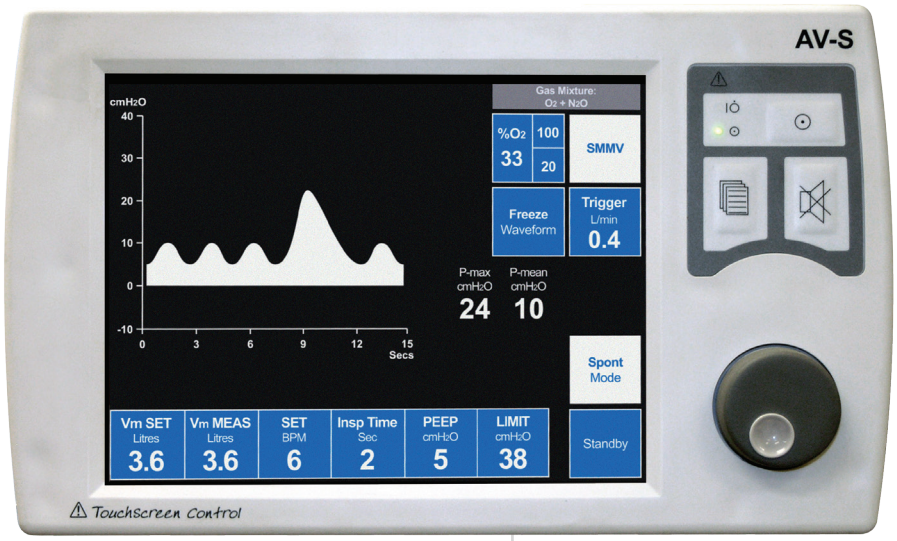
DRE AV-S
Touchscreen Anesthesia Ventilator

Equipment for the way *you* operate



Easy to use, multifunction anesthesia ventilator designed for all patient types

Features an intuitive user interface and comprehensive support modes.

- » Large, color Touchscreen and Com-Wheel control
- » Volume, PCV, PSV, SIMV and SMMV modes
- » Single/dual waveform display

A Quick Look

- Volume, PCV, PSV, SIMV and SMMV modes
- Comprehensive printer/data outputs for networking and interfacing to patient monitors
- Integrated oxygen monitor and spirometry
- Inverse I:E ratio capability
- Electronic PEEP
- Autoclavable latex-free bellows
- Oxygen and air drive gas
- 30 minutes of battery backup
- Selectable dual waveform display:
  - – Pressure v. time
  - – Volume v. time
  - – Pressure v. volume (for ventilation analysis) plus waveform free facility
- Save and recall function for user specific settings
- Adult and pediatric default settings
- Flexible specification
  - – Stand-alone operation or seamless integration with the DRE Integra AV-S workstation
  - – Display mounting option
  - – Multilingual display

Advanced Spontaneous Breathing Modes

SIMV (Synchronized Intermittent Mandatory Ventilation): Provides a minimum level of volume, and allows spontaneous breaths and set mandatory breaths. With a spontaneously breathing patient, Negative pressure† in the Trigger Window* (generated by the patient's spontaneous breath) results in a synchronized mandatory breath at a preset volume and rate.

SMMV (Synchronized Mandatory Minute Ventilation): Provides a set level of minute volume ventilation and allows spontaneous breaths, combined with a synchronized mandatory breath, to achieve the set minute volume. With a spontaneously breathing patient, negative pressure† in the Trigger Window* (generated by the patient's spontaneous breath) results in a synchronized mandatory breath, ensuring that the set minute volume is achieved.

PSV mode (Pressure Supported Ventilation): Assists each spontaneous breath with a preset pressure, reducing the effort required to breathe. Negative pressure† (generated by the patient's spontaneous breath) results in synchronised pressure support. PSV is used to support spontaneously breathing patients ONLY. If the patient makes no attempt to breathe, the ventilator will not provide support and the apnea alarm will be activated.

†Negative relative to PEEP *Trigger Window = 60% of Cycle Time

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Technical Specifications

Physical

Size (H x W x D, control unit)	7.3. x 11.4 x 11.8 in 18.5 x 29 x 30 cm
w/ adult bellows (H x W x D)	7.3. x 11.4 x 11.8 in 38.5 x 29 x 30 cm
Screen	8.4" / 21 cm (8.4") TFT
Weight (control unit only)	7.6 kg
Weight (with adult bellows)	9.0 kg
Bellows (latex-free)	20 to 1600 ml, 20 to 350 ml (pediatric option)
Power	90 to 264 VAC, 47 to 63 Hz
Drive Gas	Oxygen or air

Functional

Tidal Volume (Vt)	20 to 1600 ml
Rate (BPM)	4 to 100 bpm
I:E Ratio	1:0:3 to 1:8
Pressure Limit	10 to 80 cmH_20
Fresh Gas Compensation	Automatic tidal volume adjustment
Ventilation Modes	Off, standby, volume, pressure controlled, spontaneous, SIMV, SMMV, PSV (for use in anesthesia procedures only)
Sigh Function (volume mode)	Tidal volume (Vt) x 1.5 is delivered once, twice, three or four times every 50 breaths (frequency is user selectable)
Pressure Control	10 to 50 cmH_20
Spontaneous Mode	Active volume and pressure alarms, patient support function – automatic switch to volume cycle mode if apnea alarm is triggered
Electronic PEEP	4 to 30 cmH_20
Oxygen Monitor	Fuel cell type

SIMV, SMMV, PSV

Trigger	0.7 to 4 L/min (PEEP referenced)
Trigger Window	60% of Expiratory Time
Tidal Volume (Vt)	As Volume Mode
Minute Volume (Vm)	As Volume Mode
Inspiratory Time (Ti)	0.5 to 5 Seconds
Support Pressure	3 to 20 CmH_20 (PEEP Referenced)

Alarms – Automatic

Alarm Mute	30 seconds
Low Drive Gas Pressure	Less than 235 kPa (34 psi)
High Continuous Airway Pressure	Above 30 cmH_20 at start of cycle

Alarms – Automatic continued

Low Pressure	4 to 14 cmH_20 PEEP reference
Low Tidal Volume	50% of volume set (spirometry)
Incorrect rate or ratio	
• Mains Failure	30 minutes battery backup
• Low Battery	5 minutes use
• Vent Loop	Internal or battery failure
• Apnea	Flow referenced

Alarms – Optional User Set

Tidal Volume – Minimum	0 to 1600 ml
Tidal Volume – Maximum	20 to 1600 ml
Minute Volume – Minimum	0 to 10 L
Minute Volume – Maximum	0 to 30 L
Low and High O_2 Concentration	18% to 105%
High Airway Pressure	10 to 80 cmH_20 adjustable

Default Settings

Volume	Adult	Pediatric
• Tidal Volume (Vt)	600 ml	150 ml
• Rate (BPM)	10	15
• I:E Ratio	1:2	1:2
• Pmax	38 cmH_20	38 cmH_20

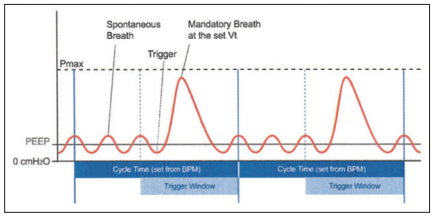
Pressure	Adult	Pediatric
• Tidal Volume (Vt)	600 ml	150 ml
• Rate (BPM)	10	15
• I:E Ratio	1:2	1:2
• P-Target	10 cmH_20	10 cmH_20

SIMV	Adult	Pediatric
• Tidal Wave (Vt)	600 ml	200 ml
• Rate (BPM)	6	10
• Inspiratory Time	2 Seconds	1 Second
• Trigger	-1 cmH_20	-1 cmH_20

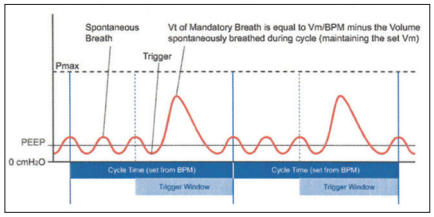
SMMV	Adult	Pediatric
• Tidal Wave (Vt)	3.6 L	2 L
• Rate (BPM)	6	10
• Inspiratory Time	2 Seconds	1 Second
• Trigger	-1 cmH_20	-1 cmH_20

PSV	Adult	Pediatric
• Support Pressure	10 cmH_20	10 cmH_20
• Inspiratory Time	2 Seconds	1 seconds

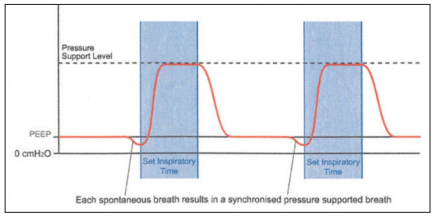
Features Three Advanced Spontaneous Breathing Modes



SIMV



SMMV



PSV

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