

# SQN

Square Inline Fans | Product Guide |



LOREN COOK COMPANY

# INTRODUCTION



The SQN provides flexibility mounting options and versatility in an economical package for square inline fans.



## DESIGNED FOR

low pressure, low temperature, indoor supply, exhaust, return or transfer air applications



## PERFORMANCE RANGE

50-30,600 CFM



## STATIC PRESSURES

up to 5" wg



## AMCA

SQN fans are certified to bear the AMCA seal. See page 15 for more information



## CHOOSE FROM

three different wheel types: SQN, SQNHP, SQNXP



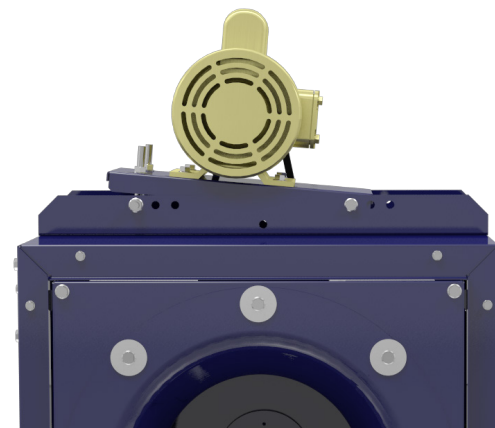
## OFFERED IN 18 SIZES

ranging from 70 to 402



## VARI-FLOW®

Cook's offering of EC motors and compatible controls



## EXTRA BENEFITS

- ▶ UL/cUL 705 Listing is standard on all SQN models
- ▶ Shortest depth of any available square inline fan
- ▶ Standard universal position mounting feet
- ▶ Multiple access doors for total serviceability of internal components
- ▶ G-90 Galvanized corrosion resistant construction



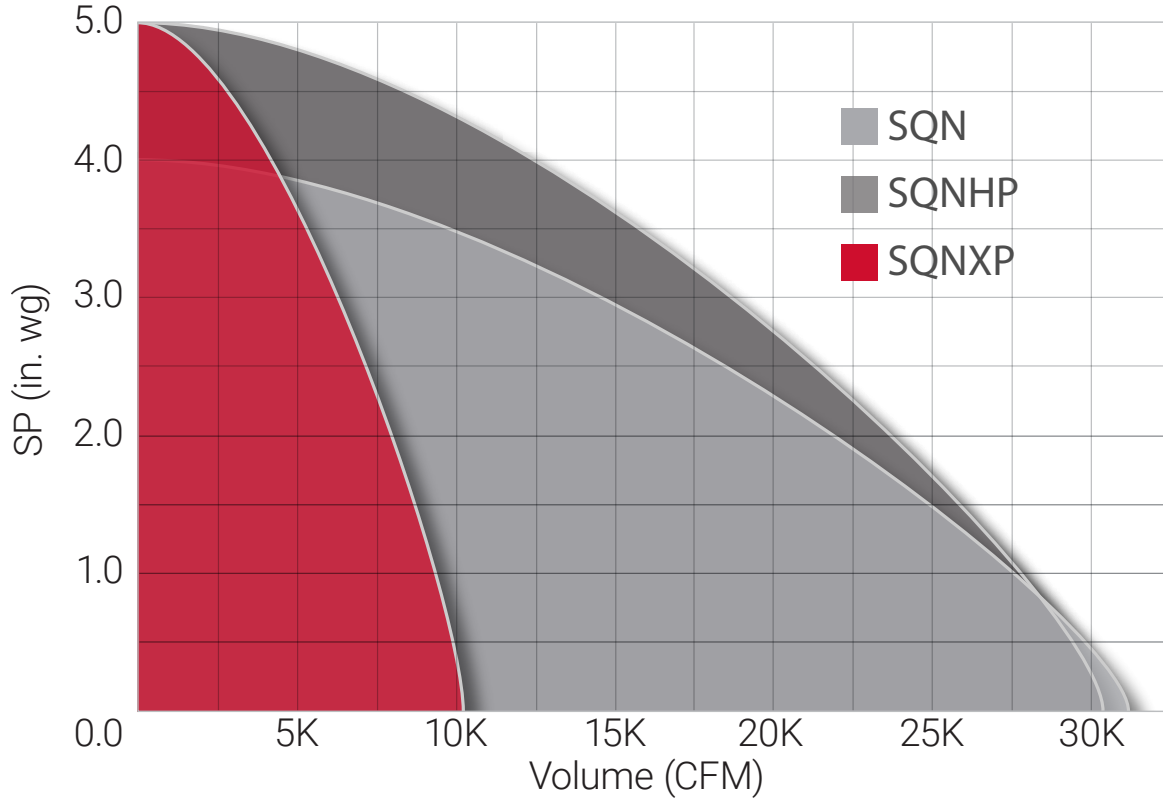
For more information, look at the Vari-Flow® Product Guide or contact Loren Cook Company at 417-869-6474.



# PERFORMANCE COMPARISON



SQN is selectable in standard, high pressure (HP) or extended pressure (XP). The curves chart below illustrates typical performance ranges.

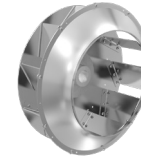


## SQNXP



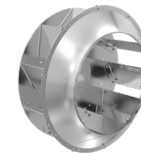
- ▶ Available on direct drive sizes 180 - 365
- ▶ Up to 5 in. wg
- ▶ up to 11,500 CFM

## SQNHP



- ▶ Available on belt drive sizes 135 - 402
- ▶ Available on direct drive sizes 180 - 365
- ▶ Up to 5 in. wg
- ▶ up to 31,600 CFM

## SQN



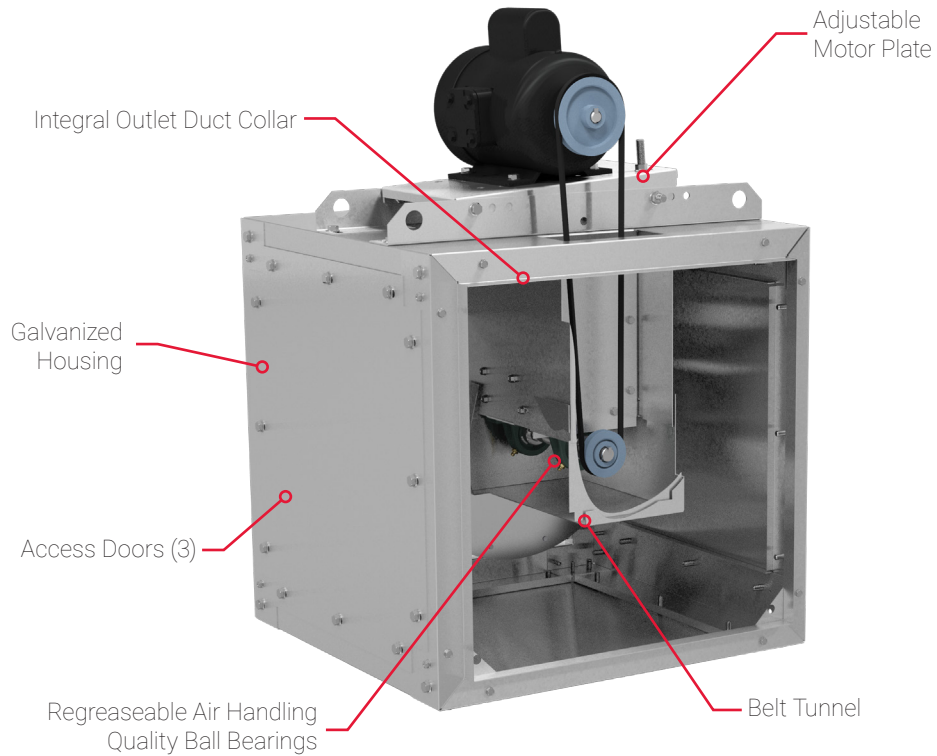
- ▶ Available on belt drive sizes 60 - 402
- ▶ Available on direct drive sizes 70 - 365
- ▶ Up to 4 in. wg
- ▶ up to 31,000 CFM

# SQN-B FEATURES

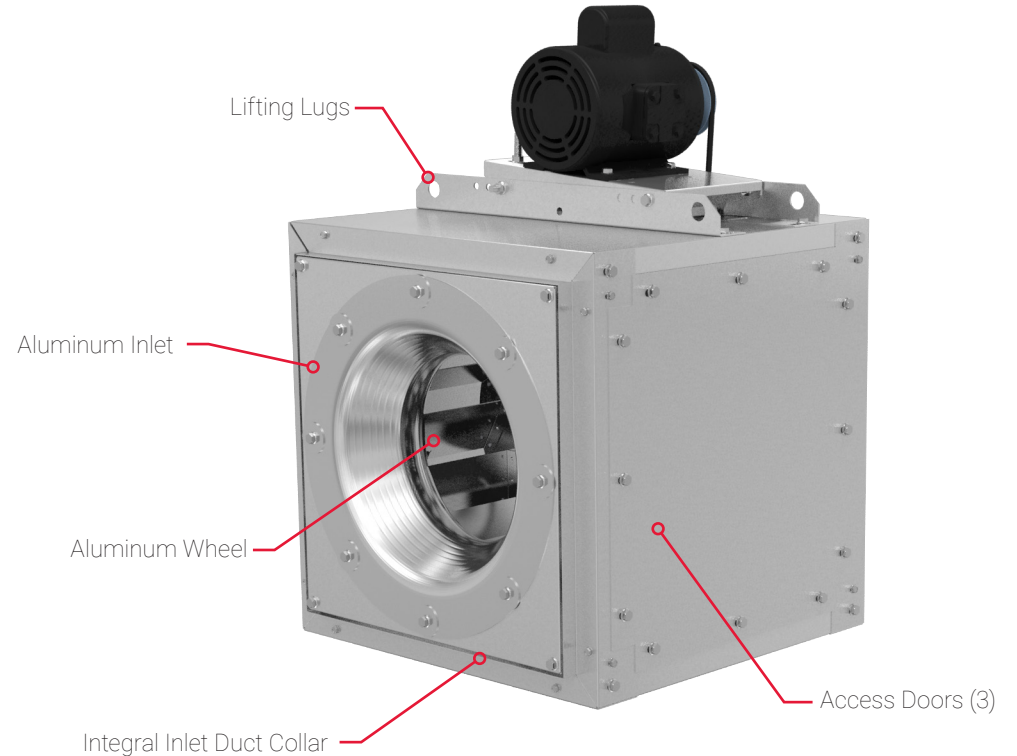


The SQN-B (belt drive) standard construction features are shown below.

## SQN-B OUTLET



## SQN-B INLET



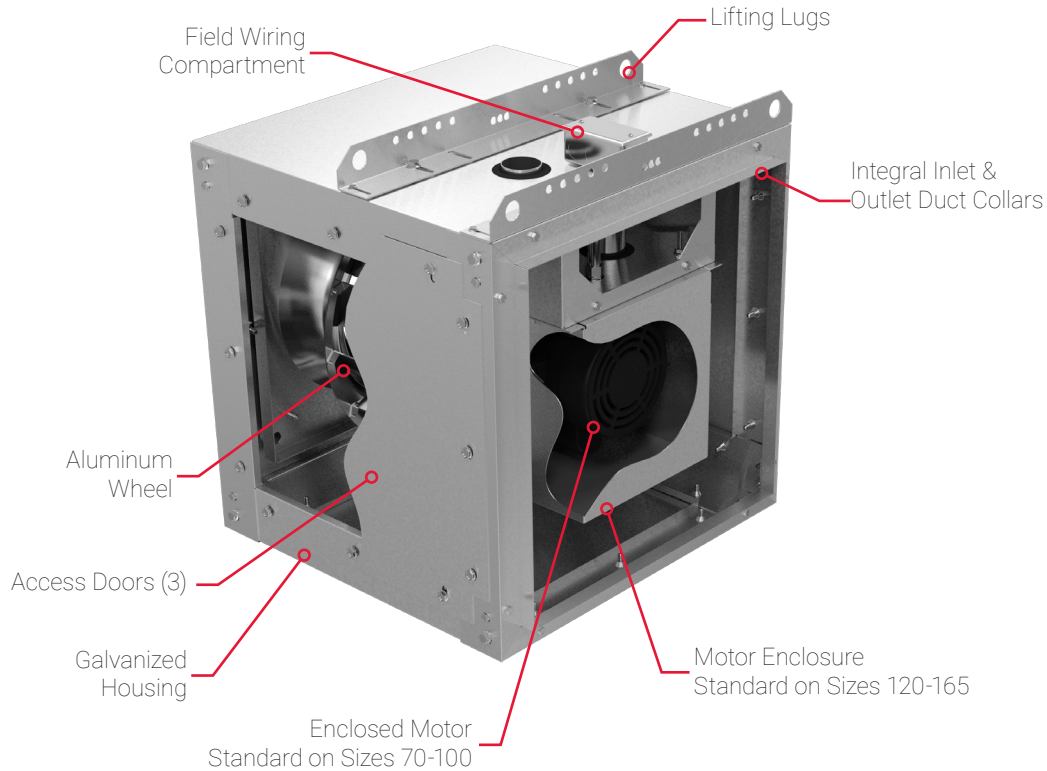


# SQN-D FEATURES

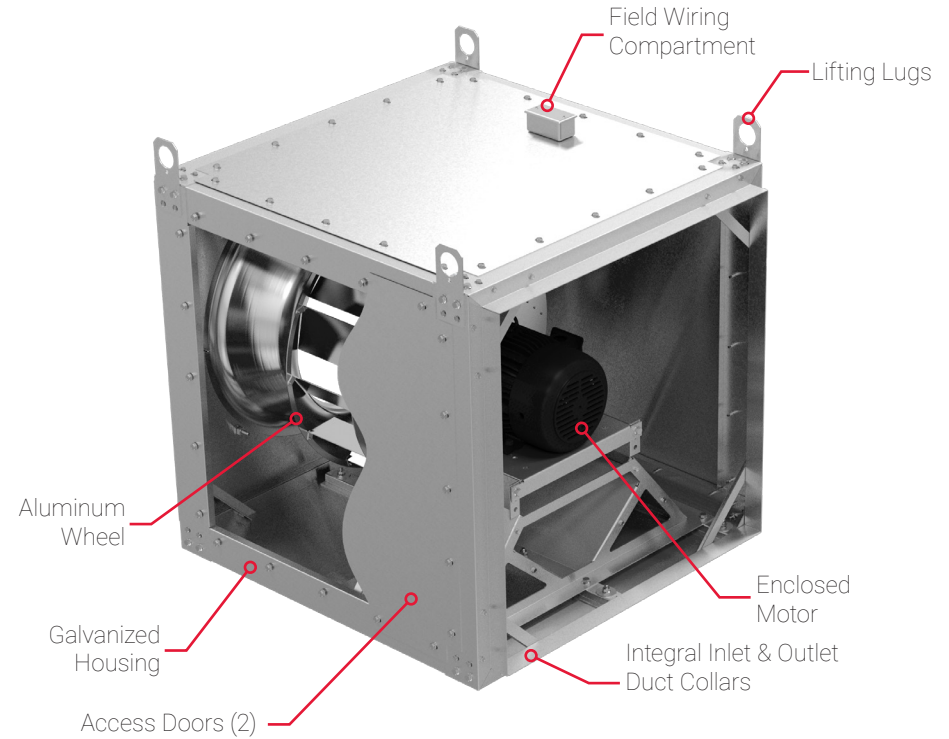


The SQN-D (direct drive) standard construction features are shown below.

## SQN-D SIZES 70 - 165



## SQN-D SIZES 180 - 365

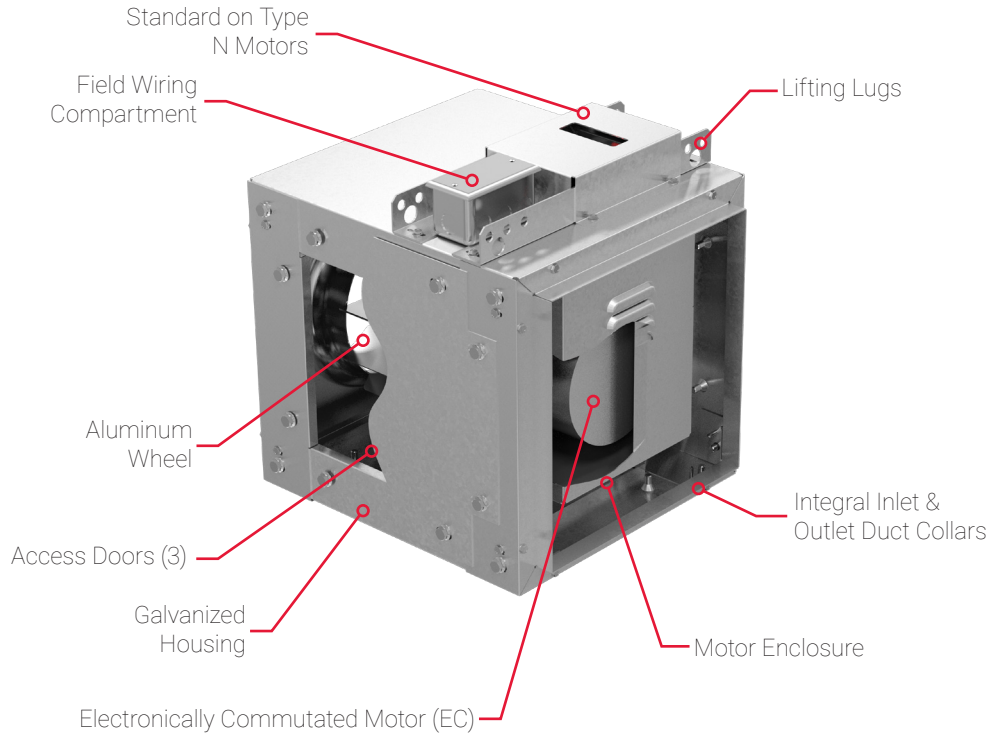


# SQN-D VF FEATURES

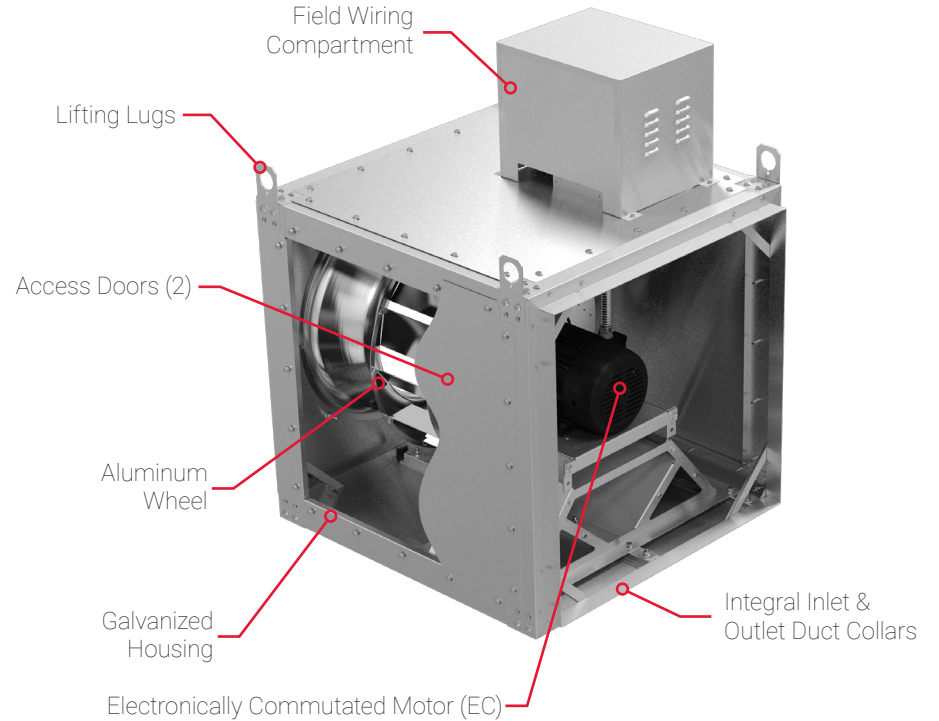


The SQN-D VF apply Vari-Flow EC motors for added efficiency and controllability. Standard features are shown below.

## SQN-D VF SIZES 70 - 165



## SQN-D VF SIZES 180 - 365



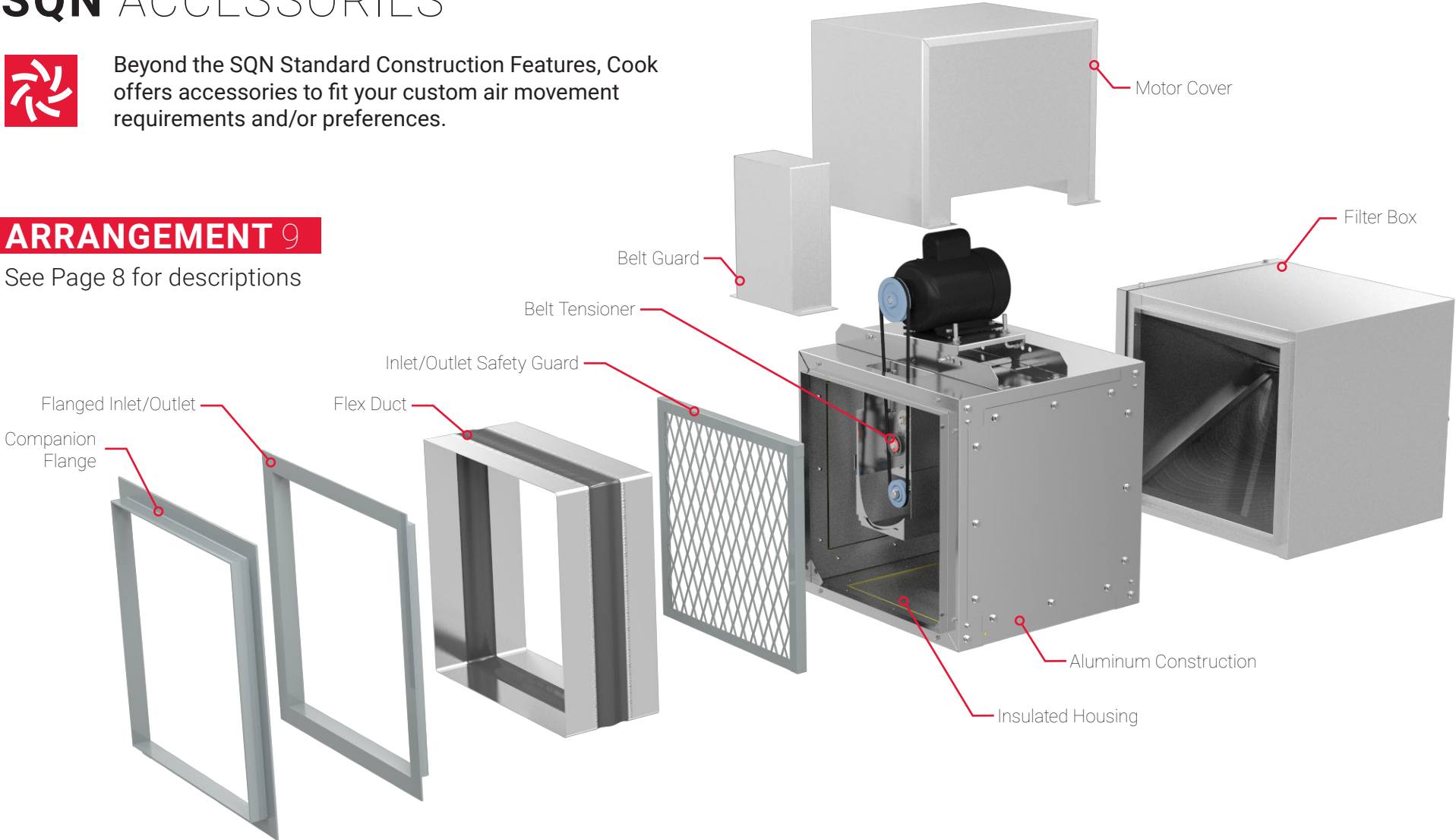
# SQN ACCESSORIES



Beyond the SQN Standard Construction Features, Cook offers accessories to fit your custom air movement requirements and/or preferences.

## ARRANGEMENT 9

See Page 8 for descriptions



# ACCESSORIES EXPLAINED



Beyond the SQN Standard Construction Features, Cook offers accessories to fit your custom air-movement requirements and/or preferences.

## **Belt Tensioner**

- ▶ Maintains constant drive belt tension
- ▶ Reduces maintenance cost
- ▶ Increases belt life
- ▶ Available on sizes 120 - 402

## **Motor Cover**

- ▶ Shields the motor and drive assembly from dirt and debris
- ▶ OSHA Belt Guard
- ▶ Indoor use only
- ▶ Factory installed

## **Belt Guard**

- ▶ Provides protection for belts and drives
- ▶ Open back to inspect belts
- ▶ Factory installed

## **Flanged Inlet/Outlet**

- ▶ For flange-type duct attachments.
- ▶ Allows fan removal without disturbing the surrounding ductwork

## **Inlet/Outlet Companion Flange**

- ▶ Attached to the adjacent ductwork to provide an exact mate to the flanged connection on the fan
- ▶ Requires flanged inlet/outlet

## **Inlet/Outlet Safety Screens**

- ▶ Protect personnel and prevent debris from entering the fan
- ▶ Factory installed

## **Filter Box**

- ▶ Filters inlet air
- ▶ Removable access panel
- ▶ Slide-out washable filters
- ▶ Integral duct collars
- ▶ Optional MERV-rated filter available upon request

## **INSULATED HOUSING**

- ▶ Acoustical lining
- ▶ Reduces noise

## **Flex Duct Connector**

- ▶ Flexible connection between the fan and the attached ductwork
- ▶ Reinforced neoprene fabric and aluminum bands

## **Aluminum Construction**

- ▶ All aluminum construction

## *Additional Accessories (Not Pictured)*

### **Backdraft Damper**

- ▶ Aluminum construction
- ▶ Shipped loose

### **Motorized Damper**

- ▶ Standard or low leakage
- ▶ Low leakage meets class 1A leakage rating
- ▶ Aluminum or galvanized
- ▶ Shipped loose

### **External IVD**

- ▶ External IVD provides precise air volume control while maintaining efficiency and stable operation at reduced fan loading

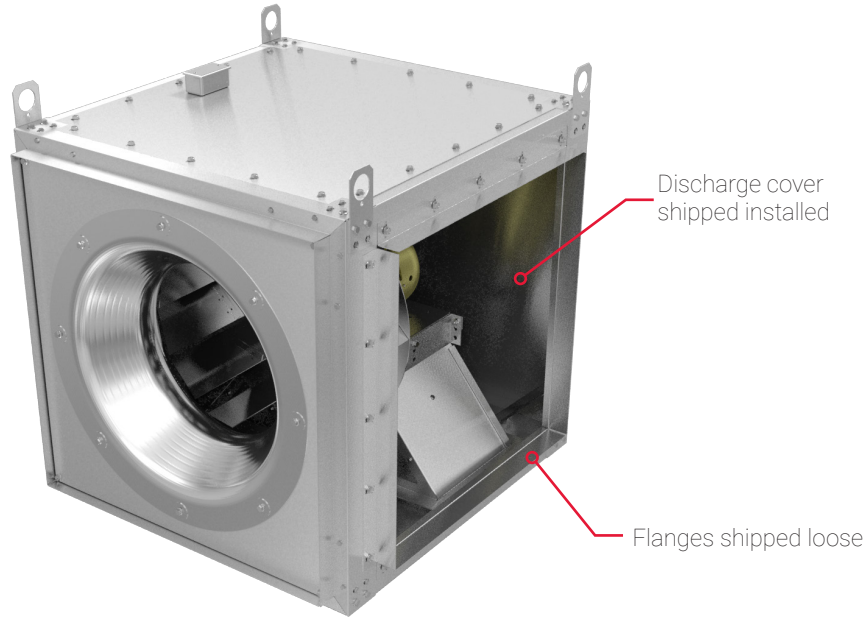


# DISCHARGE OPTIONS



The single or dual side discharge configuration allows air to exit from any one of the sides not occupied by motor mount of the unit. This provides tremendous versatility in installation.

## SIDE DISCHARGE



## DESIGN BENEFITS



A single or dual side discharge SQN can reduce material cost and static pressure by effectively replacing an elbow or tee duct fitting.



Unit flow can be increased up to 10% with minimal impact on horsepower.



Discharge configurations are field installed to match the system needs.

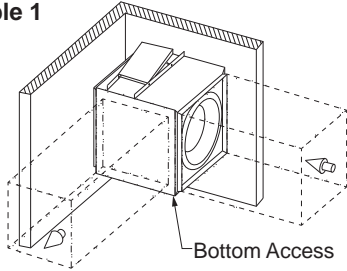
# DISCHARGE OPTIONS



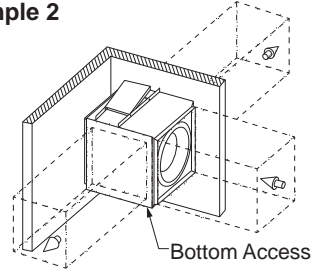
The single or dual side discharge configuration allows air to exit from any one of the sides not occupied by motor mount of the unit. This provides tremendous versatility in installation.

## TYPICAL SIDE DISCHARGE APPLICATIONS

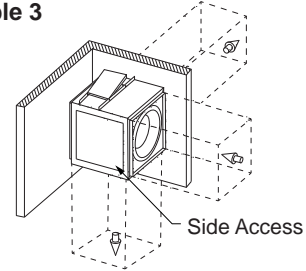
Example 1



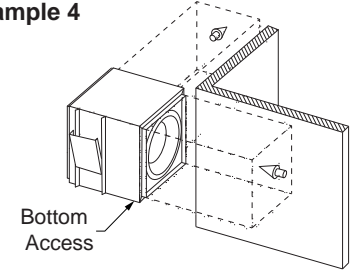
Example 2



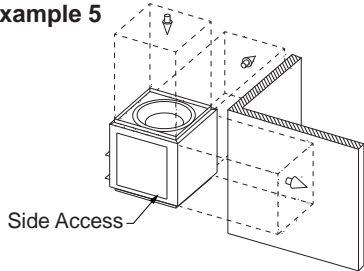
Example 3



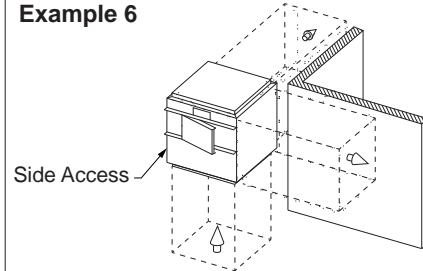
Example 4



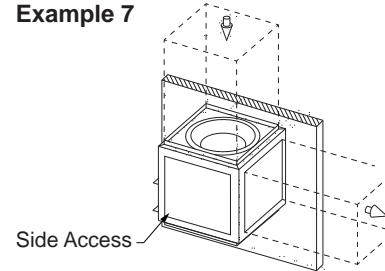
Example 5



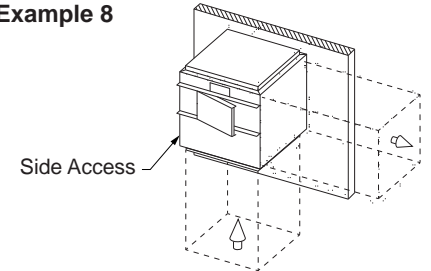
Example 6



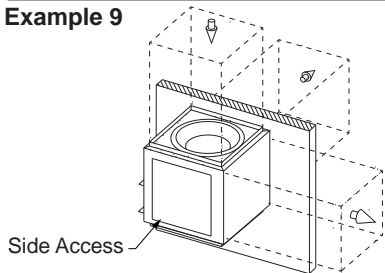
Example 7



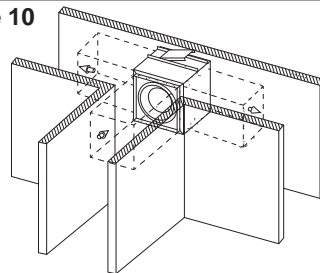
Example 8



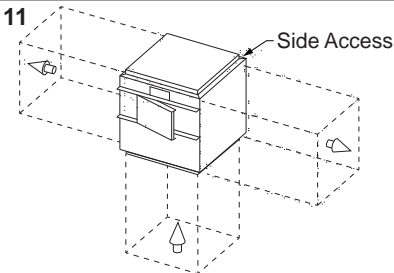
Example 9



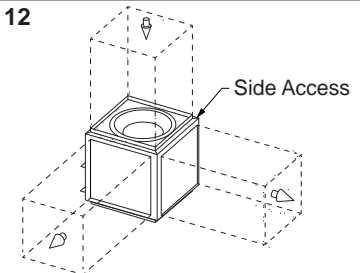
Example 10



Example 11



Example 12



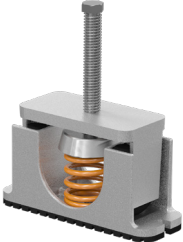
# SQN ISOLATORS



Cook offers six types of isolators to reduce vibration transmission from equipment to building structure.

## HOUSED SPRING

Floor mounted



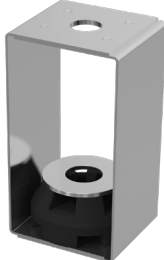
## FREE STANDING SPRING

Floor mounted



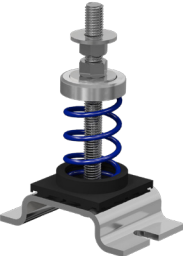
## RUBBER-IN-SHEAR

Ceiling mounted



## RESTRAINED SPRING

Floor mounted



## SPRING

Ceiling mounted



## RUBBER-IN-SHEAR

Floor mounted



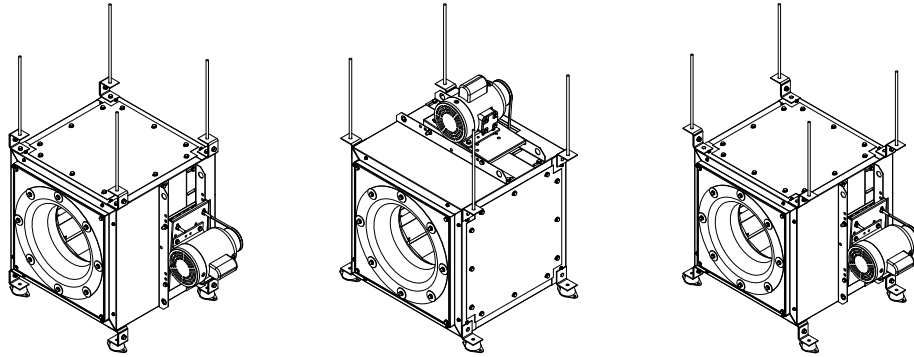
 See our Vibration Isolation Brochure for more information.

# INSTALLATION & MOUNTING

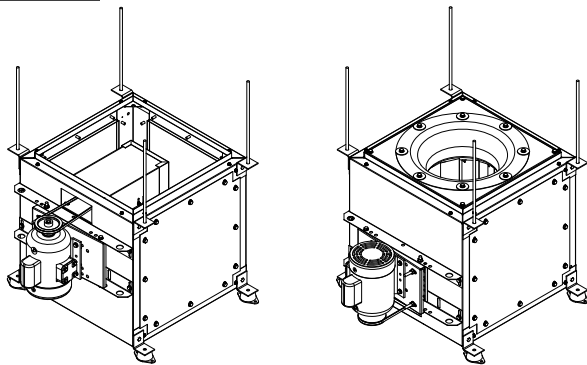


The SQN is provided with universal mounting feet for installation in any horizontal or vertical position. These feet are shipped loose for field installation in the desired location.

## HORIZONTAL



## VERTICAL



## DESIGN BENEFITS



Horizontal and vertical mounting configurations are provided with a standard support for both ceiling and floor applications.



The mounting configurations and the motor position can be changed in the field.



Lifting lugs are provided to assist in product installation.

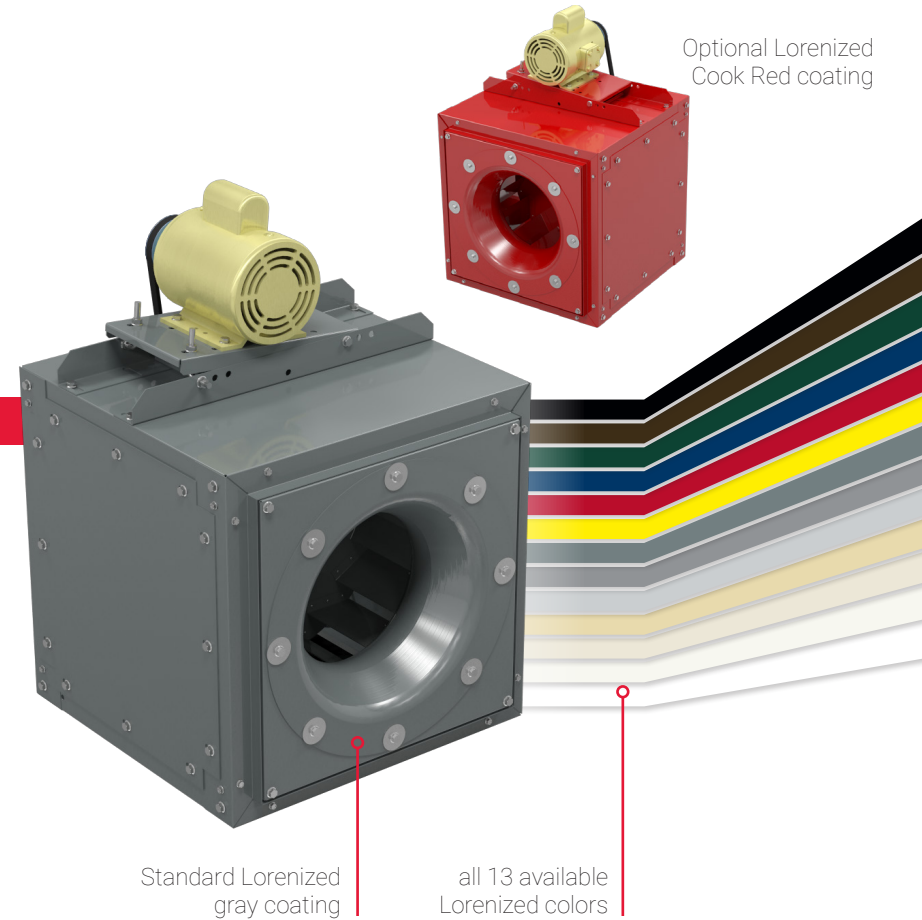
# OPTIONAL COATING



The SQN is available with **Lorenized™** coating. Standard coating is gray. It is also available in 12 other colors shown.

## LORENIZED COATING

- ▶ Electrostatically applied, baked polyester powder coating
- ▶ Undergoes a five-stage environmentally friendly pretreatment/wash process before coating
- ▶ Baked and cured at 400°F; final coating thickness of 1.5–2.5 mil
- ▶ Coating is required to exceed 1,000 hour salt spray under ASTM B117 test method
- ▶ Offers strong chemical resistance, durable mechanical performance and tough protection from outdoor elements



 See our Coatings Brochure for more information.



# OPTIONAL COATINGS



Each type of coating offers unique qualities, benefits and color availability.

## COOK EPOXY POWDER

- ▶ Electrostatically applied, baked epoxy powder coating
- ▶ Final coating thickness is 2.5–3.5 mil
- ▶ For outdoor applications, an optional UV resistant topcoat is available to prevent coating deterioration

Available in **DARK GRAY**.

## AIR DRY PHENOLIC

### HERESITE® VR-514

- ▶ Conventional spray applied phenolic resin coating
- ▶ Final coating thickness is 2.0–4.0 mil
- ▶ For outdoor applications, an optional UV resistant topcoat (Heresite® UC-5500) is required to prevent deterioration of the coating

Available in **BROWN**.

## COOK EASY-CLEAN POWDER

- ▶ Electrostatically applied, baked modified epoxy silicone powder coating
- ▶ High temperature "non-stick" coating
- ▶ Final coating thickness is 1.0–2.0 mil

Available in **BLACK**.

## COOK PHENOLIC EPOXY POWDER

- ▶ Electrostatically applied, baked phenolic epoxy powder coating
- ▶ Final coating thickness is 1.5–4.0 mil
- ▶ For outdoor applications, an optional UV resistant topcoat is required to prevent coating deterioration

Available in **LIGHT GRAY** and **BROWN**.



**See our Coatings Brochure  
for more information.**

# SQN CERTIFICATIONS



Cook uses third party verification agencies for certifications, qualification, and listing of fan performance.

## AMCA SOUND AND AIR

### AMCA Certified Ratings Seal

Loren Cook products that bear the AMCA Certified Ratings Seal are licensed by AMCA International. These products meet the AMCA Standard and are within the product scope of AMCA International.

All Models



## UL 705

### Power Ventilator

The UL 705 Listing is the standard for electrical safety for permanently connected power ventilators. These models are constructed in accordance with UL 705, only when shipped with motors.

All Models



## SEISMIC

### Seismically Qualified

The below SQN models have been shake table tested to exceed spectral response accelerations covering the most severe seismic conditions found within the United States.

Horizontal Mount

<b>Belt Drive</b> Sizes 60-402	SQN		SQN-HP
<b>Direct Drive</b> Sizes 70-165	SQN		SQN-HP



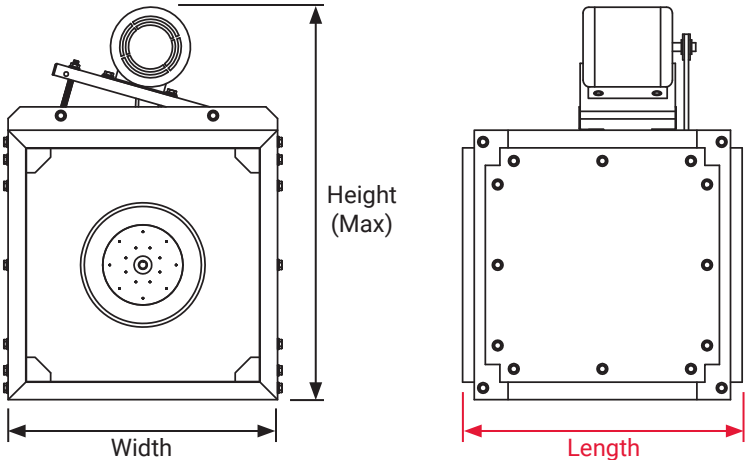
 For more information, see [Seismic Certification Flyer](#).

# OVERALL DIMENSIONS



Overall dimensions are in inches. For more detailed dimensions, see product submittals.

## SQN-B



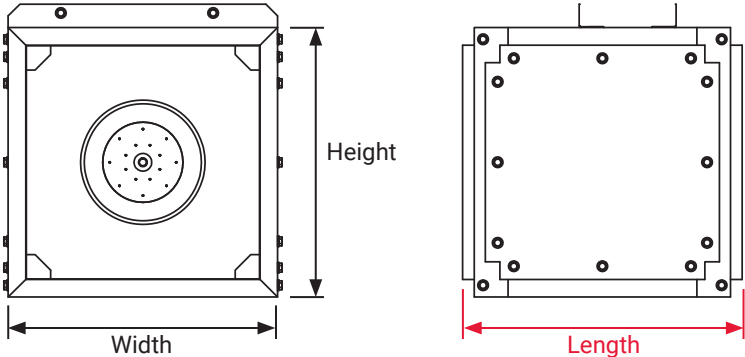
Unit Size	60	70	80	100	120	135	150	165	180	195	210	225	245	270	300	330	365	402
<b>Height</b>	26 1/2	26 1/2	26 1/2	26 1/2	30 15/16	33 1/4	35 3/4	40 1/16	42 3/8	44 15/16	46 1/4	48 3/4	53 1/4	56 15/16	61 1/4	65 11/16	67 1/4	72 3/8
<b>Length</b>	22	22	22	22	22	22 1/4	23 7/8	27	30	32 1/4	35	37 1/4	38	41 1/2	42	45 3/4	46	50 1/4
<b>Width</b>	14	14	14	14	18 7/16	20 3/4	23	25 5/16	27 5/8	29 15/16	31 1/4	33 1/2	36	39 11/16	44	48 7/16	50	55 1/8

# OVERALL DIMENSIONS



Overall dimensions are in inches. For more detailed dimensions, see product submittals.

## SQN-D



Unit Size	70	90	100	120	135	150	165	180	195	210	225	245	270	300	330	365
<b>Height</b>	14	14	14	18 <sup>7</sup> / <sub>16</sub>	20 <sup>3</sup> / <sub>4</sub>	23	25 <sup>5</sup> / <sub>16</sub>	27 <sup>5</sup> / <sub>8</sub>	29 <sup>15</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>4</sub>	33 <sup>1</sup> / <sub>2</sub>	36	39 <sup>11</sup> / <sub>16</sub>	44	48 <sup>7</sup> / <sub>16</sub>	50
<b>Length</b>	14	17	22	22	22 <sup>1</sup> / <sub>4</sub>	23 <sup>7</sup> / <sub>8</sub>	27	30	32 <sup>1</sup> / <sub>4</sub>	35	37 <sup>1</sup> / <sub>4</sub>	40 <sup>13</sup> / <sub>16</sub>	45	50	55	60 <sup>13</sup> / <sub>16</sub>
<b>Width</b>	14	14	14	18 <sup>7</sup> / <sub>16</sub>	20 <sup>3</sup> / <sub>4</sub>	23	25 <sup>5</sup> / <sub>16</sub>	27 <sup>5</sup> / <sub>8</sub>	29 <sup>15</sup> / <sub>16</sub>	31 <sup>1</sup> / <sub>4</sub>	33 <sup>1</sup> / <sub>2</sub>	36	39 <sup>11</sup> / <sub>16</sub>	44	48 <sup>7</sup> / <sub>16</sub>	50

