

# AirVolution-D 370

The next generation of air movement is here and engineered for maximum performance with peak efficiency. Ideal for ceiling heights as low as 12 feet, the AirVolution-D 370 commercial ceiling fan is the perfect airflow solution for cooling your smaller spaces. A sleek design and custom color options add to its appeal, making these fans the most attractive ceiling fans on the market.

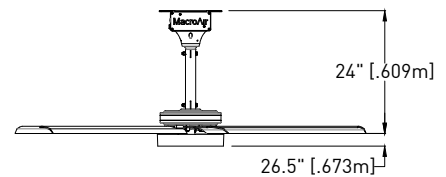


## STANDARD FEATURES

- Ultra Efficient, PMAC Direct Drive motor
- Revolutionary integrated drive/mount/enclosure system\*
- Clearcoat anodized blades
- Forward, reverse, variable speed
- Rated for indoor and outdoor use\*\*\*
- Capable of Building Automation Integration (with AirLynk upgrade) and fire alarm
- Digital wall controller with fault code access



ILLUSTRATION SHOWN WITH STANDARD DROP LENGTH



Note: Custom drop lengths greater than 5 ft require guy wires

## STEP 1: POWER UNIT

| Item #       | Options                               | Qty |
|--------------|---------------------------------------|-----|
| M370-0025-MA | AVD 370 Power Unit, 3/4 HP Equivalent |     |

## STEP 2: FAN BLADE DIAMETER

| Item #      | Diameter       | Qty |
|-------------|----------------|-----|
| 60-20006-00 | 6 ft / 1.83 m  |     |
| 60-20008-00 | 8 ft / 2.44 m  |     |
| 60-20010-00 | 10 ft / 3.05 m |     |
| 60-20012-00 | 12 ft / 3.66 m |     |

## STEP 3: VOLTAGE

| Item #      | Diameter                       | Qty |
|-------------|--------------------------------|-----|
| 30-05006-00 | 100-120V Single Phase, 50/60Hz |     |
| 31-21010-00 | 208-240V Single Phase, 50/60Hz |     |

## STEP 4: MOUNTING

| Item #      | Options  | Qty |
|-------------|--|-----|
| 60-50143-00 | Rapid Mount Commercial with I-beam Hardware Kit (up to 5ft drop length) (Standard) |     |
| 60-50142-00 | AVD Universal Mount with I-beam Hardware Kit                                       |     |
| 60-40049-00 | Glulam Hardware Kit  |     |

## STEP 5: CONTROLS

| Item #      | Description  | Qty |
|-------------|--|-----|
| 30-90308-00 | Digital Remote Assembly (Standard)                           |     |
| 30-04006-00 | Controller 4   |     |
| 30-04007-00 | Controller 4 + Temperature Sensor                            |     |
| 30-04030-00 | Controller 30  |     |
| 30-10012-00 | AirLynk - BacNet   |     |
| 30-04030-02 | Dual Control Enabled Controller 30 (requires AirLynk-BacNet) |     |

\* Patent Pending - U.S. Provisional Application No. 63/157,965

\*\* Pending UL 507

\*\*\* Motor unit only. Consult with a MacroAir sales specialist for best practice.

# AirVolution-D 370

## STEP 5: STOCK DROP LENGTHS

| Item #        | Length (ft/in)    | Length (m) | Qty |
|---------------|-------------------|------------|-----|
| 5x-E01in-02   | 1 ft*             | 0.30 m     |     |
| 5x-y0200-02   | 2 ft [Standard]   | 0.61 m     |     |
| 5x-y0300-02   | 3 ft              | 0.91 m     |     |
| 5x-y0400-02   | 4 ft              | 1.22 m     |     |
| 5x-y0500-02   | 5 ft              | 1.52 m     |     |
| 5x-y0600-02   | 6 ft              | 1.83 m     |     |
| 5x-y0700-02   | 7 ft              | 2.13 m     |     |
| 5x-y0800-02   | 8 ft              | 2.44 m     |     |
| 5x-y0900-02   | 9 ft              | 2.74 m     |     |
| 5x-y1000-02   | 10 ft             | 3.05 m     |     |
| 5x-yftin-02** | Customization fee |            |     |

x = 0 for Rapid Mount Commercial,  
or 1 for AVD Universal Mount  
y = D for Rapid Mount Commercial,  
or C for AVD Universal Mount

ft = length in feet (i.e. 04 for 4 feet, 10 for 10 feet)

in = length in inches (i.e. 05 for 5 inches, 10 for 10 inches)

\*1 ft is the shortest allowed drop length for AVD-370. Lengths shorter than the standard drop length are not recommended and will **not work** for some fan diameters. Consult MacroAir for more details.

**DROP LENGTH is the distance from fan mounting point to the blades.**

AirVolution-D fans can only be connected with a single-piece of custom length drop tube.

Measure the distance from the fan's mounting point down to the desired fan blade position and provide this information with the fan order to receive the correct custom drop length. Guy wires kits are provided and required in all situations where a drop length of greater than 5 feet.

**For custom drop lengths, order a length longer and MacroAir will cut it down to the requested length. Estimated lead time is 10 business days.**

Do you have a custom color in mind? Custom powder coating is available for all our blades, mounts and drop lengths.

## OPTIONAL: POWDER COATING

| Item #      | Diameter       | Estimated Lead Time | Qty |
|-------------|----------------|---------------------|-----|
| 60-20006-02 | 6 ft / 1.83 m  | 15 business days    |     |
| 60-20008-02 | 8 ft / 2.44 m  | 15 business days    |     |
| 60-20010-02 | 10 ft / 3.05 m | 15 business days    |     |
| 60-20012-02 | 12 ft / 3.66 m | 15 business days    |     |

### Special Finishes

|                                       |               |                  |  |
|---------------------------------------|---------------|------------------|--|
| 60-201yy-00<br>(Light Oak Wood Grain) | All Diameters | --               |  |
| Mounting hardware & drop length       | All Diameters | 15 business days |  |
| Hub Cover                             | All Diameters | 15 business days |  |

yy = ft, fan diameter

For powder coating colors, please refer to Appendix A.

## ADDITIONAL OPTIONS

| Item #      | Description                 | Qty |
|-------------|-----------------------------|-----|
| 10-60200-00 | AVD Fuse Disconnect Switch* |     |

\*IEC Compliance requires a fused disconnect switch. Fuse selection is input voltage specific, so fuses are not provided with purchase of a disconnect.

# AirVolution-D 370

## BASIC SPECIFICATIONS

| AIRFOIL DIAMETER   | 6ft                                     | 8ft | 10ft | 12ft |
|--------------------|---|-----|------|------|
| Airfoil Style      | 4.5" Extruded Anodized Aluminum Airfoil |     |      |      |
| Number of Airfoils | 6                                       |     |      |      |

### PERFORMANCE

|                                |  |  |  |  |
|--------------------------------|--|--|--|--|
| Max Speed                      | 164 RPM  | 140 RPM  | 94 RPM   | 65 RPM   |
| Recommended Spacing*           | 28 ft<br>[8.5 m]                               | 36 ft<br>[11 m]                                | 40 ft<br>[12.2 m]                              | 48 ft<br>[14.6 m]                              |
| Max Affected Area              | 1,400 ft <sup>2</sup><br>[130 m <sup>2</sup> ] | 2,400 ft <sup>2</sup><br>[223 m <sup>2</sup> ] | 3,200 ft <sup>2</sup><br>[297 m <sup>2</sup> ] | 4,000 ft <sup>2</sup><br>[371 m <sup>2</sup> ] |
| Sound Level dBA at Max Speed** | 45   | 55   | 56   | 48   |

### HANGING REQUIREMENTS

|                       |                      |                      |                      |                      |
|-----------------------|----------------------|----------------------|----------------------|----------------------|
| Hanging Weight        | 71 lbs<br>[32.21 kg] | 79 lbs<br>[35.83 kg] | 86 lbs<br>[39.01 kg] | 93 lbs<br>[42.18 kg] |
| Max Torque            | 4 ft-lb<br>[5 Nm]    | 13 ft-lb<br>[18 Nm]  | 20 ft-lb<br>[27 Nm]  | 19 ft-lb<br>[26 Nm]  |
| Max Thrust in Reverse | 2 lbs<br>[0.9 kg]    | 4 lbs<br>[1.8 kg]    | 6 lbs<br>[2.7 kg]    | 7 lbs<br>[3.2 kg]    |

### MOTOR AND DRIVE TRAIN

|                              |                              |  |  |  |
|------------------------------|------------------------------|--|--|--|
| Motor Type                   | Gearless Direct Drive        |  |  |  |
| Equivalent Horsepower Rating | 3/4 HP                       |  |  |  |
| Operating Temp Range         | 16°F [-10°C] - 122 F° [50°C] |  |  |  |

### MAX AMP DRAW / RECOMMENDED FUSE

|                         |                 |                 |                 |                 |
|-------------------------|-----------------|-----------------|-----------------|-----------------|
| 110 VAC Single Phase*** | 2.7A / Fuse N/A | 2.7A / Fuse N/A | 2.7A / Fuse N/A | 2.7A / Fuse N/A |
| 208 VAC Single Phase    | 1.4A / 2.5A     | 1.4A / 2.5A     | 1.4A / 2.5A     | 1.4A / 2.5A     |

### POWER AND CONTROLS

|                  |   |  |  |  |
|------------------|---|--|--|--|
| Power Source Low | Single Phase 110-120 VAC 50/60 Hz / Single Phase 208-240 VAC 50/60 Hz |  |  |  |
| Control Options  | Digital Touchpad, MacroAir Controller 30, AirLynk - BacNet            |  |  |  |

### INSTALLATION

|                   |  |  |  |  |
|-------------------|--|--|--|--|
| Mounting Hardware | Rapid Mount Commercial   |  |  |  |
| Drop Length       | In addition to the standard drop length supplied, optional drop lengths are available in 1ft increments; total drop lengths 5ft and greater require Universal Mounting Hardware with guy wires |  |  |  |

### RATINGS AND COMPLIANCE

|                    |                       |  |  |  |
|--------------------|-----------------------|--|--|--|
| Fire and Sprinkler | NFPA Compliant        |  |  |  |
| Outdoor Rating**** | Rated for outdoor use |  |  |  |
| Certifications     | UL 507 Pending        |  |  |  |

\*For spacing between fan units based on the dimensions of a specific space please refer to <https://macroairfans.com/airviz>.

\*\*Sound testing taken with the sensor 5 ft above the ground and 20 ft from the center of the fan at 20 ft high.

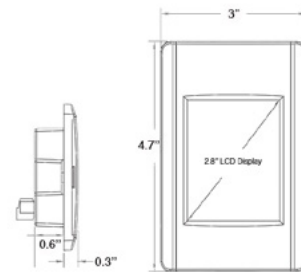
\*\*\*Preliminary Test Results

\*\*\*\*Applicable to the fan unit only, does not include controller and accessories.

# MacroAir Controllers - Digital Remote



- Standard on all MacroAir fan models (Except AirLegacy)
- Simple and intuitive control
- Easy ground-level troubleshooting and diagnostics



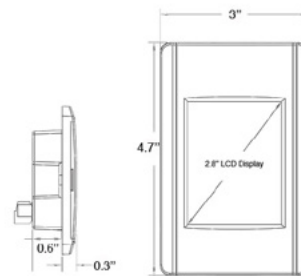
| Features                 | Digital Touchpad Remote       |
|--------------------------|-------------------------------|
| Item #                   | 30-90308-00                   |
| # Fans Controlled        | 1 fan                         |
| Display                  | 2.8 TFT                       |
| Resolution               | 240x320x16 pixels             |
| Backlight life time      | 20,000 hours                  |
| Backlight brightness     | 160 cd/m2                     |
| Shock                    | IEC 60068-2-27                |
| Vibration                | IEC 60068-2-6                 |
| Rating (front)           | IP 40 / NEMA 1                |
| Weight (incl. enclosure) | 375 g                         |
| Communication Protocol   | RS 485                        |
| Power Supply             | 24V from fan                  |
| Size (incl. enclosure)   | 91.2 x 135.5 x 42.0           |
| Operating Temperature    | -4° to 158°F / -20° to +70°C  |
| Storage Temperature      | -22° to 176°F / -30° to +80°C |

**Note:** Only one type of controller can be used when selecting Controller 4, Digital Remote Assembly or Analog Remote Assembly. AirLynk (BacNet) can be used as a stand alone, or paired with a Dual Control Enabled Controller 30 (see Dual Control page) or with Local Override Remotes for some fan models (see Local Override page)

# MacroAir Controllers - Controller 4



- Available upgrade for all MacroAir fan models (Except AirLegacy)
- Control up to 4 fans from a single point
- Control fans individually, independent of speed & direction
- Simple and intuitive control
- Temperature sensor (optional upgrade) starts and stops the fan(s)



| Features                 | Controller 4                  | Controller 4 with temperature sensor |
|--------------------------|-------------------------------|--------------------------------------|
| Item #                   | 30-04006-00                   | 30-04007-00                          |
| # Fans Controlled        | Up to 4 fans, individually    |                                      |
| Display                  | 2.8 TFT                       |                                      |
| Resolution               | 240x320x16 pixels             |                                      |
| Backlight life time      | 20,000 hours                  |                                      |
| Backlight brightness     | 160 cd/m2                     |                                      |
| Shock                    | IEC 60068-2-27                |                                      |
| Vibration                | IEC 60068-2-6                 |                                      |
| Rating (front)           | IP 40 / NEMA 1                |                                      |
| Weight (incl. enclosure) | 375 g                         |                                      |
| Communication Protocol   | RS 485                        |                                      |
| Power Supply             | 24V from fan                  |                                      |
| Size (incl. enclosure)   | 91.2 x 135.5 x 42.0           |                                      |
| Operating Temperature    | -4° to 158°F / -20° to +70°C  |                                      |
| Storage Temperature      | -22° to 176°F / -30° to +80°C |                                      |

**Note:** Only one type of controller can be used when selecting Controller 4, Digital Remote Assembly or Analog Remote Assembly. AirLynk (BacNet) can be used as a stand alone, or paired with a Dual Control Enabled Controller 30 (see Dual Control page) or with Local Override Remotes for some fan models (see Local Override page)

# MacroAir Controllers - Controller 30



## STANDARD FEATURES

- Available upgrade for all MacroAir fan models (except AirLegacy)
- Provides a single point for individual or group fan control
- Enables run time, scheduling, grouping, and fan naming
- Secure remote login to controller via smart device or computer
- Optional auto mode available with AirEffect
- Password protection capabilities for scheduling, naming, and temperature/humidity (with upgrade to AirEffect)



| Features                       | Controller 30  |
|--------------------------------|--|
| Item #                         | 30-04030-00  |
| # Fans Controlled              | 30 fans  |
| Display                        | 10.1" (16:9), TFT-LCD with LED backlight                         |
| Resolution                     | 1024x600 pixels  |
| Backlight life time            | 50000 hours  |
| Backlight brightness           | 500 cd/m2  |
| Shock                          | 15g, half-sine, 11ms according to IEC60068-2-27                  |
| Vibration                      | 1g, according to IEC 60068-2-6, Test Fc                          |
| Sealing front                  | IP65, NEMA 4X/ 12 and UL Type 4X/ 12                             |
| Sealing back (excl. enclosure) | IP20   |
| Weight (incl. enclosure)       | 10 lb / 4.5 kg   |
| Communication Protocol         | MODBUS RS485   |
| Ethernet Port                  | 2x100 Mbit   |
| USB Port                       | 2  |
| Power Supply                   | 110-240 V  |
| Size (incl. enclosure)         | 10.7 x 13.0 x 3.7 in (W x H x D) / 272 x 330 x 84 mm (W x H x D) |
| Operating Temperature          | 14° to 140°F / -10° to +60°C                                     |
| Storage Temperature            | -4° to 158°F / -20° to +70°C                                     |
| Languages                      | English, Spanish, French, Malay                                  |

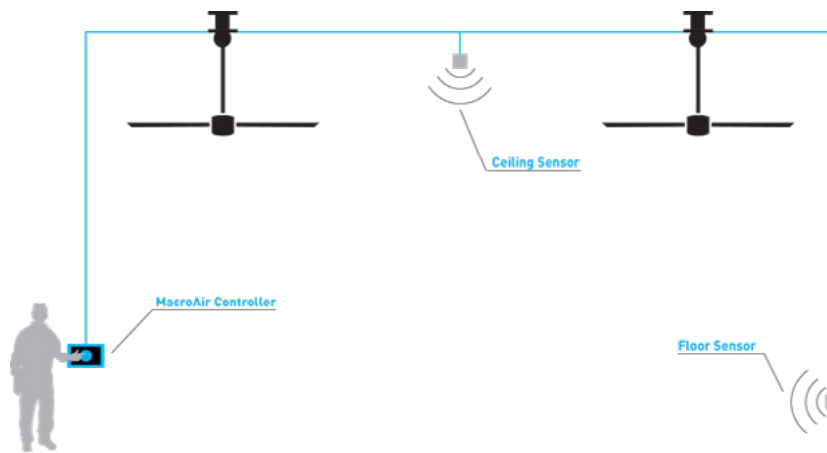
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# AirEffect Temperature Control



## STANDARD FEATURES

**AirEffect (only available with Controller 30)** is an optional control system that senses and automatically maintains a desired room temperature. AirEffect gages the heat index by measuring the temperature and humidity at the ceiling and floor. To achieve the desired temperature, AirEffect takes the heat index and calculates the fan's ideal operating speed and direction and runs the fans accordingly. Simply setup AirEffect to the desired temperature range and enjoy a consistently comfortable environment.



- Senses and maintains desired room temperature
- Measures temperature and humidity at two points (ceiling & floor)
- Calculates heat index through temperature and humidity calculations
- Runs fans in reverse or forward direction in response to heat index
- Compatible with all fans (except AirLegacy)
- Independent, external sensors allow the controllers to be mounted in a different room than the fans and sensors

| Features               | AirEffect (up to 4 zones)        |
|------------------------|----------------------------------|
| Item #                 | 30-04009-00                      |
| Number of Sensors      | 2 (1 floor & 1 ceiling)          |
| Measured temperatures  | -40 through +125 °C (±2 to ±4 %) |
| Measured humidity      | 0 through 100% RH (±2 to ±4 %)   |
| Communication Protocol | MODBUS RS485                     |

\*Controller not included

# AirLynk BMS Integration

**Gives the ability to control your fans through BACnet® (MS/TP or IP) and LonWorks®.**

BACnet and LonWorks are both protocols used to automate or manage buildings systems (commonly called a BMS or BAS). Our fans use MODBUS to communicate and the correct use of AirLynk, MacroAir's interface, will allow the integration of our fans into a BMS/BAS. A BMS/BAS enables you to run the fans in conjunction with your HVAC system to help save energy costs.

Our proven solution is AirLynk, an external, high-performance building automation multi-protocol interface that is pre configured to communicate between any MacroAir fan and various building automation protocols including: BACnet®MS/TP, BACnet/IP, Modbus TCP/IP, and LonWorks®.

Successful integration of any MacroAir fan with a BMS/BAS is dependent upon following **these guidelines**:

- **Identify the BMS and its protocol** before the purchase order is placed. This allows the fans to be pre programmed, dramatically reducing installation errors and integration time.
- Strictly adhere to the included installation manual to eliminate issues that will occur from wrong types of wire, improper wire terminations or wire routing.
- We highly recommend engaging our Controls Engineers to visit the site for fan start-up to ensure a smooth and successful integration. Our experience has found that many installers are unfamiliar with the subtle but critical differences between BMS systems, interfaces, fan models, connection methods and best practices. For a nominal fee plus travel expenses, one of our Controls Engineers can be on site to ensure a smooth and successful start-up. For more information about this service, please inquire with our Technical Services Department.

**To Order BMS enabled fans and AirLynk please do the following:**

- Identify the BMS network
- Discuss your network with MacroAir's Control Engineers
- Order one AirLynk to connect up to 30 fans

| Item #      | Description   |
|-------------|---|
| 30-10012-00 | AirLynk - BACnet, (Works on all Fan Lines, except AirLegacy), Up to 30 Fans per AirLynk                 |
| 30-10011-00 | AirLynk - LonWorks, (Works on all Fan Lines, except AirLegacy), Up to 30 Fans per AirLynk               |
| 30-90315-00 | Local Override Remote (each fan) for BMS (Works on all Fan Lines, except AirLegacy and AVD 370)         |
| 30-04030-02 | Dual Control Enabled Controller 30 (Works on all Fan Lines, except AirLegacy) Up to 30 Fans per AirLynk |
| 10-80632-00 | Repeater (required for some older model fans; contact your sales rep for details)                       |

**Note:** Only one type of controller can be used when selecting Controller 4, Digital Remote Assembly or Analog Remote Assembly. AirLynk (BacNet) can be used as a stand alone, or paired with a Dual Control Enabled Controller 30 (see Dual Control page) or with Local Override Remotes for some fan models (see Local Override page)

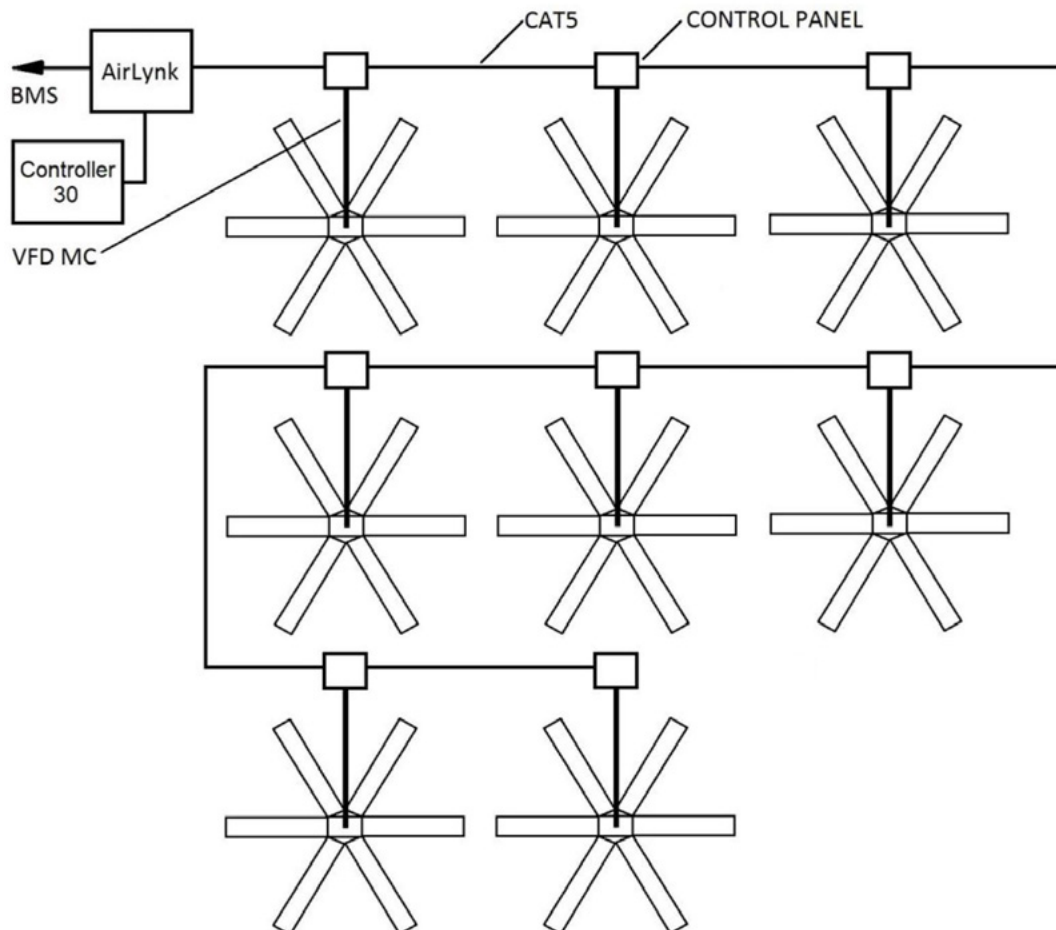
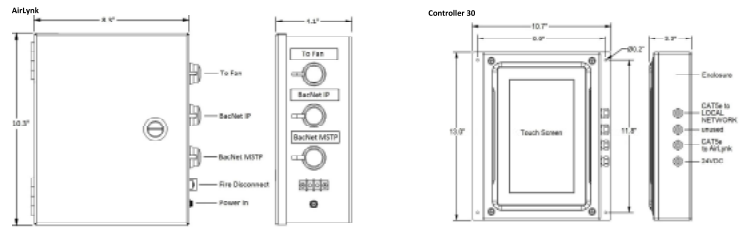


# Dual Control for BMS Integration



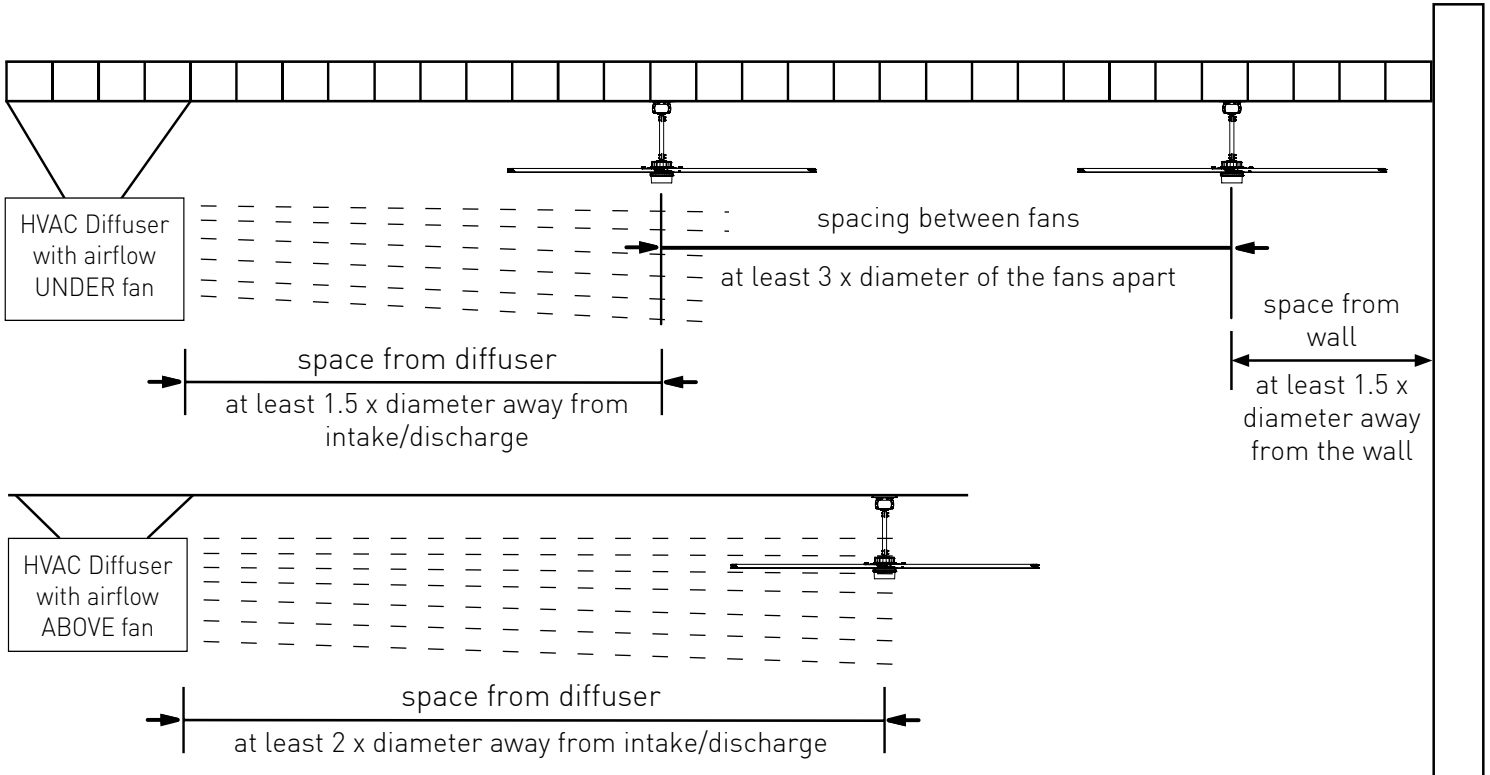
## STANDARD FEATURES

- Seamless integration of a building management system and local fan network
- Fans take last known command, be it from the BMS, the Dual Control enabled Network Controller 30 screen(s), or VNC enabled smart devices
- Provides a single point of local control of up to 30 fans
- Enables grouping and fan naming
- Password protection capabilities for operation, naming, and grouping
- Requires AirLynk (BacNet) and Dual Control Enabled Controller 30\*



\*AirEffect is not compatible with Dual Control. Temperature monitoring by BMS can regulate fan operation.

# Fan Placement & Clearance



**General Notes:**

Dimension "A": The smaller the distance between the light and the blade, the higher concentration and frequency of shuttering. So the greater distance "A" is from the fan blade, the less the shuttering effect.

Dimension "B": The closer the light is located to the center of the fan, the higher the frequency of shuttering.

Ambient light: Another variable increasing the shuttering effect is the amount of ambient light available. The more lights, the less the effect. As shown, the more overlapping patterns the less shuttering/strobing. The type of light can also influence the effect. For example, a domed light is more sensitive than a fluorescent tube.

Summary: Variables that affect strobing are (1) blade to light height, (2) the fan center to light dimension, and (3) the amount of ambient light within the space. To minimize the possible negative effects of strobing, follow all MacroAir installation instructions including clearance requirements.

