

NKV-550

Series Ventilator System Treasure Every Breath®

Nihon Kohden's overriding philosophy inherent to the NKV-550 design is to Treasure Every Breath®. Our focus is to provide clinically relevant innovations and solutions for patients requiring mechanical ventilation.



Workflow Optimization

- Highly customizable screen configurations enabling the ventilator to fit into your paradigm rather than requiring you to adapt to it
- App based design provides guided processes to help create a more streamlined, systematic way for clinicians to optimize care of their ventilated patients

Lung Protection

- Created on the lung protective approach to ventilation
- Features the Gentle Lung® Suite of applications to provide clinically relevant, easy to use tools for the open-lung approach to ventilation

Seamless Care

- Patients can be transitioned seamlessly between invasive and non-invasive ventilation and high flow oxygen therapy
- Designed for use with all patient sizes

Protective Control®

- Protective Control® provides the clinician a safe, fully functional second user interface
- Easily implemented changes to ventilator settings when treating patients with contagious diseases or who are undergoing a radiologic procedure while remaining within sight of the clinician

Connectivity

- Transfer of critical patient ventilation data to the hospital information system for charting and/or data analytics purposes

Specifications NKV-550 Series Ventilator System

Patient Type

Adult, Pediatric, Neonate

Patient Data

ID	0 - 9999
Gender	Male / Female
Height	130 cm - 200 cm
Body Weight (BW)	0.30 kg or higher
Predicted Body Weight (PBW)	Calculated from Gender and Height Inputs

Ventilation Modes

Invasive Ventilation	A/CMV-PC, A/CMV-VC, A/CMV-PRVC SIMV-PC-PS, SIMV-VC-PS, SIMV-PRVC-PS SPONT-CPAP, SPONT-PS, SPONT-VS, APRV
Non-invasive Ventilation	A/CMV-PC, SIMV-PC-PS, SPONT-CPAP SPONT-PS, APRV, nCPAP
Oxygen Therapy	O ₂ Therapy

Gases

O₂ Supply	Input: 25 to 87 psi Vmax: 180 L/min
Air Supply	Input: 25 to 87 psi Vmax: 180 L/min

Physical Specifications

Display (not including mount)	Height: 46.7 cm (18 25/64 in) Width: 34.4 cm (13 1/2 in) Depth: 58.0 cm (2 9/32 in)
Breath Delivery Unit	Height: 27.3 cm (10 3/4 in) Width: 43.5 cm (17 1/8 in) Depth: 48.4 cm (19 in)
Standard Configuration (Display mounted on BDU)	Height: 69.8 cm (27 1/2 in) Max. tilt Width: 43.5 cm (17 1/8 in) Depth: 53.5 cm (21 in) Max. tilt

Powers

Mains (AC Power)	100 to 240 V, 50/60 Hz Power consumption: 50 - 200 W Fuse 1 & 2: T3.15A, (250V), H
Extended Battery	Li-ion, 14.4 V, 9.0 Ah Run time: 2 hr. 10 min (new and fully charged)
Backup Battery	Li-ion, 14.4 V, 4.1 Ah Run time: 50 min. (new and fully charged)

Alarm Audio Pause

Audio Pause	120 sec (max)
--------------------	---------------

Adjustable Alarms

Airway Pressure (Paw), High	Neonate/Pediatric: 5 - 100 cmH ₂ O Adult: 5 - 120 cmH ₂ O
Minute Ventilation (MV), High	Neonate: 0.02 - 20.0 L Pediatric: 0.03 - 40.0 L Adult: 0.03 - 60.0 L
Minute Ventilation (MV), Low	Neonate: 0.01 - 19.0 L Pediatric: 0.02 - 39.0 L Adult: 0.02 - 59.0 L OFF available, NIV only
Tidal Volume mL/kg (VT), High	2 - 30 L, OFF
Tidal Volume mL/kg (VT), Low	OFF, 1 - 29 L

Institutional Settings

System Settings	Language Pressure units Patient height units Communication protocol Nurse call settings
------------------------	---

Quick Access Buttons

Home	Inspiratory Hold
Panel Lock	Expiratory Hold
Elevated O₂	Screen Brightness
Manual Breath	Help

Applications (Apps)

Standby	Data Retrieval
Open Airway Suctioning	Camera
In-line Airway Suctioning	Sensors
NIF/PiMax Maneuver	Custom Settings
P0.1 Measurement	Video
Low Flow PV Maneuver	
Volumetric Capnography	Optional Apps
Spontaneous Breathing Trial	Recruitability Assessment
Auxiliary Pressure	Recruitment Maneuver
Trends	PEEP Titration
Logs	Transpulmonary Pressure

Waveforms

Pressure Waveform	Flow Waveform
Volume Waveform	Auxiliary Pressure Waveform

Loops

Pressure-Volume Loop	Flow-Volume Loop
-----------------------------	-------------------------

Ventilation Settings

Tidal Volume (VT)	Neonate (PRVC/VS): 2 to 100 mL Neonate: 5 to 100 mL Pediatric: 20 to 1000 mL Adult: 100 to 3000 mL
Pressure Control (P_{INSP} or ΔPC)	Neonate (60-PEEP): 2 to 60 cmH ₂ O Pediatric (70-PEEP): 2 to 70 cmH ₂ O Adult (80-PEEP): 2 to 80 cmH ₂ O
Pressure Support (PS)	Neonate (60-PEEP): 0 to 60 cmH ₂ O Pediatric (70-PEEP): 0 to 70 cmH ₂ O Adult (80-PEEP): 0 to 80 cmH ₂ O
PEEP	Neonate: 0 to 30 cmH ₂ O Pediatric: 0 to 40 cmH ₂ O Adult: 0 to 50 cmH ₂ O
CPAP	Neonate: 0 to 30 cmH ₂ O Pediatric: 0 to 40 cmH ₂ O Adult: 0 to 50 cmH ₂ O
P_{HIGH}	1 to 50 cmH ₂ O
P_{LOW}	0 to 49 cmH ₂ O
T_{HIGH}	0.1 to 30 sec
T_{LOW}	0.1 to 30 sec
Flow Type	Square, Descending 50%
Flow Rate (Flow)	Volume Control: Neonate: 1 to 30 L/min Pediatric: 1 to 60 L/min Adult: 1 to 150 L/min PC, PS, PRVC, VS, Spont: Up to 180 L/min O₂ Therapy: Neonate: OFF, 1 to 15 L/min Pediatric: OFF, 1 to 30 L/min Adult: OFF, 1 to 60 L/min
Tube Compensation (Tube Comp)	OFF, ON Tube type: ETT or Trach Tube ID: 2.0 to 10.0 mm Comp%: 0 to 100%

Inspiratory Pause (Pause)	OFF, 0.1 to 2.0 sec
Inspiratory Time (T_I)	Neonate / Pediatric (VC): 0.20 to 3.0 sec Adult (VC): 0.20 to 5.0 sec All patient sizes (PC): 0.20 to 10.0 sec
I:E Ratio (I:E)	4.0:1 to 1:299
Respiratory Rate (RR)	Neonate: 1 to 150 bpm Pediatric: 1 to 120 bpm Adult: 1 to 80 bpm
Oxygen % (FiO₂)	21 to 100%
Trigger Type (P_{TRIG} or F_{TRIG}):	Pressure Trigger: 0.1 to 20 cmH ₂ O Flow Trigger: Adult: 0.1 to 20 L/min Pediatric: 0.1 to 15 L/min Neonate: 0.1 to 10 L/min
Slope	5% (Slowest) to 100% (Fastest)
Expiratory Trigger (ET%)	1 to 80%
Maximum Inspiratory Time of PS (T_IMax PS)	Neonate: 0.3 to 1.0 sec Pediatric: 0.5 to 1.5 sec Adult: 0.8 to 2.0 sec
Sigh	OFF, ON Factor: 1.1 to 1.5 Interval: 30 to 100 (control breaths)
Apnea Ventilation	OFF, ON VT apn RR apn
Leak Compensation	Invasive: ON/OFF Neonate: up to 10 L/min Pediatric: up to 15 L/min Adult: up to 25 L/min Non-invasive: ON only Neonate: up to 15 L/min Pediatric: up to 40 L/min Adult: up to 65 L/min Max Vol LC (VC only) Neonate: 0 - 50 mL Pediatric / Adult: 0 - 100% of set VT

Monitored Parameters

Peak Inspiratory Pressure (P_{PEAK})	0 - 140 cmH ₂ O	Total Respiratory Rate (RR_{TOT})	0 - 200 bpm
Plateau Pressure (P_{PLAT})	0 - 100 cmH ₂ O	Spontaneous Respiratory Rate (RR_{SPONT})	0 - 150 bpm
Plateau Pressure, Estimated ($P_{PLAT-EST}$)	0 - 100 cmH ₂ O	Mandatory I:E Ratio (I:E)	16.0:1 to 1:299
Mean Pressure (P_{MEAN})	0 - 140 cmH ₂ O	APRV TH and TL Ratio ($T_H:T_L$)	150:1 to 1:150
PEEP	0 - 99.9 cmH ₂ O	Spontaneous Inspiratory Time ($T_{I SPONT}$)	0.10 - 9.99 s
Total PEEP ($PEEP_{TOT}$)	0 - 99.9 cmH ₂ O	Spontaneous Duty Cycle (T_I/T_{TOT})	10 - 90%
Intrinsic or auto-PEEP ($PEEP$)	0 - 99.9 cmH ₂ O	Static Inspiratory Resistance (R_{I-STAT})	1 - 200 cmH ₂ O/L/s
Intrinsic or auto-PEEP, Estimated ($PEEP_{I-EST}$)	0 - 99.9 cmH ₂ O	Static Compliance (C_{STAT})	0.1 - 120 mL/cmH ₂ O
Occlusion Pressure ($P_{0.1}$)	<0.5 or 0.5 - 10.0 or >10 cmH ₂ O	Static Compliance per kg (C_{STAT}/kg)	0.00 - 5 mL/cmH ₂ O/kg
Negative Inspiratory Pressure (NIF/PiMax)	0 to -60 cmH ₂ O	Expiratory Resistance (R_E)	1 - 200 cmH ₂ O/L/s
Mean P_{HIGH} for APRV (P_{H-MEAN})	0 - 99.9 cmH ₂ O	Dynamic Resistance, Estimated (R_{EST})	1 - 200 cmH ₂ O/L/s
Mean P_{LOW} for APRV (P_{L-MEAN})	0 - 99.9 cmH ₂ O	Dynamic Compliance, Estimated (C_{EST})	0.1 - 120 mL/cmH ₂ O
Driving Pressure ($P_{DRIVING}$)	0 - 99.9 cmH ₂ O	Exhalation Time Constant (TC_E)	.01 - 6 s
Driving Pressure, Estimated ($P_{DRIVING-EST}$)	0 - 99.9 cmH ₂ O	Imposed Work of Breathing (WOB_{IMP})	0 - 99.9 J/min
Inspiratory Tidal Volume (VT_I)	0 - 3,500 mL	C20/C	0.1 - 3.0
Tidal Volume (VT)	0 - 3,500 mL	Rapid Shallow Breathing Index (RSBI)	0 - 9999 bpm/L
Tidal Volume per Kg (VT/kg)	0 - 50 mL/kg	Rapid Shallow Breathing Index per kg (RSBI/kg)	0 - 300 bpm/mL/kg
Minute Volume (MV)	0.00 - 99.9 L	Oxygen Concentration FiO_2	18 - 100%
Spontaneous Minute Volume (MV_{SPONT})	0.00 - 99.9 L	Oxygen Pulse Saturation (SpO_2) and Sqi bar graph	0 - 100%
Leak at PEEP	0 to 200 L/min	Pulse Rate (PR)	30 - 300 bpm
Leak Volume % (Leak %)	0 - 100%	Pulse-Amplitude Index (PI)	0.01 - 100 %
Leak Volume (V_{LEAK})	0 - 3,000 mL	End tidal CO₂ (EtCO₂)	0 to 150 mmHg

For 24/7 ventilator support,
please call **1-855-550-VENT** or
email **ventilator@nihonkohden.com**



**Exceptional Solutions,
Simply Delivered.™**

Treasure Every Breath is a registered trademark of Nihon Kohden Corporation.
Protective Control is a trademark of Nihon Kohden OrangeMed, Inc.
Exceptional Solutions, Simply Delivered is a trademark of Nihon Kohden.

VMLB 013 (A)-CO-2511