

# ATESE



ACESO  
Anesthesia Machine



# ACESO

## ANESTHESIA MACHINE

TECHNICAL SPECIFICATIONS	
Dimensions Of the Complete Machine	
Size	773.5mm*1370mm*598mm
Weight	90kg (standard configuration) (without anaesthesia evaporator and gas cylinder)
Top Plate	
Maximum supporting capacity	Maximum load-bearing of top plate is 350kg
Operational dimensions	508mm*235mm
Workbench	
Maximum supporting capacity	Maximum supporting capacity of workbench is 20kg
Operational dimensions	465mm*275mm
Handrail	
Length dimension	412mm
Drawers	
Drawers	416mm*395mm*170mm
Gas-Bag Sway Brace	
Size	Length: 320mm Height: 240mm
Caster Wheels	
Caster wheel	4 wheels 5 inch,
Display Screen	
Type	TFT LCD, allowing touch control
Size	8.4 inch
Resolution	800×600 pixels
Features	
Anesthesia process	Open, semi closed, closed circuit.
Patients	Designed for adult, pediatric and neonate

Interface	All interfaces for setting measurement included, RS 232, RJ-45 interface, USB port
Mode	Standby mode available
Compliance	Compliance Correction
Configuration	Possibility of configuration observation
Monitoring	Include monitoring function according EN-740

## Ventilator Specifications

### Ventilation Modes

Volume-Controlled Ventilation(VCV/VC) with tidal volume compensation

Pressure Control Ventilation (PCV/VPC)

Synchronized Intermittent Mandatory Ventilation (SIMV/VACI ) (volume and pressure),(SIMV-VC,SIMV-PC)

Pressure Regulated Volume Control (PRVC)

Pressure Support Ventilation(PSV)

Manual and automatic ventilation

Ventilation principle Chronometric, volumetric and barometric

Ventilation Electronically controlled electrically or pneumatically driven

### Ventilation Parameter Ranges

Monitoring parameter Tidal volume, Inspiratory, expiratory flow, minute volume, frequency, pressure(Pmean, Pplat, Ppeak), Oxygen, CO<sub>2</sub>, N<sub>2</sub>O and halogenated expiratory concentration, Pressure, oxygen, CO<sub>2</sub>, N<sub>2</sub>O and Halogen numerical values, pressure, volume and flow curve, compliance and patient resistance

Tidal volume range 15~1500 ml

Incremental settings 20~100ml (increments of 5 ml)

100~300 ml(increments of 10 ml)

300 ~1500 ml (increments of 25 ml)

Pressure (inspired) range 5~70 cmH<sub>2</sub>O  
increments of 1 cmH<sub>2</sub>O

Pressure (limit) range 10~100 cmH<sub>2</sub>O  
increments of 1 cmH<sub>2</sub>O

Pressure (support) range 3 to 60 cmH<sub>2</sub>O  
increments of 1cmH<sub>2</sub>O

Rate range 4~100 bpm  
increments of 1 bpm ( VCV, PCV )  
4~60 bpm  
increments of 1 bpm ( SIMV, PSV )

Inspiratory/Expiratory ratio (I:E) range 4:1~1:10 adjustable  
increments of 0.5 ( VCV, PCV )

Trigger 0.5 to 15 l / min



Frequency	4 to 100 C / min minimum
<b>Positive End Expiratory Pressure (PEEP)</b>	
Type	Integrated, electronically controlled
Range	OFF, 4 ~30 cmH <sub>2</sub> O increments of 1 cmH <sub>2</sub> O
<b>Ventilator Performance</b>	
Pressure range at inlet	0.28~0.6 MPa
Peak gas flow	100 L/min plus fresh gas
Flow valve range	1 to 100 L/min
Flow compensation rage	200 mL/min to 15 L/min
<b>Ventilator Monitoring</b>	
MV(Per-minute ventilation amount)	0~100 L/Min
TV(Inspiratory and expiratory tidal volume)	0~2500mL
FiO <sub>2</sub> (Oxygen concentration)	18~100%
Ppeak(Gas channel pressure Paw)	-20~120 cmH <sub>2</sub> O
Pmean(Mean pressure)	-20~120 cmH <sub>2</sub> O
Pplat(Mean pressure)	0~120 cmH <sub>2</sub> O
I:E(Inspiratory- expiratory ratio)	4:1~1:12
Freq(Respiratory rate)	0~120 bpm
Compl(Compliance)	0~250mL/cmH <sub>2</sub> O
Raw	0~500 cmH <sub>2</sub> O/(s/L)
<b>Performance Of Ventilator</b>	
Driving pressure	280~600 kPa
Inspiratory flow	Maximum inspiratory flow shall not be smaller than 120L/min when gas supply pressure is 280KPa.
Range of flow valve	3~100 L/min
Pressure limitation controlling means for ventilator	1. Controlled by the electronic relief valve fitted inside the ventilator; 2. Controlled by the mechanical relief valve fitted inside the ventilator.
<b>Ventilator Accuracy</b>	
TV	<75 ml: ±10ml; ≥ 75mL, < 1500 mL: ±20mL or ±10% of set value, whichever is the greater.
PCV	Inspiratory pressure: ±3.0 cmH <sub>2</sub> O or ±8% or set value, whichever the greater. Limiting pressure:±4.0cmH <sub>2</sub> O ±10% of set value, whichever is the greater.

	End-expiratory positive pressure: OFF: undefined; 3~30cmH <sub>2</sub> O: ±2.0cmH <sub>2</sub> O, or ±10% or set value, whichever is the greater.
Freq	±1 C.P.M. or ±5% of set value, whichever is the greater.
I:E	2: 1~1: 4: ±10% of set value;Other ranges: undefined.
Tip:Ti	20%~60%: ±15% of set value; Other ranges: undefined.
<b>Alarm Settings</b>	
Tidal volume(expiratory)	High: 5~1600 ml
	Low : 0 ~1595 ml
Inspired oxygen	High: 20~100%
	Low : 18 ~ 98%
High pressure	2 ~100cmH <sub>2</sub> O
Apnea alarm	30s
Alarm	Sound and visual alarm with reminder message for disconnection, overpressure, Flow sensor,current Volume,minute volume, FiO <sub>2</sub> , Frequency, Leakage, machine fault, lack of gas, apnea, patient clog..etc
Alarm access	Easy access by shortcut
<b>Flowmeters</b>	
Type	Mechanical or electronic flow meter optional
N <sub>2</sub> O range	0 ~10 L/min
Air range	0 ~10 L/min
O <sub>2</sub> range	0 ~10 L/min
Proportional device	Equipped with a safety system to ensure an O <sub>2</sub> concentration of at least 23%
<b>Gas Supply</b>	
Pipeline gasses	O <sub>2</sub> ,N <sub>2</sub> O,AIR
Standby gas-cylinder gasses	O <sub>2</sub> ,N <sub>2</sub> O
Pipeline gas connection	NIST
Standby cylinder connection	PISS
Features	Switch easily to the other gas without interrupting the ventilation
<b>Breathing Circuit Specification</b>	
<b>System Pressure Gauge</b>	
Range	Range
Accuracy	±2.5% full scale
<b>Adjustable Pressure Limiting (APL) Valve</b>	
Range	1~75 cm H <sub>2</sub> O
Tactile knob indication at	>30 cm H <sub>2</sub> O
Accuracy :	±1 0 cm H <sub>2</sub> O
start pressure	1 cm H <sub>2</sub> O

Breathing Circuit Parameters	
Compliance	$\leq 4\text{mL}/100\text{Pa}$ Automatically compensates for compression loss with in the breathing circuit in mechanical mode
Volume of CO2 canister	about 1500
Water Trap	7mL, easy to be disassembled
Feature	Heated at 134 degree, removable, easy to dismantle and sterilize
Gas Monitoring	
Carbon Dioxide (CO2) Modules	
Type	Mainstream ETCO2, Side stream ETCO2
Method	Infrared absorption
Module type	Phasin side -stream and mainstream
Display	Numerics and curve displayed in screen
Alarm delay	1~10s (step size: 1s)
Sweep	6.25 mm/s, 12.5 mm/s
Anesthetic Agent (AG) Module	
Maximum sound pressure for low alarm	79dB
Measurement mode	Side stream
Module type	Phasin ISA AG module
Accuracy	$\pm 10\text{ml}/\text{min}$ or $\pm 10\%$ , whichever is greater
Monitored parameters	CO2, N2O, AA, MAC, Paramagnetic O2 and BIS
Active AGSS	
High flow, low vacuum	
Applies with ISO 8835-3:1997	
Flow of suction: 50-80L/min	
Resistance: 0.75KPa ,75L/min	
Filter: Stainless steel reseau with 140-150 $\mu\text{m}$ of diameter	
Power and Battery Backup	
Battery backup	120 mins
Battery tye	Build-in Li-ion batter y, 11.1 VDC, 4400 mAh
Charge time	Approximately 8 hours (in running status or standby mode)
Power	4 electrical outlets minimum 220V
Gas Supply	
Pipeline gasses	O2, N2O, AIR
Standby gas-cylinder gasses	O2, N2O
Pipeline gas connection	NIST
Standby cylinder connection	PISS
ACGO	
Connector	Taper coaxial fitting of 22mm (outside) and 15 (inside)
Backpressure generated at the rear end of anaesthesia	Not greater than 2kPa

vaporizer and the front-end of ACGO during quick oxygen charging	
<b>Flush O2</b>	
100% fast oxygen	
<b>Vaporizator</b>	
Brand	ATESE available
Locking	Two vaporizer with interlocking system
Automatic recognition	Anesthesia machine able to automatic recognize halogenated gases
<b>Power (no isolation transformer)</b>	
<b>External AC Power Supply</b>	
Input voltage	100 to 240 V/100 to 120 V
Input current	8.5 to 3.5 A/8.5 A
Input frequency	50/60 Hz
Leakage current	< 500µA
<b>Auxiliary Output Supply</b>	
Output voltage	100 to 240 V/ 100 to 120 V
Output frequency	50/60 Hz
<b>Power (with isolation transformer)</b>	
<b>External AC Power Supply</b>	
Input voltage	100 to 120 V/220 to 240 V
Input current	8.5/ 3.5 A
Input frequency	50/60 Hz
Leakage current	< 500µA
<b>Auxiliary Output Supply</b>	
Output voltage	100 to 120 V/ 220 to 240 V
Output frequency	50/60 Hz
<b>Principal Machine</b>	
WorkTemperature (°C)	10~40
Relative humidity (Non-condensation)	15%~95%
Atmospheric pressure (kPa)	70~106

Specifications subject to change without notice

# ATESE

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