Content [Original Version: German]

	**Read first!**
Read this manual thoroughly and carefully before commissioning and use. Observe the safety and hazard information!	

Always make sure that these operating instructions are kept with the product or keep them easily accessible for everyone at any time!

1. General information

The SATA vision 2000 n, hereinafter referred to as a breathing protection hood, is part of the SATA breathing protection equipment. The breathing protection equipment serves to supply the wearer with clean breathing air. In addition, the breathing protection equipment is intended to protect the wearer from contaminated breathing air. The breathing protection equipment can be assembled from various components to form different breathing protection devices in different design levels.

SATA vision 2000 n Operating Manual

This manual refers to the use of the product within a breathing protection apparatus and contains important product-specific information. This manual also contains important information about the breathing protection equipment.

1.1. Target group

This system description is intended for

- Painting and varnishing professionals.
- Trained personnel for varnishing work in industrial and craftman's workshops.

1.2. Accident prevention

As a basic principle, the general and specific national accident prevention regulations must be heeded, together with corresponding workshop and industrial safety instructions. Personnel wearing respirators must be examined by a physician for suitability. Specifically for Germany: “Occupational liability insurance principles for occupational medical preventive examinations G 26: Wearers of respirators for work and rescue”. Furthermore, due consideration must be given to the pertinent regulations as per breathing protection leaflet DGUV rules 112-190.

1.3. Replacement, accessory and wear-and-tear parts

Only original accessories , spare and wear parts from SATA may be used. Accessories that are not supplied by SATA have not been tested or approved. SATA accepts no liability for damage caused by the use of non-approved spare parts, accessories and wearing parts.

1.4. Warranty and liability

The SATA General Conditions of Sale and Delivery and further contractual agreements, if applicable, as well as the valid legislation at the time apply.

SATA is not liable in case of

- Not adhering to the system description and the manual
- When the product is used in other than the intended ways of usage.
- When untrained staff is employed.
- Breathing air supply not in accordance with DIN EN 12021.
- When no personal protection equipment is worn.
- Failure to use original spare parts, accessories and wear parts
- Not adhering to the specifications regarding quality of air supplied to the breathing protection device
- When the product is manipulated, tampered with or technically modified.
- Natural wear and tear
- In case when the product has been exposed to untypical shockloads and impacts during usage.
- Impermissible assembly and disassembly work

2. Safety Instructions

DANGER	**Warning!**
Warning – Adequate protection by the respirator is not provided in certain highly toxic atmospheres.	

Read and comply with all directions listed in the following. Non-compliance or incorrect compliance can lead to malfunctions or severe injuries and even death.
Before using the PPE breathing protection equipment, **every user** is obliged to check the capacity of the air supply system, possibly also in terms of the impact on other users of the system. It must be ensured that the capacity of the air supply system for each connected user is sufficient to always supply at least the minimum volume flow specified in this manual.
The code "H" on the compressed air feed tube indicates that the compressed air feed tube is heat-resistant.
The code "S" on the compressed air feed tube indicates that the compressed air feed tube is antistatic.
The code "F" on the compressed air feed tube indicates that the compressed air feed tube can be used in situations where flammability can pose a hazard. The flammability details only refer to the compressed air feed tube. All other components of the breathing protection equipment must not be used in situations where flammability can pose a hazard.
Before operation, the user must proceed with a risk assessment regarding possible harmful components in the workplace, e.g. nitrogen. Appropriate hearing protection must be used. The user must wear the PPE in strict compliance with the information provided by the manufacturer.

NOTICE	**Attention!**
The user must note that in conditions of very high working intensity, the pressure in the breathing connection can become negative with maximum inhalation air flow.	

2.1. Requirements regarding personnel

This breathing protection hood is intended for use only by skilled personnel with appropriate training who have read and understood this system

description completely. Never use the breathing protection apparatus when tired or under the influence of drugs, alcohol or medication.

2.2. Personal protection gear (PSA)

The breathing protection hood offers highly effective health protection during paint spraying work and associated jobs in environments that pose a health risk. The breathing protection equipment is a component of personal protection equipment in conjunction with safety shoes, protective overalls, protective gloves and hearing protection, if required.

2.3. Safety Instructions

- Use compressed air suitable for breathing purposes (only breathing air in accordance with EN 12021).
- **It must be ensured that** the safety compressed air hose cannot be connected to other media-bearing systems **and** that no connections **are possible** with couplings that are connected to line systems that carry gases other than breathing air
- The use of oxygen or oxygen-enriched air is not permitted.
- Never connect multiple compressed air supply hoses together.
- The breathing protection apparatus and all available modules are not designed to withstand storage at lower or higher temperatures than the storage temperatures stated under “Technical Data”.
- Remove breathing air impurities through compressor, e.g. oil vapour, with activated carbon adsorber.
- Avoid harmful gases, vapours and particles in the air sucked in by the compressor.
- Adhere to safety regulations.
- Heed the accident prevention regulations (e.g. DGUV rule 100 – 500).
- The device may not be used in situations in which flammability can be a hazard. The “F” label indicates that the compressed air supply tube can be used in situations in which flammability can be a hazard. The flammability information refers only to the compressed air feed tube. All other components of the breathing protection equipment must not be used in situations where flammability may be a hazard.
- The breathing protection apparatus is to be connected to a stationary compressed air supply system.
- The water content of the breathing air should be kept within the limits of

EN 12021 to avoid freezing of the devices.

2.4. Use In Explosive Areas

	**Warning! Risk of explosion!**

Danger to life from explosion
When using the breathing protection apparatus in potentially explosive atmospheres of ex-zone 0, it is possible for an explosion to occur.
→ Never bring the breathing protection apparatus into potentially explosive atmospheres of ex-zone 0.

3. Intended use

Intended Use
The breathing protection apparatus protects the user from inhaling harmful substances from the ambient atmosphere during spraying work or from a lack of oxygen.

Incorrect use
Unintended use is the use of the breathing protection equipment in a surrounding atmosphere featuring radiation, heat or dust.
The breathing protection hood is part of the breathing protection apparatus and supplies the user with clean air for breathing.

4. Description

The breathing protection hood is part of the breathing protection apparatus and serves to supply the wearer with clean air for breathing; it consists of the main components:

- Head band (adjustable with ratchet and perforated band with latching mechanism)
- Spherical cup for attachment of the head/breast cloth (hook-and-loop tape)
- Hinged carrier frame with hood inlay, plug nipple and visor foil (lockable with two screws)
- Head/breast cloth, grey and removable
- Breathing air hose with connection nipple

Variant 1 [1]

- Belt unit with activated charcoal adsorber **[1-6]**, air control valve, activated charcoalabsorber for breathing air, compressed air connection and pressure indicator **[1-12]** (figure with optional air warmer/cooler

[1-13])

Variant 2 [2]

- Belt unit with air control valve (figure with optional air warmer/cooler **[2-11]**)

Variant 3 [3]

- Belt unit with T-piece air control valve **[3-6]** (figure with optional air warmer/cooler **[3-13]**)

5. Scope of Delivery

Variant 1

- SATA vision 2000 breathing protection hood with attached air hose, connection nipple and visor foil, sweat band and hood cover
- Belt unit with attached activated charcoal adsorber, air control valve activated charcoaladsorber for breathing air and pressure indicator
- 5 visor foils for carrier frame (supplied loose)
- Manual

Variant 2

- SATA vision 2000 breathing protection hood with attached air hose, connection nipple and visor foil, sweat band and hood cover
- Belt unit with air control valve
- 5 visor foils for carrier frame (supplied loose)
- Manual

Variant 3

- SATA vision 2000 breathing protection hood with attached air hose, connection nipple and visor foil, sweat band and hood cover
- Belt unit with T-piece and air control valve
- 5 visor foils for carrier frame (supplied loose)
- Manual

6. Technical Design

6.1. Variant 1

[1-1] Replaceable visor foil
[1-2] Acoustic warning device for minimum flow rate (not visible)
[1-3] Breathing air tube
[1-4] Gun compressed air hose
[1-5] Air connection for gun compressed air hose
[1-6] Activated charcoal absorber with replaceable filter cartridge
[1-7] Air connection for safety air hose
[1-8] Safety air hose
[1-9] Automatic oil and condensate drain valve

[1-10] SATA filter
[1-11] Air connection for air hose
[1-12] Pressure gauge
[1-13] SATA air warmer/cooler (optional)
[1-14] Ventilated breathing protection hood with hinged visor and neck guard

6.2. Variant 2

[2-1] Replaceable visor foil
[2-2] Acoustic warning device for minimum flow rate (not visible)
[2-3] Breathing air tube
[2-4] Gun compressed air hose
[2-5] Safety air hose
[2-6] Activated charcoal absorber with replaceable filter cartridge
[2-7] Automatic oil and condensate drain valve
[2-8] SATA filter
[2-9] Belt unit without activated charcoal absorber
[2-10] Air connection for air hose
[2-11] SATA air warmer/cooler (optional)
[2-12] Ventilated breathing protection hood with hinged visor and neck guard

6.3. Variant 3

[3-1] Replaceable visor foil
[3-2] Acoustic warning device for minimum flow rate (not visible)
[3-3] Breathing air tube
[3-4] Gun compressed air hose
[3-5] Air connection for gun compressed air hose
[3-6] Air control valve T-piece
[3-7] Safety air hose
[3-8] Activated charcoal absorber with replaceable filter cartridge
[3-9] Automatic oil and condensate drain valve
[3-10] SATA filter
[3-11] Air connection for air hose
[3-12] Ventilated breathing protection hood with hinged visor and neck guard
[3-13] SATA air warmer/cooler (optional)

7. Technical Data

Description	Variant 1, 2 and 3	
Required minimum volume flow	150 Nl/min	5,3 cfm
Maximum volume flow	580 Nl/min	20,5 cfm
Maximum operating pressure	max. 6 bar	max. 87 psi
Operating temperature	5 °C – 60 °C	41 °F – 140 °F
Storage temperature	-20 °C – 60 °C	-4 °C – 140 °F

Description	Variant 1, 2 and 3	
Weight varies depending on version	ca. 605 g - 645 g	ca. 21,3 oz – 22,75 oz
Safety compressed air hose operating pressure	max. 10,0 bar	max. 145 psi
Maximum length of the safety compressed air hose	max. 40 m	max. 1574,8“

8. First Use

The breathing protection hood is delivered in an assembled and operationally ready state.
Check after unpacking:

- Breathing protection hood undamaged.
- Scope of supply complete (see chapter 5).

The breathing protection hood must be fitted strictly in accordance with the fitting procedure specified in this document.

8.1. Installation on air supply

Variant 1, 2 and 3

Notice!
Use only approved compressed air supply hose (max. 40 m) with safety quick-couplers for operation of the breathing protection hood.

Notice!
Variant 1: The service life of the activated charcoal adsorber in the belt unit **[1-7]** and the quality of the breathing air is determined mainly by the pre-cleaning of the supplied compressed air.

8.2. Adjusting the head band

For individual adjustment to the wearer’s head, the head band has two setting possibilities.

- To adjust the head band, open the hook-and-loop tape on the head/ breast cloth.
- Fold the head/breast cloth forwards over the spherical cup.

1. Adjusting the head band to the head circumference

- Release the lock by turning the outer knurled ring on the ratchet com-

pletely to the left.
- Use the adjusting screw on the ratchet to increase or decrease the circumference of the head band until it fits the head without pressure.
- Fix the adjustment by turning the outer knurled ring on the ratchet completely to the right.

2. Adjusting the height of the head band

The lower edge of the front head band should be approx. 1 cm above the eyebrows. To do this, lengthen or shorten the perforated band running over the head via the latching mechanism until the right position is reached.

8.3. Check seating position of the breathing protection hood

	**Notice!**
The hood inlay must surround the whole face contour, and the field of vision in the carrier frame must not be restricted (beards, etc.). If this is not the case, a correction must be made at the head band.	

- Put on the breathing protection hood with the carrier frame open.
- Check the adjustments of the head band and correct, if necessary (see chapter 8.2).
- Close the carrier frame.

9. Normal Operation

 NOTICE	**Attention!**
The breathing protection components (PPE) must be put on and operated according to the details given by the manufacturer in the operating instructions.	

Before any use, check the following points to ensure safe work with the breathing protection hood.
- Adhere to all safety and hazard warnings in this manual.
- Air supply operating pressure.
- Head/breast cloth undamaged, clean and properly attached.
- View through the carrier frame unhindered.
- Breathing protection hood is properly seated.
- Only use intact SATA safety compressed air tubes.

- Carrier frame fixture fully functional.

9.1. Fitting the belt unit

The belt unit can be adjusted individually at the length-adjustable belt.

- Adjust length / circumference of the belt unit accordingly.
- Put on the belt unit.
- Close the belt unit at the clasp.

9.2. Put on the belt, rgeulator and respirator hood

- Put on the breathing protection hood with the carrier frame open.
- Check the adjustments of the head band and correct, if necessary (see chapter 8.2).
- Close the carrier frame.
- Check the field of vision.
- Close the hook-and-loop tape on the head/breast cloth.

9.3. Checking the service life

	**Notice!**
Before every use, check the service life of the activated charcoal absorber / activated charcoal filter. If the service life (max. 3 months) is exceeded, it must be replaced.	

- Check the duration for which the activated charcoal adsorber / of the activated charcoal filter has been used and replace if necessary

9.4. Make the breathing protection apparatus ready to use

	**Notice!**
The belt unit must be connected to the compressed air supply system.	

Variant 1 [1]

- Connect gun compressed air hose **[1-6]** to the air connection of the paint spray gun.
- Connect gun compressed air hose to air connection **[1-7]**.
- Take the air hose through the belt unit.
- Connect air hose **[1-3]** to the air connection for breathing air **[1-13]**.

Option

- Push SATA air warmer **[1-13]** onto SATA activated charcoal adsorber **[1-6]**.
- Connect air hose **[1-3]** to air connection **[1-11]**.

- Connect safety air hose **[1-8]** to the air connection of the belt unit.

	Notice!
The air regulator must be connected to the compressed air supply system.	

- The input pressure must be adjusted depending on the consumers in the system at the air supply. The minimum operating pressure must never fall below 4 bar; the minimum operating pressure increases with additional consumers (observe the following warning).
- **Use the regulator of the regulating unit** to check the alarm whistle of the breathing protection hood and ensure the minimum volume flow. To do this, **turn the regulator all the way closed** and then slowly turn to open it again when the spray gun is disengaged (if fitted), **until the alarm whistle no longer sounds.**

	Warning!
Drop in air flow If additional consumers (e.g. a paint spray gun and/or a heating or cooling module) are used, the air volume flow drops and can fall below the minimum volume flow. → Increase the input pressure on the air supply with the consumers fully turned on or the trigger guard of the paint spray gun pulled until the warning signal stops.	

The breathing protection equipment is operationally ready.

Variant 2 [2]

- Connect gun compressed air hose **[2-4]** to the air connection of the paint spray gun.
- Connect gun compressed air hose to the air connection of the filter unit.
- Take the air hose through the belt unit.
- Connect air hose **[2-3]** to the air connection for breathing air **[2-10]**.

Option

- Connect SATA air warmer **[2-11]** to air connection **[2-10]**.
- Connect safety air hose **[2-5]** to the air connection of the belt unit.

	Notice!
The air regulator must be connected to the compressed air supply system.	

- The input pressure must be adjusted depending on the consumers in the system at the air supply. The minimum operating pressure must never fall below 4 bar; the minimum operating pressure increases with additional consumers (observe the following warning).
- **Use the regulator of the regulating unit** to check the alarm whistle of the breathing protection hood and ensure the minimum volume flow. To do this, **turn the regulator all the way closed** and then slowly turn to open it again when the spray gun is disengaged (if fitted), **until the alarm whistle no longer sounds.**

	Warning!
Drop in air flow If additional consumers (e.g. a paint spray gun and/or a heating or cooling module) are used, the air volume flow drops and can fall below the minimum volume flow. → Increase the input pressure on the air supply with the consumers fully turned on or the trigger guard of the paint spray gun pulled until the warning signal stops.	

The breathing protection equipment is operationally ready.

Variant 3 [3]

- Connect gun compressed air hose **[3-4]** to the air connection of the paint spray gun.
- Connect gun compressed air hose to air connection **[3-5]** of the air control valve T-piece **[3-6]**.
- Take the air hose through the belt unit.
- Connect air hose **[3-3]** to the air connection for breathing air **[3-11]** of the T-piece.
- Connect safety air hose **[3-7]** to the air connection of the T-piece of the belt unit.
- Connect SATA air warmer **[3-13]** to air connection **[3-11]**.

Notice!

The air regulator must be connected to the compressed air supply system.

- Take the air hose through the belt unit.
- The input pressure must be adjusted depending on the consumers in the system at the air supply. The minimum operating pressure must never fall below 4 bar; the minimum operating pressure increases with additional consumers (observe the following warning).
- **Use the controller of the regulation unit** to check the alarm whistle of the breathing protection bonnet and ensure the minimum volume flow. To do this, **turn the regulator all the way closed** and then slowly turn to open it again when the spray gun is disengaged (if fitted), **until the alarm whistle no longer sounds.**

Warning!

Drop in air flow
If additional consumers (e.g. a paint spray gun and/or a heating or cooling module) are used, the air volume flow drops and can fall below the minimum volume flow.
→ Increase the input pressure on the air supply with the consumers fully turned on or the trigger guard of the paint spray gun pulled until the warning signal stops.

The breathing protection equipment is operationally ready.

10. Maintenance and repairs

The following chapter describes the procedures for maintenance and repair of the breathing protection hood. Maintenance and service work may only be carried out by specialist personnel.

10.1. Replacing the activated charcoal absorber (variant 1)

Notice!

Once the activated charcoal adsorber has been used for max. 3 months, it **[1-6]** needs to be replaced. The current use period can be read from the date clock on the protective guard.

- Close the shut-off valve on the air connection.
- Disconnect safety air hose **[1-8]** from the air connection of the belt unit.

- Unscrew the protective basket to the left and remove.
- Unscrew the transparent plastic bell.
- Pull out the old activated charcoal absorber.
- Remove the old date clock from the protective basket.
- Stick a new date clock to the protective basket.
- Insert a new activated charcoal absorber.
- Screw in the transparent plastic bell.
- Fit the protective basket and secure by turning to the right.
- Open the shut-off valve on the air connection.
- Adjust the air flow rate using the air control valve on the activated charcoaladsorber for breathing air. The pressure indicator **[1-12]** must remain within the green zone throughout the operating period.

10.2. Replacing visor foil

	Warning!
Impaired hazard detection Soiling of the visor foil can significantly restrict the field of vision. → Clean the visor foil at regular intervals. → Replace the visor foil, if necessary.	

- Pull the visor foil **[1-1]**, **[2-1]**, **[3-1]** off the plug nipple.
- Inspect the carrier frame for soiling and clean carefully, if necessary. Avoid damage.
- Fit the new visor foil. During replacement, take care that the middle 2 plug nipples (top and bottom) are clipped in first to ensure a perfect fit.

10.3. Replacing plug nipple

Removing plug nipple

- Press the plug nipple together using pliers and push out inwards through the carrier frame.
- Remove the plug nipple.

Installing new plug nipple

- Press the new plug nipple into the bore from the inside.

10.4. Replacing hood inlays

Removing hood inlay

- Unbutton the hood inlay from the holders of the carrier frame.
- Remove the hood inlay from the acoustic warning device **[1-2]**, **[2-2]**, **[3-2]**.

Fitting new hood inlay

- Push the round hole in the hood inlay over the acoustic warning device.
- Button the hood inlay into the holders of the carrier frame.

10.5. Replacing head/breast cloth

Removing head/breast cloth

- Pull air hose **[1-3]**, **[2-3]**, **[3-3]** out of the guide loop of the head/breast cloth.
- Unbutton the head/breast cloth from the holders on the right and left on the head band.
- Pull the head/breast cloth off the hook-and-loop tape on the spherical cup.

Fitting new head/breast cloth

- Fasten the head/breast cloth to the middle of the hook-and-loop tape on the spherical cup.
- Button head/breast cloth into the upper holders on the right and left on the head band to the sweat band.
- Pull the air hose through the guide loop of the head/breast cloth.

10.6. Replacing sweat band

Removing sweat band

- Unbutton the head/breast cloth on the right and left from the holders of the head band.
- Unbutton the sweat band from the holders of the head band.
- Pull the sweat band off the foam strip.

Fitting new sweat band

- Button the five holes of the sweat band side into the lower five holders of the head band.
- Pull the sweat band inwards over the foam strip.
- Of the four remaining holes in the sweat band, button one each into the upper holders on the right and left in the head band.
- Align the sweat band so that the foam strip is completely covered.
- Button the head/breast cloth into the upper holders on the right and left of the head band to the sweat band.

10.7. Replacing foam strip behind the sweat band

Removing foam strip

- Remove the sweat band (see chapter 10.6).
- Pull the foam strip off the inside of the head band residue-free.
- Remove any adhesive residues from the head band using a suitable

cleaning agent (see chapter 11.1).

Fitting new foam strip

- Pull the protective film off the adhesive tape of the foam strip.
- Attach the foam strip to the inside of the head band in the middle (forehead part).
- Fit the sweat band again (see chapter 10.6).

11. Care and storage

Careful handling and constant care of the product is necessary to ensure the proper function of the breathing protection hood.

11.1. Cleaning and Disinfection

	**Attention!**
Damage from unsuitable cleaning agents Use of aggressive cleaning agents can damage the breathing protection hood. → Do not use aggressive or abrasive cleaning agents.	

Suitable cleaning equipment and disinfection agents can be found here:
www.sata.com

Clean the breathing protection apparatus every time after it has been used, also check that it functions properly and does not leak; disinfect the breathing protection hood if necessary.
For cleaning and/or disinfection, use a - with suitable cleaning agent or disinfectant moistened – Wipe all skin contact areas with a cloth. Visible dirt – especially in the interior of the hood – must be completely removed. Then allow the cleaned surfaces to dry completely before using them again.
If the hood is damaged, do not use it under any circumstances. Please contact SATA customer service for repair or dispose of the damaged product properly.
If the visor foil is damaged and/or visibly dirty, it must be replaced immediately.
New units and spare parts have a shelf life of 5 years as long as they are stored in air-tight packaging.
The apparatus must be stored in a clean, dry place when not in use, but

not in the combi cabin.

12. Malfunctions

If it is not possible to remedy the malfunctions with the corrective action described in the manuals for the individual components, please contact your SATA dealer.

13. Disposal

Dispose of the breathing protection hood as recyclable material. To avoid damage to the environment, dispose of the breathing protection hood separately from the air filters in an appropriate manner. Comply with local regulations!

14. After Sale Service

For accessories, spare parts and technical support, contact your SATA dealer.

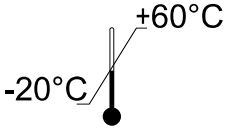
15. Accessories

Art. No.	Description	Number
13870	SATA gun compressed air hose, blue, 9 mm, 1.2 m long with quick-coupler, red and nipple	1 ea.
61242	SATA air warmer with air micrometer, air consumption: 150 Nl/min	1 ea.
49080	SATA safety compressed air hose 10 mm, 6 m long for SATA breathing protection equipment	1 ea.
176792	SATA safety compressed air hose 10 mm, 10 m long for SATA breathing protection equipment	1 ea.
180851	SATA safety compressed air hose 10 mm, 40 m long for SATA breathing protection equipment	1 ea.

16. Spare Parts

www.sata.com/airvision-2000-spareparts

17. Marking on the PPE

	Temperature range during storage (- 20° C to + 60° C)
	ATTENTION! Observe this manual!
	Year of production
	Maximum moisture during storage < 90 %

18. EU Declaration of Conformity

The latest version of the Declaration of Conformity can be found at:

www.sata.com/downloads