CPAP MAN myAIRVO 2 Humidifier High Flow Generator System User Manual

F&P my arvo™ 2
Troubleshooting Guide

This Troubleshooting Guide is intended for all users, including clinical/biomedical engineers and technical personnel, of the myAIRVO™ 2 humidifiers. It applies to all my arvo 2 humidifiers from lot numbers **140910** and above. Refer to my arvo Product Technical Manual and my arvo 2 User Manual for additional information and detailed instructions of use.
If this troubleshooting guide does not resolve your issue, please contact your local Fisher & Paykel Healthcare representative.

Contents

my arvo does not turn on

A. Press and hold the ON/OFF button for at least 2 seconds.
B. Is my arvo 2 plugged into mains power?
C. Is the power cord securely inserted into the back of my arvo 2?
D. Is the power cord damaged?

- If yes, replace the damaged cord. See Section 5.1 of my arvo Product Technical Manual for a **900PT410xx** replacement power cord.

E. Connect my arvo 2 into another power outlet.
F. Connect a different electrical device into the same power outlet. Turn on the device to confirm that the power outlet is working.
G. The my arvo 2 may be ‘on’ with a broken display.
Turn my arvo 2 on without the heated breathing tube and check that the audible alarm activates.

Power out (black screen)

The auditory alarm will sound for at least 120 seconds.

The most likely cause is a dislodged or disconnected power cord.

A. Please follow the instructions in Section 1.

Note: Press the “audio pause” button to permanently silence the alarm ( ). The device will not automatically restart.

“Check water” Fig. 1

Figure 1

A. Is the water bag empty?
If yes, refill or replace the water bag and press the “mode” button ( ) to reset the alarm.
B. Is the water chamber empty?

- For HC360: Ensure the water level is below the indicated black line.
- For MR290: If yes, replace the water chamber as it may be damaged.
  Contact your local Fisher &Paykel Healthcare representative about the faulty chamber.
  ⚠ **Warning:** The heater plate and base of the water chamber may be hot.

C. For MR290:

- Open the vent cap near the water bag spike. This allows the pressure to equalize, letting the water flow into the water chamber.
- Ensure that there are no kinks in the fluid line, preventing water from flowing into the chamber.

4. “Check for leaks” Fig. 2 or “E122”

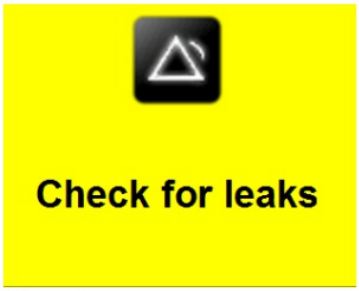


Figure 2

The most likely cause is a missing water chamber or the existing chamber has not been pushed into place correctly.

WATER CHAMBER

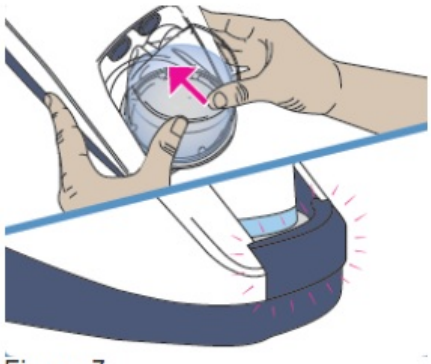


Figure 3

A. Is the water chamber fitted correctly? Even if it appears to be:

- Remove the water chamber.
- Push the chamber on firmly, until the finger guard “clicks” into place Fig. 3 .

⚠ **Warning:** The heater plate and base of the water chamber may be hot.

HEATED BREATHING TUBE

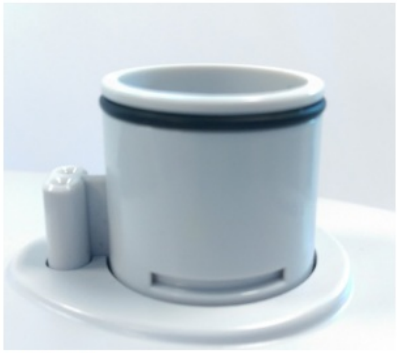


Figure 4

A. Is the heated breathing tube attached to the device correctly?
Even if it appears to be:

- Disconnect the heated breathing tube.
- Check that the black O-ring is in placeFig.4.
  If the O-ring is damaged or missing, replace it with part 900PT408.
- Reconnect the heated breathing tube.

B. Confirm that the heated breathing tube is not visibly damaged.

4.3 PATIENT INTERFACE

A. Is the patient interface correctly fitted to the heated breathing tube?

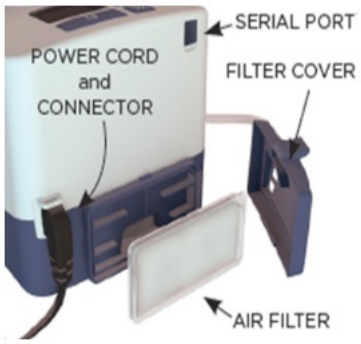
- Even if it appears to be, disconnect and reconnect the patient interface.

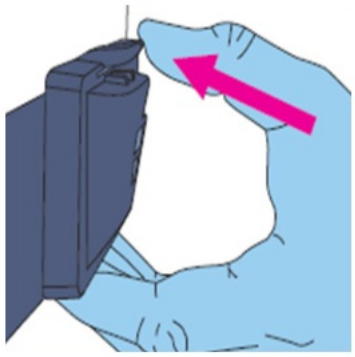
It should make a “click” sound when it is connected properly.
B. The unit may be in Junior mode, using an adult interface.

- Press and hold the “mode“ button ( ) for 5 seconds to change between Junior mode and Default mode.

Junior mode can be disabled in the advanced menu, see page 10.
Note: If my arvo is in Junior mode and the 900PT500/501/500E
A default tube is used with the OPT842/44/46/70 or RT013 interfaces, it may generate a “Check for leaks” alarm.

AIR FILTER & FILTER COVER





A. Is the air filter and filter cover (at the back of the device) correctly fitted, as per the User Manual?

“Check for blockages” Fig. 5 or “E121”

WATER CHAMBER AND NON-RETURN VALVE

Figure 5

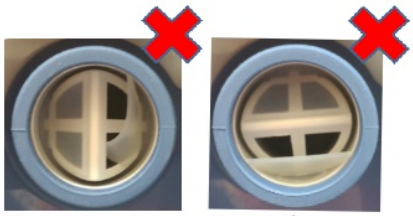


Figure 6 Figure 6b

Figure 7

A. Have the silicone flaps of the non-return valve, found inside the left-hand chamber port, been displaced Fig. 6?

- If yes, return them to the correct position using a non-sharp tool, such as a pair of non-sharp tweezers Fig. 7.

Note: If the Non-return valve is damaged or missing, replace it with part 900PT911. Upon replacement, ensure the spine is sitting vertically Fig. 7.

If placed horizontally, this may cause the bottom flap to open due to gravity Fig. 6b. This may cause both “Check for leaks” and “Check for blockages” warnings.

B. Is the water chamber overfilled above the black line?

- For HC360: Ensure the water level is below the indicated black line.
- For MR290: If yes, replace the water chamber as it may be damaged.

  Contact your local Fisher &Paykel Healthcare representative about the faulty chamber.

HEATED BREATHING TUBE

A. Is the heated breathing tube visibly blocked or kinked Fig. 8?

PATIENT INTERFACE AND my arvo MODE

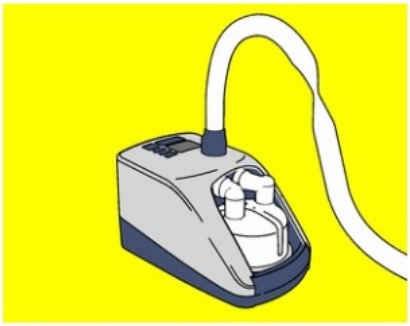


Figure 8

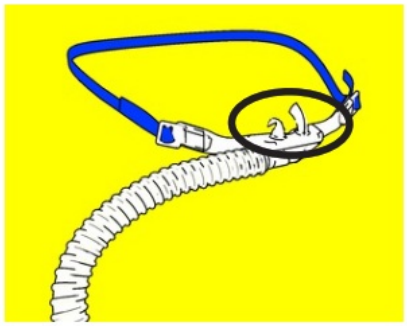


Figure 9

A. Is the patient interface visibly blocked or kinked Fig. 9?
B. The unit may be in Default mode with a junior cannula.

- Press and hold the “mode” button () for 5 seconds to change between Default mode and Junior mode.

Note: If my arvo is in Default mode and the 900PT531 Junior tube is used with the OPT316 and OPT318 cannula interfaces it may generate a “Check for blockages” alarm.
C. Are you using an unsuitable cannula?

- The OPT312 and OPT314 cannot be used with the myAIRVO 2.

  See the User Manual for information regarding patient interfaces.

AIR FILTER

A. Is the air filter significantly discolored/dirty?.

- Replace with part 900PT913.

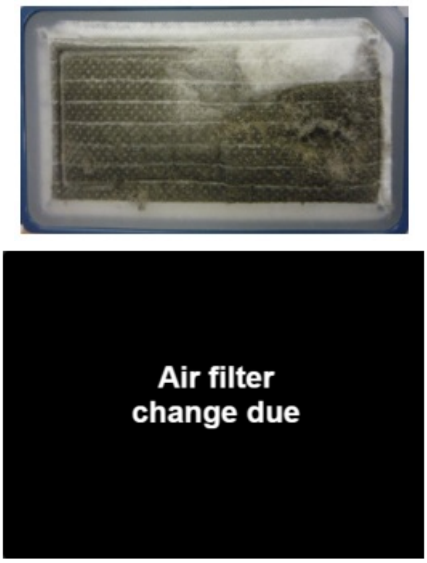


Figure 10

Note: A prompt Fig. 10 for filter change will occur once my arvo 2 has counted 1,000 hours of use. Choose “Now” or “Later” Fig. 11 by using the “up” or “down” buttons and pressing the “mode” button (▷) to confirm. Selecting “Now” will zero the counter. Selecting “Later” will activate the prompt at the start of the next use.

B. Is there a foreign object blocking the air filter or filter holder?

CONDENSATION

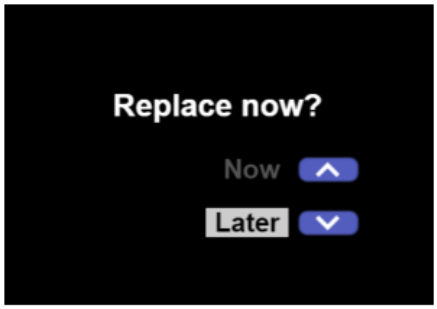


Figure 11

Please see Section 10.

ALTITUDE

A. The my arvo 2 is designed to operate at an altitude below 2,000 meters.

“Cannot reach target flow” Fig. 12

Figure 12

A. Press the “mode” button ( ) to continue normal operation at a lower (maximum achievable) flow rate.
B. Is the target flow setting too high for the patient interface?

- Check the swing tag/User Manual for the appropriate flow range for each patient interface.

Note: If my arvo 2 cannot reach the target flow setting, it will automatically select a maximum achievable flow rate and prompt the user to press the “mode” button ( ) to confirm.
C. Follow steps in Section 5 — “check for blockages”.
D. Is the altitude above 2,000 m?
My arvo 2 is designed to operate at an altitude below 2,000 meters.

“Cannot reach target temperature” Fig. 13

Figure 13

The most likely cause is operating my arvo 2 at a high flow rate in a cold room. Consider decreasing the target flow setting.

A. Press the “mode” button ( ) to continue.
Note: The humidity level may be compromised.
B. Is the ambient room temperature below 18 °C (64 °F)?

- If yes, proactive management of condensation may be required.

  See **Section 10** on prevention and management of condensation.

“Check operating conditions” Fig. 14

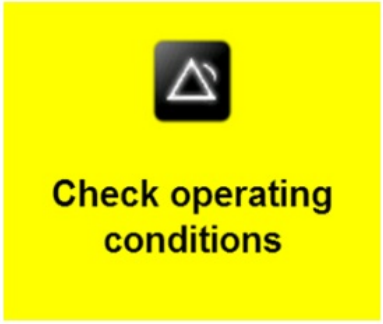


Figure 14

This alarm may be caused by a sudden change in ambient room temperature, e.g. storing the unit in a cold place, then using it in a warm place.
A. Is the ambient room temperature less than 10 °C (50 °F) or greater than 30 °C (86 °F)?
B. Leave the unit running for 30 minutes.
Switch the unit off, then restart.

“Check tube” or “E38“

Figure 15

A. Is the heated breathing tube attached correctly?

- Even if it appears to be, unplug and reconnect the heated breathing tube.

B. Is the heated breathing tube visibly damaged?

- Check the electrical pins and the tube itself.

C. Try using a new heated breathing tube.

Condensation

PREVENTION OF EXCESSIVE CONDENSATION

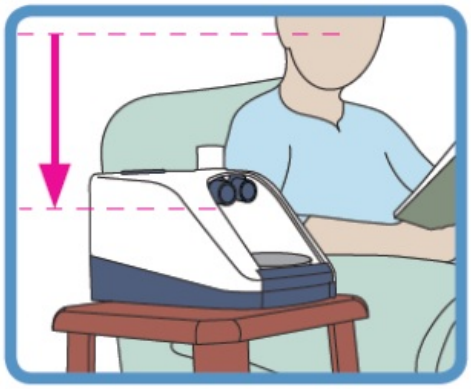


Figure 16

A. Is my arvo 2 being used in ambient conditions between 18 – 28 °C (64 – 82 °F)?

- If the room is less than 18 °C (64 °F), condensation is more likely to occur.

B. Is there a local source of cooling acting on the heated breathing tube?

- A fan to cool the patient,
- An air-conditioning unit, vent, or an open window?
- Are you able to remove or minimize these sources of cooling, e.g.

redirect the fan, cooling the patient, away from the heated breathing tube?

CONDENSATION MANAGEMENT

Figure 17

A. Implement a system to check the heated breathing tube for condensate regularly.
B. Is my arvo 2 placed below head height Fig. 16?

- This will allow condensate to drain towards the water chamber, away from the patient.

C. If condensation is present, drain it back into the water chamber Fig. 17 :

- Disconnect the patient interface from the heated breathing tube.
- Drain the tube by lifting the patient end of the tube, allowing the condensate to run into the water chamber.
- At higher target flow rates, it may be necessary to first reduce the target flow rate to 30 L/min or below, to ensure the condensate drains into the water chamber.

D. If condensate persists, consider turning the target temperature down.

- A lower target temperature will decrease the humidity output of my arvo 2, decreasing the level of condensation.

Note: The temperature and humidity level delivered to the patient will also be reduced.

“O2 too low” Fig. 18

Figure 18

Figure 19

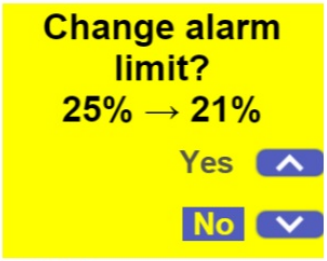


Figure 20

The measured oxygen level has fallen below the allowed limit.
Ensure the oxygen source matches that of the oxygen setting – see “Oxygen Input Settings” on page 11.
A. Adjust the level of oxygen from the oxygen source as necessary, i.e. increase the oxygen flow rate through the oxygen flow meter.
B. Is the oxygen source (wall/cylinder flow meter or concentrator) turned on?
C. Is the oxygen source empty or faulty?
D. Is the “AIRVO 2 oxygen inlet kit” Fig. 19 installed correctly, as per the instructions included with part 900PT422 and confirmed that there are no kinks in the “AIRVO 2 oxygen inlet kit” oxygen tubing?
E. Is the oxygen source tubing correctly and securely fitted to my arvo 2?

F. Is the minimum oxygen limit set to 25%?

- A prompt will appear with an option to change this lower limit to 21 %.

Select “Yes” or “No” by using the “Up“ and “Down” buttons. Press the “mode” button () to confirm selection Fig. 20.
See Section 2 – Advanced Settings in my arvo Product Technical
Manual to change this lower oxygen limit.
G. Ensure the oxygen source matches the oxygen input setting.

- For oxygen concentrators: The “Oxygen Input Setting” should be 95 %.
- For 100 % oxygen sources: The “Oxygen Input Setting” should be 100 %.

See page 11 for details on “Oxygen Input Settings”
H. Allow the device to sufficiently warm up; rapid changes in temperature can affect the sensor.

“O2too high” Fig. 21

Figure 21

The measured oxygen level has risen above the allowed limit.
Ensure the oxygen source matches that of the oxygen setting – see “Oxygen Input Settings” on page 11.
A. Adjust the level of oxygen from the oxygen source as necessary, i.e. decrease the oxygen flow rate through the oxygen flow meter.
See Section 2 – Advanced Settings in my arvo Product Technical to change this lower oxygen limit.
B. Ensure the oxygen source matches the oxygen input setting.

- For oxygen concentrators: The “Oxygen Input Setting” should be 95 %.
- For 100 % oxygen sources: The “Oxygen Input Setting” should be 100 %.

See page 11 for details on “Oxygen Input Settings”

ExxxFig. 22

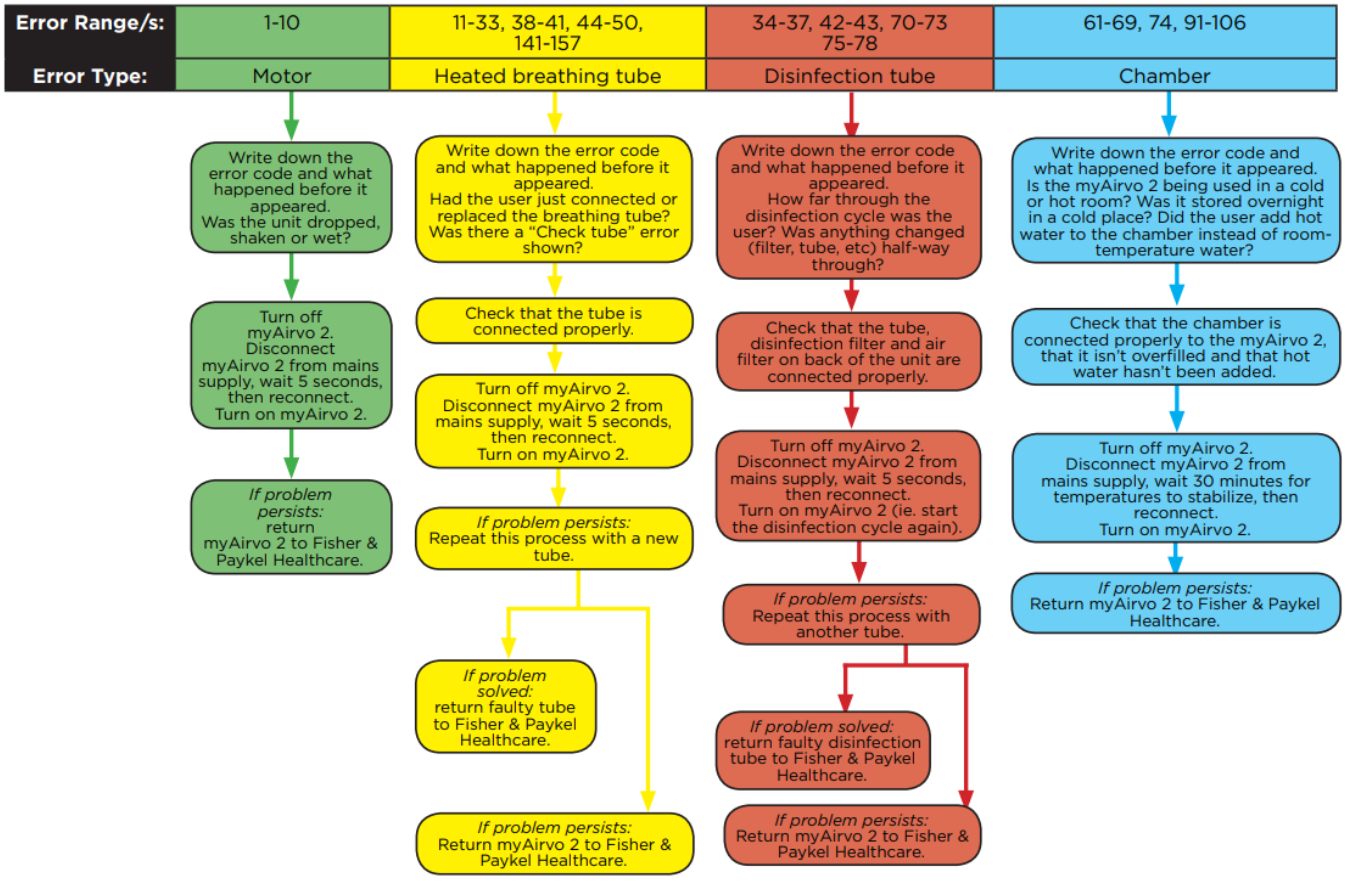
Figure 22

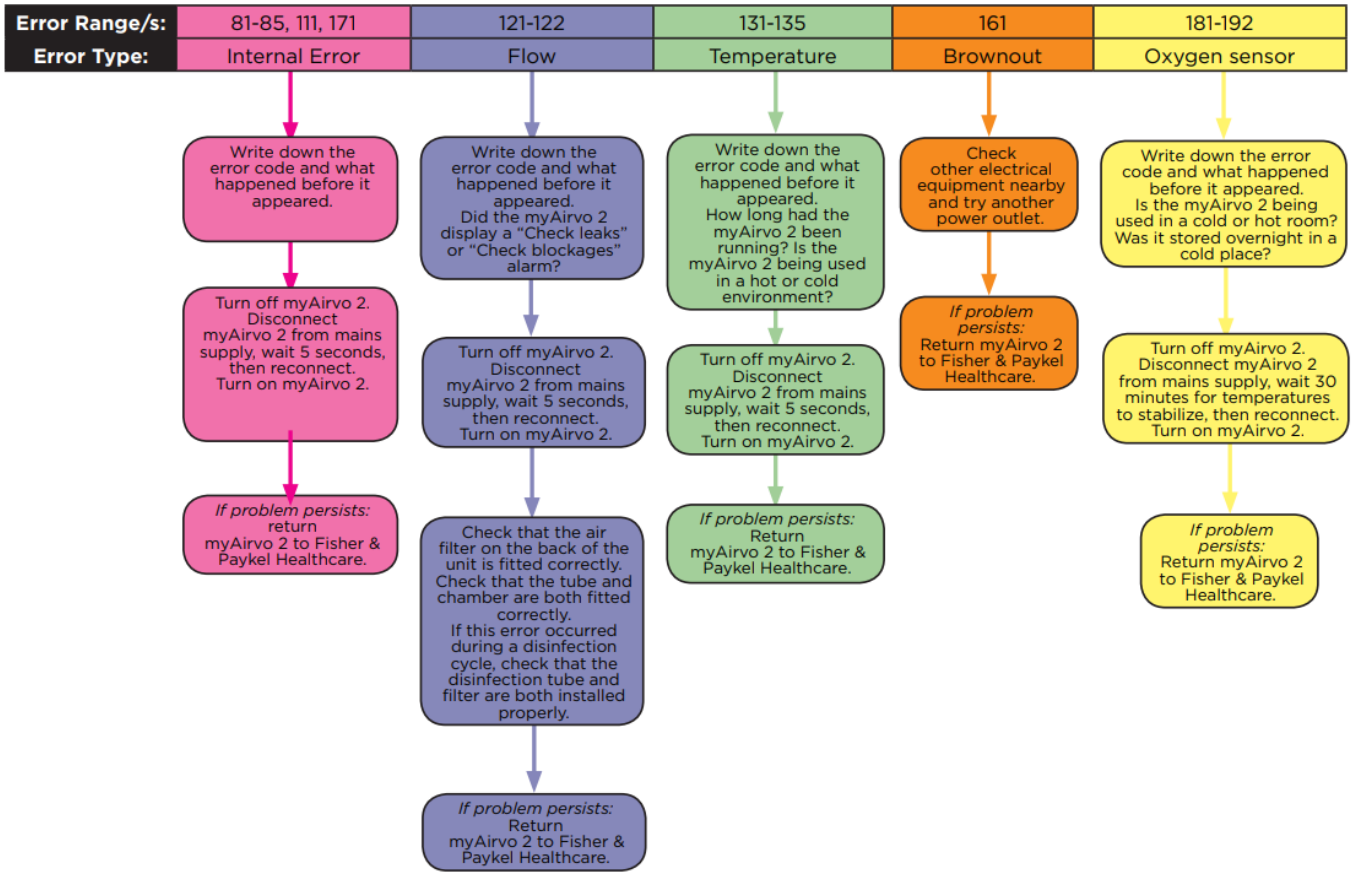
A. Follow the instructions in Appendix A if a fault with an error code is displayed on my arvo screen.

APPENDIX A: TROUBLESHOOTING

The following pages provide troubleshooting advice for fault/error / “E” codes that may appear during the use of my arvo 2.

Error Range/s:
Error Type:





For more information please contact your local Fisher & Paykel Healthcare representative

Australia
Fisher & Paykel Healthcare Pty Limited
36-40 New Street,
PO Box 167

Ringwood, Melbourne
Victoria 3134, Australia
Tel: +61 3 9879 5022
Fax: +61 3 9879 5232

Austria
Tel: 0800 29 31 23
Fax: 0800 29 31 22

Benelux
Tel: +31 40 216 3555
Fax: +31 40 216 3554

China
Tel: +86 20 3205 3486
Fax: +86 20 3205 2132
France
Tel: +33 1 6446 5201
Fax: +33 1 6446 5221

Germany
Tel: +49 7181 98599 0
Fax: +49 7181 98599 66

India
Tel: +91 80 4284 4000
Fax: +91 80 4123 6044

Irish Republic
Tel: 1800 409 011

Italy
Tel: +39 06 7839 2939
Fax: +39 06 7814 7709

Spain
Tel: +34 902 013 346
Fax: +34 902 013 379

Sweden
Tel: +46 8 564 76 680
Fax: +46 8 36 63 10

Switzerland
Tel: 0800 83 47 63
Fax: 0800 83 47 54

Taiwan
Tel: +886 2 8751 1739
Fax: +886 2 8751 5625

Turkey
Fisher Paykel Sağlık Ürünleri Ticaret Limited Şirketi,
Alinteri Bulvari 1161/1 Sokak No. 12-14,

P.O. Box 06371 Ostim,
Ankara, Turkey
Tel: +90 312 354 34 12
Fax: +90 312 354 31 01

UK EC REP
Fisher & Paykel Healthcare Ltd
Unit 16, Cordwallis Park
Clivemont Road, Maidenhead
Berkshire SL6 7BU, UK
Tel: +44 1628 626 136
Fax: +44 1628 626 146

USA/Canada
Tel: +1 800 446 3908
or +1 949 453 4000
Fax: +1 949 453 4001

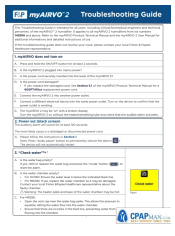
Manufacturer
Fisher & Paykel Healthcare Ltd
15 Maurice Paykel Place
East Tamaki, Auckland 2013

PO Box 14 348, Panmure
Auckland 1741
New Zealand

Tel: +64 9 574 0100
Fax: +64 9 574 0158
Email: info@fphcare.com
Web: www.fphcare.com

CE 0123
www.fphcare.com

Documents / Resources

	CPAP MAN myAIRVO 2 Humidifier High Flow Generator System [pdf] User Manual myAIRVO 2, Humidifier High Flow Generator System, myAIRVO 2 Humidifier High Flow Generator System, High Flow Generator System, Generator System