SINGLE LIMB CIRCUIT WITH ACTIVE EXPIRATORY VALVE:

The Astral Device DOES NOT support monitoring of Exhaled Volumes when used with a single limb circuit with an active expiratory valve. **Measures (targeted) Inspiratory Tidal Volumes.**

Volume modes

(A)CV (Assisted volume-controlled ventilation): Is a volume targeted ventilation mode delivery volume-controlled mandatory breaths

> Ordered Settings: RR,PEEP,Tidal Volume, I-Time
> **APNEA Backup (Alarm only,ACV+Alarm, PACV+ Alarm)**
> **Ordered Settings for apnea back up PIP/Tidal Volume, PEEP, RR, I-Time**

RANGES/DEFAULT VALUES:

> **RR:** 5-80bpm [20 bpm]
> **PEEP**: 3-20 cmH2O[5cmH2O]
> **Vt**: 50-300 cmH2O[50-60cmH20]
> **PIF**:(When volume breath option is set to PIF):5-60 L/M
> [10lpm]
> **I-time**: (When volume breath option is set to Ti): 0.3-3.0sec
> [0.6sec]
> **Flow shape %**: 100(constant) 25,50,100 [100%]
> **Trigger (pressure)**: very low to very high [Very High]

V-SIMV (Volume Synchronised Intermittent Mandatory Ventilation): Is a mixed ventilation mode delivering volume-controlled mandatory breaths and pressured supported spontaneous breaths.

> Ordered Settings: RR,PEEP,PS, Vt, I-Time

RANGES/DEFAULT VALUES:

> **RR:** 5-80 bpm [20bpm]
> **PEEP**:3-20cmH2O [5cmH2O]
> **PS (above PEEP)**:Spontaneous Breaths:2-50 cmH2O [7cmH2O]
> **Vt**: 50-300 ml [50-60 ml]
> **PIF**:(When Volume Breaths option is set to PIF) Mandatory
> Breaths: 5-60 bpm [10bpm]
> **I-time**: (When Volume Breaths option is set to I-time)
> Breaths:0.3 to 3sec [0.6sec]

Flow shape %: 100(constant) 25,50,100 [100%]
Cycle %: Spontaneous Breaths:5 to 90 [Auto]
Trigger (pressure) : Very Low to Very High [Very High]

Pressure Modes

PS: **(Pressure Support)** Is a pressure targeted ventilation mode delivering pressure supported spontaneous breaths.(Safety Tidal Volume optional) (**FREQUENTLY USED MODE**)
Ordered Settings without Safety Tidal Volume: RR(minimum), PEEP,PS, Ti min,Ti max
Ordered Settings with Safety Tidal Volume: RR, PEEP,PS(minimum) ,I-time max, I-time min, Tidal Volume(insp vol targeted), PS max

RANGES/DEFAULT VALUES:
RR: 5-80 bpm [20bpm]
PEEP: 2- 25cmH20 [5cmH2O]
PS (above PEEP): 2- 48cmH20 [7cmH2O]
Cycle %: 2 - 90%
Trigger (pressure):Low to Very High [Very High]
Rise Time(msec): 150 - 900msec [200msec] **(cannot exceed**
⅔ of I-time max)

I-time min: 0.2-4.0 sec [0.2sec]
I-time max: 0.3-4.0 sec [0.8sec]
Safety Tidal Volume (optional):50-500ml inspvt
PS max(mandatory with safety tidal volume):2-50cmH2O

CPAP: **(Continuous Positive Airway Pressure):** mode delivers a constant level of pressure during inspiration and expiration.
APNEA Backup (Alarm only, ACV+Alarm, PACV+Alarm)
Ordered Settings for apnea back up PIP/Tidal Volume, PEEP, RR, I-Time

RANGES/DEFAULT VALUES:
CPAP (PEEP): 3-20cmH2O [5cmH2O]
Trigger (pressure): Very low to Very High [Very High]

P(A)CV (Assisted Pressure Controlled Ventilation): Is a pressure targeted ventilation mode delivering pressure-controlled mandatory breaths. (Safety Tidal Volume optional)

> Ordered Settings without Safety Tidal Volume: RR,PEEP,P Control, I-Time
> Ordered Settings with Safety Tidal Volume: RR,PEEP, Insp Tidal Volume,I-Time, P control max
> Apnea Backup optional

RANGES/DEFAULT VALUES:

> **RR:** 5- 80 bpm [20bpm]
> **PEEP**: 3-20cmH2O [5cmH2O]
> **P Control**: 2 - 50cmH2O [7cmH2O]
> **Ti(sec)**: 0.2-5.0 [0.6sec]
> **Trigger (pressure)**:low to Very High [Very High]
> **Rise Time (msec)**: 150-900msec [200 msec]

Safety Tidal Volume (optional):50-500ml inspVT
P-Control max(mandatory with safety tidal volume)2-50cmH2O

P-SIMV (Pressure Synchronized Intermittent Mandatory Ventilation): Is a mixed ventilation mode delivering pressure-controlled mandatory breaths and pressure supported spontaneous breaths.

> Ordered Settings: RR,PEEP,Pcontrol, PS,I-time

 RANGES/DEFAULT VALUES:

> **RR:** 5-80bpm [20bpm]
> **PEEP**: 3-20cmH2O [5cmH2O]
> **P Control**: 2-50 cmH2O [7 cmH2O]
> **PS (above PEEP)**: Spontaneous Breaths: 2-50 cmH2O
> [7cmH2O]
> **I-time**: 0.2-5sec [0.6sec]
> **Cycle %:** Spontaneous Breaths: 5 - 90 [Auto]
> **Trigger (pressure):** Very low to Very High [Very High]
> **Rise Time**: 150 - 900 (msec) [200 msec]

DISCONNECTION ALARM: (has to be set "ON" to use)
The disconnection alarm can be adjusted based on patient minimal leak