



**Increase patient outcome
and therapeutic benefits**
Dedicated NIV accessories for Carina

CARINA® ACCESSORIES

D-40528-2015

Comfortable and compact

Our dedicated NIV ventilator: Carina®



Designed for non-invasive ventilation

Non-invasive ventilation (NIV) can improve patient recovery times, reduce the rate of ventilator associated pneumonia and reduce the rate of reintubation in a variety of clinical settings. These strategies have demonstrated positive hospital and patient outcomes in a growing number of studies¹.

- Reduce the need for intubation and therapeutic intervention in patients with acute respiratory failure²
- Decrease the rate of intubation³
- Fewer complications during ICU stay²
- Reduce the risk of ventilator associated pneumonia⁴

Because of the different lung mechanics for COPD patients, maintaining patient-device synchrony is critical to successful non-invasive ventilation. Asynchrony can cause significant discomfort, leading to poor compliance and clinical outcomes. Research indicates that 40% of non-invasive ventilation patients experience asynchrony in 10% or more of their breaths⁵.

Dräger has therefore developed the Carina – an innovative type of high performance NIV ventilator. One that is comfortable for both the patient and the caregiver, compact and mobile enough to optimize workflow and workspace usage and clever enough to recognize changes in flow parameters and patient status, providing just the right amount of support while giving the patient room to breathe.

1 Schönhofer et al.: Non-Invasive Mechanical Ventilation as Treatment of Acute Respiratory Failure Clinical Practice Guideline, DOI: 10.3238/arztebl,2008

2 Honrubia T, López FJG, Franco N, et al.: Noninvasive vs. conventional mechanical ventilation in acute respiratory failure: A multicenter randomized controlled trial. Chest 2005; 128:3916-3924

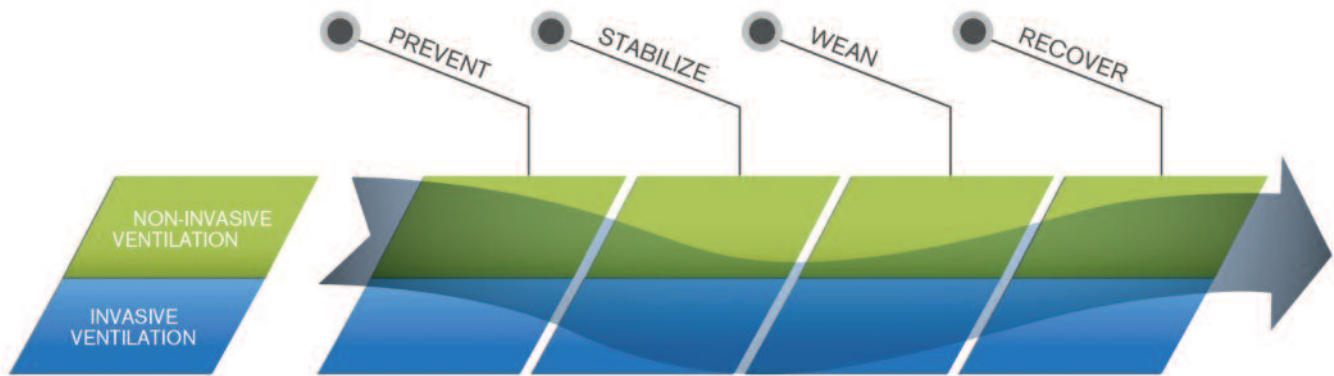
3 Masip J, Roque M, Sánchez B, et al. Noninvasive ventilation in acute cardiogenic pulmonary edema: systematic review and meta-analysis. JAMA. 2005;294:3124-3130

4 Girou E, Schortgen F, Delclaux C, et al. Association of noninvasive ventilation with nosocomial infections and survival in critically ill patients. JAMA 2000; 284:2361-2367

5 Epstein, S. How Often Does Patient-Ventilator Asynchrony Occur and What Are the Consequences? RESPIRATORY CARE · JANUARY 2011 VOL 56 NO1

Respiration Pathway

Carina supports workflow optimization in your clinical routine. Its non-invasive ventilation features and SyncPlus technology support you and your patients during the entire course of ventilation therapy.



PREVENT

- Reliable ventilation even with varying leakage rates
- Avoids asynchrony through automatic trigger correction
- Spontaneous breathing possible at any time, even during controlled ventilation
- High-quality, non-invasive ventilation from the emergency room on
- Simple intra-hospital transport without interruption of ventilation therapy

STABILIZE

- Spontaneous and mandatory ventilation modes for individual invasive or non-invasive therapy
- Safe apnea ventilation with automatic return to the previous mode without distracting alarms
- Comfortable secretion management through flow reduction on disconnect

WEAN

- Volume guarantee even during spontaneous breathing for safer ventilation
- Controlled ventilation with pressure support for gradual weaning of patients
- More comfort and safety through NIV-adapted alarm management

RECOVER

- Reduction of the work of breathing through inspiratory and expiratory synchronization
- Earlier mobilization is supported by the unit's compact design
- More patient comfort thanks to the very quiet turbine operation

Carina® non-invasive accessories

One of the major challenges of non-invasive ventilation is to create an optimum synchronization between the ventilator and a mostly awake patient despite the fact that there are constantly changing and steady leakages. Dedicated non-invasive ventilation accessories support the selected ventilation mode and allow the caregiver to use Carina according to different applications and patient profiles.

Leakages are a common challenge in non-invasive ventilation. When using non-invasive ventilation, synchronized ventilation enhances patient comfort. SyncPlus® is a built-in function of Carina, incorporating automatic leakage compensation, automatic cycle learning technology and a multi-sense trigger.

DEDICATED BREATHING CIRCUIT

For non-invasive ventilation it is recommended to use the leakage valve breathing system. This convenient disposable single-hose breathing system allows the accurate calculation and adjustment of volumes. Due to its patented design the Dräger breathing system VentStar LeakV optimally supports the leakage compensation capabilities of the Carina. In addition, the design of the leak valve prevents the breathing circuit from twisting which avoids occlusion and insufficient ventilation of the patient.

NON-INVASIVE MASKS

The Carina breathing system is completed by the Dräger non-invasive ventilation mask portfolio: ClassicStar, ClassicStar plus and NovaStar.

The two major challenges in terms of non-invasive patient interfaces are maximize patient comfort and minimize leakages.

The ClassicStar plus features a soft and anatomically shaped silicone lip as the sealing interface to the patients face. The air-filled mask cushion of the ClassicStar SE NIV mask can be adjusted to the patient's facial contours by inflating or deflating the mask cushion which increases comfort and makes a more effective seal. The NovaStar SE NIV mask provides an individual –"customized"– fit due to the embedded pliable ring in the flexible, transparent, soft mask shell combined with a silicone gel mask cushion for premium comfort and seal. Additional features, which include the individual adjustable forehead support and lightweight rapid fixation headgear, emphasize the convenience of both NIV masks.

ClassicStar and ClassicStar plus are available as nasal and oronasal masks. ClassicStar is also available as total face mask, covering mouth, nose and eyes. NovaStar is available as oronasal mask. Rotation of mask form (nasal, oronasal, total face) and interface type (silicone lip, air cushion, gel cushion) helps to select the best appropriate mask for the patient. The ClassicStar NIV masks are designed for single use. The NovaStar NIV masks can be cleaned and re-used maximum five times.

Designed for non-invasive ventilation

Dräger Carina features the following technologies to support non-invasive ventilation and help address patient-device synchrony:

SnycPlus®: Automatic leakage compensation even for constantly varying leakage rates

Auto wake-up: Commences ventilation directly from standby mode with the first patient breath

AutoAdapt: Lets patients slowly adapt to ventilation assist pressures

AutoFlow®: Volume guarantee ventilation with pressure correction for changes in compliance

Anti Air Shower: Flow reduction during disconnect and automatic resumption of ventilation

Leak hose

Patients filter (HME)

Breathing bag

D-28484-2015



Mask

D-10387-2016



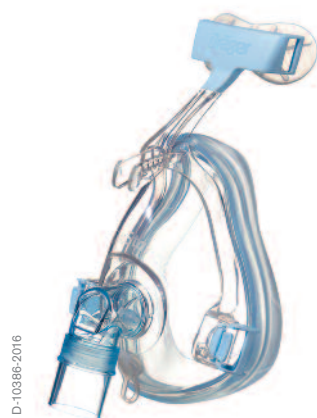
Trolley

Possible accessories for different applications



D-28835-2015

ClassicStar® NIV total-face mask



D-10386-2016

ClassicStar® plus



D-2300-2011

NovaStar®



MT-4387-2007

Filter CareStar®



D-54676-2012

VentStar™ Carina® LeakV



D-2203-2015

VentStar™ Carina® ExpV



MT-1985-2008

Carina® SyncVent



D-98716-2013

Carina® ExpV

Dedicated accessories for non-invasive ventilation results, increased patient comfort and superior therapeutic benefits:

- Patient comfort even in case of leaks or changing ventilation patterns
- Can reduce the work of breathing
- Can reduce needs of changes in ventilation settings for caregivers
- Complete system solution for non-invasive ventilation therapy

INVASIVE VENTILATION

In case of changes in the patient constitution the Carina can be used for invasive ventilation. For this kind of application the VentStar Carina ExpV breathing system should be used. It is also recommended for the use in situations where oxygen consumption could be critical. Providing a maximum pressure of 50 mbar the VentStar Carina ExpV should be used in patient profiles in which a higher pressure is essential.

Comfortable for both the patient and the caregiver

ORDER INFORMATION

Carina	With country specific gas connector and main cable	8419350
NovaStar SE, size S	NIV oronasal mask with standard elbow, reusable	MP01579
NovaStar SE, size M	NIV oronasal mask with standard elbow, reusable	MP01580
NovaStar SE, size L	NIV oronasal mask with standard elbow, reusable	MP01581
ClassicStar SE, size S	NIV oronasal mask with standard elbow, disposable	MP01573
ClassicStar SE, size M	NIV oronasal mask with standard elbow, disposable	MP01574
ClassicStar SE, size L	NIV oronasal mask with standard elbow, disposable	MP01575
ClassicStar®, size S	NIV nasal mask, non-vented, disposable	MP01623
ClassicStar®, size M	NIV nasal mask, non-vented, disposable	MP01624
ClassicStar®, size L	NIV nasal mask, non-vented, disposable	MP01625
ClassicStar plus SE, size S	NIV oronasal mask, with standard elbow, disposable	MP04711
ClassicStar plus SE, size M	NIV oronasal mask, with standard elbow, disposable	MP04712
ClassicStar plus SE, size L	NIV oronasal mask, with standard elbow, disposable	MP04713
ClassicStar plus SE, size XL	NIV oronasal mask, with standard elbow, disposable	MP04714
ClassicStar plus, size S	NIV nasal mask non vented, disposable	MP04741
ClassicStar plus, size M	NIV nasal mask non vented, disposable	MP04742
ClassicStar plus, size L	NIV nasal mask non vented, disposable	MP04743
ClassicStar plus, size XL	NIV nasal mask non vented, disposable	MP04744
ClassicStar SE, size S	NIV total-face mask, disposable	MP02910
ClassicStar SE, size M	NIV total-face mask, disposable	MP02911
ClassicStar SE, size L	NIV total-face mask, disposable	MP02912
Pack2Go® Carina NIV	Ventilation pack with oronasal mask ClassicStar® SE, size S	MP01663
Pack2Go® Carina NIV	Ventilation pack with oronasal mask ClassicStar® SE, size M	MP01664
Pack2Go® Carina NIV	Ventilation pack with oronasal mask ClassicStar® SE, size L	MP01665
Two-sided pump ball	For air management	MP01590
VentStar Carina LeakV	Breathing circuit VentStar Carina LeakV, latex-free, disp., 1.5 m, 25 pcs.	MP00312
VentStar Carina ExpV	Breathing circuit VentStar Carina ExpV, latex-free, disp., 1.5 m, 25 pcs.	MP00313
VentStar Carina ExpV	Breathing circuit, latex-free, disposable, 2 m, (25 pcs.)	5704962
SyncVent Carina	Leak valve single item; without hose (set of 5 pcs.)	MP00224
Expiratory valve	Expiratory valve single item; without hose (1 pc.)	MP00220
Filter CareStar 30	Breathing system filter	MP01770
Trolley 1 – 78 cm	Height of screen 105 cm, 78 cm height of backbone, total height 88 cm	G93038
Trolley 1 – 63 cm	Height of screen 90 cm, 63 cm height of backbone, total height 73 cm	G93037
Quick stop hinged arm	3 hose clamps (single), 3 hose clamps (double)	2M85705
Connecting hose holder	Cable winder	2M85446
Universal holder with standard rail	Rail for humidifier	G93140
F&P Humidifiers and accessories	Humidifier and reusable and disposable accessories	8414144
HEPA filter	Inlet filter for Carina	5703105
Ext. battery pack EU	European standard	5704668
Ext. battery pack UK	British - BS 1363 Standard	5704669
Ext. battery pack US	USA - NEMA 5-15P standard	5704670
Ext. battery pack AUS	Australian - AS3112 standard	5704671
Ext. battery pack CN	Chinese - GB1002 standard	5704672
Battery Holder	Metal box on trolley	G93150
Test lung, blue		8403201
Test lung, white		8401892
O ₂ monitor MiniOx		2M22464
O ₂ MiniOx Sensor		2M22461
MiniOx rail holder		2M22460
Aeroneb Pro nebuliser set		MP01010

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