

ATLAS N3

Specs

Dimensions	141cm*90cm*71cm
	Safe shelf load 25kg±0.5kg
FlowMeter and Standard Gauge	American, O2-green, air-yellow, N2O-blue
Suitable People	Adult/Pediatric/Infant
Screen	8 inch color TFT LCD screen
Gas supply	O2, N2O, AIR
Vaporizer position	2
ACGO	Standard
Mechanical flow meter	6 flow tubes for 3 gases
By-pass	Standard
The ventilator software	V-CMV, P-CMV, Hold, Manual/Spont, Optional(PSV, V-SIMV, P-SIMV,)
Spirometry loop	Optional (PV,PF,FV, Loop reference)
Replacement yoke	Optional(O2, N2Owith each gauge)
Li-ion battery	1 battery, 2 hours 2 batteries, 4 hours
AGSS	Optional
Vibe	Up to 3 waveforms, user configurable
Electrical contacts	4
Wheels	Rolling unit with four (4) wheels for easy movement, two (2) of them with brakes.
Drawers	2
Standard	manual ventilation pressure limiting valve (APL)
Optional	AG/CO2 AGSS monitor module Sputum aspirator
Built-in heater	Standard
O2 cell	Optional
Vaporizer	Halothane, Enflurane, Isoflurane, Sevoflurane, Desflurane
Patient monitor	Optional, with mounting bracket
Suction device	Optional

For more information, please contact Northern sales representatives

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Atlas N3 Atlas N3

Anesthesia machine



Committed to Excellence

Technical specifications

Physical specifications

Dimensions	
Height (with wheels)	139cm(54.7 inch)
Broad	90cm(35.4 inch)
Depth	71cm(25.8 inch)
Work surface	
Height (with wheels)	95.8cm(37.7 inch)
Broad	82.3cm(32.4 inch)
Depth	29.8cm(11.7 inch)
Safe shelf load 25kg ± 1kg	
Drawers	
Drawers (2 same size)	
Height: 15 cm (5.9 inch)	
Width: 47 cm (18.5 inch)	
Depth: 25.3 cm (9.96 inch)	
Wheels	
Four wheels (125 mm) with 2 separate brakes	
Work light	
LED light strip	on/off
Show	
Anesthesia screen	
Screen	8 inch TFT LCD (touch screen is optional)
Resolution	800x480 pixels
Supervision:	Peak airway pressure, PEEP Mean or plateau pressure, breath rate.
Graphic waveforms	Airway pressure, volume, flow, EtCO2
Numerical data	Tidal volume, minute volume
Spirometry Loops	Pressure and volume, flow and volume, flow and pressure
Patient monitor screen (optional)	
Multi-para Patient Monitor	Venus, Taurus, Pisces, Virgo
Screen size	Venus: 15.6 inch TFT LCD screen Taurus/Pisces/Virgo: 12.1 inch TFT LCD screen
Resolution	Venus: 1366 x 768 Pixels (16:9 aspect ratio) Taurus/Pisces/Virgo: 800x 600 Pixels
Display waveforms	Up to 10 parameter waveforms, 12 drive waveforms
Common port	
Three auxiliary power supplies	Provide power supply to external devices
USB port (2)	USB 2.0, Connect to external storage device, upgrade software
Network interface	Data exportÿ connect to PC or other compatible devices
RS-232 interface	DB 9 male type, Flow, pressure calibration

Pneumatic specification

Gas supply	
High pressure source: Oxygen, air, nitrous oxide (280 - 600 kPa)	
Connection type: DISS/NIST	
Gas supply source pressure (gauge)	
Display range: 0ÿ1.0MPa;	
Resolution: 0.1MPa;	
Accuracy: ±0.1 mPA or ±4% reading, select the maximum value	
Cylinder (optional): Oxygen, nitrous oxide	
Connection type: PISS	
Gas supply pressure (digital display)	
Display Range: Resolution: 0ÿ25.0MPa;	
Accuracy: 0.4MPa;	
Oxygen ±0.5 mpa or ±4% reading, select the maximum value	
Pressure Loss: Audible warning below 200 kPa	
Automatic N2O cut-off	
Automatic restart when oxygen is restored	
About pressure relief: The manifold relief valves for each gas supply (750 kPa) open the rear bar valve at 35 kPa	
Gas Proportioning System (Hypoxic Guard): Ensures that the minimum O2 content in fresh gas is never exceeded.	
is below 25%	
Alternative O2 control: O2 Safety Flow 0 - 15L/min	
O2 flow rate range: 35 – 75 L/min	

Flow Control Specification

Fresh gas	
Writes	Mechanical control (electronic valve)
Indication range and accuracy	
Air range 0~1L/min, 1~10L/min, ±10%	
O2 range 0~1L/min, 1~10L/min, ±10%	
N2O range 0~1L/min, 1~10L/min, ±10%	
Precision The accuracy of the scale marks between 10% and 100% of full scale shall be less than ±10% of the indicated values.	
Screen: Rotameter, O2, N2O, Air, each gas has 2 virtual flow tubes, Measuring range 0ÿ1 and 1ÿ10 L/min.	
Auxiliary oxygen supply (optional)	
Writes:	Rotameter
Range:	0ÿ15L/min
Accuracy:	±0.1L/min, or ±10% of reading, select maximum value (20ÿ and 101.3kPa)

Gas delivery system

Bellows capacity:	
Total 4600 mLÿ	
Fan capacity 2730mL; Gas bag capacity 1215mL	
CO2 absorber capacity: 1500mL (2.5kg max)	
Water trap: 23±2mL	
Pipe Pressure Gauge	
Measuring range: -20~100CMH2O	
Measurement accuracy: ± 4%	
Manual/mechanical control switch Inspiratory Pattern: bistable	
connector: Expiratory	22mm outer diameter, 15mm inner diameter, tapered coaxial connector
connector: Gas bag	22mm outer diameter, 15mm inner diameter, tapered coaxial connector
connector: Inspiratory and	22mm OD, 15mm ID, tapered coaxial connector
expiratory valve opening pressure.	
Pressure under dry conditions: 0.023cmH2O	
Opening pressure under humid conditions: 0.026cmH2O	

APL Scope:	MIN 75cmH ₂ O	
Tactile indication:	Over 30cmH ₂ O	
Minimum opening pressure in dry air: Minimum	0.32cmH ₂ O	
opening pressure in humid gas: 0.33cmH ₂ O	(Starting pressure when the relative humidity is 100% (37°C))	
Resistance @ 60 lpm	Exp. 5.8cm H ₂ O, Insp. 5.4 cm H ₂ O	
System leak:	Under a pressure of 3 kPa (ByPass off and ByPass on), the breathing circuit leak must be less than 150 mL/min.	
Compliance:	Under a pressure of 3 kPa (the absorber is filled with absorbent), the internal compliance of the anesthetic gas supply system will be 80 ± 10 ml	
Soda lime canister leakage:	Under a pressure of 3 kPa, the leakage should be less than 50 ml/min	
APL Valve Leaks:	Less than 50mL/min (APL scale at 75)	

Fan specification

Fan mode		
VCV, PCV, SIMV-VC, SIMV-PC, PSV Manual and HLM		
Specifying ventilation parameters		
Parameter	Range	Accuracy
TV (tidal volume)	10Ÿ1500mL	10Ÿ20mLŸ ±5mL 20Ÿ75Ÿ±15mL 75Ÿ1500Ÿ±15mLŸor ±10% of set value, select the max value
Plimit (pressure limit)	10Ÿ100cmH2O	±4 cmH2OŸor ±8Ÿ of set value
Pinsp (inspiratory pressure)	(PEEP+5)Ÿ70cmH2O	±3 cmH2OŸor±12% of set value
Psupp (pressure support)	(PEEP+5)Ÿ50cmH2O	±3 cmH2OŸor ±12% of set value
PEEP (positive end expiratory pressure) Bellow up Downward	OFF,3Ÿ30cmH2O 0Ÿ 30cmH2O	±3 cmH2OŸor ±10% of set value ±2 cmH2OŸor ±10% of set value
Freq (respiratory rate)	4Ÿ100bpm	±1 bpmŸor ±4% of set value
Tip: You (inspiratory pause)	OFF,5Ÿ60%	±3%, or ±10% of set value
I:E (inspiratory/expiratory time ratio)	4: 1Ÿ1:10	±15% of set value
Tinsp (inspiratory time)	0.4Ÿ5s	±0.2s, or ±5% of set value
Trig window (activation window) 5Ÿ95%		±10%
Freq (SIMV respiratory rate) 4Ÿ60 bpm		±1 bpmŸor ±4% of set value
Trigger (inspiratory activation)	Pressure: -1-20cmH2O Flow: 1-15L/min	±2 cmH2OŸor ±10% of set value ±1L/minŸ or ±10% of set value
Apnea	2Ÿ60 bpm	±1 bpmŸor ±4% of set value
Tslope (pressure rise time) 0Ÿ2s		±0.3s
Ventilation monitoring		

Parameter	Range	Accuracy
Vt (tidal volume)	0Ÿ2500mL	0-75mL: ±12 mLŸ 75~1500mL: ±15mL, or ±10% 1500~2500mL: ±20mL, or ±20%
MV (minute ventilation)	0Ÿ100L/min	±10%
Freq (respiratory rate)	0Ÿ100bpm	±5%
I:E (inspiration to expiration ratio)	4:1-1:10	±15% of set value
FiO2 (fraction of inspired oxygen)	15Ÿ100%(V/V)	±(2.5 Vol% + 2.5% of reading)
Ppeak (Maximum air pressure)	-20Ÿ100cmH2O	±(2Ÿ4% of the reading)
Pplat (pressure plate)	0Ÿ100cmH2O	±(2Ÿ4% of the reading)
PEEP (positive end expiratory pressure) 0Ÿ70cmH2O		±(2Ÿ4% of the reading)
Crude (air resistance)	0 Ÿ 250 cmH2O/(L/s)	<20 cmH2O/(L/s): ±10 cmH2O/(L/s) 20Ÿ250 cmH2O/(L/s): ±50% of the reading
Cydn (Dynamic Compliance)	0Ÿ250 ml/cmH2O	±(10 ml/cmH2OŸ20% of the reading)

Alarm limits	
High FIO2	(lower limit+2)Ÿ100
Low FIO2	18Ÿ(upper limit-2)
Ppeak high	(lower limit +2)Ÿ100
Low peak	0Ÿ(upper limit -2)
High Vt	(lower limit +5)Ÿ2000
Low Vt	0Ÿ(upper limit -5)
High MV	(lower limit +0.1)Ÿ100
Low MV	0.0Ÿ(upper limit -0.1)
High Freq	(lower limit +2)Ÿ100
Low Freq	0Ÿ(upper limit -2)

Vaporizer

Vaporizer type	
Northern /Penlon Sigma Delta /Drager	Enflurane, Isoflurane, Sevoflurane, Halothane
Steamer positions	
2 positisons	
Mounting mode	

Selectatec® with interlock function (Selectatec® is a registered trademark of Ohmeda)

ANESTHETIC GAS SCAVENGING SYSTEM

Passive anesthetic gas collection system	
Negative pressure	0.3cmH2O
Output connector	30mm outer diameter cone connector
Active anesthetic gas collection system	
Size	459.8x97x148mmŸLxWxHŸ
Delivery and absorption system model.	Low discharge collection system
Flow extract	25Ÿ50L/min
Pressure	<2kPa @25L/min;>1kPa @50L/min
Pressure release device	Compensates for barometric pressure
Filter	Non-stainless steel mesh, pore diameter 140~150Ÿm
State of delivery and absorption	The float drops when the system is not working or the escape velocity is too high. air is less than 25L/min.
Spill flow	Before a spill occurs, the maximum constant flows at 35L/min, intermittent flows to be 75L/min.
Drain	The gas leakage rate of the transfer and receiving system is less than 100 ml/min. Test procedures refer to ISO 80601-2-13 for 201.103.3.1.4 The layout and typical test method for spills, and the test gas flow is 10 ± 0.5L/min.
Delivery and absorption system connector. BS6834 connector.	

Oxygen sensor

Oxygen sensor	
Oxygen sensor model	PSR-11-77-CT4
Measuring range	0-100% O2
Signal output	9-13 mV
Response time 90%	T90 = 6 Seconds
Full scale accuracy	± 2%
Accuracy over the operating range	± 5%
Signal% drift / month	< 1%
Linearity	± 2%
Recommended flow rate	0.1~10 lpm
Sensation of downward or horizontal orientation	

CO2 module (optional)

Product type
Northern / Masimo / Respironics Mainstream and Sidestream
Parameter monitoring
FiCO2, EtCO2, awRR and EtCO2 Waveform Display

Anesthesia gas (AG) module (optional)

AG module	
Monitoring parameters: Masimo	FiAA, EtAA, FiN2O, EtN2O, FiCO2, EtCO2, awRR, MAC and EtCO2
Sidestream: ISA AX +	1) Warm-up time. 2) Total response time. 3) Sampling flow rate: 50±10ml/min.
Mainstream: IRMA AX+	1) Warm-up time. 2) Total response time: ~3s.
Artema	
Aion™ Platinum Multigas Analyzer	1) Preheating time: <45s. 2) Total response time: <4S. 3) Sampling flow rate: 70 - 200 ml/min. Flow accuracy ±10 ml/min or 10%, whichever is greater.

AG module with paramagnetic oxygen analyzer	
Monitoring parameters:	FiAA, EtAA, FiO2, EtO2, FiN2O, EtN2O, FiCO2, EtCO2, awRR, MAC and EtCO2 Waveform display
- Capnography, Anesthetic Gas Analysis, automatic recognition, MAC Meter Indicator. - Autonomous measurement of respiratory gases in adult and pediatric patients. - Continuous measurement of CO2, N2O, O2 and Anesthetic Gases with automatic recognition (Halothane, Isoflurane, Sevoflurane, Desflurane).	
- Fixed sampling flow rate not exceeding 150 ml/min. (+-20 ml/min).	

BIS module (optional)

Measured parameters:	EEG
BIS:	0 ~ 100
Sweep speed:	6.25 mm/s, 12.5 mm/s, 25 mm/s or 50 mm/s
Input impedance:	> 50 Mohm
Noise (RTI):	< 0.3 uV (0.25 ~ 50 Hz)
Input signal range:	± 1 mv
EEG bandwidth:	0.25 ~ 100 Hz
Patient escape:	< 10 uA
Alarm limit:	BIS high: 2 ~ 100 BIS low: 0 ~ 98
Calculated parameters:	SQI, EMG, SR, SEF, TP

NMT Module (Optional)

Automatic calibration	Automatic adjustment for optimal gain and 100% reference
Stimulation modes:	TOF (train of four) FOF (train of four) with programmable repetition time. PTC (Post Tetanus Count) 1Hz twitch 0.1 Hz twitch DBS3.3 and 3.2 (Double Burst) Tetanic Stimulation (Burst), 5S-50Hz or 100Hz
Output (accuracy ± 5% of full scale value):	
Surface electrodes	Constant current, 0-60MA (0-12/18UC) up to 5 kohm. Monophasic, 200 US or 300 US pulse width.
Needle electrodes	Constant current, 0-6mA or (0-0.24UC) up to 5 kOhm. Monophasic, 40 US pulse width.
Acceleration transducer (accuracy ± 5% of full scale value).	
Temperature sensor range: 20.0-41.5~(accury ±5~)	

Suction device (optional)

Gas source	Air or O2, from the system gas source
Pipe pressure range	280 to 600 KPa
Pipe connector	NIST, DISS
Gas consumption	<52L/min at supply gas pressure of 280kPa
Minimum negative	Pressure >60kPA at 280kPa supply gas pressure in 10 seconds
Minimum flow	20L/min
Accuracy	±5% off full range

Storage of

Trend data	
Graphic trends	72 hours recording
Resolution:	1s,5s,1min,5min,10min,30min,60min
Tabular Trends	72 hours of registration
Resolution:	1s,5s,1min,5min,10min,30min,60min
NIBP measurement	
1000 sets	
Alarm events	
200 sets	

Environmental specifications

Work environment	
Temperature:	5~40~
Relative humidity:	~80%, Non-condensing
Atmospheric pressure:	70kPa~106kPa
Storage and transportation	
Temperature:	-15~+55~
Relative humidity:	10%~93%, Non-condensing
Atmospheric pressure:	50kPa~106kPa

Power Specification

Power supply	
AC Power Source:	Single phase ~100-240V,Frequency 50/60 Hz,10A
Input fuse:	10A
Auxiliary power supply:	Single phase ~100-120V,Frequency 50/60 Hz,2A
Auxiliary power supply fuse: 2A	
Auxiliary Power Outlet:	3
Battery information	
Writes:	Built-in Li-ion cell 11.1 VDC 4800 mAh
No. of Cell:	2 units