

TONSON Inc.

High Torque Air Motors

TM Series

Features:

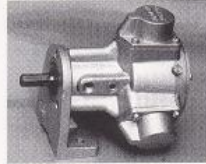
- Reversible
- Lightweight
- Low air consumption
- High torque output
- Low maintenance
- Foot / Flange / Hub mounting systems
- Speed range to 3000 RPM
- Radial piston design
- Explosion-proof

TONSON's patented radial piston design delivers high torque even at low operating air pressures. Piston port-to-port air transfer transmits high torque without the high levels of air consumption typically found in vane type air motors.

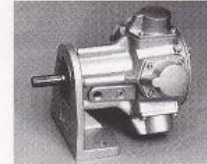
Motor operation is very quiet and meets most standards for noise in the workplace. Air is not bypassed in the motor, allowing the motor to deliver the required torque using less air and with lower motor speeds.

TONSON air motors are explosion-proof and low maintenance. If repairs are needed they can usually be done in place in a few minutes with no special tools or fixtures. Horsepower range is from 1/8-Hp to 1-Hp and motors are available in three mounting styles to fit most applications.

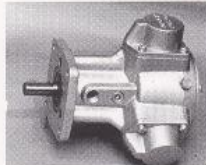
Some models are available with a reversing control to provide quick directional change of the output shaft. The reversible control has three operating positions: Forward, Stop and Reverse.



Foot Mounting
M2-L: 1/8 Hp
M3-L: 1/4 Hp



Foot Mounting
M5-L: 1/2 Hp
M7-L: 1 Hp



Flange Mounting
M2-F: 1/8 Hp
M3-F: 1/4 Hp



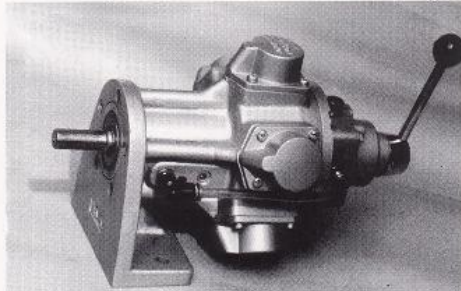
Flange Mounting
M5-F: 1/2 Hp
M7-F: 1 Hp



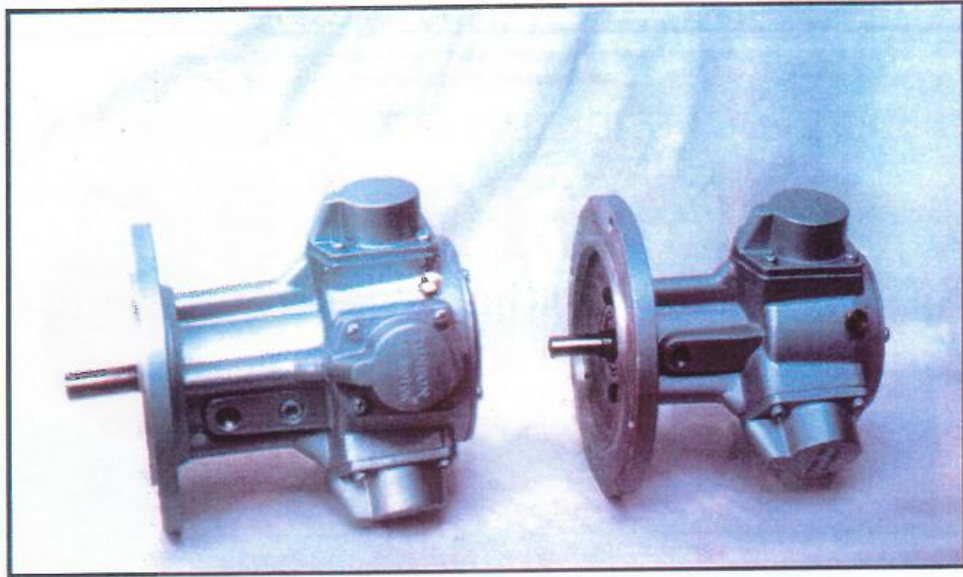
Hub Mounting
M2-T: 1/8 Hp
M3-T: 1/4 Hp



Hub Mounting
M5-T: 1/2 Hp
M7-T: 1 Hp



Reversible



Performance Data

| Model# | HP | Torque Max In-Lbs | RPM Max | CFM | Stop Torque In-Lbs | Start Torque In-Lbs | Allowable Load Lbs | | Weight (lbs) | | |
|--------|--------|----------------------|---------|------|-----------------------|------------------------|-----------------------|--------|--------------|--------|-------|
| | | | | | | | Radial | Thrust | Hub | Flange | Foot |
| TMP1 | 1/10HP | 5.5 (11.26) | 2200 | 7.2 | 10.22 | 5.95 | 22.07 | 13.3 | 3.53 | 4.06 | 4.63 |
| TMP2 | 1/8HP | 8.75 | 1800 | 7.5 | 17.85 | 11.46 | 26.35 | 17.8 | 4.63 | 5.16 | 5.69 |
| TMP3 | 1/4HP | 11.9 (28.59) | 1100 | 9.2 | 22.47 | 16.98 | 30.86 | 22.04 | 5.95 | 6.88 | 7.94 |
| TMP4 | 1/3HP | 18.7 | 1100 | 9.5 | 38.2 | 28.94 | 37.39 | 26.47 | 7.28 | 8.16 | 9.26 |
| TMP5 | 1/2HP | 25.50 (60.65) | 900 | 14.1 | 51.00 | 41.00 | 44.15 | 30.86 | 10.80 | 12.06 | 14.55 |
| TMP6 | 2/3HP | 38.12 | 900 | 15.0 | 76.24 | 60.60 | 67.58 | 45.00 | 12.79 | 13.89 | 16.53 |
| TMP7 | 1-HP | 372.0 (407.2) | 300 | 35.3 | 400.00 | 330.00 | 110.00 | 154.00 | 45.00 | 48.00 | 53.00 |



VANE AIR MOTORS

SINCE 1966

Realizing Clever Conceptions

ISO 9001

FEATURES

- 100% Explosion-proof
- Stalling Safety
- Stepless Speed Control
- Never Burn Out
- Self-Sealing & Cool Running
- Smooth Start
- Mounting Flexibility
- All Plane Operation
- Toleration of Environment

Air Motors can easily operate under conditions which are unfavorable for electric, hydraulic, stepper and servo motors.

APPLICATIONS

- Hoists / Winches
- Hose Reels
- Turntables
- Conveyor Drives
- Mixing Equipment
- Pump Drives
- Automation Devices
- Choppers / Grinders
- Food / Pharmacy Packaging

Vane Air Motors are all reversible & available in 8 vanes

Dual-Shaft , Diverse Gear Reductions & Brakes Available



Specifications

| Series | Gear Ratio | Performance at Maximum Speed | | | | | | | Max. Torque | | |
|--------|------------|------------------------------|------|--------|-------|-------|-----------------|------|-------------|--------|-------|
| | | Power | | Torque | | Speed | Air Consumption | | Speed | Torque | |
| | | HP | KW | N-m | lb-in | RPM | l/min | CFM | RPM | N-m | lb-in |
| V1 | 1:1 | 0.45 | 0.33 | 0.31 | 2.75 | 10000 | 580 | 20.5 | 650 | 0.65 | 5.75 |
| | 15:1 | 0.38 | 0.28 | 4.07 | 36 | 666 | 590 | 21 | 30 | 8.15 | 72 |
| VA1 | 1:1 | 0.50 | 0.37 | 0.60 | 5.31 | 6000 | 760 | 27 | 500 | 0.68 | 6.01 |
| | 15:1 | 0.46 | 0.23 | 8.13 | 72 | 400 | 590 | 21 | 30 | 8.02 | 71 |
| V2 | 1:1 | 0.93 | 0.69 | 2.20 | 19.5 | 3000 | 850 | 30 | 350 | 3.05 | 27 |
| V4 | 1:1 | 1.71 | 1.3 | 4.10 | 36.29 | 3000 | 2200 | 78 | 300 | 6.3 | 56 |
| | 10:1 | 1.3 | 0.94 | 31 | 274 | 300 | 1620 | 57 | 30 | 48 | 425 |
| | 15:1 | 1.27 | 0.90 | 45.2 | 400 | 200 | 1700 | 60 | 20 | 72.3 | 640 |
| | 20:1 | 1.17 | 0.87 | 55.0 | 487 | 150 | 2010 | 71 | 15 | 84 | 740 |
| | 40:1 | 0.95 | 0.71 | 90 | 800 | 75 | 2010 | 71 | 7 | 142 | 1255 |
| V6 | 60:1 | 0.83 | 0.61 | 117.5 | 1040 | 50 | 2010 | 71 | 5 | 185.3 | 1640 |
| | 1:1 | 4 | 3 | 10 | 88.5 | 3000 | 3620 | 128 | 300 | 13 | 115 |
| | 10:1 | 3.43 | 2.54 | 81 | 720 | 300 | 3680 | 130 | 30 | 107 | 950 |
| | 20:1 | 2.65 | 1.98 | 124 | 1100 | 150 | 3680 | 130 | 15 | 175 | 1550 |
| | 40:1 | 2.1 | 1.57 | 195 | 1725 | 75 | 3820 | 135 | 8 | 283 | 2500 |
| V8 | 1:1 | 5.25 | 3.9 | 15 | 132 | 2500 | 4955 | 175 | 300 | 21 | 185 |
| | 20:1 | 3.7 | 2.76 | 209 | 1850 | 125 | 5010 | 177 | 15 | 288 | 2550 |
| V16 | 1:1 | 9.5 | 7.08 | 34 | 300 | 2000 | 7787 | 275 | 300 | 43 | 380 |
| | 20:1 | 6.5 | 4.85 | 472 | 4177 | 100 | 7787 | 275 | 15 | 585 | 5177 |

PNEUMATIC POWER TECHNOLOGY **TONSON** Vane Air Motors

| Model | V1-F | V1-L |
|-------------------------------|-------------|------------|
| Mounting | Face | Foot |
| Performance at Maximum Speed | | |
| Power (HP / kW) | 0.45 / 0.33 | |
| Torque (N·m / lb·in) | 0.31 / 2.75 | |
| Speed (RPM) | 10000 | |
| Air Consumption (l/min / CFM) | 580 / 20.5 | |
| Mass (lb / kg) | 0.8 / 1.76 | 0.9 / 1.98 |
| Performance at Maximum Torque | | |
| Torque (N·m / lb·in) | 0.65 / 5.75 | |
| Speed (RPM) | 650 | |



| Model | VA1-F | VA1-L |
|-------------------------------|-------------|------------|
| Mounting | Face | Foot |
| Performance at Maximum Speed | | |
| Power (HP / kW) | 0.50 / 0.37 | |
| Torque (N·m / lb·in) | 0.60 / 5.31 | |
| Speed (RPM) | 6000 | |
| Air Consumption (l/min / CFM) | 760 / 27 | |
| Mass (lb / kg) | 1 / 2.2 | 1.1 / 2.42 |
| Performance at Maximum Torque | | |
| Torque (N·m / lb·in) | 6.01 / 0.68 | |
| Speed (RPM) | 760 | |

| Model | V2-F | V2-L | V2-B | V2-N | V2-I |
|-------------------------------|-------------|------------|-----------|------------|--------------------|
| Mounting | Face | Foot | Butterfly | NEMA 56C | IEC #72 D71, D71C |
| Performance at Maximum Speed | | | | | |
| Power (HP / kW) | 0.93 / 0.69 | | | | |
| Torque (N·m / lb·in) | 2.20 / 19.5 | | | | |
| Speed (RPM) | 3000 | | | | |
| Air Consumption (l/min / CFM) | 850 / 30 | | | | |
| Mass (kg / lb) | 2.2 / 6.38 | 3.3 / 7.26 | 3 / 6.6 | 3.8 / 8.36 | 4.3 / 9.5, 4 / 8.8 |
| Performance at Maximum Torque | | | | | |
| Torque (N·m / lb·in) | 3 / 26.55 | | | | |
| Speed (RPM) | 350 | | | | |



| Model | V4-F | V4-L | V4-B | V4-N | V4-I |
|-------------------------------|--------------|------------|------------|-------------|-------------|
| Mounting | Face | Foot | Butterfly | NEMA 56C | IEC #72 D71 |
| Performance at Maximum Speed | | | | | |
| Power (HP / kW) | 1.71 / 1.3 | | | | |
| Torque (N·m / lb·in) | 4.10 / 36.29 | | | | |
| Speed (RPM) | 3000 | | | | |
| Air Consumption (l/min / CFM) | 2200 / 78 | | | | |
| Mass (kg / lb) | 3.9 / 8.58 | 4.3 / 9.46 | 4.1 / 9.02 | 5.1 / 11.22 | 5.3 / 11.66 |
| Performance at Maximum Torque | | | | | |
| Torque (N·m / lb·in) | 6.3 / 56 | | | | |
| Speed (RPM) | 300 | | | | |



| Model | V6-F | V6-L | V6-N | V6-I |
|-------------------------------|-------------|-------------|-------------|-------------|
| Mounting | Face | Foot | NEMA 56C | IEC #72 D80 |
| Performance at Maximum Speed | | | | |
| Power (HP/kW) | 4 / 3 | | | |
| Torque (N·m / lb·in) | 10 / 88.5 | | | |
| Speed (RPM) | 3000 | | | |
| Air Consumption (l/min / CFM) | 3600 / 128 | | | |
| Mass (kg / lb) | 7.6 / 16.72 | 7.9 / 17.38 | 8.4 / 18.48 | 8.8 / 19.36 |
| Performance at Maximum Torque | | | | |
| Torque (N·m / lb·in) | 115 / 13 | | | |
| Speed (RPM) | 300 | | | |



| Model | V8-F | V8-L | V8-N | V8-I |
|-------------------------------|-------------|-----------|------------|-------------|
| Mounting | Face | Foot | NEMA 145TC | IEC #72 D90 |
| Performance at Maximum Speed | | | | |
| Power (HP/kW) | 5.25 / 3.90 | | | |
| Torque (N·m / lb·in) | 15 / 132 | | | |
| Speed (RPM) | 3000 | | | |
| Air Consumption (l/min / CFM) | 4955 / 175 | | | |
| Mass (kg / lb) | 10.4 / 22.9 | 11 / 24.2 | 12 / 26.4 | 13 / 28.6 |
| Performance at Maximum Torque | | | | |
| Torque (N·m / lb·in) | 21 / 185 | | | |
| Speed (RPM) | 300 | | | |

TONSON® AIR MIXERS

SINCE 1966



Transcendental thoughts Exclusive techniques Innovative Ideas

Air motors operate on air supply as the source of energy. It has the following advantages over electric motors.

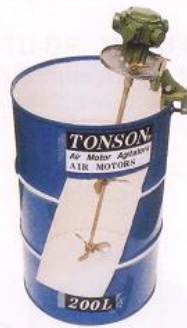
1. 100% Explosion-proof 24hr operation with no spark
2. Variable stepless speed control
3. Compact in size
4. Cool running
5. Stalling safety
6. Instant reversibility
7. Usable in harsh environment

AIR MOTORS CAN EASILY OPERATE UNDER CONDITIONS WHICH ARE UNFAVORABLE FOR ELECTRIC MOTORS.



| HP | SHAFT | PROPELLER |
|-------|-------------|--------------|
| 1/4HP | ø16mmx880mm | 6"x1 8"x1 |
| 1/2HP | ø16mmx880mm | 8"x2 |

Optional: Reversible Control, SUS Shaft, Propeller, C-Clamp Contamination Shield.



TS-50R C-Clamp Air Mixer

C-Clamp mount portable air mixer is suitable for mixing large volumes of light and medium viscosity materials in open drum. Operating angles may be easily adjusted for the most efficient mixing position.

TS-50R-CS C-Clamp Mixer With Contamination Shield

Use of contamination shield: As atmospheric temperature is higher than air motors' internal temperature, relative humidity effect occurs causing sweats on the surface of air motor. Thus, contamination shield should be equipped to prevent sweats contaminating the content.

TS-50RL C-Clamp Mixer With Reversible Control

When mixing large volumes with light additives, reversible control may be equipped on the motor for the most efficient mixing.



| HP | SHAFT | PROPELLER |
|-------|-------------|---------------|
| 1/4HP | ø16mmx880mm | 6"x1 8"x1 |
| 1/2HP | ø16mmx880mm | 8"x2 |
| 1HP | ø20mmx880mm | 8"x1 10"x1 |

Optional: Reversible Control, SUS Shaft, Propeller, Contamination Shield.



| HP | SHAFT | PROPELLER |
|-------|---------------|----------------------|
| 1/4HP | ø12.7mmx880mm | SUS 6"x2 |
| 1/2HP | ø12.7mmx880mm | SUS 6"x1 10"x1 |



TS-50C Cross Tank Mount Air Mixer

An excellent cost effective solution for mixing and blending of light to medium viscosity materials. Mount bracket will securely fit on almost any steel drum. It can be easily moved from one tank to another.

TS-50T Angle Bung Entry Air Mixer

Angle bung entry mixer can be applied for mixing in closed drums. Screw angle bracket into a 2" bung opening and fasten the set screw to the angle bracket after the mixer is placed into the drum. Special designed stainless steel blade will fit easily, blades extend by centrifugal force when operating and retracts when stopped.