



ENGLISH

# Spirotest 100 Model 2016

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User manual

32749D01

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## Important information to user

**WARNING!** Do not open the SPIROTEST 100 case while it is powered up. Contact with the powered internal circuitry may lead to death or serious injury. Contact with the moving mechanical parts inside the case can cause considerable injuries.

**NOTE:** The information in this document only applies to the SPIROTEST 100. The document may not be used with older equipment, as differences may exist. In case of doubt, contact Interspiro.

Please observe the pertinent regulations and directions as well as the following instructions for use:

- The proper operation of Spirotest 100 Model 2016 requires the exact knowledge and the strict observance of these operating instructions.
- Calibration, maintenance work and repairs on Spirotest 100 Model 2016 will be handle by Interspiro. The use of parts of foreign manufacture nullifies the warranty and liability of Interspiro.
- Prerequisite for the proper operation is the compliance of Spirotest 100 Model 2016, respectively, of its components, with these operating instructions as well as with the purposes of use mentioned therein or as confirmed by letter.
- In any case, Interspiro recommends having revisions and maintenance work carried out only by the Interspiro customer service or by an authorized Interspiro service center.
- Interspiro undertakes no liability for the apparatus or its components if any action is carried out on sealed parts without written permission from Interspiro.
- Interspiro's terms of liability as well as of sale and delivery apply; the terms of liability are not extended by these notes.

The Spirotest 100 Model 2016 conforms to both the 2004/108/ECC Directive regarding electromagnetic compatibility and the 2006/95/ECC Low Voltage Directive.

**NOTE:** The Selector (See section "1.2 Main components", position 7) is to be kept in the "Apparatus" position for all tests described in this document.

**NOTE:** The Relief valve (See section "1.2 Main components", position 5) should always be kept in closed position, except when specifically instructed to open it in the test procedures in this document. Make sure not to overtighten the Relief valve when closing it.

# 1. Product description

## 1.1 Overview

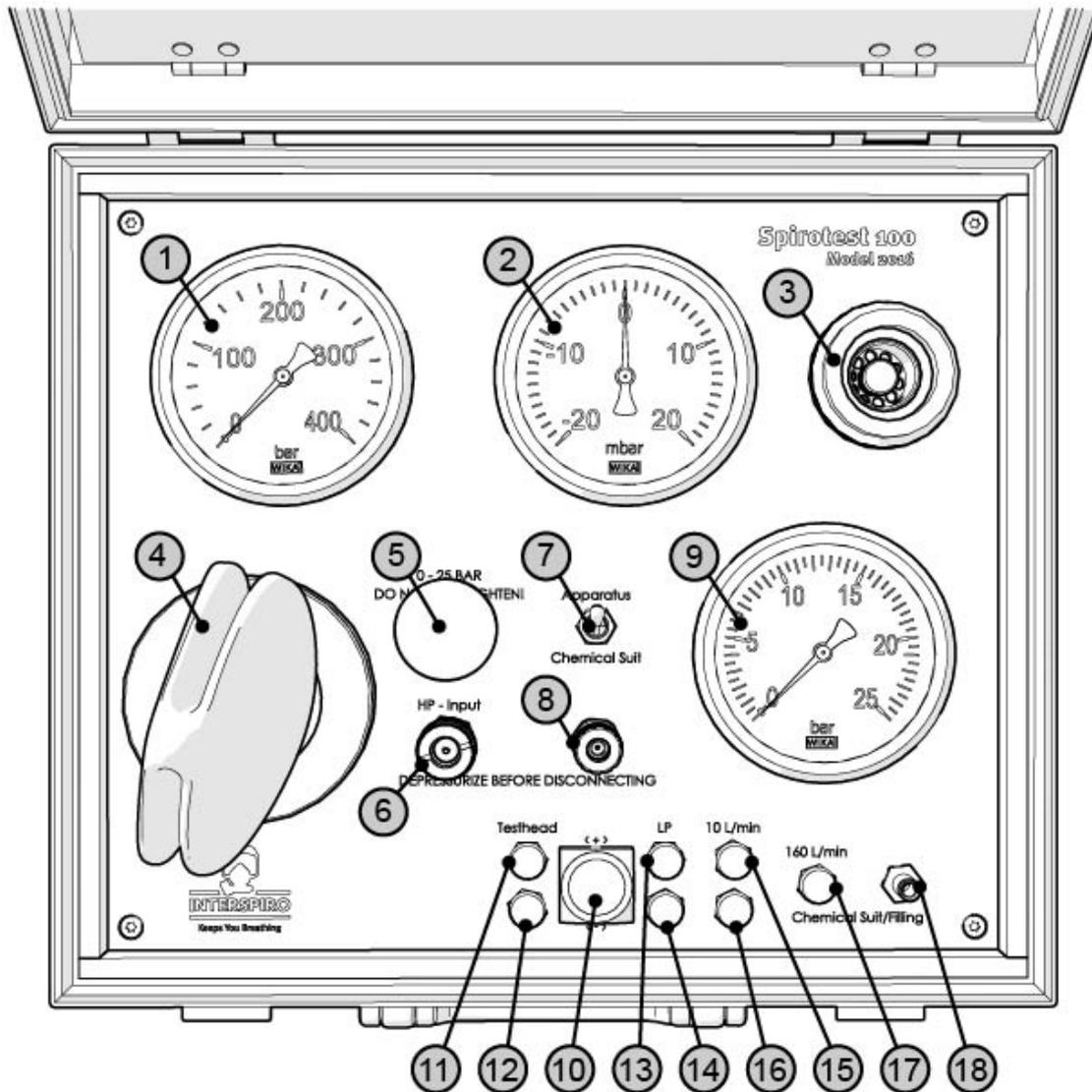
The Spirotest 100 Model 2016 is an easy-to-operate, portable test equipment for the testing of breathing apparatus (SCBA), diving apparatus (SCUBA), and chemical protective suits of various types and manufacture. For the operation of the Spirotest 100 Model 2016 further test accessories are required, depending on the equipment to be tested.

It is absolutely crucial to read the following instructions carefully and to observe the respective directions before installing and operating the Spirotest 100 Model 2016.

If you should have any questions concerning installation, operation, and maintenance of the Spirotest 100 Model 2016, please feel free to contact your local Interspiro dealer.

## 1.2 Main components

### Control panel



- |   |                                |
|---|--------------------------------|
| 1. High pressure gauge                      | 10. Vacuum pump button         |
| 2. Low pressure gauge                       | 11. Test head inflation button |
| 3. Test connection                          | 12. Test head deflation button |
| 4. Test head                                | 13. Positive pressure button   |
| 5. Relief valve                             | 14. Negative pressure button   |
| 6. High pressure connection                 | 15. Exhalation button          |
| 7. Selector ("Apparatus" / "Chemical Suit") | 16. Inhalation button          |
| 8. Low pressure connection                  | 17. Relief button              |
| 9. Medium pressure gauge                    | 18. Medium pressure connection |

**Test adapters and accessories**

<u>#</u>	<u>Description</u>	<u>Part No.</u>
A.	Sealing cap RD 40	161 027
B.	HP Adapter 300 bar	336 290 613
C.	HP Adaptor 200 bar	336 290 612
D.	Protective Plug Assy	331 190 327
E.	Adapter hose ST-C95	336 290 495
F.	Hose with QC female, Euro coupling	88 197-01
G.	Adapter hose ST-P49	336 290 649
H.	Mask test adapter MPEP	336 290 704
I.	Test adapter BV P/Divator	336 290 706
J.	Rubber plug	97 381-01
K.	Test adapter MPE-P2	336 290 659
L.	Adapter for breathing resistance, S-mask	98 597-01*
M.	Adapter breathing valve #1	98 595-01*
N.	Adapter breathing valve #2	33 931-02*
O.	Adapter hose ST-P47	336 290 647
P.	Blind cap	336 200 217

\* S-mask adapter kit (order no. 98590-01), only included in Spirotest 100 with order no. 33794-02.

Tip: Make sure the O-rings on the adapters are well maintained and lubricated.

Tip: Mark the different adapters/accessories with "A", "B", "C" etc., for easier identification.

## 2. Preparation

Before using the Spirotest 100 Model 2016 for testing it must be prepared and function tested, with a Low pressure leakage test and a High pressure leakage test.

### 2.1 Low pressure leakage test

1. Connect the power cord with plug to a power supply.
2. Connect Sealing cap RD 40 (A) on to the Test connection (3).
3. Create a positive pressure of 10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Positive pressure button (13) at the same time.
4. Check that the pressure remains constant for 1 minute, on the Low pressure gauge (2).
5. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
6. Check that the pressure remains constant for 1 minute, on the Low pressure gauge (2).
7. Disconnect Sealing cap RD 40 (A) from the Test connection (3).
8. Adjust the Low pressure gauge (2) to zero if necessary.
9. Low pressure test complete.

### 2.2 High pressure leakage test

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) to the SCBA set cylinder valve (or other air source).
2. Connect Protective Plug Assy (D) to the HP Adapter.
3. Connect the hose from the HP Adapter to the High pressure connection (6).
4. Check that the Relief valve (5) is closed.
5. Check that Selector (7) is in the "Apparatus" position.
6. Slowly open the cylinder valve.
7. After 30 seconds close the cylinder valve.
8. Check that the pressure remains constant for 1 minute, on the High pressure gauge (1).
9. Open the Relief valve (5) to release remaining pressure.
10. High pressure leakage test complete.
11. Disconnect the HP Adapter hose from the from High pressure connection (6).
12. Disconnect the Protective Plug Assy (D) from the HP adapter.
13. Disconnect the HP Adapter from the SCBA set cylinder valve (or other air source).
14. Close the Relief valve (5).

## 3. Test of regulator

### 3.1 Pressure gauge accuracy

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) between SCBA set cylinder valve and manifold.
2. Connect the hose from the HP adapter to the High pressure connection (6).
3. Connect the medium pressure hose from the SCBA set to the breathing valve. Make sure the breathing valve is in OFF position.
4. Slowly open the cylinder valve.
5. When the pressure stabilizes close the cylinder valve.
6. Monitor the High pressure gauge (1) and compare that value to the value shown on the pressure gauge of the SCBA set.
7. For each of the test values listed in the test protocol, do the following:
  - a. Slowly open the Relief valve (5) until the test value is reached on the High pressure gauge (1).
  - b. Compare the value on the High pressure gauge (1) to the value shown on the pressure gauge of the SCBA set.
  - c. Record the result in the test protocol.

NOTE: If a pressure gauge fails this test – it must be replaced.

### 3.2 Activating pressure of warning whistle

1. Slowly open the Relief valve (5).
2. Record the value shown on the High pressure gauge (1) when the whistle starts to sound.
3. Leave the Relief valve (5) open until the remaining pressure is vented.
4. Close the Relief valve (5).
5. Disconnect the breathing valve from the medium pressure hose.

#### Troubleshooting

If the activating pressure is not according to the value in the test protocol, the warning whistle is defective and must be repaired by Interspiro or by a holder of a valid Interspiro Service Certificate for the equipment in question.

### 3.3 Dynamic and static medium pressure test

1. Connect the medium pressure hose from the SCBA set to the Medium pressure connection (18) with the Adapter hose ST-C95 (E).
2. Slowly open the cylinder valve and make sure the pressure shown on the Medium pressure gauge (9) is under 15 bar. **The pressure must not exceed 15 bar!**
3. Push in the Relief button (17), observe Medium pressure gauge (9) and release the Relief button (17). Record the value shown on the Medium pressure gauge (9) in the test protocol (dynamic medium pressure).
4. Adjustment – To adjust an incorrect dynamic medium pressure to an approved value, follow the instructions below:
  - a. Remove the protective cover and the sealing label from the regulator.
  - b. Adjust the adjustment screw until the Medium pressure gauge (9) shows 9 bar while keeping the Relief button (17) pressed in.
  - c. Then adjust the adjustment screw until the Medium pressure gauge (9) shows 7.5 bar  $\pm$  0.5 bar.
  - d. Check the dynamic medium pressure by repeating step 3 above.

NOTE: When adjusting, it is important always to go from a higher pressure (9 bar) to a lower pressure.

5. Quickly press and release the Relief button (17).
6. After 1 minute record the value shown on the Medium pressure gauge (9) in the test protocol (static medium pressure).

#### Troubleshooting

Rising medium pressure indicates leakage from the primary to the secondary side, between the piston and the seat of the regulator. Any such faults are to be repaired by Interspiro or by a holder of a valid Interspiro service certificate for the equipment in question.

### 3.4 Safety valve

Ensure that the apparatus is equipped with a safety valve before performing this test

1. Slowly open the Relief valve (5) and observe the Medium pressure gauge (9).
2. When air is audibly relieved (from safety valve) record the opening pressure shown on the Medium pressure gauge (9) in the test protocol.
3. Close the Relief valve (5) and record the sealing pressure shown on the Medium pressure gauge (9) in the test protocol.

### 3.5 High pressure leakage test

1. Close the cylinder valve.
2. Observe the High pressure gauge (1) for 1 minute and record the leakage value in the test protocol.
3. Push Release button (17) to release remaining pressure.
4. Disconnect the Adapter hose ST-C95 (E) from the Medium pressure connection (18).
5. Disconnect the HP adapter from the High pressure connection (6).

**i** If a complete SCBA set is to be tested – go to the relevant section depending on mask type: “4. Test of Spiromatic mask and breathing valve” or “5. Test of S mask and breathing valve”.

## 4. Test of Spiromatic mask and breathing valve

NOTE: A tested and approved regulator is required for all mask and breathing valve tests.

### 4.1 Safety valve opening pressure for Spiromatic breathing valve

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) to the cylinder valve.
2. Connect the hose from HP adapter to the High pressure connection (6).
3. Connect Protective Plug Assy (D) to the HP Adapter.
4. Connect the breathing valve to the Medium pressure connection (18) with the Hose with QC female, Euro coupling (F). Make sure the breathing valve is in OFF position.
5. Slowly open the cylinder valve until a value of approximately 100 bar is reached on the High pressure gauge (1), then close the cylinder valve.
6. Slowly open the Relief valve (5).
7. When air is audibly relieved from the breathing valve record the value shown on the Medium pressure gauge (9) in the test protocol.
8. Close the Relief valve (5). The value shown on the Medium pressure gauge (9) should remain constant.
9. Operate the positive pressure lever on the breathing valve to remove pressure in the Hose with QC female, Euro coupling (F).
10. Disconnect the breathing valve and the Hose with QC female, Euro coupling (F) from the Medium pressure connection (18).
11. Open the Relief valve (5) to release remaining pressure. Close the Relief valve (5) when there is zero pressure.
12. Disconnect the Protective Plug Assy (D) from the HP adapter.
13. Disconnect the HP adapter from the High pressure connection (6).

## 4.2 Leak test of Spiromatic mask with breathing valve

1. Inflate the Test head (4) slightly by pressing the Vacuum pump button (10) and the Test head inflation button (11).
2. Put mask with breathing valve on to the Test head (4) and firmly tighten the lower straps and head strap (top). Do not tighten the upper straps.
3. Inflate the test head by pressing the Vacuum pump button (10) and the Test head inflation button (11) until the sealing edge of the mask seals tightly around the test head.
4. Connect the breathing valve (on mask) to the Test connection (3) with Adapter hose ST-P49 (G).
5. Manually activate (ON) the positive pressure lever on the breathing valve (on mask).
6. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
7. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) in the test protocol and compare with the approved test value.
8. Disconnect the Adapter hose ST-P49 (G) from the Test connection (3).
9. Disconnect the breathing valve from the Adapter hose ST-P49 (G).

### Troubleshooting

Should a not allowed leak occur, test the mask and the breathing valve separately to locate the leak by using tests “4.3 Leak test of Spiromatic mask without breathing valve” and “4.4 Leak test of Spiromatic breathing valve”.

## 4.3 Leak test of Spiromatic mask without breathing valve

1. Connect the mask (without breathing valve) to the Test connection (3) with Mask test adapter MPEP (H).
2. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
3. Start the stop watch and after 1 minute record the value on the Low pressure gauge (2) and compare with the required test value.
4. Disconnect Mask test adapter MPEP (H) from the mask from the Test connection (3).

### Troubleshooting

Should a not allowed leak occur, generate a positive pressure inside the mask. Locate the leak by using leak detection spray.

Tip: The test head can be fully disconnected in order to easily locate any leakage by putting the test head under water.

#### **4.4 Leak test of Spiromatic breathing valve**

1. Connect the breathing valve to the Test connection (3) with Test adapter BV P/Divator (I).
2. Manually activate (ON) the positive pressure lever on the breathing valve.
3. Put Rubber plug (J) in the breathing valve's hose connection (inlet).
4. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
5. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) and compare with the required test value.
6. Remove the Rubber plug (J) from the breathing valve.

#### **4.5 Opening pressure of exhalation valve in Spiromatic breathing valve**

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) between the SCBA set cylinder valve and manifold.
2. Connect the hose from HP adapter to the High pressure connection (6).
3. Connect the medium pressure hose from SCBA set to the breathing valve on the Test connection (3).
4. Manually activate (ON) the positive pressure lever on the breathing valve.
5. Slowly open the cylinder valve.
6. Create a positive pressure in the breathing valve by pressing the Vacuum pump button (10) and the Exhalation button (15).
7. Read the opening pressure of exhalation valve on the Low pressure gauge (2) and record it in the test protocol.

#### **4.6 Static pressure of Spiromatic breathing valve**

1. Create a positive pressure in the breathing valve by pressing the Vacuum pump button (10) and the Positive pressure button (13) for 1 to 2 seconds.

NOTE: Slight fluctuations in the static pressure indicates a slight dosing from the breathing valve and are of no relevance this test.

2. Read the static pressure of the breathing valve on the Low pressure gauge (2) and record it in the test protocol.

## 4.7 Automatic activation of positive pressure for Spiromatic breathing valve

1. Manually put the positive pressure lever on the breathing valve to the OFF position.
2. Create a negative pressure in the breathing valve by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
3. As soon as the positive pressure lever (on breathing valve) changes position, record the trigger pressure value on the Low pressure gauge (2) and note in the test protocol.
4. Close the positive pressure lever (on breathing valve).
5. Disconnect the breathing valve from Test adapter BV P/Divator (I), and disconnect the Test adapter BV P/Divator (I) from the Test connection (3).

## 4.8 Air supply capacity for Spiromatic breathing valve

1. Connect Test adapter MPE-P2 (K) to the Test connection (3).
2. Connect the black tube of the Test adapter MPE-P2 (K) to the inhalation channel of the breathing valve.

NOTE: The inhalation channel of different breathing valves may differ in size. To adjust for this, use the short black adapter ring on the connection tube of the Test adapter MPE-P2 (K).

3. Hold the Test adapter MPE-P2 (K) in your hand and carefully manually activate (ON) the positive pressure lever on the breathing valve. If the value on the Low pressure gauge (2) rises above 10 mbar then close the positive pressure lever.
4. Record the value shown on the Low pressure gauge (2) in the test protocol.
5. Disconnect Test adapter MPE-P2 (K) from the breathing valve.

**i** If a complete SCBA set is to be tested – go to section “6. Leak test of complete apparatus with mask”.

## 5. Test of S mask and breathing valve

NOTE: A tested and approved regulator is required for all mask and breathing valve tests.

### 5.1 Leak test of S mask with breathing valve

1. Inflate the Test head (4) slightly by pressing the Vacuum pump button (10) and the Test head inflation button (11).
2. Put mask with breathing valve on to the Test head (4) and firmly tighten the lower straps and head strap (top). Do not tighten the upper straps.
3. Inflate the test head by pressing the Vacuum pump button (10) and the Test head inflation button (11) until the sealing edge of the mask seals tightly around the test head.
4. Connect the breathing valve (on mask) to the Test connection (3) with Adapter hose ST-P49 (G).
5. Manually activate (ON) the positive pressure lever on the breathing valve (First Breath version), or close the hatch on the mask (Hatch version).
6. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
7. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) and compare with the required test value.
8. Disconnect the Adapter hose ST-P49 (G) from the Test connection (3).

#### Troubleshooting

If the test values indicate that the mask/breathing valve assembly has a leak then the mask and breathing valve should be tested separately as shown in the next procedures.

### 5.2 Leak test of S mask without breathing valve

1. Connect the mask (without breathing valve) to the Test connection (3) with Test adapter BV P/Divator (I) and Adapter for breathing resistance (L).
2. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
3. Start the stop watch and after 1 minute record the value on the Low pressure gauge (2) and compare with the required test value.
4. Disconnect Test adapter BV P/Divator (I) with Adapter for breathing resistance (L) and the mask from the Test connection (3).

### **Troubleshooting**

Should a not allowed leak occur, generate a positive pressure inside the mask. Locate the leak by using leak detection spray.

Tip: The test head can be fully disconnected in order to easily locate any leakage by putting the test head under water.

### **Troubleshooting**

Should a not allowed leak occur, test the mask and the breathing valve separately to locate the leak by using tests “5.3 Leak test of S breathing valve” and “5.4 Opening pressure of exhalation valve in S mask”.

## **5.3 Leak test of S breathing valve**

1. Connect the breathing valve to the Test connection (3) with Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M).
2. For First breath version: Manually activate (ON) the positive pressure lever on the breathing valve.
3. Put Rubber plug (J) in the breathing valve’s hose connection (inlet).
4. Create a negative pressure of -10 mbar on the Low pressure gauge (2) by pressing the Vacuum pump button (10) and the Negative pressure button (14) at the same time.
5. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) and compare with the required test value.
6. Remove the Rubber plug (J) from the breathing valve.
7. Disconnect Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M) from the Test connection (3).

### **Troubleshooting**

The test must be conducted with a dry exhalation valve (in breathing valve).

## **5.4 Opening pressure of exhalation valve in S mask**

1. Connect Test adapter BV P/Divator (I) and Adapter for breathing resistance (L) to the Test connection (3).
2. Remove the breathing valve from mask, if fitted.
3. Connect the Adapter for breathing resistance (L) to the mask.
4. Create a positive pressure in the mask by pressing the Vacuum pump button (10) and the Exhalation button (15).
5. Read the opening pressure of exhalation valve on the Low pressure gauge (2) and record it in the test protocol.
6. Disconnect Test adapter BV P/Divator (I) with Adapter for breathing resistance (L) from the mask and from the Test connection (3).

## Troubleshooting

The positive flow rate is 10 lit/min when testing.

**i** For “Hatch” breathing valves – perform the tests in sections 5.5 to 5.6.

**i** For “First Breath” breathing valves – perform the test in sections 5.7 to 5.9.

## 5.5 HATCH - Static pressure of S breathing valve

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) between SCBA set cylinder valve and manifold.
2. Connect the hose from HP adapter to the High pressure connection (6).
3. Connect the medium pressure hose from SCBA set to the breathing valve and connect the breathing valve to the Test connection (3) with Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M).
4. Slowly open the cylinder valve.
5. Release the pressure slightly by pressing the Positive pressure button (13) for 2 seconds.
6. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) in the test protocol and compare with the approved test value.
7. Close the cylinder valve.
8. Release the remaining pressure.
9. Disconnect Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M) from the Test connection (3).

## 5.6 HATCH - Air supply capacity for S breathing valve

1. Connect Test adapter MPE-P2 (K) to the Test connection (3).
2. Connect the black tube of the Test adapter MPE-P2 (K) to the Adapter breathing valve #2 (N).
3. Connect the Adapter breathing valve #2 (N) to the breathing valve.
4. Hold the positive pressure lever on the breathing valve still in the CLOSED position.
5. Slowly open the cylinder valve.
6. Hold the Test adapter MPE-P2 (K) in your hand and slowly (small movement) open the positive pressure lever on the breathing valve until the value on the Low pressure gauge (2) rises above 10 mbar then close the positive pressure lever.
7. Record the value on the Low pressure gauge (2) and compare with test value.

8. Remove the grey part of the Test adapter MPE-P2 (K) in order not to damage the Low pressure gauge (2).
9. Close the cylinder valve.
10. Disconnect Test adapter MPE-P2 (K) and Adapter breathing valve #2 (N) from the breathing valve.

**i** If a complete SCBA set is to be tested – go to section “6. Leak test of complete apparatus with mask”.

## **5.7 FIRST BREATH - Static pressure of S breathing valve**

1. Connect HP Adapter 300 bar (B) or HP Adapter 200 bar (C) between SCBA set cylinder valve and manifold.
2. Connect the hose from HP adapter to the High pressure connection (6).
3. Connect the medium pressure hose from SCBA set to the breathing valve and connect the breathing valve to the Test connection (3) with Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M).
4. Manually activate (ON) the positive pressure lever on the breathing valve.
5. Slowly open the cylinder valve.
6. Release the pressure slightly by pressing the Positive pressure button (13) for 2 seconds.
7. Start the stop watch and after 15 seconds record the value on the Low pressure gauge (2) in the test protocol and compare with the approved test value

## **5.8 FIRST BREATH - Automatic trigger of positive pressure for S breathing valve**

1. Manually deactivate (OFF) the positive pressure lever on the breathing valve.
2. Create a negative pressure in the breathing valve by pressing the Vacuum pump button (10) and the Inhalation button (14).
3. As soon as the positive pressure lever (on breathing valve) changes position, take note of the trigger pressure value on the Low pressure gauge (2).
4. Close the cylinder valve.
5. Disconnect the medium pressure hose and the breathing valve from the Test connection (3).
6. Release the remaining pressure.
7. Disconnect Adapter hose ST-P49 (G) and Adapter breathing valve #1 (M) from the Test connection (3)

## 5.9 FIRST BREATH - Air supply capacity for S breathing valve

1. Connect Test adapter MPE-P2 (K) to the Test connection (3).
2. Connect the black tube of the Test adapter MPE-P2 (K) to the Adapter breathing valve #2 (N).
3. Connect the Adapter breathing valve #2 (N) to the breathing valve.
4. Close the positive pressure lever on the breathing valve.
5. Slowly open the cylinder valve.
6. Hold the Test adapter MPE-P2 (K) in your hand and carefully manually activate (ON) the positive pressure lever on the breathing valve.
7. Record the value on the Low pressure gauge (2) and if the value rises above 10 mbar then close the positive pressure lever.
8. Close the cylinder valve.
9. Release the remaining pressure.
10. Disconnect Test adapter MPE-P2 (K) and Adapter breathing valve #2 (N) from the breathing valve.

 If a complete SCBA set is to be tested – go to section “6. Leak test of complete apparatus with mask”.

## **6. Leak test of complete apparatus with mask**

1. Connect the breathing valve to the mask.
2. Manually activate (ON) the positive pressure lever on the breathing valve (First breath version), or close the hatch on the mask (Hatch version).
3. Slowly open the cylinder valve.
4. Wait for the pressure shown the High pressure gauge (1) to stabilize.
5. Close the cylinder valve and record the value on the High pressure gauge (1).
6. Start the stop watch and after 1 minute check the value on the High pressure gauge (1) for any decrease in pressure. Compare with required test values in the test protocol.
7. Make sure that the cylinder valve is closed.
8. Open the Relief valve (5) to release remaining pressure.
9. Deflate the Test head (4) by pressing the Vacuum pump button (10) and the Test head deflation button (12).
10. Disconnect the HP adapter from the SCBA set cylinder valve and manifold.

## 7. Technical Data

Width	400 mm
Depth	380 mm
Height	340 mm
Weight	16.5 kg (excl. test adapters and accessories)
Mains supply	110-220 V AC/50-60 Hz

