BIONEX

BX-700D

Anesthesia Machine

Physical Specifications

Overall machine size

Weight	＜110 kg no anesthetic gas evaporizers and cylinders

Size (dual anesthetic gas evaporizer, without respiratory circuit system)

Height	1395 mm
Width	812 mm
Thickness	733 mm

Size (dual anesthetic gas vaporizer, with respiratory circuit system)

Height	1395 mm
Width	923 mm
Thickness	733 mm

Roof

Maximum bearing weight	30 kg
Width	540 mm
Length	400 mm

Drawer (inside dimension)

Width	412 mm
Length	417 mm
Depth	114 mm

Trundle

4,5-inch central control castor,
control brake system

Staging

High	850 mm
Width	300 mm
Length	610 mm

Display screen

Type	Colored with the TFT LCD
Size	At 15.1 inches
Resolution ratio	1024*768 pixels
Luminance	Adjustable

LED indicate

Alarm indicator	1 red, yellow
(When both advanced and intermediate alarms occur, only flashing red)	
AC power light	1 Green
Battery indicator light	1 Green
Work indicator light	1 Green

Audio instructions

Loudspeaker	Send out alarm sound and key prompt tone; support multi-level volume function; the alarm sound meets the requirements of IEC60601-1-8 standard.
Buzzer	Used to sound the alarm when the system is not working properly

Joggle

Source	1 AC power supply interface 3 auxiliary output power supply ports
USB	2 USB interfaces
Network	1 multi-function reuse interface, support network and software online upgrade function
HDMI	Support display expansion
RS232	1 Serial port interface
Iso-electric level	1 equipotential ground terminal

Air route system specification

Auxiliary common gas outlet (ACGO)

Connect	Tapered coaxial joint outside 22mm and within 15mm

Air supply

Pipe input pressure range	0.28 - 0.6 Mpa
Pipe input joint	NIST
Standard cylinder input connector	PISS

Oxygen control

Gas supply fault alarm	Below the level of 220 kPa
Rapid oxygen filling	25L/min - 75L/min

Flowmeter

Type	Electronic display flowmeter
Oxygen range	0 - 12L/min
Laughing gas range	0 - 12L/min
Air range	0 - 12L/min
Precision	± 10% of the indicated value (20℃, 101.3 kPa, between 10% and 100% of the full scale, the scale accuracy shall be within ± 10% of the indicated value.

Total flowmeter

Type	The float flowmeter
Range	0 - 10L/min
Precision	± 10% of the indicated value (20℃, 101.3 kPa, between 10% and 100% of the full scale, the scale accuracy shall be within ± 10% of the indicated value.

Supplemental oxygen

Gas supply	O2 in the system
Flow rate	0 - 15L/min
Precision	± 5% of the indicated value (20℃, 101.3 kPa, for flow between 10% or 300 mL / min (both larger) to full scale (calibration with 100% oxygen); pressure compensation is not provided

Oxygen laughing linkage system

Type	Mechanical proportional controls device
Scope	Oxygen concentration is not less than 25%

Respiratory system specification

System leakage and system compliance

System leakage	The circulating circuit of the respiratory system is under 3 kPa pressure, and its leakage amount is not greater than 150 mL / min
System compliance	Anesthesia ventilator system compliance: 4 mL/100Pa
CO2 Absorb the leak of the tank	The leakage amount is not greater than 50 mL / min @ 3 kPa
APL valve leak	Leakage not greater than 50 mL/min (APL valve scale is 70)

APL established house or power group

Scope	1 - 70 cmH2O
Touch indication	20 cmH2O more than

Rotation adjustment range

1 - 30 cmH2O	0 - 30°
30 - 70 cmH2O	30° - 300°

CO2 absorption tank

Capacity	1600 mL

Airway pressure gauge

Scope	-20 - 100 cmH2O
Accuracy	±2.5%

Ventilator Operating specification

Ventilator parameter setting range

VT	15 - 1500 mL	Plimit	10 - 100 cmH2O
Rate	4 - 100 bpm	Pinsp	5 - 70 cmH2O
I:E	4:1 - 1:10	△ Psupp	OFF, 5 - 70 cmH2O
Tip: Ti	OFF, 5% - 60%	PEEP	OFF, 4 - 30 cmH2O
Tinsp	0.1 - 10 s	Ftrig	OFF, 0.5 - 15L/min
Slope	0 - 2 s	Ptrig	OFF PEEP-20 - PEEP-1cmH2O

Positive pressure PEEP setting

Type	Integrated electronic adjustable PEEP	Scope	OFF, 4 - 30 cmH2O Increment: 1 cmH2O

Ventilator performance

Actuating pressure	280 - 600 kPa
Peak flow rate	120 L/min
Flow valve	1 - 100 L/min

Monitoring parameters of PEEP

Scope	0 - 70 cmH2O

Monitoring parameters

MV	0 - 60 L/min
VT	0 - 2500 mL
Oxygen concentration	18 - 100%
Ppeak	-20 - 120 cmH2O
Pmean	-20 - 120 cmH2O
Pplat	-20 - 120 cmH2O
I:E	4:1 - 1:10

Precision of the anesthesia ventilator

Control and monitoring accuracy

Volume control	Tidal volume (VT) 75 mL: ± 10 mL; 75 mL: ± 20 mL or ± 10%, large value. Respiratory rate (Rate) ± 1 time / min or ± 5% of the set value, take the large. Aspiration time (Tinsp) ± 0.1s, or ± 5% of the set value, with a large error value. Pressure rise time (Slope) ± 0.05s or ± 20% of the set value. Inspiratory time: Expiratory time (I: E): 2:1~1:4: ± 10% of the set value; other ranges: not defined. Inhalation pause (Tip: Ti) 20% to 60%: ± 15% of the set point.
Pressure control	Inspiratory pressure (Pinsp) is ± 4.0 cmH2O or ± 10% of the set point, take the large one. Support pressure (△Psupp) ± 4.0cmH2O or ± 10% of the set value, take the large one; Pressure limit (Plimit) ± 4.0 cmH2O or ± 10% of the set point, take the large one. Terminal positive pressure (PEEP) 4 ~ 30 mH2O： ±2.0 cmH2O or ± 10% of the displayed value, taken as large; OFF: not defined.
Triggering sensitivity	Flow-trigger sensitivity Ftrig):≤2L/min:±0.2L/min, > 2 L/min; ± 1 L/min. Pressure-triggered sensitivity (Ptrig) ± 2 cmH2O, or ± 15% of the set value, take the largest error value.
Capacity monitoring	Inspiratory and expiratory tidal volume (Vti, Vte) 75 mL: ± 10 mL 75 mL and 1500 mL: ± 20 mL or ± 10%, take large value; 1500 mL: not defined. Resolution is: 1 mL Minute ventilation volume (MV)±0.2L/min or ± 15% of the displayed value, if large; Respiratory rate (Rate) ± 1 time / min or ± 5% of the displayed value. The inhalation ratio (I: E) shows ± 15% of the value
Pressure monitoring	Include all pressure monitoring: ± (2% of the full scale + 4% of the reading).
Fraction of inspired oxygen:	±3%
Adaptability	Below 10 mL / cmH2O within the effective monitoring range the error is ±2 mL / cmH2O, the remaining error is ± 20%; other ranges are not defined.
Air way resistance	± 20% within effective monitoring range, other ranges not defined

Precision of the anesthesia ventilator

Alarm setting

FiO2	High limit of alarm: OFF, 20% - 100% Low limit of alarm: 18 - 99%
VTe	High limit of alarm: 15 - 1500 mL, OFF Low limit of alarm: OFF, 15 - 1500mL
MV	High limit of alarm: 0.5 - 60L, OFF Low limit of alarm: OFF, 0.1 - 60L
Rate	High limit of alarm: 1 - 100 bpm, OFF Low limit of alarm: OFF, 1 - 99 bpm
Paw	High limit of alarm: 1 - 100 cmH2O Low limit of alarm: OFF, 1 - 30cmH2O

Anesthesia gas evaporator

Type of anesthesia gas evaporator	Penlon Sigma Delta Or Sigma Alpha anesthesia gas evaporator, Evap- α 8 sevoflurane anesthesia gas evaporator, Evap- α 7 isoflurane anesthesia gas evaporator, Evap- α 6 anflurane anesthesia gas evaporator optional
Can position	Double tank position or single tank position (optional)
Way to install	Selectatec®, With interlocking (Selectatec® is a registered trademark of Ohmeda)

AGSS system specifications

Size		Parameter	
Height	500 mm	Air pumping flow rate	50 - 80L/min
Width	150 mm	Filter	The pore diameter is from 100 to 120 μm
Thickness	120 mm		

Oxygen sensor specifications

Parameter	
Measuring range	0 - 100%
Precision and repeatability	<1% (in the O2 100% O2)
Working temperature	0 - 50℃
Preheat time	＜30 min (after sensor replacement)

CO2 module specifications

Parameter		Measurement range and accuracy	
Measurement pattern	Mainstream	Measuring range	Accuracy (%ABS)
Module start time	＜10 sec	0 - 40 mmHg	±2 mmHg
Delay time	＜1 sec	41 - 76 mmHg	± 5% reading
		77 - 99 mmHg	± 10% reading

Alarm limit setting

EtCO2	High limit of alarm: 1 - 114 mmHg (0.1 - 15%)
FiCO2	Low limit of alarm: OFF - 112 mmHg (OFF - 14.8%) High limit of alarm: 1 - 114 mmHg (0.1 - 15%)

Anesthesia module specification

Parameter	
Measurement pattern	Mainstream
Gas classification	CO2 and N2O One of the five anesthetic gases: ISO, ENF, SEV, HAL, and DES
Module start time	＜10 sec
Rise time	＜1 sec

Measurement range and accuracy (accuracy in a single gas standard mode)

Gas type	Measuring range	Accuracy (%ABS)
CO2	0 - 15%	± (0.2% volume percentage + 2% of the reading)
N2O	0 - 100 %	± (Volume% of 2% + 2% of the reading)
DES	0 - 22%	± (0.15% volume percentage + 5% of the reading)
ISO, HAL, ENF	0 - 8%	± (0.15% volume percentage + 5% of the reading)
Sev	0 - 10%	± (0.15% volume percentage + 5% of the reading)

Measurement range and accuracy (accuracy, including laughing gas, oxygen, isoflurane, enflurane, sevoflurane, ethanol, isopropanol, acetone, methane, helium)

Gas type	Measuring range	Accuracy (%ABS)
CO2	0 - 15%	± (0.3% volume percentage + 4% of the readings)
N2O	0 - 100 %	± (Volume% of 2% + 5% of the reading)
DES	0 - 22%	± (0.2% volume percentage + 10% of the reading)
ISO, HAL, ENF	0 - 8%	± (0.2% volume percentage + 10% of the reading)
Sev	0 - 10%	± (0.2% volume percentage + 10% of the reading)

Anesthesia module specification

ETCO2	High limit of alarm: 1 - 114 mmHg /0.1 - 15% Low limit of alarm: OFF - 112 mmHg /OFF - 14.8%
FiCO2	High limit of alarm: 1 - 114 mmHg /0.1 - 15%
EtN2O	High limit of alarm: 2 - 100% Low limit of alarm: 0 - 98%
FiN2O	High limit of alarm: 2 - 100% Low limit of alarm: 0 - 98%
EtENF	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
FiENF	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
EtISO	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
FiISO	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
EtSEV	High limit of alarm: 0.2 - 10% Low limit of alarm: 0 - 9.8%
FiSEV	High limit of alarm: 0.2 - 10% Low limit of alarm: 0 - 9.8%
EtHAL	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
FiHAL	High limit of alarm: 0.2 - 8% Low limit of alarm: 0 - 7.8%
EtDES	High limit of alarm: 0.2 - 22% Low limit of alarm: 0 - 21.8%
FiDES	High limit of alarm: 0.2 - 22% Low limit of alarm: 0 - 21.8%

Integrated Breathing System

Optional Gas Monitoring Module

Precise Anesthesia Vaporizer

CE

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