Boaray 700 Anesthesia Machine

Datasheet

prunus

Technical Specification

Physical Specifications	
Dimensions and weight	
Dimensions (HxWxD)	1450mm×1000mm×1330mm
Weight	108 kg (Without vaporizer and cylinder)
Top Shelf	
Weight limit	34 kg
Width X Depth	578×360 mm
Work Surface	
Dimensions (HxWxD)	827×557×311 mm
Drawer (Internal Dimension)	
Dimensions (HxWxD)	150×298×348 mm
Quantity	Standard 2
Casters	
Diameter	125 mm
Brakes	All four casters with brakes
Ventilation Specifications	
Modes of Ventilation	
Ventilation mode	Manual/Spontaneous Ventilation/Bypass/Standby Volume Control Ventilation (VCV) with PLV function Pressure Control Ventilation (PCV) Synchronized Intermittent Mandatory Ventilation: SIMV(V)+PS、SIMV(P)+PS Pressure Support Ventilation (PSV) with apnea backup
Compensation	
Circuit gas leakage compensation and automatic compliance compensation	
Ventilation Parameters Range	
Patient type	Adult, Pediatric, Infant
Tidal volume in volume mode	Pediatric/Infant: 10 ~ 300ml Adult: 100 ~ 1500ml (increments of 5 mL)
Pinsp	5 ~ 70 cmH_2O (increments of 1 cmH_2O)
Plimit	5 ~ 100 cmH_2O (increments of 1 cmH_2O)
f(Rate)	f in SIMV mode: 1 ~ 40 bpm Others mode: 4 ~ 100 bpm (increments of 1 bpm)
I:E	4:1 ~ 1:10 (increments of 0.5)
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_2O (increments of 1 cmH_2O)

prunus

Positive End Expiratory Pressure (PEEP)		
Type	Integrated, electronic controlled	
PEEP	OFF, 4 ~ 30 cmH_2O (increments of 1 cmH_2O)	
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	
Inspired oxygen (FiO2)	21% ~ 100%	
Peak airway pressure	0 ~ 100 cmH_2O	
Mean pressure	0 ~ 100 cmH_2O	
Plateau pressure	0 ~ 100 cmH_2O	
I:E	4:1 ~ 1:10	
Rate	0 ~100 bpm	
Spontaneous Rate	0 ~ 99 bpm	
PEEP	0 ~ 70 cmH_2O	
Resistance (R)	0 ~ 200 cmH_2O/(L/s)	
Compliance (C)	0 ~ 200 ml/ cmH_2O	
Control Accuracy		
Volume delivery	< 100 ml: ± 20 ml ≥100 ml: ± 20 ml or ± 15% of the set value, whichever is greater	
Pressure delivery	± 2.0 cmH_2O or ± 10% of the set value, whichever is greater	
PEEP delivery	± 2.0 cmH_2O or ±10% of the set value, whichever is greater	
Flow trigger	± 1.0 L/min or ±15% of the set value, whichever is greater	
Monitoring Accuracy		
Volume monitoring	< 100 ml: ± 20 ml ≥100 ml: ± 20 ml or ± 15% of the reading, whichever is greater	
Pressure monitoring	± 2.0 cmH2O or ± 10% of the reading, whichever is greater	
PEEP monitoring	± 2.0 cmH2O or ± 10% of the reading, whichever is greater	
MV monitoring	1L/min or ±15% of the reading, whichever is greater	
Trend Graph		
Continuous trend information for the latest 24 hours		
Alarm Log Book		
500 events storage, first in first out		
Alarm settings		
Tidal volume	High	20 ~ 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_2O
	Low	0 ~ 99 cmH_2O

RR	High	1 ~ 100BPM
	Low	0 ~ 99BPM
Apnea alarm	10 ~ 40s	
Inspired oxygen	Low: 21% ~ 100% High: OFF, 18% ~ 99%	
Sustained airway pressure alarm	15s	
Subatmospheric pressure alarm	Paw < -10 cmH_2O	
Alarm silence countdown timer	120 to 0 seconds	
System Languages		
Chinese, English, Spanish, Russian, Turkish.		
Ventilator Components		
Flow Sensor		
Type	Variable orifice flow sensor	
Location	Inspiratory and expiratory port	
Oxygen Sensor		
Type	Galvanic fuel cell	
FiO_2 displayed	21% to 100%	
Accuracy	± (volume fraction of 2.5 % +2.5 % gas level)	
Response Time	≤15 seconds	
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_2O, Anesthetic gas concentration)	
Display waveforms	P-T, F-T, V-T, CO_2-T	
Spirometry loops	P-V, F-V and F-P	
Timer	On screen timer	
Communication Ports		
Two RS-232C connector		
VGA		
Vaporizers		
Vaporizer	Prunus BR60 Anesthetic Vaporizer or Penlon Sigma Delta Anesthetic Vaporizer	
Support agents	Halothane, Enflurane, Isoflurane, Sevoflurane	
Position	Standard 2	
Mounting mode	Selectatec®, with interlocking function	
Fill method	Key fill, Pour fill, Quick fill	

prunus

Modules	
MainStream CO_2 Module (Masimo IRMA)	
Measurement mode	Main-stream
Displayed numerics	$EtCO_2$, $FiCO_2$
Measurement range	0 ~ 99 mmHg
Accuracy	± (0.3 vol%+ 4% of reading)
Response time	＜1 second
Waveforms / Loop	CO_2-time
$EtCO_2$ High alarm limits	1 ~ 100cmH2O
$EtCO_2$ Low alarm limits	0 ~ 99cmH2O
SideStream CO_2 Module (Masimo ISA)	
Measurement mode	Side-stream
Displayed numerics	$EtCO_2$, $FiCO_2$
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_2O
$EtCO_2$ Low alarm limits	0 ~ 99cmH_2O
Multi-gas Module (Masimo IRMA)	
Measurement mode	Main-stream
Monitor gases	Monitor gases CO_2, N_2O, 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	**CO_2** ±(0.3 vol%+ 4% of reading) **N_2O** ±(2 vol%+ 5% of reading) **HAL, ENF, ISO, SEV, DES** ±(0.2 vol%+ 10% of reading)
SPO_2 Module	
Range	70% ~ 100%
Resolution	1%
Accuracy	Absolute accuracy ±2%
PR range	30～250bpm
PR resolution	1bpm
PR accuracy	2bpm

prunus

Electrical Specifications	
Power And Battery Backup	
Power input	110 ~ 240 Vac, 50/60 Hz
Auxiliary electrical outlets	Up to 3 outlets (2A for each)
Battery backup	60 min for 1 piece battery (powered by new fully-charged batteries with 25°C ambient temperature)
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_2O, Air
Pipeline input range	280 to 600 kPa
Pipeline connections	NIST
Pipeline Supply Pressure Gauges	
Display type	Mechanical
Ranges	0 to 1MPa
Accuracy	± (4% of the full scale reading + 8% of the actual reading)
Cylinder Supply	
Cylinder Supply	E Cylinder (American style or UK style)
O_2 Input Range	400 to 450 MPa
N_2O Input Range	400 to 450 MPa
Cylinder Connections	Pin-Index Safety System (PISS)
Yoke Configuration	O_2, N_2O
Cylinder Supply Pressure Gauges	
Display type	Mechanical
O_2 Range	0 to 25 MPa
N_2O Range	0 to 25 MPa
Accuracy	± (4% of the full scale reading + 8% of the actual reading)
O_2 Controls	
Method	N_2O shut off with loss of O_2 pressure
O_2 Flush	25 ~ 75 L/min
O_2-N_2O Link system	
Type	Mechanical
Range	O_2 concentration not lower than 21%
Auxiliary O_2 Flowmeter	
Range	0 ~ 15 L/min
Indicator	Flow tube
Electronic Flow Meters	

O_2 flow range	0~ 10 L/min	
Air flow range	0~ 10 L/min	
N_2O flow range	0~ 10 L/min	
Accuracy	between -10% and +10% of the indicated value (under 20°C and 101.3 kPa, for flow between 10% and 100% of full scale) ±200mL/min(for flow below 10% of full scale)	
Environmental specifications		
Environmental specifications		
Temperature	Operation	10 ~ 40ºC
	Storage and transport	-20 ~ 55ºC
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
Electromagnetic Compatibility		
Immunity	Complies with all requirements of IEC 60601-1-2	
Emissions	Complies with all requirements of IEC 60601-1-2	
Breathing System Specification		
Carbon dioxide absorbent canister		
Absorbent capacity	1500 mL	
Breathing Circuit Parameters		
Compliance	0.87 mL/100Pa (bag mode) Automatically compensates for compression losses within the breathing circuit in mechanical mode	
Expiration resistance	< 0.6 kPa @30 L/min	
Inspiration resistance	< 0.6 kPa @30 L/min	
System Pressure Gauge		
Range	-20 ~ 100 cmH_2O	
Accuracy	± (2% of the full scale reading + 5% of the actual reading)	
Ports And Connectors		
Exhalation,Inhalation, Manual bag port	22 mm OD /15 mm ID conical	
Integrated Adjustable Pressure Limiting (APL) Valve		
Range	2 ~ 70 cmH_2O	
Tactile knob indication at above 30 cmH_2O		
Accuracy	± 10 cmH2O or ± 15% of the setting value, which is greater	
Anesthetic Gas Scavenging System (AGSS)		
Size (H x W x D)	480 x 134 x 95 mm	
Type of disposal system	Low Flow Active AGSS	
Applicable standard	ISO 80601-2-13	
Pump rate	40 ~ 50 L/min	

Connector of the disposal system	ISO 9170-2

Shenzhen Prunus Medical Co., Ltd.
6th Floor and Zone A of 9th Floor, Block C, No. 71-3, Xintian Road, Fuyong Street
Bao'an District, 518103 Shenzhen, Guangdong, PEOPLE'S REPUBLIC OF CHINA

Tel: +86 755 2689 9781
Fax: +86 755 2689 9789
E-mail: international@prunusmedical.com
Web: www.prunusmedical.com