Heal Force

Anaeston Series

Anesthesia machine

For Affordable Tailored Anesthesia

Anaeston 5000 workstation of full expansion

Heal Force leads you to healthier life

Cost-effective way to tailor anesthesia

For over 20 years, Heal Force has been working closely with doctors and our industrial partners to develop advanced but affordable hardware and software, for optimizing perioperative anesthetic care and ancillary workflow.

To further enhance effectiveness of anesthesia and reduce surgical cost, Heal Force launches the updated Anaeston anesthesia delivery system, which features advanced ventilation methods, comprehensive monitoring function and flexible expansion as needed, with which customers can start routine application with low capital investment and upgrade to workstation as tailored anesthesia requirements increase.

Please visit www.healforce.com or contact our international distributors for more information about

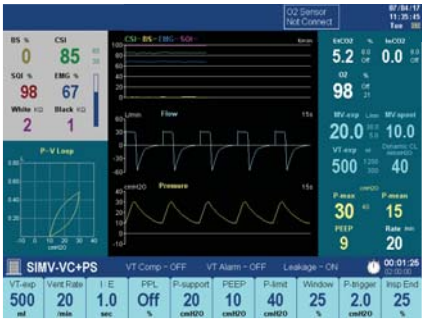
- Advanced but affordable anesthesia machine
- Advanced anesthetic agent monitor
- Sedation monitor for drug usage and ventilation guide
- Computer-assisted clinical decision making program
- High quality anesthetic consumables
- IT solution to help optimize anesthesia and ancillary workflow

Anaeston 5000L
Anesthesia workstation

Feature

- High-precision fresh gas output down to 20ml
- Automatic volume and compliance compensation
- All major ventilation modes integrated (like VCV,PCV,PSV,SIMV+PS)
- EEG-based assessment of anesthetic sedation
- Spontaneous and manual respiratory MV monitoring
- Audible and visual alarm with risk-priority indication and troubleshooting guide
- Autoclavable and latex-free components
- 12.1” external color TFT monitor
- CE marked

Cerebral State Monitor



SIMV-VC+Pressure Support, CSM & $EtCO_2$ Monitoring

Specification

Dimension		810x860x1360 mm (WxDxH)
Weight		110 kg
Driven mode		Pneumatically driven, electronically controlled
Gas supply		O_2, N_2O, Air
Input pressure		280~650 kpa
O_2 flush		35~75 L/min
Power supply		110/230VAC, 60/50HZ
Batter backup		60 minutes
Vaporizer Mount		2, Selectatec™ (Datex-Ohmeda’ s trademark)
Agent type		Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Patient type		Adult and pediatric
Tidal volume		20~1500ml
Ventilation mode		Manual, VCV, PCV, PLV, PSV, SIMV+VCV/PCV+PS
Value Monitoring		Tidal volume, Minute Volume, Respiratory rate, I:E ratio
		Pmax, Pmean, Pplat
		FiO_2%, $EtCO_2$% (optional)
		CSI, SQI%,EMG% and BS%
Graphic Monitoring		V-T, P-T, F-T curves. P-V, P-F, V-F loops
		Anesthetic depth and trend (including CSI, SQI%, EMG% and BS%)

Alarm

(Audible and visual alarm indication with diagnostic messages for trouble-shooting)		
Alarm silence		120 seconds
Alarm content		High/low Vt, High/low MV, High/low Paw, High/low FiO_2, High/low flow
		High/low cerebral state index (for anesthetic depth)
		High/low $EtCO_2$%, $InCO_2$% and temperature (optional)
		Apnea alarm, Airway Malfunction, Power failure, Low battery and so on

Anaeston 3000P
Anesthesia machine

Feature

- High-precision fresh gas output down to 20ml
- Automatic volume and compliance compensation
- Manual, VCV,PCV,PLV ventilation
- EEG-based assessment of anesthetic sedation
- Spontaneous and manual respiratory MV monitoring
- Autoclavable and latex-free components
- Tool-free maintenance and cleaning
- Built-in 8.4” color TFT monitor
- CE marked

Res. & Ins flow monitoring

Medical CO_2 absorbent, 980g / pack

Specification

Dimension	810x810x1360 mm (WxDxH)
Weight	96 kg
Driven mode	Pneumatically driven, electronically controlled
Gas supply	O_2, N_2O, Air
Input pressure	280~650 kpa
O2 flush	35~75 L/min
Power supply	110/230VAC, 60/50HZ
Batter backup	60 minutes
Vaporizer Mount	1, Selectatec™ (Datex-Ohmeda’ s trademark)
Agent type	Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Patient type	Adult and pediatric
Tidal volume	20~1500 ml
Ventilation mode	Manual, VCV, PCV, PLV
Value Monitoring	Tidal volume, Minute Volume, Respiratory rate, I:E ratio
	Pmax, Pmean, Pplat
	FiO_2%, $EtCO_2$% (optional)
	CSI, SQI%,EMG% and BS% (optional)
Graphic Monitoring	V-T, P-T,F-T curves. P-V, P-F, V-F loops
	Anesthetic depth and trend (including CSI, SQI%,EMG% and BS%) (optional)

Alarm

(Audible and visual alarm indication with diagnostic messages for trouble-shooting)	
Alarm silence	120 seconds
Alarm content	High/low Vt, High/low MV, High/low Paw, High/low FiO_2, High/low flow
	High/low cerebral state index (for anesthetic depth)
	High/low $EtCO_2$%, $InCO_2$% and temperature (optional)
	Apnea alarm, Airway Malfunction, Power failure, Low battery and so on

Anaeston 3000PS
Anesthesia machine

Feature

- Dual flow tube with precise output down to 20ml
- Tidal volume compensation for low and minimal flow
- Manual, VCV, PCV, PLV ventilation available
- Autoclavable and latex-free components
- Tool-free maintenance and cleaning
- Built-in 5.7” monochrome TFT monitor
- Reusable CO_2 canister easy to refill and clean
- CE marked

Compact ventilator

Medical CO_2 absorbent, 4.5kg / pack

Specification

Dimension	810x810x1360 mm (WxDxH)
Weight	96 kg
Driven mode	Pneumatically driven, electronically controlled
Gas supply	O_2, N_2O
Input pressure	280~650 kpa
O2 flush	35~75 L/min
Power supply	110/230VAC, 60/50HZ
Batter backup	60 minutes
Vaporizer Mount	1, Selectatec™ (Datex-Ohmeda’ s trademark)
Agent type	Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Patient type	Adult and pediatric
Tidal volume	20~1500 ml
Ventilation mode	Manual, VCV, PCV, PLV
Value Monitoring	Tidal volume, Minute Volume, Respiratory rate, I:E ratio
	Pmax, Pmean, Pplat
	FiO_2%
Graphic Monitoring	P-T curve

Alarm

(Audible and visual alarm indication with diagnostic messages for trouble-shooting)	
Alarm silence	120 seconds
Alarm content	High/low Vt, High/low MV, High/low Paw, High/low FiO_2, High/low flow
	Airway Malfunction, Power failure, Low battery and so on

Anaeston 3000C Anesthesia machine

Feature

- Quick power-on self test
- Highly maneuverable trolley with central brakes
- Manual, VCV, PLV ventilation available
- One-step switch from manual to mechanical ventilation
- Spontaneous and manual respiratory MV monitoring
- Tool-free maintenance and cleaning
- Built-in 3” LCD and LED screen monitors
- CE marked

Operation interface

Cylinder mount with Pin-index regulator

Specification

Dimension	810x634x1360 mm (WxDxH)
Weight	70 kg
Driven mode	Pneumatically driven, electronically controlled
Gas supply	O_2,N_2O
Input pressure	280~650 kpa
O_2 flush	35~75 L/min
Power supply	110/230VAC, 60/50HZ
Batter backup	60 minutes
Vaporizer Mount	1, Selectatec™ (Datex-Ohmeda’ s trademark)
Agent type	Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Patient type	Adult and pediatric
Tidal volume	45~1500 ml
Ventilation mode	Manual, Spont., VCV, PLV
Value Monitoring	Tidal volume, Minute Volume, Respiratory rate, I:E ratio
	Pmax, Pmean, Pplat
	FiO_2%
Graphic Monitoring	P-T curve

Alarm

(Audible and visual alarm indication with diagnostic messages for trouble-shooting)	
Alarm silence	120 seconds
Alarm content	High/low Vt, High/low MV, High/low Paw, High/low FiO_2, High/low flow
	Apnea alarm, Airway Malfunction, Power failure, Low battery and so on

Cerebral State Monitor (CSM)

- A new standard for consciousness monitoring during anesthesia
- Tailored anesthesia with $ 5~10 investment per surgery

What is CSM?

A new small handheld electroencephalogram (EEG) monitor for assessment of anesthetic sedative properties.

Why CSM?

Due to individual variation and stimulation during surgery, patients need different amount of anesthetic agent to sleep.
Incorrect usage of drug or bad surgical condition determination, from time to time, will result in anesthesia awareness, over-sedation, or longer recovery time and higher surgery cost.

However, it' s very complex, then very hard to give simultaneous interpretation to sleep level with direct logical modelling, especially when muscle is paralysed. CSM uses fuzzy logic system to deal with uncertainty of EEG wave changes in engineering by attaching degrees of certainty to the answer to a logical question, and interpret quantitatively with scale 0~100, which will help achieve successful delivery of effective, safe and economical anesthesia:

With CSM, anesthesiologist will benefit from

- *Quantitative assessment of consciousness*
- *Optimal surgical condition determining*
- *Optimal drug usage*

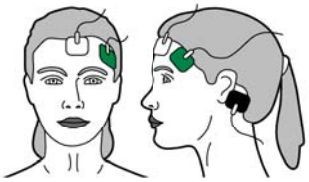
With CSM, patient will benefit from

- *Lower risk of anesthesia awareness or over-sedation*
- *Shorter recovery time*
- *Lower surgery cost*

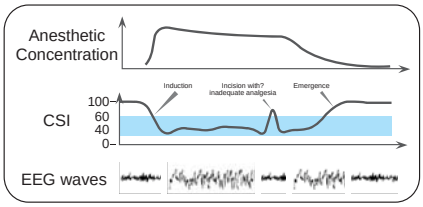
How dose CSM work?

Step 1 CSM electrode positioning

Electrode Color	*Position**	*Electrode Type*
White	Middle forehead	Positive
Green	Left forehead	Reference
Black	Left Mastoid	Negative



**Electrodes can also be placed on the right side of the head*



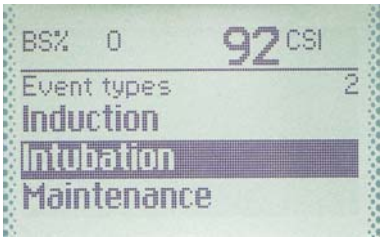
Step 2 EEG measurement of brain activity

(Alpha ratio, Beta ratio, Beta ratio-Alpha ratio, Burst Suppression %)

Step 3 EEG signal processing with Fuzzy logic system

Step 4 Signal output and Quantitative interpretation

CSI value	*Clinical State*
90-100	Awake
80-90	Drowsy
60-80	Light anesthesia
40-60	Surgical anesthesia
10-40	Deep anesthesia (mostly accompanied by Burst Suppression
0-10	Close to coma (when CSI is below 3, the EEG is practically iso-electric.



How to use CSM?

- Stand-alone operation
- To patient monitor (via wireless integration)
- To anesthesia machine (via wireless integration)

Feature

- Hand-held size
- Multi-parameter EEG waveform displayed
- Event labeling
- Latex-free components
- CSM Link Software™ for case documentation
- Cerebral State Index (CSI) of 0-100 displayed on all screens
- Rechargeable battery for 18-hour nonstop usage
- Stand-alone operation or wireless integration to other equipments

Specification

EEG sensitivity	±400μV
Noise	< 2μVp-p, < 0.4μV RMS, 1–250 Hz
CMR	>140dB
Input impedance	>50MΩ
Sample rate	2000 samples/sec. (14 bits equivalent)
CSI and update	0-100. Filter 6-42 Hz, 1 sec. update
EMG	0-100 logarithmic. Filter 75-85 Hz, 1 sec. update
BS%	0-100%. Filter 2-42 Hz, 1 sec. update
Digital output	Wireless to RS232 link (ISM 2.4 GHz)
Wireless range	Up to 10 meters
Display size	32x17 mm
Alarms	High / Low with user selectable limit
Artefact rejection	Automatic
Sensor impedance range	0-10kΩ / measurement current 0.01μA
Battery	9V Alkaline or rechargeable* NiMH (6AM6/IEC:6LR61/ ANSI:1604A)
Supply current	25mA (typical)
Battery lifetime: Alkaline/ Rechargeable	32h (stand alone) 18h (transmitting wireless)
	12h (stand alone) 8h (transmitting wireless)
Weight	130 g with battery
Dimensions	114x60x31 mm (L×W×D)
Classification	Internal power supply/ Class II, type BF, continuous use
Sensors	Danmeter Neuro Sensors
Cable length	195 cm/77" with 35 cm/14" split
Mounting options	Velcro strip (42mm x 25mm)
Memory	Data recording 18 hours
Monitor language	English, Spanish, French, Greek, Italian, Dutch, Norwegian, Portuguese,
	Finnish, Swedish, Danish, German
Environment: Operation	Temperature 10–40°C/50–104°F
	Rel. humidity 30–75%
	Air pressure 700–1060 hPa
Environment: Transport and storage	Temperature 10–40°C^/50–104°F
	Rel. humidity 30–95%
	Air pressure 700–1060 hPa

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