



TrilogY200 checkout procedure

Overview

This information provides the necessary performance, service, and safety (optional) testing procedures. The intervals for the specific tests are listed in the testing procedures found in the product manual.

TrilogY checkout procedure

This test procedure should be performed prior to connecting the device to a patient or in between patient usage. Test both the active and passive circuits if you want to do a complete checkout on the device. The tests should be performed as described in order to verify proper operation of the device.

The actual circuit configuration to be used on the patient should be used to perform the system checkout.

PHILIPS

RESPIRONICS

sense **and** simplicity

1 Before starting

Visual inspection

Before starting the setup and testing procedures contained within this guide, a visual inspection must be performed. Do not proceed until the following are verified:

1. Verify that the enclosure is not broken and that all applicable screws are in place.
2. Verify that the device handle, SD card door, and detachable battery are secure and in good working order.
3. Verify that the rubber feet are on the bottom of the device.

Tools required

Universal porting block
Active flow exhalation device with flow sensor
Trilogy universal active PAP tube adapter
Whisper Swivel II (PN 332113)
Test lung (PN 1021671)
Small flat head screwdriver

2 Initial setup

1. Connect the power cord to the device and then to an AC outlet.
2. Attach the test lung to the patient connection end of the desired circuit (active PAP, passive, or active flow).
3. Access the Setup screen. Reference the System Setup section for more information.

Warning

If you notice any unexplained changes in the performance of the device, if it is making unusual sounds, if the device or detachable battery are dropped, if water is spilled into the enclosure or if the enclosure is cracked or broken, discontinue use and contact Philips Respironics or an authorized service center for service.

3 Pre checkout setup

Before performing any setting and alarm tests, the following settings must be modified.

1. Settings and alarms menu

Modify the settings in the Setting and Alarms menu to match the values shown in the table below. If necessary refer to the System Setup section of the Service Manual for instructions on modifying ventilator settings.

Ventilator settings in the setting and alarms menu	
Setting	Value
Dual Prescription	off
Circuit Type	active PAP, passive, or active flow
Therapy Mode	S/T
AVAPS (passive circuit only)	off
IPAP	20 cm H ₂ O
EPAP	4 cm H ₂ O
Breath Rate	12 BPM
Inspiratory Time	1.6 seconds
Trigger Type (passive circuit)	Auto-Trak
Flow Trigger Sensitivity (active PAP or active flow circuit)	6.0 liters per minute
Leak compensation (active flow circuit type)	on
Flow Cycle Sensitivity (active PAP or active flow circuit)	20 percent
Rise Time	1
Ramp Length	off
All other alarms	off

2. Options menu

Modify the settings in the Options menu to match the values shown in the table below.

Ventilator settings in the options menu	
Setting	Value
Menu Access	full
Detailed View	on
All other settings	discretionary

3. Turn device power on

Press the Start/Stop button on the front of the ventilator. The system will begin operating using the defined ventilation settings.

4 Setting and alarm tests

Complete the following steps to perform the setting and alarm tests.

Test 1: Verify the High Tidal Volume alarm

This procedure verifies that the High Tidal Volume alarm is working properly. For passive and active flow circuits, this will verify the High Vte alarm. For active with PAP circuits, this will verify the High Vti alarm. It assumes that you have attached the test lung, verified the ventilator settings, and turned on ventilator power.

1. Change alarm ventilator setting

Modify the High Tidal Volume alarm setting (High Vte/High Vti) value to **50 ml**.

2. Verify the alarm

Wait up to 40 seconds and verify the following alarm signals:

- The High Priority audible indicator sounds
- A red light flashes on the Alarm Indicator/Audio Pause button
- The High Tidal Volume alarm condition appears on the screen, highlighted in red

3. Modify ventilator alarm setting

Modify the High Tidal Volume alarm setting (High Vte/Vti) value to **500 ml**.

4. Verify reset

Wait up to 40 seconds and verify the following auto-reset conditions:

- The High Priority audible indicator has stopped sounding
- The red light on the Alarm Indicator/Audio Pause button has stopped flashing

5. Restore ventilator setting

Modify the High Tidal Volume alarm setting (High Vte/Vti) value to **off**.

Note

Do not use the “Reset” button to manually reset the alarm. Instead, use the “Modify” button to change ventilator settings. This applies to all tests.

Test 2: Verify the Low Tidal Volume alarm

This procedure verifies that the Low Tidal Volume alarm is working properly. For passive and active flow circuits, this will verify the Low Vte alarm. For active with PAP circuits, this will verify the Low Vti alarm. It assumes that you have attached the test lung, verified the ventilator settings, and turned on ventilator power.

1. Change alarm ventilator setting

Modify the Low Tidal Volume alarm setting (Low Vte/Vti) value to **500 ml**.

2. Verify the alarm

Wait up to 40 seconds and verify the following alarm signals:

- The High Priority audible indicator sounds
- A red light flashes on the Alarm Indicator/Audio Pause button
- The Low Tidal Volume alarm condition appears on the screen, highlighted in red

3. Modify ventilator alarm setting

Modify the Low Tidal Volume alarm setting (Low Vte/Vti) value to **50 ml**.

4. Verify reset

Wait up to 40 seconds and verify the following auto-reset conditions:

- The High Priority audible indicator has stopped sounding
- The red light on the Alarm Indicator/Audio Pause button has stopped flashing

5. Restore ventilator setting

Modify the Low Tidal Volume alarm setting (Low Vte/Vti) value to **off**.

Test 3: Verify the Circuit Disconnect alarm

This procedure verifies that the Circuit Disconnect alarm is working properly. It assumes that you have attached the test lung, verified ventilator settings, and turned on ventilator power.

1. Change Circuit Disconnect ventilator setting

Modify the Circuit Disconnect ventilator setting at **10 seconds**.

2. Disconnect test lung

Disconnect the test lung from the circuit.

The Low Inspiratory Pressure alarm may also be detected.

3. Verify the alarm

Wait approximately 10 seconds and verify the following alarm signals:

- The High Priority audible indicator sounds
- A red light flashes on the Alarm Indicator/Audio Pause button
- The Circuit Disconnect alarm condition appears on the screen, highlighted in red

4. Reconnect test lung

Reconnect the test lung to the circuit.

5. Verify reset

Wait up to 40 seconds and verify the following auto-reset conditions:

- The High Priority audible indicator has stopped sounding
- The red light on the Alarm Indicator/Audio Pause button has stopped flashing

6. Restore ventilator setting

Modify the ventilator setting (Circuit Disconnect) value to **off**.

Note

Do not use the “Reset” button to manually reset the alarm. Instead, use the “Modify” button to change ventilator settings. This applies to all tests.

Test 4: Verify the High Inspiratory Pressure alarm

This procedure verifies that the High Inspiratory Pressure alarm is working properly. It assumes that you have attached the test lung, verified ventilator settings, and turned on ventilator power.

1. Change ventilator settings

Modify the ventilator settings to match the values shown in the table below.

Ventilator settings	
Setting	Value
Mode	CV
Tidal Volume	500 ml
Breath Rate	12 BPM
Inspiratory Time	1.0 seconds
Flow Pattern	ramp
PEEP	4 cm H ₂ O
Sigh	off
Circuit Disconnect	off
Low Inspiratory Pressure	6 cm H ₂ O
High Inspiratory Pressure	10 cm H ₂ O
Apnea	off
All other alarms	off

2. Verify the alarm

Wait up to 40 seconds and verify the following alarm signals:

- The Medium Priority audible indicator sounds
- A yellow light flashes on the Alarm Indicator/Audio Pause button
- The High Inspiratory Pressure alarm condition appears on the screen, highlighted in yellow

If this alarm is not reset within 10 occurrences, the alarm is elevated to High Priority, and the High Priority Indicators occur.

3. Modify ventilator alarm setting

Modify the High Inspiratory Pressure setting value to **60 cm H₂O**.

4. Verify reset

Wait 40 seconds and verify the following auto-reset conditions:

- The Medium Priority audible indicator has stopped sounding
- The yellow light on the Alarm Indicator/Audio Pause button has stopped flashing

5 Battery function verification

Test 5: Verify the Low Inspiratory Pressure alarm

This procedure verifies that the Low Inspiratory Pressure alarm is working properly. It assumes that you have attached the test lung, verified ventilator settings, and turned on ventilator power.

1. Change ventilator settings

Modify the ventilator settings to match the values shown in the table below.

Ventilator settings	
Setting	Value
Mode	CV
Tidal Volume	500 ml
Breath Rate	12 BPM
Inspiratory Time	1.0 seconds
Flow Pattern	ramp
PEEP	4 cm H ₂ O
Sigh	off
Circuit Disconnect	off
Low Inspiratory Pressure	40 cm H ₂ O
High Inspiratory Pressure	60 cm H ₂ O
Apnea	off
All other alarms	off

2. Verify the alarm

Wait up to 40 seconds and verify the following alarm signals:

- The High Priority audible indicator sounds
- A red light flashes on the Alarm Indicator/Audible Pause button
- The Low Inspiratory Pressure alarm condition appears on the screen, highlighted in red

3. Modify ventilator alarm setting

Modify the Low Inspiratory Pressure setting value to **6 cm H₂O**.

4. Verify reset

Wait 40 seconds and verify the following auto-reset conditions:

- The High Priority Indicator has stopped sounding
- The red light on the Audio Pause/Alarm Indicator button has stopped flashing

Make sure the batteries are functioning properly and fully charged before usage.

Verify the detachable and internal (lithium ion) batteries function

1. Connect AC power to the device and verify that the green AC LED on the front panel is lit.
2. Verify that the detachable battery is properly installed.
3. Turn the device on and verify that both the detachable and internal battery symbols appear on the display. Verify if either battery is less than fully charged (the charge symbol will display on the respective battery).
 - Verify that the AC Power Disconnected alarm message appears on the display and the green AC LED is not lit. Press Reset.
 - Verify that the detachable battery symbol shows the level of charge noted in the previous step and that the device continues to operate.
 - Verify that the detachable battery symbol has a black box around it to indicate that it is in use.
4. Disconnect the AC power source from the device.
 - Verify that the Detach Batt Disconnected alarm message appears on the display. Press Reset.
 - Verify that the internal battery symbol shows the same level of charge as noted above and the device continues to operate.
 - Verify that the internal battery symbol has a black box around it to indicate that it is in use.
5. Reconnect the detachable battery and AC power source.

Verify the external battery function (optional)

1. Connect AC Power to the device and verify that the green AC LED is lit.
2. Connect the external battery cable to the external battery and to the ventilator.
3. Verify that the external battery symbol is shown on the display and some level of charge is present.
4. Disconnect the AC Power source from the device.
 - Verify that the AC Power Disconnected alarm message appears on the display and the green AC LED is not lit. Press Reset.
 - Verify that the external battery symbol shows the level of charge as noted in the previous step and the device continues to operate.
 - Verify that the external battery symbol has a black box around it to indicate that it is in use.
5. Reconnect the AC power source.

6 Alarm and event log clean-up

1. In the Setup menu, select Alarm Log.
2. Press Clear to clear the log file.
3. Press Yes to confirm.
4. Press Finish to complete.
5. In the Setup menu, select Event Log.
6. Press Clear to clear the Log file.
7. Press Yes to confirm.
8. Press Finish to complete.

Results

All portions of this checkout procedure should be completed prior to connection to the patient. If any of the tests fail to complete as indicated, if possible, correct the error, clear the alarm and resume testing.

If you have additional questions about Trilogy testing, please refer to the product manual or contact customer service at 800-345-6443 or +1-724-387-4000.

Checkout procedure data sheet

Visual inspection

Damaged parts	Yes	No
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Setting and alarm tests

Test 1: High Tidal Volume alarm setting	Pass	Fail
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Test 2: Low Tidal Volume alarm setting	Pass	Fail
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Test 3: Circuit Disconnect alarm setting	Pass	Fail
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Test 4: High Inspiratory Pressure alarm setting	Pass	Fail
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Test 5: Low Inspiratory Pressure alarm setting	Pass	Fail
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Battery function verification

Detachable and internal batteries function	Pass	Fail
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External battery function	Pass	Fail
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Signature

Date

Serial number

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