

Meeting travel and safety standards

Astral meets international safety and travel standards, including:

- IEC 60601-1 Medical electrical equipment. General requirements for basic safety and essential performance. Classifications: Class II (double insulation), Type BF, continuous operation, suitable for use with oxygen
- IEC 60601-1-2 Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility – Requirements and tests
- IEC 60601-1-8 General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
- IEC 60601-1-11 Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment
- ISO 10651-2 Lung ventilators for medical use. Particular requirements for basic safety and essential performance. Home care ventilators for ventilator dependent patients
- ISO 10651-6 Lung ventilators for medical use. Particular requirements for basic safety and essential performance, home care ventilatory support devices
- ISO 16750-2 Road Vehicles – Environmental conditions and testing for electrical and electronic equipment
- ISO 7637-2 Road Vehicles – Electrical disturbances from conduction and coupling
- The Federal Aviation Administration (FAA) requirements (RTCA/DO-160, section 21, category m) for all phases of air travel

Modes and circuit types

Circuit type			Supplementary feature			
Mode	Leak	Valve	Apnoea ventilation	Safety Vt	Manual breath**	Sigh breath**
(A)CV		•	•		•	•
P(A)CV		•	•	•	•	•
P-SIMV		•	•		•	
V-SIMV		•	•		•	
PS		•	•	•	•	
CPAP	•	•	**			
(S)T	•					
P(A)C	•					
iVAPS	•					


* Valve circuits only ** Astral 150 only



Technical specifications

Operating pressure range	Single limb with valve or double limb with valve Expiratory: 0 cm H ₂ O Inspiratory: 50 cm H ₂ O
	Single limb with intentional leak Expiratory: 2 cm H ₂ O Inspiratory: 50 cm H ₂ O
	CPAP 3–20 cm H ₂ O Maximum working pressure limit:10–55 cm H ₂ O
Operating tidal volume range (volume control modes)	Adult patient type: 100–2500 mL Paediatric patient type: 50–300 mL*
Maximum flow	220 L/min
Sound pressure level	35 dBA ± 3 dBA as measured according to ISO 80601-2-12:2011
Sound power level	43 ± 3 dBA as measured according to ISO 80601-2-12:2011
Alarm volume range	59–89 dBA (five levels)
Data storage	Seven days of high-resolution airway pressure respiratory flow and delivered volume (sampled at 25Hz); Seven days of breath-related therapy data (sampled at 1Hz); 365 days of statistical data.
Dimensions (L x W x H)	285 mm x 215 mm x 93 mm
Weight	3.2 kg
Environmental conditions	Operating temperature: 0°C–40°C Charging temperature: 5°C–35°C Operating humidity: 5–93% RH non-condensing Storage and transport temperature: -25°C to 70°C Storage and transport humidity: 5 to 93% RH non-condensing Air pressure: 1100 hPa–700 hPa Altitude: 3000 m IP22, (protected against finger sized objects and against dripping water when tilted up to 15 degrees from a specified orientation) when placed horizontally on a flat surface or vertically with handle up. IP21, (protected against finger sized objects and against vertically dripping water) when placed on the Astral table stand.
Oxygen measurement	Internally mounted oxygen sensor 1,000,000 % hours* at 25°C
AC power supply	100–240V 50–60Hz 90 W 3.75 A continuous 120 W / 5 A peak 115V/400Hz
Battery information	Lithium-Ion battery 14.4V, 6.6 Ah, 95 Wh Operating hours: 8 hours with a new battery under normal conditions Total lifetime: 3000 hours of operation on internal battery

*The International Ventilator Standard indicates that paediatric patient type is intended to be used for a patient receiving less than 300 mL. However, Astral permits adjustment of 'Vt' setting parameters up to 500 mL for cases where 'Vt' is set to compensate for leak in the breathing circuit.
^The life of oxygen cells is estimated by the hours used multiplied by the % of oxygen used. For example, a 1,000,000% hours oxygen cell will last for 20,000 hours at 50% FiO₂ (20,000 x 50 = 1,000,000) or 40,000 hours at 25% FiO₂ (40,000 x 25 = 1,000,000). Astral's Oxygen Cell will last for 25,000 hours (1041 days) at 40% FiO₂.

**ResMed Ltd**
1 Elizabeth Macarthur Drive
Bella Vista NSW 2153 Australia

Distributed by:
ResMed Ltd, Bella Vista, NSW, Australia
EC REP ResMed (UK) Ltd, 96 Jubilee Ave, Milton Park, Abingdon, Oxfordshire OX14 4RW UK

Astral is a trademark and/or registered trademark of the ResMed family of companies. For patent information, see ResMed.com/ip. See ResMed.com for other ResMed locations worldwide.
© 2015 ResMed Ltd. Specifications may change without notice. 1019146/1 2015-11



Astral™ series

Life support ventilators



Technical and servicing solutions

Introducing Astral™

ResMed's Astral 100 and Astral 150 life support ventilators deliver excellence in leak and valve ventilation to suit a wide range of adult and paediatric patients. Offering a broad range of therapy modes, and compatibility with multiple patient interfaces, Astral combines all-round performance with efficiencies designed to suit your clinical settings.

With a contemporary and innovative design, Astral is quick and easy to use, helping to streamline training and patient setup. Additionally, ResMed provides flexible service solutions to keep your Astral fleet well maintained, and the costs of ownership low. Astral also meets all the required international travel and safety standards.

Innovative design

With its intuitive interface, easy setup and modular design, Astral has been built to make ventilation treatment and ongoing maintenance straightforward and efficient

Lightweight portability

At just 3.2 kg, and available with a range of accesories to aid mobility, Astral can be used in the home, in institution/ hospital environments, and anywhere that invasive or non-invasive ventilation is needed.

Long lasting battery

An internal battery provides up to eight hours of non-stop ventilation under typical use. Astral's simple design also allows you to change the battery without opening the main casing.

Minimalist internal design

The modular design means that the number of parts and components is minimised so that servicing is quick and cost-effective.

Manufacturer's warranty

Coming with a full two-year warranty from date of purchase, you can be sure of Astral's build quality and craftsmanship. For added assurance, you can also leave the responsibility of ongoing maintainance with us.

Low cost of ownership

Astral has been built to save you time and money, allowing you to allocate more of your valuable resources to focus on what's really important – the overall care of your patients.

Long service intervals

The pneumatic block only needs replacing every four years or 35,000 hours under typical operating conditions. With competitive pricing on all spare parts, servicing is both cost-efficient and easy.

Minimal training time

Astral's simplified internal design means that your own staff can become proficient in its maintenance, with minimal time spent in training.

Inventory management

Because Astral can treat a broad range of respiratory conditions, you can now go a lot further with just one device series. Simple servicing also results in fast turnaround times, allowing you to keep productive while reducing the number of life support devices in your fleet.



Flexible service solutions

Whether you choose the Easy Service plan or the ResMed Service plan, you can be sure to have ResMed's proven expertise and commitment to quality, maintaining the longevity and high performance of your Astral fleet.

Easy Service plan

You can now take full control of the servicing and maintenance of your Astral devices to reduce downtime and running costs.

Professional certification

ResMed's range of training workshops ensures that your staff are qualified to the highest standard in the servicing and maintenance of your Astral fleet.

Astral service software

With its simple user interface, Astral service software guides you through test and calibration procedures quickly and easily. Each stage is accompanied by detailed instructions and handy setup diagrams – plus a full service report can be generated to provide a comprehensive record of service procedures performed on devices.

Full service kits

ResMed's service kits equip you with everything you need to perform routine maintenance on Astral devices.

Service manuals and online support

Astral service manuals contain detailed technical descriptions and comprehensive, easy-to-read diagrams to help you navigate your device.

ResMed Service plan

Ideal for healthcare providers who require manufacturer support, the ResMed Service plan takes the stress out of servicing by putting it into the hands of our very own expert team.

Authorised service centres

ResMed's authorised service centres are certified to ensure repairs comply with ResMed standards – guaranteeing the quality of the repair and protecting your investment.

Manufacturer's service

Simply send your device back to ResMed when a service is due, and we'll do the rest. All services completed by ResMed are covered by a full two year warranty.



Astral service software



Accessing the air filter



Accessing the oxygen sensor