## SPECIFICATIONS
Size: 140 mm x 173 mm x 135 mm, Weight 2.8 kg (without chamber fitted)
3.1 kg (chamber fitted and filled with water)

## ELECTRICAL RATINGS
Supply Frequency: 50/60 Hz, Voltage: 115V~
Power Input: 220 VA, Heater Plate: 150W
Heater Wire: 22±5 V~, 2.73 A, 60 W, 50/60 Hz
Heater Plate over temperature cut out: 118 ± 6 °C
IEC 60601-1 Classification Class I, Type BF, IPX1

## TEMPERATURE CONTROL SETTINGS
Invasive Mode: Chamber outlet: 35.5 - 37 °C, Airway 35 - 40 °C
Noninvasive Mode: Chamber outlet: 31 °C, Airway 28 - 34 °C
Display: Three digit 14 mm 7 segment LED (not visible during normal operation)
Range: 10 - 70 °C, Accuracy: ± 0.3 °C (in 25 - 45 °C temperature range)

## ALARM PARAMETERS
High Humidity Alarm: An immediate, audible alarm at a displayed temperature of 41 °C or if the airway temperature exceeds 43 °C
Low Humidity Alarm: An audible alarm between 10 minutes @ 29.5 °C, and 60 minutes @ 34.5 °C (Invasive Mode only)
Sound Pressure Level: Alarms exceed 50 dBA @ 1 m

## SYMBOL DEFINITIONS:


Caution – Hot Surface

Resistant to vertical falling drips


Equipotential Stud


Serial Port

Rx only
Caution: Federal law restricts this device to sale by or on the order of a physician


Alternating Current


Type BF Applied Part


ATTENTION Consult accompanying documents


Fragile, handle with care


Date of Manufacture

84DJ
Respiratory Humidifier
Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1 and CAN/CSA C22.2 No. 601.1



## WARNING
Ensure that invasive mode is set for patients that have bypassed airways.

The use of breathing circuits, chambers or other accessories which are NOT approved by Fisher & Paykel Healthcare may impair performance or compromise safety.

Check equipment (including cord) for damage before use and replace if damaged.

Ensure appropriate ventilator alarms are set, connections are tight and a leak test is completed before use.

Ensure that both temperature probe sensors are correctly and securely fitted. Failure to do so may result in temperatures in excess of 41 °C being delivered to the patient.

Do not touch the glass tip of the chamber temperature probe during use. Keep electrical connectors dry at all times.

Ensure maintenance of grounding integrity by connection to a "hospital grade". Always disconnect supply before cleaning and servicing.

Ensure that the humidifier is always positioned lower than the patient.

Ensure the HC550 is used with adequate levels of patient observation and monitoring as directed by a qualified medical professional.

The operation of high frequency surgical apparatus, short wave or microwave equipment in the vicinity of the humidifier may adversely affect its function. If this occurs the humidifier should be removed from the vicinity of such devices.

This device is not suitable for use in the presence of flammable anaesthetic mixes or nitrous oxide.

Remove any sources of ignition: such as cigarettes, an open flame, or materials which burn or ignite easily at high oxygen concentrations.

Keep oxygen regulators, cylinder valves, tubing, connections and all other oxygen equipment away from oil, grease, or greasy substances. Spontaneous and violent ignition may occur if these substances come into contact with oxygen under pressure.

Hot surfaces may exceed 75°C (167°F)

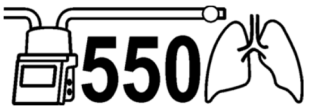
Do not fill chamber with water in excess of 37°C (99°F)

California residents please be advised of the following, pursuant to Proposition 65: This product contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. For more information, please visit: www.fphcare.com/prop65

**The Following Accessories are required:**

| | |
|---|---|
| Humidifier Chamber | (e.g.: MR290) |
| Breathing Circuit: | (e.g.: Adult RT Series circuits) |
| Temperature Probe | (e.g.: 900MR869) |
| Heater Wire adaptor | (e.g.: 900MR805) |
| Mounting Bracket | (to suit ventilator) |

Choice will depend on application. Please contact your local F&P Healthcare representative for recommendations. Refer to operating instructions for each accessory.




## Indications for Use

The Fisher & Paykel HC550 System is designed for use with artificial ventilation systems. Portable volume ventilation systems, pressure support ventilation and Continuous Positive Airway Pressure (CPAP) systems may incorporate an HC550 to provide therapeutic levels of warm humidified air to adult patients with artificial airways or through mask ventilation. The operating flow range is 5 to 120L/min depending on the patient interface. The HC550 is designed for use in long term care facilities or the home under the prescription of a qualified medical professional.

**INSTRUCTION SHEET**
**DO NOT DISCARD**

Rx only

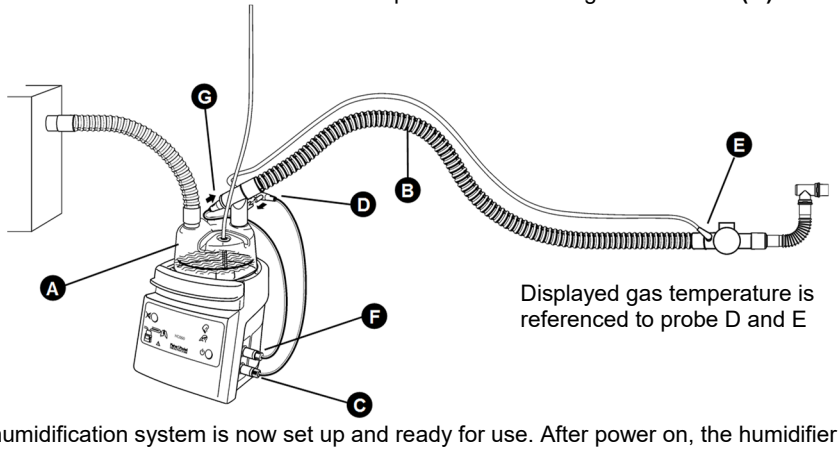
US

# HC550 RESPIRATORY HUMIDIFIER

**PLEASE READ OPERATING INSTRUCTION WARNINGS BEFORE SETTING UP THE HC550.**

**SET UP**

1. Slide humidification chamber **(A)** onto humidifier base and connect breathing circuit **(B)** (refer to humidification chamber and breathing circuit operating instructions for further details).
2. Connect the temperature probe plug **(C)** (REF 900MR86X) to the blue socket on the humidifier base until an audible click is heard.
3. Push the chamber probe **(D)** and airway probe **(E)** into the breathing circuit. Make sure the chamber probe is correctly located in its key-way and that both probes are pushed home. The probe lead can be restrained using breathing circuit clips.
4. Connect the heater wire adaptor plug **(F)** (REF 900MR8XX) to the yellow socket on the humidifier base until an audible click is heard.
5. Connect the other end of the heater wire adaptor to the breathing circuit socket **(G).**




Displayed gas temperature is referenced to probe D and E

6. The humidification system is now set up and ready for use. After power on, the humidifier will operate in the last mode setting. Ensure that invasive mode is set for patients that have bypassed airways. Ensure that the humidifier is securely mounted.

**TRANSPORT AND STORAGE**

| | |
|---|---|
| Temperature and Humidity: | -10 to 50 °C (14 to 122 °F), 10 to 95% RH (noncondensing) |

**OPERATING CONDITIONS**

| | |
|---|---|
| Recommended ambient Temperature range: | 20 to 26 °C |
| Recommended ambient Humidity range: | 10 to 95% RH |
| Humidity Performance: | Invasive Mode: > 33 mg/L, maximum 40 L/min flow. |
| | Noninvasive Mode: > 10 mg/L, maximum 120 L/min flow. |
| | Refer to breathing circuit specifications for minimum flow |

**CAUTION:** Humidity performance can be compromised outside of the specified ambient temperature range

| | |
|---|---|
| Maximum Operating Pressure: | Refer to chamber and breathing circuit specifications |
| Warm-up time: | < 30 minutes |
| Mode of Operation: | Continuous |

**ELECTROMAGNETIC COMPATIBILITY:**

The device complies with the electromagnetic compatibility requirements of IEC60601-1-2. In certain circumstances the device may affect or be affected by nearby portable mobile radio frequency communication equipment, due to the effects of electromagnetic interference. If this should happen, try moving your device or the location of the equipment causing interference, or alternatively consult your healthcare provider.

**DISPOSAL INSTRUCTIONS:**

*HC550 disposal Instructions*

This device contains electronics. Please do not discard as regular rubbish. Dispose of electronics according to local guidelines.

*Consumable Disposal Instructions*

Place the breathing tube and water chamber in a rubbish bag at the end of use and discard according to hospital protocol or local guidelines.

**DIAGNOSTIC PORT**

The diagnostic port is not intended for use during operation - Factory use only. Equipment connected to the port must comply with safety standard IEC60950 for Computers.

**CLEANING:**

The HC550 Respiratory Humidifier is a multiple patient multiple use device and cleaning should be performed as required. Disconnect from electrical supply and clean with a damp cloth using either normal dishwashing detergent or Isopropyl alcohol. Wipe clean of cleaning residue before use. CAUTION: DO NOT immerse humidifier or probe connectors in liquid. DO NOT autoclave probes. Using any other cleaning solutions or methods may cause damage.

**ROUTINE MAINTENANCE AND SERVICING:**

Refer maintenance and servicing to qualified service personnel. A full technical description including routine maintenance and service data is contained in the Technical Manual which is available from your supplier or Fisher & Paykel Healthcare (REF 185043659).

Fisher&Paykel HEALTHCARE


**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.co.nz Web: www.fphcare.com

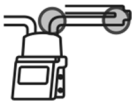
**AUSTRALIA** (Sponsor) Fisher & Paykel Healthcare Pty Limited, 36-40 New Street, PO Box 167, Ringwood, Melbourne, Victoria 3134, Australia Tel:+61 3 9879 5022 Fax:+61 3 9879 5232 **AUSTRIA** Tel: 0800 29 31 23 Fax: 0800 29 31 22 **BENELUX** Tel:+31 40 216 3555 Fax:+31 40 216 3554 **BRAZIL** Fisher & Paykel do Brasil, Rua Sampaio Viana, 277 cj 21, Paraíso, 04004-000, São Paulo – SP, Brazil Tel: +55 11 2548 8002 **CHINA** 代理人/售后服务机构:费雪派克医疗保健（广州）有限公司, 广州高新技术产业开发区科学城科丰路31号G12栋301号 电话: +86 20 32053486 传真: +86 20 32052132 **FINLAND** Tel:+358 (0)405 406618 Fax:+46 (0)8 36 6310 **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 **JAPAN** Tel:+81 3 5117 7110 Fax:+81 3 5117 7115 **KOREA** Tel:+82 2 6205 6900 Fax:+82 2 6309 6901 **NORTHERN IRELAND** Tel: 0800 132 189 **RUSSIA** Tel and Fax: +7 495 782 21 50 **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: 1800 446 3908 or +1 949 453 4000 Fax:+1 949 453 4001


# OPERATION

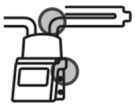
## MUTE

The mute button silences the humidifier's audible alarm for at least two minutes. The muted time depends on the alarm condition and the severity of its cause.

## SET-UP INDICATORS

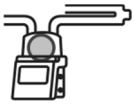


**Chamber & Airway Probes**
Lights if either the chamber probe or the airway probe is not inserted into the breathing circuit correctly.



**Heater Wire**
Lights if the heater wire adaptor or breathing circuit has not been connected, or is damaged.

**Temperature Probe**
Lights if the temperature probe is not correctly plugged into the HC550, or the probe is faulty.



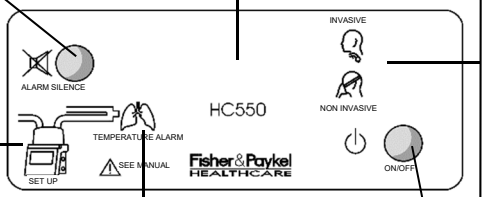
**Water Out**
Lights when there is insufficient water in the chamber. Check water supply. Maximum time to alarm of 20 minutes.

**See Manual**
The humidifier and all accessories should be immediately replaced and sent for servicing.

## TEMPERATURE DISPLAY

During normal operation the display temperature is not visible. When the high temperature alarm activates the display shows the saturated gas temperature delivered to the patient (the lower of the airway and chamber temperatures in °C).

By pushing and holding the mute button for one second, the chamber outlet temperature is displayed and then the airway temperature is shown. The display will then disappear.




## LOW TEMPERATURE ALARM

An audible alarm and flashing indicator are given for saturated gas temperatures of ***35.5 °C* or lower** (invasive mode only). Caused by cold/draughty conditions or very high or low gas flows.

If the circumstances causing the low humidity alarm cannot be changed then the audible alarm acts as a reminder that the patient is receiving inadequate humidity and may require further intervention to maintain airway clearance.

## HIGH TEMPERATURE ALARM

An audible alarm and flashing temperature display showing ***41* °C or higher**. The humidifier will discontinue heating of the chamber and circuit until the temperature decreases to within normal limits.

## MODES

***WARNING:** Ensure that invasive mode is set for patients that have bypassed airways*

**Invasive Mode**
This mode is for patients with bypassed airways. The humidifier delivers gas as close to body temperature saturated (37 °C, 44 mg/L) as possible.

Under cold or draughty conditions the chamber temperature may drop as low as 35.5 °C in order to maintain a dry breathing circuit.

**Noninvasive Mode**
This mode is for patients receiving face mask therapy, and delivers a comfortable level of humidity.

**Changing mode**
The mode of operation should only be changed by a qualified healthcare professional via the diagnostic menu as explained in the technical manual (REF 185043659).

## ON/OFF BUTTON

The humidifier will power ON if this button is held down briefly, but must be held down for one second to turn the humidifier off.