation resistance. Valve covers with baffles effectively protect the exhalation membrane against dust and paint mist. The easily adjustable elastic head harness is designed as a V-shaped loop and has a large, dished crown plate, which contributes to a comfortable and secure fit. The compressed air attachment SR 307 can be connected to the SR 100 half mask, this combination is called a Type C Continuous Flow Supplied Air Respirator.



### SR 90-3

The **SR 90-3 half mask (APR)** is made of thermoplastic elastomer (TPE) in two sizes, S/M and M/L. The material and pigment in the face piece are FDA and BGA approved for food contact, and minimize the risk of contact allergies. All exposed plastic parts are made of polyamide. The mask is equipped with two exhalation valves which ensure very low breathing resistance. The easily adjustable elastic head harness is designed as a V-loop and has a large dished crown plate, which contributes to a comfortable and secure fit.

SPARE PARTS AND PRACTICAL ACCESSORIES. FOR COMPLETE INFORMATION, GO TO [WWW.SRSAFETY.COM](http://WWW.SRSAFETY.COM)

# Accessories half mask



**The SR 345 Protective hood** is intended for use together with Sundström half masks with filters/chemical cartridges or with the SR 307 compressed air attachment. Made of chemical resistant PVC coated fabric, it protects against the splashing and dripping of most substances. The hood is fitted so that the exhalation valves are outside which reduces the risk of condensation on the visor.

**The SR 64 short duration protective hood** is intended for use together with Sundström half masks with filters/chemical cartridges or with the SR 307 compressed air attachment. It protects the head and hair against dust during grinding and work that causes splashing, such as in high-pressure washing or spray painting. It is made of Tyvek® and equipped with a PET visor.



**The SR 339 storage bag** is made of durable and pliable synthetic material and can be carried on the user's belt. It is designed to protect a Sundström half mask, cartridges and filters against dirt and water.

**The SR 230 storage box** is used for storing Sundström half masks, cartridges and filters. The box protects the equipment against dirt and physical damage. A bar coded name tag is attached to the storage box.



**The service kit for the SR 100** contains harness, set of membranes, pre-filter holder and protective caps. Also available for the SR 90-3.

**SR 280-3 adapter** which attaches to the SR 200 full face mask Air Purifying Respirator.

**SR 5226 cleaning wipes** for daily mask cleaning.

**The labeling system** for Sundström masks simplifies their use. A durable label is applied to the mask, which enables the bar code to be read and the serial number to be recorded. Space is also provided for the user's name.





# AIR PURIFYING RESPIRATOR (APR)

## Full face mask

With high concentrations of air pollutants, a full face mask is often recommended. The Sundström full face mask provides good protection in all situations in which filters/chemical cartridges protection is used. All masks in Sundström's program use the same range of filters/chemical cartridges, which can be combined for any working situation. An Air Purifying Respirator should never be used in conditions that are Immediately Dangerous to Life and Health (IDLH).

### SR 200

- a superior face seal means a very high protection factor.



### SR 200

The SR 200 full face mask (APR) is intended for use when maximum safety and breathing comfort are required. The full face mask is used with the same filters/chemical cartridges system as our half masks. The material and pigment in the face piece are FDA and BGA approved for food contact, and minimize the risk of contact allergies. All exposed plastic parts are made of polyamide. The mask has two exhalation valves that provide minimum exhalation resistance, and an easily adjustable fabric head harness. Some of the inhalation air is guided via the screen disc to prevent misting. The mask is very light, only 450 grams (16 ounce). The SR 307 compressed air attachment can be connected to the SR 200 full face mask and the combination is called a Type C Continuous Flow Supplied Air Respirator.



# Accessories full face mask



## Welding shield SR 84

There is a welding shield available for welders which can easily be mounted on the frame of the SR 200. Welding glass in size 110x60 mm or auto darkening filters can be used. In the flip-up position the shield can also be used for grinding etc. The construction of the shield and the welding-glass holder ensure reduced weight which is specially notable in the flip-up position.



## SR 341 frames for glasses

For users of prescription lenses a steel frame is available which will last through many lens changes. Easy to securely mount and adjustable for perfect fit.



## Laminated glass visor

Where the specially treated PC visor is not considered sufficiently resistant against e.g. chemicals, the SR 200 can be equipped with a laminated glass visor. Available either factory fitted or for replacement at a later stage.



## Voice amplifier, Small Talk ST2-SR

The voice amplifier improves user communication while wearing a half mask SR 100 or full-face mask SR 200. The microphone is mounted onto the valve seat of the respirator. The loudspeaker can be clipped onto a breast pocket, waist belt or shoulder strap.



## Protective film SR 343/SR 353

Can be easily changed for polycarbonate and glass visors respectively. The film provides excellent protection during work that results in misting up and a need to clean the original visor.



## Storage box SR 344

Intended for storage of respiratory protection products. The lid is made of transparent polypropylene, making it possible to check the contents. The box is also suitable for wall mounting.

THE SR 200 FULL FACE MASK HAS A BROAD RANGE OF ACCESSORIES AND CAN BE USED IN MANY DIFFERENT WORKING SITUATIONS.





# AIR PURIFYING RESPIRATOR (APR)

## Particulate filter



### Particulate filter P100

SR 510 P100 particulate filter is a mechanical filter that protects against all types of particles (dust, fume, fog, spray, asbestos), even bacteria, viruses and radioactive dust. The filter separates 99.997% of the pollution in the air. That means that the air is 33,333 times cleaner on the backside of the filter media than in the front (the standard requires air 3,333 times cleaner). A new feature is the increase of the filter area to 201 square inch (1,300 cm<sup>2</sup>) It provides the filter with extremely low breathing resistance and extended usage time. This filter can be used on all Sundström Air Purifying Respirators.

**The SR 221 Pre-filter** should always be used for particle, chemical cartridge and combined filters. The pre-filter protects the main filter against premature clogging by larger particles, for example dirt and dust. The Pre-filter holder secures and protects the particulate filter against handling damage. Also used for negative user seal check.

Change the filter if it has been damaged or if you feel increased breathing resistance.

**Particulate filter protects only against particles.**

## Chemical cartridges



### Chemical cartridge OV

The SR 218-6 OV chemical cartridge is used with Sundström Safety Air Purifying Respirators to provide protection from certain levels of organic vapor. This chemical cartridge is approved for independent use or can be combined with the Sundström P100 particulate filter SR 510.

### Chemical cartridge CL/HC/SD/FM

The SR 231 CL/HC/SD/FM chemical cartridge is used with Sundström Safety Air Purifying Respirators to provide protection from certain levels of chlorine, hydrogen chloride, sulfur dioxide and formaldehyde. This chemical cartridge is approved for independent use or can be combined with the Sundström P100 particulate filter SR 510.

### Chemical cartridge OV/SD/CL/HC/HF

The SR 232 OV/SD/CL/HC/HF chemical cartridge is used with Sundström Safety Air Purifying Respirators to provide protection from certain levels of organic vapor, sulfur dioxide, chlorine, hydrogen chloride and hydrogen fluoride. This chemical cartridge is approved for independent use or can be combined with the Sundström P100 particulate filter SR 510.

### Chemical cartridge AM/MA

The SR 229 AM/MA chemical cartridge is used with Sundström Safety Air Purifying Respirators to provide protection from certain levels of ammonia and methylamine. The cartridge is approved for use alone or can be combined with Sundström P100 particulate filter SR 510.

## Combined filters

Combinations of filters can be used if gases/vapors and particles occur at the same condensation. Select a suitable chemical cartridge and combine it with the P100 particulate filter SR 510 simply by pressing them together. Note that the P100 particulate filter must **always** be placed in front of the chemical cartridge.

After saturation, leakage will occur at an accelerating rate. The chemical cartridge should be changed well before saturation. Use only filters from unopened packages. **Chemical cartridges protect only against gas/vapor.**



# Buy a respirator and get a system!

The Sundström filters/chemical cartridges range is well planned and clearly arranged, and are used both with half masks and full face masks.

In addition, the masks can also be combined with a number of protective hoods and other accessories.



# AIR PURIFYING RESPIRATOR (APR)

# Respirator Kits

Great protection, comfort and breathability!

## Dust Mold & Particulate Protection

### Dust Mold & Particulate Kit SR 90-3



Non-allergenic, FDA approved, Thermoplastic Elastomeric (TPE) respirator.

Very good face seal means a very high protection factor.

#### *Dust Mold & Particulate Kit SR 90-3 contains:*

- 1 x TPE Respirator SR 90-3
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

### Dust Mold & Particulate Kit SR 100



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

#### *Dust Mold & Particulate Kit SR 100 contains:*

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Farm and Agriculture Protection

### AG Pack



Non-allergenic, FDA approved, Thermoplastic Elastomeric (TPE) respirator.

Very good face seal means a very high protection factor.

#### *AG Pack contains:*

- 1 x TPE Respirator SR 90-3
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 1 x AM/MA Chemical Cartridge
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

### Farm Pack SR 100



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

#### *Farm Pack SR 100 contains:*

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 1 x AM/MA Chemical Cartridge
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

### Farm Pack SR 200



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

#### *Farm Pack SR 200 contains:*

- 1 x Silicone Respirator SR 200
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 1 x AM/MA Chemical Cartridge
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

### Ammonia Kit SR 100



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

#### *Ammonia Kit SR 100 contains:*

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 1 x AM/MA Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

### Ammonia Kit SR 200



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

#### *Ammonia Kit SR 200 contains:*

- 1 x Silicone Respirator SR 200
- 1 x P100 Particulate Filter
- 1 x AM/MA Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

FOR COMPLETE INFORMATION, GO TO [WWW.SRSAFETY.COM](http://WWW.SRSAFETY.COM)



# Gas Vapor and Particulate Protection



## Basic Pack SR 90-3



Non-allergenic, FDA approved, Thermoplastic Elastomeric (TPE) respirator.

Very good face seal means a very high protection factor.

### Basic Pack contains:

- 1 x TPE Respirator SR 90-3
- 1 x P100 Particulate Filter
- 1 x OV Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Pro Pack SR 100



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Pro Pack SR 100 contains:

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Pro Pack SR 200



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Pro Pack SR 200 contains:

- 1 x Silicone Respirator SR 200
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

# Silica Dust Protection

## Silica Dust Respirator Kit SR 90-3



Non-allergenic, FDA approved, Thermoplastic Elastomeric (TPE) respirator.

Very good face seal means a very high protection factor.

### Silica Dust Respirator SR 90-3 contains:

- 1 x TPE Respirator SR 90-3
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Silica Dust Respirator Kit SR 100



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Silica Dust Respirator SR 100 contains:

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Silica Dust Respirator Kit SR 200



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Silica Dust Respirator SR 200 contains:

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

# Specific application

## Mining Safety Kit



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Mining Safety Kit contains:

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Pro Paint & Body Repair Kit



Non-allergenic, FDA approved, Thermoplastic Elastomeric (TPE) respirator.

Very good face seal means a very high protection factor.

### Pro Paint & Body Repair kit contains:

- 1 x TPE Respirator SR 90-3
- 1 x P100 Particulate Filter
- 1 x OV/SD/CL/HC/HF Chemical Cartridge
- 5 x Pre-filter
- 1 x Pre-filter holder
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

## Wildland & First Responder Kit



Non-allergenic, FDA approved, silicone respirator.

A superior face seal means a very high protection factor.

### Wildland & First Responder Kit contains:

- 1 x Silicone Respirator SR 100
- 1 x P100 Particulate Filter
- 10 x Pre-filter
- 1 x Pre-filter holder
- 1 x Spark arrester
- 1 x ID label
- 1 x Users manual
- 1 x Storage box

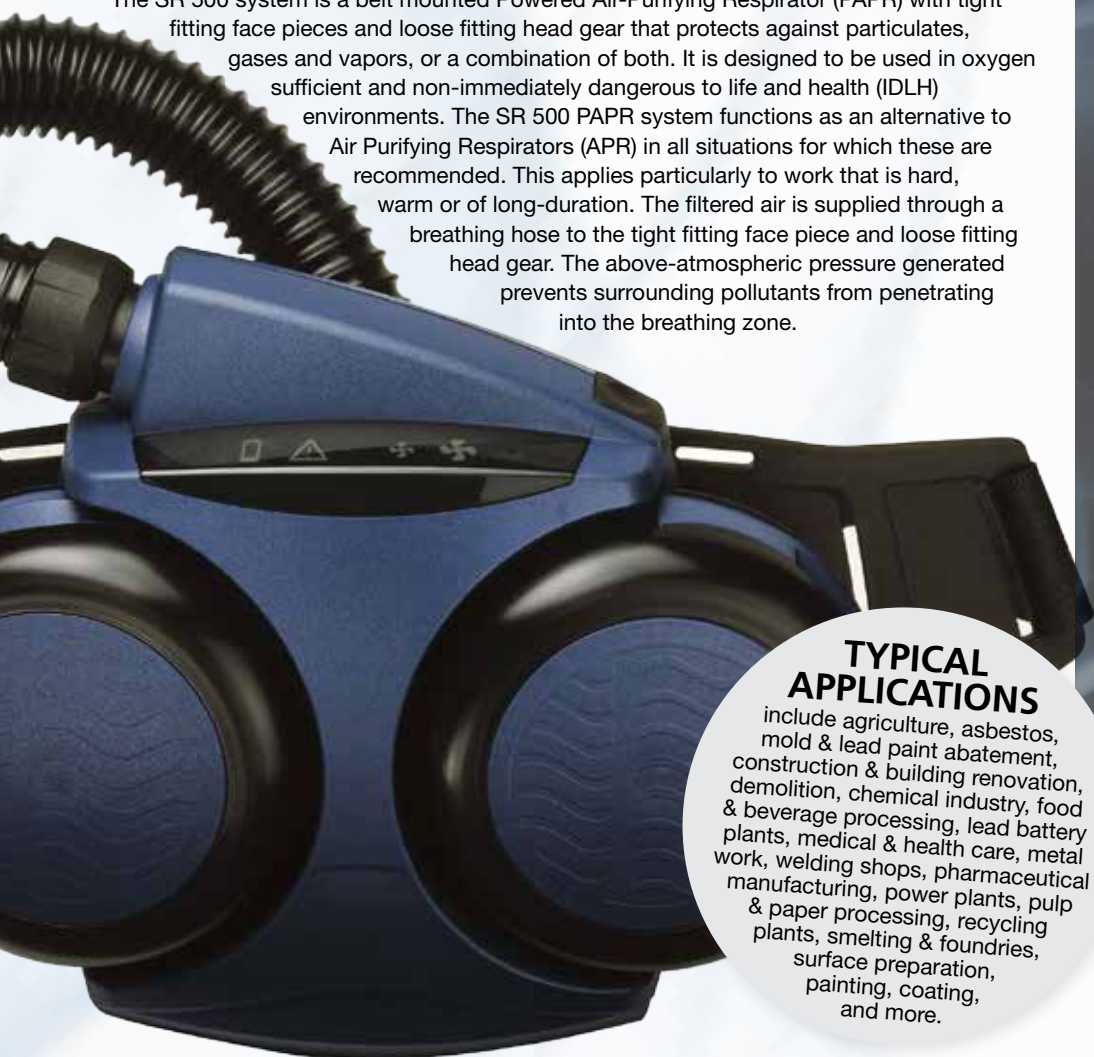
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# POWERED AIR-PURIFYING RESPIRATOR (PAPR)

## SR 500 series

Customer driven product development and incorporation of the latest technologies has generated a unique design and superior features of the SR 500 PAPR series.

The SR 500 system is a belt mounted Powered Air-Purifying Respirator (PAPR) with tight fitting face pieces and loose fitting head gear that protects against particulates, gases and vapors, or a combination of both. It is designed to be used in oxygen sufficient and non-immediately dangerous to life and health (IDLH) environments. The SR 500 PAPR system functions as an alternative to Air Purifying Respirators (APR) in all situations for which these are recommended. This applies particularly to work that is hard, warm or of long-duration. The filtered air is supplied through a breathing hose to the tight fitting face piece and loose fitting head gear. The above-atmospheric pressure generated prevents surrounding pollutants from penetrating into the breathing zone.



### TYPICAL APPLICATIONS

include agriculture, asbestos, mold & lead paint abatement, construction & building renovation, demolition, chemical industry, food & beverage processing, lead battery plants, medical & health care, metal work, welding shops, pharmaceutical manufacturing, power plants, pulp & paper processing, recycling plants, smelting & foundries, surface preparation, painting, coating, and more.

- Lightweight, balanced and ergonomic design
- Ergonomic comfort belt
- Dual flow rates
- Easy to adjust and maintain
- Automatic setting of flow rate and flow control
- Triple warning system -audible, visual and sensory (vibration)
- Superior long lasting lithiumion battery technology
- Simple filter/cartridge system
- Loose Fitting Headgear
  - Loose Fitting Hoods
  - Loose Fitting Face Shield
  - Loose Fitting Hard Hat
  - Loose Fitting Hard Hat with
  - Welding Face Shield

## Features

- The fan unit is lightweight, balanced with a superior ergonomic design.
- Unique design of the belt keeps the fan unit comfortable and stable.
- High flow rates, normal operation mode 6 CFM/175 lpm and boosted operation mode 8 CFM/225 lpm.
- The power switch is conveniently located and easy to reach. Strategically placed to prevent accidental deactivation. Easily removable parts allow simple cleaning, maintenance and replacement.

- A fully automatic setting of flow rates without any needs for calibration, regardless of filter/cartridges or head top used. Equipped with automatic flow control securing the delivery of the pre set flow rate.
- The fan unit offers audible, visual and vibration alarm for obstruction of air flow, clogging of filters or low battery for the safety of the worker.
- The fan unit can be operated with particulate filters or with a combination of particulate filters and chemical cartridges.

## Battery and charger design

- On board lithium-ion battery designed for easy replacement.
- Charging time 80%-70 min, 100%-3 hrs.

## Battery charger, 3-stage

- Boosted charging charges the battery to about 80% of its capacity.
- Balanced charging charges the battery to 100% of its capacity.
- Trickle charging, fully charged battery.
- The charger station are available for time-efficient multiple battery charging.



# Choose a suitable face piece

All face pieces are supplied with a breathing hose for connection to fan SR 500.



## Tight Fitting Face Piece SR 200

Breathing hose SR 550 in PUR (Polyurethane) or SR 551 in rubber connects the SR 500 PAPR to the SR 200 full face mask. Provides respiratory protection with an APF of 1,000 (Assigned Protection Factor) according to OSHA 3352-02 2009. Limited eye protection (ANSI Z87.1-2010) protection.



## Loose Fitting Hood SR 530

A lightweight hood which covers the face, head, neck and shoulders. Easily adjustable headband suspension and neck seal providing high protection including for people with beards. One size fits all face shapes and sizes. Visor of chemical resistant CA. Delivered with a PUR (Polyurethane) breathing hose. Provides respiratory protection with an at APF of 1,000 (Assigned Protection Factor) documented in third party studies, according to OSHA 3352-02 2009.

## Loose Fitting Hard Hat SR 580

Provides complete respiratory, face and head protection and can be combined with most earmuffs. The scratch resistant PC visor is easy to replace and offers a wide field of vision. The visor can be flipped up to a good balanced "over the head" position. Delivered with a PUR (Polyurethane) breathing hose. Provides respiratory protection with an APF of 1,000 (Assigned Protection Factor) documented in third party studies, according to OSHA 3352-02 2009. Provides limited eye protection (ANSI Z87.1-2010). Provides limited head protection (ANSI Z89.1-2009 Type 1 Class G).



## Loose Fitting Hood SR 520

A lightweight hood which covers the face and head. Easily adjustable headband suspension. Available in two sizes S/M and M/L. Visor of chemical-resistant CA. Delivered with a PUR (Polyurethane) breathing hose. Provides respiratory protection with an APF of 25 (Assigned Protection Factor) according to OSHA 3352-02 2009.

## Loose Fitting Hard Hat SR 580 with Welding Face Shield SR 584

Provides complete respiratory, face and head protection and can be combined with most earmuffs. The welding face shield can be flipped up to a good balanced "over the head" position and offers not only a wide field of vision but face protection during grinding and other types of work. Delivered with a PUR (Polyurethane) breathing hose. Supplied with a passive welding lens - shade 10. Three different Auto Darkening Filters (ADF) are available. Provides respiratory protection with an APF of 1,000 (Assigned Protection Factor) documented in third party studies, according to OSHA 3352-02 2009. Provides limited eye protection (ANSI Z87.1-2010). Provides limited head protection (ANSI Z89.1-2009 Type 1 Class G).



## Loose Fitting Face Shield SR 540

A unique face shield with an excellent field of vision. The visor can easily be flipped up to a good balanced "over the head" position. Visor is made of scratch resistant PC that can easily be replaced. Delivered with a PUR (Polyurethane) breathing hose. Provides respiratory protection with an APF of 25 (Assigned Protection Factor) according to OSHA 3352-02 2009. Limited eye protection (ANSI Z87.1-2010) protection.



# POWERED AIR-PURIFYING RESPIRATOR (PAPR)

## Accessories SR 500 series

The SR 500 series has a broad range of accessories and can be used in many different working situations.



Harness SR 552 for SR 500



SR 503 Leather Belt  
SR 503 L extra long leather belt



Splash cover SR 514  
for SR 500



Storage bag SR 505  
for SR 500



Protective hood, SR 586



Gold-plated visor SR 587



SR 585 Neck & Chest  
protection in leather



Protective hose cover  
SR 59021



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# POWERED AIR-PURIFYING RESPIRATOR (PAPR)



## Accessories

	SR 500	SR 200	SR 520	SR 530	SR 540	SR 580	SR 580/SR 5E
SR 552, harness for carrying the fan unit on the lower back horizontally or between the shoulder blades vertically. The back-plate can easily be adjusted in three positions according to the users height	X						
SR 503, leather belt for casting, flame cutting and other similar operations.	X						
SR 503 L, extra long leather belt for casting, flame cutting and other similar operations.	X						
SR 504, rubber belt for decontamination, casting and other hot working situations	X						
SR 505, practical grip bag with two separate major compartments space for the SR fan unit, accessories and chosen face piece or head gear	X	X	X	X	X	X	X
SR 506, battery gang charger, for five chargers but delivered without chargers	X						
SR 516, battery gang charger, including five chargers	X						
SR 514, splash cover protects the fan unit from dust, particulates, splash and liquids	X						
T06-0121 Polyethylene (PE) hose cover protects the breathing hose from dust, particulates, splash and liquids	X	X	X	X	X	X	X
SR 550, polyurethane (PUR) breathing hose	X	X					
SR 551, rubber breathing hose	X	X					
SR 365, laminated glass visor		X					
SR 343, protective film PC visor		X					
SR 353, protective film laminated glass visor		X					
SR 340, rubber head harness		X					
SR 341, spectacle frame to support prescription lenses		X					
SR 84, Welding shield for SR 200 full face mask		X					
Protective lens for SR 84 welding shield, size 60x110 mm		X					
Welding visor shade 5, 10, 11, 12,13 for SR 84 welding shield Size 60x110 mm		X					
Auto Darkening Filters (ADF) shade 10 and 11 for SR 84 welding shield, size 60x110 mm		X					
SR 59018 welders protective hood in PROBAN		X					
SR 59021 welders protective hose cover in PROBAN	X	X	X	X	X	X	X
SR 522, protective film			X	X			
SR 542, protective film					X		
SR 546, face seal					X		
SR 543, head cover					X		
SR 582, protective film						X	X
R06-0805, face seal for SR 580						X	X
SR 544, neck comfort band						X	X
SR 586, protective hood against dust, particulates, splash and liquids			X	X	X	X	
R06-0813 Heat protection helmet						X	
R06-0814 Heat protection light						X	
R06-0815 Heat protection heavy						X	
T06-8011 Welding protection neck and chest in PROBAN						X	X
T06-8012 Face seal with welding protection for SR 580 in PROBAN						X	X
Protective lens in PC, size 90x110 mm							X
Welding visor shade 8, 9, 10, 11, 12,13, size 90x110 mm							X
Auto Darkening Filters (ADF) shade 3/10, 3/11 and 4/9-13, size 90x110 mm							X
Inner protective lens in PC for ADF							X
Correction lenses, 1.0, 1.5, 2.0 nd 2.5 dioptries							X
T06-0808 Welding protection neck and chest in leather						X	X
T06-0809 Face seal with welding protection for SR 580 in leather						X	X
T06-8013 Chemical protection Kit for SR 580 in ChemMax 2						X	



**The SR 500 PAPER family**  
has a broad range of accessories and can  
be used in many different working situations.



# SR 500 Filters/Cartridges

The filters and cartridges are designed to handle the high air-flow rates provided by the PAPR.



**The SR 510 P100 / HE and SR 710 HE** particulate filters are both of mechanical type and protects against all types of particles (dust, fume, fog, spray, asbestos), as well as bacteria, viruses and radioactive dust.

The filter efficiency is >99.997% meaning that the air is 33,000 times cleaner after the air has passed the filter. The active filter area is 201 square inches (1,300 cm<sup>2</sup>) which generates an extended usage time.

The SR 510 can also be used with all Sundström Air Purifying Respirators.

**The SR 532 OV/SD/CL/HC/HF** chemical cartridge protects against organic gases and vapors, e.g. solvents, with a boiling point of more than +65 °C. It protects against acidic gases and vapors, such as sulphur dioxide, chlorine, hydrogen chloride and hydrogen fluoride.

**The SR 533 CL/HC/SD/FM/AM/MA** chemical cartridge protects against acidic gases and vapors, such as chlorine, hydrogen chloride, sulfur dioxide and formaldehyde. It also protects against ammonia, methylamine and certain amines.

Note that each cartridge must be combined with a particulate filter to prolong the lifetime of the fan unit.

## Operating time

The operating time may vary based on temperature, condition of filters and the condition of the battery. The table below gives the expected operating times during ideal conditions.

Battery 3,6Ah	Filter / Cartridge	Air flow rate	Expected operating time
X	SR 510 or SR 710	6 CFM / 175 lpm	13 hours
X	SR 510 or SR 710	8 CFM / 225 lpm	8 hours
X	SR 510 + SR 532	6 CFM / 175 lpm	8,5 hours
X	SR 510 + SR 532	8 CFM / 225 lpm	5 hours
X	SR 510 + SR 533	6 CFM / 175 lpm	8,5 hours
X	SR 510 + SR 533	8 CFM / 225 lpm	5 hours



# SUPPLIED AIR RESPIRATORS (SAR)

Supplied Air Respirators can be used in all environments where Air Purifying Respirators can be used. Supplied Air respirators are particularly well suited if the user is performing hard or sustained work and if the pollutants have poor warning properties or are particularly toxic.

Sundström Safety's Supplied Air Respirators (SAR) with continuous flow protects users working with contaminants that have poor warning properties, or cannot be adsorbed in filters/chemical cartridges, as well as with particularly toxic contaminants. It can be used at all times as an alternative to Air Purifying Respirators for work that is heavy, hot or of long duration.

## Air consumption

The quantity of air consumed by a user depends on work intensity. There are also differences between people. If a particular user has a certain average air consumption, the air flow supplied must be at least 3 - 5 times higher during the inhalation phase to ensure that no negative pressure will occur in the respirator. Typical values of air consumption and flows in various situations are given below:

Work situation	Average air consumption	Min. air flow rate during inhalation
Seated work	approx. 0.36 CFM	approx. 1.1 CFM
Walking/talking at the same time	approx. 1.8-2.1 CFM	approx. 5.4- 6.3 CFM
Moderately heavy work	approx. 1.8 – 2.1 CFM	approx. 5.4 – 6.3 CFM
Fireman AT work	approx. 5.4 CFM	approx. 16.2 CFM



**The SR 99** compressed air filter unit is used to convert ordinary compressed air into pure breathable air. The unit consists of a regulator, pre-collector and main filter which are mounted on an enclosed steel sheet chassis. The filter can be placed on the floor or hung on a wall. The pre-collector, which has pressure controlled/manual drainage, separates out coarse particles, water and oil. The main filter has an exchangeable filter kit, SR 292. Inlet air pressure, 58 – 145 PSI. Outlet air pressure, 58 – 116 PSI.

### Filter cartridge SR 292

For SR 99. Consists of two particulate filters and approximately 450 gram activated carbon. If the air quality is normal, the useful life of the filter is 6-12 months.







**SR 200 Airline full face mask,** is a type C continuous flow supplied air Respirator with filter backup. It is particularly well suited if the user is performing hard or sustained work, and if the pollutants have poor warning properties or are particularly toxic. The breathing hose can be detached from both mask and regulator. The flow rate can be set between 5.3 CFM to 12 CFM. Working pressure, 58 – 102 PSI. The SR 200 Airline is delivered with CEJN 10 342 series connectors.



**SR 307 compressed air attachment** combined with SR 200 full face mask or SR 100 half mask, is a Type C Continuous Flow Supplied Air Respirator. The SR 307 is an attachment that enables a half or full face mask to be converted from an Air Purifying Respirator to a Supplied Air Respirator. It is particularly well suited if the user is doing hard or sustained work, and if the pollutants have poor warning properties or are particularly toxic. The flow rate can be set between 5.3 CFM to 12 CFM. Working pressure, 58 – 102 PSI. The SR 307 is delivered with CEJN 10 342 series connectors.



**Compressed air supply hose SR 358** Plastic hose made of PVC-reinforced polyester. Inner diameter/outer diameter 0.374/0.590 inch (9.5/15 mm) Length 16.4 feet, 32.9 feet, 49.3 feet, 65.8 feet, 82.2 feet and 98.7 feet (5 m, 10 m, 15 m, 20 m, 25 m and 30 m). Is delivered with CEJN 10 342 series connectors.



**Compressed air supply hose SR 359** Rubber hose made of EPDM/ polyester. Antistatic and heat resistant. Inner diameter/outer diameter 0.590/0.709 inch (9.5/18 mm) Length 16.4 feet, 32.9 feet, 49.3 feet, 65.8 feet, 82.2 feet and 98.7 feet (5 m, 10 m, 15 m, 20 m, 25 m and 30 m). Is delivered with CEJN 10 342 series connectors.

# Selecting respiratory protection on the basis of work duration and workload

**FOR SHORT TERM JOBS WITH A LOW WORKLOAD** Air Purifying Respirator (APR) can be used, i.e. half and full face masks with replaceable filters/chemical cartridges. To avoid harmful leakage into the mask, the fit to the face is important, as inhaling produces a negative pressure in the mask. High inhalation resistance due to large filter combinations contributes to further negative pressure as well as an increased breathing effort.

**LONG TERM WORK WITH HIGH WORKLOADS** often requires Powered Air Purifying Respirator (PAPR). The filtered air is supplied through a breathing hose to the tight fitting face piece or loose fitting head gear. The above-atmospheric pressure generated prevents surrounding pollutants from penetrating into the breathing zone. The air flow of the equipment is important to maintain a positive pressure in the face piece, even during deep inhalation, especially with the use of loose fitting visors, helmets or hoods.

**HIGH WORKLOADS AND CONTAMINANTS WITH POOR WARNING PROPERTIES** are examples of situations in which Supplied Air Respirator is appropriate. The compressed air is supplied from a compressor, cleaned in compressed air filter and delivered in a compressed air hose to a belt mounted regulator, to the half or full face mask.



## Respirator fit testing

**QUALITATIVE (SUBJECTIVE) TEST:** Shall only be used for half mask respirator. The user dons the mask as described in the user manual and is exposed to a substance with a smell, such as isoamyl acetate, or with a taste, such as Saccharin or Bitrex. If the user cannot smell or taste anything, then the respirator has a good fit.

### QUANTITATIVE (OBJECTIVE) FIT TEST:

#### Porta Count

- Measures particles measuring 1-0.02 µm
- Gives ratio between number of particles inside and outside the face piece
- A number of exercises simulate work
- Not to be used for estimating exposure within the face piece
- For half mask and full face mask system

#### Quantifit

- Controlled negative pressure technology
- A number of exercises simulate work
- Quicker fit test compared to the Porta Count system
- For half mask and full face mask system

The qualitative test depends on the user's sense of smell and/or taste and is considered to be less suitable than a quantitative test for measuring how well the mask fits.

Sundström Safety offers qualified training by our specialists in fitting, function checks, donning, storage and maintenance – in order to ensure a high level of protection for many years.

## FIT FACTOR APPLIES ONLY TO QUANTITATIVE FIT TESTING










Fit factor is a measure of the efficiency of the respirator. For example, if the content of a substance on the inside of the respirator is one twentieth of what it is in the ambient air, the respirator is said to have a fit factor of 20.

$$\frac{1000 \text{ particles/cm}^3 \text{ (outside the respirator)}}{50 \text{ particles/cm}^3 \text{ (inside the respirator)}} = \text{Fit factor of 20}$$



# Work situations



Work situation	Type of pollutant	Type of protective device	Type of filter/color code
Painting/roller application of solvent-based paint. Degreasing/washing. Work with adhesives and jointing compounds.	Solvent vapors.	Half mask or full face mask (if the eyes are irritated).	Chemical cartridge OV + pre-filter. 
Spray painting with water-based paint/solvent-based paint in open, ventilated areas. Spraying with weed killers, insecticides, etc. High-pressure washing with additives.	Liquid aerosols (spray) and vapors/solvent vapors. Liquid aerosols (spray), vapors from organic weed killers, insecticides, etc. and solvent vapors (degreasing).	Half mask or full face mask (if the eyes are irritated).	Chemical cartridge OV + P100 particulate filter + pre-filter.  
Grinding work (if no gas is emitted). Rock drilling. Chimney-sweeping. Drilling of metals. Turning. Mould spores and other microorganisms.	Particles.	Half mask or full face mask (if the eyes are irritated).	P100 Particulate + pre-filter. 
Welding in ventilated areas.	Fumes and gas.	Half mask.	Chemical cartridge CL/HC/SD/FM + P100 particulate filter + pre-filter.  
Painting/washing with products containing Ammonia. Work on refrigeration systems. Using ammonia as the refrigerant.	Ammonia.	Half mask or full face mask (if the eyes are irritated).	Chemical cartridge AM/MA. 
Work in sewage treatment plants, public baths, etc. Work on acids, such as in etching, pickling, ensilage.	Inorganic gases/vapors and acid gases (chlorine acid, sulphur dioxide, sulphuric acid, nitric acid, formic acid).	Half mask or full face mask (if the eyes are irritated).	Chemical cartridge CL/HC/SD/FM + P100 particulate filter + pre-filter.  

# Filter recommendations

Chemical substance	Filter/Cartridge Guide	Color code		Chemical substance	Filter/Cartridge Guide	Color code	
Acetaldehyde	SR 218-6	Black	■	Chromic acid	SR 510	Magenta	■
Acetamide	SR 218-6 and SR 510	Black/Magenta	■ ■	Cobalt (dust and smoke)	SR 510	Magenta	■
Acetic acid	SR 218-6 and SR 510	Black/Magenta	■ ■	Cresol	SR 218-6 and SR 510	Black/Magenta	■ ■
Acetic anhydride	SR 218-6	Black	■	Cumene	SR 218-6	Black	■
Acetone	SR 218-6	Black	■	Cupper	SR 510	Magenta	■
Acetylchloride	SR 231 and SR 510	White/Magenta	■ ■	Cotton dust	SR 510	Magenta	■
Acrolein	SR 218-6	Black	■	Cyanide (as CN)	SR 231 and SR 510	White/Magenta	■ ■
Acrylamide	SR 218-6 and SR 510	Black/Magenta	■ ■	Cyclohexanol	SR 218-6	Black	■
Acrylic acid	SR 218-6 and SR 510	Black/Magenta	■ ■	Cyclohexanone	SR 218-6	Black	■
Acrylonitrile	SR 218-6	Black	■	Diaceton alcohol	SR 218-6	Black	■
Adipic acid	SR 510	Magenta	■	Diglycidyl ether	SR 218-6	Black	■
Aliphatic naphtha	SR 218-6	Black	■	Dimethyl sulfate	SR 218-6 and SR 510	Black/Magenta	■ ■
Allyl alcohol	SR 218-6	Black	■	Dimethylformamide	SR 218-6	Black	■
Allyl chloride	SR 218-6	Black	■	Dioxane	SR 218-6	Black	■
Allylamine	SR 231	White	■	Dust, inert	SR 510	Magenta	■
Aluminum chloride	SR 231 and SR 510	White/Magenta	■ ■	EDTA	SR 510	Magenta	■
Aluminum oxide	SR 510	Magenta	■	Epichlorohydrin	SR 218-6	Black	■
Ammonia	SR 229	Green	■	Ethanol	SR 218-6	Black	■
Amyl acetate	SR 218-6	Black	■	Ethyl acetate	SR 218-6	Black	■
Aniline	SR 218-6	Black	■	Ethyl acrylate	SR 218-6 and SR 510	Black/Magenta	■ ■
Antifouling paints	SR 218-6 and SR 510	Black/Magenta	■ ■	Ethyl bromide	SR 218-6	Black	■
Antimony	SR 510	Magenta	■	Ethyl chloride	SR 218-6	Black	■
Antimony hydride	SR 231	White	■	Ethyl ether	SR 218-6	Black	■
Aromatic naphtha	SR 218-6	Black	■	Ethylene glycol	SR 218-6	Black	■
Arsenic (not arsine)	SR 231 and SR 510	White/Magenta	■ ■	Ethylene oxide	SR 218-6	Black	■
Arsine	SR 231	White	■	Ethylenediamine	SR 218-6	Black	■
Barium	SR 510	Magenta	■	Ferrous chloride	SR 231 and SR 510	White/Magenta	■ ■
Benzaldehyde	SR 218-6	Black	■	Ferrous oxide (smoke)	SR 510	Magenta	■
Benzene	SR 218-6	Black	■	Fluor	SR 231	White	■
Benzotriazole	SR 218-6 and SR 510	Black/Magenta	■ ■	Fluoride (as F)	SR 510	Magenta	■
Benzyl chloride	SR 231	White	■	Fluorosilicic acid	SR 231 and SR 510	White/Magenta	■ ■
Benzyl alcohol	SR 218-6 and SR 510	Black/Magenta	■ ■	Formaldehyde	SR 231 and SR 510	White/Magenta	■ ■
Benzyl chloride	SR 231 and SR 510	White/Magenta	■ ■	Formic acid	SR 231	White	■
Biphenyl	SR 218-6 and SR 510	Black/Magenta	■ ■	Freon 113	SR 218-6	Black	■
Bromine	SR 231	White	■	Furfural	SR 218-6	Black	■
Butyl acetate	SR 218-6	Black	■	Glutaraldehyde	SR 218-6 and SR 510	Black/Magenta	■ ■
Butyl alcohol	SR 218-6	Black	■	Glycolomonobutyl ether	SR 218-6	Black	■
Butyl aldehyde	SR 218-6 and SR 510	Black/Magenta	■ ■	Glycolmonomethyl ether	SR 218-6	Black	■
Cadmium	SR 510	Magenta	■	Hydrazine	SR 229	Green	■
Calcium oxide	SR 510	Magenta	■	Hydrochloric acid	SR 231	White	■
Carbon disulphide	SR 218-6	Black	■	Hydrofluoric acid	SR 231	White	■
Carbon tetrachloride	SR 218-6	Black	■	Hydrogen cyanide	SR 231 and SR 510	White/Magenta	■ ■
Chlorate	SR 510	Magenta	■	Hydrogen selenide	SR 231 and SR 510	White/Magenta	■ ■
Chlorine	SR 231 and SR 510	White/Magenta	■ ■	Hydrogen sulfide	SR 231	White	■
Chlorine dioxide	SR 231	White	■	Hydroquinone	SR 218-6 and SR 510	Black/Magenta	■ ■
Chloroform	SR 218-6	Black	■	Iodine	SR 218-6 and SR 510	Black/Magenta	■ ■
Chloroprene	SR 218-6	Black	■	Isophorone	SR 218-6 and SR 510	Black/Magenta	■ ■

SR 510 P100 Particulate filter.  
 SR 218-6 OV chemical cartridge.  
 SR 231 CL/HC/SD/FM chemical cartridge.  
 SR 232 OV/SD/CL/HF chemical cartridge.  
 SR 229 AM/MA chemical cartridge.

**The SR 232 OV/SD/CL/HF chemical cartridge can always be used as an alternative to SR 218-6 or SR 231 except for protection against Formaldehyde.**



Chemical substance	Filter/Cartridge Guide	Color code	
Isopropyl alcohol	SR 218-6	Black	■
Lead (smoke and dust)	SR 510	Magenta	■
Maleic anhydride	SR 218-6 and SR 510	Black/Magenta	■ ■
Manganese	SR 510	Magenta	■
MEK	SR 218-6	Black	■
Methyl acrylate	SR 218-6	Black	■
Methyl alcohol	SR 218-6	Black	■
Methyl bromide	SR 218-6	Black	■
Methyl chloride	SR 218-6	Black	■
Methyl ethyl ketone	SR 218-6	Black	■
Methyl iodide	SR 218-6	Black	■
Methyl isobutyl ketone	SR 218-6	Black	■
Methyl methacrylate	SR 218-6	Black	■
Methylamine	SR 229	Green	■
Methyl chloroform	SR 218-6	Black	■
Methylene chloride	SR 218-6	Black	■
MIBK	SR 218-6	Black	■
Monomethylamine	SR 229	Green	■
Morpholine	SR 218-6	Black	■
Nickel, metal	SR 510	Magenta	■
Nitric acid	SR 231 and SR 510	White/Magenta	■ ■
Nitrobenzene	SR 218-6	Black	■
Nitroglycerin	SR 218-6	Black	■
Nitroglycol	SR 231	White	■
Octane	SR 218-6	Black	■
Organic peroxides	SR 218-6 and SR 510	Black/Magenta	■ ■
Oxalic acid	SR 510	Magenta	■
Ozone	SR 231	White	■
p-Phenylenediamine	SR 218-6 and SR 510	Black/Magenta	■ ■
PCB	SR 218-6 and SR 510	Black/Magenta	■ ■
Pentachlorophenol	SR 231 and SR 510	White/Magenta	■ ■
Perchloric acid	SR 218-6	Black	■
Perchloro ethylene	SR 218-6	Black	■
Petrol	SR 218-6	Black	■
Phenol	SR 218-6 and SR 510	Black/Magenta	■ ■
Phosgene	SR 231	White	■
Phosphine	SR 231	White	■
Phosphoric acid (mist)	SR 231 and SR 510	White/Magenta	■ ■
Phthalic anhydride	SR 218-6 and SR 510	Black/Magenta	■ ■
Piperazine	SR 229 and SR 510	Green/Magenta	■ ■
Piperidine	SR 218-6 and SR 510	Black	■

Chemical substance	Filter/Cartridge Guide	Color code	
Potassium hydroxide	SR 231 and SR 510	White/Magenta	■ ■
Potassium permanganate	SR 510	Magenta	■
Propionic acid	SR 218-6	Black	■
Pyridine	SR 218-6	Black	■
Selenium	SR 231 and SR 510	White/Magenta	■ ■
Selenium sulfide	SR 510	Magenta	■
Silicon dioxide	SR 510	Magenta	■
Silver nitrate	SR 510	Magenta	■
Sodium carbonate	SR 231 and SR 510	White/Magenta	■ ■
Sodium fluoride	SR 231 and SR 510	White/Magenta	■ ■
Sodium hydroxide	SR 510	Magenta	■
Sodium hypochlorite	SR 231 and SR 510	White/Magenta	■ ■
Sodium perborate	SR 510	Magenta	■
Sodium silicate	SR 510	Magenta	■
Styrene	SR 218-6	Black	■
Sulfuric acid	SR 231 and SR 510	White/Magenta	■ ■
Sulfur dioxide	SR 231	White	■
Sulfuric acid (mist)	SR 231 and SR 510	White/Magenta	■ ■
Terpentine	SR 218-6	Black	■
Tetrachloroethylene	SR 218-6	Black	■
Tetraethyl lead	SR 218-6 and SR 510	Black/Magenta	■ ■
Tetrahydrofuran	SR 218-6	Black	■
Tetramethyl lead	SR 218-6 and SR 510	Black/Magenta	■ ■
Toluene	SR 218-6	Black	■
Tributyl phosphate	SR 218-6 and SR 510	Black/Magenta	■ ■
Trichloroethane	SR 218-6	Black	■
Trichloroethylene	SR 218-6	Black	■
Tridymite (silicon dioxide)	SR 510	Magenta	■
Trimethylbenzene	SR 218-6	Black	■
Trisodium phosphate	SR 510	Magenta	■
Vanadium oxide (dust)	SR 510	Magenta	■
Vinyl acetate	SR 218-6	Black	■
Vinyl chloride	SR 218-6	Black	■
Vinyl toluene	SR 218-6	Black	■
Vinylidene chloride	SR 218-6	Black	■
White spirit	SR 218-6	Black	■
Xylene	SR 218-6	Black	■
Zink chloride (smoke)	SR 510	Magenta	■
Zink oxide (smoke)	SR 510	Magenta	■

A Supplied Air Respirator (SAR) can always be used instead of an Air Purifying Respirator (APR). It should always be used if the gas concentrations are in excess of 0.5% by volume. Should be used for physically strenuous or long-duration work.

N.B. A Supplied Air Respirator should not be used where there is danger of loss of consciousness or asphyxiation. Advice concerning the selection of filters/cartridges and the method of use can always be obtained directly from Sundstrom Safety Inc.

Pre-filter SR 221 should always be used. N.B. This pre-filter can never replace the P100 particulate filter SR 510.

# The unhealthy air of the mines led to the first respirators

Mining engineer Ivan Sundström observed that the eyes and lungs of the miners had to be protected and founded Sundström Safety AB back in 1926 for manufacturing of respirators.

Good respiratory protection had to be simple and comfortable to use. In 1972, Sundström presented the first modern half mask respirator made of rubber in an anatomical design. The first silicone mask was launched in 1989.

**We aim to assure optimal protection.** Although we are very satisfied with our current products, we continue to make major investments in product development. We now offer a complete system of masks, filters and accessories for all applications on the market and are continuously working to create products which are as efficient as possible.



**Sundström Safety AB was founded by Ivan Sundström in 1926.**



**The founder's son Per Sundström launched the first rubber half mask respirator in 1972.**

**Sundström** 

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