

G/NEVRI
neo-tech for life



GIULIA
NEONATAL VENTILATOR


MADE IN ITALY



designed for an exceptional quality of neonatal care

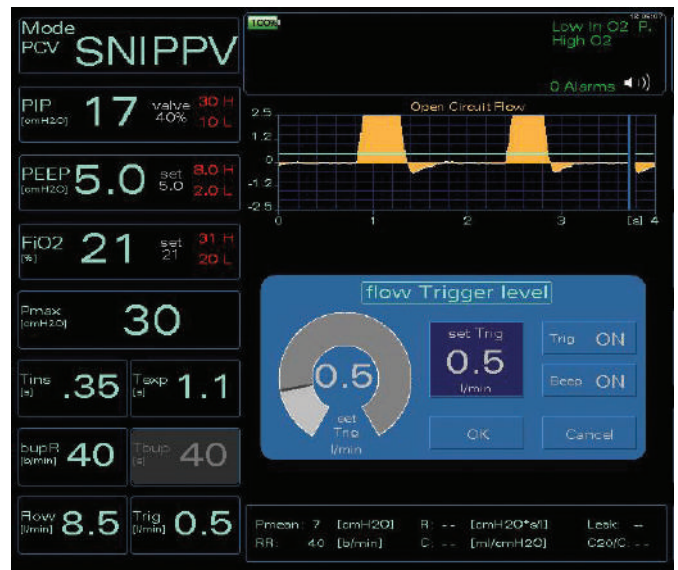
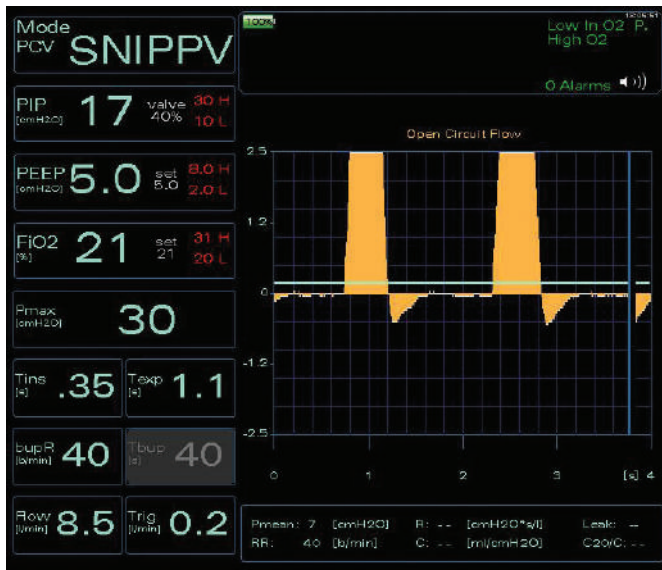
GIULIA is a next generation ventilator developed to give optimal respiratory support in every phase of the clinical treatment of respiratory diseases in preterm and term newborns.

GIULIA makes it possible to move rapidly and safely from the modes of conventional ventilation, including targeted tidal volume, to all the techniques of non-invasive ventilation: NCPAP, HFNC, NIPPV. The flow-sensor is positioned near the patient to provide perfect synchronization in all non-invasive modes (SIMV, SNIPPV, NCPAP with apnea alarm), thanks to its patented algorithm.

It is the only ventilator on the market today that simply and reliably supports every spontaneous breath of the patient in NIV-mode, due to its proximal flow-sensor

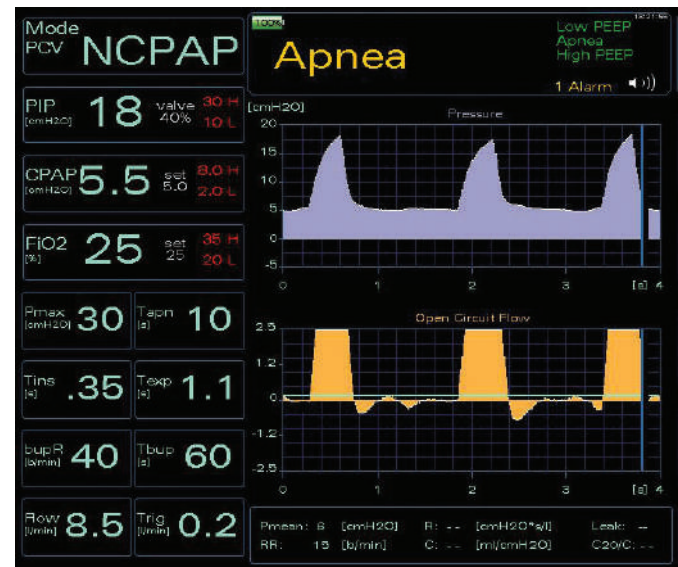
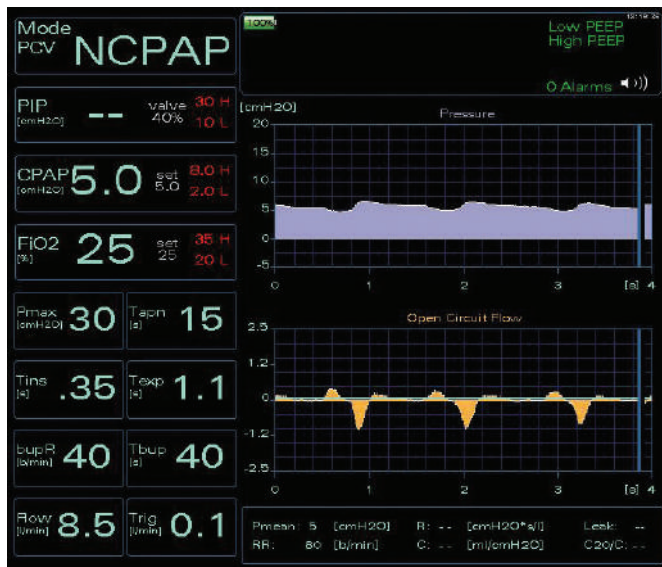
GIULIA was designed with passion and commitment for an exceptional quality of neonatal care, reducing the need for intubation to a minimum. Recent studies have demonstrated that every extra day of invasive ventilation and every failed extubation significantly increase the incidence of complications in the lungs and brain⁽¹⁻²⁻³⁾. By contrast, non-invasive ventilation improves survival rate and reduces the risk of complications, leading to a quicker release from hospital and a better quality of life.

GIULIA gives you the freedom and security to choose the most effective and least invasive care strategy for your patient



Flow signal with trigger line displayed.

Setting the sensitivity of the trigger is simple, synchronizing the ventilator perfectly with the spontaneous breathing of the newborn. The synchronization is readable intuitively from the monitor (and also from a beep, if set).



Flow signal in NCPAP mode showing the baby's inspiratory effort.

When the flow-sensor detects an apnea, GIULIA automatically switches to a back-up rate of ventilation.

**simple and intuitive
with every parameter
under your control at all times**



flow-SNIPPV

a new challenge in neonatal respiratory care

With GIULIA, you can reduce the need for intubation or limit its duration, increasing the well-being of the patient and reducing morbidity and mortality

Non-invasive flow-synchronized ventilation is the most physiologically sound and the simplest of the NIV modes. Clinical studies have shown that SNIPPV is the most effective NIV technique for the treatment of RDS in terms of:

- ✓ increasing successful extubation⁽⁴⁻⁵⁻⁶⁻⁷⁻⁸⁾
- ✓ reducing intubation after surfactant⁽⁴⁻⁹⁾
- ✓ reducing apnea of prematurity⁽¹⁰⁾

GIULIA correctly assists more than 90% of the spontaneous breaths of the patient in flow-SNIPPV with phase and frequency synchronization⁽¹¹⁾

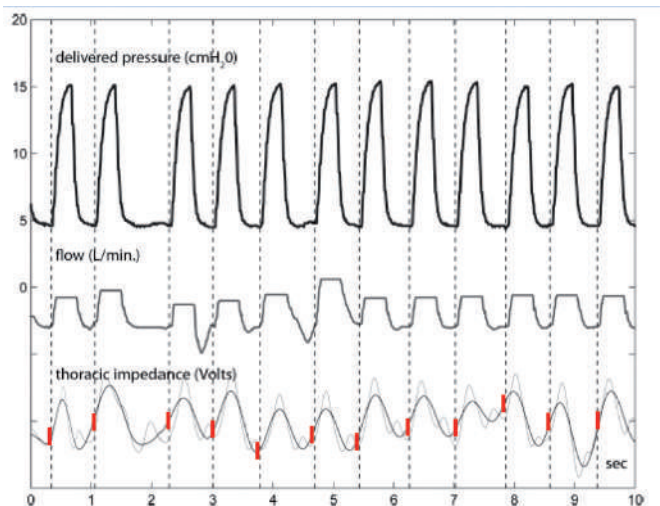
Mechanical breathing is triggered by spontaneous breathing while the glottis is opening, meaning that pressure is transmitted correctly to the lungs. This collaboration between ventilator and patient delivers:

- ✓ reduced work of breathing (WOB)⁽¹¹⁻¹²⁻¹³⁾
- ✓ reduced thoraco-abdominal asynchrony⁽¹⁴⁻¹⁵⁾
- ✓ improved ventilation⁽¹¹⁻¹³⁻¹⁶⁾

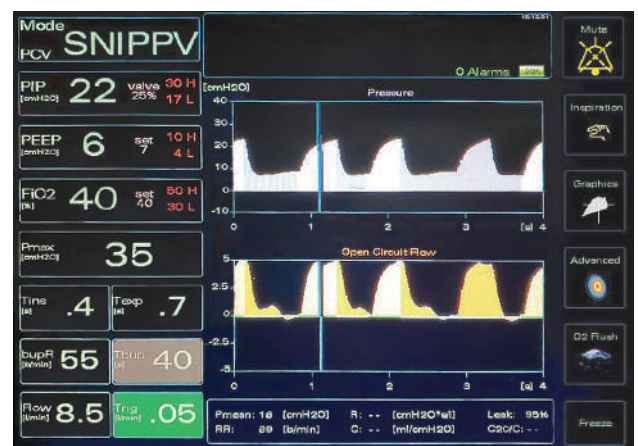
These factors play an important part in the success of the ventilation.

The fast increase in the flow-rate at the beginning of a spontaneous breath is easily detected by GIULIA's flow-sensor, which has been demonstrated to be extremely sensitive and precise. Bench tests have demonstrated that this device is capable of detecting very small inspiratory flow and volumes, that its performance is not affected by the size of leaks, and that its response time is <100 ms⁽⁴⁾.

In flow-synchronized non-invasive mode, GIULIA's exclusive patented algorithm ensures that leaks do not influence ventilation. The algorithm keeps the end expiratory pressure constant by a continual compensation of leaks, thus guaranteeing the safety and precision of the ventilation.



Scalar traces of ventilator pressure, flow and thoracic impedance of a preterm neonate assisted with flow-SNIPPV. Note the good synchronization of pressure, flow and thoracic impedance and the absence of the expiratory flow trace, which is missing because expiration occurs through the mouth.



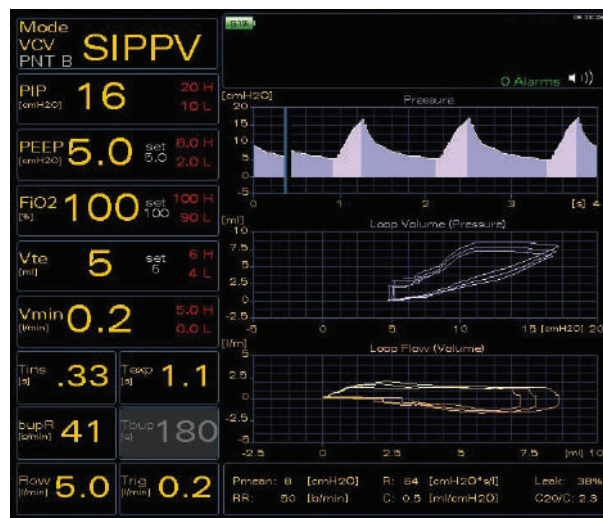
GIULIA providing flow-SNIPPV to a 600g patient via Sync-Flow Cannula

invasive ventilation mode

the conventional ventilation is always accessible on the same circuit

In invasive mode, GIULIA uses a laminar flow-sensor that performs precise synchronization between the patient and the ventilator and allows accurate volume target ventilation (VTV). The sensor maintains its precision also in very low birth-

weight infants, it is light and easy to clean and reusable. Today, VTV is one of most protective strategies of invasive ventilation.



Three traces can be viewed at the same time, chosen from: Pressure, Volume and Flow and/or P-V, P-F, V-F loops

HFNC

easy to use high-flow therapy

In HFNC mode, GIULIA provides a blend of air and oxygen, heated and humidified by an external humidifier. GIULIA is compatible with all the humidifiers

currently available; however, GINEVRI recommends the new WETTY humidifier, which ensures a high level of humidity in the respiratory circuit with a very low level of condensation. GIULIA's HFNC mode is delivered through the inspiratory arm of the standard circuit, meaning there is no need to change tubes.



The duration of HFNC therapy can be viewed in addition to parameters and alarms

maximum results

maximum simplicity

When you choose GIULIA, you are choosing the well-being of the baby and the baby's family during the NICU stay and afterwards

Every GIULIA comes with two interchangeable interfaces for non-invasive ventilation:

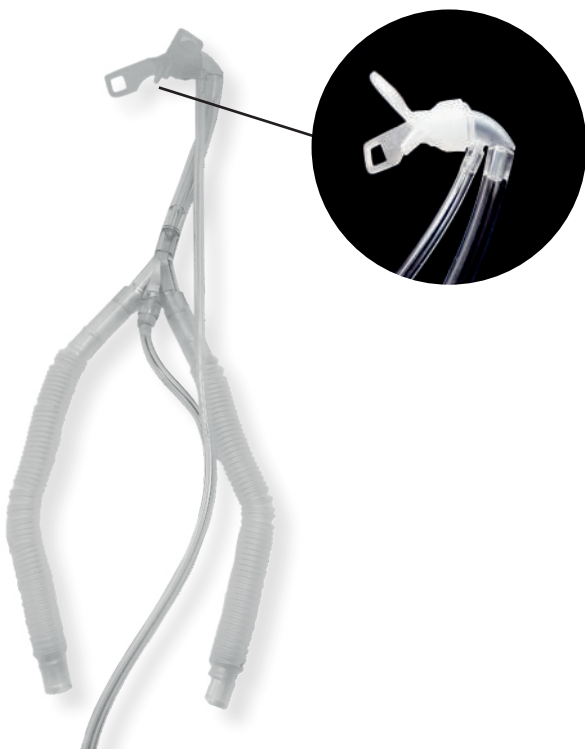
✓ **Smart-Flow Cannula (Short Binasal Prongs – SBP)**

✓ **Sync-Flow Cannula (Double Inspiratory Loop Cannula – DILC)**

Both can be used for even the smallest and most severe patients. The Sync-Flow Cannula can also be used optimally for term neonates and infants (e.g. for bronchiolitis).

Smart Flow Cannula (Short Binasal Prongs - SBP)

The Smart Flow Cannula has soft and short binasal prongs that work with the exclusive integrated proximal flow sensor providing minimum resistance to the flow and maximum sensitivity in monitoring spontaneous breathing.

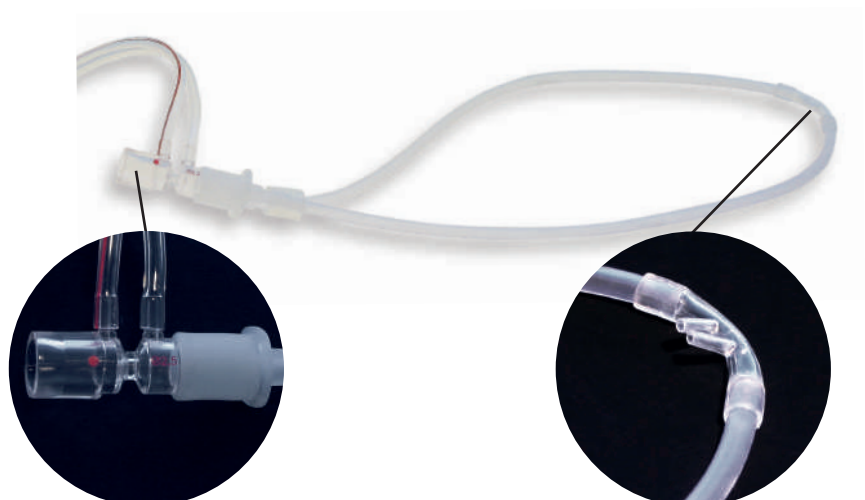


Sync-Flow Cannula (Double Inspiratory Loop Cannula - DILC)⁽¹⁷⁾

is designed by GINEVRI to provide high tolerability, specifically to:

- ✓ **prevent nasal injury**
- ✓ **ensure optimal comfort for the baby**
- ✓ **provide a better view of the patient**
- ✓ **make deployment easier**

The Sync Flow Cannula is most appreciated by parents because it enables skin-to-skin contact between the parents and the baby (which is more difficult with traditional short binasal prongs) practicing Kangaroo Mother-Care, which is recommended as part of Family Centered Care, the most modern approach to a baby's stay in hospital.



GIULIA comes with four different software solutions

The software can be upgraded to a superior version at any time without hardware changes

Basic features	GIULIA NIV	GIULIA NIV+HFNC	GIULIA NIV+IV	GIULIA NIV+HFNC+IV
Electronic blender	✓	✓	✓	✓
FiO2 Monitoring	✓	✓	✓	✓
Auto-calibration on start-up	✓	✓	✓	✓
Built-in battery	✓	✓	✓	✓
10.4" coloured touch display	✓	✓	✓	✓
3 traces/loops visualized	✓	✓	✓	✓
Monitoring of parameters	✓	✓	✓	✓
O2 flush valve	✓	✓	✓	✓
Screen freeze function	✓	✓	✓	✓
USB data export	✓	✓	✓	✓
Leak compensation in NIV	✓	✓	✓	✓
Flow trace in NIV	✓	✓	✓	✓
Flow-trigger trace in NIV	✓	✓	✓	✓
Ventilation mode				
NCPAP	✓	✓	✓	✓
NIPPV	✓	✓	✓	✓
NCPAP + backup NIPPV (apnoea)	✓	✓	✓	✓
Flow-triggered SNIMV	✓	✓	✓	✓
Flow-triggered SNIPPV	✓	✓	✓	✓
Manual breath function	✓	✓	✓	✓
High-flow therapy		✓		✓
High-flow therapy timer		✓		✓
CPAP and IPPV			✓	✓
Flow-triggered SIMV			✓	✓
Flow-triggered SIPPV			✓	✓
Volume targeted ventilation			✓	✓



LARGE TOUCH-SCREEN

The intuitive touch-screen interface gives rapid access to settings.

VISUALIZING ALL THE PARAMETERS

The iPad-sized screen allows all the parameters to be displayed at once. Pressure, Volume, Flow and/or P-V, P-F, V-F loops can all be visualized at the same time. In both invasive and non-invasive modes, the trigger threshold is shown in the Flow trace.

CONTROL PANEL

The minimalist design puts the most important controls in easy reach.

DRIP STAND (optional)

Height-adjustable drip stand that attaches to the trolley for optimal device arrangement.

HUMIDIFIER (optional)

The WETTY humidifier was designed to provide a high level of humidity in the respiratory circuit with a very low level of condensation.

TROLLEY (optional)

Designed to organize everything you need for ventilation in a practical and handy way—easy and light to move around and blockable in position.



GINEVRI cares for newborn health. Our commitment to technological innovation and research ensures that our products are always up to date with the latest developments of clinical research.



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