

prunus

Pumila 750 Anesthesia Machine

Datasheet



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Technical Specification

Physical Specifications	
Dimensions and Weight	
Weight	82 kg (Without vaporizer and cylinder)
Work Surface	
Dimensions (WxD)	Stationary: 374 × 293mm Folding: 280 × 250 mm
Drawer (Internal Dimension)	
Quantity	Standard 2
Caster	
Diameter	100 mm
Brake	All four casters with brakes
Protection	
Ingress Protection	IP21
Ventilation Specifications	
Modes of Ventilation	
Ventilation mode	Manual/Spontaneous Ventilation/Bypass/Standby VCV PCV PSV PRVC SIMV (VCV) SIMV (PCV) SIMV (PRVC)
Compensation	
Circuit gas leakage compensation and automatic compliance compensation	
Ventilation Parameters	
Patient type	Adult, Pediatric
Tidal volume in volume mode	Pediatric range: 10–100 ml, resolution 5 ml 100–300 ml, resolution 10 ml Adult range: 100–300 ml, resolution 10 ml 300–1000 ml, resolution 20 ml 1000–1500 ml, resolution 50 ml
Pinsp	5 – 70 cmH ₂ O, ±7% of reading or ±2 cmH ₂ O, whichever is greater
Plimit	5–100 cmH ₂ O, resolution: 1 cmH ₂ O, ±2 cmH ₂ O or ±10% of setting value, whichever is greater
RR f(Rate)	1–40 bpm (SIMV mode) 4–100 bpm (Other modes)

	Resolution: 1 bpm 2 bpm or below: ± 1 bpm 2 bpm or above: ± 2 bpm or $\pm 10\%$ of reading, whichever is greater	
I:E	4:1–1:10, resolution: 0.5, $\pm 15\%$ of reading	
Tpause	OFF, 5% ~ 50% (increments of 5%)	
Ti	0.1 ~ 10 s (increments of 0.1s)	
Flow trigger	1 ~ 15 L/min (increments of 1 L/min)	
Psupp	5 ~ 60 cmH ₂ O (increments of 1 cmH ₂ O)	
Positive End Expiratory Pressure (PEEP)		
Type	Integrated, electronic controlled	
PEEP	OFF, 4 ~ 30 cmH ₂ O (increments of 1 cmH ₂ O)	
Ventilator Performance		
Driving pressure	280 kPa to 600 kPa	
Peak gas flow	120 L/min + Fresh Gas Flow	
Monitoring Parameters		
Minute volume	0 ~ 60 L/min	
Tidal volume	0 ~ 2500 ml	
FiO ₂	18% ~ 100%	
Peak airway pressure	0 ~ 100 cmH ₂ O	
Mean pressure	0 ~ 100 cmH ₂ O	
Plateau pressure	0 ~ 100 cmH ₂ O	
I:E	4:1–1:10, resolution: 0.5, $\pm 15\%$ of reading	
Respiratory Rate	0 ~100 bpm accuracy: ± 1 bpm or $\pm 10\%$ of reading, whichever is greater	
Spontaneous Rate	0 ~ 99 bpm	
PEEP	0 ~ 70 cmH ₂ O	
Resistance (R)	0 ~ 200 cmH ₂ O/(L/s)	
Compliance (C)	0 ~ 200 ml/ cmH ₂ O	
Side-stream CO ₂ module gas concentration	0vol%~15vol%, $\pm (0.3\text{vol}\% + 4\%$ of reading)	
Trend		
Continuous trend information for the latest 24 hours		
Log		
500 events storage, first in first out		
Alarm Settings		
Tidal volume	High	10 ~ 1500 mL, OFF
	Low	OFF, 10 ~ 1500 mL
Minute volume	High	1 ~ 40 L/min, OFF
	Low	OFF, 0 ~ 40 L/min
Airway pressure	High	1 ~ 100 cmH ₂ O
	Low	0 ~ 99 cmH ₂ O

Respiratory Rate RR	High	1 ~ 100 BPM
	Low	0 ~ 99 BPM
Apnea alarm	10 ~ 40s	
FiO ₂	Low: 21% ~ 100% High: OFF, 18% ~ 99%	
Ventilator Component		
Flow Sensor		
Type	Variable orifice flow sensor	
Location	Inspiratory and expiratory port	
Oxygen Sensor		
Type	Chemical	
FiO ₂ displayed	18% to 100%	
Accuracy	±2.5% of reading	
Ventilator Screen		
Display type	Color TFT touch screen, rotatable	
Display size	15 inch	
Pixel format	1024 x 768	
Display parameters	All setting and alarm parameters (including Breath rate, I/E ratio, Tidal volume, Minute volume, PEEP, Mean, Peak, Plat, and O ₂ concentration, EtCO ₂ , N ₂ O, Aesthesia gas concentration)	
Display waveforms	P-T, F-T, V-T, CO ₂ -T	
Spirometry loops	P-V, F-V, F-P, V-CO ₂	
Timer	Screen timer	
Communication Port		
USB, IOIOI , RJ-45, RS-232, VGA		
Vaporizer		
Vaporizer brand	D-Vapor Anesthetic Vaporizer or Penlon Sigma Delta Anesthetic Vaporizer	
Support agents	Enflurane, Isoflurane, Sevoflurane, Desflurane	
Position	Standard 2	
Mounting mode	Selectatec [®] , with interlocking function	
Fill method	Key fill, Pour fill, Quick fill	
Module		
Main-Stream CO₂ Module (Masimo IRMA)		
Measurement mode	Main-stream	
Displayed numeric	EtCO ₂ , FiCO ₂	
Measurement range	0 ~ 99 mmHg	
Accuracy	± (0.3 vol%+ 4% of reading)	
Response time	< 1 second	
Waveform / Loop	CO ₂ -Time	
EtCO ₂ high alarm	1 ~ 100cmH ₂ O	

limits	
EtCO ₂ low alarm limits	0 ~ 99cmH ₂ O
Side-Stream CO₂ Module (Masimo ISA)	
Measurement mode	Side-stream
Displayed numeric	EtCO ₂ , FiCO ₂
Measurement range	0 ~ 99 mmHg
Accuracy	0 to 15 vol%: ±2 (0.2 vol%+2% of reading) 15 to 25 vol%: unspecified
Response time	<3 seconds (with 2 m sampling line)
Waveforms / Loop	CO ₂ -time
EtCO ₂ high alarm limits	1 ~ 100cmH ₂ O
EtCO ₂ low alarm limits	0 ~ 99cmH ₂ O
Multi-gas Module (Masimo IRMA)	
Measurement mode	Main-stream
Monitor gas	CO ₂ , N ₂ O, Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane, MAC.
Warm-up time	<20 sec (concentrations are reported and the automatic agent identification is running within 20 seconds).
Accuracy	CO₂ ±(0.3 vol%+ 4% of reading) N₂O ±(2 vol%+ 5% of reading) HAL, ENF, ISO, SEV, DES ±(0.2 vol%+ 10% of reading)
Winland Main-stream Gas Analyzer	
Measurement mode	Main-stream
Monitor gas	CO ₂ , N ₂ O, Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Warm-up time	Capnogram displayed in less than 5 seconds. At an ambient temperature of 25°C, full specifications within 20 minutes.
Accuracy	CO₂ ±(0.2 vol%+ 8% of reading) N₂O ±(2 vol%+ 2% of reading) HAL, ENF, ISO, SEV, DES ±(0.15vol%+ 5% of reading)
Electrical Specifications	
Power and Battery Backup	
Power input	100 ~ 240 Vac, 50/60 Hz
Auxiliary electrical	Up to 3 outlets (2A for each)

outlets		
Battery continuation	Approx. 90 minutes (with mains supply disconnected)	
Battery type	Build-in Li-ion battery, 11.1 VDC, 7800 mAh	
Safety feature	In case of electricity and battery failure, manual ventilation, gas delivery and agent delivery are possible.	
Pneumatic Specifications		
ACGO (Auxiliary Common Gas Outlet)		
Connector	ISO 22 mm OD and 15 mm ID	
Pipeline Supply		
Gas type	O ₂ , N ₂ O, Air	
Pipeline input range	280 to 600 kPa	
Pipeline connection	NIST、AGA	
Pipeline Supply Pressure Gauge		
Display type	Mechanical	
Ranges	0 to 1MPa	
Accuracy	± (4% of the full scale reading + 8% of the actual reading)	
Cylinder Supply		
Cylinder type	E-size Cylinder	
Cylinder Connection	Pin-Index Safety System (PISS)	
Yoke Configuration	Max. two cylinders and only one of each O ₂ , N ₂ O (optional) , Air (optional)	
Cylinder Supply Pressure Gauge		
Display type	Mechanical	
O₂ Control		
Method	N ₂ O shut off with loss of O ₂ pressure	
O ₂ Flush	25 ~ 75 L/min	
O₂-N₂O Link system		
Type	Mechanical	
Range	O ₂ concentration not lower than 21%	
Auxiliary O₂ Flowmeter		
Range	0 ~ 15 L/min , Accuracy: ±200 ml/min or ±10% of reading, whichever is greater	
Indicator	Flow tube	
Electronic Flowmeter		
O ₂ flow range	0~ 10 L/min	
Air flow range	0~ 10 L/min	
N ₂ O flow range	0~ 10 L/min	
Accuracy	• 1.0 l/min ~ 10.0 l/min, accuracy: ±10% of reading • 0.1/min ~ 1.0 l/min, accuracy: ±0.5 l/min	
Environmental Specifications		
Temperature	Operation	10 ~ 40°C
	Storage and transport	-20 ~ 55°C

Relative humidity (non-condensing)	Operation	≤ 80% R.H.
	Storage and transport	≤ 93% R.H.
Atmospheric pressure	Operation	70 ~ 106 kPa
	Storage and transport	50 ~ 106 kPa

Breathing System Specification

CO₂ Absorber

Absorbent capacity	1500 mL
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Breathing Circuit Parameters

Type of material (breathing circuit system)	PPSU (Polyphenylsulphone) Stainless steel Aluminum Silicon High temperature autoclave sterilization, the highest temperature can reach 134°C
System compliance	< 5 ml/cmH ₂ O
Expiration resistance	< 0.6 kPa @30 L/min
Inspiration resistance	< 0.6 kPa @30 L/min

System Pressure Gauge

Range	-20 ~ 100 cmH ₂ O
Accuracy	± (2% of the full scale reading + 5% of the actual reading)

Port And Connector

Exhalation, Inhalation, Manual bag port	22 mm OD /15 mm ID conical
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Integrated Adjustable Pressure Limiting (APL) Valve

Range	2 ~ 90 cmH ₂ O
Tactile knob indication at above 30 cmH ₂ O	

Anesthetic Gas Scavenging System (AGSS)

Type	Passive system (including a flow indicator)
Scavenging flow	25~ 50 L/min
Connection standard	DISS

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