SYSTAM®

DP100+ / LS2000+

ULTRASONIC NEBULIZER - HUMIDIFIER

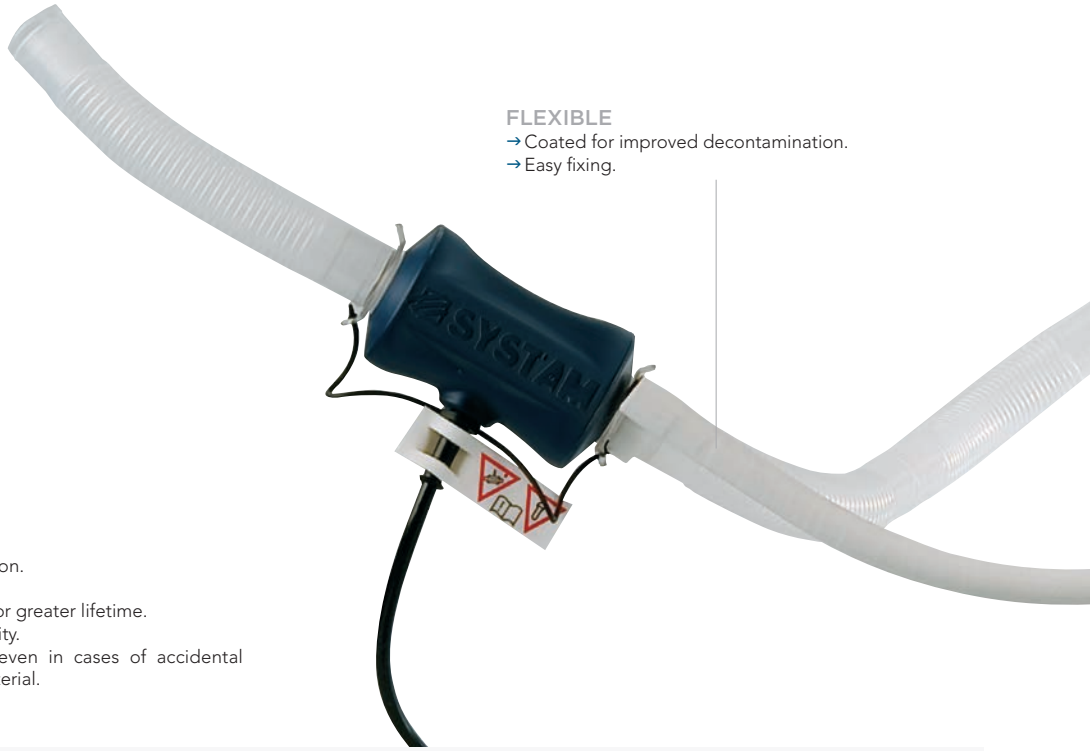
MADE IN EU

Certified NF EN ISO 13485

CE 0459

ULTRASONIC NEBULIZER - HUMIDIFIER
DP100+

CONTAINER
→ Stands upright : convenient for preparing the session.
→ With simple and quick connector.
→ Integrated protecting metal disc in the container for greater lifetime.
→ Electronic built into the housing for greater reliability.
→ Design ensures flow and evacuation of water even in cases of accidental infiltration, preventing any deterioration of the material.



FLEXIBLE
→ Coated for improved decontamination.
→ Easy fixing.

SETTINGS AND FUNCTIONALITIES

Adjustable nebulisation :
6 settings for nebulisation.

Ventilation:
5 settings of intensity for direct humidification.
+ a "boost" level for indirect humidification.

Integrated timer: for programming the duration of the session (up to 10 hours).

Keyboard locking button to avoid any unintended moves.

Automatic memory of the settings of the previous session.

Adjustable temperature of the heater..

FITTED WITH AN INTELLIGENT ALARM SYSTEM
By dysfunctions, the DP100+ shows the source of the problem with indicators :

→ Mist-heater alarm

→ Ventilation alarm

→ Low water level in the container

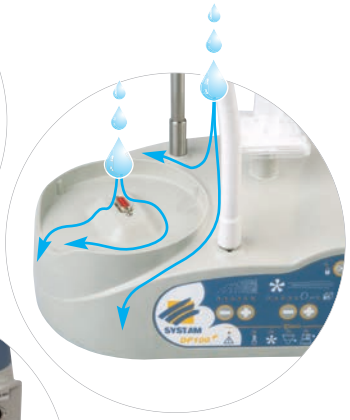
As a supplement to these 3 alarms indicators, 2 innovative functionalities are included in the alarm detection system :

DETECTION SYSTEM IN THE NEBULISATION CHAMBER
→ Automatic stop of the device at the end of the session when the nebulisation chamber is empty: facility and time saving for the nursing staff who do not need to supervise the end of the session, to switch off the device in time with risks of damaged consumable (deteriorated chamber).
→ Also detects an exceptionally high water level in the chamber (in the event of incorrect settings).

THE MANAGEMENT OF THE SERVICE LIFE OF THE QUARTZ
→ The device analyses and indicates a quartz whose end of service life is close. The functioning of the device is not at this stage blocked. This gives time to technicians to make the replacement.
→ When the quartz is totally outworn the device will stop.

UNIVERSAL BOTTLE SUPPORT ROD

→ Easy fixing.
→ Free rotation to 180° even after fixing. Suitable for different types of bottle and for different consumable configurations.



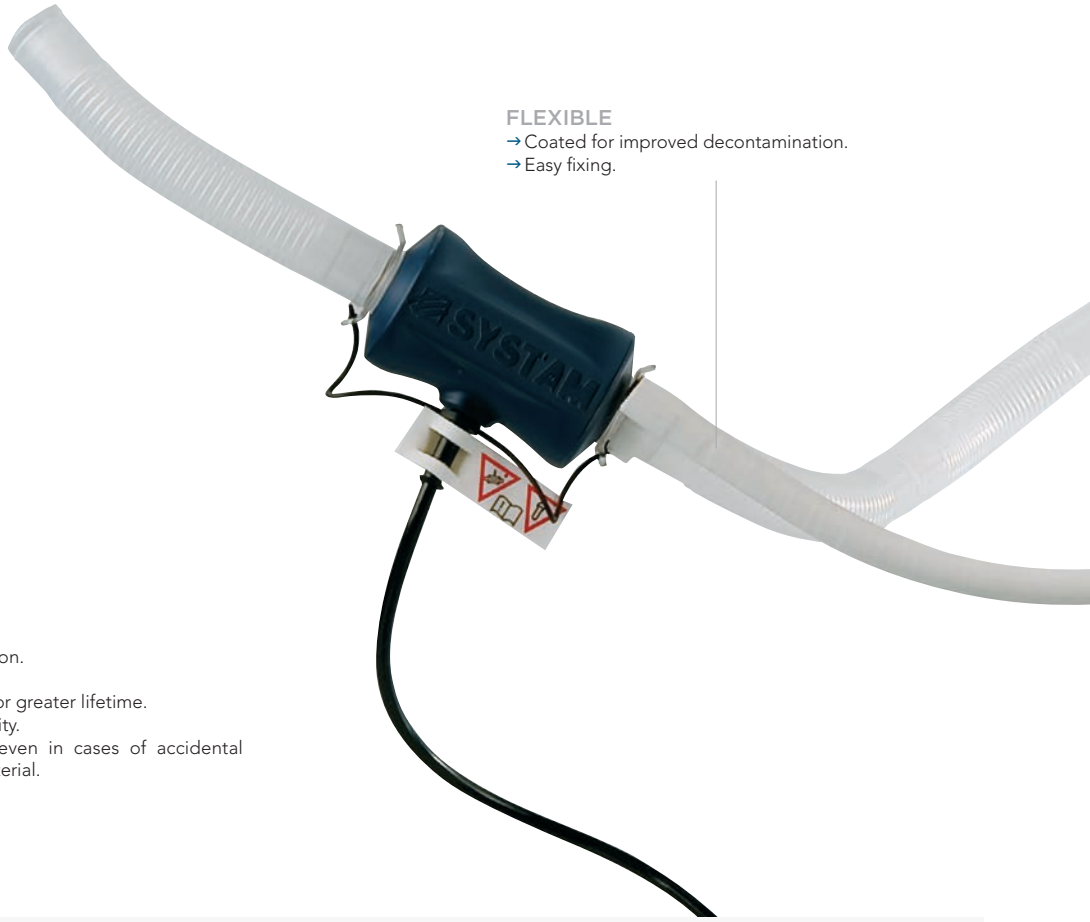
→ A protecting visard at the back provides protection for the connections.
→ Slopes provide flow.

CASING

→ Housing completely water repellent and watertight thanks to its design : the slopes and flow circuits avoid stagnation of liquid thus protecting the electronic components for added reliability and safety.
→ Removable ventilator without tools allows a perfect decontamination of air circuits.
→ No heat discharge on the surface of the casing.

ULTRASONIC NEBULIZER - HUMIDIFIER
LS2000+

CONTAINER
- → Stands upright : convenient for preparing the session.
- → With simple and quick connector.
- → Integrated protecting metal disc in the container for greater lifetime.
- → Electronic built into the housing for greater reliability.
- → Design ensures flow and evacuation of water even in cases of accidental infiltration, preventing any deterioration of the material.



FLEXIBLE
- → Coated for improved decontamination.
- → Easy fixing.

SETTINGS AND FUNCTIONALITIES

SETTINGS:

Adjustable nebulisation:
6 settings for nebulisation.

Ventilation:
5 settings of intensity for direct humidification electronically managed for a better setting precision.

Mist-heater alarm presence indicator

NEW FUNCTIONALITIES

PATENTED

AUTOMATIC STOP END OF THE SESSION
- → Automatic stop of the device at the end of the session when the nebulisation chamber is empty: facility and time saving for the nursing staff who do not need to supervise the end of the session, to switch off the device in time with risks of damaged consumable (deteriorated chamber).
- → Also detects an exceptionally high water level in the chamber (in the event of incorrect settings).

THE MANAGEMENT OF THE SERVICE LIFE OF THE QUARTZ
- → The device analyses and indicates a quartz whose end of service life is close. The functioning of the device is not at this stage blocked but the nebulisation power will be automatically reduced and capped at a level determined by the part's degree of wear (it is then recommended to schedule the replacement of the quartz element).
- → When the quartz is totally outworn the device will stop and the alarm light will be triggered.

UNIVERSAL BOTTLE SUPPORT ROD

→ Easy fixing.
→ Free rotation to 180° even after fixing. Suitable for different types of bottle and for different consumable configurations.

→ A protecting visard at the back provides protection for the connections.
→ Slopes provide flow.
→ Removable ventilator without tools allows a perfect decontamination of air circuits.

CASING

→ Housing completely water repellent and watertight thanks to its design : the slopes and flow circuits avoid stagnation of liquid thus protecting the electronic components for added reliability and safety.
→ No heat discharge on the surface of the casing.

DP100+ / LS2000+

ULTRASONIC NEBULISERS AND HUMIDIFIERS (INTENSIVE USE / MEDICAL INSTITUTIONS)

INDICATIONS

MEDICAL AEROSOLTHERAPY

ENT ✔

BRONCHIAL TUBES ✔

LOWER LUNGS ✔

H_2O

HUMIDIFICATION

CHARACTERISTICS

Characteristics of the particles

to norm NF-EN 13544-1
(NaF 1% - filled volume 4ml)

- **MMAD =** .....4,2 µm
  (measure by Malvern® optical laser diffraction)
- **Output liquid aerosol produced :** .....0,19 ml/min
- **Quantity of produced aerosol (inhalable volume) :** ...1,36 ml
- **Delivered fraction (inhaled) :** .....34 %

Other

- **Quartz frequency :** 2,4 Mhz
- **Ventilation for use by patients both active and inactive**
- **Nebulisation capacity :**
  - 2 to 8 ml with Control'Dose®
  - 8 to 30 ml without Control'Dose®
  - 0,2 to 1 l in humidification
- **Dead volume :** ± 0,6 ml
- **Speed nebulisation :** from 0,2 to 1 ml/min with Control'Dose® and to 2,6 ml/min without Control'Dose®
- 71 % of the particles < à 5 µm
- **Dust filter**
- **Thermal cut-out** (in accordance with electrical security norms and CEM NF EN 60601-1 and 60601-2)
- **Power: 100-200 VAC 50-60 Hz**
- **Quite operation (dB)**

TECHNOLOGY

Ultrasonic

DP100+
(in humidification,
with 2901HUVN set)

DP100+
(in Aerosoltherapy,
with 2901H set)

LS2000+
(in humidification,
with 2901HUOV SET)

POLYVALENT DEVICE

→ Can also be used for aerosols therapy.
→ The humidification can be done with a close humidification set, reducing the contamination and bacterial proliferation.

THE EFFICIENCY OF ULTRASONIC TECHNOLOGY

→ Optimal sized particles :
MMAD = 4,2 µm (measured by Malvern2 laser optical diffraction).
→ Great homogeneity in the aerosol particles (71% of particles < 5 µm), for a greater portion of molecules of suitable size and therefore greater treatment efficiency.

DOUBLE CONTAINER UNITS

→ The system of double container ultrasonic units avoids all risk of heating the molecules and the deterioration of the main ingredient (type RH Dnase fragile and thermolabile molecules).
→ Possibility to nebulise suspensions such as budesonide.
→ Closed inhaling circuit (no contact with the unit) = device suitable for multi-patients-use.
→ Prevents wear of the quartz.

PARTICULARLY SUITABLE FOR PAEDIATRIC USE

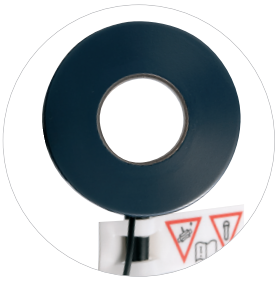
→ Low noise.
→ Very short sessions.

ACCESSORIES

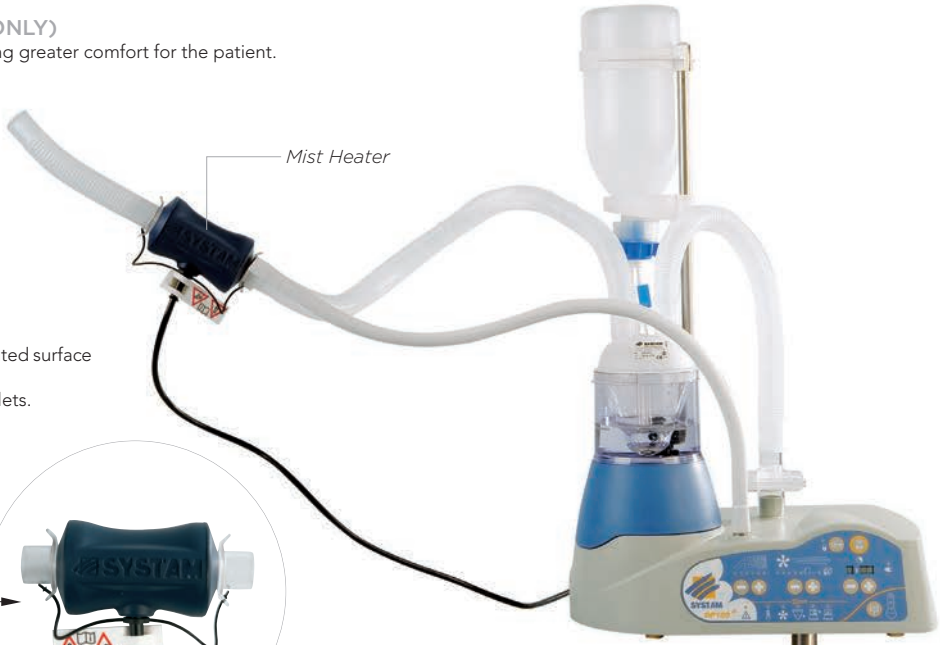
THE MIST HEATER (HUMIDIFICATION)

EASY TO CLEAN AND DISINFECT
→ Device cleanable by soaking
→ Large diameter stainless steel tube providing access for cleaning and meticulous drying.

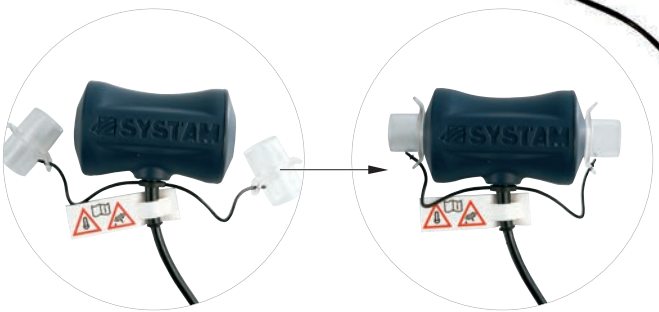
BETTER OPERATING
→ No water remaining inside the device.
→ No blockages



NEW FUNCTIONALITY (DP100+ ONLY)
→ Temperature control (three levels) providing greater comfort for the patient.



INCREASED SECURITY
→ Protectors avoiding contacts whith the heated surface during handling.
→ Design to minimise the formation of droplets.

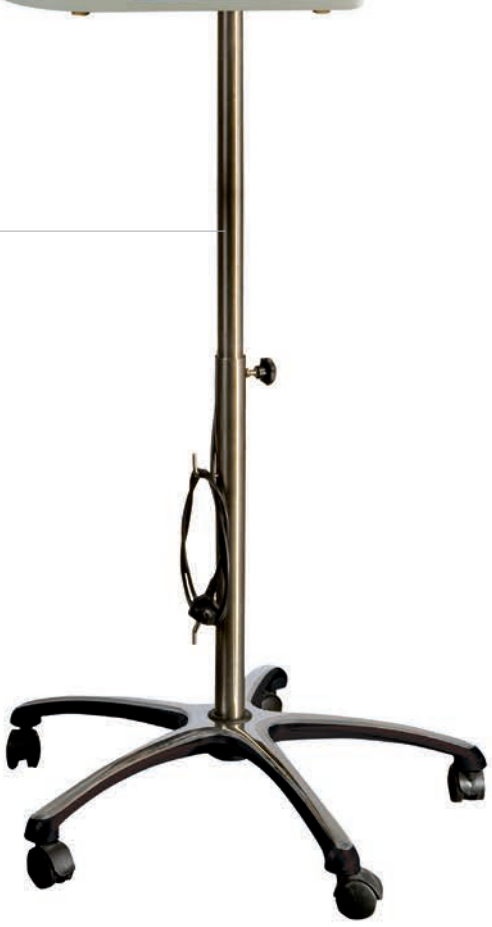


THE ROLLING STAND

→ Adjustable height to better adapt to different situations (beds, Alzheimer, incubators, etc...)
→ Fitted with braking system.
→ Clip board for personalising the proper use protocol.

HAUTEUR MAX : 93 cm

HAUTEUR MIN : 55 cm



LEARN MORE

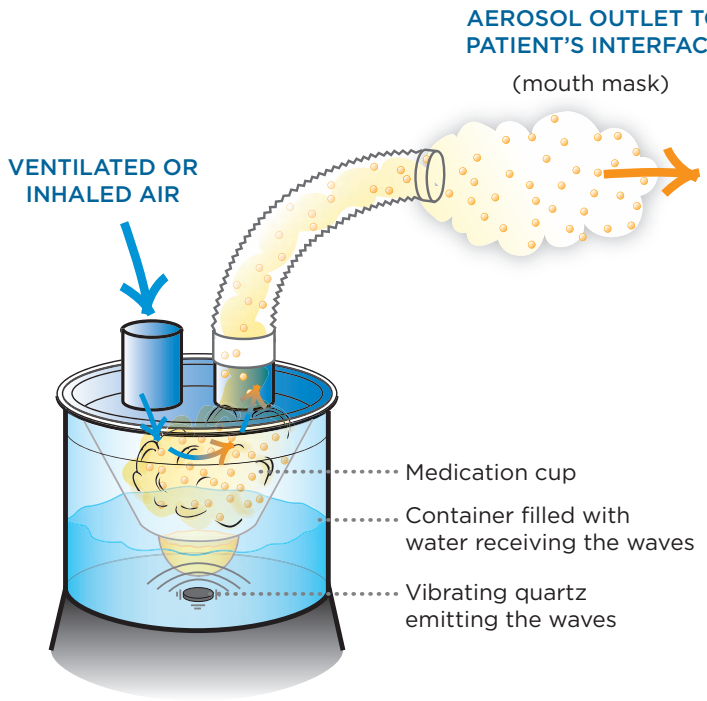
MEDICAL AEROSOLTHERAPY WITH ULTRASONIC TECHNOLOGY

DEFINITION OF AEROSOLTHERAPY

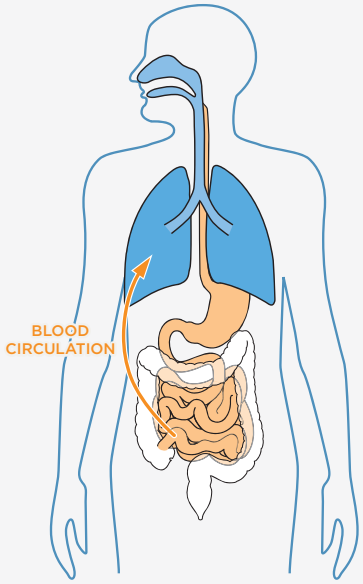
An aerosol is a suspension of solid or liquid particles in a gas or a gas mixture (e.g. air). In the application of medicinal aerosol therapy this aerosol is a spray of medication for inhalation by the patient. In the humidifying application the particles produced are droplets of water.

OPERATING PRINCIPLES OF ULTRASONIC TECHNOLOGY

- → Under the action of an oscillator the quartz located at the base of the container is subjected to very high frequency vibrations producing the effect of ultrasound (waves).
- → These waves travel through the liquid up to the surface of the solution producing a liquid film of very fine droplets (cavitation process).
- → The size of the particles thus formed is proportional to the length of the quartz wave (fixed for each unit) but the nebulisation density (= quantity of particles produced or output) can be modified by varying the amplitude of the quartz.



AVANTAGES ADVANTAGES OF AEROSOLTHERAPY AGAINST MEDICATION BY MOUTH



AEROSOL

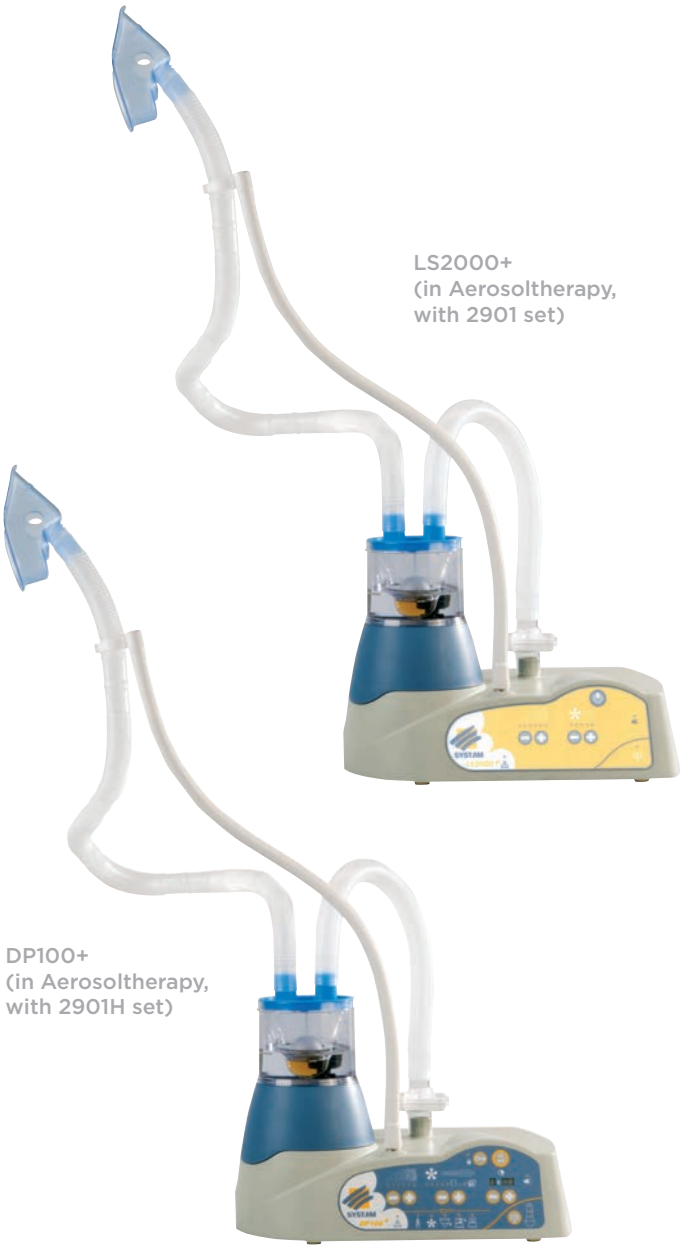
RAPID AND DIRECT ACCESS TO THE TARGETED ORGAN

- → Increased efficiency
- → Smaller dose of the necessary medication
- → Low systemic route
- → Lower side effects

BY MOUTH

INDIRECT AND SLOWER

- → Medication distributed to all areas whether or not required thus the effects are systemically present



LS2000+
(in Aerosoltherapy,
with 2901 set)

DP100+
(in Aerosoltherapy,
with 2901H set)

FOR MEDICINE AEROSOLTHERAPY

PATENTED CONTROL'DOSE® SYSTEM : A SYST'AM® INNOVATION

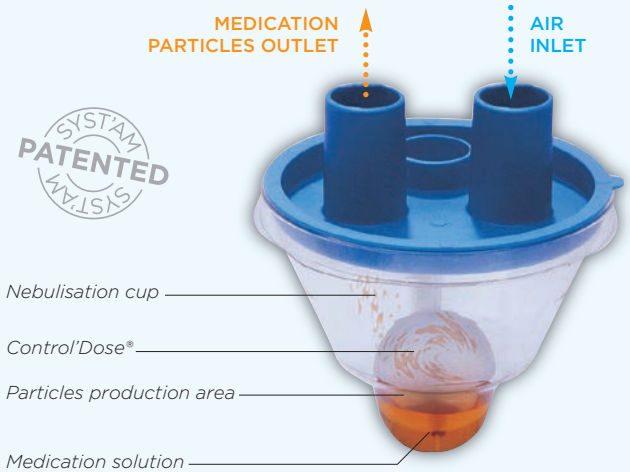
→ Reduces the dead volume thus limiting the dilution of the medication.
→ Shorter sessions.
→ Maximum proportion of inhaled medication.

CONTROLLED DOSAGE...

→ Permits the nebulisation of very small quantities of medication (from 2 to 8 ml) without dilution.
→ Permits the nebulisation of a dose with a residual volume of 0.6 ml. The medicinal solution is contained in the volume created under the Control'Dose® and the medication particles are transmitted to the patient.

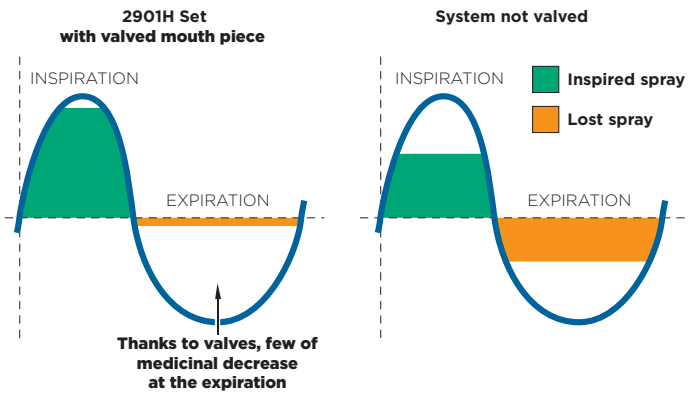
...CONTROLLED TIME!

→ Reduces the duration of the aerosol session.
→ Reduces therefore the patient participation (particularly for children of young age).
→ Therefore guarantees more effective treatment.



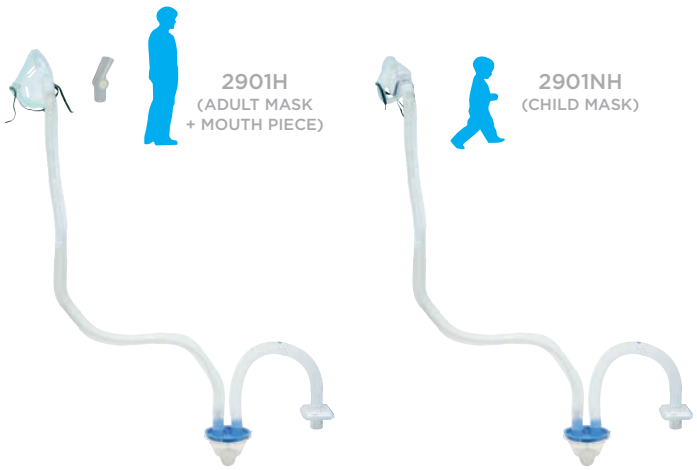
SETS WITH VALVED MOUTH PIECE

→ Limit the medicinal decrease because the delivery is stopped at the expiration and particles are stored in the small dish.



CORRESPONDING CONSUMABLES

AEROSOLTHERAPY SETS



DP100+ & LS2000+ AS HUMIDIFIERS

LEARN MORE

H_2O WHY HUMIDIFY ?

LS2000+
WITH 2901HUOV

DP100+
WITH 2901HUVN

- Humidification becomes necessary due the dry nature of compressed gases used in hospital. It avoids the drying out of the bronchial mucosa and at the same time fluidising the expectorations in the event of bronco-pulmonary infection.
- In normal time the upper airways provide the warming and humidification of the inhaled air. Also they retain the warmth and humidity contained in exhaled air.
  In the case of ventilated patients under anaesthetic (with tracheal probe) or tracheotomies the upper airways are no longer able to function.
  Prolonged exposure to dry compressed gasses can bring harmful effects including a localised inflammation in the trachea, a reduction in the ciliary function, a reduction in secretions, a lowering of body temperature, a reduction in the function of the cardio-pulmonary, an increased risk of a blockage in the tracheotomy tube...
- Humidification is mainly obtained in the hospital environment by the production of aerosols (sprays, micro-droplets) from an ultrasonic nebuliser providing particles from 0,5 to 6 µm, optimal size for reaching both the tracheobronchial and the cavities.
- It may also be preferable, for patient comfort, to operate warmed humidification sessions...

INDICATIONS

- Trauma, palliative care
- Neonatology, bronchiolitis
- Bronchio-pulmonary infections...

H_2O SYST'AM® CONSUMABLE FOR HUMIDIFICATION FOR USE WITH THE DP100+ & THE LS2000+

CLOSED HUMIDIFICATION SETS

For bottles with screw-top :
REF. 2901HUVN

For bottles with puncture cap :
REF. 2901HUPN

OPEN HUMIDIFICATION SETS

For bottles with screw-top :
REF. 2901HUOV

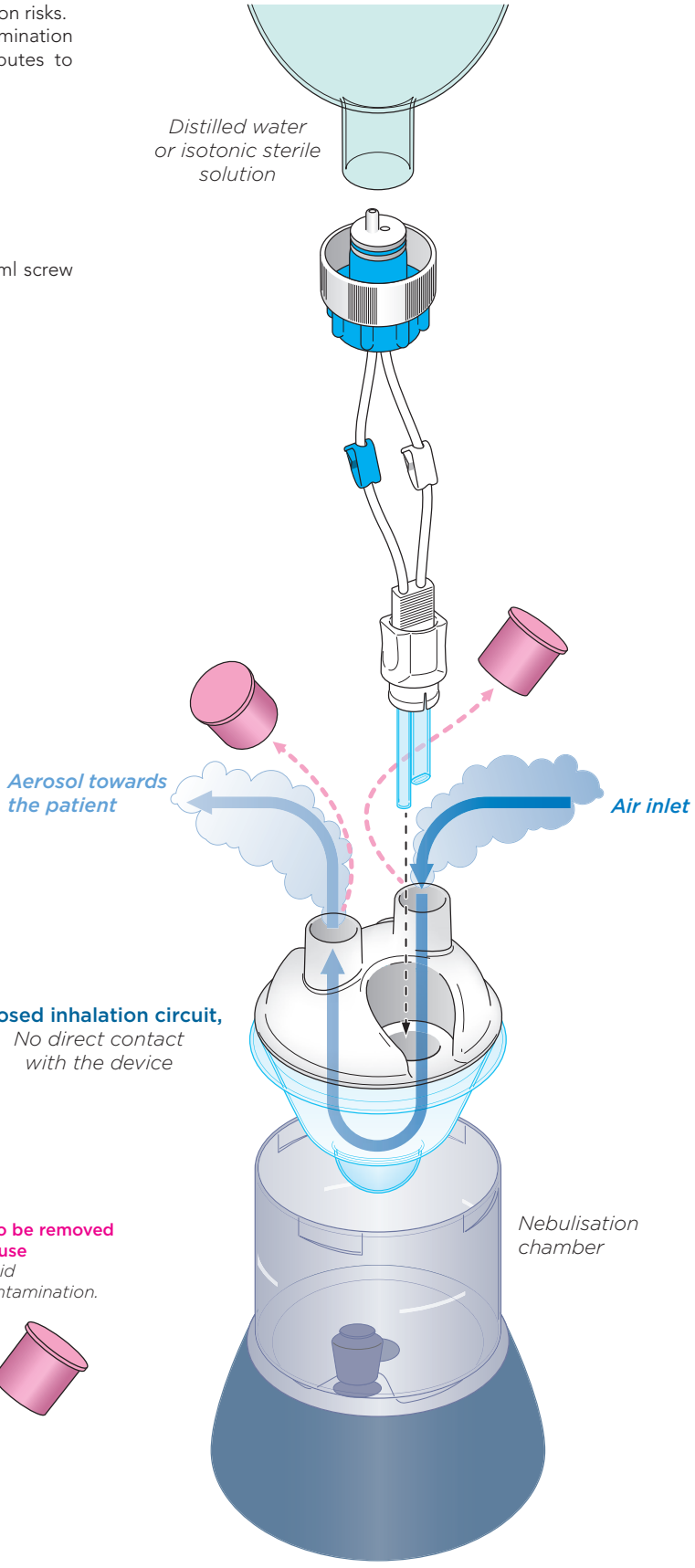
THE BENEFITS OF A SINGLE-PATIENT CLOSED SYSTEM HAVING NO DIRECT CONTACT WITH THE DEVICE (2901HUVN, 2901HUPN, 2901HUVNT)

Systems with an open respiratory circuit present potential contamination risks. The single-patient closed consumable prevents all hand-carried contamination risks, stops the infiltration of pathogenic agents and thus contributes to improving patient's quality of treatment.

CONTROLLED HYGIENE
→ Limitation of contamination
→ Closed breathing circuit without contact with the device.

UNIVERSAL SYSTEM CAN BE USED WITH MOST BOTTLES TYPES
→ Distilled sterile water or isotonic sterile solutions (500 ml or 1000 ml screw thread or puncture top)
→ Stock's handling and purchasing are simplified
→ Easy installation and use for nursing staff.

OVERALL IMPROVES QUALITY OF CARE IN INSTITUTIONS THROUGH :
→ Time saving
→ Greater patient safety
→ Lower daily treatment cost
→ Capacity of nebulising during a humidification session.



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