

# PROTON



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## Advance Anesthesia Technology With User-Friendly Interface

The [Nidek Anesthesia Workstation Proton](#) is a medical device designed for delivering anesthesia to patients during surgery. It integrates various functions and components to ensure safe and effective anesthesia delivery.

Notable Key Features :

### [Ventilator](#) :

Provides mechanical ventilation to support or replace spontaneous breathing in patients. It allows for precise control over ventilation parameters such as tidal volume, respiratory rate, and inspiratory/expiratory ratio.

### [Vaporizers](#) :

Used to vaporize liquid anesthetics into a gas form that can be inhaled by the patient. These vaporizers ensure accurate delivery of the anesthetic agent.



### Patient Monitoring :

Includes monitors for vital signs such as heart rate, blood pressure, oxygen saturation (SpO<sub>2</sub>), end-tidal CO<sub>2</sub> (ETCO<sub>2</sub>), FiCO<sub>2</sub>, NiBP, and inhaled anesthetic concentration. This monitoring is crucial for assessing the patient's condition during surgery.

### Gas Flow System :

Supplies medical gases like oxygen(O<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and air to the patient. It includes flow meters, regulators, and alarms to ensure proper gas flow and mixture.

### Safety Features :

Includes various alarms and safety mechanisms to detect and alert the operator to issues like low oxygen levels, high airway pressure, or equipment malfunctions.

# Technical Specifications

1	Patient scope	Adult + Pediatric + Neonatal	
2	Patient select option	Yes	
3	Vaporizer positions	Double selectatec with interlocking function	
4	Automatic leak test	Yes	
5	Pneumatic Specifications	Pipeline gas supply	O2+N2O+Air
6		Backup cylinder yokes	1 O2 + 1 N2O
7		Fresh gas flowmeter type	Mechanical O2, N2O & Air
8		Auxiliary O2 flow flowmeter	Yes
9		Pressure source monitor	Mechanical pressure gauges
10		ACGO (Open/Close circuit switch)	Yes
11	Patient Breathing System	Highly integrated, fewer connections, ease of mounting (no tools required)	Yes
13		Automatic CO2 By-pass, change of soda lime without interruption of ventilation	Yes
14		Built-in inspiratory and expiratory spirometry sensors	Dual sensor inbuilt
15	Ventilator Parameter	Battery backup time (Hrs)	2 Hrs
16		Display and operation	8.4" TFT color screen with touch screen
17		Driven mode	Pneumatically driven and electronically controlled
18		Ventilation mode	VCV, PCV, SIMV-V, SIMV-P, PRVC, SIMV-PRVC, PSV, Manual/Spontaneous
19		Tidal volume (mL)	10 ~ 1500
20		I:E Ratio	4:1 to 1:10
21		Frequency/RR	1-100 BPM
22		Inspiratory Pause	0-60%
23		PEEP	0-30 cmH2O
24		Trigger (Flow/Pressure)	Flow: 0 to 20 LPM Pressure: -1 to -20 cmH2o
25		Pressure Limit	5 - 70 cmH2o
26		Drive gas type	O2/AIR Automatic Switching
28	Monitoring	Waveform	F-V, P-V
29		FiO2 (Galvanic fuel cell)	Yes
31		EtCO2 & FiCO2 (CO2 module)	Optional: In multigas analyzer
32		FiAA, EtAA, FiCO2, EtCO2, FiN2O, EtN2O (Multi-gas module)	Optional
33		Loops	Yes
34		MAC (Min. Alveolare Concentration)	Optional
35	Communication port for service	Yes	
36	Brake system	Front Wheels Lock	
37	Body Type	Anti-Bacterial Coated Body	



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