



COOK MFG

EXHAUST ACCESSORIES MANUAL

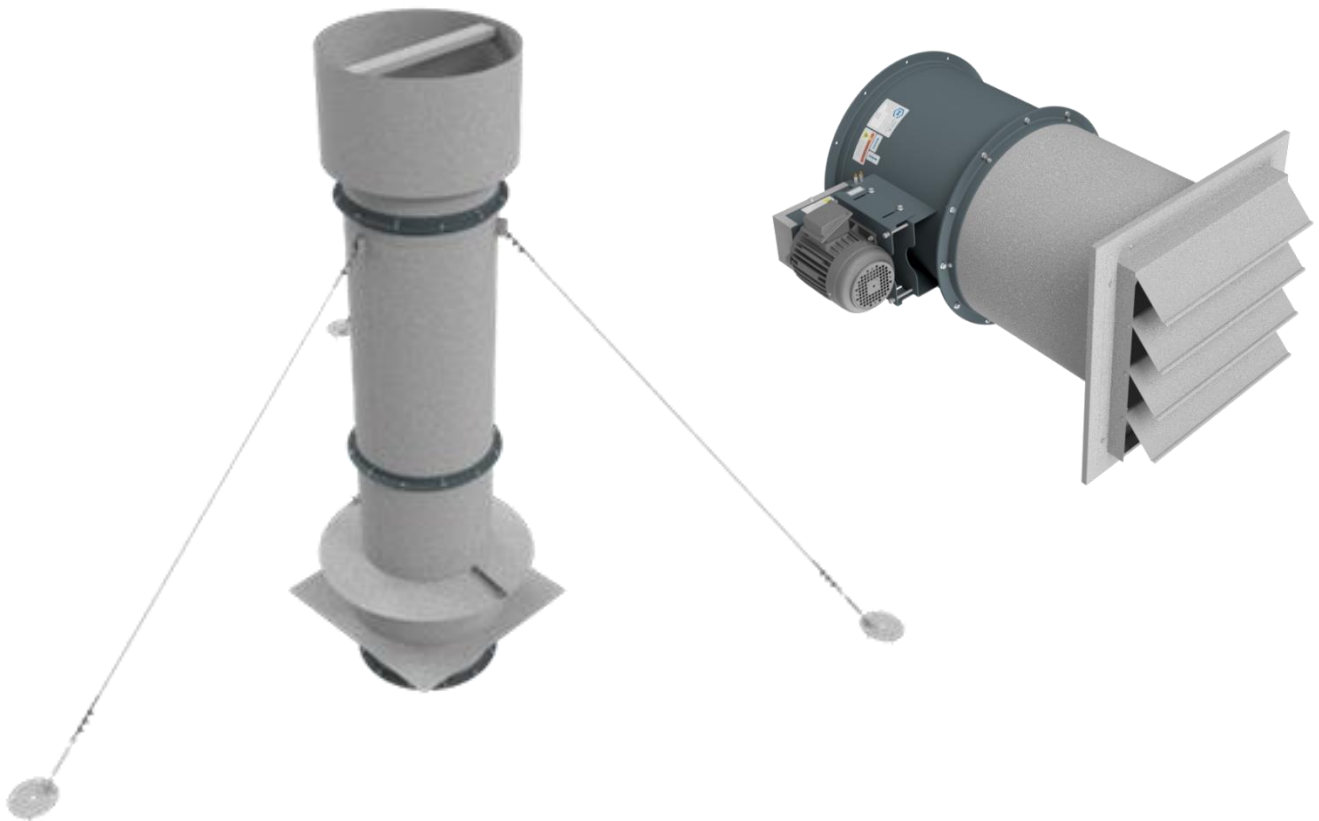


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Overview:

This manual outlines the installation and maintenance requirements for ductwork used on paint and powder coating booths. All work outlined in this manual must be performed by qualified individuals. We recommend hiring a local building or roofing contractor to assist with the installation and building penetrations. Contact Cook Manufacturing if the ductwork layout or installation deviates from this manual.

Receiving Inspection:

All shipments should be inspected for damage at the time of receipt. Any damage must be noted on the carriers' bill of lading. All shipping damages must be reported to our customer service team within 3 business days in order to fill a claim against the carrier. All items included with your order must be compared against the packing list. Customer must notify our customer service team of any missing parts within 7 business days. Any parts determined to be missing will be provided to the customer free of charge.

Safety Information:

This manual should be read and understood before installing, operating, or servicing the equipment. Never allow anyone to operate the equipment without proper training.

Safety Devices:

Do not attempt to bypass or eliminate any safety devices.

Fire Protection:

A fire suppression or protection system must be installed to comply with the National Fire Protection Agency's requirements stated in NFPA 33 Section 9. Portable fire extinguishers must be in or near a paint mixing room to comply with NFPA 10. The fire suppression and protection requirements are the responsibility of the customer and are not included with the purchase of the spray booth. Do not store flammable liquids in or near the spray booth. The exhaust fan must be in operation while operating, cleaning, or maintaining the booth to remove any dangerous vapors.

Static Discharge:

Failure to properly ground the booth, equipment, and all components could create static discharge and result in a fire.

General:

All connections and seams must be sealed to properly contain vapors. Ductwork is not designed to support any additional weight or equipment.

Layout:

The exhaust system of the booth must terminate outside. Typical exhaust configurations include exhausting out the roof or exterior wall. Typically, the exhaust duct must protrude 6' above the roof before the rain cap or auto damper is installed to meet code requirements. Ductwork must also terminate at least 10' away from any openings or intake ducts. The customer is responsible for checking with their local regulatory agency to ensure compliance.

The following requirements must be met when determining the ductwork layout. Failure to meet any of these requirements will void the warranty of the fan. Contact Cook Manufacturing if you need assistance or have any questions regarding proper ductwork layout.

- All ductwork must be the same diameter as the fan. Reducing the diameter of the duct creates additional static pressure, lowers airflow, and reduces the operational life of the fan.
- A straight section of duct at least one and a half times the diameter of the fan is required before and after each elbow.
- A maximum of two elbows can be used.
- Total length of ductwork must not exceed 25'.

Exhaust Methods:

Roof Exhaust:

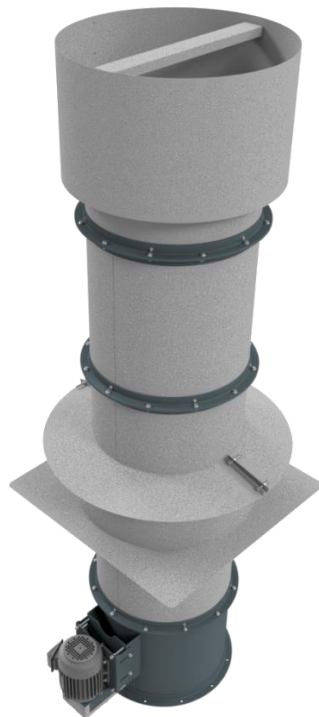


Figure 1 - Roof Exhaust Example

Exterior Wall:

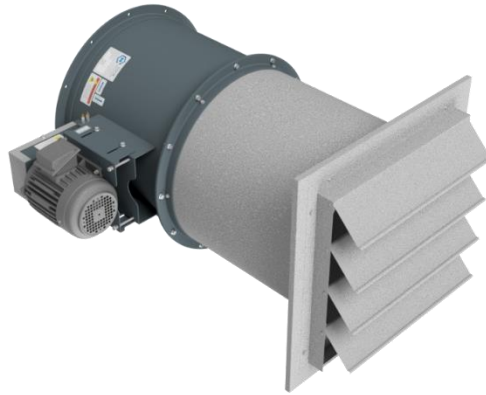


Figure 2 - Rear Exhaust Example

Installation:

Hazards:

Ductwork is not designed to be free standing. Ductwork must be supported to the buildings structure.

Personal Protective Equipment:

The following list of personal protective equipment is recommended during installation.

	Protective Eyewear
	Hard Hat
	Steel Toe Boots
	Gloves

Table 1 - Recommended Personal Protective Equipment

Recommended Tools:

The following list of tools is recommended for assembly.

	Ratchet Wrench
	Hex Socket (1/2")
	Wrench (1/2")
	Tape Measure
	Plumb Bob
	Caulk Gun

Table 2 - Recommended Tools

Ductwork:

- Attach ductwork to the tube axial fan using 5/16-18 X 3/4 spin lock bolts and nuts.
- Support ductwork to the roof or wall as needed. The ductwork should be fully supported so the tube axial fan can be removed if needed for maintenance. The booth is not designed to support the weight of the ductwork.
- Determine the location where the ductwork will exit the building. A laser or plumb bob can be used to aid in determining the location.
- Cut the appropriate size hole in the roof or exterior wall. The chart below lists the diameter of the ductwork and mounting flanges.

Ductwork Diameter:	Mounting Flange Diameter:
8-3/16"	11-3/16"
10-3/16"	13-3/16"
12-3/16"	15-3/16"
15-3/16"	18-3/16"
16-3/16"	19-3/16"
18-3/16"	21-3/16"
20-3/16"	23-3/16"
21-3/16"	24-3/16"
24-3/16"	27-3/16"
30-3/16"	34-3/16"
34-3/16"	38-3/16"
36-3/16"	40-3/16"
42-3/16"	46-3/16"
48-3/16"	52-3/16"
54-3/16"	58-3/16"
56-3/16"	60-3/16"
60-3/16"	64-3/16"

Table 3 – Ductwork Dimensions

- Assemble each section until the ductwork protrudes through the roof or exterior wall.
- Caulk all joints and connections using an appropriate water-based sealant that will adhere to metal.



Figure 3 - Duct Section

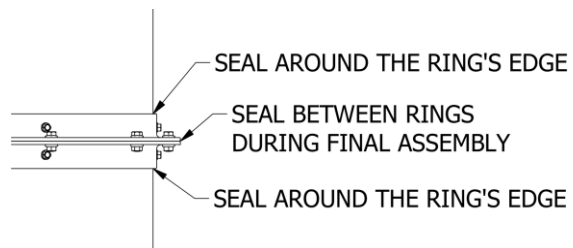


Figure 4 - Duct Sealing Diagram

Elbow:

- Fasten elbows to ductwork using 5/16-18 X 3/4 spin lock bolts and nuts.
- Mounting rings on each end of the elbow can be rotated to align with the ductwork mounting flanges.

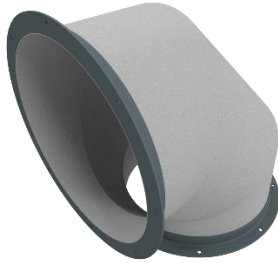


Figure 5 - Elbow

Roof Curb:

- Place the roof curb on top of the duct and flush against the roof.
- Ensure the roof curb is centered on the duct and opening.
- Fasten the roof curb to the roof using appropriate screws.
- Seal around the entire perimeter of the roof curb using an appropriate water-based sealant.

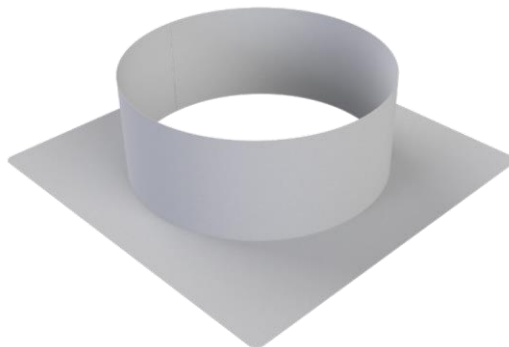


Figure 6 - Roof Curb

Storm Collar:

- Place the storm collar around the duct and against the roof curb.
- Tighten fasteners until storm collar is clamped securely around the duct.
- Caulk the joint between the storm collar and duct using an appropriate water-based sealant.

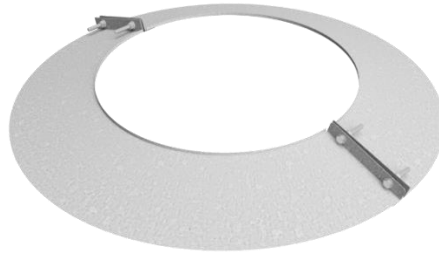


Figure 7 - Storm Collar

Auto Damper:

- Note that code requires the last section of ductwork to protrude 6' above the roof line before the auto damper is installed.
- Install auto damper directly on top of the last section of ductwork.



Figure 8 - Auto Damper

Guy Wire Kit:

- Hold one section of the three-piece Duct Sleeve against the ductwork, 66 inches above the roof.
- Insert a self-piercing screw through one of the holes in the Duct Sleeve, and use it to penetrate the ductwork.

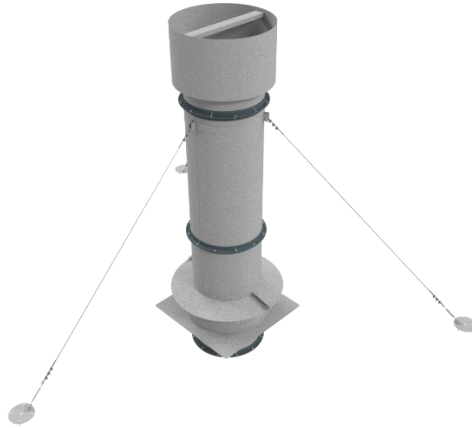


Figure 9 – Guy Wire Kit

- Use a level to adjust the Duct Sleeve until it is horizontal, then insert another self-piercing screw. Repeat this process for the other two pieces of Duct Sleeve, ensuring the holes and slots on the flanges line up.
- Secure the mounting plates to the roof 66 inches (or the same distance as the sleeve height) away from the ductwork, with the D rings pointed at the gaps between the duct sleeves. Hook one end of a turnbuckle into each D ring. Adjust all 3 turnbuckles so they are fully extended.
- Wrap one end of the 1/8" cable around one of the thimbles, turning back at least 8 inches.
- Apply three wire rope clamps to the end of the cable so the loop tightens around the thimble.
 - NOTE: wire rope clamps should be oriented with the nuts on the live side of the rope as shown in Figure 9. The dead end of the rope should be at least 2-1/2 inches past the third clamp, with the clamps 1-1/2 inches apart.



Figure 10 – Clamp Placement

- Use a provided nut and bolt with washers to secure the thimble between two sections of duct sleeve as shown in Figure 10.



Figure 11 – Sleeve Connection

- Cut to length and wrap the remaining ends of the 3 guy wires, taking up as much slack as possible by hand.
- Tighten the turnbuckles evenly until there is about 40 pounds of force on each guy wire.
- After the wires are tight, re-torque the nuts on the wire clamps to at least 20 ftlb.

Exhaust Shutter:

- Place the shutter centered over the opening.
- Make sure the shutter is level, plumb, and oriented correctly. The image below shows the proper orientation for an exhaust shutter.

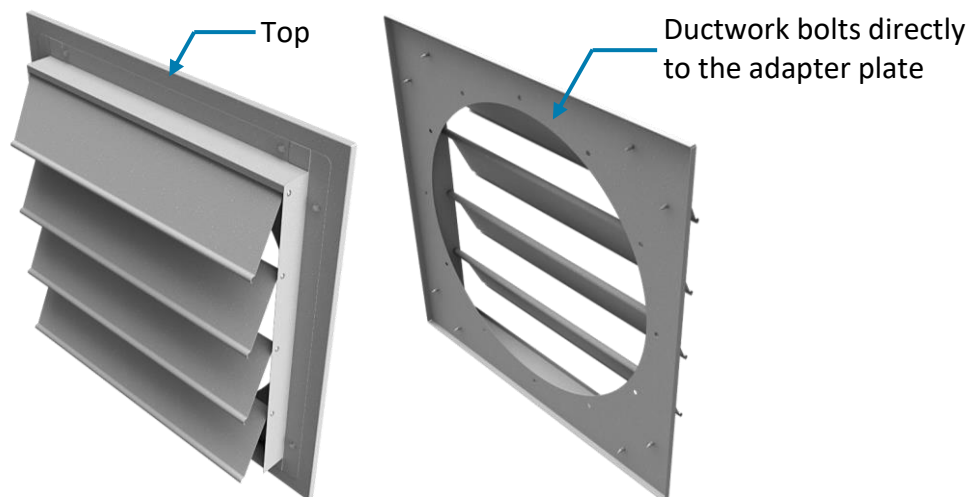


Figure 12 - Shutter with Adapter Plate

- Fasten the adapter plate to the exterior wall using appropriate screws.
- Ensure shutter opens and closes easily.
- Caulk between the adapter plate and exterior wall using an appropriate outdoor sealant.

Intake Shutter:

- Place the shutter centered over the opening.
- Make sure the shutter is level, plumb, and orientated correctly. The image below shows the proper orientation for an intake shutter.

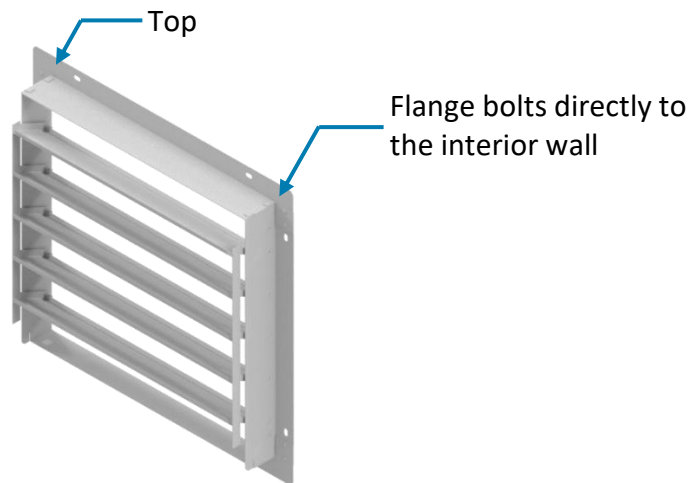


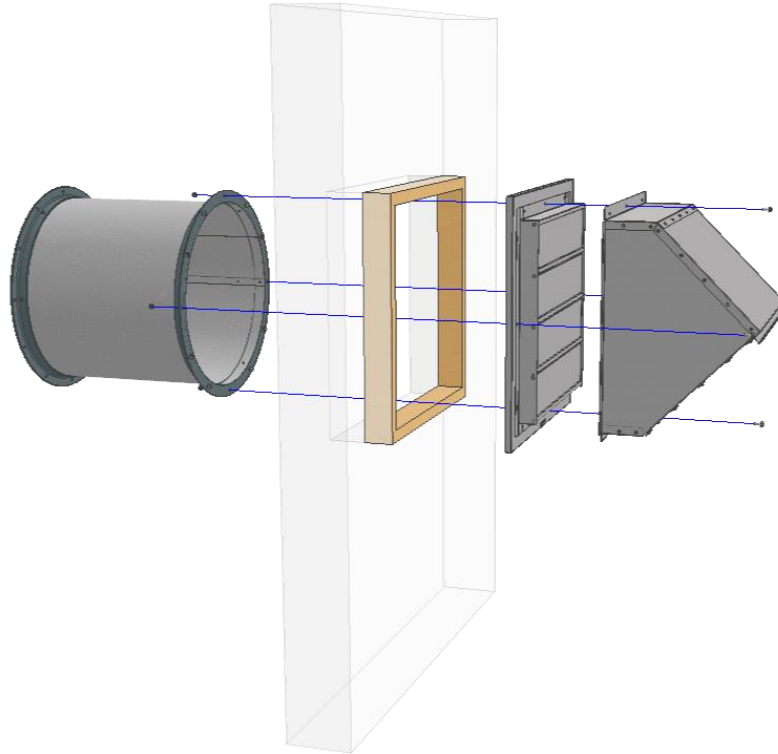
Figure 13 - Intake Shutter

- Intake shutters can be paired with filter grids to ensure your work area remains free from outside contaminants.

Weather Hoods:

Round Exhaust Duct Applications:

- Before installing a weather hood, first complete the installation of your exhaust shutter with adapter plate.
- Refer to the weather hood drawing for assembly instructions.
- From the inside of the building, attach one piece of ductwork to the adapter plate using all the bolt holes except for the four that terminate outside the frame of the shutter.
- Place bolts without nuts through the remaining four holes.
- Take four nuts and your assembled weather hood outside, hold up the weather hood to the shutter and carefully hang it on the four bolts protruding around the outside of the shutter frame.
- Apply four nuts to hold the weather hood in place. These four nuts and bolts pass through the weather hood, shutter, adapter plate, and the first duct flange as shown below in Figure 14 and 15.
- Make sure the shutter louvers operate as smoothly as they did before installation.
- Apply duct sealant around the edge of the shutter and weather hood as needed.



• *Figure 14 - Weather Hood for Round Exhaust Duct*

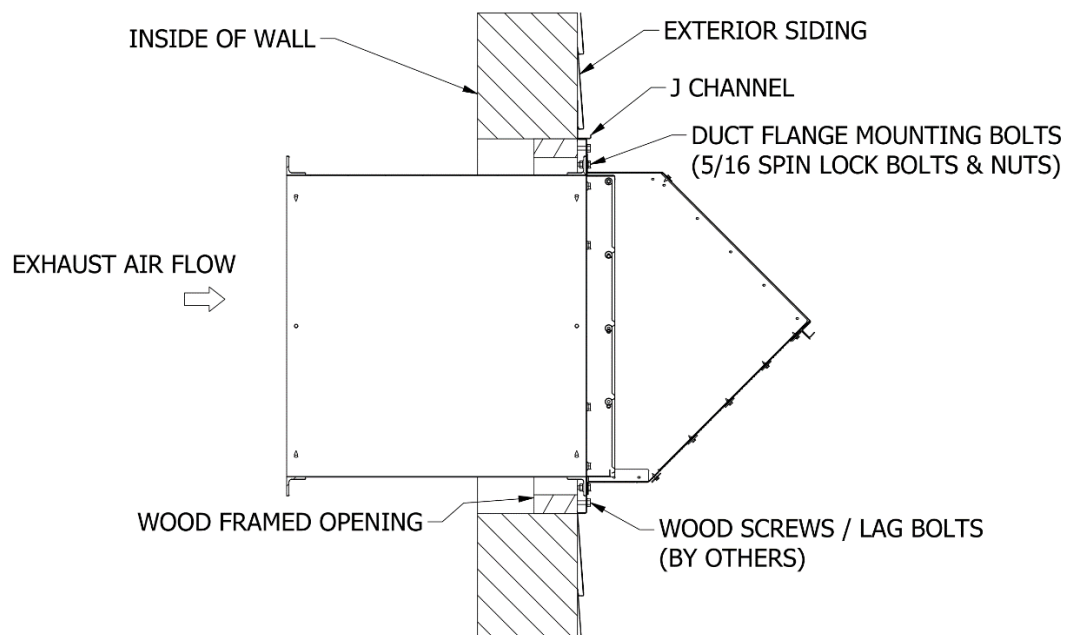
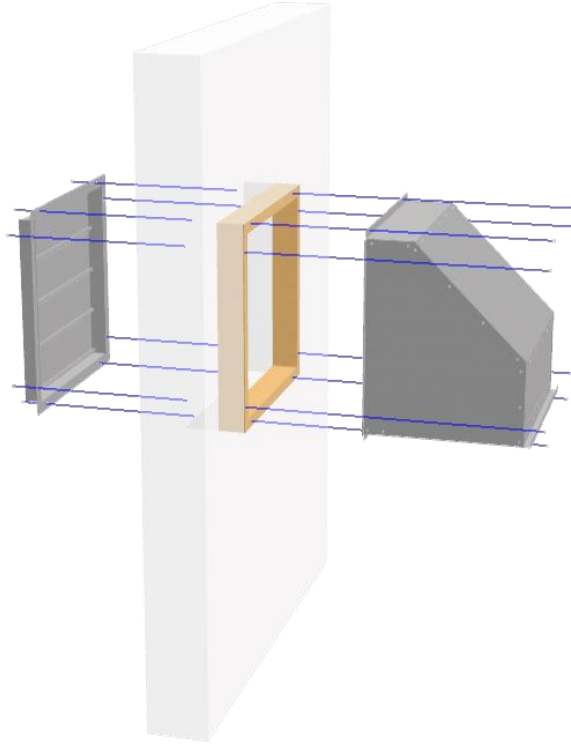


Figure 15 - Exhaust Weather Hood Cross-Section View

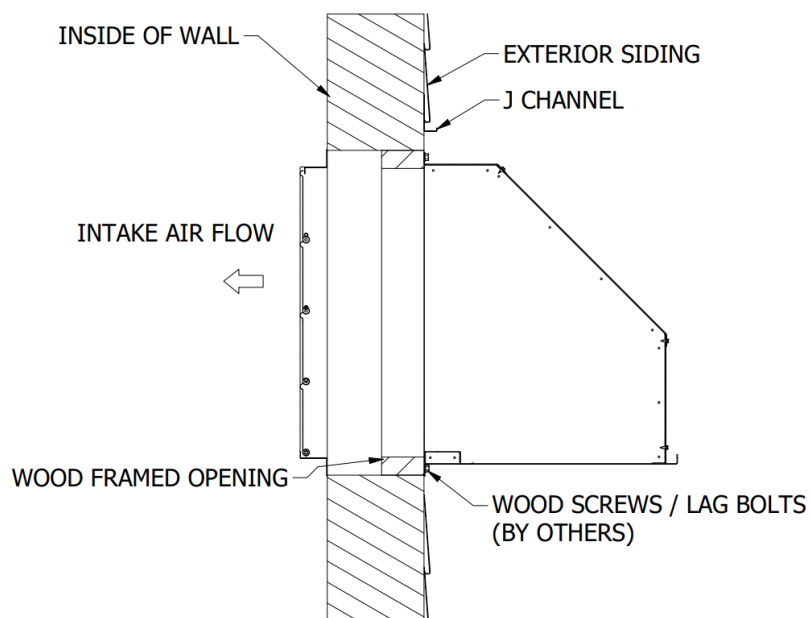
Supply Air Applications:

- After attaching the intake shutter to the interior wall as shown, attach the weather hood to a framed opening as shown below in figure 16.
- Alternatively, attach the weather hood directly to the exterior wall surface.



• *Figure 16 - Weather Hood for Supply Air*

- Make sure the shutter louvres operate as smoothly as they did before installation.



• *Figure 17 - Supply Weather Hood Cross-Section View*

Round Duct With Access Door:

- Round Ducts With Access Doors are shipped fully assembled and ready for use.
- Neoprene gasket material and draw tight latches provide an air tight seal against the duct housing.
- Mount the duct next to a fan for ease of service.



Figure 18 - Round Duct With Access Door

Round Duct Access Door:

- Round Duct Access Doors are a convenient option for accessing the inside of existing ductwork.
- Constructed from galvanized steel for superior corrosion resistance.
- Custom sizes available.
- Reference the table on the next page for dimensions of our standard sizes.

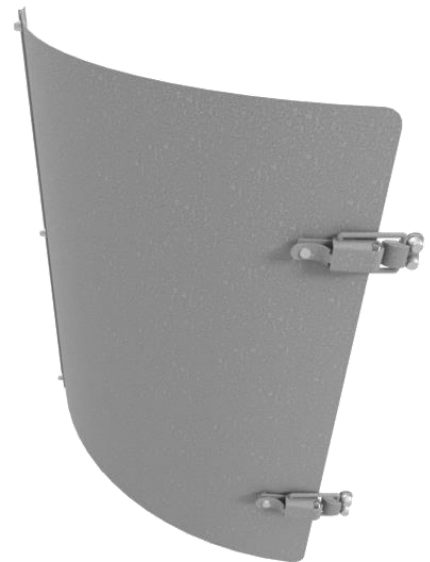


Figure 19 - Round Duct Access Door

VARIATIONS					
PART NO	NOMINAL DIA	DOOR WIDTH	DOOR HEIGHT	CUTOUT WIDTH	CUTOUT HEIGHT
RAC0600	6	5	7	3	5
RAC0800	8	8	9	6	7
RAC1000	10	10	11	8	9
RAC1200	12	10	13	8	11
RAC1300	13	13	14	11	12
RAC1500	15	13	16	11	14
RAC1600	16	13	17	11	15
RAC1800	18	15	19	13	17
RAC2000	20	17	19	15	17
RAC2100	21	17	19	15	17
RAC2400	24	17	19	15	17
RAC2500	25	17	19	15	17
RAC2700	27	17	19	15	17
RAC2800	28	17	19	15	17
RAC3000	30	17	19	15	17
RAC3100	31	18	19	16	17
RAC3400	34	18	19	16	17
RAC3600	36	18	19	16	17
RAC4000	40	18	19	16	17
RAC4200	42	18	19	16	17
RAC4800	48	18	19	16	17
RAC5400	54	18	19	16	17
RAC5600	56	18	19	16	17
RAC6000	60	18	19	16	17
RAC6600	66	18	19	16	17

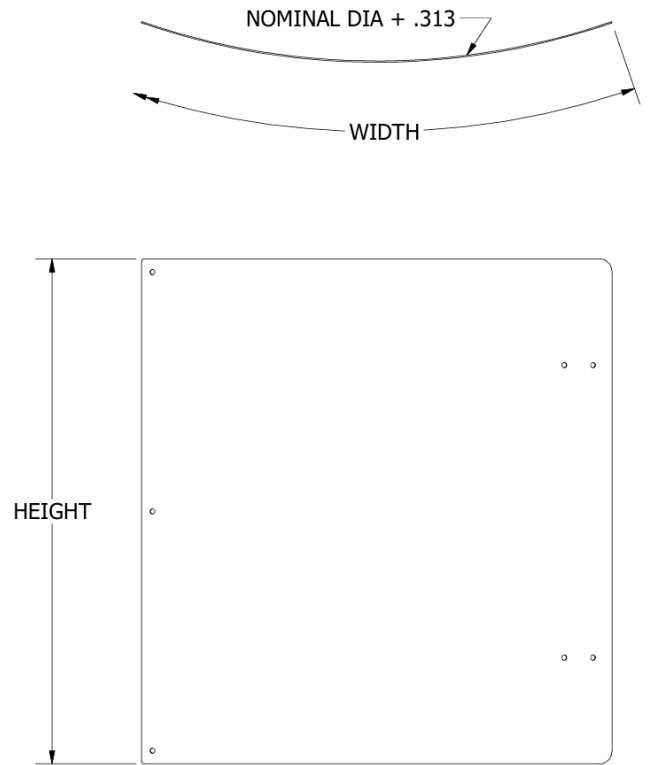


Figure 20 - Access Door Dimensional Table

Maintenance:

Hazards:

- Disconnect and lockout all power sources before performing any maintenance activities.
- All maintenance should be performed by trained and qualified personnel.
- Read and understand all safety data sheets for the products used in the paint booth.

Schedule:

- Ductwork and accessories should be inspected semi-annually.

Procedure:

- Inspect ductwork and accessories for excessive buildup of particulates. Excessive buildup can restrict airflow and presents a fire hazard. Remove any buildup using a non-sparking scraper and appropriate cleaner.
- Visually inspect that all joints are properly sealed. All joints should be sealed using a water-based sealant that will adhere to metal.
- Lubricate all moving parts of the shutter.

Warranty:

Cook Manufacturing Company LLC (the Seller) warrants to the original end-user buyer (the Buyer) that the equipment manufactured by, and purchased from, the Seller (the Equipment), if properly installed, operated, and maintained in accordance with the Seller's manuals, and used under normal conditions, shall be free from defects in materials and workmanship for a period of one (1) year from the date the Equipment is shipped from the Sellers facility. The obligation of the Seller, and the Buyer's sole and exclusive remedy hereunder, shall be limited to one of the following, at the Seller's option:

- The repair or replacement of defective parts or components (collectively, the Parts) of the Equipment; provided, however, the Buyer shall be responsible for the payment of all transportation and labor costs associated with any such repair or replacement.
- In the event the Seller is unable to repair or replace the defective Parts, the Buyer shall be entitled to a refund of the cost of the Parts.

The Seller shall have no obligation under this Limited Warranty for ordinary wear and tear of the Equipment; if installation of the Equipment does not comply with the local, state and federal requirements or laws; or if the Equipment is modified by any other person or organization. The Seller makes no warranty of any kind whatsoever with respect to Parts which are manufactured or supplied by other persons or organizations (an OEM); provided, however, the Seller shall reasonably assist the Buyer in connection with warranties, if any, provided by an OEM.

Warranty Performance Procedure:

In the event the Buyer believes the Seller may be responsible for the performance of any warranty obligation, the Buyer must immediately send written notice of a claimed defect and must immediately refrain from any

further use of the affected Equipment. No attempted repair of the claimed defect may be made without the prior written consent of the Seller. Before any Parts can be returned to the Seller, the Buyer must contact the Seller and request a Return Authorization. Upon the Buyer's receipt of the Return Authorization form, the Parts may be shipped, freight prepaid, to the facility designated on the Return Authorization. All Parts returned for repair, replacement, or refund (which refund may be made in the form of a credit to the Buyer's account), must be accompanied by the Return Authorization. All returned Parts

are subject to a fifteen percent (15%) handling charge. Parts manufactured or supplied by an OEM are subject to warranties, if any, provided by such OEMs; and repair or replacement of such Parts are subject to the approval of the OEM. The Buyer shall be responsible for the payment of any handling or restocking charges associated with OEM Parts.

Disclaimers of Warranties:

The warranties contained herein are expressly in lieu of any other expressed or implied warranties, or any other obligation on the part of the Seller, including without limitation, any implied warranty of merchantability or fitness for a particular purpose. Any models, drawings, specifications, affirmations of fact, promises, or other communications by the Seller with reference to the equipment or performance of the equipment are solely for the convenience of the Buyer and shall not in any way modify the express warranties and disclaimers set forth herein. The Buyer acknowledges it is purchasing the equipment solely based on the commitments for the Seller as expressly set forth herein. No agents or other parties are authorized to make any warranties on behalf of the company or to assume for the company any other liability or obligation in connection with the equipment.

Consequential Damages:

The Seller shall not be liable for any incidental or consequential damages arising from the use of the equipment by the Buyer, the breach of any warranties, the failure to deliver, delay in delivery, delay on nonconforming condition, or for any breach of contract or duty between the Seller and the Buyer.

Limitation of Actions:

Any action resulting from the breach of any warranty contained herein by the Seller must be commenced within one (1) year after the cause of action accrues. In no event shall the Seller's total liability for any or all breaches of any warranty exceed the actual purchase price paid by the Buyer for the Equipment.