

Micro Fans & Blowers

Innovation in Motion





OVERVIEW

Pelonis Technologies' innovative Micro Fans and Blowers are uniquely engineered for high quality, value and performance to meet the needs of today's demanding applications.

THE NEED FOR MINIATURE COOLING

Today's industries for cooling products require devices that are increasingly smaller, lightweight, have low power consumption, and reduce heat generation.

Micro Fans and Blowers are ideal thermal cooling solutions for applications that have limited space with restricted power budgets. They manage heat generation effectively, are energy efficient, and have a long operating life.

AXIAL AIR-GAP COOLING

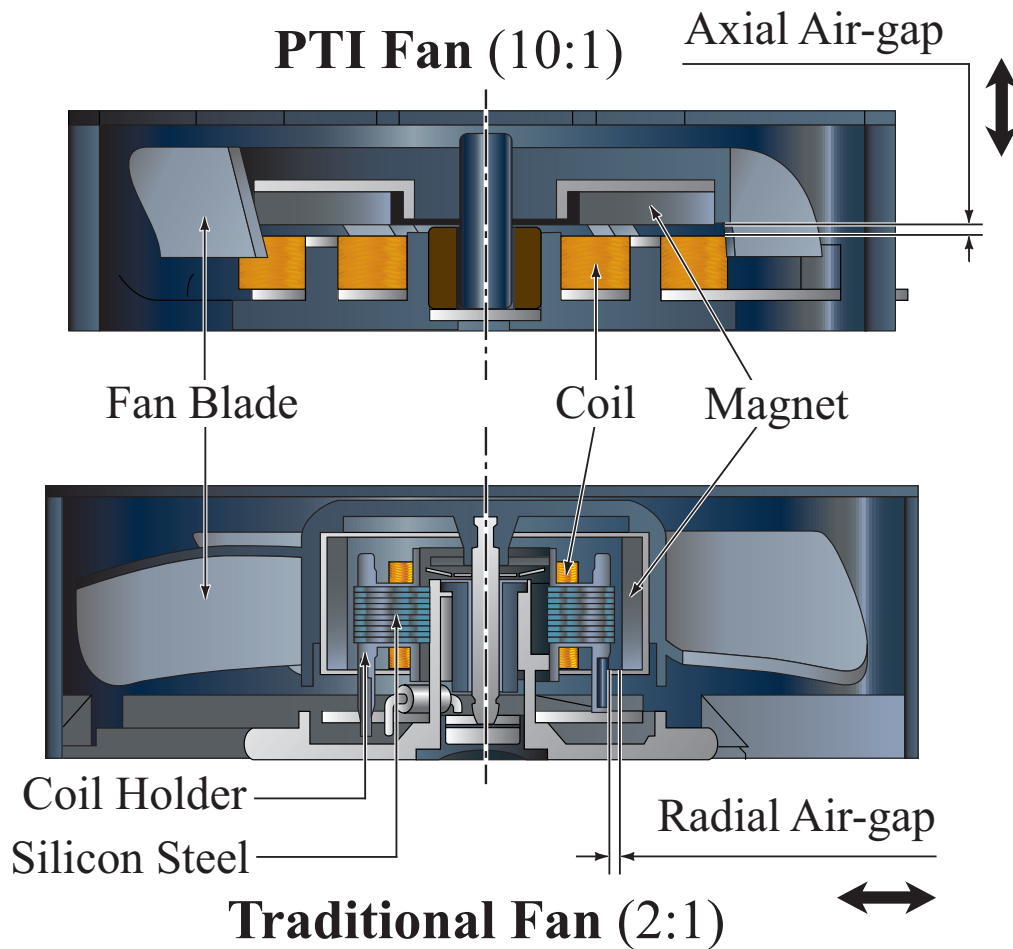
Traditional blowers include silicon steel motors with radial air-gaps. Miniaturization is difficult, operation is inefficient, and power loss is greater at higher temperatures.

By using *Axial Air-Gap Technology*, Micro Fans and Blowers are smaller and more energy efficient than traditional blowers and have almost no power loss at higher temperatures.

Micro Fans and Blowers can be used in a variety of applications, including:

- Portable medical devices
- Portable computers and electronics
- LED lighting
- Smartbooks and tablets
- Portable HDD
- IP cameras
- High-speed memory modules
- CCTV security surveillance systems
- Pocket projectors
- Micro fuel cells
- GPS devices
- Portable gas/particle detectors
- Portable plasma generators
- Portable air-quality monitoring devices
- Ventilation and defrosting
- Mask/Helmet/Glass ventilation
- Solar and wind energy devices

Micro Fans and Blowers are ideal alternatives to traditional fans and blowers and can be customized to satisfy a variety of applications that require an effective miniature cooling solution.



TRADITIONAL FAN TECHNOLOGY

Traditional fans and blowers have silicon steel stack motors with radial air-gaps that are PERPENDICULAR to their axis. This makes miniaturization difficult.

VS

AXIAL AIR-GAP TECHNOLOGY

Micro Fans and Blowers operate without silicon steel stack motors and have axial air-gaps that are PARALLEL to their axis. This makes them ideal miniature cooling devices.

Traditional Fan Characteristics

- High Profile
- Limited energy efficiency
- Current loss caused by silicon steel stack
- Higher startup voltage ($> 2.5V$)
- Ingress Protection: IP55
- Higher power loss at high temperatures
- Complex production process

Axial Air-Gap Characteristics

- Low Profile
- Energy efficient (power savings 20%~40%)
- No silicon steel stack (no current loss)
- Lower startup voltage ($< 2.5V$)
- Ingress Protection: IP57/IP58
- No power loss at high temperatures
- Highly modularized production process

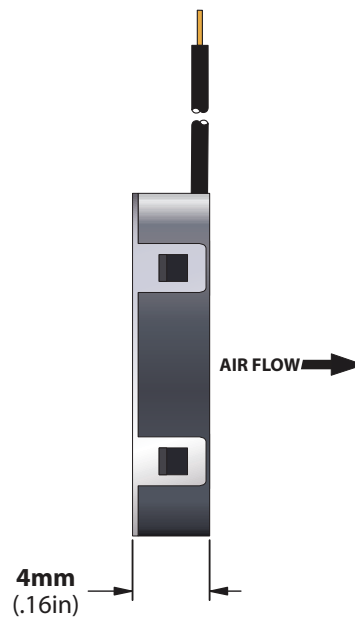
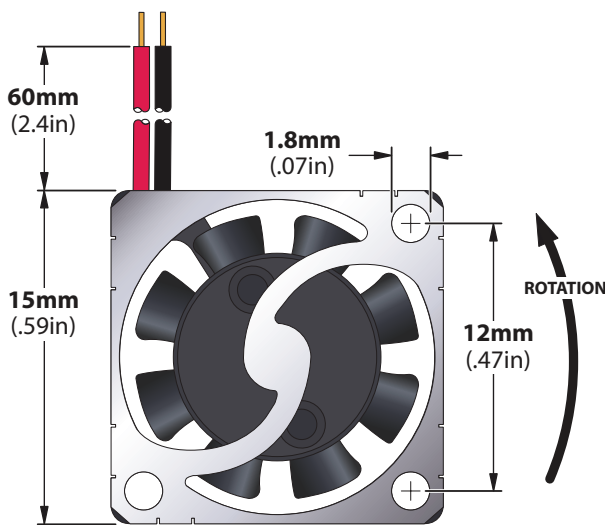
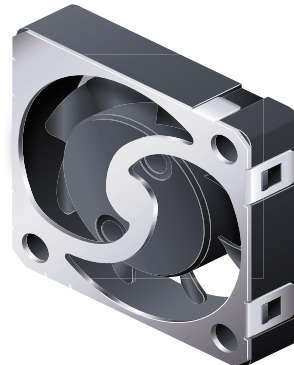
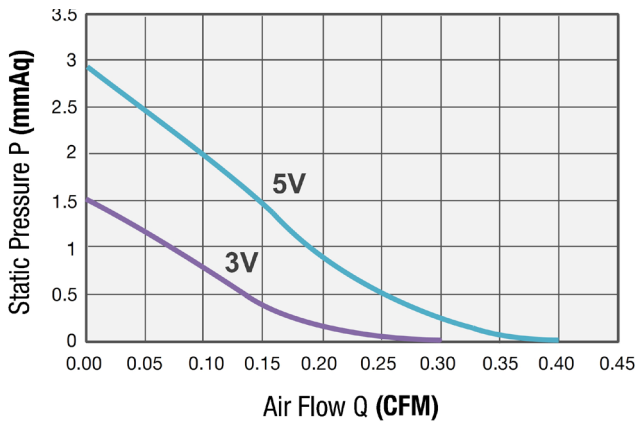
RFA1504 Micro Fan

15 x 15 x 4mm (0.59 x 0.59 x 0.16in)

- 3.3V, 5V
- Axially Grooved Bearing
- 0.30 CFM to 0.40 CFM
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|-------|------|---------------------|------|--------------------|-----|
| RFA1504 | 3.3 | 2.8~3.6 | 30 | 10000 | 0.30 | 0.008 | 1.5 | 0.059 | 25 |
| | 5.0 | 4.5~5.5 | 42 | 16000 | 0.40 | 0.011 | 2.8 | 0.110 | <35 |



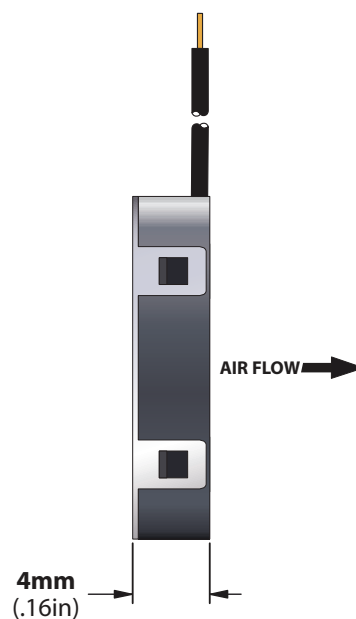
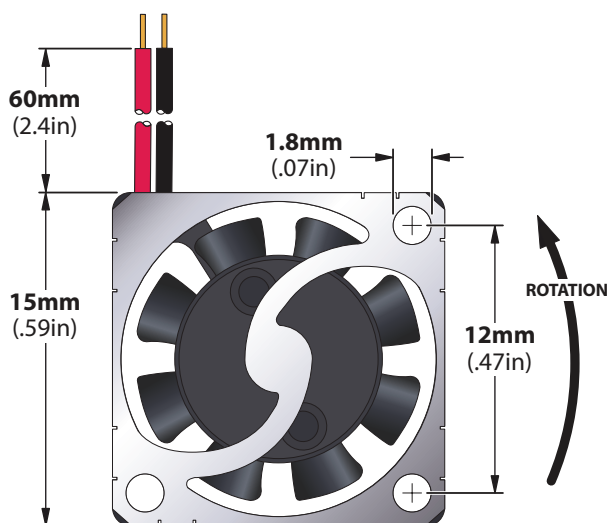
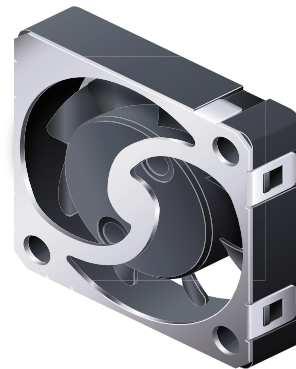
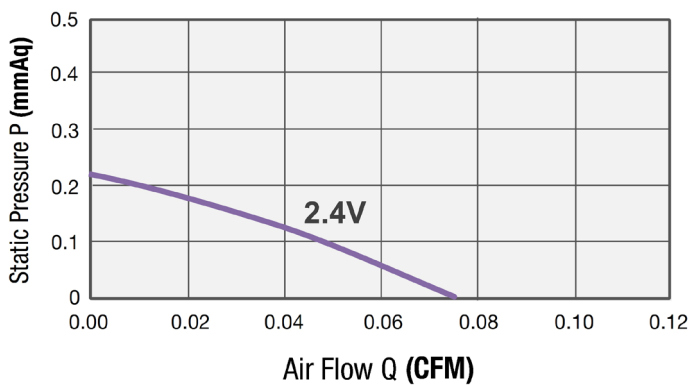
RFA1504U Micro Fan

15 x 15 x 4mm (0.59 x 0.59 x 0.16in)

- 2.4V
- Axially Grooved Bearing
- 0.07 CFM
- Ultra Low Power
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



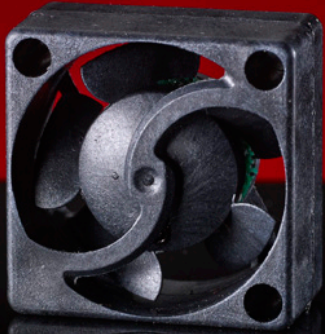
| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|------|------|---------------------|------|--------------------|-----|
| RFA1504U | 2.4 | 2.4~3.3 | 8 | 5000 | 0.07 | 0.002 | 0.21 | 0.008 | 20 |



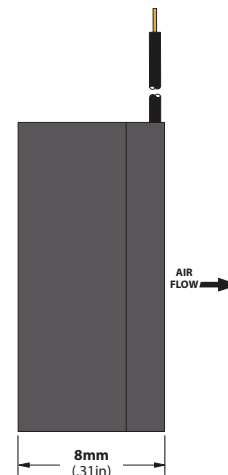
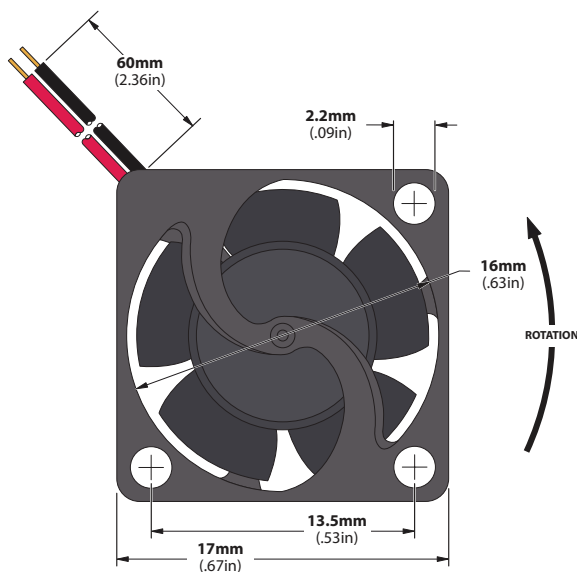
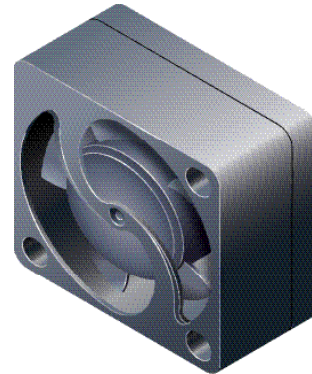
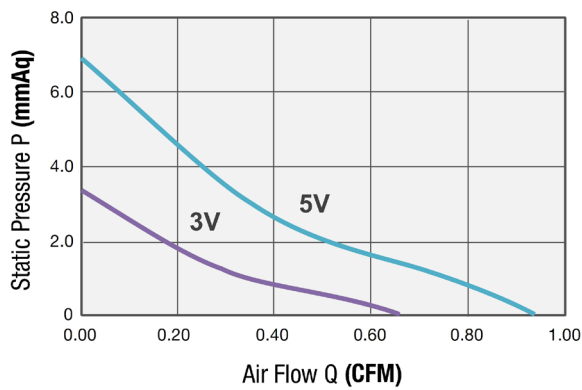
RFA1708 Micro Fan

17 x 17 x 8mm (0.67 x 0.67 x 0.31in)

- 3.3V, 5V
- Axially Grooved Bearing
- 0.74 CFM to 1.00 CFM
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|-------|------|---------------------|------|--------------------|-----|
| RFA1708 | 3.3 | 2.8~3.6 | 60 | 12000 | 0.74 | 0.02 | 2.4 | 0.09 | 12 |
| | 5.0 | 4.5~5.5 | 90 | 16000 | 1.00 | 0.03 | 4.28 | 0.17 | 18 |



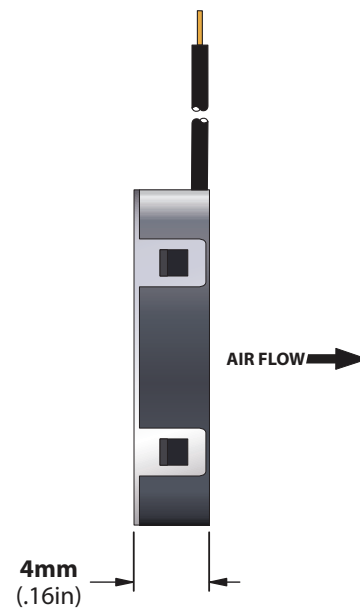
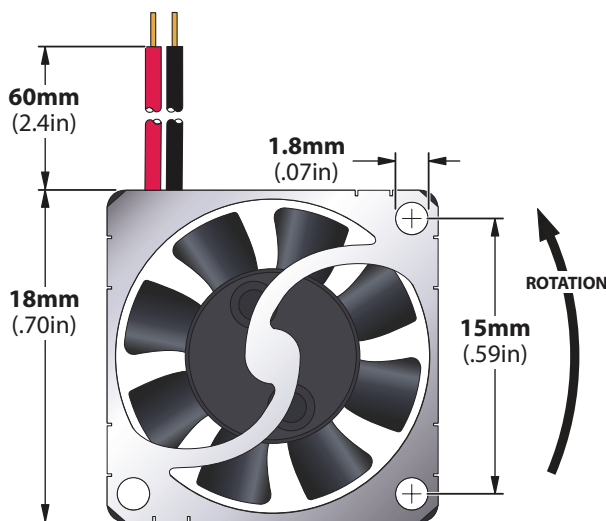
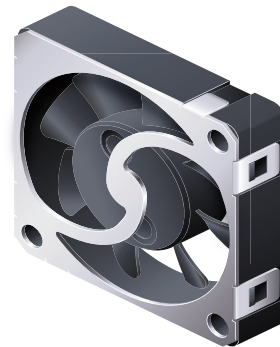
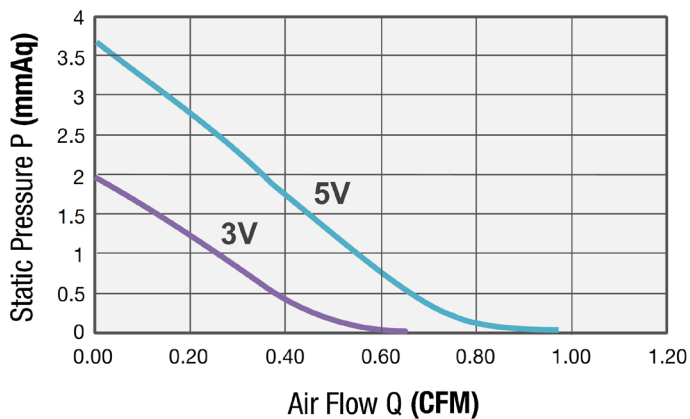
RFA1804 Micro Fan

18 x 18 x 4mm (0.70 x 0.70 x 0.16in)

- 3.3V, 5V
- Axially Grooved Bearing
- 0.65 CFM to 0.90 CFM
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|-------|------|---------------------|------|--------------------|-----|
| RFA1804 | 3.3 | 2.8~3.6 | 32 | 8500 | 0.65 | 0.02 | 1.95 | 0.07 | 25 |
| | 5.0 | 4.5~5.5 | 45 | 13000 | 0.90 | 0.03 | 3.5 | 0.14 | <35 |

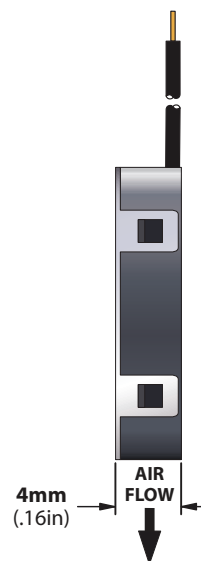
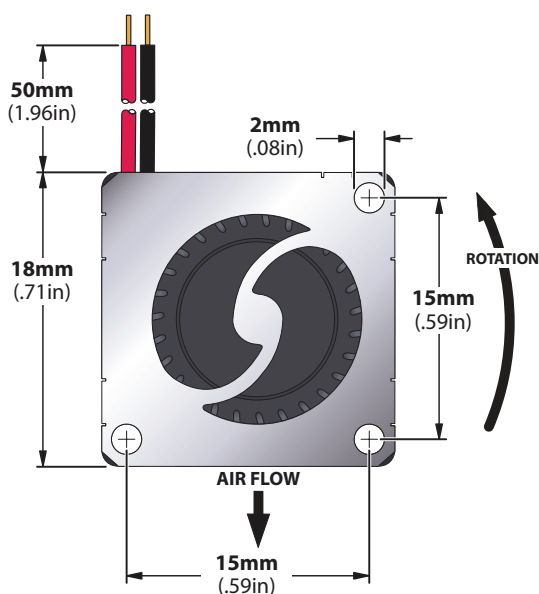
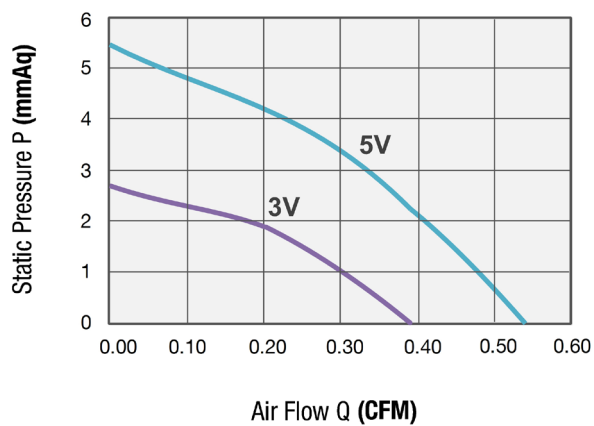


RFB1804 Micro Blower

18 x 18 x 4mm (0.70 x 0.70 x 0.16in)

- 3.3V, 5V
- Axially Grooved Bearing
- 0.14 CFM to 0.20 CFM
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant

| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|-------|------|---------------------|------|--------------------|-----|
| RFB1804 | 3.3 | 2.8~3.6 | 35 | 7000 | 0.14 | 0.004 | 2.44 | 0.09 | 25 |
| | 5.0 | 4.5~5.5 | 50 | 11000 | 0.20 | 0.005 | 5.16 | 0.20 | <35 |



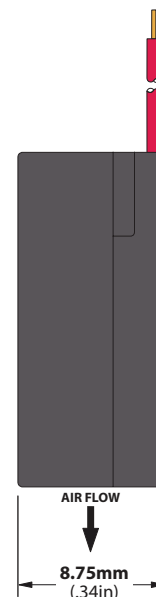
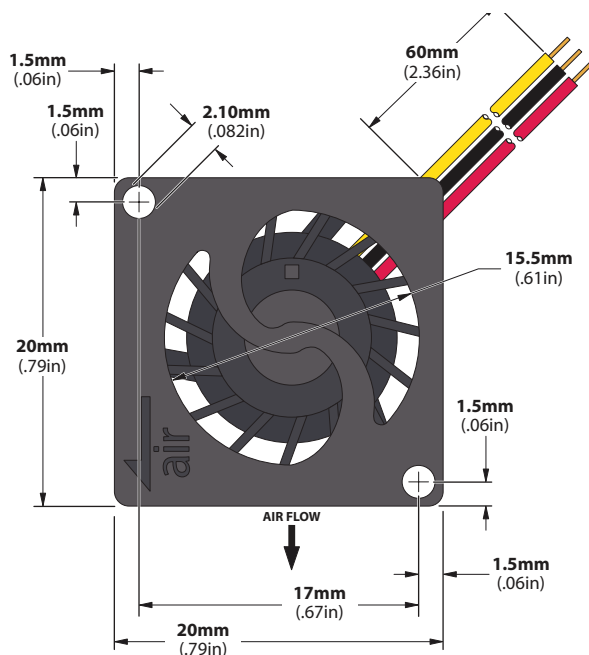
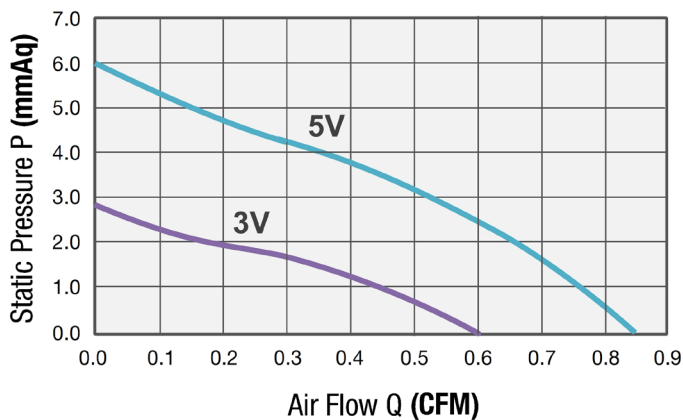
RFB2008NL/N Micro Blower

20 x 20 x 8.5mm (0.79 x 0.79 x 0.33in)

- 3.3V, 5V
- Axially Grooved Bearing
- 0.66 to 0.84 CFM
- Lead Wires: UL (+) Red; (-) Black
- Tachometer (FG) - Yellow Wire (Optional)
- Operating life: 20,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|-----|-------|------|---------------------|------|--------------------|-----|
| RFB2008NL | 3.3 | 2.8~3.6 | 75 | 11000 | 0.66 | 0.019 | 3.7 | 0.145 | 14 |
| RFB2008N | 5.0 | 4.5~5.5 | 130 | 14000 | 0.84 | 0.024 | 5.97 | 0.235 | 18 |

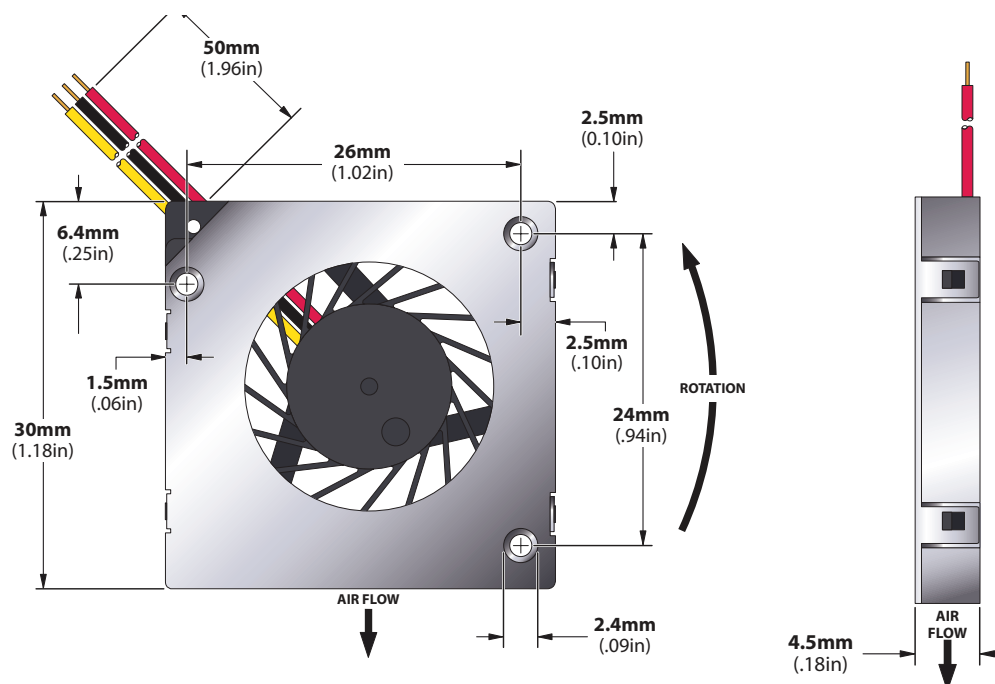
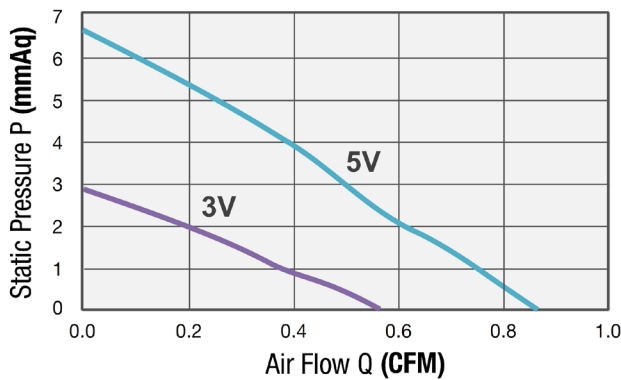


RFB3004 Slim Micro Blower

30 x 30 x 4.5mm (1.18 x 1.18 x 0.18in)

- 3.3V, 5V
- Axially Grooved Bearings
- 0.57~0.87 CFM
- Lead Wires: UL (+) Red; (-) Black
- Tachometer (FG) - Yellow Wire (Optional)
- Operating life: 25,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant

| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|------|------|---------------------|------|--------------------|-----|
| RFB3004 | 3.3 | 2.8~5.5 | 50 | 6000 | 0.57 | 0.016 | 2.91 | 0.114 | 28 |
| | 5 | 2.8~5.5 | 75 | 8500 | 0.87 | 0.025 | 6.67 | 0.263 | 36 |



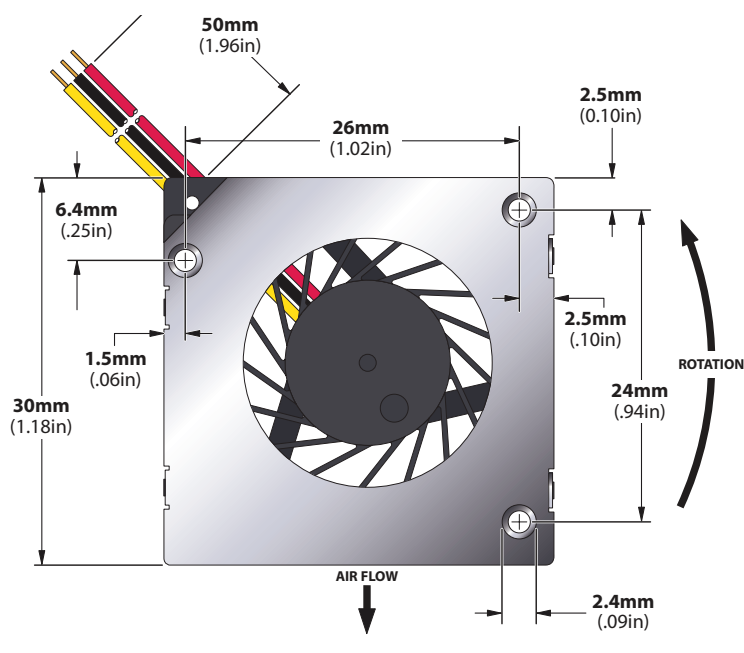
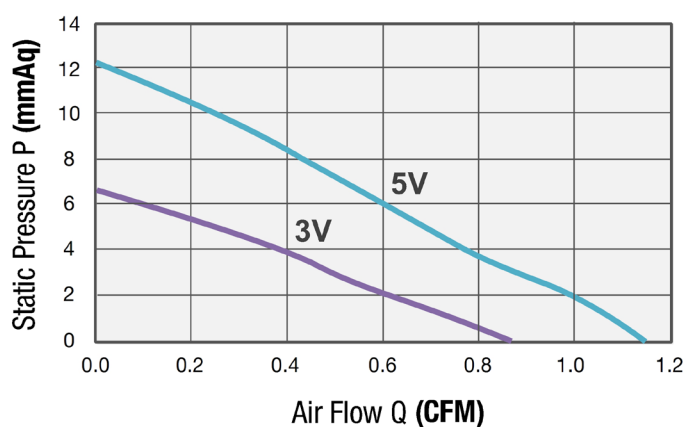
RFB3004H Slim Micro Blower

30 x 30 x 4.5mm (1.18 x 1.18 x 0.18in)

- 5V
- Axially Grooved Bearings
- 1.15 CFM
- Lead Wires: UL (+) Red; (-) Black
- Tachometer (FG) - Yellow Wire (Optional)
- Operating life: 25,000 hours @45°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|-----|-------|------|---------------------|-------|--------------------|-----|
| RFB3004H | 5.0 | 2.8~5.5 | 140 | 11000 | 1.15 | 0.033 | 12.29 | 0.484 | 33 |



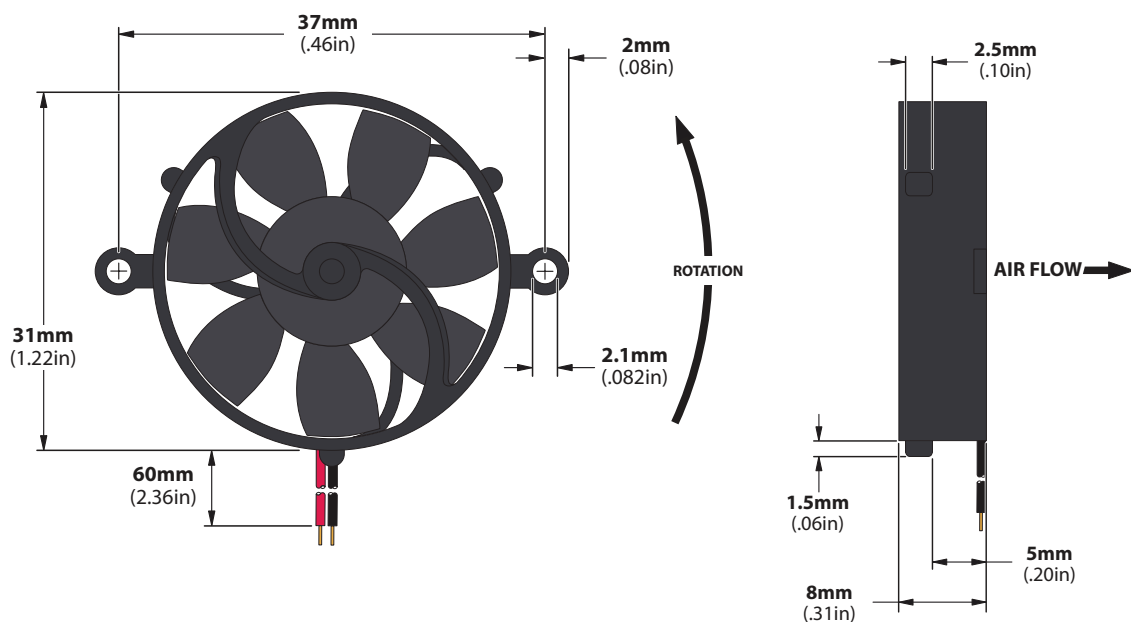
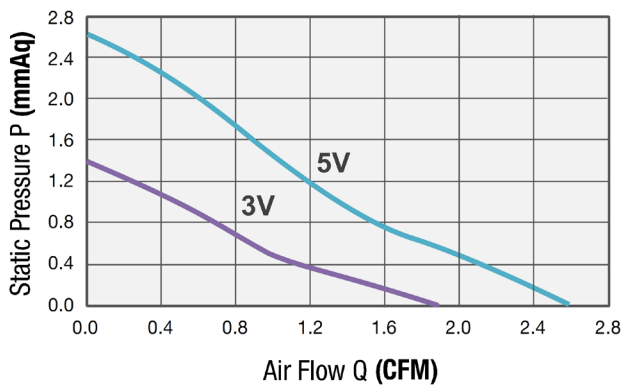
BRA3008 Micro Fan

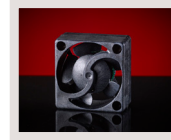
30 x 8.5mm (1.18 x 0.33in)

- 3.3V, 5V
- Axially Grooved Bearing
- 1.89 to 2.60 CFM
- Lead Wires: UL (+) Red; (-) Black
- Operating life: 30,000 hours @70°C
- IP57 Dust/Moisture Protection
- RoHS Compliant



| Model Number | V | Range (V) | mA | RPM | CFM | m ³ /min | mmAq | inH ₂ O | dBA |
|--------------|-----|-----------|----|------|------|---------------------|------|--------------------|-----|
| BRA3008 | 3.3 | 2.8~3.6 | 45 | 4500 | 1.89 | 0.054 | 1.38 | 0.054 | 17 |
| | 5 | 4.5~5.5 | 65 | 6200 | 2.60 | 0.074 | 2.62 | 0.102 | 22 |





| Model Number | RFA1504 | | RFA1504U | RFA1708 | |
|--------------------------------------|--------------------|---------|--------------------|--------------------|---------|
| Product Name | Micro Fan | | Micro Fan | Micro Fan | |
| Dimensions (mm) | 15 x 15 x 4 | | 15 x 15 x 4 | 17 x 17 x 8 | |
| Dimensions (in) | 0.59 x 0.59 x 0.16 | | 0.59 x 0.59 x 0.16 | 0.67 x 0.67 x 0.31 | |
| Rated Voltage (VDC) | 3.3 | 5.0 | 2.4 | 3.3 | 5.0 |
| Operating Voltage (VDC) | 2.8~3.6 | 4.5~5.5 | 2.4~3.3 | 2.8~3.6 | 4.5~5.5 |
| Rated Current (mA) | 30 | 42 | 8 | 60 | 90 |
| Speed (RPM) | 10000 | 16000 | 5000 | 12000 | 16000 |
| Airflow (CFM) | 0.30 | 0.40 | 0.07 | 0.74 | 1.00 |
| Airflow (m ³ /min) | 0.008 | 0.011 | 0.002 | 0.02 | 0.03 |
| Static Pressure (mmAq) | 1.50 | 2.80 | 0.21 | 2.40 | 4.28 |
| Static Pressure (inH ₂ O) | 0.059 | 0.110 | 0.008 | 0.09 | 0.17 |
| Noise (dBA) | 25 | <35 | 20 | 12 | 18 |
| Hipot Test Voltage | 500 | | 500 | 500 | |
| Insulation Resistance (MΩ) | 10@500VDC | | 10@500VDC | 10@500VDC | |
| Weight (g) | 1.5 | | 1.5 | 2.2 | |



| Model Number | RFA1804 | | RFB1804 | | RFB2008NL | |
|--------------------------------------|--------------------|---------|--------------------|---------|--------------------|-----------|
| Product Name | Micro Fan | | Micro Blower | | Micro Blower | |
| Dimensions (mm) | 18 x 18 x 4 | | 18 x 18 x 4 | | 20 x 20 x 8.5 | |
| Dimensions (in) | 0.70 x 0.70 x 0.16 | | 0.70 x 0.70 x 0.16 | | 0.79 x 0.79 x 0.33 | |
| Rated Voltage (VDC) | 3.3 | 5.0 | 3.3 | 5.0 | 3.3 | 5.0 |
| Operating Voltage (VDC) | 2.8~3.6 | 4.5~5.5 | 2.8~3.6 | 4.5~5.5 | 4.5~5.5 | 4.5~5.5 |
| Rated Current (mA) | 32 | 45 | 35 | 50 | 55 | 75 |
| Speed (RPM) | 8500 | 13000 | 7000 | 11000 | 7500 | 11000 |
| Airflow (CFM) | 0.65 | 0.90 | 0.14 | 0.20 | 0.45 | 0.66 |
| Airflow (m ³ /min) | 0.02 | 0.03 | 0.004 | 0.005 | 0.012 | 0.019 |
| Static Pressure (mmAq) | 1.95 | 3.5 | 2.44 | 5.16 | 1.7 | 3.7 |
| Static Pressure (inH ₂ O) | 0.07 | 0.14 | 0.09 | 0.20 | 0.067 | 0.145 |
| Noise (dBA) | 25 | <35 | 25 | <35 | 10 | 14 |
| Hipot Test Voltage | 500 | | 500 | | 500 | 500 |
| Insulation Resistance (MΩ) | 10@500VDC | | 10@500VDC | | 10@500VDC | 10@500VDC |
| Weight (g) | 1.7 | | 1.8 | | 2.9 | |



| Model Number | RFB2008N | | RFB3004 | | RFB3004H | BRA3008 | |
|--------------------------------------|--------------------|---------|--------------------|---------|--------------------|-------------|---------|
| Product Name | Micro Blower | | Slim Micro Blower | | Slim Micro Blower | Micro Fan | |
| Dimensions (mm) | 20 x 20 x 8.5 | | 30 x 30 x 4.5 | | 30 x 30 x 4.5 | 30 x 8 | |
| Dimensions (in) | 0.79 x 0.79 x 0.33 | | 1.18 x 1.18 x 0.18 | | 1.18 x 1.18 x 0.18 | 1.18 x 0.33 | |
| Rated Voltage (VDC) | 3.3 | 5.0 | 3.3 | 5.0 | 5.0 | 3.3 | 5.0 |
| Operating Voltage (VDC) | 2.8~3.6 | 4.5~5.5 | 2.8~3.6 | 4.5~5.5 | 4.5~5.5 | 2.8~3.6 | 4.5~5.5 |
| Rated Current (mA) | 95 | 130 | 50 | 75 | 140 | 45 | 65 |
| Speed (RPM) | 9500 | 14000 | 6000 | 8500 | 11000 | 4500 | 6200 |
| Airflow (CFM) | 0.59 | 0.84 | 0.57 | 0.87 | 1.15 | 1.89 | 2.60 |
| Airflow (m ³ /min) | 0.016 | 0.023 | 0.016 | 0.024 | 0.033 | 0.054 | 0.074 |
| Static Pressure (mmAq) | 2.79 | 5.97 | 2.91 | 6.67 | 12.29 | 1.38 | 2.62 |
| Static Pressure (inH ₂ O) | 0.109 | 0.235 | 0.114 | 0.263 | 0.484 | 0.054 | 0.102 |
| Noise (dBA) | 12 | 18 | 28 | 36 | 33 | 17 | 22 |
| Hipot Test Voltage | 500 | | 500 | | 500 | 500 | |
| Insulation Resistance (MΩ) | 10@500VDC | | 10@500VDC | | 10@500VDC | 10@500VDC | |
| Weight (g) | 2.9 | | 4.6 | | 4.6 | 3.6 | |

* For detailed specifications, refer to each individual model's Product Guide.

