Dräger Carina®
Sub-Acute Care Ventilation

Designed for non-invasive ventilation: With its unique SyncPlus® technology and an extended NIV function, the user-friendly Dräger Carina® offers reliable and easy ventilation – and thanks to its compact design, this also applies when transporting patients.
Benefits

Carina – a clever choice

Dräger has developed an innovative type of high-performance NIV ventilator, that is comfortable for both the patient and the caregiver. Carina is compact and also mobile to optimise the workflow and the usage of working time and clever to recognise changes in flow parameters and patient status, providing just the right amount of support while giving the patient room to breathe. Carina features a range of ventilation modes for spontaneous and mandatory ventilation and an integrated blender which can supply oxygen concentrations from 21 - 100%. Should the need arise, Carina can even be used for invasive ventilation.

Comfortable operation

We know how important a restful, healing environment is to patients and caregivers. That’s why the Carina features an extremely quiet blower that enables practically silent operation (max. 40 dBA). A 5.4 inch, high-visibility TFT colour monitor displays your choice of value or curve information which can be further customised to suit your particular needs.

Clever features

Dräger’s unique SyncPlus® functionality provides the kind of consistent flow that translates to superior therapeutic benefit, but without compromising on comfort. Carina’s AutoRamp® feature simulates a natural breathing pattern which helps optimise inflation flow delivery to the patient.

Compact device

Weighing in at just 5.5 kg, the Carina’s extremely compact design lets you take it nearly anywhere for subacute care. For patient transfers or in case of power failure, the internal battery can provide power for up to an hour of off-line operation.
Related Products

Dräger Evita® Infinity® V500 ventilator

Combine fully-featured, high-performance ventilation with Infinity® Acute Care System™ integration to meet the challenges of today’s health care environment.

Evita® V300

The Evita® V300 is a scalable and versatile device which offers high ventilation quality. To meet and master the changing conditions and challenges of your everyday hospital work you need flexible equipment with versatile opportunities.

Dräger Savina® 300

The Dräger Savina® 300 combines the independence and power of a turbine-driven ventilation system with state-of-the-art ventilation modes. The large color touch screen and intuitive operating system that concentrates on essential features make configuration and operation very simple.
## Technical Data

### Patient type
- Adults, and pediatric patients

### Ventilation settings

<table>
<thead>
<tr>
<th>Ventilation mode</th>
<th>SPN-CPAP/PS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC-BIPAP/PS1 (US: PC-SIMV/PS)</td>
</tr>
<tr>
<td></td>
<td>PC-AC</td>
</tr>
<tr>
<td></td>
<td>VC-SIMV/PS</td>
</tr>
<tr>
<td></td>
<td>VC-AC (US: standard, All other countries: optional)</td>
</tr>
</tbody>
</table>

### Characteristics
- Non-invasive mask ventilation (NIV)
- Invasive ventilation (Tube)
- AutoFlow®/Volume Guarantee – Automatic adjustment of the inspiratory flow in volume-controlled modes
- AutoAdapt™ in NIV SPN-CPAP/PS, creates a linear pressure rise over a defined time in order to slowly ease patients into ventilation
- Leakage compensation up to 180 L/min

<table>
<thead>
<tr>
<th>Respiratory rate (RR)</th>
<th>5 to 50/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidal volume (VT, VTi)</td>
<td>100 to 2,000 mL, BTPS</td>
</tr>
<tr>
<td>Inspiration pressure (Pinsp)</td>
<td>Leakage valve: 5 to 40 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td></td>
<td>Expiratory valve: 5 to 50 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td>Inspiration pressure limitation (Pmax)</td>
<td>Leakage valve: 5 to 40 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td></td>
<td>Expiratory valve: 5 to 50 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td>PEEP/CPAP</td>
<td>3 to 20 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td>Pressure support (ΔPsupp)</td>
<td>Leakage valve 0 to 37 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td></td>
<td>Expiratory valve 0 to 47 mbar (or hPa or cmH₂O)</td>
</tr>
<tr>
<td>Pressure support rise time (ramp)</td>
<td>Auto, 0.1 to 2.0 s</td>
</tr>
<tr>
<td>Maximum inspiratory time for supported</td>
<td>0.4 to 10 s</td>
</tr>
</tbody>
</table>

### Strokes (Timax)
- I:E ratio: 1.39 to 2:1
- Inspiration time (Ti): 0.3 to 8 s
- O₂ concentration (FiO₂): 21 to 100 vol%
- Multisense trigger criteria Trigger sensitivity: Off, normal, sensitive

### Measured value displays
- Positive end exp. pressure (PEEP): 0 to 25 mbar (or hPa or cmH₂O)
- Inspiratory peak pressure (PiP): 0 to 68 mbar (or hPa or cmH₂O)
- Mean airway pressure (Pmean): 0 to 68 mbar (or hPa or cmH₂O)
- Minute volume (MV, MVi): 0 to 60 L/min, BTPS
- Inspiratory tidal volume (VT, VTi): 0 to 4.0 L, BTPS
- Respiratory rate (RR): 0 to 75/min
- Total leakage volume (MVleak): 0–99 L/min, BTPS

### Curve displays
- Airway pressure Paw (t): 0 to 80 mbar
- Flow (t): -160 to +160 L/min

### Alarms/monitoring
- Insp. Minute volume high: 2 to 60 L/min
- Insp. Minute volume high: 0.1 to 39 L/min
- Airway pressure Paw high: 10 to 55 mbar (or hPa or cmH₂O)
- Tachypnoea monitoring (RRhigh): 10 to 74/min, off
- Apnoea alarm time (Tapn): 5 to 60 seconds, off
Technical Data

Delay time until Paw alarm low !!! (Tdekon)  
Non-invasive ventilation (NIV) 0, 15, 30, 60, 90, 120 s  
Invasive ventilation (tube) 0, 15, 30, 60 s

Performance data

Control principle  
Time or Flow-controlled and pressure or volume-controlled

Disconnection detection  
Automatic

Reconnection detection  
Automatic (also in standby)

Grid voltage  
Grid voltage 100 V to 240 V AC, 50/60 Hz

Power input  
At 100 V AC max. 1.1 A  
At 240 V AC max. 0.5 A

Maximum power consumption  
90 W (in operation, when loading the internal battery)

Typical power consumption  
35 W (in operation, when loading the internal battery)

Operating period of internal battery  
60 min

Noise level  
40 dB (A) (with typical ventilation)

Gas supply HPO

O₂, positive operating pressure  
2.7 bar to 6 bar  
270 kPa to 600 kPa  
40 psi to 87 psi

O₂, Flow  
0 to 120 L/min

Gas supply LPO

O₂, positive operating pressure  
0 to 500 mbar (or hPa or cmH₂O)

O₂, Flow  
0 to 10 L/min

Supply system for patient flow  
Turbine

Maximum continuous inspiratory flow  
180 L/min, BTPS (max. 120 L/min with 100 % O₂)

Mechanical specification

Dimensions (W x H x D)  
Basic device: 175 x 275 x 385 mm  
(6.9 x 10.8 x 15.2 in)  
Trolley: 880 x 570 x 670 mm  
(34.7 x 22.4 x 67.06 cm)

Weight  
5.5 kg (12.1 lbs) (basic device)  
14.8 kg (32.6 lbs) (trolley)

Screen  
17 cm (5.4 in)

Device outputs

Digital output RS232  
Dräger MEDIBUS or MEDIBUS.X protocol

Nurse call  
Optional

1) BIPAP = registered trademark used under license  
2) AutoFlow® = Dräger trademark  
3) BTPS = Body Temperature Pressure Saturated

Ordering Information

Name  
Breathing Circuits  
VentStar® Carina® LeakV  
VentStar® Carina® ExpV  
Disposable Expiration Valve Carina®  
SyncVent Carina®

Filters/HMEs  
HEPA filter

Description  
Order-No.

VentStar® Carina® LeakV  
MP00312

VentStar® Carina® ExpV  
MP00313

Disposable Expiration Valve Carina®  
MP00220

SyncVent Carina®  
MP00224

HEPA filter  
57 03 105
<table>
<thead>
<tr>
<th>Masks</th>
<th>Description</th>
<th>Order Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filter CareStar® 30</td>
<td>MP01770</td>
</tr>
<tr>
<td></td>
<td>ClassicStar® NIV Full-Face Mask with SE, Size S</td>
<td>MP01573</td>
</tr>
<tr>
<td></td>
<td>ClassicStar® NIV Full-Face Mask with SE, Size M</td>
<td>MP01574</td>
</tr>
<tr>
<td></td>
<td>ClassicStar® NIV Full-Face Mask with SE, Size L</td>
<td>MP01575</td>
</tr>
<tr>
<td></td>
<td>NovaStar® NIV Full-Face Mask with SE, Size S</td>
<td>MP01579</td>
</tr>
<tr>
<td></td>
<td>NovaStar® NIV Full-Face Mask with SE, Size M</td>
<td>MP01580</td>
</tr>
<tr>
<td></td>
<td>NovaStar® NIV Full-Face Mask with SE, Size L</td>
<td>MP01581</td>
</tr>
</tbody>
</table>