

Anesthesia Agent Indicators/RIKEN



PORTABLE GAS INDICATOR MODEL FI-21

FOR ANESTHETIC VAPORIZER CALIBRATION
DOES IT ALL!



Latest development in the line of RIKEN GAS INDICATORS based on the optical interferometer principle.

- Digital LCD Readout
- You select base gas (O₂ or Air), Halothane, Isoflurane, Desflurane or Sevoflurane
- Built in push button sample pump

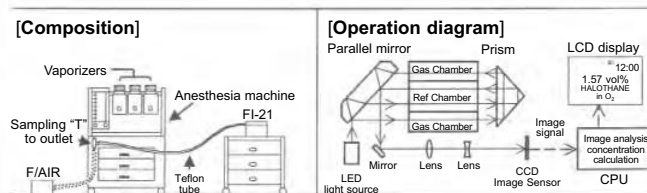
The NEW RIKEN F1-21 makes all calculations and adjustments for range, anesthetic, and conversion factors automatically.

- In the anesthetic application, the function of the FI-21 Riken Gas Indicator is the same as the other models with the advantage of **direct digital readout**, selectable anesthetic gas, and base gas (air or O₂), electric sample pump and automatic set up for any or all of the previous models of Riken Gas Indicators.
- Memory: Stores up to 100 readings with time and date.
- Power: 4 "C" size alkaline cells for operating optical system illumination electronics and sample pump. Average life of battery, 80 hours.
- Direct Readout of % volume measurement of commonly used anesthetics on LCD display.
- Automatic accommodation for selected anesthetic base gas and scale range and **no conversion factors or calculation required**.
- Self checking readout on display.

SPECIFICATIONS

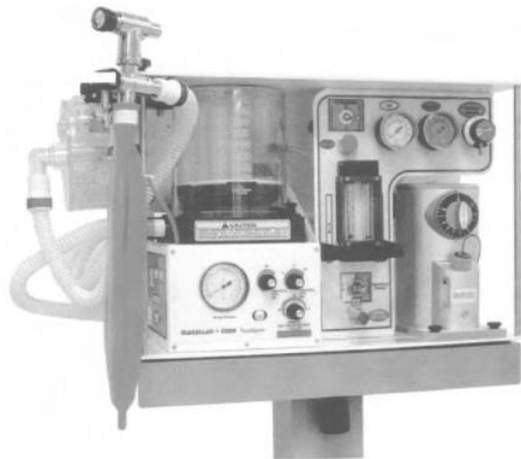
Measuring gas	O ₂ base: Halothane, Isoflurane, Sevoflurane, Desflurane Air base: Halothane, Isoflurane, Sevoflurane, Desflurane				
Measuring ranges	The number in () is the minimum digit. [Unit: vol%]				
	Base gas \ Meas. gas	Halothane	Isoflurane	Sevoflurane	Desflurane
	O ₂ base	0~6 (0.01)	0~8 (0.01)	0~10 (0.01)	0~20 (0.02)
Air base	0~6 (0.01)	0~8 (0.01)	0~10 (0.01)	0~20 (0.02)	
Power source	C size alkaline battery (4 ea.), or AC adapter (Option)				
AIR CAL. value	AIR CAL value = Indication when the instrument detects the fresh. [Unit: vol%]				
	Base gas \ Meas. gas	Halothane	Isoflurane	Sevoflurane	Desflurane
	O ₂ base	1.57	1.65	1.70	2.10
Air base	0.00	0.00	0.00	0.00	
Indication accuracy	Within ±3% of the reading value ± 1 digit (Air base)				
Opting temp./Hum.	5~35°C, Below 80% RH				
Battery life	Approx. 20 hours in continuous (without sampling)				
Outputs	Data logger, Analog output 0~1 V				
Data logging funct.	Concentration reading with Month/Day/Year and Time Maximum recording number: Up to 100				
Dimensions/weight	Approx. 200 (W) x 80 (H) x 145 (D) (mm) / Approx. 2kg				
Standard access.	Sampling tube, Carrying case, Sampling "T" piece				
Optional access.	AC Adapter				

*Specifications subject to change without notice.



#DI-40184 for all
popular anesthetics

Anesthesia Machine



#CZ-MAG1 Portable Anesthesia Machine w/ Sevoflurane Vaporizer

DIMENSIONS

Height	23 inches
Depth	23 inches
Width	17 inches
Weight	
● Free-Standing	45 lbs
● Enclosed in Carrying Case	100 lbs
Machine Materials	Aluminum, brass and plastic
Carrying Case Materials	Plastic, military grade
Operating Temperature Range	35° F to 110° F
Required Gas Supply Sources	
● O ₂ Main and Cylinders	38 to 70 psi (50 psi is optimal)
● Air and/or Air Compressor	38 to 70 psi (50 psi is optimal)
● Oxygen Concentrator	3 to 10 psi
Flowmeter Fresh Gas Flow	1 to above 20 lpm (each flowmeter)
Oxygen Flush Valve	Recessed, self-closing, push-button, color coded and labeled, provides 45-55 lpm constant flow, while push-button is depressed
CO₂ Absorber System	King Systems KAB-9 (refillable) or KAB-1 (pre-filled/disposable)
CO₂ Absorber Canister Capacity	400 grams soda lime
Directional Valves	Built in the CO ₂ Absorber
CO₂ Absorber Holding Bracket	Plastic, secured with knob to main frame of machine
Bag-Ventilator Switch/PRV and Scavenger Outlet Port	Hand-operated selector switch and rotating knob for PRV and scavenging outlet
Bellows	Latex free, upward inflating, range from 0 to 1.6L
Bellows Pressure Relief	Pre-set at 60 cm H ₂ O
Common Gas Outlet	Quick-connect, size-indexed
Tubing Circuit	King Systems F-360-61 or any standard anesthesia circle circuit
Gas Pressure Hoses	DISS and thread indexed, female connectors at both ends
Gas Inlet Manifold	DISS and thread indexed, male connectors with one-way valves

Gas Inlet Manifold Filters	Located behind Manifold Air and O ₂ inlet male connectors
Gas Inlet Pressure Regulators	
● Main supply cylinder	DISS/thread indexed for O ₂
● Safety back up cylinder	Pin-indexed, yoke mounted for "D" and "E" cylinders for O ₂
Oxygen and Air Supply Gauges	0-3000 psi range, color coded and labeled
Oxygen Supply Alarms	
● Main and safety back-up	Pneumatically actuated when O ₂ supply falls below 35 psi
● O ₂ Concentrator	Pneumatically actuated when O ₂ supply falls below 1 psi
● Alarm power source	9-volt battery located in body of alarm box
● Alarm on/off	Labeled toggle switch located on body of alarm box
Air and O₂ Flowmeters	Calibrated and scaled 0-10 lpm, color coded, O ₂ flowmeter has a fluted control knob for easy identification by touch
Oxygen Concentrator	To power O ₂ flowmeter only
Air Compressor	May be used to power ventilator and air flowmeter
Oxygen Analyzer/Monitor	OM-25-ME (or equivalent) Sensor life expectancy 2 years under normal conditions
Oxygen Analyzer Power Source	2 each AA batteries, life expectancy approx. 3000 use hours
Auxiliary O₂ Flow Selector	Scaled 0-10 LPM in set increments, used for pre/post anesthesia
Vaporizer	Penlon SigmaDelta Series, bolt (cage) mounted, temperature compensated, very low maintenance
Airway Pressure Gauge	Dual scaled in cm H ₂ O and mmHg, located on front panel of ventilator
Pressure Gauge Tubing	Attached to bag/vent switch arm
Mechanical Ventilator	
● Ventilator Pressure Relief	Pneumatically powered, time cycled, volume constant, pressure variable
● Volume Range	Pre-set to maximum of 60 cm H ₂ O located in main vent box
● Insp. Flow Range	0 to 1.6L
● Insp. Time Range	0 to .90 lps
● Esp. Time Range	0.2 to 3.0 seconds
Ventilator Gas Power Requirements	0.2 to 30 seconds
	40 to 70 psi, 50 psi optimal Use toggle switch to select gas source
Waste Gas Scavenger	Positive and negative relief valves, 1L reservoir bag, vacuum control knob
Total Machine Gas Leakage	@30 cmH ₂ O -0- ml/Min @80 cmH ₂ O -0- ml/Min
Internal System Compliance	@20 cmH ₂ O 1.1 ml/cmH ₂ O @40 cmH ₂ O 1.3 ml/cmH ₂ O
Internal System Resistance	@1.0L/sec gas flow 4.11cmH ₂ O @0.5L/sec gas flow 1.80cmH ₂ O
APL Valve Pressure Drop	@3.0L/min gas flow 0.12cmH ₂ O @30L/min gas flow 1.03cmH ₂ O
Storage	
● Indoor	+160° F Allow unit to warm to room temp.
● Outdoor	-30° F