myAIRVO™ 2

User Manual

Fisher & Paykel HEALTHCARE

SECTION

English

BEFORE YOU START

- This User Manual is intended for patients.
- This User Manual applies to myAIRVO 2 units with LOT numbers 130621 and above.
- Read this User Manual including all warnings. Failure to do so may result in injury. In addition, watch the myAIRVO 2 Video Guide. Keep them both in a safe place for future reference.
- Before the myAIRVO 2 is used for the first time, it must be set up according to the instructions in the myAIRVO 2 Technical Manual. This should be carried out by a healthcare professional or medical technician.
- If the unit is ever used by multiple patients, the unit must be cleaned and disinfected between patients according to instructions in the Disinfection Kit Manual.
- For further assistance, please contact your Fisher & Paykel Healthcare representative.

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1. OVERVIEW

The myAIRVO 2 is a humidifier with integrated flow generator that delivers warmed and humidified respiratory gases to spontaneously breathing patients through a variety of patient interfaces.

INTENDED USE

The myAIRVO 2 is for the treatment of spontaneously breathing patients who would benefit from receiving high flow warmed and humidified respiratory gases. This includes patients who have had upper airways bypassed. The flow may be from 2 - 60L/min depending on the patient interface. The myAIRVO 2 is for patients in homes and long-term care facilities.

USA Federal Law restricts this unit for sale by or on the order of a physician.

⚠WARNINGS

- Nasal delivery of respiratory gases generates flow-dependent positive airway pressure (PAP). This must be taken into account where PAP could have adverse effects on a patient.
- The unit is not intended for life support.

To avoid burns:

- The unit should only be used with interfaces, water chambers and breathing tubes specified in this user manual.
- Using the breathing tube or interface for longer than the specified time can result in serious injury including infection.
- Before using oxygen with the unit, read all warnings in the “Oxygen” section of this manual.
- Never operate the unit if:
  - the heated breathing tube has been damaged with holes, tears or kinks,
  - it is not working properly,
  - the case screws have ever been loosened.
- Do not block the flow of the air through the unit and breathing tube.
- The unit should be located in a position where ventilation around the unit is not restricted.
- Never block the air openings of the unit or place it on a soft surface such as a bed or couch/sofa, where the filter area may be blocked. Keep the air openings free of lint, hair etc.

To avoid electric shock:

- Do not store or use the unit where it can fall or be pulled into water. If water has entered the unit enclosure, disconnect the power cord and discontinue use.
- Never operate the unit if:
  - it has been dropped or damaged,
  - it has a damaged power cord or plug,
  - it has been dropped into water.
- Avoid unnecessary removal of the power cord from the rear of the device. If removal is necessary, hold the connector during removal. Avoid pulling on the power cord.
- Return the unit to an authorized service center for examination and repair, except as outlined in this manual.

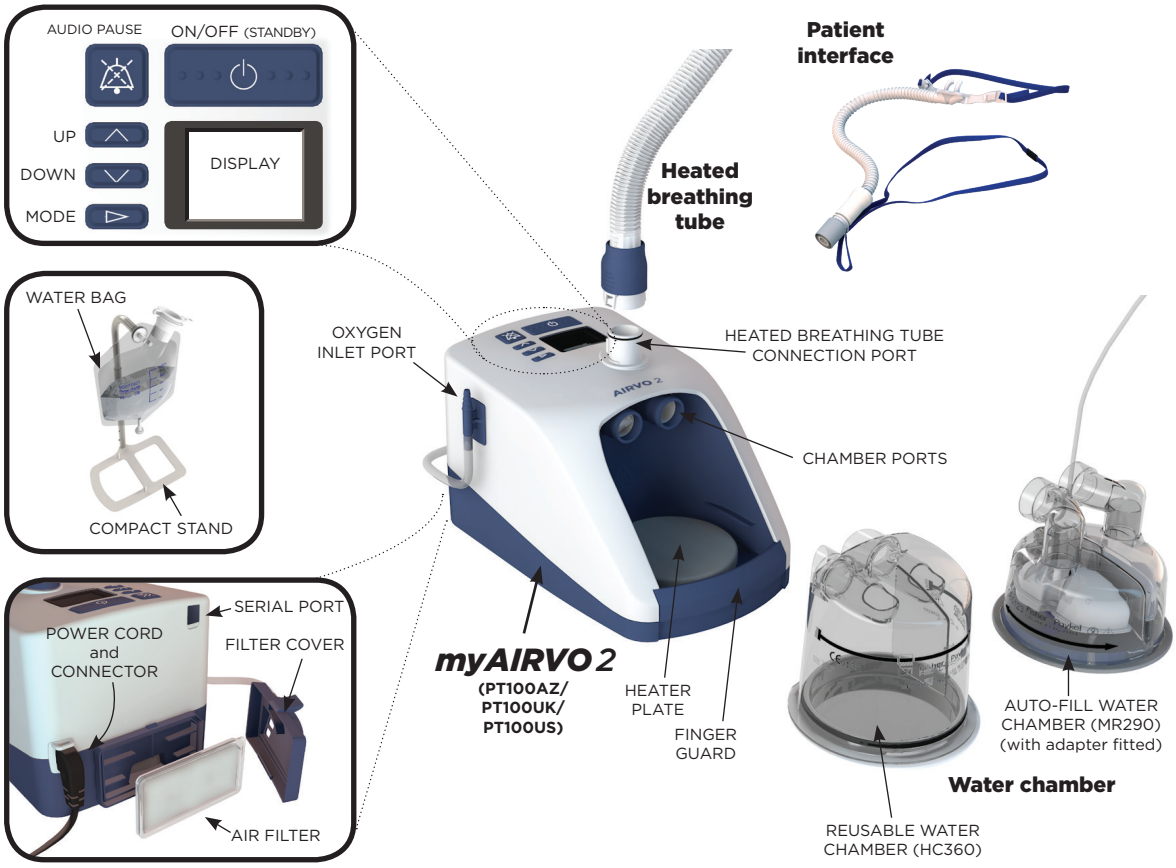
To avoid choking, or inhalation of a foreign object:

- Ensure an air filter is fitted when operating your unit.
- Never drop or insert any object into any opening or tube.

Miscellaneous:

- Do not use the unit when the room temperature exceeds 30°C (86°F) or is below 10°C (50°F) as the unit may switch off. Humidity output will be compromised below 18°C (64°F) and above 28°C (82°F).
- The unit is not suitable for use in the presence of a flammable, anesthetic mixture with air or oxygen or nitrous oxide.

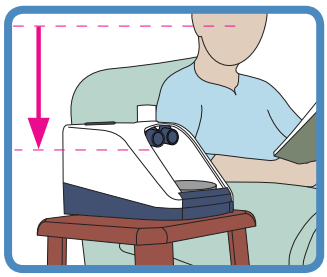
myAIRVO 2 AND ACCESSORIES



Tube & chamber kits and patient interfaces				
Tube & chamber kits			*Interfaces*	
900PT531	Heated breathing tube, MR290 auto-fill chamber and adapter (10-Pack)		OPT316	Nasal Cannula - Infant (20-pack)
900PT530E	Heated breathing tube (1-Pack)	→		
900PT290E	MR290 auto-fill chamber and adapter (1-Pack)		OPT318	Nasal Cannula - Pediatric (20-pack)
HC360	Reusable water chamber			
900PT500	Heated breathing tube (10-Pack)		OPT842	Nasal Cannula - Small (20-pack)
900PT500E	Heated breathing tube (1-Pack)		OPT844	Nasal Cannula - Medium (20-pack)
900PT501	Heated breathing tube, MR290 auto-fill chamber and adapter (10-Pack)	→	OPT846	Nasal Cannula - Large (20-pack)
900PT290E	MR290 auto-fill chamber and adapter (1-Pack)		OPT870	Tracheostomy Direct Connection (20-pack)
HC360	Reusable water chamber		RT013	Mask Interface Adapter (20-pack)
			-E	(1-pack) eg. OPT870E

Miscellaneous	
900PT400	Compact stand (for myAIRVO 2 and water bag)
900PT401	Water bag (2-pack)
900PT422	Oxygen inlet extension kit
900PT912	Filter holder
900PT913	Air filter (2-Pack)
OPT012	Wigglepads (OPT316/OPT318) (20-pack)
OPT014	Oxygen Tubing (Optiflow Junior)

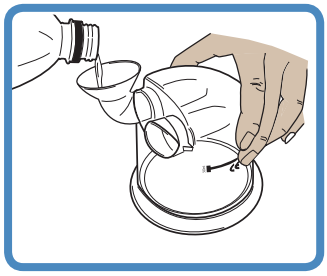
2. SETTING UP myAIRVO 2



1. BEFORE YOU BEGIN

Place the unit on a low shelf or near the floor beside your bed. It must be placed below head height and flat.

2. INSTALL WATER CHAMBER



IF USING A HC360 REUSABLE WATER CHAMBER:

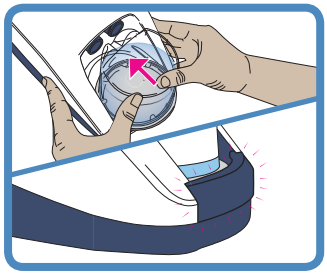
With the aid of the supplied funnel, fill the chamber with enough distilled water for the period of use, but never above the 560 mL fill line.

HC360: Flow setting vs usage time													
L/min	2	5	10	15	20	25	30	35	40	45	50	55	60
hrs	106	42	21	14	11	8	7	6	5	5	4	4	4

⚠WARNINGS

To avoid burns:
- Do not fill the water chamber with hot water.

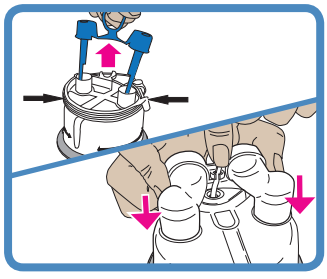
To avoid electric shock:
- Always remove the water chamber to fill it and always fill with enough distilled water to prevent it running out.



Fit the water chamber to the unit by pressing down the finger guard and sliding the chamber on, carefully aligning with the blue chamber port ends.

Push the chamber on firmly until the finger guard clicks into place.

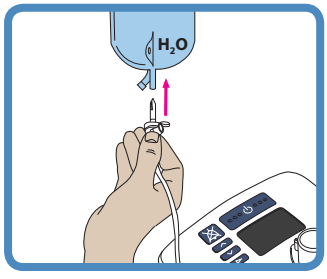
Go to Step 3, “Install Heated Breathing Tube”, below.



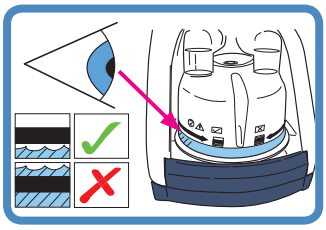
IF USING THE MR290 AUTO-FILL WATER CHAMBER:

Remove the blue port caps from the chamber by pulling the tear tab upwards then remove the bracket holding the water supply tube. Fit the supplied adapter over the two vertical ports on the chamber and push on fully then clip the water supply tube into position.

Fit the MR290 chamber as described above for the HC360 chamber.



Attach the water bag to the hanging bracket at least 20cm (8”) above the unit, and push the bag spike into the fitting at the bottom of the bag. Open the vent cap on the side of the bag spike. The chamber will now automatically fill to the required level and maintain that level until the water bag is empty. Use only distilled water and always ensure sufficient water is in the water bag to prevent it from running out.



Check that water flows into the chamber and is maintained below the fill line. If the water level rises above the fill line, replace the chamber immediately.

MR290: Flow setting vs usage time (Water bag 900PT401, 1000 mL)													
L/min	2	5	10	15	20	25	30	35	40	45	50	55	60
hrs	189	76	38	25	19	15	13	11	9	8	8	7	6

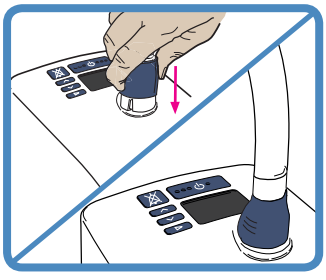
⚠ *WARNINGS*

To avoid burns:
- Do not start the unit without the water chamber in place.
- Do not touch the heater plate, water chamber or chamber base during use.
- The water in the chamber becomes hot during use. Exercise caution when removing and emptying the chamber.

To avoid electric shock:
- When handling the unit with the water chamber in place, avoid tilting the machine to prevent any chance of water entering the unit enclosure.
- Empty all the water from the water chamber before transporting the unit.

⚠ *CAUTIONS*

To ensure optimal therapy (MR290 only):
- Do not use the auto-fill MR290 chamber if it has been dropped, or been run dry and the “water out” alarm has been activated.



3. INSTALL HEATED BREATHING TUBE

One end of the heated breathing tube has a blue plastic sleeve. Lift the sleeve and slide the connector onto the unit. Push the sleeve down to lock.

⚠ *WARNINGS*

To avoid burns:
- Do not modify the breathing tube or interface in any way.
- Do not allow the breathing tube to remain in direct contact with skin for prolonged periods of time.
- Adding heat, above ambient levels, to any part of the breathing tube or interface e.g. covering with a blanket, or heating it in an incubator or overhead heater for a neonate, could result in serious injury.
- Do not use an insulating sleeve or any similar accessories which are not recommended by Fisher & Paykel Healthcare.

⚠ *CAUTIONS*

- Position the heated breathing tube away from any electrical monitoring leads (EEG, ECG/EKG, EMG, etc), to minimize any possible interference with the monitored signal.

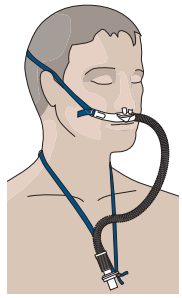
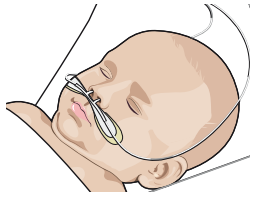
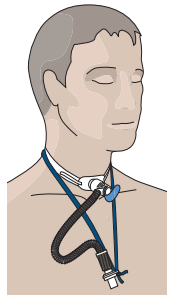
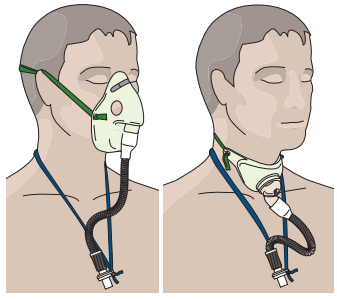
4. SELECT PATIENT INTERFACE

The myAIRVO 2 can be used with a variety of patient interfaces. Read the separate user instructions for the patient interface that will be used, including all warnings.

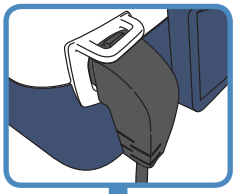
⚠WARNINGS

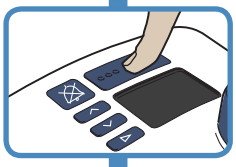
To avoid burns:

- Do not modify the breathing tube or interface in any way.
- Do not use any patient interfaces not listed here.

Nasal Cannula (OPT842/OPT844/OPT846)	
	If using the nasal interface, place the lanyard around the neck. Hold the nasal interface in the nose and then place the elastic loop behind the head, above the ears. The elastic loop can be adjusted by pulling it at the sides.
Nasal Cannula (OPT316/OPT318)	
	Refer to separate user instructions.
Tracheostomy Interface (OPT870)	
	If using the tracheostomy interface, place the lanyard around the neck, attach the tracheostomy tube connector as shown, and adjust the length of the strap for maximum comfort.
Mask Interface Adapter (RT013)	
	If using a standard vented tracheostomy or face mask, connect the mask's 22 mm connector to the RT013 Mask Interface Adapter. Place the lanyard around the neck and fit the mask in the usual manner. *⚠WARNINGS* • Note that the RT013 Mask Interface Adapter is designed to be used with vented masks only. Do not use sealed masks.

3. USING myAIRVO 2





1. SWITCH ON UNIT

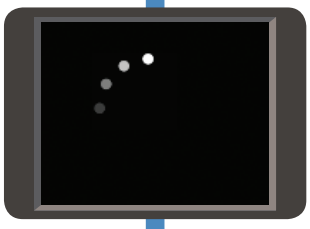
Plug the unit's power cord into the mains power supply. The connector at the other end of the power cord should be well secured to the rear of the unit.

⚠ *WARNINGS*

To avoid electric shock:

- Ensure that the unit is dry before plugging into the power socket.

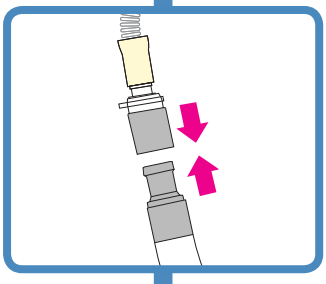
Switch on the unit by pressing the On/Off button.



2. WARM-UP

The unit will begin to warm up. You will see a warm-up symbol on the screen.

"Warm-up" symbol

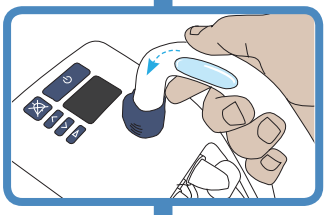


3. CONNECT THE PATIENT INTERFACE

"Ready for use" symbol

When the "Ready for Use" symbol appears on the display, connect the patient interface to the heated breathing tube. Tighten the lanyard to take the weight of the heated breathing tube.

When you first use the unit, the air will feel warm. Continue to breathe normally.



4. AFTER USE

When you have finished using the unit, remove your interface and drain any excess condensate in the breathing tube by lifting the patient end of the tube, and allowing the condensate to run into the water chamber.

5. DRYING MODE

Then press and hold the On/Off button for 3 seconds until a melody sounds. The unit will automatically enter Drying Mode and dry the tube so it is ready for you to use next time. Drying Mode runs for 99 minutes. The unit will automatically turn off when it is finished.

⚠ *WARNINGS*

To avoid burns:

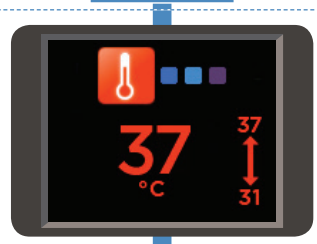
- Do not wear the interface during Drying Mode. The air is hot and dry and may cause injury.
- Do not remove the water chamber until drying mode has been completed.

To switch the unit off without completing Drying Mode (this is not recommended), hold down the On/Off button for 5 seconds.

If you unplug the unit's power cord from the mains power supply while the unit is still running, the "Power Out" alarm will sound. Press the "Audio Pause" button to silence this alarm.

ADVANCED SETTINGS

When you see the “Warm-up” or “Ready for use” symbols, you can press the Mode button to view and change advanced settings.



TARGET DEW-POINT TEMPERATURE

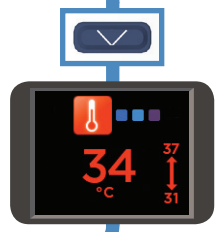
You can set the myAIRVO 2 to three target dew-point temperature settings:

- 37°C (98.6°F)
- 34°C (93°F) [if compliance at 37°C is a problem]
- 31°C (88°F) [for face masks only].

You may not have access to all settings, if:

- the unit is in Junior Mode (limited to 34 °C),
- the unit was initially set up with tighter limits.

The myAIRVO 2 will remember its target dew-point temperature setting when you switch it off.



To change the target dew-point temperature setting:

Press the Up and Down buttons to choose the new setting.

The large number in the center of the screen shows your chosen setting.

The small numbers near the arrow show the minimum and maximum accessible settings.

TARGET FLOW

You can set the myAIRVO 2 to flows between 10 L/min and 60 L/min, in increments of 1 L/min (10-25 L/min) and 5 L/min (25-60 L/min).

You may not have access to all settings, if:

- the unit is in Junior Mode (limited to 2 - 25 L/min, in increments of 1 L/min)
- the unit was initially set up with tighter limits.

The myAIRVO 2 will remember its target flow setting when you switch it off.

To change the target flow setting:

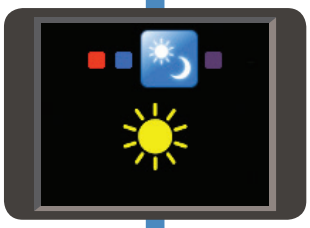
Press the Up and Down buttons to choose the new setting.

The large number in the center of the screen shows your chosen setting.

The small numbers near the arrow show the minimum and maximum accessible settings.

Press the Mode button to move on to the next screen.

Press the Mode button to move on to the next screen.



DAY/NIGHT MODES

You can set the myAIRVO 2 to “Day” mode or “Night” mode.

In “Night” mode, some of the myAIRVO 2 sounds will be made quieter. The display will become dimmed. Alarms will be unaffected.

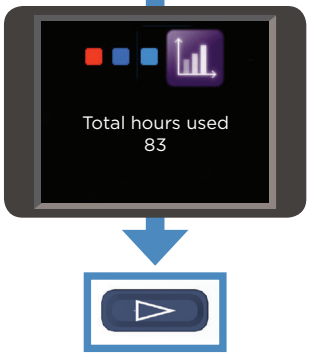
The myAIRVO 2 will remember its Day/Night setting when you switch it off.

To change the Day/Night setting:

Press the Up and Down buttons to choose the new setting.

→ “Day” → “Night”

Press the Mode button to move on to the next screen.



COMPLIANCE

This screen displays three pieces of compliance data:

Total hours used	Displays the total number of hours that the unit has been switched on.
Hours per day	Displays the average number of hours that the unit has been used per day.
Checksum	Displays usage information for the medical practitioner.

Press the Mode button to return to the “Warm-up”/”Ready for use” screen.

JUNIOR MODE

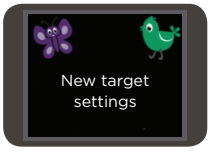
If the patient will be using an Optiflow Junior nasal cannula (OPT316/OPT318), you must activate Junior Mode.

Junior Mode limits the target settings to: 34 °C and 2 - 25 L/min, in increments of 1 L/min.

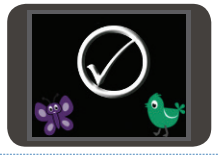
To activate Junior Mode:

You must be able to see the “Warm-up” symbol or the “Ready for use” symbol to activate Junior Mode.

Hold the Mode button for 5 seconds.



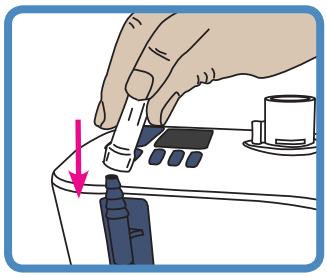
New target settings
The target settings for dew-point temperature and flow will be changed automatically. The colorful icons in the corners of the screen indicate that this unit is in Junior Mode.



To deactivate Junior Mode, follow the same procedure: hold the Mode button for 5 seconds.

If you are unable to activate Junior Mode, it is possible that Junior Mode may not have been enabled for your device. Contact your Fisher & Paykel Healthcare representative.

OXYGEN



You can connect supplementary oxygen to the myAIRVO 2. Connect the output from the oxygen source to the oxygen inlet port on the back of the unit. Make sure you push the oxygen tube firmly onto this connection port.

The fraction of oxygen you breathe with this air/oxygen mixture is determined by the airflow setting on the unit and the oxygen flow connected to the unit's oxygen inlet port.

The following table gives the approximate oxygen fraction delivered for the range of unit and oxygen airflows. The oxygen fractions given assume that the oxygen source is a home oxygen concentrator. These values will be higher if the oxygen source is bottled oxygen. At flows less than 10 L/min, the oxygen fraction delivered varies significantly with small changes in input oxygen flow. Oxygen flow settings should be titrated according to blood saturation levels.

		myAIRVO 2 Target Flow Setting (L/min)										
		10	15	20	25	30	35	40	45	50	55	60
Oxygen Flow (L/min)	1	29	27	25	24	24	23	23	23	23	23	22
	2	38	32	29	28	26	26	25	25	24	24	24
	3	45	37	33	31	29	28	27	26	26	25	25
	4	53	42	37	34	32	30	29	28	27	27	26
	5	60	48	41	37	34	33	31	30	29	29	28
	7	75	58	50	44	40	37	35	34	32	31	31
	10	93	74	61	54	49	45	42	39	37	36	35

It is important that the physician prescribing your oxygen therapy approves both the flow and oxygen settings and that you do not adjust these prescribed settings without consulting them.

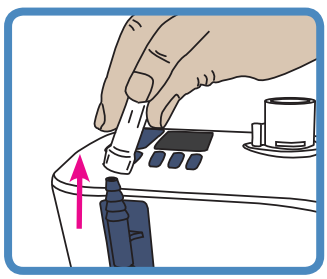
Check that suitable blood saturation levels are achieved at the prescribed flow.

Use continuous oxygen monitoring on patients who would desaturate significantly in the event of disruption to their oxygen supply.

⚠ *WARNINGS*

Before using oxygen with the unit, read all of the following warnings:

- The use of oxygen requires that special care be taken to reduce the risk of fire. Accordingly, for safety it is necessary that all sources of ignition be kept away from the unit and preferably out of the room in which it is being used. Oxygen should not be used while smoking or in the presence of an open flame. The unit should be located in a position where ventilation around the unit is not restricted.
- A spontaneous and violent ignition may occur if oil, grease or greasy substances come in contact with oxygen under pressure. These substances must be kept away from all oxygen equipment.
- Do not connect more than 15 L/min O_2 to the oxygen inlet port on the back of the unit.
- Ensure that the myAIRVO 2 is switched on before connecting oxygen.
- Oxygen must only be added through the special oxygen inlet port on the back of the unit. To ensure that oxygen enters the unit correctly, the oxygen inlet port must be fitted properly to the filter holder and the filter holder must be fitted properly to the unit. The power cord connector should also be well secured.
- The oxygen concentration delivered to the patient can be affected by changes to the flow setting, oxygen setting, patient interface or if the airpath is obstructed.



When finished, turn off the oxygen source. Remove the output of the oxygen source from the oxygen inlet port on the back of the unit.

⚠ *WARNINGS*

To avoid burns:

- The oxygen flow must be turned off when the unit is not operating, so that oxygen does not build up inside the device.

ALARMS

The myAIRVO 2 has visual and auditory alarms to warn you about interruptions to your treatment. These alarms are generated by an intelligent alarm system, which processes information from the sensors and target settings of the unit and compares this information to pre-programmed limits.

ALARM SIGNALS

	Symbols	Meaning
Visual alarm signal		
		Alarm condition.
		Audio paused.
Auditory alarm signal		
3 beeps in 3 seconds. Repeated every 5 seconds.		Press this button to mute the auditory alarm for 115 seconds. The auditory alarm can be reactivated by pressing this button again.

ALARM CONDITIONS

All of the alarms listed below have been assessed as “Medium Priority”. These priorities have been allocated for an operator’s position within 1 meter of the device. The unit also uses an internal priority-ranking system. If multiple alarm conditions occur simultaneously, the unit will display the highest-priority alarm.

The following table lists all of the alarm conditions from highest-priority to lowest priority, their causes, possible solutions and delays. Alarm conditions that affect oxygen delivery require an immediate response to assess the patient’s saturation levels. Alarm conditions that affect humidity delivery require a prompt response to assess potential drying of mucus and associated blockages.

Message	Meaning	Affects delivery of:	Delays
Fault (E###)	*The unit has detected an internal fault and has shut itself down.* Switch the unit off and then restart. If the problem persists, note the fault code and contact your Fisher & Paykel Healthcare representative.	Oxygen, humidity.	< 5 seconds
Check tube	*The unit cannot detect the heated breathing tube.* Check that the heated breathing tube is not damaged and that it is plugged in correctly. If the problem persists, then change the heated breathing tube.	Oxygen, humidity.	< 5 seconds
Check for leaks	*The unit has detected a leak in the system.* The most likely cause is that the water chamber has been removed or has not been pushed into place correctly. Check that the heated breathing tube is not damaged and that it is plugged in correctly. Check that the nasal interface is fitted. Check that the filter is fitted.	Oxygen, humidity.	< 5 seconds
Check for blockages	*The unit has detected a blockage in the system.* Check the heated breathing tube or patient interface for blockage. Check the air filter and filter holder for blockage. Check whether the unit should be in Junior Mode. If the patient will be using an Optiflow Junior nasal cannula (OPT316/OPT318), you must activate Junior Mode.	Oxygen, humidity.	< 10 seconds
O_2 too low	*The measured oxygen level has fallen below the allowed limit.* Check that the oxygen source is still correctly connected. Adjust the level of oxygen from the oxygen source as necessary.	Oxygen	< 20 seconds
O_2 too high	*The measured oxygen level has exceeded the allowed limit.* Adjust the level of oxygen from the oxygen source as necessary.	Oxygen	< 20 seconds

(continued) Message	Meaning	Affects delivery of:	Delays
Cannot reach target flow	*The unit cannot reach the target flow setting.* Check the heated breathing tube or patient interface for blockage. Check whether the target flow setting is too high for the patient interface being used (refer to "Setting up myAIRVO 2" - "Select Patient Interface"). The unit will choose appropriate new target settings. You will be prompted for acknowledgement. ⚠ *WARNINGS* • The oxygen concentration delivered to the patient can be affected by changes to the flow setting. Adjust the level of oxygen from the oxygen source as necessary.	Oxygen	10 +/- 1 minutes
Check water	*The chamber has run out of water.* *If using the HC360 reusable chamber:* Remove the chamber and refill. *If using the MR290 auto-fill chamber:* When a chamber runs dry, the chamber float may be damaged. Replace the chamber and water bag. [Twenty seconds after the chamber is removed, the "Check for leaks" alarm is activated (see above). When the chamber is replaced, the unit enters Warm-up Mode and resumes normal operation.] To ensure continual humidification, always ensure that the water chamber and/or water bag are not allowed to run out of water.	Humidity	*Flows above 20 L/min:* < 20 minutes *Flows of and below 20 L/min:* < 40 minutes
Cannot reach target temperature	*The unit cannot reach the target temperature setting.* You will be prompted for acknowledgement. The most likely cause for this is that the unit is operating at a high flow rate in low ambient conditions. Consider decreasing the target flow setting. ⚠ *WARNINGS* • The oxygen concentration delivered to the patient can be affected by changes to the flow setting. Adjust the level of oxygen from the oxygen source as necessary.	Humidity	30 +/- 3 minutes
Check operating conditions	*The unit has detected that it is operating in unsuitable ambient conditions.* Do not use the device when the ambient temperature is less than 10°C. Do not use the device when the ambient temperature is greater than 30°C.	Humidity	60 +/- 6 seconds
[Power out]	*The unit has been disconnected from the mains power supply.* No visual alarm. The auditory alarm will sound for 120 seconds.	Oxygen, humidity.	< 5 seconds

ALARM LIMITS

Most alarm limits are pre-programmed. The exceptions are listed below. These alarm limits may be changed to other values by authorized personnel. Changes will be preserved during or after any power loss.

Alarm condition	Factory-set alarm limit	Possible preset values
O_2 too low	21% O_2	21 – 25% O_2
O_2 too high	90% O_2	30 – 90% O_2

⚠ *WARNINGS*

- A hazard can exist if different alarm presets are used on different units within any single area, eg. long term care facility
- Alarm limits set to extreme values can render the alarm system useless.

CHECKING ALARM SYSTEM FUNCTIONALITY

The functionality of the alarm system can be checked at any time when the unit is turned on.

Remove the heated breathing tube. You should see the "Check tube" visual alarm signal and hear the auditory alarm signal. If either alarm signal is absent, do not use the unit. Contact your Fisher & Paykel Healthcare representative.

AUDITORY INFORMATION SIGNALS

In addition to auditory alarm signals, auditory information signals are provided. These are described below.

Melody	Meaning
Ascending sequence of 5 tones	The "Ready for use" symbol has appeared
Ascending sequence of 3 tones	Activation/deactivation of Junior Mode
Decending scale of 3 tones (within 2 seconds)	Drying Mode has been activated
Single tone every 5 seconds	Measured oxygen level > 32% at turn-off

4. CLEANING AND MAINTENANCE

It is important to carefully follow the instructions in this section, to keep the device clean and safe for use and to extend the life of the consumables.

The following instructions are for single-patient home use. If the unit is ever used by multiple patients, the unit must be cleaned and disinfected between patients according to instructions in the Disinfection Kit Manual (900PT600). In addition, the patient interface, heated breathing tube and water chamber must be changed between patients.

Standard aseptic techniques to minimize contamination should be followed when handling the unit and accessories. This includes proper hand-washing, avoiding hand contact with connection ports, safe disposal of the used consumables and suitable storage of the unit after cleaning and disinfection.

DAILY CLEANING INSTRUCTIONS

Run Drying Mode / Rinse the patient interface and water chamber

1. Allow Drying Mode to run after use (refer “Using myAIRVO 2” - “Drying Mode”).
2. Remove the interface, clean and rinse in drinking-quality water then reconnect to the heated breathing tube whilst still in Drying Mode to dry the interface.
3. After Drying Mode is complete, remove the water chamber by pushing down the finger guard and pulling out the chamber. Wash and rinse the chamber then refill it with sufficient distilled water for the next use.

WEEKLY CLEANING INSTRUCTIONS

Clean the patient interface, water chamber and myAIRVO 2

1. Switch off the unit and unplug from the power socket.
2. Remove the heated breathing tube and drain any excess condensate.
3. Remove the interface from the heated breathing tube, wash it in warm water with mild dishwashing detergent added, rinse it in drinking-quality water, then reconnect it to the heated breathing tube.
4. Remove the water chamber.

If using the HC360 reusable chamber:
Pour out and discard the remaining water. Remove the chamber base. Wash the chamber top and base in mild dishwashing detergent then rinse. Soak the chamber in a solution of vinegar (1 part) and water (2 parts) for 10 minutes. Rinse and dry.

If using the MR290 chamber:
Do not wash this chamber. Carefully put the MR290 chamber aside.

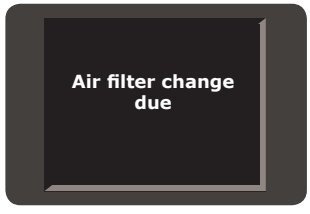
5. Thoroughly wipe the inside of the heated breathing tube connection port with a clean, low-lint cloth dipped in warm water with mild dishwashing detergent added.
6. Wipe the exterior of the unit with a clean, damp (not wet) cloth dipped in warm water with mild dishwashing detergent added. Do not use harsh abrasives or solvents, as these may damage the unit.
7. Refit the heated breathing tube.
8. If using the HC360 chamber: Refit the chamber.
9. If using the MR290 chamber: Refit the MR290 chamber and reconnect to the water bag. Check that water flows into the chamber and is maintained below the fill line. If the water level rises above the fill line, replace the chamber immediately
10. Reconnect the unit to the power supply.
11. The unit is now ready for another week of use.

SCHEDULE FOR CHANGING ACCESSORIES

The accessories for the unit must be changed frequently to avoid the risk of infection. Parts should be replaced immediately if they are damaged or discolored; otherwise they must be replaced within the periods shown in the following table. These periods assume that the correct daily and weekly cleaning procedures and maintenance schedule described above are adhered to. These accessories are for single-patient use only.

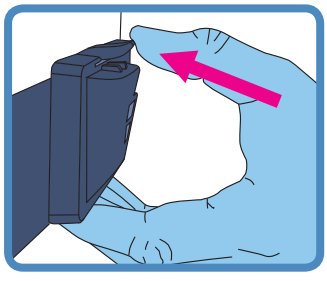
Maximum period of use	Part number and description
1 week	*Optiflow Junior interfaces* OPT316 / OPT316E Nasal Cannula - Infant OPT318 / OPT318E Nasal Cannula - Pediatric
1 month	*All other patient interfaces* OPT842 / OPT842E Nasal Cannula - Small OPT844 / OPT844E Nasal Cannula - Medium OPT846 / OPT846E Nasal Cannula - Large OPT870 / OPT870E Tracheostomy Interface RT013 / RT013E Mask Interface Adapter - 22mm
2 months	*All tube & chamber kits* 900PT500 / 900PT500E Heated breathing tube 900PT530E Heated breathing tube (for use with OPT316/OPT318 only) 900PT290E MR290 auto-fill chamber and adapter 900PT501 Heated breathing tube, MR290 auto-fill chamber and adapter 900PT531 Heated breathing tube, MR290 auto-fill chamber and adapter (for use with OPT316/OPT318 only)
3 months or 1000 hours	900PT913 Air filter (or more often if significantly discolored)
Reusable	HC360 Reusable water chamber

FILTER REPLACEMENT



If the unit tells you that a filter change is due:

1. Take the filter holder from the back of the unit and remove the filter.
2. Replace the old filter with a new one.



3. Reattach the filter holder to the unit (clip the bottom of the filter holder in first, then rotate it upwards until the top clips into place).
4. Press the Mode button to move on to the next screen.

SERVICING

This device contains no serviceable parts.

5. TECHNICAL INFORMATION

SYMBOL DEFINITIONS


Caution Hot Surfaces


Type BF Applied Part


ATTENTION Consult accompanying documents


Do not throw away

Drip Proof

Alternating Current


Class II Double Insulated


Power On/Off (Standby)

93/42/EEC Class IIa

PRODUCT SPECIFICATIONS

Dimensions	295 mm x 170 mm x 175 mm (11.6" x 6.7" x 6.9")
Weight	2.2 kg (4.8 lb) unit only, 3.4 kg (7.5 lb) packaged in bag incl. accessories
Supply frequency	50-60 Hz
Supply voltage/current	100-115 V 2.2 A (2.4 A max) 220-240 V 1.8 A (2.0 A max)
Sound pressure level	Alarms exceed 45 dbA @ 1 m
Auditory alarm pause	115 seconds
Serial port	The serial port is used for downloading product data, using F&P Infosmart™ software.

Humidity	>33 mg/L at 37 °C target >10 mg/L at 34 °C target >10 mg/L at 31 °C target
Maximum temperature of delivered gas	43 °C (109 °F)
Maximum flow range (default)	10-60 L/min
Maximum flow range (Junior Mode)	2-25 L/min
Maximum oxygen input	60 L/min
Warm-up time	10 minutes to 31 °C (88 °F), 30 minutes to 37 °C (98.6 °F) using a MR290 chamber with flow rate of 35 L/min and starting temperature 23 ± 2 °C (73 ± 3 °F)
Oxygen analyzer accuracy	< ± (2.5% + 2.5% of gas level) (within the range 25-95% O_2) Operating conditions: 18-28 °C (64-82 °F), 30-70% RH

Designed to conform to the requirements of:

IEC 60601-1
UL 60601-1
CSA C22.2/No. 601.1
AS 3200.1.0
EN 60601-1

The unit complies with the electromagnetic compatibility requirements of IEC 60601-1-2. In certain circumstances, the unit may affect or be affected by nearby equipment due to the effects of electromagnetic interference. If this should happen, try moving the unit or the location of the unit causing interference, or alternatively consult your healthcare provider.

Accessory equipment connected to the serial port of the device must be certified to either IEC 60601-1 or IEC 60950-1. Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Anyone who connects additional equipment to the signal input part or signal output part configures a medical system and is therefore responsible for ensuring that the system complies with the requirements of the system standard IEC 60601-1-1. If in doubt, consult the technical services department or your local representative.

OPERATING CONDITIONS

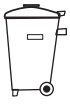
Ambient temperature	18 to 28 °C (64 to 82 °F)
Humidity	10 to 95% RH
Altitude	0 to 2000 m (6000 ft)
Mode of operation	Continuous operation

STORAGE AND TRANSPORT CONDITIONS

The unit should be stored and transported in environmental conditions of -10 °C to 60 °C (14 °F to 140 °F), 10 to 95% RH, non-condensing.

DISPOSAL INSTRUCTIONS

Unit Disposal Instructions
This unit contains electronics. Please do not discard with regular waste. Return to Fisher & Paykel Healthcare or dispose according to local guidelines for disposing of electronics. Dispose according to Waste Electrical and Electronic Equipment (WEEE) directive in European Union.



Consumables Disposal Instructions
Place the interface, breathing tube and chamber in a bag at the end of use and discard with regular waste.