

Specifications: ARK7



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Anesthesia Machine

ARK7

Physical Characteristics

Complete Machine

Dimensions	780mm*676mm*1390mm
Weight	2000g, ±10g

Top Plate

Dimensions	535mm*235mm
Maximum load bearing	20kg

Caster Wheels

Size	4 inch
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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 connectors	1 RJ45 interface 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 EtCO ₂ 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 time	≥120min

Gas Supply

Pipeline gasses	Standard: O ₂ Optional: O ₂ -AIR
Pipeline gas connection	NIST/DISS
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
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Flush O2

Range	10~30L/min
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Breathing Circuit

Leakage and Compliance

Leak in breathing system and its cycle absorption assembly	≤99ml/min (3kPa)
Compliance of breathing system and its cycle absorption assembly	Big animal mode: ≤4ml/100Pa Small animal model: ≤3ml/100Pa
Leak in CO2 canister	≤50ml/min (3kPa)
APL valve leak	≤50ml/min (3kPa)

CO2 Canister

Volume	2000ml
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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	±(4% of full scale reading + 4% of actual reading)

APL Valve

Range	1~75cmH2O
Accuracy	±10cmH2O or ±4% of setting value, whichever is greater
Touch indication	≥30cmH2O
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
ΔPps (Support Pressure)	3~50cmH2O, OFF
Apnea Pressure	3~50cmH2O
PEEP	3~30cmH2O, 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 Pause)	5%~60% of inspiratory time, OFF,
Trig window(Trigger window)	5%~90%
Rate (SIMV Frequency)	4~60bpm
Apnea Time	10~30s
Exp% (Inspiratory stop level)	5%~80%
Minrate	2~60bpm
Tinsp (Inspiratory time)	0.2~10.0s
Trigger (Inspiratory triggering)	Pressure triggering: -20~-1cmH2O Flow rate triggering: 0.2~15L/min
Tslope (Pressure slope)	0~2.0s

Monitoring Parameters

MV (Per-minute ventilation amount)	0~100L/min
VT (Inspiratory and expiratory tidal volume)	0~1500ml
Paw (Airway pressure)	-20~120cmH2O
PEEP	0~70cmH2O
Pmean (Mean pressure)	-20~120cmH2O
Pplat (Platform pressure)	0~120cmH2O
I:E	4:1~1:10

Freq (Respiratory frequency)	0~120bpm
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 pressure)	±3cmH2O or ±8% of setting value, 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 Pressure)	±3cmH2O or ± 8% of setting value, whichever is greater
Apnea Pressure	±3cmH2O or ± 8% of setting value, whichever is greater
Trigger pressure	±2cmH2O
Rate (Respiratory Rate)	±1bpm or ±5% of the setting value, whichever is greater
I:E and Apnea.IE	2:1~1:4: ±10% of actual reading Other: ±25% of actual reading
Tpause (Inspiratory Pause)	20%~60%: ±15% of the set value or ±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

VTextp (expiratory tidal volume)	<75ml: ±15ml 75ml~1500ml: ±20ml or ±10% of the actual reading, whichever is greater Other: not defined
VTins(Inspiratory tidal volume)	<75ml: ±15ml 75ml~1500ml: ±20ml or ±10% of the actual reading, whichever is greater Other: not defined
Paw (Airway pressure)	±3.0cmH ₂ O or ±8% of setting value, whichever is greater
PEEP	±3.0cmH ₂ O or ±10% of setting value, whichever is greater
Rate (Respiratory Rate)	±1bpm or ±5% of the setting value, 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

FiO ₂	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 time	Mainstream: <1s Sidestream: <4s
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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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