

Miniature air motors & drills for exacting high performance applications



PIONEER & LEADER

25
Years

MINIATURE
AIR MOTORS

micro motors
SANTA ANA, CA

Pioneer manufacturer of small yet powerful air motors and drills for medical, robotic and industrial use

Stringent product design needs have dictated use of a reliable power source that is small in size yet extremely powerful. Micro Motors understood this. It has pioneered, developed and manufactured miniature but powerful air motors for medical, robotic and industrial use for more than two decades. Today, hundreds of thousands are in use worldwide. They are vital components of products produced by original equipment manufacturers and private label distributors. Not surprisingly, numerous motors are still at work after nearly two decades of continuous service.

The product: general dimensions and specifications

Our motors meet demanding needs of torque and speed. At only 3/4 of an inch diameter, these precision motors consume only 4.8 CFM of air at 90 psi, while producing stall torques from 3.5 in-ozs. to 9 ft-lbs. at free speeds of 50,000 RPM to 1 RPM. **Motors are available with either direct drive or internal gearing; gear reduction from 4:1 to 4,100:1 is available.**

Micro Motors is capable of customizing air motors to fit design specifications

Our competent and experienced staff can respond to your design needs and modify air motors to fit virtually any small size, high power application. Specific requirements for mounting, autoclaving, and speed to torque ratios can be accommodated. Special pneumatic tools and custom machined parts produced in small to large quantities are offered. Design, engineering and production are under one roof.

Tough quality control standards are in place; FDA and GMP codes and standards are surpassed

We observe stringent quality control standards from initial machining to finishing through to assembly. Ultra sensitive equipment enables technicians to produce machine parts to exact design specs. All finished products pass torque and speed tests before shipment. Micro Motors is registered with the FDA and adheres to Good Manufacturing Practices. (GMP)

Options you may elect to fit your needs

Removable flange provided with all motors and drills. (Arrow shows direction of 'forward' or 'right-hand' rotation.)

Shaft seals available for units having free speeds of 2,000 RPM or less.

'MMR' or 'MMDR' models (with two air fittings) allow for reversing or for exhaust air to be directed to a remote location. Reversed speeds are slightly reduced.

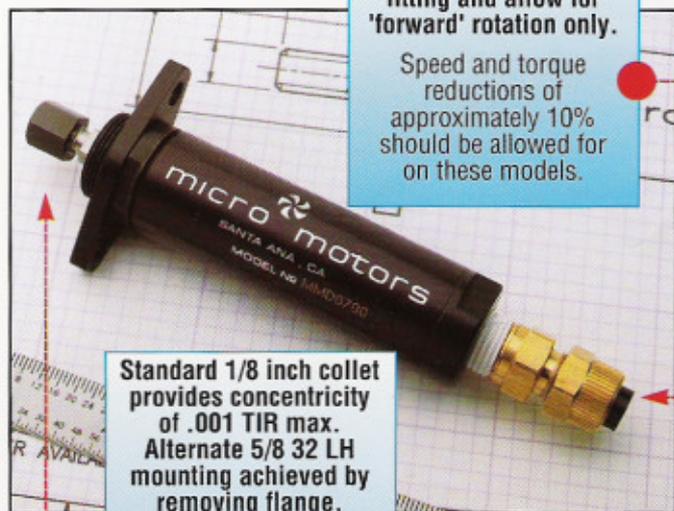
Option for equal forward and reverse speeding available.

'MMF' or 'MMD' models utilize a single fitting and allow for 'forward' rotation only.

Speed and torque reductions of approximately 10% should be allowed for on these models.

Standard 1/8 inch collet provides concentricity of .001 TIR max. Alternate 5/8 32 LH mounting achieved by removing flange.

The collet on MMD and MMDR Air Drills accepts "circuit board drills" which have a universal .125" shank.

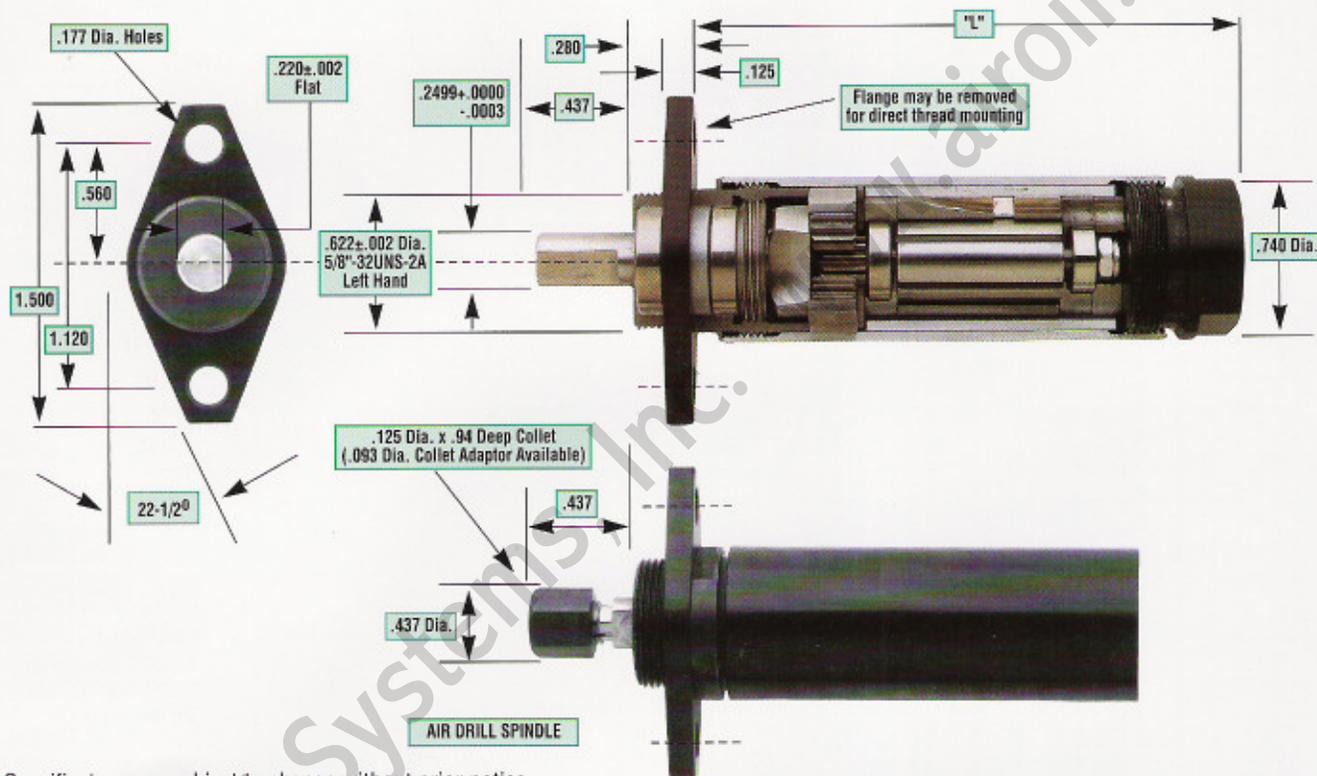


How our miniature air motor benefits a designer or user

- Operates on compressed air, nitrogen, or other inert gases at pressures up to **160 PSI**.
- Precision air motor of aluminum and stainless steel construction provides reliable power and a long service life.
- Advanced rotor blade design and a highly polished cylinder permit continuous operation.
- Balanced rotor positioned between precision ball bearings virtually eliminates friction and wear.
- Motors remain cool, even when operated under continuous load.
- Repeated stalling*, instant reversing will not harm the motor.
- Spark free operation is suitable for use in contaminated, wet or explosive environments.
- Instant on . . . instant off . . . no wind-up or coasting.
- Hardened planetary gear system provides increased torque transmission capabilities and long life.
- Lower air consumption than larger motors conserves energy

*Below 1750 in/oz torque

Exact dimensions may be modified for special industrial or medical applications



Specifications are subject to change without prior notice.

AIR DRILL		AIR MOTOR		FREE SPEED	STALL TORQUE INCH OUNCES	"L" LENGTH INCHES	APPROXIMATE WEIGHT:OUNCES
RIGHT HAND	REVERSIBLE	RIGHT HAND	REVERSIBLE				
MMD-5000	MMDR-5000	MMF-5000	MMR-5000	50,000	3.5	2.56	3-1/4
MMD-2800	MMDR-2800	MMF-2800	MMR-2800	28,000	7.2	2.56	3-1/4
MMD-0700	MMDR-0700	MMF-0700	MMR-0700	7,000	24	2.56	3-1/4
MMD-0014	MMDR-0014	MMF-0014	MMR-0014	1,750**	110	3.19	4-1/4
MMD-0004	MMDR-0004	MMF-0004	MMR-0004	450**	440	3.81	4-3/4
+	+	MMF-0002	MMR-0002	225**	850	3.81	4-3/4
+	+	MMF-0001	MMR-0001	110**	1750	4.44	5-1/2
+	+	MMF-5001	MMR-5001	28**	1750*	5.06	6-1/2
+	+	MMF-6001	MMR-6001	7**	1750*	5.69	7

+ Available upon request.

* Gears slip above this torque (approximately 9 ft. lbs.)

** Shaft seal is available

Stainless steel version available upon request.

Average free speed and stall torque specifications given at 90 P.S.I.

Maximum axial shaft loading: 17 lbs.

Maximum radial shaft loading at center of flat: 10 lbs.

