



Astral™ series

Life support ventilators

Astral with iVAPS

A smarter solution for portable ventilation

Astral's latest set of clinical enhancements, which includes iVAPS (intelligent Volume-Assured Pressure Support), makes it the industry's smartest life support ventilator. As each patient's condition changes, so may his or her therapy needs. That's why Astral, already renowned for its portability and intuitive color touch screen, now features a suite of intelligent technologies that deliver adaptive ventilation to suit each patient's individual needs.



The smarter choice

- Unlike other volume assurance modes, iVAPS maintains patients' unique alveolar ventilation target, even when their respiratory rate changes throughout the night.
- iVAPS improves blood gases as effectively as standard pressure support modes, while providing better sleep quality. And research shows that prolonged use of non-invasive ventilation (NIV) is accompanied by long-term improvement in gas exchange. By improving therapy adherence, iVAPS may positively influence these outcomes.
- A feature of iVAPS, the intelligent Backup Rate (iBR) provides backup breaths only when needed to allow maximum opportunity for spontaneous breathing.

How does iVAPS stack up?

iVAPS mode combines the benefits of pressure-targeted ventilation with the assurance of a volume guarantee – a mode that is particularly popular for treating COPD patients.

AVAPS AE Prescription		iVAPS Suggested Settings	
Vt	6mL/kg	Target Alveolar Ventilation	6mL/kg
Min PS	5	Min PS	5
Max PS	20	Max PS	20
Min EPAP	5	EPAP	5*
Max EPAP	15		
Resp Rate	Auto	Target Patient Rate	15

*May increase EPAP if AHI is found to be elevated on EPAP 5.

60 minutes more

A study conducted on patients naive to NIV indicated that when treated with iVAPS, they adhered to therapy for 60 minutes longer (per session) than when treated with standard pressure support (PS) modes. Patients actually preferred iVAPS, which in turn led to longer use of NIV.¹



Astral specifications

	Astral 100	Astral 150
Indications for use	Life support for patients over 5 kg	Life support for patients over 5 kg
Circuit		
Single circuit with leak	•	•
Single circuit with valve	•	•
Double circuit		•
Therapy		
Valve circuit therapy: CPAP, (A)CV, P(A)CV, P-SIMV, V-SIMV, PS	•	•
Leak circuit therapy: CPAP, (S)T, P(A)C, iVAPS* with iBR	•	•
Manual breath		•
Sigh breath (recruitment)		•
Apnea ventilation	Volume and pressure	Volume and pressure
Preset programs	2	4
Pressure range and settings		
Delivered pressure (cm H ₂ O)	2–50 (leak circuit) 0–50 (valve circuit)	2–50 (leak circuit) 0–50 (valve circuit)
Delivered tidal volume (cm H ₂ O)	Adult: 100 to 2500 mL Pediatric: 50 to 300 mL	Adult: 100 to 2500 mL Pediatric: 50 to 300 mL
Respiratory rate	Adult: Off, 2 to 50 bpm Pediatric: Off, 5 to 80 bpm	Adult: Off, 2 to 50 bpm Pediatric: Off, 5 to 80 bpm
Data		
SpO ₂ monitoring	Optional	Optional
FiO ₂ monitoring	Optional	Standard
On screen	30 days of summary data Real-time pressure and flow (25 Hz)	30 days of summary data Real-time pressure and flow (25 Hz)
ResScan™ (via download)	365 days of summary data 7 days of detailed data	365 days of summary data 7 days of detailed data
Alarms	A wide range of settable alarms are available, including FiO ₂ and SpO ₂ when connected.	
Dimensions		
Weight	3.2 kg	3.2 kg
Dimensions (L x W x H)	285 mm x 215 mm x 93 mm	285 mm x 215 mm x 93 mm
Internal battery	Lithium-Ion battery, 14.4 V, 6.6 Ah, 95 Wh. 8-hour run time	Lithium-Ion battery, 14.4 V, 6.6 Ah, 95 Wh. 8-hour run time
Sound power level	43 ± 3 dBA**	43 ± 3 dBA**
Sound pressure level	35 ± 3 dBA**	35 ± 3 dBA**
IEC 60601-1 CLASSIFICATIONS:	Class II (double insulation) Type BF Continuous operation Suitable for use with oxygen	
Medical electrical equipment - general requirements for basic safety and essential performance.		

* iVAPS therapy mode is indicated for patients weighing 30 kg and above.
** As measured according to ISO 80601-2-12:2011

Product and accessory codes



Astral 150
27003
Astral 100
27001



Hospital trolley
27914



Astral mobility bag
27917



Astral SlimFit mobility bag
27949



Astral table stand
27915



External battery
27919



Astral Remote Alarm II
27903
(does not include cable)



Single circuit smooth bore 15mm QuickConnect™ circuit
21312



Oximetry set with reusable soft sensor
22370

See the ventilation accessories catalog for the full suite of ResMed accessories.



1 Jaye J et al. *Eur Respir J* 2012

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