Astral with PS/SVt

Pressure Support with Safety Tidal Volume (PS/SVt) mode is a Volume Assured Pressure Support (VAPS) mode often used to treat patients with chronic obstructive pulmonary disease (COPD) and neuromuscular disease (NMD). The PS/SVt mode offers users a volume guarantee with every breath. This mode also provides patients with flexibility in using a traditional vented mask with standard tubing (6 ft). PS/SVt is now available on the Astral™ series leak circuit, which enhances leak compensation with Vsync technology for patients with persistent mask or oral leak.

Conversion recommendations

Trilogy™ AVAPS AE settings	Astral PS/SVt conversion example
Tidal Volume (Vte) *Example: 500 mL*	**Safety Vt = Tidal Volume** *Example: 500 mL*
Maximum Pressure Support (PS Max) *Example: PS max = 25 cmH$_2$O*	**PS Max = PS Max** *Example: Set at 25 cmH$_2$O*
Minimum Pressure Support (PS Min) *Example: PS Min = 6 cmH$_2$O*	**PS = PS Min** *Example: Set at 6 cmH$_2$O*
Expiratory Positive Airway Pressure Maximum (EPAP Max) *Example: EPAP = 15 cmH$_2$O*	N/A
Expiratory Positive Airway Pressure Minimum (EPAP Min) *Example: EPAP = 5 cmH$_2$O*	**PEEP = EPAP** *Example: Set PEEP at 5 cmH$_2$O*
Respiratory Rate *Example: BPM = Auto**	**Respiratory Rate = RR** *Example: 10 bpm**

* There is no Auto backup rate in PS/SVt . Respiratory Rate should be set per physician's orders.

Pressure Support with Safety Tidal Volume (PS/SVt)
PS/SVt is a commonly used mode in COPD patients. PS/SVt is similar to **Trilogy AVAPS**, as AVAPS is also a VAPS mode.

Primary PS/SVt settings
Below are primary settings to be prescribed for PS with Safety Vt:

PS: Pressure Support. Set as the minimum pressure support requirement, also equivalent to **Trilogy PS Min**.

PS Max: Pressure Support Maximum. Set as the maximum pressure support allowable/limit, equivalent to **Trilogy PS Max**.

PEEP: Positive End-Expiratory Pressure, also equivalent to **Trilogy EPAP**.

RR: Respiratory Rate to be set as a traditional back-up rate, equivalent to **Trilogy Rate**.

Safety Vt: Volume guarantee, set at 6–8 mL/kg IBW or equivalent to **Trilogy Tidal Volume** on an AVAPS prescription.

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*, PS	•	•
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_2O)	2–50 (leak circuit) 0–50 (valve circuit)	2–50 (leak circuit) 0–50 (valve circuit)
Delivered tidal volume (cm H_2O)	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
AirView™ (RCM required)	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. Up to 8 hours of backup power	Lithium-Ion battery, 14.4 V, 6.6 Ah, 95 Wh. Up to 8 hours of backup power
Sound power level	43 ± 3 dBA**	43 ± 3 dBA**
Sound pressure level	35 ± 3 dBA**	35 ± 3 dBA**
IEC 60601-1 CLASSIFICATIONS: Medical electrical equipment – general requirements for basic safety and essential performance.	Class II (double insulation) Type BF Continuous operation Suitable for use with oxygen	

* 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

Device trolley
279001

Astral mobility bag
27917

Astral SlimFit mobility bag
27949

Astral table stand
27915

External battery
27919

Astral Remote Alarm II (does not include cable)
27903

Single circuit smooth bore 15 mm QuickConnect™ circuit
21312

ResMed Connectivity Module (requires rental agreement)
27201

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

Adult · Pediatric · Non-invasive · Invasive · Hospital · Home · Mobility · Internal battery · External battery · USB · Alarm · Airline approved · iVAPS · iBR · Vsync · ™ TiControl · 5 Trigger · NIV+ · Learn circuit · Customizable programs

1 Köhnlein T et al. Non-invasive positive pressure ventilation for the treatment of severe stable chronic obstructive pulmonary disease: a prospective, multicentre, randomised, controlled clinical trial. *Lancet Respir Med* 2014;2:698–705.
2 Jaye J et al. *Eur Respir J* 2012

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