

Specifications: ARK7



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Anesthesia Machine

ARK7

Physical Characteristics

Complete Machine

Dimensions 780mm*676mm*1390mm

Top Plate

Dimensions 535mm*235mm

Maximum load bearing 20kg

Caster Wheels

Size 4 inch

LED Indication

AC indicator lamp Green LED

Battery indicator lamp Green LED

Alarm indicator lamp Yellow/Red LED

Audible Indication

Speaker Alarm tone, key-stroke tones

Buzzer Fault alarm tone

Interface

Power supply 1 AC power interface

Communication 1 RJ45 interface

connectors 1 USB 2.0 interface

1 DB9 interface

Display Screen

Size 8" TFT touch screen

Resolution 800*600 pixels

Brightness Adjustable (1~8)

Waveforms Pressure-time
Flow rate-time
Volume-time

EtCO₂

EEG

Loops (optional) Pressure-volume Loops
Flow-volume Loops
Pressure-flow Loops

Operation Environment

Working Temp 10~40°C

Relative humidity ≤93%

Atmospheric pressure 70~106 kPa

Power Supply

External AC Power Supply

Input voltage 100~240V

Input frequency 50/60Hz

Input current 3.5~7.0A

Fuse T10 AL 250V

Power Cord 5m

Internal Battery

Type Li-ion battery

Rated battery voltage 11.1VDC

Capacity 4400mAh

Minimum power-on ≥120min
time

Gas Supply

Pipeline gasses Standard: O₂

Optional: O₂-AIR

NIST/DISS
Pipeline gas
connection

Inlet pressure range 280~600kPa

Low pressure oxygen inlet pressure Oxygenator: ≤50kPa, ≤10L/min

Flowmeter

Type Mechanical flowmeter

Range 0~4L/min, the flow can be adjusted to 50ml/min

Accuracy 0~4L/min: ±10%
Other: not defined

ACGO (optional)

Connector Outside: 22 mm taper coaxial fitting

Inside: 15 mm taper coaxial fitting

Flush O2

Range 10~30L/min

Breathing Circuit

Leakage and Compliance

Leak in breathing system and its cycle absorption assembly $\leq 99\text{ml/min}$ (3kPa)

Compliance of Big animal mode: $\leq 4\text{ml/100Pa}$ breathing system and Small animal model: $\leq 3\text{ml/100Pa}$ its cycle absorption assembly

Leak in CO2 canister $\leq 50\text{ml/min}$ (3kPa)

APL valve leak $\leq 50\text{ml/min}$ (3kPa)

CO2 Canister

Volume 2000ml

Ports and Connectors

Expiratory end Outside: 22 mm taper coaxial fitting

Inside: 15 mm taper coaxial fitting

Inspiratory end Outside: 22 mm taper coaxial fitting

Inside: 15 mm taper coaxial fitting

manual bag end Outside: 22 mm taper coaxial fitting

Inside: 15 mm taper coaxial fitting

Exhaust end Outside: 30 mm taper coaxial fitting

Airway Pressure Gauge

Range -20~100cmH2O

Accuracy $\pm(4\%$ of full scale reading + 4% of actual reading)

APL Valve

Range 1~75cmH2O

Accuracy $\pm 10\text{cmH2O}$ or $\pm 4\%$ of setting value, whichever is greater

Touch indication $\geq 30\text{cmH2O}$

Minimum opening pressure Dry: 0.3cmH2O

APL fast row APL valve can be equipped with quick discharge function

Ventilation Modes

Standard Manual/Spont (optional:CPB) VCV

Optional PCV, PRVC
SIMV-VC, SIMV-PC, SIMV-PRVC
CPAP/PSV, PSVPro

Ventilator Parameters Range

Setting Parameters

Plimit (Pressure limit) 10~55cmH2O

Pinsp (Inspiratory pressure) 5~50cmH2O

ΔP_{ps} (Support Pressure) 3~50cmH2O, OFF

Apnea Pressure 3~50cmH2O

~~BE~~ 80cmH2O, OFF

VT 10~1500ml

In the VS mode, tidal volume can be detected to 5ml

Rate (Respiratory Rate) 4~100bpm

Min Rate 2~60bpm

I:E 4:1~1:10

Apnea.IE 4:1~1:8

Tpause (Inspiratory 5%~60% of inspiratory time, OFF, Pause)

Trig window(Trigger 5%~90% window)

Rate (SIMV 4~60bpm Frequency)

Apnea Time 10~30s

Exp% (Inspiratory 5%~80% stop level)

Minrate 2~60bpm

Tinsp (Inspiratory 0.2~10.0s time)

Trigger (Inspiratory Pressure triggering: -20~-1cmH2O triggering) Flow rate triggering: 0.2~15L/min

Tslope (Pressure 0~2.0s slope)

Monitoring Parameters

MV (Per-minute 0~100L/min ventilation amount)

VT (Inspiratory and expiratory tidal volume) 0~1500ml

Paw (Airway -20~120cmH2O pressure)

PEEP 0~70cmH2O

Pmean (Mean -20~120cmH2O pressure)

Pplat (Platform 0~120cmH2O pressure)

I:E 4:1~1:10

Freq (Respiratory 0~120bpm frequency)

Compl (Compliance) 0~100ml/cmH₂O
Resistance 0~500cmH₂O/(s/L)

Ventilator Parameters Accuracy

Setting Parameters

VT 5~75ml: ±15ml
75~1500ml: ±20ml or ±10% of set value

Pinsp (Inspiratory ±3cmH₂O or ±8% of setting value, pressure) whichever is greater

Plimit (Pressure limit) ±3cmH₂O or ±10% of setting value, whichever is greater

PEEP 3~30 cmH₂O: ±2.0cmH₂O or ±10% of setting value, whichever is greater

ΔPps (Support ±3cmH₂O or ± 8% of setting value, Pressure) whichever is greater

Apnea Pressure ±3cmH₂O or ± 8% of setting value, whichever is greater

Trigger pressure ±2cmH₂O

Rate (Respiratory ±1bpm or ±5% of the setting value, Rate) whichever is greater

I:E and Apnea.IE 2:1~1:4: ±10% of actual reading

Other: ±25% of actual reading

Tpause (Inspiratory 20%~60%: ±15% of the set value or Pause) ±0.1s

Other: not defined

Trigger window ±10%

Trigger flow rate ±1L/min

Inspiratory stop level ±10%

Flow control system 10%~100%: ±10% of the indicated value

Other: not defined

Monitoring Parameters

VTexp (expiratory tidal <75ml: ±15ml volume) 75ml~1500ml: ±20ml or ±10% of the actual reading, whichever is greater
Other: not defined

VTins(Inspiratory tidal <75ml: ±15ml volume) 75ml~1500ml: ±20ml or ±10% of the actual reading, whichever is greater
Other: not defined

Paw (Airway ±3.0cmH₂O or ±8% of setting value, pressure) whichever is greater

PEEP ±3.0cmH₂O or ±10% of setting value, whichever is greater

Rate (Respiratory ±1bpm or ±5% of the setting value, Rate) whichever is greater

I:E 4:1~2:1: ±25% of actual reading

2:1~1:4: ±10% of actual reading

1:4~1:10: ±25% of actual reading
Other: not defined.

MV (Per-minute ventilation amount) 0~30L/min: ±1L/min or ±15% of the setting value, whichever is greater
>30 L/min: not defined

Oxygen Sensors

FiO₂ 18%~100% (±5%)

Accuracy ±5%

CO₂ (optional)

Masimo (Mainstream and Sidestream)

Range 0~150 mmHg, 0~19.7% (at 760 mmHg), Resolution 1mmHg or 0.1kPa or 0.1%

Accuracy ± (0.3%+4% of reading)

COMEN (Mainstream)

Range 0~99mmHg, 0%~13.0%, 0~13.2kPa (at760 mmHg)

Resolution 1mmHg or 0.1kPa or 0.1%

Accuracy 0~40mmHg: ±2mmHg

41~70mmHg: ±5mmHg

71~99mmHg: ±8mmHg

Total system response Mainstream: <1s
time Sidestream: <4s

AGSS

Applicable laws ISO 80601-2-13 and YY 0635-2

Dimension 535mm*120mm*155mm

Weight 2.2kg

Applies ISO 80601-2-13 and YY 0635-2

Connector ISO9170-2 or BS6834 standard connector

Pressure relief device Atmospheric pressure compensation port

Filter Stainless steel mesh, with pore size of 60~100 μm

Suction flow AGSS-L: 25~50L/min

AGSS-H: 50~80L/min,

Vaporizer

Quantity	One
Brand	COMEN
Core drying volume	360ml (±60ml)
Core wetting volume	300ml (±60ml)
Maximum and minimum tick mark distance	260ml (±60ml)
Range	Isoflurane: 0%~6% Sevoflurane: 0~8%

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