

# SCO troubleshooting guide

## Flow anesthesia system

**If a test in the system checkout (SCO) fails, check the following points and look at the user interface:**

### O<sub>2</sub> flush

- Make sure the button is pressed for at least 3 seconds (less pressure = less flow).
- Check for AUTO leakage, see AUTO ventilation leakage test description below.
- Check patient circuit incl. filters, CO<sub>2</sub> absorber, water trap, sampling line & patient cassette.

### Insp. and exp. valves test

Replace the patient cassette or check that the valves are not stuck.

### Gas supply pressure test

*This test checks that the supply pressure is within limits.*

- Check that the inlet pressure is between 2.5 and 6.5 bar.
- Check that the cylinders are opened and remember to close them after the test.

### Pressure transducer test

Check for leakage. The most common sources of leakage are in the patient tubings, filters, absorber, water trap, sampling line or patient cassette. See leakage detection guide below.

### Safety valve test

Check for leakage. The most common sources of leakage are in the patient tubings, filters, absorber, water trap, sampling line or patient cassette. See leakage detection guide below.

### Flow transducer test

- Redo the test with another patient cassette or dry the cassette by starting ventilation.
- A cold cassette is more likely to fail. To ensure working temperature make sure that the cassette is docked with the lid closed and set the system to standby for 15 min.
- Check for leakage. The most common sources of leakage are in the patient tubings, filters, absorber, water trap, sampling line or patient cassette. See leakage detection guide below.

### AUTO ventilation leakage test

Check for leakage. The most common sources of leakage are in the patient tubings, filters, absorber, water trap, sampling line or patient cassette. See leakage detection guide below.

### MAN ventilation leakage test

Exchange MAN bag and MAN tube. Check for leakage. The most common sources of leakage are in the patient tubings, filters, absorber, water trap, sampling line or patient cassette. See leakage detection guide below.

### Gas analyzer test

- Make sure that the water trap and sampling line are properly connected and are not blocked.
- Check that the Y-piece is securely connected to the SCO valve.
- Replace the water trap and sampling line.
- Check that the connected O<sub>2</sub> concentration is above 92%.
- Verify that the sampling line specification is fulfilled according to the user's manual.

### Vaporizer test

Undock and re-dock the vaporizer and/or change slot. Redo the test with another vaporizer.

## Leakage detection guide

- The leakage test in the system checkout (SCO), or the separate leakage check, are performed using a pressure of 50 cmH<sub>2</sub>O for AUTO ventilation and 30 cmH<sub>2</sub>O for MAN ventilation.
- The measured leakage for AUTO will be displayed in ml/min. A maximum leakage of up to 150 ml/min is allowed for both MAN and AUTO.
- When a leakage is detected, the leakage check will stop and display AUTO ventilation leakage or MAN ventilation leakage on the screen.
- Generally, it is the leakage test for MAN that fails. MAN also includes the AUTO circuit, so the first step is to check whether the AUTO leakage is OK or has failed.
- If AUTO is OK and MAN has failed, this is caused by the MAN tube or MAN bag. Some bags will be too compliant/soft and this may lead to failure. Try another brand of bag or replace the tube.

If AUTO has failed, perform the following steps:

## Auto ventilation leakage test

1. Patient tubings, filter(s), sampling line and water trap.

2. Vaporizers

3. CO<sub>2</sub> absorber

4. Patient cassette

5. Volume reflector incl. socket.

1. Replace the patient tubing kit including filters, gas sampling line, water trap and filter. Redo the leakage test.
2. Undock the vaporizers. Redo the leakage test.
3. Remove the CO<sub>2</sub> absorber. Redo the test without the absorber by turning the absorber switch to the locked position and holding down the lift for the first seconds of the test. If this test is passed, the problem probably lies with the absorber bypass valve seals in the patient cassette, which are easily replaced.
4. Check that all silicon seals are correctly mounted. Replace the patient cassette. Redo the leakage test.
5. Check that all silicon seals are correctly mounted on the volume reflector and socket. Replace the volume reflector and/or socket.

**NOTE:** If these steps do not solve the leakage problem, contact technical support.

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