



## DRE Integra AV-S | Anesthesia Workstation

# Built for you, built to last

The low maintenance, durable Integra AV-S comes standard with the features you need every day. Plus it costs as much as \$20,000 less than competing machines.

GE/Ohmeda  
**Trade In**

*Trade in select discontinued GE/Ohmeda machines toward your purchase of a new Integra AV-S. See inside for details.*



Equipment for the way *you* operate

The durable, easy-to-use DRE Integra AV-S is designed for you. It has an open architecture, is perfect for ultra-low flow, and is backed by a manufacturer that has never discontinued service for its anesthesia machines or ventilators.

Plus you can save as much as \$20,000 on the cost of each machine, and save as much as 41% in preventative maintenance costs.



Trade in select discontinued GE/Ohmeda machines toward your purchase of a new Integra AV-S.

Service for the Excel, Excel SE and Modulus SE will soon be discontinued, according to a recent press release from GE Healthcare. If your facility is affected by the discontinuation, we can help.

DRE is currently offering significant discounts on Integra AV-S anesthesia workstations when you trade in select discontinued GE/Ohmeda anesthesia machines. This offer is also available for select Drager anesthesia machines.

# The affordable, low maintenance anesthesia workstation.

- Balanced ultra-low flow anesthesia that provides increased patient safety with a mechanical anti-hypoxic device
- Modular construction with high levels of workstation integration
- Open architecture gives you ample space for monitors and accessories
- Standard with three gases (O<sub>2</sub> • N<sub>2</sub>O • Air)
- Available with a pull-out writing tablet



The fully integrated Integra AV-S features the AV-S touchscreen ventilator, the high performance A200SP absorber, and Sigma Delta vaporizer(s)

With the Integra AV-S you get higher performance at a lower price (plus you can save thousands of dollars in maintenance costs).



- The Integra AV-S provides superior performance and costs as much as **\$20,000 less** than competing anesthesia workstations.
- Has a low cost of ownership with only two preventative maintenances per year. Plus preventative maintenance parts are priced **as much as 41% less expensive** than those of competing machines.
- Comes standard with integrated spirometry instead of consumable spirometry found on competing machines, **saving you up to \$720/year per machine.**
- Supported by a manufacturer that has **never discontinued service** for its machines, saving you money and headaches

Get the features you need without the sticker shock of competing workstations (and with the Integra AV-S, you won't have to worry about a discontinuation letter looming around the corner).

The superior Integra AV-S is designed for today's surgery center. It is constructed of durable components (more aluminum, less flimsy plastic) and comes with standard features (like three gases) for which competitors charge extra. See below for how the Integra AV-S stacks up against competing machines.

Feature	Integra AV-S	Fabius GS	Aestiva	Aespire
Dimensions (h x d x w)	53" x 31" x 28" + abs.	51" x 32" x 35" + abs.	54" x 33" x 37" + abs.	53" x 29" x 29"
Weight (lbs)	220 w/ 2 vaps.	260 w/ 2 vaps.	387 w/ 3 vaps.	268 w/ 2 vaps.
Top Shelf (w x d)	28" x 19.5"	30" x 19"	26" x 16"	26" x 16"
Work Surface (w x d)	23" x 14"	27" x 13"	18" x 12"	23" x 14"
Writing Tablet	Optional	Yes	Optional	Optional
Drawers (h x d x w)	Up to 3 (7.7" x 16" x 20")	3	1 (4" x 10" x 15")	2 (6.9" x 10" x 13")
Flow Meter Type	Dual cascade flow tubes	LED and combined flow	Dual flow tubes	Optional dual flow
Gases (Standard)	O <sub>2</sub> • N <sub>2</sub> O • Air	O <sub>2</sub> • N <sub>2</sub> O • Air	O <sub>2</sub> • N <sub>2</sub> O (air is optional)	O <sub>2</sub> • N <sub>2</sub> O (air is optional)
Cylinders (Standard)	1 x O <sub>2</sub> • 1 x N <sub>2</sub> O	Optional	Optional	Optional
Electrical Outlets x 4	Standard	Optional	Optional	Optional
O <sub>2</sub> Therapy Flow Meter	Optional	Optional	Optional	Optional
Scavenging and Suction	Optional	Optional	Built-in	Built-in
Anti-Hypoxic Device	Direct Drive	S-ORC	Chain link – 25	Chain link – 25



# The easy-to-use AV-S Ventilator is designed for all patient types.



The AV-S anesthesia ventilator features a user-friendly touchscreen and comprehensive support modes that provide optimum therapy for all patient profiles. With the clearly-labeled, simple layout of the AV-S interface, you'll be able to make quick decisions on the fly, even in the most hectic operating environment. You can also easily configure its screen to display two waveforms, including a compliance loop not available on many competing ventilators.

Feature	AV-S	E-Vent	7900	7100
Screen Type/Size	Color Touchscreen/8.4"	EL Black and Orange/6.4"	EL Black and Orange/6.4"	LCD/5.5"
Volume	Yes	Yes	Yes	Yes
Pressure	Yes	Yes	Yes	Optional
Spontaneous Monitoring	Yes	Yes	Yes	Yes
Pressure Support	Yes	No	Optional	Optional
Control	Touchscreen and Com-Wheel	Com-Wheel only	Com-Wheel only	Com-Wheel only
Dual Waveform	Yes	No	No	No
Print From Screen Ability	Yes	No	No	No
Tidal Volume (ml)	20–1600	20–1400	20–1500	45–1500
Frequency/min.	4–100	4–60	4–100	4–65
I:E Ratio	3:1 to 1:8	4:1 to 1:4	2:1 to 1:8	2:1 to 1:6
Pressure v. Limits	10–80	15–70	12–100	12–100
Electronic PEEP cmH <sub>2</sub> O	4–30	0–20	4–30	4–30
Fresh Gas Compensation	Yes	Decoupling	Yes	Yes
Gas Powered	Yes	No, Electric	Yes	Yes
Battery Back-up	45 min.	45 min.	45 min.	45 min.
Oxygen Monitor	Yes	Yes	Yes	Yes

# The AV-S features three advanced spontaneous breathing modes.



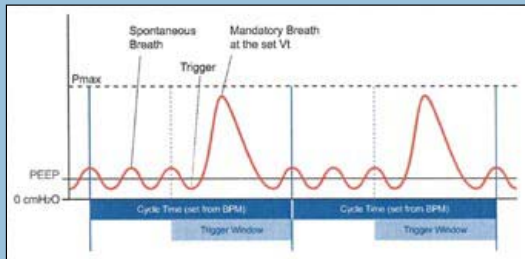
The AV-S ventilator provides three support modes that can be utilized as the patient attempts to breathe spontaneously. Patient recovery is accelerated by increased tidal volume and SpO<sub>2</sub>, and reduced EtCO<sub>2</sub>.

## SIMV (Synchronized Intermittent Mandatory Ventilation)

Provides a minimum level of volume, and allows spontaneous breaths and set mandatory breaths.

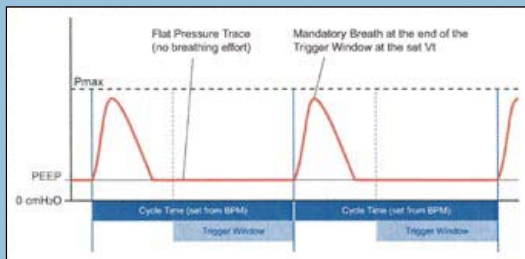
### SIMV — Spontaneously Breathing Patient

Negative pressure<sup>†</sup> in the Trigger Window\* (generated by the patient's spontaneous breath) results in a synchronized mandatory breath at a preset volume and rate.



### SIMV — Non-breathing Patient

If the patient makes no effort to breathe during a cycle, a mandatory breath, at the end of the Trigger Window,\* will still be delivered at the preset volume and rate.

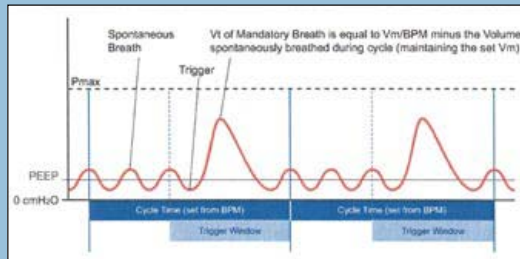


## SMMV (Synchronized Mandatory Minute Ventilation)

Provides a set level of minute volume ventilation and allows spontaneous breaths, combined with a synchronized mandatory breath, to achieve the set minute volume.

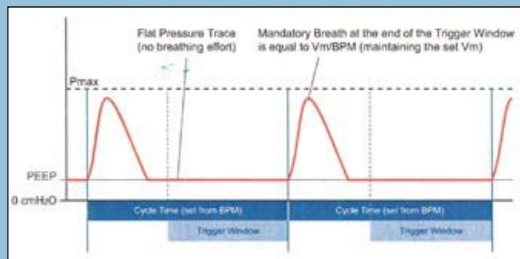
### SMMV — Spontaneously Breathing Patient

Negative pressure<sup>†</sup> 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.



### SMMV — Non-breathing Patient

If the patient makes no effort to breathe during a cycle, a mandatory breath, at the end of the Trigger Window,\* will still be delivered at the preset volume and rate.

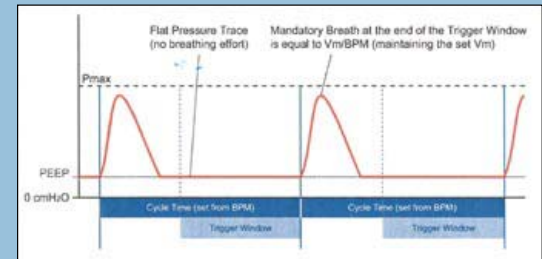


## PSV (Pressure Supported Ventilation)

PSV assists each spontaneous breath with a preset pressure, reducing the effort required to breathe. Negative pressure<sup>†</sup> (generated by the patient's spontaneous breath) results in synchronized pressure support.

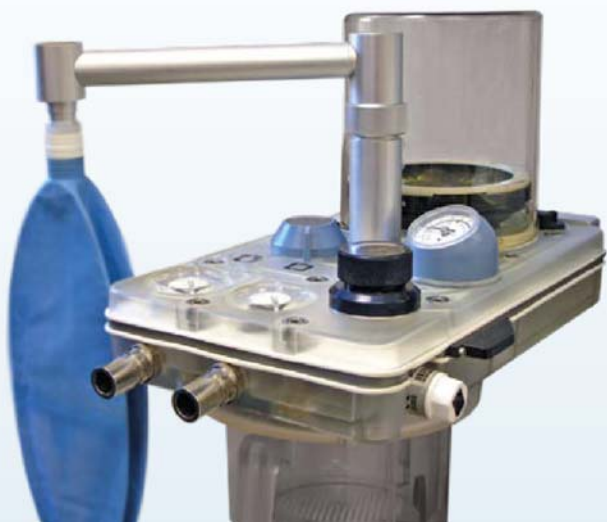
### PSV is used to support spontaneously breathing patients only.

If the patient makes no attempt to breathe, the ventilator will not provide support and apnoea alarm will be activated.



<sup>†</sup>Negative relative to PEEP    \*Trigger Window = 60% of Cycle Time

# The A200SP Absorber combines ease of use with advanced system integration.



The high performance A200SP absorber provides you with an efficient CO<sub>2</sub> absorption module and integrated, permanent spirometry sensors that don't have to be replaced year after year. It's autoclavable<sup>†</sup> and it can easily be configured for right-handed and left-handed operators. You can also utilize its quick-release canister to change absorbent while ventilating your patient.

Feature	A200SP	Cosy	Absorber	ABS
Heated Circuit	Optional	Optional	No	No
Large, Easy-to-Reach Controls	Yes	No	No	No
Integrated Ascending Bellows	Yes	No Bellows	Yes	Yes
Vent Bag/Vent Auto Switching	Yes	No	Yes	Yes
Integrated O <sub>2</sub> Sensor	Yes	Yes	Yes	Yes
Single Canister, Low Compliance	Yes	Yes	No	Yes
Quick Canister Release w/ Auto Seal	Yes	Yes	No	Yes
Loose Absorbent or Standard Pre-Pack	Yes	No	Yes	No
Autoclavable <sup>†</sup>	Yes	Yes	Yes	Yes
Robust Arm Bag	Standard	Optional	Optional	Optional
Pressure Gauge	Standard	Optional	Optional	Optional

<sup>†</sup>Excludes covers, manometer and oxygen sensor.



# The lightweight Sigma Delta Vaporizer delivers accurate concentrations at ultra-low flows.



Count on the Sigma Delta vaporizer to deliver accurate concentrations at varying temperatures and vapor concentrations, particularly at low flows. It is service-free for as many as 10 years, and at only 11 pounds, the lightweight Sigma Delta is much easier to handle than rival vaporizers.

Feature	Sigma Delta	Vapor 2000	Tec 5	Tec 7
Weight (lbs)	11	16	15	15
Back Bars	Selectatec, North American Drager, Cage	Selectatec, Cage	Selectatec	Selectatec
Major Service Intervals	10 Years	10 Years	3 Years	10 Years
In-House Service by User	Optional	No	No	No
3-Year Warranty	Yes	Yes	Yes	Yes
Ergonomic Push/Turn Control Dial	Yes	No	No	No

# We'll craft a service solution that you can rely on.

A smooth installation and reliable support are critical to transitioning to a new anesthesia workstation. DRE has a skilled in-house biomedical staff that is trained and experienced in servicing the Integra AV-S. You can choose service offerings that include on-site installation, dedicated phone support, comprehensive training for your staff, and regional technicians near your facility.

- By design, the Integra AV-S is a reliable, low maintenance worksystem that is very easy to use
- Includes a two-year manufacturer's warranty
- Features a modular construction for increased reliability and an open architecture for future expansion
- Low cost of ownership with no more than two preventive maintenances per year
- Saves you up to 40% on supplies and replacement parts compared with competing machines

DRE's skilled in-house biomedical staff is fully trained ▶ in servicing the Integra AV-S. Service offerings are available that include dedicated phone support and comprehensive training for your staff.



Your trolley may differ from photo.  
Pictured here with the DRE Waveline Plus (sold separately).

# Technical Specifications

## Integra AV-S

### Physical

• Size (H x W x D)	54 x 26 x 26 in / 137 x 66 x 66 cm
• Weight	75kg / 200 lbs
• Top Shelf	24 x 16 in / 61 x 40 cm
• Work Surface	24 x 14.5 in / 61 x 37 cm
• Drawers	6 x 15 x 17 in / 15 x 38 x 43 cm (maximum of three)
• Power required VAC	110 / 220
• Auxiliary Electric Outlets	(4)13 Amp

### Features

• Max Vaporizers	3
• Gases	Oxygen, Nitrous Oxide, Air
• Cylinder Yokes	4
• Oxygen Fail Safe	Yes
• Anti-Hypoxic Device	Mechanical, 27 to 33%
• Integrated A200SP Absorber	Yes
• Integrated AV-S Ventilator	Yes
• Standards	All relevant to markets, including ASTM & CE

## A200SP Absorber

### Physical

• Size (H x W x D)	16.5 x 9 x 16.9 in / 42 x 23 x 43 cm
• Weight	15 kg
• Absorbent Capacity	1.3 kg

## AV-S Ventilator

### 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 <sub>2</sub> O

## AV-S Ventilator (Functional continued)

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 <sub>2</sub> O
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 <sub>2</sub> O
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 <sub>2</sub> O (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 <sub>2</sub> O at start of cycle
Low Pressure	4 to 14 cmH <sub>2</sub> O 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

## AV-S Ventilator (continued)

### 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 <sub>2</sub> Concentration	18% to 105%
High Airway Pressure	10 to 80 cmH <sub>2</sub> O 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 <sub>2</sub> O	38 cmH <sub>2</sub> O

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 <sub>2</sub> O	10 cmH <sub>2</sub> O

### SIMV

Adult	Pediatric
• Tidal Wave (Vt)	200 ml
• Rate (BPM)	10
• Inspiratory Time	1 Second
• Trigger	-1 cmH <sub>2</sub> O

### SMMV

Adult	Pediatric
• Tidal Wave (Vt)	2 L
• Rate (BPM)	10
• Inspiratory Time	1 Second
• Trigger	-1 cmH <sub>2</sub> O

### PSV

Adult	Pediatric
• Support Pressure	10 cmH <sub>2</sub> O
• Inspiratory Time	2 Seconds

# Get the workstation that's right for you.

In addition to the fully-featured Integra AV-S, you can choose the customizable Integra SP I and Integra SP II.

- Specifically designed for low flow
- Mechanical anti-hypoxic device and Air/N<sub>2</sub>O interlock
- Includes a recessing absorber
- Left or right handed layout
- Contemporary ergonomic design

Available with a variety of ventilators



AV800

Features multi-mode functions, inspiratory pause and inverse I:E ratio



Nuffield

MRI-compatible, pneumatically-driven, time-cycled ventilator



The Integra SP I has a small footprint and is perfect for smaller surgery centers

The Integra SP II has two vaporizers and a wide work surface with a writing table and footrest





**DRE**  
Integra AV-S



Equipment for the way *you* operate

1800 Williamson Court • Louisville, KY 40223  
(800) 477-2006 • [www.dremed.com](http://www.dremed.com)