



Humidification

Solutions for passive and active humidification devices for both ventilated and spontaneously breathing patients



Your choice for humidification

Intersurgical understand that each patient and clinical situation is different. Our aim is to provide a solution for all of your humidification requirements, active or passive, for both ventilated and spontaneously breathing patients.

For ventilated patients

Passive humidification

Passive Humidification requires a heat and moisture exchanger to be positioned at the patient connection of a basic two limb breathing system. This is designed to replicate the functions of the upper airway conserving the patient's own expired heat and moisture and returning these to the patient during inspiration.

Passive



Breathing systems



Heat and moisture exchanging filters (HMEFs) or (HME)



Catheter mounts

Active



Humidifier



Humidification chambers



Heated wire breathing systems

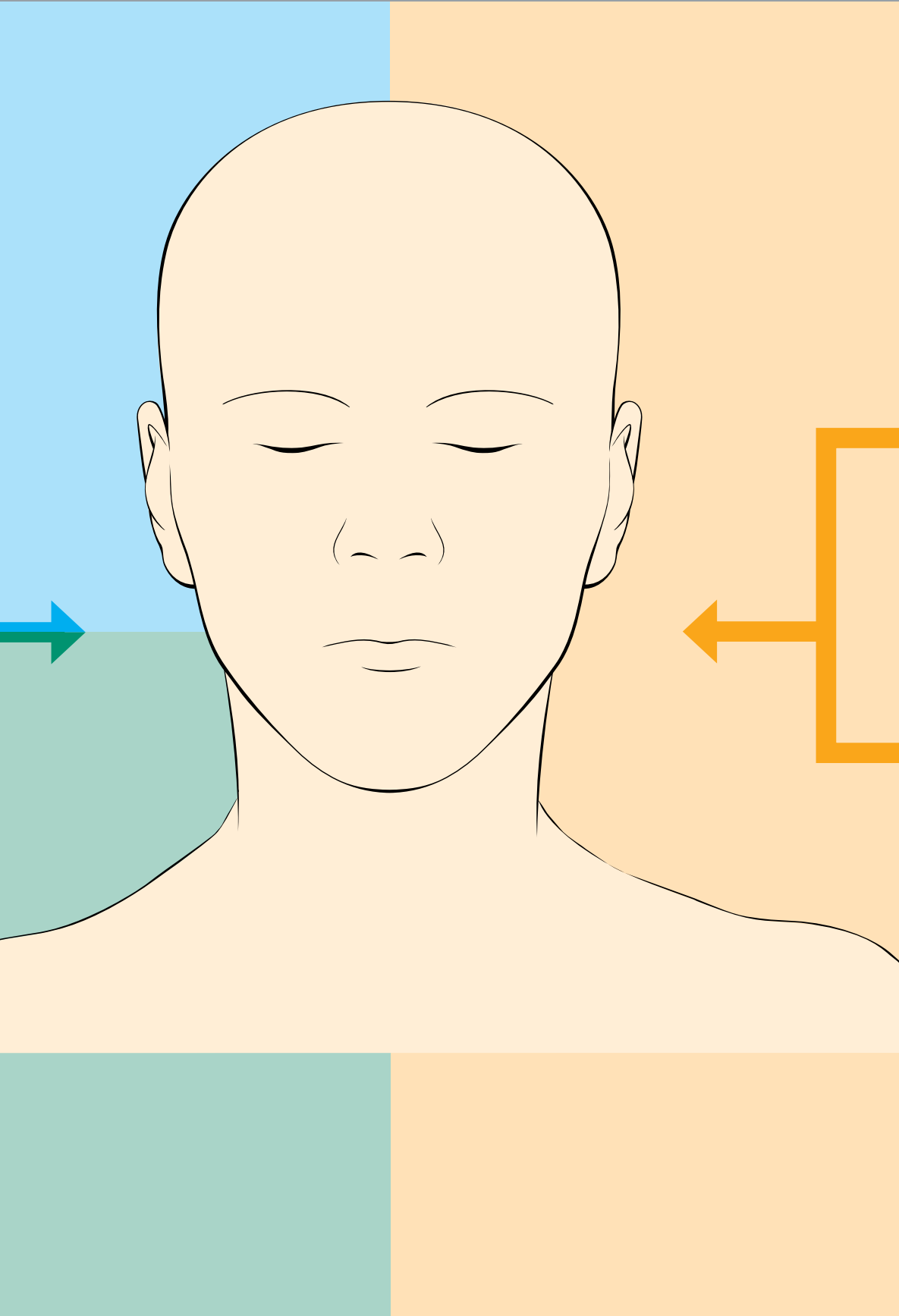


Dehumidifier

Active humidification

Active humidification requires a water bath humidifier, humidification chamber and either a heated wire breathing system or water traps within the system. This technique is also designed to replicate the functions of the upper airway by the addition of heat and moisture from the humidifier. This provides a higher level of humidity than an HME and should be selected depending on the clinical requirements of the patient.

For spontaneously breathing patients



Aerosol mask



Tracheostomy HME



Humidifier nebuliser and bubble humidifier

A guide to symbols used in this catalogue

Throughout the catalogue we use a number of symbols to identify specific characteristics about our products, please familiarise yourself with these below.



Lower environmental impact product

The Eco range of products has been designed as part of our ongoing focus on sustainable development. Wherever you see the  logo we have reduced the environmental impact of these products compared to traditional PVC options.




Sterile range

A number of our products are only supplied sterile and are identified by the  symbol. Where we have both a non-sterile and sterile option available (S*) is shown after the code number. Simply add S to the end of the 7 digit code to order the sterile version.




Silver Knight™

A range of Silver Knight breathing systems with anti-microbial additive for anaesthesia and intensive care is available, offering an option to help reduce the risks of cross infection.



Single use and Latex free

All products detailed in this catalogue are single-use and latex-free unless otherwise stated. The Alterna™ range of products is reprocessible and are all indicated.



View product video

We have a large number of product videos to show how our products can be used and their features and benefits. These can be viewed on our website or where indicated by clicking the 'watch the video' button.


A guide to our ports and caps

Ports and caps are available on a variety of products including catheter mounts, elbows, T-pieces, Y-pieces and connectors. For added safety all Intersurgical port caps are fixed to the connectors, to prevent loss or misplacement in use.

 Watch the video

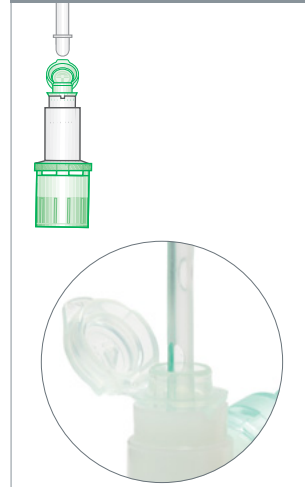
Luer ports

For secure attachment of gas sampling lines with luer lock fittings



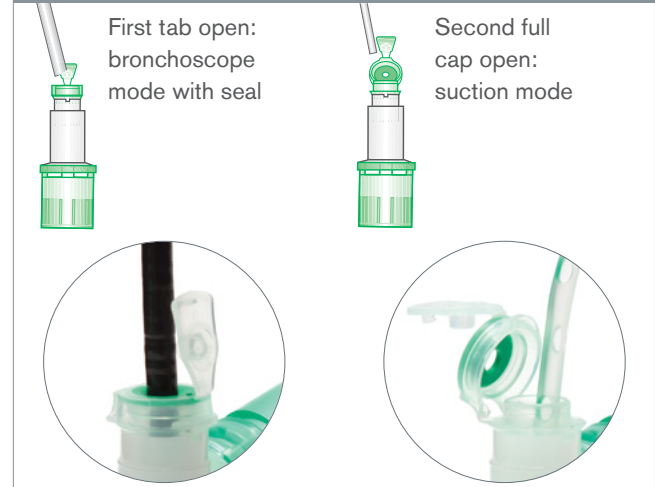
7.6mm port and flip top cap

For insertion of all standard 7.6mm probes or for suctioning



Double flip top cap with seal

Bronchoscopy and suction ports in one patient connection



First tab open: bronchoscope mode with seal

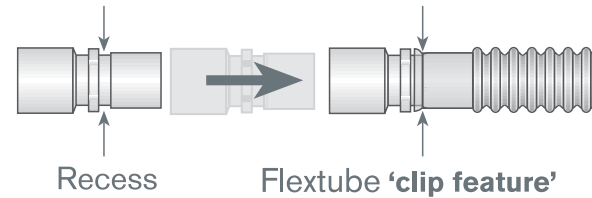
Second full cap open: suction mode

A guide to our tube types

We manufacture a variety of tubes to suit different applications and clinical requirements:

Flextube™ – for flexibility

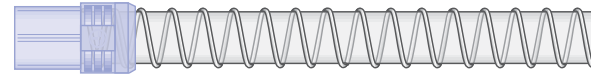
Most of our breathing systems, plus our Flexible range of catheter mounts, are made from Intersurgical Flextube. The tube is flexible and has a unique clip feature ensuring an airtight fit when used with our connectors with a recess.



Smoothbore – for improved flow characteristics

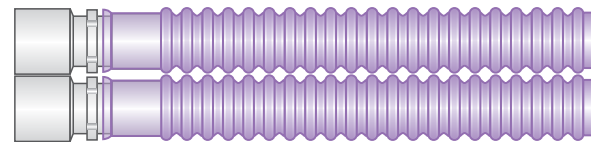
We have a range of breathing systems and catheter mounts made from Smoothbore tubing. A non-PVC Eco option is also available providing a lower environmental impact. The clear crush resistant tubing offers improved ventilatory support, with:

- Improved flow characteristics
- Lower tubing compliance
- Lower system volume



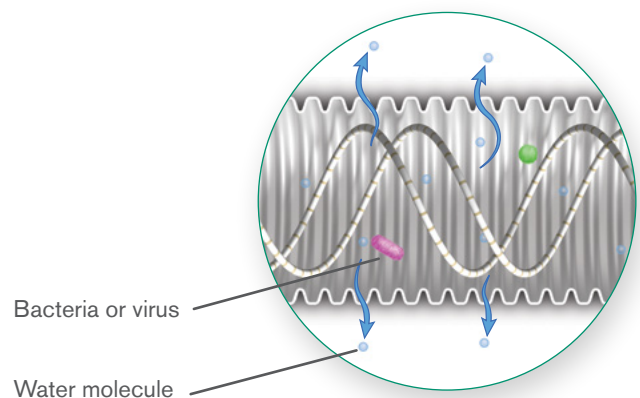
Anti-microbial breathing systems – reduce risks

In the continued fight against Hospital Acquired Infections, Intersurgical has developed the Silver Knight™ range of products with an anti-microbial additive to further enhance patient safety. This anti-microbial, silver-based ion additive has been introduced to a range of breathing systems for both anaesthesia and intensive care use. Testing to ISO Standard 22196 shows a reduction in bacterial viable count by 99.9% against controls.



Dri-Therm™ – reduced condensate technology

Dri-Therm expiratory tubing is made of material that allows small water molecules to pass through the limb wall. The permeability of the tube lowers the humidity of the gas and removes excess condensation. Larger bacteria and viruses cannot pass through the tubing are contained within the breathing system so they can be safely filtered at the end of the limb. Intersurgical's transparent, lightweight tubing and connectors ensure complete visibility of the breathing system patency and performance throughout patient treatment.



Why is Humidification needed?

In normal respiration the anatomy of the upper airway helps to warm and humidify inspired air, and to retain the warmth and moisture contained in expired air. During inspiration, even cold or dry air is typically heated to 37 °C and, fully saturated, contains 44mg H₂O per litre. In mechanical ventilation or anaesthesia, the patient's upper airway may be bypassed by the introduction of a tracheal tube. As a result the patient's lungs may be confronted with cold dry inspired gas.

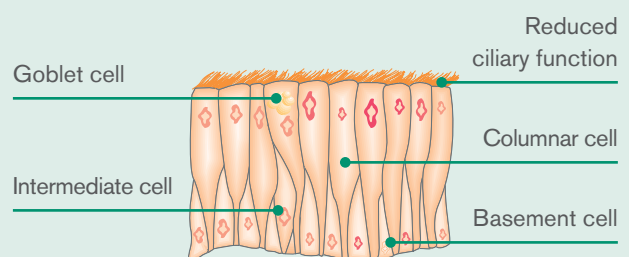
The drying and cooling effect is exacerbated by the presence of the tracheal tube, the normal process of re-absorption of heat and moisture by the upper airway during expiration is lost.

Prolonged exposure to dry ventilatory gases can lead to a number of problems as highlighted below.

Prolonged exposure to dry ventilatory gases can lead to:

- Localised inflammation of the trachea
- A reduction in ciliary function
- Retention and thickening of secretions
- Lowering of patient temperature
- Reduction in cardiopulmonary function
- Increased risk of tracheostomy tube occlusion
- Extended duration and cost of care

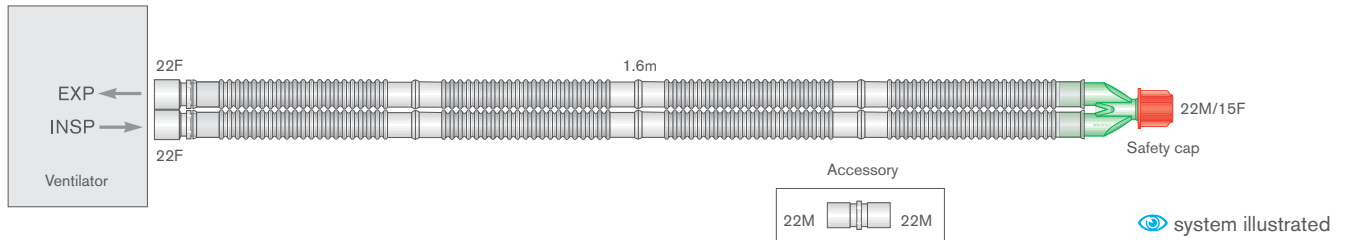
Respiratory epithelium adversely affected by heat and moisture loss



Flextube™ breathing systems for passive humidification

A range of Flextube breathing systems for passive humidification featuring a unique clip feature that creates an airtight fit when used with Intersurgical connectors, and ensures no leaks or disconnections.

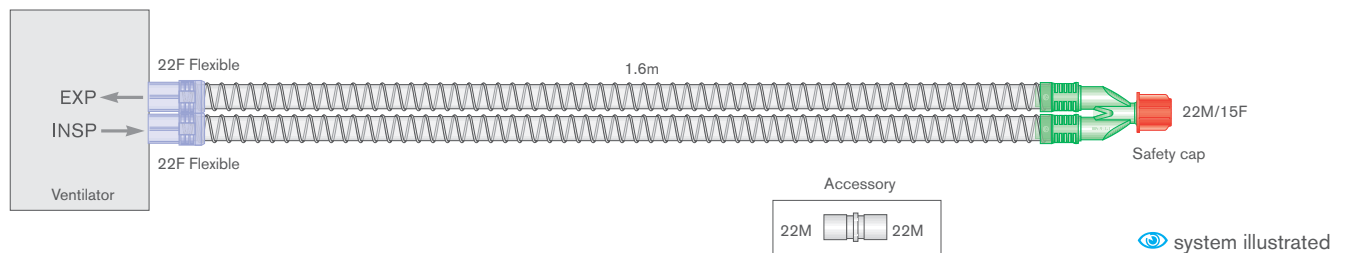
Please see page 5 for a guide to our tube types.



| Code | Description | Box Qty. |
|--------------|--|----------|
| 2000000 (S*) | 22mm Flextube breathing system, 1.6m | 20 (15*) |
| 2000100 | 22mm Silver Knight™ anti-microbial Flextube breathing system, 1.6m | 20 |
| 2200000 | 22mm Flextube breathing system with detachable limb, 1.6m | 20 |
| 2006000 | 22mm Flextube breathing system, 2.0m | 15 |
| 2001000 (S*) | 22mm Flextube breathing system, 2.4m | 15 (10*) |
| 4500000 | 15mm Flextube breathing system with ported Y-piece, 1.6m | 12 |

Smoothbore breathing systems for passive humidification

Smoothbore tubing incorporates flexible end connectors at the machine end that are welded on to the tube, preventing leakage or disconnection.



| Code | Description | Box Qty. |
|--------------|---|----------|
| 5000000 (S*) | 22mm Smoothbore breathing system, 1.6m | 12 (20*) |
| 5001000 (S*) | 22mm Smoothbore breathing system, 2m | 12 (15*) |
| 5200000 | 22mm Eco Smoothbore breathing system, 1.6m | 20 |
| 5016000 | 15mm Smoothbore breathing system with 22mm machine connectors, 1.6m | 12 |
| 5024000 | 15mm Smoothbore breathing system with 22mm machine connectors, 2.4m | 10 |

Lower environmental impact product Silver Knight - please see more information on page 5

Sterile option available

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

What options are available?

There are two options for patient humidification, **passive** or **active**.

Passive humidification conserves the patient's own heat and moisture whilst **active humidification** adds additional heat and moisture via a humidifier.

We have a full range of products for both options to suit your patients requirements.

Passive Humidification

If your ventilated patient requires passive humidification then we have a wide range of basic breathing systems and heat and moisture exchangers.

In this brochure are a selection of options however for the full range please refer to our website www.intersurgical.com or our product catalogue.



Hydro-Therm™ HME range

A dedicated range of Heat and Moisture Exchangers designed to replicate the functions of the body's upper airway by conserving expired heat and moisture and returning them to the patient during inhalation. The Hydro-Therm is a small volume, lightweight device which is clinically suitable over a wide range of patient sizes.



| Code | 1850000 | 1855000 |
|---------------------------|---------------------------|---------------------------|
| Box Qty. | 20 | 20 |
| Luer lock port | | ✓ |
| Moisture return @VT 500ml | 30.8mg H ₂ O/L | 30.8mg H ₂ O/L |
| Resistance at 30L/min | 0.5cm H ₂ O | 0.5cm H ₂ O |
| Resistance at 60L/min | 1.6cm H ₂ O | 1.6cm H ₂ O |
| Compressible volume | 20ml | 20ml |
| Weight | 11.8g | 11.8g |
| Connectors | 15M-22M/15F | 15M-22M/15F |
| Minimum tidal volume | >60ml | >60ml |

Hydro-Therm™ 3 HME range

A dedicated range of Heat and Moisture Exchangers designed to replicate the functions of the body's upper airway by conserving expired heat and moisture and returning them to the patient during inhalation. The Hydro-Therm 3 is a large-volume HME with rounded housing for use in anaesthesia and intensive care.



| Code | 1560000 | 1560011 |
|-----------------------|---------------------------|----------------------------|
| Box Qty. | 150 | 75 |
| Luer lock port | ✓ | ✓ |
| Moisture return | 31.6mg H ₂ O/L | 31.6mg H ₂ O/L |
| Resistance at 30L/min | 0.2cm H ₂ O | 0.3cm H ₂ O |
| Resistance at 60L/min | 0.7cm H ₂ O | 1.3cm H ₂ O |
| Compressible volume | 59ml | 59ml* |
| Weight | 31g | 45g |
| Connectors | 22F/15M-22M/15F | 22F/15M-22F/15M |
| Minimum tidal volume | >200ml | >200ml |
| Accessories | | Superset™ catheter mount** |

We can provide both HME only options and a range combined with filters, HMEFs. These provide the performance of a dedicated HME with the filtration efficiency of a breathing filter.

Filta-Therm Plus and Clear-Therm HMEFs



| Code | 1941001 | 1541000 |
|-----------------------|---------------------------|---------------------------|
| Box Qty. | 70 | 150 |
| Luer lock port | ✓ | ✓ |
| Moisture return | 30.3mg H ₂ O/L | 30.8mg H ₂ O/L |
| Filtration efficiency | >99.999% | >99.99% |
| Resistance at 30L/min | 1.1cm H ₂ O | 0.8cm H ₂ O |
| Resistance at 60L/min | 2.5cm H ₂ O | 2.1cm H ₂ O |
| Compressible volume | 65ml | 59ml |
| Weight | 44g | 29g |
| Connectors | 22F-22M/15F | 22F/15M-22M/15F |
| Minimum tidal volume | >200ml | >200ml |

* HME only

** Refer to information on catheter mount volumes in Patient Connections.

Inter-Therm™ range

Sterile

The Inter-Therm range of sterile HMEFs is designed for use in breathing systems in the operating theatre and intensive care unit.

The Inter-Therm includes a wound paper HME media, providing excellent humidification and low resistance properties.

Inter-Therm Mini Angled offers an easy to use option with an integral 90° elbow for paediatrics, reducing the need for an additional catheter mount or separate patient elbow.

Turbo webs

Evenly distributes the air flow to ensure all of the filter media is utilised

Wound paper HME element

Providing high moisture return



HME on the patient side

Ensuring low resistance to flow during use

Self retaining port cap

Improving patient safety



| Code | 1341007S  | 1341000S  | 1341580S  | 1332000S  |
|-----------------------|--|--|--|--|
| Box Qty. | 50 | 50 | 50 | 50 |
| Luer lock port | | ✓ | ✓ | ✓ |
| Moisture return | 32.3mg H ₂ O/L | 32.3mg H ₂ O/L | 32.3mg H ₂ O/L | 30.1mg H ₂ O/L |
| Filtration efficiency | >99.998% | >99.998% | >99.998% | >99.99% |
| Resistance at 30L/min | 1.6cm H ₂ O | 1.6cm H ₂ O | 1.6cm H ₂ O | 2.2cm H ₂ O |
| Resistance at 60L/min | 2.7cm H ₂ O | 2.7cm H ₂ O | 3.9cm H ₂ O | - |
| Compressible volume | 57ml | 57ml | 57ml* | 29ml* |
| Weight | 30g | 31g | 58g | 19g |
| Connectors | 22F/15M-22M/15F | 22F/15M-22M/15F | 22F/15M-22M/15F | 15M-22M/15F |
| Minimum tidal volume | >180ml | >180ml | >180ml | >90ml |
| Accessories | | | Smoothbore catheter mount with double swivel elbow and double flip top cap** | |

 Sterile

* HMEF only

** Refer to information on catheter mount volumes in Patient Connections.

Active Humidification

If your ventilated patient requires active humidification then we have an extensive range of breathing systems and accessory products available.

VHB20 Series Respiratory Humidifier

The VHB20 Series Respiratory humidifier provides a further customer option for active humidification and is a perfect platform for our extensive range of heated wire products and accessories.

The VHB20 Series Respiratory Humidifier offers a number of key benefits:

- Two customisable pre-set treatment modes
- Automatic humidity monitoring and control to optimise gas delivery and minimise rainout
- Large high resolution colour screen suitable for day and night operation
- Comprehensive range of operational alarms, including a low humidity alarm
- The VHB20 is delivered ready for use with the temperature probe and heated wire adaptor lead included in the package



Configurable display

Choice of chamber or patient end airway temperature

Locking button

One touch mounting allows for easy insertion and removal of the humidification chamber

Wide range of applications

Compatible with non-heated, single heated and dual heated wire breathing systems

2.8" TFT colour screen display

Large and clear display with automatic night mode to reduce glare

Alarm indicator panel

Allows for fast and intuitive response to errors

Mode selection

Invasive and non-invasive pre-set modes with optional user control of temperature settings

Display of run time

To monitor current treatment duration



| Code | Description | Languages | Box Qty. |
|----------|---|---------------------------------------|----------|
| 51006745 | VHB20 Respiratory humidifier (UK) | English | 1 |
| 51008701 | VHB20 Respiratory humidifier (EU1) | English, Spanish, Portuguese, Italian | 1 |
| 51008749 | VHB20 Respiratory humidifier (EU2) | English, French, German, Dutch | 1 |
| 51008750 | VHB20 Respiratory humidifier (EU3) | English, Turkish, Polish, Swedish | 1 |
| 51008751 | VHB20 Respiratory humidifier (EU4) | English, Danish | 1 |
| 51006181 | VHB20 temperature and humidity probe | - | 1 |
| 51006182 | VHB20 adaptor lead for dual heated wire breathing systems | - | 1 |

Chambers for heated humidification

We offer a comprehensive range of active humidification chambers for use with the more commonly found humidifiers used in the intensive care areas.

Compatible with all our heated wire products, all three chamber options feature 22mm male connectors and a clear polycarbonate body for instant and accurate visible fluid level assessment.

- **The auto fill** humidification chamber can be used in a variety of respiratory support therapies ranging from CPAP through to full mechanical ventilation including high frequency oscillation for all size patients. This chamber offers the clinician a constant water level, as the used fluid is automatically replaced from a reservoir bag. As a result the system compressible volume does not fluctuate, making the auto fill chamber the first choice in all intensive care areas from neonatal through to adult.
- **The manual fill** chamber feature a clamp along the fill line which isolates the chamber from the fluid reservoir bag. This chamber requires the clinician to monitor the water level and open the clamp when more fluid is required. Seen as a lower cost alternative and is sometimes used in high driving pressure applications (eg. nFlow™).
- **The low volume** manual fill chamber also features the fill line clamp. With very low compressible volume, it is ideally suited for applications like advanced high frequency ventilation for all sizes of patient.

Inline filter

Prevents any debris entering the chamber

Dual valve

For added security

Clearly visible water level indicator

Easy to see for instant accurate fluid level assessment

Advanced dual float design

The closed cell material of the primary float ensures a totally reliable unsinkable rigid mechanism. Whilst the secondary float provides added security

Protective cassette

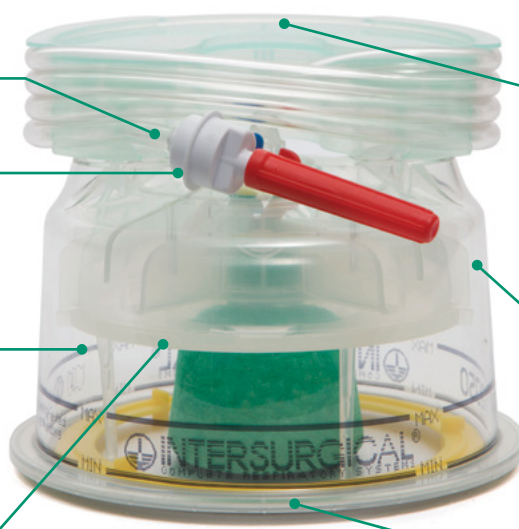
Protects the chamber from contamination and conveniently stores the fill set before use

Strong polycarbonate clear material

Improved compliance characteristics. Allows for easy visual assessment of the fluid level at all times

Shrouded heated plate cover

Prevents accidental burns when removing the chamber from the heater base



2310000



2320000



2330000

| Code | Description | Box Qty. |
|--------------|---|----------|
| 2310000 (S*) | Auto fill humidification chamber with fill set | 30 (30*) |
| 2320000 | Manual fill humidification chamber with fill set and clamp | 30 |
| 2330000 | Low volume manual fill humidification chamber with fill set and clamp | 30 |

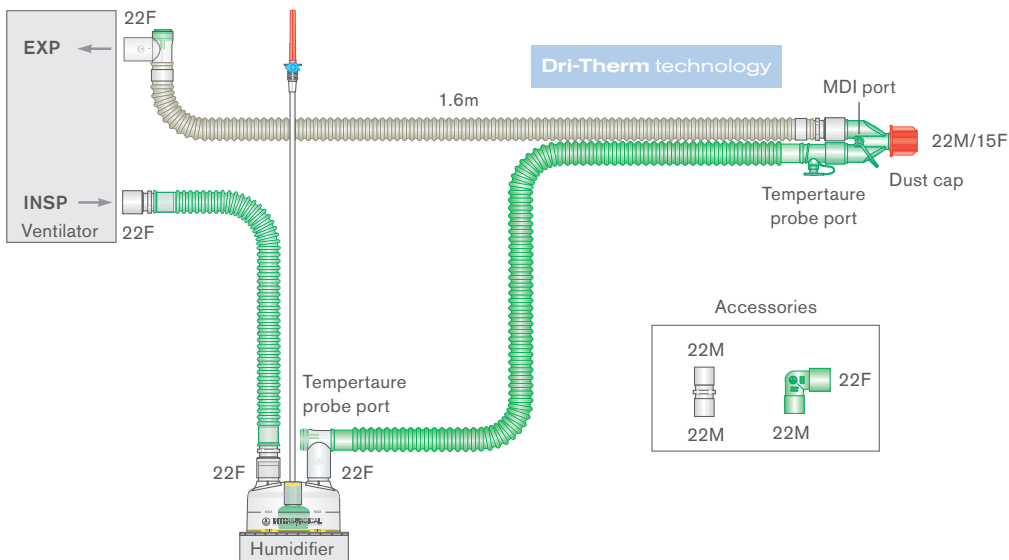
Sterile option available

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

Dri-Therm™ dual heated wire breathing systems

The Dri-Therm heated wire breathing system is designed to reduce the humidity of gas in the expiratory limb, keeping tubing clear of fluid, helping maintain a closed system and protecting the ventilator from high levels of humidity. The Dri-Therm system combines permeable tube technology with Intersurgical's twin coil wire and high quality product design. The temperature and humidity of the gas is conditioned to deliver the optimal level of humidification to the patient whilst minimising excess condensate in the gas pathway.

Please see page 5 for a guide to our tube types.



| Code | Description | Box Qty. |
|---------|---|----------|
| 2066310 | 22mm Dri-Therm dual heated wire breathing system with autofill chamber and extra limb. ≥ 1.6m | 7 |

Modular design

Allows easy transition between invasive ventilation, non-invasive ventilation and high flow oxygen therapy.

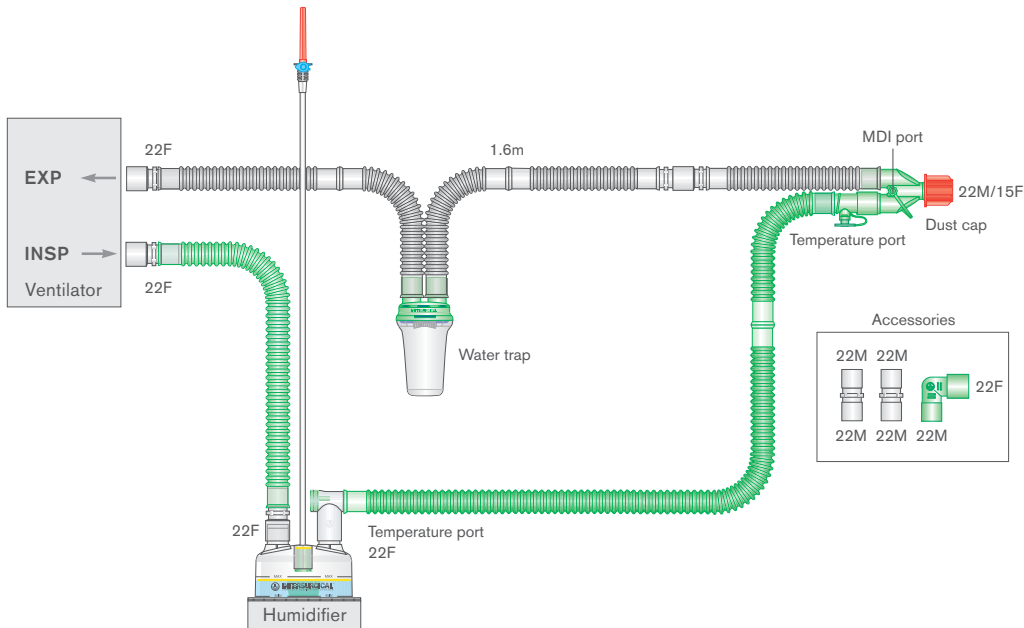


(S*) Add an S to the seven digit code number for the sterile version of this product eg. 1790000S (sterile box quantity is shown in brackets).

Flextube™ breathing systems for active humidification with heated wire

A range Flextube breathing systems for active humidification, available with single or dual heated wires.

Please see page 5 for a guide to our tube types.



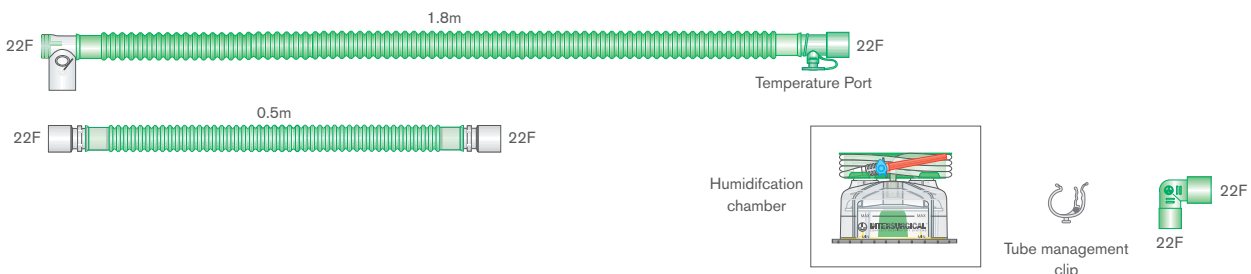
Dual heated wire

system illustrated

| Code | Description | Box Qty. |
|--------------|--|----------|
| 2026310 (S*) | 22mm Flextube dual heated wire breathing system with auto fill chamber and limbs. $\geq 1.6\text{m}$ | 7 (6*) |
| 2026131 (S*) | 22mm Flextube dual heated wire breathing system with auto fill chamber and limbs. $\geq 1.6\text{m}$ | 7 |
| 4504018 | 15mm Flextube dual heated wire breathing system with auto-fill chamber and limb. $\geq 1.2\text{m}$ | 7 |

Single heated wire

| Code | Description | Box Qty. |
|--------------|---|----------|
| 2025310 (S*) | 22mm Flextube single heated wire breathing system with water trap, auto fill chamber and limb. $\geq 1.6\text{m}$ | 7 (6*) |
| 2025131 | 22mm Flextube single heated wire breathing system with water trap, auto fill chamber and limb. $\geq 1.6\text{m}$ | 7 |
| 4504810 | 15mm Flextube single heated wire breathing system with water trap, auto-fill chamber and limb. $\geq 1.2\text{m}$ | 7 |



Single limb heated wire

system illustrated

| Code | Description | Box Qty. |
|---------|--|----------|
| 2060310 | 22mm Flextube single heated wire limb with auto-fill chamber and extra limb. $\geq 1.6\text{m}$ | 7 |
| 2031004 | 30mm Flextube bilevel heated wire breathing system with swivel patient connector, CO ₂ leak port, auto fill chamber, monitoring line, filter and extra limb. $\geq 1.6\text{m}$ | 6 |

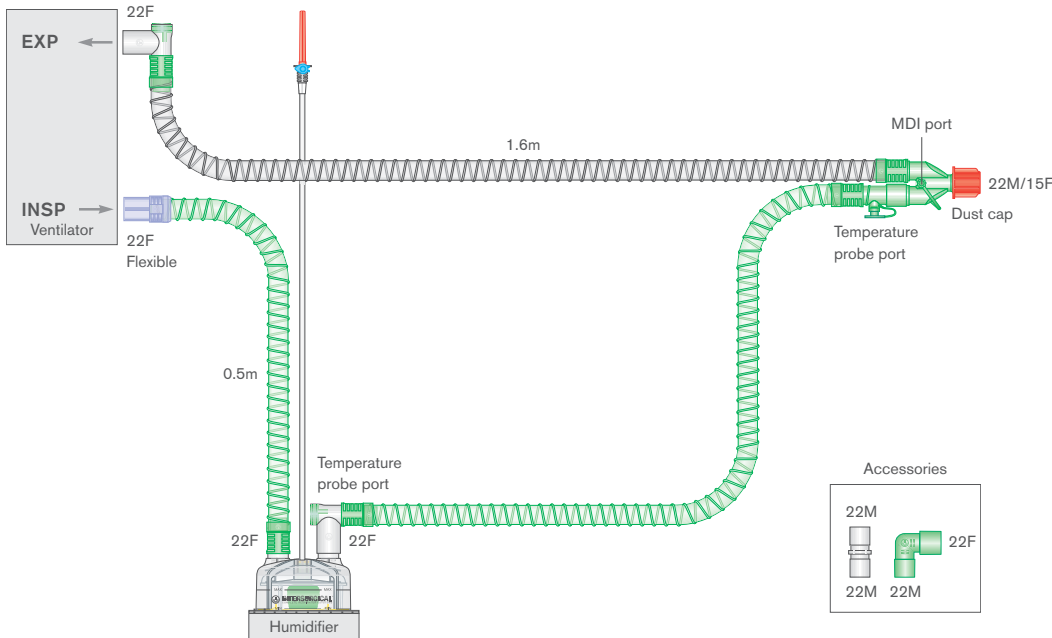
Silver Knight - please see more information on page 5

(S*) Add an S to the seven digit code number for the sterile version of this product eg.5000000S (sterile box quantity is shown in brackets).

Smoothbore breathing systems for active humidification with heated wire

A range of Smoothbore breathing systems for active humidification, available with single or dual heated wire.

Please see page 5 for a guide to our tube types.



Dual heated wire

system illustrated

| Code | Description | Box Qty. |
|--------------|---|----------|
| 5026310 (S*) | 22mm Smoothbore dual heated wire breathing system with auto fill chamber and extra limb. $\geq 1.6\text{m}$ | 8 (7*) |
| 5507850 | 15mm Smoothbore dual heated wire breathing system with extra limb. $\geq 1.6\text{m}$ | 15 |

Single heated wire

| Code | Description | Box Qty. |
|--------------|---|----------|
| 5025310 (S*) | 22mm Smoothbore single heated wire breathing system with water trap, auto fill chamber and extra limb. $\geq 1.6\text{m}$ | 7 (7*) |
| 5504810 | 15mm Smoothbore single heated wire breathing system with water trap, auto-fill chamber and limb. $\geq 1.6\text{m}$ | 7 |

Exhalation valve heated wire

| Code | Description | Box Qty. |
|---------|---|----------|
| 5191850 | 22mm Smoothbore exhalation valve heated wire breathing system with control and monitoring line and extra limb. $\geq 1.6\text{m}$ | 25 |
| 5194850 | 22mm Smoothbore exhalation valve heated wire breathing system with control line and extra limb. $\geq 1.6\text{m}$ | 12 |

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

InterCooler respiratory dehumidifier

The Intersurgical InterCooler™ dehumidifier is designed to remove 100% of excess moisture from the expiratory limb of heated wire breathing systems.

InterCooler's unique patented technology reduces the risk of cross infection by managing all excess fluid in the breathing system, increasing filtration and minimising ambient aerosol release.

InterCooler is compatible with all leading ICU ventilators, humidifiers and dual heated wire breathing systems and is the only solution to offer complete control of expiratory condensate.

Please refer to the InterCooler information sheet for full product range and details.

Dry gas returning to the ventilator

protects the valves and sensors from condensation

High efficiency pleated mechanical filtration

Dry gas allows for high level pleated mechanical filtration use on the expiratory limb

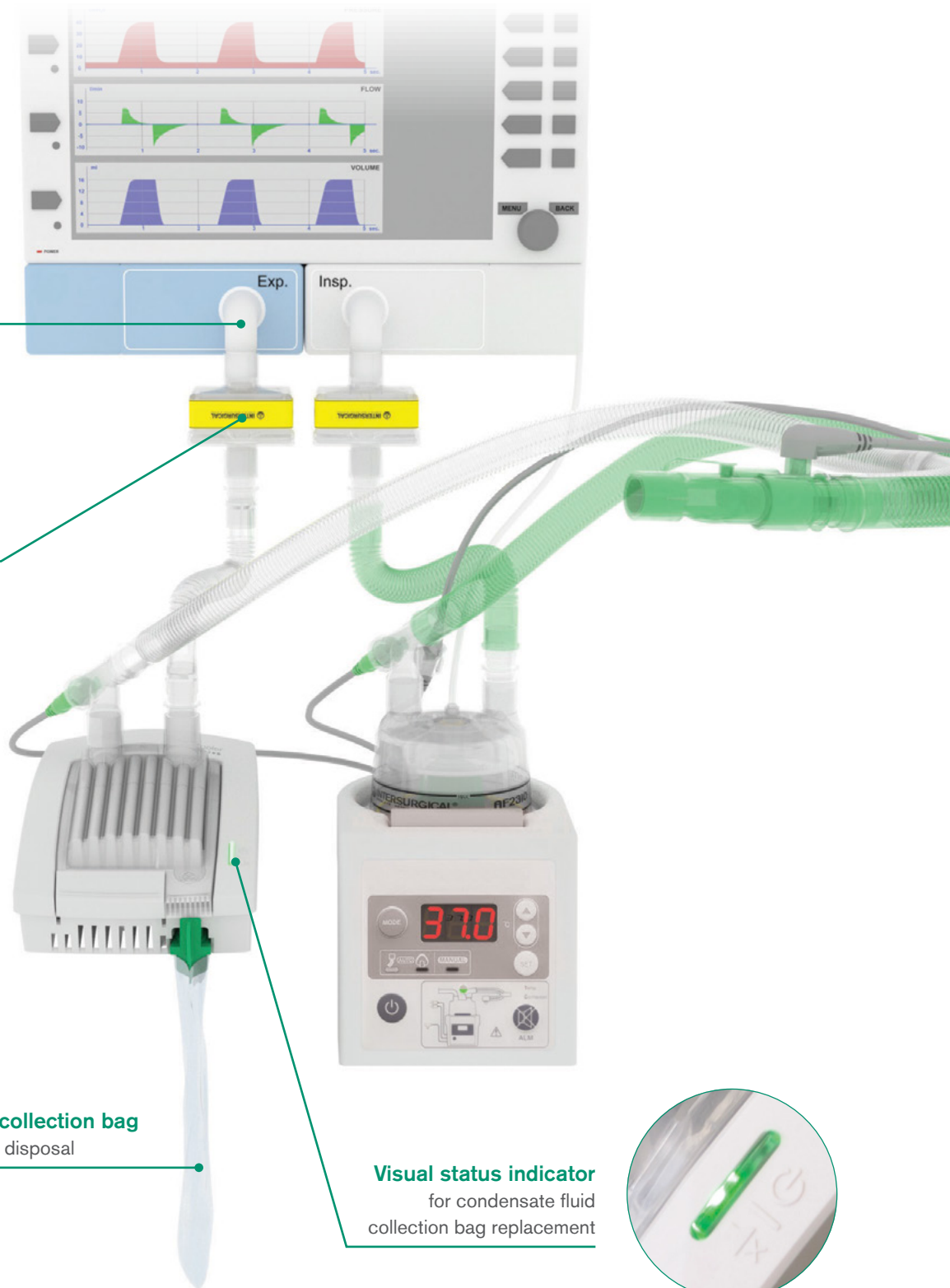


Self sealing condensate collection bag

with gel for safe handling and disposal

Visual status indicator

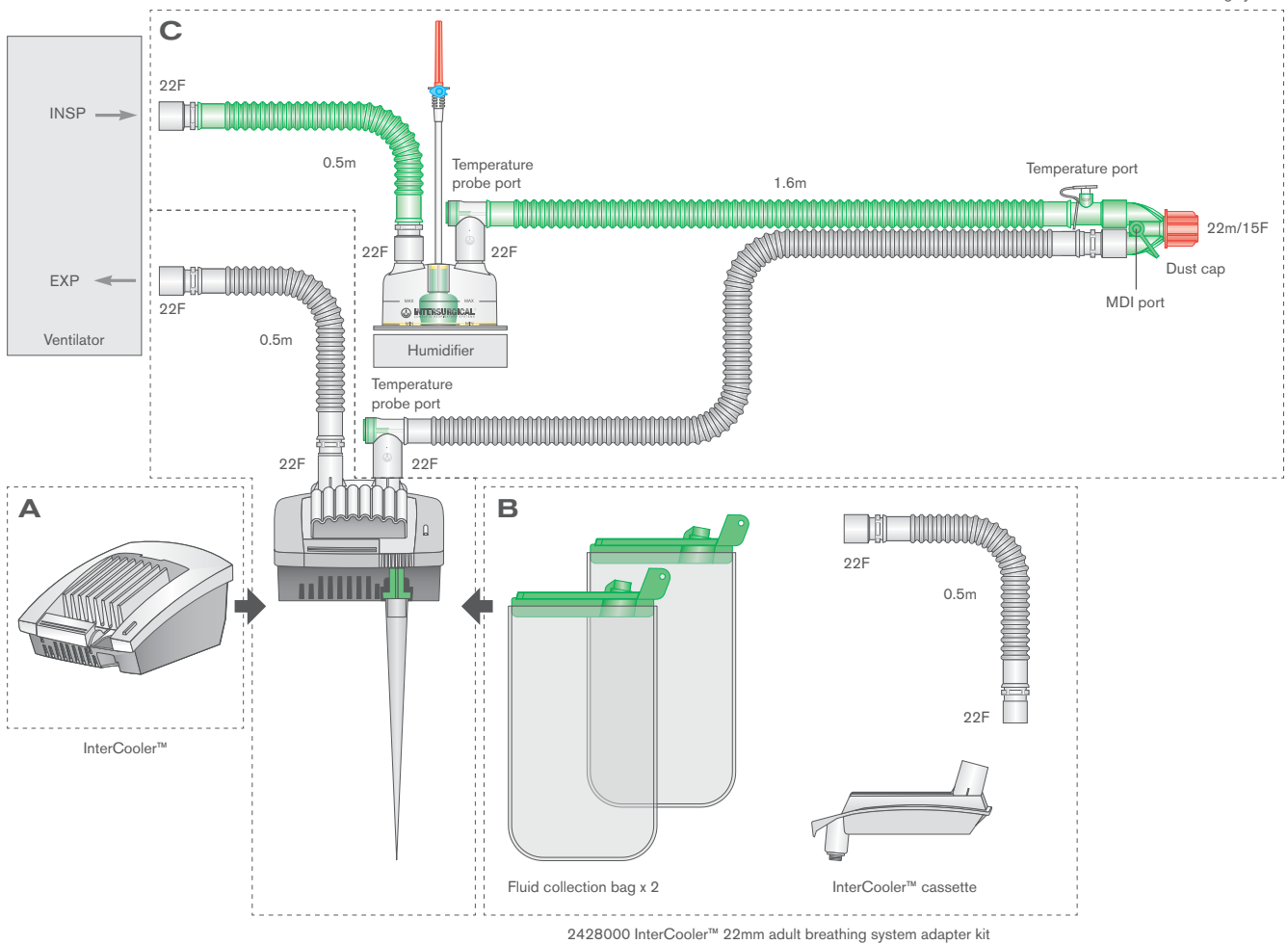
for condensate fluid collection bag replacement



InterCooler™ system setup

A + B + C

Dual heated wire breathing system



A InterCooler dehumidifier

| Code | Description | Box Qty. | Code | Description | Box Qty. |
|---------|------------------------------|----------|---------|---------------------------|----------|
| 7010000 | InterCooler – UK | 1 | 7010009 | InterCooler – Italy | 1 |
| 7010002 | InterCooler – France | 1 | 7010010 | InterCooler – Germany | 1 |
| 7010003 | InterCooler – Czech Republic | 1 | 7010011 | InterCooler – Netherlands | 1 |
| 7010004 | InterCooler – Australia | 1 | 7010012 | InterCooler – Poland | 1 |
| 7010005 | InterCooler – South Africa | 1 | 7010013 | InterCooler – Portugal | 1 |
| 7010007 | InterCooler – Denmark | 1 | 7010014 | InterCooler – Turkey | 1 |
| 7010008 | InterCooler – Spain | 1 | 7010015 | InterCooler – Sweden | 1 |

B InterCooler™ adapter kit

| Code | Description | Box Qty. |
|---------|---|----------|
| 2428000 | InterCooler 22mm adult breathing system adaptor kit | 10 |
| 2429000 | InterCooler 15mm neonatal and paediatric breathing system adaptor kit | 10 |

C Dual heated wire breathing systems

See pages 12 to 15 for more details

Patient connections

A wide range of patient connections are available in Flexible, Superset and Smoothbore tubing, see our product catalogue for the full range.

All port caps are retained to ensure they cannot be misplaced in use. Two varieties of flip top cap are available to allow for suctioning and the use of a fibre optic bronchoscope.

Please see page 4 for the guide to ports and caps.



Flexible catheter mounts

| | |
|----------------------------|--------------|
| | |
| Code | 3516000 (S*) |
| Box Qty. | 50 (85*) |
| Compressible Volume | 47ml |

| | |
|----------------------------|--------------|
| | |
| Code | 3505000 (S*) |
| Box Qty. | 50 (85*) |
| Compressible Volume | 48ml |

Superset™ catheter mounts

| | |
|----------------------------|--------------|
| | |
| Code | 3520000 (S*) |
| Box Qty. | 75 (40*) |
| Compressible Volume | 23-47ml |

| | |
|----------------------------|--------------|
| | |
| Code | 3521000 (S*) |
| Box Qty. | 75 (40*) |
| Compressible Volume | 26-50ml |

Smoothbore catheter mounts

| | |
|----------------------------|--------------|
| | |
| Code | 5180000 (S*) |
| Box Qty. | 50 (85*) |
| Compressible Volume | 37ml |

Sterile option available

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

Passive Humidification

For the spontaneously breathing patient with a tracheostomy or receiving oxygen therapy, both passive and active humidification options are available.

Hydro-Trach™ T range

A heat and moisture exchanger designed for use on tracheostomised patients, the Hydro-Trach T is an ideal product for prolonged use with spontaneously breathing patients.



Clear housing
For easy visual inspection of possible secretion build up

Anti-occlusion mechanism
Allows the HME element to partially dislodge in the event of total occlusion or vigorous cough

Clipped suctioning port
Allows for easier suctioning without removal of the device

Small and lightweight
Reduces the pull on the patient connection

An integral swivel oxygen connector
Allows for connection of the oxygen tube without the need of a separate oxygen adapter, which can be easily folded away when not in use

| Code | 1873000 (S*) | 1874000 (S*) |
|-----------------------|---------------------------|---------------------------|
| Moisture loss | 13.2mg H ₂ O/L | 13.2mg H ₂ O/L |
| Moisture return | 26mg H ₂ O/L | 26mg H ₂ O/L |
| Resistance at 30L/min | 0.3cm H ₂ O | 0.3cm H ₂ O |
| Resistance at 60L/min | 0.6cm H ₂ O | 0.6cm H ₂ O |
| Compressible volume | 19ml | 19ml |
| Weight | 8g | 8g |
| Connectors | 15F | 15F |
| Minimum tidal volume | >60ml | >60ml |
| Accessories | | 1.8m oxygen tube |

Average Fi O₂ at variable O₂ flow rates

| Oxygen (L/min) | Fi O ₂ at 15 BPM |
|----------------|-----------------------------|
| 1 | 26.4% |
| 2 | 31.8% |
| 3 | 35.0% |
| 4 | 38.2% |
| 5 | 41.8% |
| 6 | 44.9% |
| 7 | 47.4% |
| 8 | 49.6% |

Sterile option available

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

Inter-Therm™ T+

The Inter-Therm T+ is a heat and moisture exchange device designed for use with spontaneously breathing patients to reduce loss of heat and moisture during respiration.

When a patient has a tracheostomy, the normal process of temperature and moisture maintenance is bypassed by the insertion of the tracheal tube. The possible loss of heat and moisture can lead to serious complications, notably damage to cilia and the mucous glands.

This in turn may result in retention of sputum and atelectasis, production of mucous plugs and potential tube occlusion.

The Inter-Therm T+ has a number of unique features that make it an ideal product for prolonged use with spontaneously breathing patients.

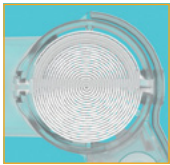
[Watch the video](#)

Clipped suction port

Allows easy access for suctioning without removing the device

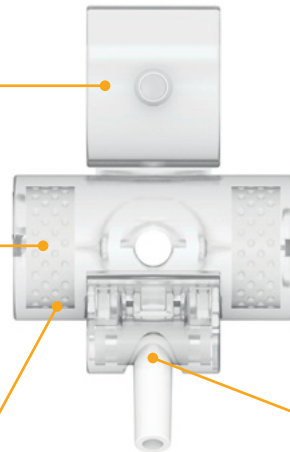
Clear housing and white HME elements

Optimises visualisation of possible pulmonary secretions



Unique corrugated paper design

Provides perfect combination between humidification output and low resistance to flow



Small and lightweight

Reduces pull and drag on the patient's airway

Optimal humidification

Reduces the side effects associated with breathing cold dry gases over a prolonged period of time

Integrated swivel oxygen connector

Allows for quick and convenient connection of supplemental oxygen and can be folded away when not in use

| Code | Description | Length | Box Qty. |
|--------------|-------------------------------------|--------|-----------|
| 1875000 (S*) | Inter-Therm T+ HME | | 25 (100*) |
| 1875001 (S*) | Inter-Therm T+ HME with oxygen tube | 1.8m | 40 (20*) |

Average Fi O₂ at variable O₂ flow rates

| Code | 1875000 (S*) | 1875001 (S*) |
|-----------------------|---------------------------|---------------------------|
| Moisture loss | 13.1mg H ₂ O/L | 13.1mg H ₂ O/L |
| Moisture return | 26.1mg H ₂ O/L | 26.1mg H ₂ O/L |
| Resistance at 30L/min | 0.4cm H ₂ O | 0.4cm H ₂ O |
| Resistance at 60L/min | 1.1cm H ₂ O | 1.1cm H ₂ O |
| Compressible volume | 19ml | 19ml |
| Weight | 9g | 9g |
| Connectors | 15F | 15F |
| Minimum tidal volume | >60ml | >60ml |
| Accessories | | 1.8m oxygen tube |

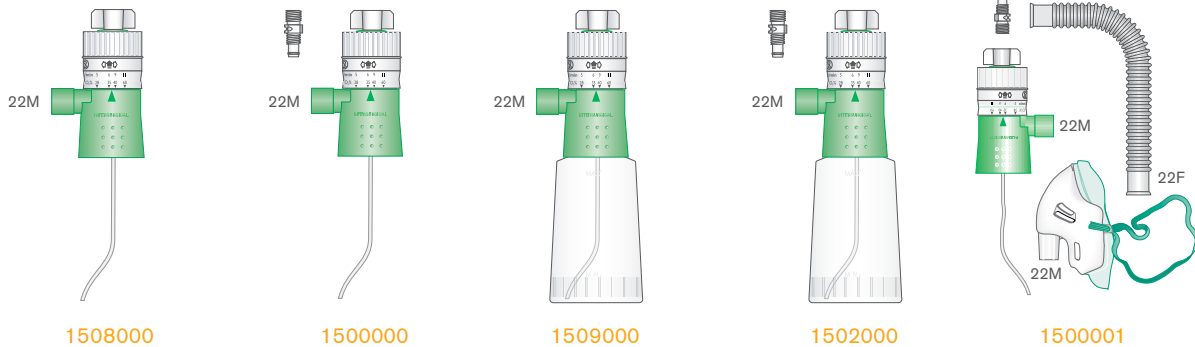
| Oxygen (L/min) | Fi O ₂ at 15 BPM |
|----------------|-----------------------------|
| 1 | 26.4% |
| 2 | 31.8% |
| 3 | 35.0% |
| 4 | 38.2% |
| 5 | 41.8% |
| 6 | 44.9% |
| 7 | 47.4% |
| 8 | 49.6% |

Sterile option available

(S*) Add an S to the seven digit code number for the sterile version of this product eg. 5000000S (sterile box quantity is shown in brackets).

AquaMist™ humidifier nebulisers

The Intersurgical AquaMist humidifier nebuliser has been designed to deliver a range of accurate concentrations of humidified oxygen, which may be selected to suit the clinical requirements.



| Code | Description | Box Qty. |
|---------|---|----------|
| 1508000 | AquaMist, humidifier nebuliser without bottle | 24 |
| 1500000 | AquaMist, humidifier nebuliser without bottle, with BOC® adaptor | 24 |
| 1509000 | AquaMist, humidifier nebuliser with bottle, 500ml | 25 |
| 1502000 | AquaMist, humidifier nebuliser with bottle and BOC® adaptor, 500ml | 25 |
| 1500001 | AquaMist, humidifier nebuliser and Intersurgical EcoLite™ aerosol mask kit without bottle, BOC® adaptor, 2.0m Flextube™ | 15 |

Tracheostomy masks and T-pieces

A high quality, lightweight mask with a quick-release elastic for ease of use.

The Intersurgical EcoLite adult tracheostomy mask is made from non-PVC materials reducing the environmental impact.

[▶ Watch the video](#)




illustrated




| Code | Description | Connectors | Box Qty. |
|---------|---|-----------------|----------|
| 1200050 | Intersurgical EcoLite, adult, tracheostomy mask | 22M | 30 |
| 1206000 | Paediatric, tracheostomy mask | 22M | 35 |
| 1980000 | Tracheostomy T-piece | 22M-22M-22M/15F | 25 |
| 1984000 | Tracheostomy T-piece with 7.6mm port | 22M-22M-22M/15F | 25 |

Aerosol face masks

Intersurgical EcoLite aerosol masks are available in adult and paediatric sizes, and are made using non-PVC materials, part of our Eco range.



 illustrated

| Code | Description | Box Qty. |
|---|---|--|
|  1188015 | Intersurgical EcoLite, adult, aerosol mask | 50  |
| 1198015 | Intersurgical EcoLite, paediatric, aerosol mask | 42  |

AquaFlow™ oxygen bubble humidifiers

A comprehensive range of devices for delivering unheated humidification to your patients. Supplied with a bottle, the AquaFlow range of bubble humidifiers are suitable for patients receiving variable oxygen therapy.



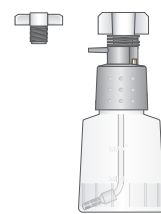
1507000



1505000



1521000



1520000

| Code | Description | Box Qty. |
|---------|--|----------|
| 1507000 | AquaFlow, oxygen bubble humidifier with bottle, 500ml | 20 |
| 1505000 | AquaFlow, oxygen bubble humidifier with bottle plus M12 adaptor, 500ml | 20 |
| 1521000 | AquaFlow, homecare oxygen bubble humidifier with bottle, 120ml | 20 |
| 1520000 | AquaFlow, homecare bubble humidifier with bottle plus M12 adaptor, 120ml | 20 |

Intersurgical EcoLite™ adult medium concentration oxygen mask

Welcome to the Comfort Zone

The unique design and materials used to manufacture the Intersurgical EcoLite mask provides improved patient comfort and a reduced environmental impact.

Comfortable for the Patient

Improved patient comfort has been key to the development of the Intersurgical EcoLite mask. The latest manufacturing technology has enabled us to combine two non-PVC materials in the same product, the polypropylene material forming the body of the Intersurgical EcoLite mask is clear, lightweight and rigid enough to maintain the masks shape, whilst the second softer TPE material is utilised in the seal, which is in contact with the patients face.

Comfortable for the Environment

The Intersurgical EcoLite mask is an important part of our Eco range, designed as part of our ongoing focus on sustainable development. The use of PVC in medical products has been questioned and its impact on the environment. The utilisation of alternative materials has resulted in the elimination of PVC from the Intersurgical EcoLite mask, reducing the environmental impact.

[▶ Watch the video](#)

Incurved nose seal

Conforms to different nose shapes designed to prevent oxygen entering patient's eyes

No metal nose clip

MRI compatible

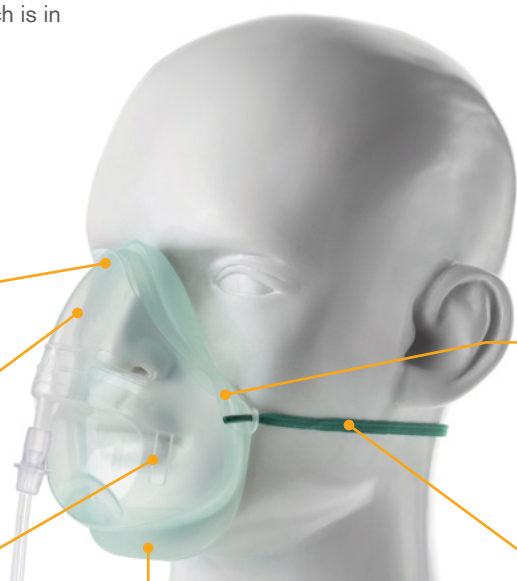
Exhalation ports

Designed to minimise the amount of rebreathed carbon dioxide



A choice of "under chin" or "on chin" positions

Provides a better fit on a wider range of patient face shapes



Lighter

50% lighter than a PVC mask, more comfortable for the patient

Soft face seals

Increased patient comfort

Elastic can be positioned under or over the ears

Below ear position eliminates trauma to top of ears



Adult masks

| Code | Description | Tube length | Box Qty. |
|---------|--|-------------|----------|
| 1136015 | Intersurgical EcoLite, adult, medium concentration oxygen mask | | 55 |
| 1135015 | Intersurgical EcoLite, adult, medium concentration oxygen mask with tube | 2.1 m | 40 |

Paediatric medium concentration mask

The Intersurgical EcoLite™ is one of the lightest and most comfortable paediatric mask available. Every aspect of the design has been addressed, achieving unparalleled levels of comfort and fit. Not only comfortable for the patient but also comfortable for the environment. The elimination of PVC from the masks has dramatically lowered their environmental impact.

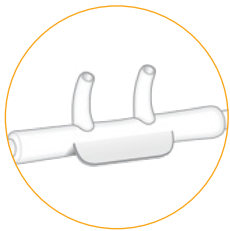
| Code | Description | Tube length | Box Qty. |
|---------|---|-------------|----------|
| 1190015 | Intersurgical EcoLite, paediatric, medium concentration oxygen mask | | 42 |
| 1196015 | Intersurgical EcoLite, paediatric, medium concentration oxygen mask with tube | 2.1 m | 40 |

Nasal cannula

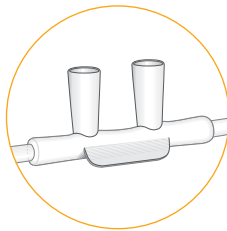
A range of products for adult, paediatric and neonates are available with a wide selection of prong shapes to suit all patient requirements. All oxygen tubing in the range is manufactured in a 'multi-channel' design, which permits oxygen flow even if the tubing is kinked. The Earguard option includes soft silicone foam cushions, which are easily adjusted and securely fitted to prevent trauma to the patient's ears.



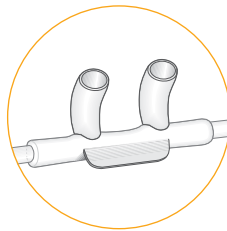
▶ Watch the video



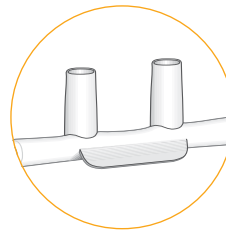
Curved prongs:
Improved anatomical shape and fit



Flared prongs:
Slow down the flow of oxygen



Curved and Flared prongs:
Combines the benefits of both



Straight Prongs



Curved prongs with with Intersurgical EarGuard™:
Improved anatomical fit and patient comfort

| Code | Description | Tube Length | Box Qty. |
|---------|--|-------------|----------|
| 1161000 | Adult, nasal cannula with straight prongs and tube | 1.8m | 50 |
| 1161004 | Adult, nasal cannula with straight prongs and tube | 2.1m | 50 |
| 1162000 | Adult, nasal cannula with straight prongs and tube | 5m | 20 |
| 1169000 | Adult, nasal cannula with straight prong, headset and tube | 0.5m | 100 |
| 1165000 | Adult, nasal cannula with curved prongs and tube | 1.8m | 50 |
| 1161020 | Adult, Satin nasal cannula with straight prongs and tube | 1.8m | 50 |
| 1165020 | Adult, Satin nasal cannula with curved prongs and tube | 1.8m | 50 |
| 1165002 | Intersurgical EarGuard, adult, nasal cannula with curved prongs and tube | 2.1m | 50 |
| 1165003 | Intersurgical EarGuard, adult, nasal cannula with curved prongs and tube | 5m | 40 |
| 1165021 | Adult, Satin nasal cannula with curved prongs and tube | 2.1m | 50 |
| 1161021 | Adult, Satin nasal cannula with straight prongs and tube | 2.1m | 50 |
| 1166000 | Adult, nasal cannula with flared prongs and tube | 1.8m | 50 |
| 1167000 | Adult, nasal cannula with curved/flared prongs and tube | 1.8m | 50 |
| 1168000 | Adult, nasal cannula with curved/flared prongs, headset and tube | 0.5m | 100 |
| 1163000 | Paediatric, nasal cannula with curved prongs and tube | 2.1m | 50 |

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The manufacturer Intersurgical Ltd is certified to ISO 9001:2015, ISO 13485:2016, ISO 14001:2015 and MDSAP

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