

**Matrix**  
by MIDMARK

**Conscious Sedation Delivery Systems**



***The leader in  
nitrous oxide  
equipment technology,  
for over 45 years.***



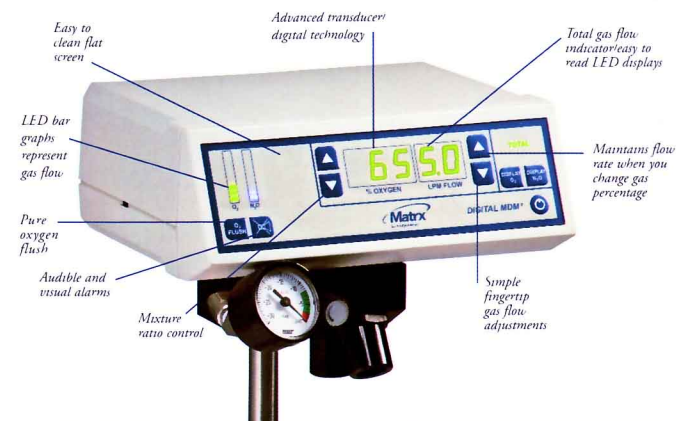


# Digital MDM®

Digital MDM® is the only proven digital mixer. It features the Matrix flow and percentage Auto-Compensation and is so accurate that it will measure and control flow rates as low as 0.1 lpm. Plus, its unique flat screen flowmeter is made to allow for optimal asepsis control. The Digital MDM is available in portable (stand) mount, wall mount, counter top and flush (cabinet) mount configurations.

Digital MDM® Specifications	
Standard Head Dimensions: (H x W x D)	5.5"(14cm) x 8"(20.3cm) x 10"(25.4cm)
Portable Stand Dimensions: Overall Height Tall Stand: Overall Height Short Stand: Stand Width at Base:	50"(127cm) max. - 40"(101.6cm) min. 35"(88.9cm) max. - 25"(63.5cm) min. 22"(55.9cm)
Flush Mount Dimensions (H x W x D) W/Small Bezel W/Large Bezel W/Large Bezel & O <sub>2</sub> Outlet	4.25"(10.8cm) x 9.7"(24.6cm) x 6.5"(16.5cm) 4.25"(10.8cm) x 12.6"(32cm) x 6.5"(16.5cm) 4.25"(10.8cm) x 12.6"(32cm) x 6.5"(16.5cm)
Weight of Standard Head	6 pounds (2.7 kg)
Mixed Gas Outlet Diameter	15mm ID / 22mm OD nominal
Oxygen Inlet	Male DISS (CGA-1240)
Nitrous Oxide Inlet	Male DISS (CGA-1040)
Inlet Pressure (Each Gas)	50-55 psi
Oxygen Mix Ratio Range	30% - 100%
Flow Range Maximum	9.9 lpm
Oxygen Flow Range	1 - 9.9 lpm
Nitrous Oxide Flow Range	0 - 7 lpm
Input Supply Voltage	115 VAC nominal*
Line Frequency	60 Hertz*

\*International models also available



Product Features	Oxygen fail-safe	Minimum concentration of 30% oxygen	Auto inta
Digital MDM®	•	•	
Fraser MDM®	•	•	
Fraser RA®	•	•	
	If the oxygen supply is interrupted or inadvertently cut off, the flow of nitrous oxide will immediately discontinue.	Will not provide oxygen concentration below 30%.	If the the b bag a  the ai valve opens room patien

CE  
0086

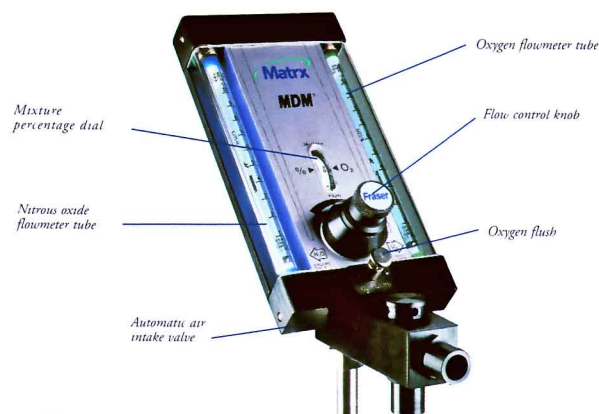
The only pneumatic mixer with Auto-Compensation to maintain flow rate when you change gas mixture percentage. Also maintains percentage when you change flow rate. Available in portable (stand) mount, wall mount and under counter mount configurations.



Patent 3,739,699

## Fraser MDM® Specifications

Standard Head Dimensions: (H x W x D)	9.75"(24.8cm) x 5"(12.7cm) x 12.5"(31.8cm)
Portable Stand Dimensions: Overall Height - Tall Stand Overall Height - Short Stand Stand Width at Base	54"(137.2cm) max. - 44"(111.8cm) min. 39"(99.1cm) max. - 29"(73.7cm) min. 22"(55.9cm)
Flush Mount Dimensions: (H x W x D)	12.75"(32.4cm) x 6.25"(15.9cm) x 6"(15.2cm)
Weight of Standard Head	7 lbs. (3.2kg)
Weight of Flush Mount Head	14 lbs. (6.4kg)
Mixed Gas Outlet Diameter	15mm ID / 22mm OD nominal
Oxygen Inlet	Male DISS (CGA-1240)
Nitrous Oxide Inlet	Male DISS (CGA-1040)
Inlet Pressure (Each Gas)	50-55 psi
Oxygen Mix Ratio Range	30% - 100%
Oxygen Flow Range	1 - 10 lpm
Nitrous Oxide Flow Range	1 - 10 lpm



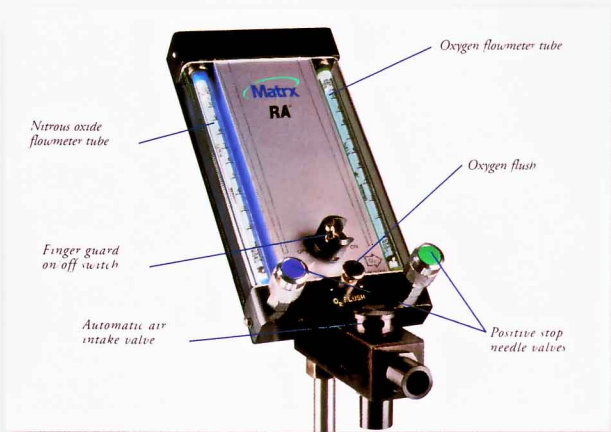
Automatic air valve	Non-rebreathing circuit	Auxiliary oxygen outlet	D.I.S.S. gas connections	Oxygen flush		Five-leg base	Flow Auto-Compensation
•	•	•	•		•	•	•
•	•	•	•	•		•	•
•	•	•	•	•		•	
Contents of rebreathing circuit depleted, automatic air intake automatically provides flow to the patient.	A check valve in the mixed gas outlet protects the patient from rebreathing exhaled gases.	An outlet is provided for the attachment of the optional "3-in-1" Demand Valve Resuscitator.	Gas connections conform to the industry standard diameter indexed safety system (D.I.S.S.)	An integrated oxygen flush button conveniently located on the front of the unit provides an immediate increase in oxygen flow to the reservoir bag.	The mixer automatically delivers 100% oxygen during flush by electronically discontinuing the flow of nitrous oxide.	For added stability, all portable units come with a five-leg base.	The first gas technology that maintains flow when you change gas mixture percentage and maintains percentage when you change flow rate.



# Fraser RA®

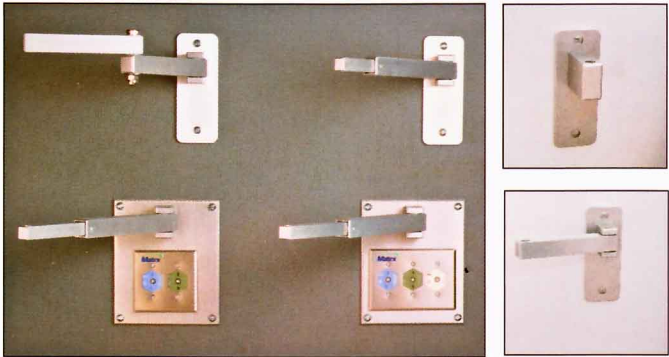
The relative analgesia machine designed with a built-in fail-safe that guarantees a minimum delivery of 3 lpm of oxygen. Available in portable (stand) mount, wall mount and under counter mount configurations.

RA® Specifications	
Standard Head Dimensions: (H x W x D)	9.75"(24.8cm) x 5"(12.7cm) x 12.5"(31.8cm)
Portable Stand Dimensions: Overall Height Tall Stand: Overall Height Short Stand: Stand Width at Base:	54"(137.2cm) max. - 44"(111.8cm) min. 39"(99.1cm) max. - 29"(73.7cm) min. 22"(55.9cm)
Weight of Standard Head	7 lbs. (3.2 kg)
Mixed Gas Outlet Diameter	15mm ID / 22mm OD nominal
Oxygen Inlet	Male DISS (CGA-1240)
Nitrous Oxide Inlet	Male DISS (CGA-1040)
Inlet Pressure (Each Gas)	50-55 psi
Oxygen Flow Range	3 - 10 lpm
Nitrous Oxide Flow Range	0 - 7 lpm



Function	Mixture Percentage Auto-Compensation	Built-in pressure or flow compensation	Audible and visual alarm system
	•	•	•
	•	•	
Mixer at percentage.	The first gas mixer technology that maintains percentage when you change flow rate and maintains flow rate when you change gas mixture percentage.	Prevents variation in mixture should either gas "supply" pressure fluctuate while the unit is in use.	Has a complete alarm package featuring Oxygen/Nitrous Oxide Supply Failure Alarms, 1 lpm Oxygen Limit Alarm, and a Flush Flow Low Alarm.

## Wall Mount Options





Over 45 years ago, Fraser Sweatman pioneered the technology used for safe delivery of nitrous oxide and oxygen sedation. Now, as Matrix by Midmark, that same vision and innovation keeps us a leader in the field of nitrous oxide/oxygen delivery as evidenced by the development and production of the New Digital MDM, the third generation of Matrix electronic mixers.

#### ***The Nitrous Oxide Advantage***

- Attract patients by offering safe, effective, pain management
- Save time - rapid onset and recovery
- Save money – patients are less anxious resulting in fewer cancelled appointments
- Able to titrate drug to allow precise and incremental control of delivery with no waste
- Relaxed patients remain fully conscious and able to respond to directions
- Easy to administer and control

#### ***The Matrix Advantage***

- Matrix owns the first patent issued on a percentage mixer
  - Matrix MDM® and Digital MDM® flowmeters are designed for titration
  - Matrix is the first ISO-9001 certified manufacturer of nitrous oxide delivery systems for the dental industry
  - For over 45 years, Matrix has been a leader in dental equipment research and technology
-