



S.E.A. Modular Breathing Air System

Supplied-Air Manifold SpiroCART



User Instructions

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TABLE OF CONTENTS

S.E.A. MODULAR BREATHING AIR SYSTEM	3
CONFIGURATIONS	3
S.E.A. supplied-air manifold.....	4
SpiroCART	4
Wall mount	4
Hand-held.....	4
OPERATION	5
The operator	5
Preparation for use.....	5
Cylinder capacity and warning time	6
Changing cylinders during use.....	6
MAINTENANCE	6
CONFORMANCE TO STANDARDS	6

Warning

Improper use of this breathing air supply may result in personal injury or death. Improper use includes, but is not limited to, use without adequate training, disregard of the warnings and instructions contained herein and failure to inspect and maintain this breathing air supply.

S.E.A. MODULAR BREATHING AIR SYSTEM

The S.E.A. Modular Breathing Air System provides breathing air in a range of flexible configurations to suit the needs of users in different situations.

Features include:

- air supply to up to three positive pressure demand respirators simultaneously
- configurable as wall-mount, portable trolley or hand-held
- suitable for a wide range of cylinder types and sizes
- cylinders may be swapped without interrupting breathing air supply

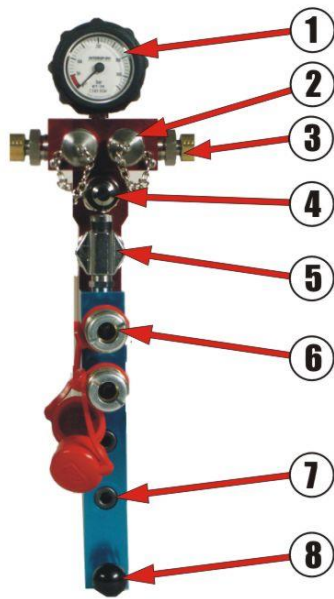
CONFIGURATIONS

The heart of the S.E.A. Modular Breathing Air System is the S.E.A. supplied-air manifold. It can be used in the following configurations:

- on the SpiroCART trolley with one or two cylinders (not G-size)
- wall-mounted with flexible high pressure hoses for use with G-size cylinders
- on a carry handle for complete portability (single cylinder only, not G-size)



S.E.A. supplied-air manifold



1. High pressure gauge
2. Two bleed valves
3. Two high pressure connections to breathing air cylinders
4. Low supply pressure warning whistle
5. High pressure regulator
6. Two CEJN airline connectors
7. Two blank outlet ports for a third airline connector (optional) and/or airline pressure gauge (optional)
8. Quick-release latch for easy removal or replacement of manifold

The manifold is supplied with protective caps fitted to the cylinder connections to prevent contamination and damage. The caps should be refitted whenever a cylinder is not connected.

SpiroCART

The SpiroCART consists of:

1. S.E.A. supplied-air manifold (SEA-CA-M/HP)
2. Two-wheeled trolley in powder-coated aluminium
3. Adjustable height (up and down) handle in zinc plated and passivated steel
4. Adjustable straps for securing two cylinders

The standard SpiroCART (SEA-SC2-C) has two standard airline outlets.

The SpiroCART with hose reel (SEA-SC2-HW-C) has two standard airline outlets plus a third outlet via an integrated hose reel with up to 30 metres of 9.5 mm rubber or PVC airline.

To raise or lower the SpiroCART handle, pull the release knob below the manifold outlets.

Wall mount

The wall-mounted configuration consists of:

1. S.E.A. supplied-air manifold with flexible high pressure hoses and BOC connections (SEA-CA-M/HP-BOC2)
2. Wall-mount bracket accessory (SEA-CA-WMB)

The wall-mounted configuration is suitable for BOC G-size cylinders only.

Installation notes

1. Fasten to wall using 8 mm fixing bolts (not supplied).
2. Cylinders must be supported and fixed securely, and must not bear weight on the manifold.

Hand-held

The hand-held configuration consists of :

1. S.E.A. supplied-air manifold (SEA-CA-M/HP)
2. Carry handle accessory (SEA-CA-C/H)

The hand-held configuration can be used with a single cylinder only (not G-size). It is suitable for a single wearer only.

Installation notes

1. When fitting the handle, make sure it is parallel to the manifold.

OPERATION

The operator

An operator must always be in attendance while the Modular Breathing Air System is in use. The operator must:

- monitor the air supply
- listen for the low pressure warning whistle
- change cylinders as required to maintain continuity of air supply
- communicate with wearers

Hand-held

The hand-held configuration is intended for use by a single wearer only, who carries the cylinder to the workplace. The wearer must monitor the cylinder pressure, and must immediately leave the hazardous area when the warning whistle sounds.

Preparation for use

1. Before commencing a task, ensure that enough cylinders are available to complete the task
2. Check that cylinder valves and connection nipples are clean and the threads undamaged
3. Attach and secure the desired number of full cylinders to the manifold
 - SpiroCART – secure both cylinders with the adjustable straps provided
 - Wall-mounted – ensure cylinders are placed on a stable base and are fixed in place
 - Carry-handle – secure cylinder to handle with a strap. Fit a protective cap to the spare cylinder connection
4. Connect up to three positive pressure demand respirators
5. Check that the bleed valves on the manifold are closed
6. Gently open a cylinder valve. The equipment is now ready for use.

Note: When using two cylinders, both must have the same maximum pressure rating and physical size, and be compliant with AS 2030 and AS 2473.

Cylinder capacity and warning time

Operating time and low pressure warning time vary greatly depending on the cylinder configuration and the number of wearers. The operator must be aware of the expected operating time and warning time for the configuration being used.

The table below shows the approximate time remaining after the warning whistle sounds for various configurations. The values are calculated for a breathing rate of 40 litres per minute per person, equivalent to a moderate work rate. Values are for guidance only, and will vary depending on the workload of the wearers.

Cylinder size <i>litres</i>	Cylinder pressure <i>bar</i>	Approx whistle setting <i>bar</i>	Approx duration after whistle sounds <i>minutes</i>		
			1 wearer	2 wearers	3 wearers
4 litres	300 bar	55 bar	5.5	2.5	< 2
6 litres	300 bar	55 bar	8	4	2.5
47 litres (G-size)	163 bar	11 bar	13	6.5	4

Note: When using the hand-held configuration, the wearer must immediately leave the hazardous area when the warning whistle sounds.

Changing cylinders during use

To change cylinders during use without interrupting air supply to the wearers:

1. Check that the bleed valve for the full cylinder is closed
2. Gently open the cylinder valve of the full cylinder
3. Close the cylinder valve of the empty cylinder
4. Gently open the bleed valve of the empty cylinder to relieve residual pressure, and then reclose it
5. Disconnect and remove the empty cylinder and replace it with a full cylinder, ready for the next change

MAINTENANCE

The S.E.A Modular Breathing Air System requires very little maintenance.

The following maintenance is required:

- Regular inspection, including cylinder connection threads and fastening straps
- Comprehensive inspection and test by an S.E.A. certified technician at least once every 12 months when in regular use

CONFORMANCE TO STANDARDS

The S.E.A. Modular Breathing Air System conforms to the relevant clauses of AS/NZS 1716:2012. It may be used with positive pressure demand air-line respirators and compatible breathing air cylinders.

Compressed air supplies are not included within the scope of AS/NZS 1716:2012.

Notes



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