



SABRE



PANASEAL

Positive Pressure Facemask

User Instructions



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PANASEAL

Positive Pressure Facemask

Contents

WARNINGS	ii
1. INTRODUCTION	1
1.1 BREATHABLE AIR	1
1.2 COMPRESSED AIR AIRLINE SUPPLIES	1
1.3 APPARATUS DURATION	2
1.4 PERSONNEL TRAINING	2
1.5 SERVICING	2
1.6 SPARE PARTS AND ACCESSORIES	2
1.7 NOTIFIED BODIES	2
2. APPARATUS DESCRIPTION	3
2.1 GENERAL	3
3. PRE-USE AND MONTHLY CHECKS	3
3.1 CHECKS.....	3
3.2 PRE-USE TESTS	3
3.3 POSITIVE PRESSURE TEST	5
3.4 BREATHING APPARATUS' TESTS.....	5
4. DON APPARATUS	5
4.1 ATTACH DEMAND VALVE	5
4.2 DON FACEMASK	5
4.2.1 Web Headharness.....	5
4.2.2 Net Headharness	6
4.2.3 All Versions	6
4.3 POSITIVE PRESSURE TEST	6
4.4 FACEMASK SEAL TEST	7
4.5 BYPASS TEST	7
5. DOFFING THE APPARATUS	7
6. AFTER USE	8
6.1 CLEANING	8
6.2 RECORD TEST DETAILS	8
6.3 STORAGE	8
7. SCHEDULED MAINTENANCE	9
7.1 MONTHLY	9
7.2 ANNUALLY.....	9

Sabre Breathing Apparatus is a division of **Scott Health and Safety Limited**.
Registered Office: Scott Health and Safety Limited, Pimbo Road, West Pimbo,
Skelmersdale, Lancashire, WN8 9RA, United Kingdom.

WARNINGS

Please Read Carefully and Fully Understand

This manual is for use by personnel trained in the use and care of compressed air breathing apparatus, and **MUST NOT** be used as a self-teaching guide by untrained users. Failure to understand or adhere to the **PanaSeal** user instructions may result in injury or death.

Scott Health and Safety Limited have taken great care to ensure that the information in this manual is accurate, complete and clear. However, **Training & Technical Support Services** will be pleased to clarify any points in the manual and answer questions on **Sabre** breathing apparatus.

The following warnings are in accordance with certifying authority requirements and apply to the use of breathing apparatus in general:



Breathing apparatus users must be fully trained in the use and care of self-contained, compressed air breathing apparatus.



Ensure that the selection of the apparatus type is sufficient for the tasks being undertaken and the hazards likely to be encountered. Please refer to National Regulations for guidance.



Adequate protection may not be provided in certain highly toxic atmospheres.



The apparatus must be tested and serviced in accordance with Section 7 - *Scheduled Maintenance* and the notes in Section 1 under *Training & Servicing*.



The quality of air used to supply and charge breathing apparatus must meet the requirements of EN 12021 : 1995. See Section 1 for details.



Ensure that a good seal can be obtained between the face and facemask. The wearing of beards, side-burns or spectacles may adversely affect the sealing of a facemask to the wearer's face.



The apparatus is not designed for use underwater.



The harness must not be used as a vehicle seat restraint



Ensure that you are familiar with the Warnings, Cautions and Limitations contained in the user instructions for apparatus to be used with **PanaSeal**.



PanaSeal will only provide the Class 3 respiratory protection described in EN 136 : 1998 when used with an apparatus for which it is approved.

DISCLAIMER

Failure to comply with these instructions or misuse of the apparatus may result in: death, injury or material damage, and invalidate any warranty or insurance claims.

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1. INTRODUCTION

1.1 BREATHABLE AIR

Air used to supply or charge breathing air may be natural or synthetic. The composition of breathable air is given in *Table 1*.

COMPONENT	MASS % (Dry Air)	VOLUME% (Dry Air)
OXYGEN	23.14	20.948
NITROGEN	75.52	78.08
ARGON	1.29	0.93
CARBON DIOXIDE	0.05	0.031 4
HYDROGEN	0.000 003	0.000 05
NEON	0.001 270	0.001 818
HELIUM	0.000 037	0.000 524
KRYPTON	0.000 330	0.000 114
XENON	0.000 039	0.000 009

Table 1: Breathable Air

There is an increased fire risk when the oxygen content is above the value shown above.

The purity/quality of air used to supply and charge breathing apparatus should be tested periodically in accordance with national regulations.

If not specified otherwise, the contaminants shall not exceed the permissible exposure level.

National regulations must be observed.

The mineral oil content shall be such that the air is without the odour of oil. The odour threshold is in the region of 0.3 mg/m³.

The water content shall not exceed 50 mg/m³ for 200 bar apparatus and 30 mg/m³ for 300 bar apparatus.

For airline apparatus, air must be used with a dew-point sufficiently low to prevent internal freezing.

1.2 COMPRESSED AIR AIRLINE SUPPLIES

Air for use with compressed air airlines must conform to prEN 12021 : 1995 and must have a dew point sufficiently low to prevent internal freezing when apparatus is used in temperatures below 4°C.

No. of Wearers	Airflow (L/min.)
1	300
2	450
3	750
4	900

Table 2

Airline pressure must be between 5.0 - 9.0 bar (70 - 130psi). Airflow supply capacity for a single airline is given in *Table 2*.

Generally - One wearer requires 300 L/min. Each additional wearer requires 150 litres/minute, each additional pair of wearers requires 450 L/min. All measurements must be taken at the wearer end of the airline.

Example: for 8 users (4 pairs) the recommended flow is $4 \times (300 + 150) = 1800$ litres/minute.

A **Sabre** airline flow tester is available from **Scott Health and Safety Limited** under Article Number 1035978.

Compressed air airlines must be **Sabre** products, approved to EN 139.

Ensure that hoses used in an explosive or inflammable atmosphere are marked: ANTI-STATIC – EN 139.

Cost effective PVC hoses may be used in other atmospheres.

Scott Health and Safety Limited manufacture a range of anti-static and PVC hoses, in lengths ranging from 15m to 60m. Our **Customer Services** Department will be pleased to advise on price and delivery.

1.3 APPARATUS DURATION

All durations quoted are nominal, based on an Average Wearer Consumption Rate of 40 litres/minute and FULLY CHARGED cylinders. Actual Wearer Consumption rates vary due to many factors, such as:

1. Workload: high work rates increase consumption rates.
2. Weight of apparatus and use of heavy or restrictive clothing.
3. Work environments with extremes of heat or cold.
4. Physical fitness of the wearer.
5. Other factors include emotional stress and fatigue.
6. Supplying cylinder air to a resuscitator or rescue second mask (RSM).

It is important that all wearers are aware of these factors and take account of them when assessing cylinder duration.

1.4 PERSONNEL TRAINING

Personnel who use self-contained, compressed air breathing apparatus must be fully trained in accordance with these instructions and national regulations.

These instructions cannot replace an accredited training course run by fully qualified instructors in the proper and safe use of **Sabre** breathing apparatus.

Please contact **Training & Technical Support Services** or your **Sabre** distributor for training course details.

Training & Technical Support Services:

Scott Health and Safety Limited

Pimbo Road,
West Pimbo,
Skelmersdale,
Lancashire,
WN8 9RA,
United Kingdom.

Tel: +44 (0) 1695 711711

Fax: +44 (0) 1695 711775

1.5 SERVICING

PanaSeal must be serviced at scheduled intervals by personnel who have completed a formal training course and hold a current certificate for the servicing and repair of **Sabre** breathing apparatus. Details of the servicing schedule are contained in the appropriate Service Manual, copies of which can only be obtained by registered holders of a current certificate.

Your **Sabre** distributor or **Training & Technical Support Services** will be pleased to provide training course details and quotes for service contracts. Please see above for contact details.

1.6 SPARE PARTS AND ACCESSORIES

Customer Services provide an efficient, friendly, customer contact point for ordering new apparatus, spare parts and accessories. The team can also provide general information on **Sabre** products.

Customer Services:

Scott Health and Safety Limited

Pimbo Road,
West Pimbo,
Skelmersdale,
Lancashire,
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Tel: +44 (0) 1695 711711

Fax: +44 (0) 1695 711775

1.7 NOTIFIED BODIES

Inspec International Ltd (No. 0194)
Upper Wingbury Courtyard,
Wingrave,
Aylesbury,
Buckinghamshire,
HP22 4LW,
United Kingdom.

British Standards Institute (No. 0086)
389 Chiswick High Road,
London,
W4 4AL,
United Kingdom.

2. APPARATUS DESCRIPTION

2.1 GENERAL

PanaSeal is a Class 3 positive pressure full face mask for use with Breathing Apparatus (BA) used by fire-fighters and other applications where a high level of respiratory protection is required. It is approved for use with all **Sabre** self contained breathing apparatus approved to EN 137, and compressed air airline breathing apparatus approved to EN 139.

It is approved to EN 136 : 1998 CL 3 and is CE marked in accordance with EEC Directive EC/686/1986.

PanaSeal is moulded in non-dermatitic black Neoprene or blue Silicone.

The polycarbonate visor conforms to EN 166 Grade B for impact resistance.

It is available with a five-point, fully adjustable web or net headharness. Both versions have a neck-strap.

An inner mask, with a speech diaphragm, minimises CO₂ dead space and visor misting.



Versions of the mask are available for use with the **Gallet F1™** helmet.

3. PRE-USE AND MONTHLY CHECKS

3.1 CHECKS

1. Check that the facemask is clean and undamaged.
2. Check that the visor is free from blemishes that might impair vision.
3. Check that the headharness/head net is complete and in good condition; and that the straps are fully slackened.



4. On the apparatus intended for use, check that the orange O-ring on the DV outlet is clean and in good condition.

3.2 PRE-USE TESTS

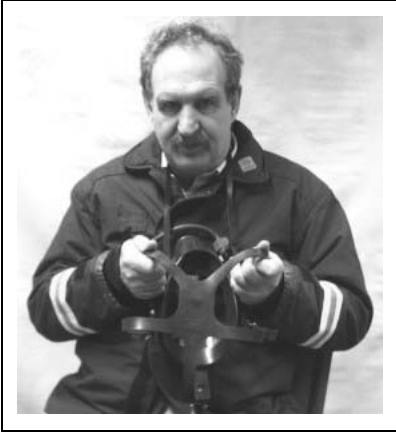


1. Fit the DV of a breathing or airline apparatus, for which **PanaSeal** is approved, to the facemask.

Note: If **PanaSeal** is to be used with **RAS**, fit filter and filter cover after first ensuring that the filter and filter O-ring are clean and in good condition.

PANASEAL

2. Check that the red locking catch engages fully. Twist the DV gently to confirm that it has.
3. Open the air supply valve fully.



4. **Facemasks with a web harness:** Hold the headharness lower straps, place chin in chin-cup and pull straps over back of head, brushing back hair from under faceseal.



5. **Facemasks with a web harness:** Tighten harness straps in sequence, **Bottom, Middle, Top**. DO NOT over-tighten.



6. **Facemasks with a net harness:** Hold the mask by the side of the net harness, place the chin into the chin-cup and pull the mask onto the face. Grasp the pull-strap at the rear of the net harness and pull the net over the head.
7. **Facemasks with a net harness:** Tighten harness side straps. DO NOT over-tighten.
8. **All Facemasks:** Inhale deeply and check that the DV first breath mechanism operates.

3.3 POSITIVE PRESSURE TEST



1. With the cylinder valve open, insert a finger under face seal and check for a steady outward flow of air. Remove finger and allow mask to re-seal.
2. Hold breath for ten seconds and listen for leaks. If there are leaks, loosen the headharness and adjust the mask for a comfortable leak-tight fit and repeat test. DO NOT over-tighten the headharness.
3. DO NOT USE apparatus that leaks. Attach an explanatory note and return for servicing.

3.4 BREATHING APPARATUS' TESTS

1. Perform any tests detailed in the appropriate breathing apparatus' user instructions.

4. DON APPARATUS

4.1 ATTACH DEMAND VALVE

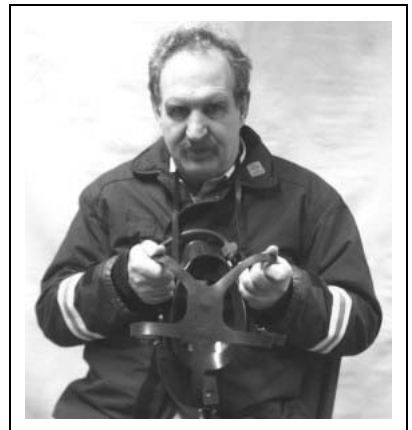
1. Check that the **PanaSeal** headharness is fully slackened and that the DV is connected to the facemask.
2. Place the neck-strap round the neck.



3. Check that the flat on the DV bypass knob is off (Flat on the knob is towards the facemask).
4. Press the black reset button.
5. Follow the appropriate breathing apparatus' user instructions to supply air to the facemask.

4.2 DON FACEMASK

4.2.1 Web Headharness



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1. Hold the headharness lower straps, place chin in chin-cup and pull straps over back of head, brushing hair away from faceseal.



2. Adjust the facemask top strap so that the mask is at the correct level with the face and the headharness pad is in the centre of the back of the head, then tighten harness straps in sequence: **Bottom, Middle, Top**. DO NOT over-tighten.

4.2.2 Net Headharness



1. Hold the mask by the side of the net harness, place the chin into the chin-cup and pull the mask onto the face. Grasp the pull-strap at the rear of the net harness and pull the net over the head.



2. Tighten harness side straps. DO NOT over-tighten.

4.2.3 All Versions

1. Inhale deeply to activate the DV, then breathe normally.

4.3 POSITIVE PRESSURE TEST



1. With the cylinder valve open, insert a finger under faceseal and check for a steady outward flow of air. Remove finger and allow mask to re-seal.

4.4 FACEMASK SEAL TEST

1. Close the cylinder valve and keep hold of the handwheel. Hold breath for 10 seconds and listen carefully for leaks. A leak will cause the pressure gauge reading to fall.
2. If the facemask fails the leak test: open the cylinder valve, loosen the headharness, adjust the facemask and repeat the test.

4.5 BYPASS TEST



1. Turn on the DV bypass knob and check for a steady flow of air into the mask, then close the bypass.

5. DOFFING THE APPARATUS

WARNING:

DO NOT remove apparatus until well clear of the hazardous area.



1. Hold breath and press the DV reset button.



2. Release the head harness by pulling the harness buckles forwards. Remove mask and let it hang from the neck-strap.
3. Close the air supply valve and follow the *After Use* instructions for the air supply apparatus.
4. Clean and test **PanaSeal** as described in *Section 6*.

6. AFTER USE

6.1 CLEANING

Cautions:

- **USE ONLY** the specified methods and materials. **DO NOT** use bleach, solvent, detergent or abrasive cleaners.
- **Dry thoroughly, away from direct heat and sunlight, prior to storage.**



1. Disconnect DV from the facemask.
2. Wash and disinfect the mask thoroughly in a solution of **TriGene™** and warm water. See following *Note*.
3. Rinse the mask thoroughly in clean running water. Pay particular attention to flushing out the exhale valve.
4. Hang mask by its neckstrap and allow it to dry thoroughly away from direct heat or sunlight.
5. When dry, wipe facemask seals with **TriGene™** disinfectant wipes.
6. Polish the visor inside and out with a clean, lint-free cloth and slacken the head harness, ready for use.

Note: **TriGene™** is available from **Scott Health and Safety Limited** in 1 litre and 5 litre containers under Article Numbers 2008247 and 2008248 respectively.

Pump dispensers are available for the above under Article Numbers 1017672 (1 litre) and 1017670 (5 litres).

TriGene™ disinfecting wipes are available from **Scott Health and Safety Limited** under Article Number 2004225 (pack of 20).

6.2 RECORD TEST DETAILS

Record test details, in accordance with local regulations, within a Breathing Apparatus Logbook (available from **Scott Health and Safety Limited** under Article Number 1034745).

6.3 STORAGE

The apparatus must be stored in a clean, dry environment away from direct heat and sunlight.

Storage temperature should not exceed +40°C to -10°C.

7. SCHEDULED MAINTENANCE

7.1 MONTHLY

Test **PanaSeal** in accordance with *Section 3 - Pre-Use and Monthly Checks*.

Record test details in the apparatus' BA Logbook. This record is mandatory in the UK and most EC countries, and must be kept up to date and available for inspection.

Please see *Section 6.2* for details.

7.2 ANNUALLY

PanaSeal must be returned for a workshop service annually and for a major workshop service at six-yearly intervals.

After each workshop service, perform the user checks detailed in *Section 3 – Pre-Use and Monthly Checks* prior to returning **PanaSeal** to service.

Check that workshop service details have been recorded in the apparatus' BA Logbook.



Sabre Breathing Apparatus

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