Dedicated to delivering superior NIV performance and support

Datasheet

Panther 5N Series

Revision C

ORIGIN medical devices

23 Corporate Plaza, Newport Beach CA, 92660, USA

Technical Specifications

General Information

Intended Use	The PANTHER 5N ventilator is: • Intended for respiratory treatment in non-invasive and invasive ventilation of adult, pediatric and neonate (O), patients • Used in hospitals, professional healthcare facilities and transportation of patients within such facilities
Instructions for use	Please read the Panther 5N Operator's Manual
Legal Manufacturer	Origin Medical Devices Inc.
Size (W x D x H)	350 x 360 x 390 mm 13.7" x 14.2" x 15.4"
Weight (Ventilator)	11 Kg (24 lbs)
Power	110 to 240 V AC 50 to 60 Hz
Internal Battery	Li-ion, 98W, 14.4V
Operating Time on Battery	> 3 hours under standard conditions
Recharge Time	Approximately 3 hours

Oxygen Supply and Monitoring

High Pressure Range	35 to 87 PSI
Connector Type	DISS 1240, NIST or other per region
Low Pressure	Low flow/pressure inlet
Monitoring	O_2 sensor on outlet. Galvanic or Paramagnetic options available

(O) Feature is available as an option

Operational

Enclosure Rating	IP22
Operating Temperature	10 to +40°C
Operating Humidity	10 to 90% Non-Condensing
Storage Temperature	-20 to +60°C
Storage Humidity	10 to 90% Non-Condensing
Barometric Pressure	700 to 1060 kPa internally compensated
Altitude - operation	0 to 3,280 m (0 to 10,000 ft)

Flow and Pressure

Pressure Range	-50 to +100 cmH_2O
Flow Range	0 to 240 lpm
Peak Flow	350 lpm

Functionality and Safety Standards

Complies with requirements and classification IIb of Medical Device Directive 93/42/EEC.

ISO 80601-2-12:2011
ISO 60601-1-2:2014
EN 60601-1
ISO 60601-1-8:2007 + A11:2017
IEC 60601-2-49:2011
ISO 80601-2-55:2018

User Interface

Display	15” TFT with PCAP touchscreen
Control Interface	Touchscreen Encoder knob with LED
Audible Indicators	Speaker and Buzzer
Additional Visual Indicators	RED, YELLOW, GREEN indicators for alarms, ventilation in power save
Additional Visual Sensors	Ambient light detector for automated display intensity control

Ventilation Type

Types	Non-invasive High Flow O_2 Therapy Invasive

Ventilation Modes and Breath Types

Controlled Ventilation	Pressure Control (PC) Pressure Regulated Volume Control (PRVC)
Spontaneous Ventilation	Pressure Support (PS) Volume Support (VS)
Modes	PCV, S/T, AVAPS, SPONT for NIV A/C PC, A/C PRVC, AVAPS for INV

(O) Feature is available as an option

High Flow O_2 Therapy

Oxygen	21 to 100%
Flow	Adult: 1 to 80 lpm Pediatric: 1 to 80 lpm Neonate (O): 1 to 25 lpm

Additional Functions

SMART Trigger®	Proprietary triggering mechanism which significantly improves trigger detection in high and varying leaks as well as with COPD patients

Non-Invasive Compensation

Non-invasive max leak compensation	Adult • Inspiratory: 200 lpm • Expiratory: 60 lpm Pediatric and Neonate • Expiratory 25 lpm
Inspiratory volume compensation with AVAPS	User selectable: ON/OFF When ON, volume is compensated for up to twice the set tidal volume

Display Configurations

Waveforms	• Circuit Pressure • Flow • Volume • SpO_2 Pleth (O)
Loops	• Pressure Volume (PV) • Flow Volume (FV)
Trends	• Shows one live waveform, two selected trends and 15 monitored values corresponding to the trend cursor position. • Trend views can be selected from 15 trended parameters which are recorded per breath (once per second) • Views can be zoomed and scrolled with the x-axis or finger swipe (15m, 30m, 60m, 3hr, 6hr, 12hr, 24hr, 72hr) • Trends record up to 72 hours of data

Logs

Logged Information	• Changes • Alerts • Operations
Number of Entries	5,000
Log Download	Download vent logs
Images	Download screen images

Direct Access Functions

Elevated O_2 (O_2 Enrichment)	User adjustable O_2 level active for up to 120 seconds
Manual Breath	Activates a mandatory breath upon pressing during the expiratory phase
Inspiratory Hold	Activates hold during the inspiratory phase
Expiratory hold	Activates hold during the expiratory phase

(O) Feature is available as an option

Nebulization

Pneumatic

Synchrony	Synchronized to breath and volume compensated
Operating Time	5, 10, 20, 30, 60 minutes
Compensation	Volume is compensated for the added flow

Aerogen®

Method	Direct drive to nebulizer
Supported Types	SOLO or PRO
Controls	• Selection of type • Continuous option • Run time and Extend time
Visuals	• Time Requested • Time Active • Time Remaining • Operational status

Oximetry (O)

Measurements	• SpO_2 • Heart Rate • SpO_2/O_2 (Ratio Approximation to PaO_2/FiO_2) • Signal Level

Settings

EPAP	0 to 40 cmH_2O
IPAP	5 to 60 cmH_2O without the performance option and 5 to 100 cmH_2O with the option
Slope	1 to 10 (1 is the fastest)
Exhalation Sensitivity (Esens)	5 to 80 %
Max Spont Breath Time (Support TI)	Adult: 0.4 to 5.0 sec Pediatric: 0.4 to 3.0 sec Neonate [O]: 0.2 to 2.0 sec
Tidal Volume (VT) Range	Adult: 100 to 2500 ml Pediatric: 20 to 500 ml Neonate[O]: 2[1] to 100 ml
Inspiratory Time (TI)	Adult: 0.10 to 5.00 sec Pediatric: 0.10 to 4.00 sec Neonate [O]: 0.10 to 3.00 sec BiLevel: Up to 58.8 sec
Respiratory Rate	Adult: 1 to 110 b/min Pediatric: 1 to 120 b/min Neonate [O]: 1 to 150 b/min
Pressure Trigger	-15 to -0.1 cmH_2O
SMART Trigger®	1 to 7
Oxygen (O_2%)	21 to 100%

[O] Feature is available as an option

[1] 5ml PRVC, 2ml in pressure modes

Apnea

Apnea Time	0 to 60 sec
Inspiratory Time (TI)	Adult: 0.10 to 5.00 sec Pediatric: 0.10 to 4.00 sec Neonate [O]: 0.10 to 3.00 sec
Rate	Adult: 1 to 110 b/min

Monitored Parameters

Pressure

End Inspiratory Pressure	Pinsp
End Expiratory Pressure	EPAP

Volume

Inspired Tidal Volume	VTi
Exhaled Tidal Volume	VTe
Exhaled Minute Volume	V̇e

Flow and Leak

Delivered Oxygen	O_2
Inspiratory Leak (%)	Insp Leak %
Average Total Leak Rate	Avg Leak lpm
Inspiratory Leak Volume	Vleak ml

Rate and Timing

Total Breath Rate	Total BR
Inspiratory Time	Last Ti
Inspiratory to Expiratory Ratio	I:E
Percent of spont breaths	% Spont

Oximetry (O)

Saturation of Peripheral Oxygen	SpO_2

Capnography (o)

End tidal CO_2	etCO2

Adjustable Alarms

Pressure High	9 to 64 cmH_2O or 104 depends on the performance option
Pressure Low	6 to 60 cmH_2O or 100 depends on the performance option
Minute Volume (V̇e) High	0.5 to 100 lpm Adult 0.5 to 30 lpm Pediatric 0.5 to 10 lpm Neonate (O)
Minute Volume (V̇e) Low	OFF to 0.1 to 99.5 lpm Adult OFF to 0.05 to 29.5 lpm Pediatric

Adjustable Alarms (continued)

VTe High	25 to 3000 to OFF ml Adult 25 to 700 to OFF ml Pediatric 5 to 300 to OFF ml Neonate (O)
VTe Low	OFF to 1 to 2500 ml Adult OFF to 1 to 690 ml Pediatric OFF to 1 to 295 ml Neonate (O)
Rate High	10 to 110 b/min Adult 10 to 130 b/min Pediatric 10 to 170 b/min Neonate (O)
Rate Low	1 to 109 b/min Adult 1 to 129 b/min Pediatric 1 to 169 b/min Neonate (O)
Leak High	5 to 95 %
SPO2 High	71 to 100%
SPO2 Low	70 to 99%
V_{TI} Limit	Same as VTe

Non-Adjustable Alarms

Standby	Occlusion
Low PEEP	High PEEP
Circuit Open	Apnea
Low O_2	High O_2
No O_2 Inlet Pressure	Aerogen Fault
Battery Gauge Error	Battery Hot
Battery Low	Battery Empty
Shutting Down	Charger Fault

PRVC Limited by High Pressure setting - 5 cmH_2O

Additional Technical Alarms

Additional SpO_2 module related error alarms

	OFF to 0.01 to 9.5 lpm Neonate (O)

Communication Interfaces

Serial RS232

- Sends automatic data to nurse call station
- Can be configured to send the required data under different conditions
- Software plug-ins for required protocols

- USB Host connection for saving of logs, screen images and uploading software updates from standard USB memory sticks

External Interfaces

SpO_2 Modules

Direct Aerogen Nebulizer

Dry contact remote alarm connections with/without cable disconnection detection

(O) Feature is available as an option

Ventilator Options

Software

Neonatal Suite (O)	Neo patient type
Extended Monitoring Suite	External CO_2 and SpO_2 sensor support
Performance Suite	Maximal pressure
Graphics Suite	Trends View

The ventilator includes all hardware to fully support all features and all software options. There is no need to install additional internal hardware for any option.