Inspire rPAP™
The Inspire rPAP™

The Inspire rPAP™ is a revolutionary, non-invasive system for the initial stabilisation and resuscitation of infants.

Its innovative, patented design combines the ability to administer inflation breaths with all the clinical benefits of the gold standard fluidic flip nCPAP technology.

Following birth, the first moments are crucial in defining the respiratory management required to deliver the best outcomes for the infant.

Current guidelines recommend the use of a T-piece resuscitation device to deliver a constant stable pressure to the infant’s airways, facilitating restoration of the Functional Residual Capacity (FRC). The challenges faced with traditional T-piece resuscitation devices is that they deliver high imposed work of breathing (iWOB) and are pressure unstable¹.

Inspire rPAP overcomes these by significantly reducing iWOB by up to 92%¹ and providing a stable mean airway pressure.

From the first breath, Inspire rPAP supports the infant throughout the critical stages of its journey towards respiratory independence.

- **Sustain**
  - Simple fixation facilitates safe transport from delivery area to NICU.

- **Rescue**
  - Deliver controlled inflation breaths through nasal prongs or a standard face mask.

- **Maintain**
  - On the same device, infant can be seamlessly transitioned onto nCPAP to provide ongoing respiratory support with the lowest iWOB.

- **Transfer**
  - If the infant requires additional respiratory support during the first 24 hours, the clinician can provide supplementary inflation breaths without changing the device.
Revolution from the first breath

The Inspire rPAP™ is an innovative system comprising an rPAP Generator and dedicated rPAP Driver that work in conjunction to create an effective, gentle approach to resuscitation and stabilisation.

Smart
- All-in-one non-invasive rescue device that combines PIP with CPAP
- rPAP Generator design enables the clinician to perform nasal prong or standard face mask resuscitation and stabilisation, whilst reducing iWOB by up to 92%¹
- Dedicated portable rPAP Driver features two gas output channels providing safe and accurate PIP and CPAP control

Simple
- Easy to use rPAP Generator combines familiar working principles of resuscitation and nCPAP with clinical benefits of fluidic flip technology, all in one device
- Reduced training effort due to familiarity with working principles and device accessories
- Intuitive and maintenance-free rPAP Driver

Seamless
- Compact, lightweight rPAP Driver and simple fixation enables safe transfer from delivery area to NICU
- Maintain infant on nCPAP with capability to add supplementary inflation breaths using same device
- Versatile rPAP Generator compatible with range of resuscitation units*

* For a list of compatible devices, please contact your local Inspiration Healthcare representative
Lowest iWOB resuscitation device

Inspire rPAP™ reduces iWOB by up to 92%\(^1\).

The Inspire rPAP™ is the first of its kind to introduce low iWOB into a resuscitation device. Its groundbreaking design works in harmony with the infants’ own respiratory efforts to ensure they do not tire so quickly and preserve valuable energy.

Clinical studies suggest that nCPAP should be used as the primary respiratory intervention prior to intubation (for infants ≥ 28 weeks gestational age)\(^2\). Inspire rPAP enables clinicians to quickly and seamlessly transition the infant on to nCPAP. This, partnered with the additional capability to add supplementary inflation breaths, means more infants can be successfully maintained on nCPAP therapy.

**Figure 1:**
Imposed Work of Breathing during resuscitation/stabilisation\(^1\)

**Figure 2:**
Pressure volume loops: Inspire rPAP compared with other T-piece resuscitation devices\(^1\)
The science behind the technology

 Clinically proven and field-tested fluidic flip technology significantly reduces iWOB and is the key principle behind the Inspire rPAP system.

1. Resuscitation: Inspiratory Flow
Inflation breaths can be provided to the infant by occluding the gas outlet. At this stage, all gas from the PIP and CPAP limbs will flow to the infant's lungs until PIP is reached.

2. Resuscitation: Expiratory Flow
Upon opening the gas outlet, the flow will flip and entrain the expired gas through the gas outlet. Hence, the infant will require much less energy to breathe out.

3. CPAP: Inspiratory Flow
As the infant makes a spontaneous inspiratory effort, gas from the CPAP limb will flow into the infant's lungs.

4. CPAP: Expiratory Flow
As soon as the infant stops inspiration, to begin expiration, gases follow the path of least resistance through the gas outlet. When expiratory effort ceases, the flow instantly flips back to the inspiratory position.
Ordering Information

Driver
Inspire rPAP™ Driver
(Case of 3)
IHC805/3

Driver Mounting Bracket
Pole Mount Bracket
IHCBMP1
Rail Mount Bracket
IHCRRM1

Generator and Circuits
Inspire rPAP™ Generator &
Resuscitation Circuit
(Case of 20)
IHC700/20
Inspire rPAP™ Generator &
Resuscitation Circuit with Humidification
(Case of 10)
IHC710/10
Inspire rPAP™ Humidification Circuit
(Case of 10)
IHC715/10

Prongs
Inspire™ Nasal Prong Extra Small
(Case of 10)
IHC604/10
Inspire™ Nasal Prong Small
(Case of 10)
IHC605/10
Inspire™ Nasal Prong Medium
(Case of 10)
IHC606/10
Inspire™ Nasal Prong Large
(Case of 10)
IHC607/10
Head Bands
Inspire™ Head Band
(Case of 10)
IHBHB005/10

rPAP Driver Technical Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Manometer Range</td>
<td>0 to 60 cmH₂O</td>
</tr>
<tr>
<td>Manometer Accuracy</td>
<td>± 2.5% full scale deflection</td>
</tr>
<tr>
<td>Maximum Pressure Relief*</td>
<td>Standard operation: 30 cmH₂O</td>
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<tr>
<td></td>
<td>Override switch: 60 cmH₂O</td>
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<tr>
<td>Input Gas Flow Range</td>
<td>5 l/min (min) to 15 l/min (max)</td>
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<tr>
<td>Peak Inspiratory Pressure (PIP)*</td>
<td>@ 5 l/min approx. 9 to 59 cmH₂O</td>
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<tr>
<td></td>
<td>@ 8 l/min approx. 10 to 61 cmH₂O</td>
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<tr>
<td></td>
<td>@ 10 l/min approx. 10 to 62 cmH₂O</td>
</tr>
<tr>
<td></td>
<td>@ 12 l/min approx. 11 to 63 cmH₂O</td>
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<tr>
<td></td>
<td>@ 15 l/min approx. 13 to 64 cmH₂O</td>
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<td>Continuous Positive Airway Pressure (CPAP)*</td>
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<td></td>
<td>@ 8 l/min approx. 1 to 5 cmH₂O</td>
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<tr>
<td></td>
<td>@ 10 l/min approx. 1 to 9 cmH₂O</td>
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<td></td>
<td>@ 12 l/min approx. 2 to 15 cmH₂O</td>
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<tr>
<td></td>
<td>@ 15 l/min approx. 3 to 22 cmH₂O</td>
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<td>Dimensions</td>
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<td>Weight</td>
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<tr>
<td>Recommended Patient Body Weight</td>
<td>Up to 10 kg</td>
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</table>

* Typical values with rPAP Generator

References


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