



# BX-300A

## Anesthesia Machine







## 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 Float flowmeter

Range 0 - 10L/min

Accuracy  $\leq \pm 10\%$  of the indicated value

(The accuracy of the scale should be within  $\pm 10\%$  of the indicated value between 10% and 100% of the full scale under the condition of 20°C and 101.3 kPa).

### Supplemental oxygen

Gas supply O<sub>2</sub> in the system

Flow rate 0 - 15L/min

Accuracy  $\leq \pm 10\%$  of indicated value

(at 20°C, 101.3 kPa, for flow rates between 10% of full scale or 300 mL/Min (whichever is greater) and full scale (calibrated with 100% oxygen); pressure compensation not available)

### O<sub>2</sub>-N<sub>2</sub>O Linkage Function

Type Mechanical proportional controls device

Scope Oxygen concentration is not less than 25%

## Respiratory system specification

### System leakage and system compliance

System leakage Respiratory circuits have a leakage of not more than 150 mL/Min at 3 kPa.

System compliance Ventilator system compliance:  $\leq 4$  mL/100Pa

CO<sub>2</sub> Absorb the leak of the tank Leakage not greater than 50 mL/Min @ 3 kPa

APL valve leak Leakage not greater than 50 mL/Min (APL valve scale 70)

### APL Valve

Scope 1 - 70 cmH<sub>2</sub>O

Tactile indication 20 cmH<sub>2</sub>O above

### APL Rotation adjustment range

1 - 30 cmH<sub>2</sub>O

30 - 70 cmH<sub>2</sub>O

0 - 30°

30° - 300°

### CO<sub>2</sub> absorption tank

Capacity 1600 mL

### Airway pressure gauge

Scope

Accuracy

-20 - 100 cmH<sub>2</sub>O

$\pm 2.5\%$  of full scale



## 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	$\Delta$ 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
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### Ventilator performance

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

### Ventilator Monitoring parameters

MV	0 - 60 L/min
VT	0 - 2500 mL
Oxygen concentration	18 - 100%
Ppeak	-20 - 120 cmH2O
Pmean	-20 - 120 cmH2O

### End-expiratory positive pressure

#### PEEP monitoring parameters

Scope	0 - 70 cmH2O	Pplat	-20 - 120 cmH2O
		I:E	4:1 - 1:10

### Precision of the anesthesia ventilator

#### Control and monitoring accuracy

Capacity control	Tidal volume (VT) < 75mL: $\pm 15$ mL; $\geq 75$ mL: $\pm 20$ mL or $\pm 10\%$ of the set volume, whichever is greater. Respiratory rate (Rate) $\pm 1$ breath/minute or $\pm 5\%$ of the set value, whichever is greater. Inspiratory time (Tinsp) $\pm 0.1$ s, or $\pm 5\%$ of the set value, whichever is greater. Pressure rise time (Slope) $\pm 0.05$ s or $\pm 20\%$ of set value. Inhalation/exhalation ratio: 2:1 to 1:4: $\pm 10\%$ of the set value; other ranges: not defined. Inspiratory pause (Tip:Ti) 20% to 60%: $\pm 15\%$ of the set value.
Pressure control	Suction pressure (Pinsp) $\pm 4.0$ cmH2 O or $\pm 10\%$ of the set value, whichever is greater. Support pressure ( $\Delta$ Psupp) $\pm 4.0$ cmH2 O or $\pm 10\%$ of the set value, whichever is greater; Pressure Limit (Plimit) $\pm 4.0$ cmH2 O or $\pm 10\%$ of set value, whichever is greater. Positive end-expiratory pressure (PEEP) 4 to 30 cmH2 O: $\pm 2.0$ cmH2 O or $\pm 10\%$ of the displayed value, whichever is greater; OFF: not defined.
Triggering sensitivity	Flow trigger sensitivity (Ftrig) $\pm 1$ L/min, or $\pm 15\%$ of the set value, whichever is greater. Pressure Trigger Sensitivity (Ptrig) $\pm 2$ cmH2 O, or $\pm 15\%$ of setpoint, whichever is greater.
Capacity monitoring	Inspiratory and expiratory tidal volume (Vti, Vte) < 75mL: $\pm 15$ mL $\geq 75$ mL and < 1500mL: $\pm 20$ mL or $\pm 10\%$ of the set amount, whichever is greater; >1500mL: Not defined. Resolution: 1mL Minute ventilation (MV) $\pm 0.2$ L/min or $\pm 15\%$ of the displayed value, whichever is greater; Respiratory rate (Rate) $\pm 1$ breath/minute or $\pm 5\%$ of the displayed value, whichever is greater. Inhalation/exhalation ratio (I:E) $\pm 15\%$ of the displayed value
Pressure monitoring	Includes all pressure monitoring: $\pm$ (2% of full scale + 4% of reading).
Fraction of inspired oxygen:	$\pm 3\%$
Compliant	Effective monitoring ranges up to 10 mL/cmH2 O have an error of $\pm 2$ mL/cmH2 O and the rest have an error of $\pm 20\%$ ; other ranges are not defined.
Air way resistance	$\pm 20\%$ of the displayed value within the effective monitoring range; other ranges are 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: 20 - 1500 mL, OFF
	Low limit of alarm: OFF, 20 - 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 installation	Selectatec®, With interlocking (Selectatec® is a registered trademark of Ohmeda)

### AGSS system specifications

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

### Oxygen sensor specifications

Parameter	
Measuring range	0 - 100%
Precision and repeatability	<1% (at 100% O2 Concentration)
Working temperature	0 - 50°C
Warm up time	<30 min (after sensor replacement)

### CO2 module specifications

Parameter		Measurement range and accuracy
Measurement pattern	Mainstream	Measuring range
Module start time	<10 sec	Accuracy (%ABS)
Delay time	<1 sec	0 - 40 mmHg
		±2 mmHg
		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
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)
ISO, 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%



**Optional Gas Monitoring Module**



**Integrated Breathing System**



**Precise Anesthesia Vaporizer**



**BIONEX**  
 Rua Mario Moraira, 2675-660  
 Odivelas, Lisboa, Portugal  
 Mob: +351920096274  
 email: [info@bionex.pt](mailto:info@bionex.pt)  
 web: [www.bionex.pt](http://www.bionex.pt)