



# PCD80XH

## Installation, Operation, and Maintenance Manual



### **READ AND SAVE THESE INSTRUCTIONS**

The purpose of this manual is to aid in the proper installation and operation of fans manufactured by S&P USA. These instructions are intended to supplement good general practices and are not intended to cover detailed instruction procedures, because of the wide variety and types of fans manufactured by S&P USA.





## 1. WARNING

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY, OBSERVE THE FOLLOWING:**

1. Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
2. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.
3. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
4. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. Ducted fans must always be vented to the outdoors.
6. Acceptable for use over a tub or shower when connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit (ceiling installation only).
7. This unit must be grounded.

## CAUTION

1. For general ventilation use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. This product is designed for installation in ceilings up to a 12/12 pitch (45° degree angle). Duct connector must point upwards.
3. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit.
4. Please read specification label on product for further information and requirements.

*\*The manual in electronic format can be downloaded on our website, or obtained from our dealer.*

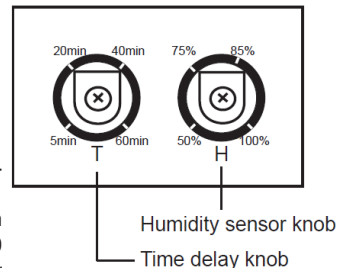
## 2. CLEANING & MAINTENANCE

For quiet and efficient operation, long life, and attractive appearance - lower or remove grille and vacuum interior of unit with the dusting brush attachment. The motor is permanently lubricated and never needs oiling. If the motor bearings are making excessive or unusual noises, replace the motor with the exact service motor. The impeller should also be replaced.

## 3. OPERATION

See "Connect Wiring Diagram" for details.

1. Turn ON switch I, fan run continuously at the default low speed (40 CFM) and automatically boost up to high speed (80 CFM) when either of these conditions is detected:
  - (a) Humidity above a user-adjustable set point (50%-100% relative humidity).
  - (b) Rapid to moderate (user-adjustable) increases in humidity. After delay timer (adjustable from 5 to 60 mins) returns fan to the default low speed. Humidity sensor description according to "HUMIDITY SENSOR OPERATION" and "SENSITIVITY ADJUSTMENT".



When switch II is turned ON, the fan changes to high speed. When switch II is turned OFF, fan will continue to run at the high speed until the delay timer has elapsed, and then will automatically change to low speed.

## **HUMIDITY SENSOR OPERATION**



The humidity-sensing fan uses a sophisticated humidity sensor that responds to: **(a)** rapid to moderate (user-adjustable) increases in humidity, or **(b)** humidity above a user-adjustable set-point (50%-100% relative humidity). The fan runs continuously at a pre-set lower level (set by humidity sensor knob) and automatically boosts up to a certified airflow rate when environmental conditions change). If the fan continuously responds to changing environmental conditions, “H” (means “humidity”) adjustment may be required. This figure is factory-set for about 75% (ambient temperature of 77°f/25°c).

## **SENSITIVITY ADJUSTMENT**

The “H” has been factory-set for most shower applications. However, if the fan is in a tub area or is being used for dampness control, the “H” may need to be increased toward maximum “+”. If the control is responding too often to changing environmental conditions, movement toward less “-”, “H” may be required.

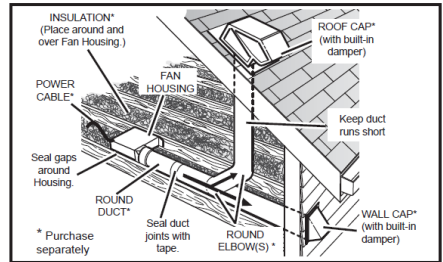
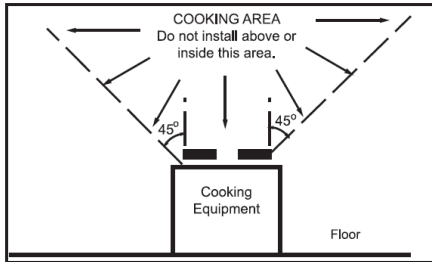
To adjust the “H” :

1. Disconnect power at service entrance.
2. Through the grille, locate the slot marked “H”.
3. Carefully rotate the “H” adjustment toward “+” or “-”.
4. Turn on power and check operation by turning on the shower or other humidity source until the fan turns on.
5. Repeat above steps if necessary.

When the temperature changes, humidity sensor values will have deviation.

## **4. PLAN THE INSTALLATION**

1. Do not use in a cooking area.
2. Two ways to connect duct work to a factory-shipped unit.



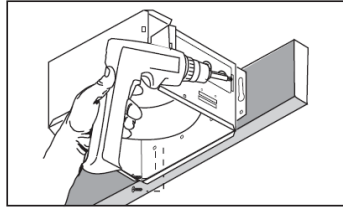
## **TYPES OF TYPICAL INSTALLATIONS**

1. Housing mounted to I-joists (Start at “ASSEMBLY INSTRUCTIONS 1”).
2. Housing mounted to joists (Start at “ASSEMBLY INSTRUCTIONS 1”).
3. Housing mounted to truss (Start at step “ASSEMBLY INSTRUCTIONS 2”).

## 5. ASSEMBLY INSTRUCTIONS

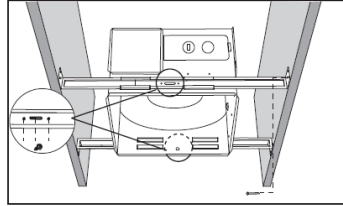
### 1. Mount Housing to Joist of I-Joist

Hold the housing so that it is in contact with the bottom of the joist. Place the fan housing next to the ceiling joist. Using wood screws, attach the housing loosely to the ceiling joist through the keyholes in the mounting tabs. Adjust the housing to be flush with the finished ceiling. For the grille to fit properly, the housing's rim must not extend beyond the finished ceiling surface. When the housing is correctly adjusted, tighten the screws in the slots.



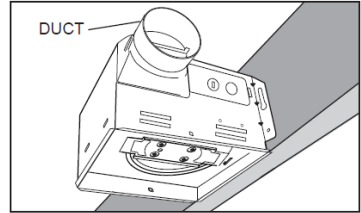
### 2. Mount With Hanger Bars

Insert the hanger bars into the slots in the housing. Place the fan housing between the joists, make sure the bottom of the housing is even with the finished ceiling. Extend the hanger bars to the joist. Use screws to secure the hanger bars to the ceiling joists. Select a proper hole and secure the hanger bars together using flange screws.



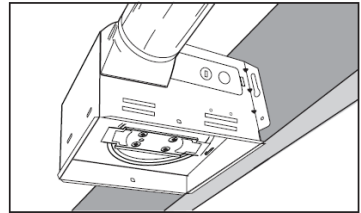
### 3. Attach Damper/Duct Connector

Snap the damper/duct connector onto the fan housing. The connector must be flush with the top of the housing, and the damper flap should fall closed.



### 4. Install Round Ductwork

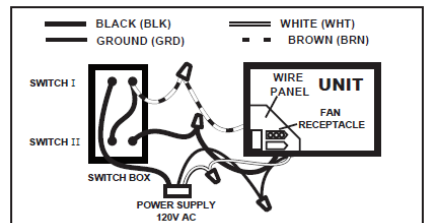
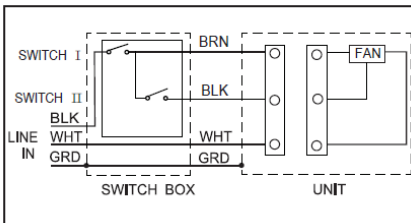
Connect the round ductwork (*not included*) to the damper/duct connector, and run the ductwork to a roof or wall cap (*not included*). Using tape (*not included*), secure all the ductwork connections so that they are air tight. Insulated flexible duct is recommended for the quietest possible installation. If rigid duct is used, a short (1-3 feet) section of insulated flexible duct will ensure quiet operation.



The ducting from this fan to the outside of the building has a strong effect on the air flow, noise, and energy use of the fan. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated air flow.

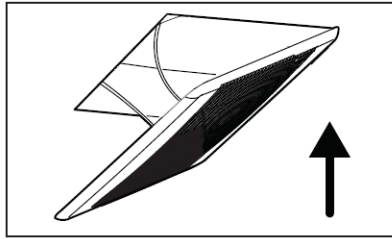
### 5. Connect Electrical Wiring

Run 120V AC house wiring to the location of the fan. Use only UL-approved connectors (*not included*) to attach the house wiring to the wiring plate. Refer to the wiring diagram below, and connect the wires as shown.



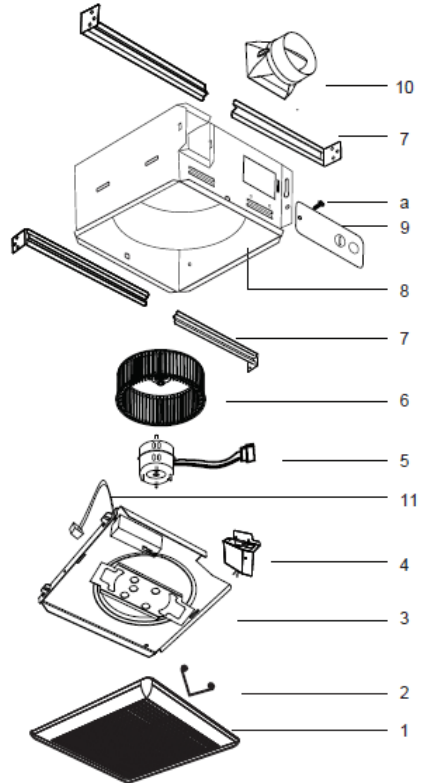
## 6. Install Grille

Install ceiling material to complete the ceiling construction and cut around the fan housing. To attach the grille assembly to the fan housing, pinch the grille springs on the sides of the grille assembly and position the grille into the housing with the grille springs in the appropriate slots. Push the grille assembly towards the ceiling to secure.



## 6. SERVICE PARTS

PART	PART NAME	Qty.
1	Grille Assembly (includes part 2)	1
2	Grille Spring	2
3	Motor Plate	1
4	Wire Panel / Harness Assembly	1
5	Motor	1
6	Blower Wheel	1
7	Hanger Bars	4
8	Housing	1
9	Wiring Plate	1
10	Damper / Duct Connector	1
11	Power Box	1
a	Screw	1



\* Blower Assembly includes part 5 & 6.

### Replacement Installation:

Remove the screw on motor plate (part 3), then take out the motor plate (part 3) from the housing (part 8) by pushing down the rib in the plate while pulling out on the side of the housing. Replace the broken parts.

### WARNING

Ensure that the fan is switched off from the supply mains before replacing.

## 7. WARRANTY

S&P USA - S&P Canada warrant that the PCD80XH will be free from defective materials and workmanship for the period of (5) years from the date of original purchase. In the event that we find any part is defective the product will be repaired or, in the Company's discretion, replaced without charge provided that the product has been installed in accordance with the enclosed instructions and all applicable EPA Standards and state and local building codes.



IF CLAIMING UNDER WARRANTY: Please return the complete product, freight paid, to your local authorized distributor. All returns must be accompanied by a valid Bill Of Sale. All returns must be clearly marked "Warranty Claim," with an accompanying description stating the nature of the fault.

THE FOLLOWING WARRANTIES DO NO APPLY: Damages from shipping, either concealed or visible. Claim must be filed with the carrier. Damages resulting from improper wiring or installation Damages caused by acts of nature, or resulting from improper consumer procedures such as: Improper Maintenance; Misuse; Negligence; Alteration; Abuse; Abnormal Use; or Accident or Incorrect Electrical Voltage and Current. Removal or alteration to the S&P USA - S&P Canada data plate label.

WARRANTY VALIDATION: The end user must keep a copy of the Bill of Sale to verify purchase date.

THE ABOVE (5) YEAR WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, WRITTEN OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE. IN NO EVENT SHALL SOLER & PALAU USA - SOLER & PALAU CANADA BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING LOSS OF PROPERTY, REVENUES, LOST PROFITS, COSTS OF REMOVAL, INSTALLATION OR REINSTALLATION.



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