Giving neonates a future

Comprehensive respiratory support solutions

made in germany

medin®
A Hamilton Medical Company

Our heart beats for premature infants and newborns

Our full commitment and knowledge are focused on lung-protective solutions for respiratory support in order to ease the workload of hospital staff in the best way possible. With our innovations, we contribute to the survival of the smallest patients and support the gentlest possible start to life.

Premature infants and newborns need a familiar environment. Like the nursing staff, we also consider ourselves to be a part of this family. We work carefully, are solution-oriented, and respond to individual needs. In doing so, our focus is always on the welfare of the small patients and the quality of our products, just as it is on good service – worldwide. Longstanding relationships with customers and partners are the basis of a meaningful exchange of experiences and respectful collaboration.

We develop and produce nCPAP systems and consumables for premature infants and newborns for clinical application in the delivery room, in the intensive care ward and during transport. For more than 20 years.

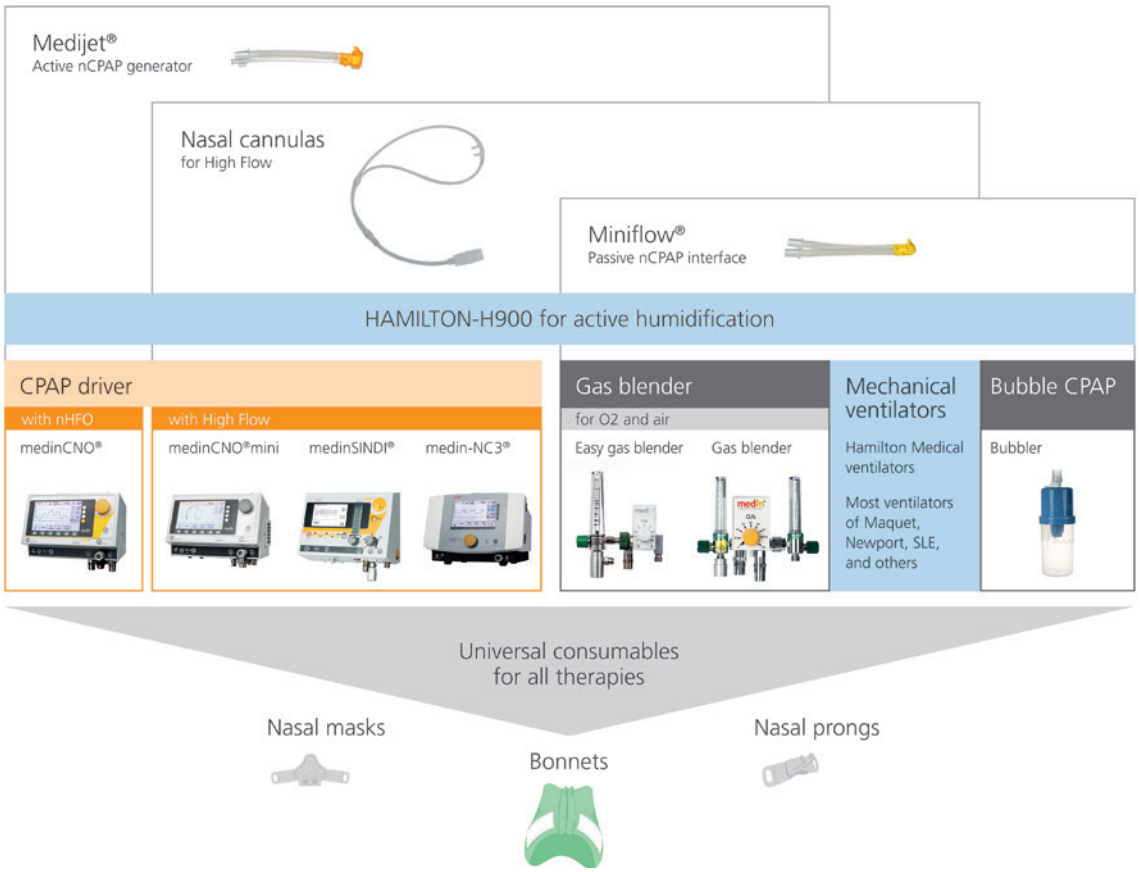
Giving neonates a future

Everything you need from one source

As the only manufacturer, we offer solutions and products for the complete spectrum of non-invasive respiratory support for premature infants and newborns.

You get a large, comprehensive and coordinated toolkit for the NIV therapy of your small patients, from CPAP to assisted respiratory support to non-invasive HFO.

Our accessories are perfectly coordinated to medin devices. They can also be used with many other devices and thus provide you with varied and, above all, practical solutions.



medinSINDI®

nCPAP and high-flow

With the nCPAP and high-flow modes, medinSINDI offers a reliable and economical solution for basic NIV therapy of small patients. In combination with the Medijet generator, medinSINDI measures CPAP pressure and respiratory rate. In addition, alarm functions such as the upper and lower pressure limit and a disconnection alarm offer additional security.

Through the integrated oxygen/compressed air blender, medinSINDI enables precise adjustment of the flow and the oxygen concentration.

- ✓ nCPAP and high-flow
- ✓ Spontaneous respiratory rate display
- ✓ 5 hours of operation on battery power
- ✓ Pressure and oxygen measurement with alarm

medinCNO®mini

nCPAP and high-flow

medinCNOmini offers the basic nCPAP and high-flow functions of a modern CPAP device.

In addition, the device has a special ApneaCPAP mode. With the aid of the MediTRIG respiratory trigger, the spontaneous breathing is detected near the patient and without any additional sensors. MediTRIG can be individually adapted to the patient's spontaneous breathing. In the event of apnea, the patient's inspiration is stimulated through automatically activated mechanical breaths.

- All basic modes for NIV respiratory support
- High-flow
- Leakage compensation
- MediTRIG: Integrated trigger and apnea monitoring without additional sensor
- Comprehensive alarm menu for optimal adaptation to the environment

medinCNO®

nCPAP device with nHFV

medinCNO is a versatile nCPAP device which is used to provide respiratory support to premature infants and newborns. In combination with Medijet®, the compact device is a stand-alone system and meets all requirements for non-invasive nCPAP therapy.

With five modes (CPAP, ApneaCPAP, NIPPV, SNIPPV, Oscillation), medinCNO offers comprehensive non-invasive support in neonatology and is the only nCPAP device with nHFV.

- ✓ nCPAP with nHFV
- ✓ Synchronized SNIPPV
- ✓ Apnea monitoring
- ✓ MediTRIG: Integrated trigger without additional sensor
- ✓ Leakage compensation

medin-NC3®

The new generation of non-invasive respiratory support

medin-NC3 is the first turbine-driven CPAP device for non-invasive respiratory support for premature infants and newborns. The high-performance turbine makes the device independent of a fixed compressed air supply.

The proven MediTRIG technology is used in the ApneaCPAP mode. Powerful leakage compensation offsets leakages to ensure stable and effective therapy.

- ✓ All basic modes for NIV respiratory support
- ✓ High-flow
- ✓ Leakage compensation in all modes
- ✓ MediTRIG: Integrated trigger and apnea monitoring without additional sensor
- ✓ Independent of compressed air through a turbine

Gas blender for compressed air and O2

Versatile

The air/oxygen blenders from medin can be used for a variety of applications: Oxygen therapy, EasyCPAP therapy with the Medijet generator, BubbleCPAP with Miniflow interface or Pediflow NIV mask as well as nHFT therapy with medin high-flow cannula

medinBlender 1090

The medinBlender 1090 is a mechanical gas blender with two integrated flow meters (0-15 L/min and 0-3.5 L/min) for nCPAP, BubbleCPAP therapy and high-flow applications in neonatology and pediatrics as well as conventional oxygen therapy in adults.

- ✓ High degree of accuracy at low flow rates
- ✓ Continuous oxygen adjustment from 21% to 100%
- ✓ Double flow meter: Flow adjustment from 0 to 15 L/min and 0 to 3.5 L/min
- ✓ Alarm system in the event of a decrease in pressure
- ✓ Bleed flow can be switched off

medinBlender 1085_15

The medinBlender 1085_15 is a mechanical gas blender with an integrated flow meter (0-15 L/min) for nCPAP, BubbleCPAP therapy and high-flow applications.

The inlet pressure for air and oxygen is between 3.5 and 6 bar (50 psi). Connection to the central gas supply and oxygen bottles is possible.

- ✓ Continuous adjustment from 21% to 100% oxygen
- ✓ Flow adjustment from 0 to 15 L/min.
- ✓ Alarm system in the event of a decrease in pressure

BubbleCPAP

Easy application

In the case of the BubbleCPAP, positive pressure is applied to the airways during inspiration and expiration. Pressure is generated through the expired breathing gas being directed into a water container (bubbler). A dip tube (surge chamber) is on the end of the expiratory ventilation tube. The level of the CPAP pressure depends on how deep the end of the cylinder is immersed into the sterile water.

This simple CPAP system was used for the first time in the early 1970s (Gregory 1971) and it has been used worldwide since then. In 1987, it was demonstrated (Avery 1987) that the incidence of BPD (bronchopulmonary dysplasia) can be reduced using BubbleCPAP . As a result, the system presumably became the most frequently used CPAP application by this time at the latest.

It consists only of:

- Air/oxygen blender: medinBLENDER
- Bubble bottle for CPAP pressures of 0 to 9.5 cm H2O
- Breathing circuit: 2-tube system 5801 HAMILTON-H900
- Respiratory gas humidifier HAMILTON-H900
- nCPAP interface: medin Miniflow with masks and prongs

George A. Gregory, M.D. N Engl J Med 1971; 284:1333-1340 June 17
Avery, ME January 1987; Pediatrics. 79 (1): 26–30

Miniflow®

Passive nCPAP interface

Miniflow is our interface for CPAP/NIV therapy using conventional ventilators. The interface is connected with the inspiratory and expiratory branches of the tubing system with the ventilator or flow source.

Combining Miniflow with ventilators enables CPAP therapy and non-invasive ventilation modes such as NIPPV. In this way, the therapy parameters are controlled as usual via the ventilator. As needed, pressure measurement near the patient can be connected to the Miniflow. The single-use interface allows all forms and modes of modern NIV therapy for premature infants and newborns.

- ✓ Compatible with many ventilators and BubbleCPAP systems
- ✓ Minimal dead space
- ✓ Flexible, swiveling adapter for positioning the prong and mask
- ✓ Patented flextubes for easy application
- ✓ Low noise level

Medijet® – Active nCPAP interface

Medijet is our active nCPAP generator and is used on the medin devices medin-NC3, medinCNO, medinCNOmini and medinSINDI. In addition, the interface can also be combined with several special ventilators.

Medijet is quieter than comparable nCPAP generators (Kirchner 2012) and features a high level of comfort.

Medijet actively generates CPAP pressure using a modified Benveniste valve (Benveniste 1976), that is, directly in the generator, and thus the continuous positive pressure in the patient's airway without an additional valve in the NIV device. As a result, Medijet is connected to the device with only a single-tube system. This facilitates handling and patient positioning.

- ✓ Low noise level
- ✓ Pressure trigger and spontaneous breath detection without additional sensor
- ✓ Flexible adapter for positioning prong and mask
- ✓ Patented flextubes for easy application
- ✓ Based on the Benveniste valve with volume reservoir

Kirchner L. Neonatology 2012; 101 (2):95-100 Epub 2011 Sep 17
Benveniste D. J Pediatr 1976; 88: 1015-9.

Pediflow® – Non-invasive ventilaton mask

For babies up to 10 kg

Pediflow is a mask for non-invasive ventilation for babies aged six to eight months and weighing up to 10 kg. For easy and secure fixation, we have developed a special headgear which can be easily adapted to the head of the small patient.

Pediflow is a single-use product with a good price-performance ratio and it is suitable for ventilators with 2-tube systems.

Flexible and comfortable

Pediflow is made of 100% flexible silicone in order to prevent pressure points or damage. For the same reason, the headgear is made in one piece and designed so that it can be optimally adjusted to the patient's head.

- ✓ Simple adjustment
- ✓ Secure fixation
- ✓ For infants up to 10 kg
- ✓ For the acute phase
- ✓ Can be combined with ventilators and BubbleCPAP

Nasal cannula for high flow oxygen therapy

Soft and kind to the skin

The medin high flow nasal cannula is made out ouf soft and skin compatible silicone which helps to perfectly balance therapy and wearing comfort. Even the smallest cannula size provides flow rates up to 8 LPM and therefore, fulfill the current knownledge of the application of high flow oxygen therapy in neonatology (Roehr 2016)

The further cannula sizes allows the use in babies and infants in combination with a suitable ventilator, for example from Hamilton Medical.

- ✓ High degree of patient comfort
- ✓ Low noise level and system stagnation pressure
- ✓ Individual fixation, gentle to the skin
- ✓ Anatomically adapted shape of the prongs

Roehr, Charles C. Oxford nasal High Flow Therapy Meeting, 2015; Clin Perinatal 43 (2016) 693–705

Masks and prongs

Our masks and prongs are suitable for single use in combination with Medijet and Miniflow. Both products are very well tolerated by premature infants and newborns and are equally effective in application.

- ✓ High-quality, biocompatible silicone ensures a high degree of wear comfort
- ✓ Can be combined with Medijet and Miniflow
- ✓ Anatomically optimized shape
- ✓ Available in different sizes

Nasal masks

Our nasal masks are available in five sizes and feature a high degree of wear comfort. The soft cushion and the anatomical shape minimize skin damage and pressure point. Regularly replacing with binasal prongs additionally ensures regeneration of the skin.

Binasale Prongs

Our prongs are available in seven different sizes and are made of high-quality silicone. The specially anatomically optimized shape minimizes skin damage and pressure points. Regularly replacing with our nasal masks additionally ensures regeneration of the skin.

Measuring tape

The measuring tape assists in the size selection of prongs, masks and bonnets. The optimal fit has a direct effect on the quality of the nCPAP therapy.

Bonnets for single-use

The bonnet is the basis for the application of the entire nCPAP system since it ensures the necessary stability. The medin bonnets are made of biocompatible microfibers and are individually packaged and available in eight sizes. The particularly soft and elastic material protects the head without deforming it. The fixation bands for prongs and masks attach anywhere to the bonnet and can thus be individually positioned.

The Medijet nCPAP generator and the Miniflow nCPAP interface includes a foam cushion to reduce tension that may be caused by the position of the breathing circuit.

- ✓ Microfibers ensure a high degree of wear comfort
- ✓ Color-coding enables easy size selection
- ✓ Secure and stable fixation of the nCPAP interface

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