ACE INDUSTRIAL PRODUCTS
WALL MOUNTED FUME EXTRACTOR
MODEL 73-501

INSTALLATION MANUAL

READ AND SAVE THESE INSTRUCTIONS.

SAFETY WARNINGS & CAUTIONS
FAILURE TO OBSERVE THE FOLLOWING PRECAUTIONS COULD RESULT IN SERIOUS INJURY, INCLUDING DEATH IN EXTREME CASES. SAVE THESE INSTRUCTIONS.

WARNING: (EXPLOSION HAZARD)
This machinery is not suitable for collection of combustible metal as listed in NFPA 484, which includes: **Aluminum**, **Titanium**, **Magnesium**, **Lithium**, **Niobium**, and **Zirconium**.

WARNING:
(VOC'S & AIRBORNE MICROBES)
The filters used in this unit will remove solid particulate ONLY, and will not eliminate Volatile Organic Compounds (VOC's) or airborne microbes (bacteria, mold & viruses) that may be a health hazard. Failure to observe the presence of such fumes could cause serious illness or death.

CAUTION: (STRONG VACUUM)
Care must be taken to avoid personal injury by not allowing hose inlet to contact any body area such as eyes, ears, mouth, etc.

CAUTION: (LIFTING)
Improper lifting or handling of this unit could cause back injury.

CAUTION: (AIR FLOW BLOCKAGE)
Since exhaust air leaves the top of this unit, caution should be observed not to mount unit in such a way as to block the exhaust.

CAUTION:
Some of these items are powered by rotating electrical machinery! Careless or improper use may result in personal injury.

CAUTION:
Do not look directly into the motor compartment or outlet with the power on or without wearing safety goggles.

MISCELLANEOUS CAUTIONS:
1. Use of any attachment not recommended or sold by the air cleaner manufacturer may result in risk of fire, electric shock, or injury to persons.

2. Do not disassemble the air cleaner. Take it to a qualified serviceman when service or repair is required. Incorrect reassembly may result in risk of electric shock or fire.

THEORY OF OPERATION
This unit is a wall mounted air cleaner employing a high performance blower producing very high velocity airflow through the arm removing harmful smoke from an operators breathing zone. The air exits the motor and travels through a hose into a filter box. Fine solid particulate and smoke is removed from the air as it is pushed through a series of filters.

An initial 2 inch aluminum pre-filter collects large particles and potential sparks before they reach a 2 inch pleated pre-filter. These relatively inexpensive pre-filters prevent the more expensive main filter from becoming quickly clogged. The pre-filters may be changed several times before the main filter needs to be changed.

Upon leaving the pre-filters, the air passes through the main filter, which removes even smaller particulate. The clean air then goes back into the atmosphere.

All factory furnished filters have a U.L. class II rating and using any filters other than those specified for this unit is not recommended.

Use of any product other than that recommended by the manufacturer will void the warranty.

The main (or final) filter may be selected from three (3) grades available, depending upon the level of performance desired. All of these are high efficiency multi-flow filters which feature extended surface area for long life in high velocity filtration systems.

Selection of the filter best suited for the job should be discussed with a dealer or a factory representative

UNPACKING
Carefully inspect the unit for concealed damage that may have occurred during shipping and handling. If any damage is found, immediately contact the freight company. Make sure that there are no dents in the housing, as they will prevent the filters from sliding into the units smoothly.

Blower Maintenance:

BEFORE ANY MAINTENACE OR SERVICE IS PERFORMED, BE SURE THE UNIT IS DISCONNECTED FROM THE POWER SOURCE TO PREVENT ACCIDENTAL STARTING.

Periodic cleaning is necessary for blower housings and fan wheels constructed of steel. Carefully clean fan wheels with a wire brush. Failure to clean fan wheel could result in an imbalance and cause premature failure of the unit.

Blower housings and fan wheels constructed of aluminum are maintenance free.

Motor Maintenance:

BEFORE ANY MAINTENACE OR SERVICE IS PERFORMED, BE SURE THE UNIT IS DISCONNECTED FROM THE POWER SOURCE TO PREVENT ACCIDENTAL STARTING.

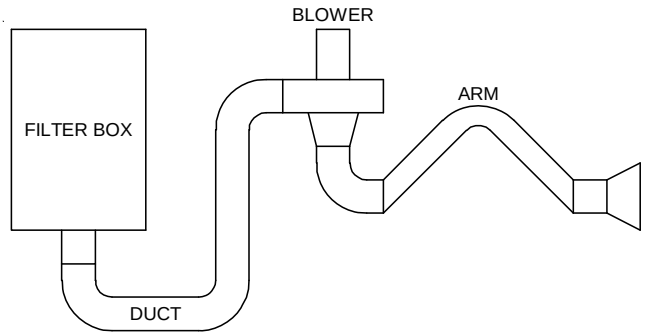
Blow off the motor using low pressure air to remove dust and dirt. Air pressure above 35 PSI should not be used. High pressure may cause damage to insulation. Excess dust may cause excessive temperature.

Lubrication:

Lubrication of the motor should be done periodically as specified by the motor manufacture. If the motor run in continuous high ambient temperatures, in dirty or moist locations, subject to high vibrations or where the shaft end is hot, the motor should be lubricated every 6 months.

Contact Baldor Motors (www.baldor.com) for more complete maintenance and service instructions.

General Assembly



The general order of the parts for 73-501 is an arm connected to a blower, and then the blower connected to the filter box, as shown in the figure above.

Duct work will always be required when connecting the blower to the filter box.

Depending on the arm used, duct work may or may not be needed.

The filter box has internal mounting brackets. This allows the filter box to be mounted to a wall or support structure.

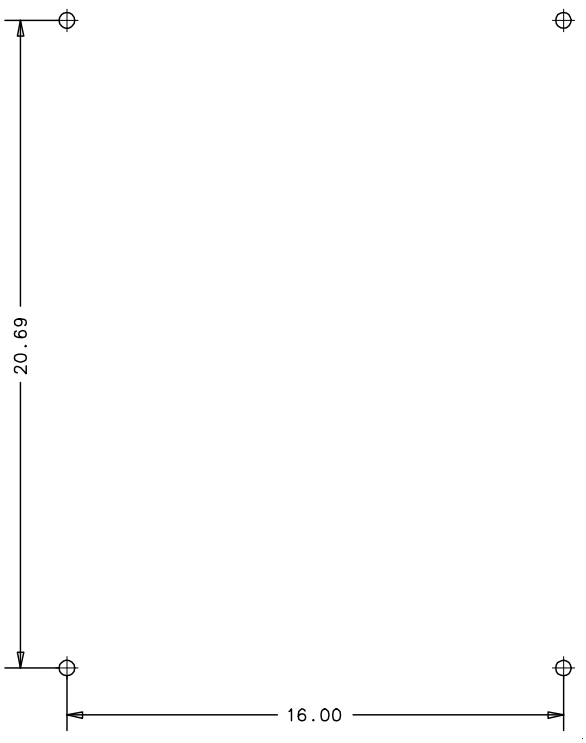
The blower is mounted to a bracket. The bracket is supplied with the blower. This bracket can into be mounted to a wall or support structure.

Mounting the arm to the blower depends on what arm is being used. Select arms include a ‘direct-mount’ bracket that will allow the user to mount the arm directly to the blower. Other arms will require connecting flanges and duct work. Please see next section for detailed information on the arm being used.

Ace Industrial recommends spiral duct work for ducting between the blower and the filter box. Flex tubing may be used for ducting between the arm and the blower.

INSTALLATION OF FILTER BOX

1. Use 7/16” threaded rod to mount filter box. The length of the threaded rod depends on the thickness of the wall or the support structure.
2. Mark the hole pattern on a level wall, and drill all the way through the wall (See Fig. 1 and refer to included template).
3. Slide the threaded rod through mounting hole in filter box and drilled holes in the wall. Secure using nuts and washers.
4. Make sure filter box is level as possible.



BOLT HOLE PATTERN FOR FILTER BOX

FIG. 1

MOUNTING LOCATIONS

The 73-501 filter box can be mounted to a variety of locations. The most common location is a masonry wall. Consulting with your distributor or Ace Industrial representative can assist in recommending a method for mounting in your location.

ARM INSTALLATION

Ace Industrial offers a wide range of styles of arms to be used with the 73-501. Refer to the list below to find detail instructions on how to assemble and mount your arm.

ARM ASSEMBLY FOR WALL/COLUMN MOUNT

Please note that the arm support structure is inside a tube. The hose for the arm is on the outside of the tube. First remove the hose from the tube. Take care not to damage the hose. Patience is the best assurance. Secondly, remove the support structure from inside the tube. Each arm requires several components. Lay out the components to be sure that you have received all the correct components. See figure 1 for arm layout.

A. Arm complete with hood, hose & base.
B. Swivel 90° elbow with mounted nylon pivot ring.
C. Mounting bracket (Not used for arms on duct mount or booms)
D. Bag of hardware
E. 8 hole rubber gasket
F. Connection flange (MODEL 75-800)

NOW YOU ARE READY TO ASSEMBLE AND ADJUST THE ARM. SEE ENCLOSED DRAWINGS AND INFORMATION.

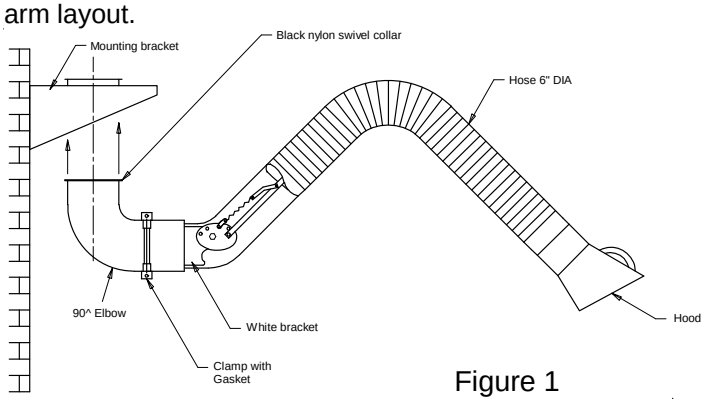


Figure 1

1. Locate your desired area to mount the arm. The support structure should be solid and fairly strong. Please note that the arm will develop stress on the support structure when the user pulls and positions the arm during use.

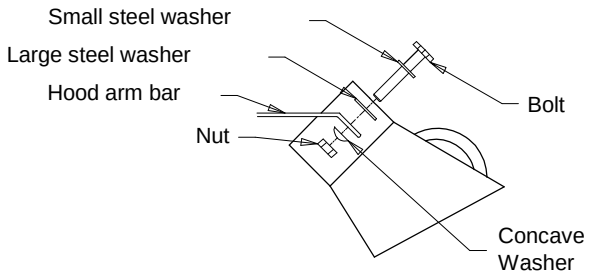
2. Using the mounting bracket, position the bracket on the support structure and, using a level, mark the holes in preparation for attaching the bracket. Be sure the bracket is as square and as level as you can make it. Use the level for this. Now mount the bracket and be sure it is secure.

3. Slide the hose away from the white base bracket. Please note that there is a bolt with a red painted head. This bolt is in a hole marked 2. Remove this bolt and pivot the white bracket 90 degrees so the hole marked 1 will line up with the hole in the bracket. Replace the red bolt and nut and bring to a snug fit. (See figure 2.)

4. Attach the 90 degree elbow to the white arm bracket. Note that the elbow and the white bracket have a small mating flange. There is a rubber gasket that seals the flanges of the elbow and the white bracket. Install the steel metal clamp over the rubber gasket and flanges. BE SURE THAT THE ELBOW AND ARM ARE IN A PERFECT VERTICAL POSITION BEFORE TIGHTENING THE CLAMP. The arm should be vertical and the elbow is also vertical (See Figure 2).

5. With assistance, mount the assembled arm and elbow to the mounting bracket. The elbow has a mounted 8 hole black nylon swivel collar. Locate and bolt the arm, elbow, and black nylon collar to the bracket by the 8 holes. Tighten the bolts to hold the elbow to the mounting bracket. DO NOT OVER TIGHTEN THE BOLTS. Be sure the elbow can swivel freely at the bracket.

6. The arm will need final adjustment/tuning for easiest movement and to stay in place upon positioning. You will find friction pads and adjustment pivot joints in four (4) places, 1) Pivot point at the white bracket, 2) Pivot point at the center of the arm. 3 & 4) Pivot points at the hood location. Only put enough tension on these pivot joints to hold the arm in any position it is placed. The arm final adjustment is key to the arm being user friendly. DO NOT OVER TIGHTEN THE PIVOT JOINT FRICTION DISKS. Depending on arm usage and movement, occasional adjustments may be required. Based on the arms application, cleaning of the internal support structure may require scheduled cleaning.



7. Extend the arm out and slide the hose over the arm. Clamp the hose to the white bracket using the clamp provided.

8. For attachment of the connection flange, see page 10 on connection flange assembly for MODEL 75-800.

DIRECT DUCT MOUNTING ARM ASSEMBLY

Please note that the arm support structure is inside a tube. The hose for the arm is on the outside of the tube. First remove the hose from the tube. Take care not to damage the hose. Patience is the best assurance. Secondly, remove the support structure from inside the tube. The arm requires several components. Lay out the components to be sure that you have received all the correct components. See Figure 4 for arm layout.

A. Hose for arm
B. Support structure
C. Hood
D. Swivel base
E. Mounting bracket (Not used for arm on duct mount or booms)
F. Bag of hardware
G. 8 hole rubber gasket
H. White 8 hole connection flange

NOW YOU ARE READY TO ASSEMBLE AND ADJUST THE ARM. SEE ENCLOSED DRAWINGS AND INFORMATION.

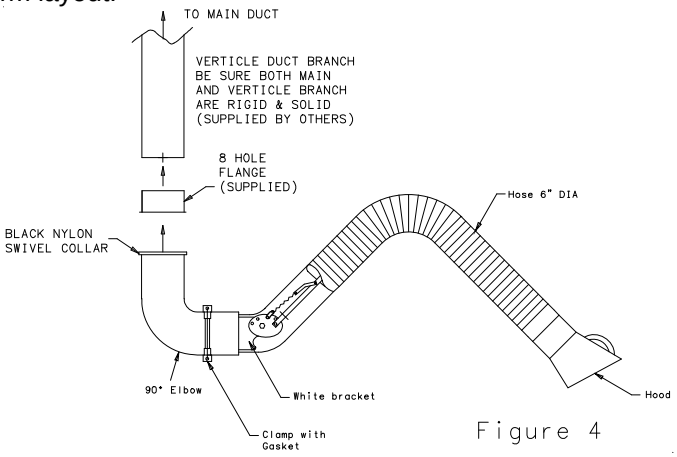


Figure 4

1. Locate your vertical duct to mount the arm. The vertical support structure should be solid and strong. Please note that the arm will develop stress on the vertical duct structure when the user pulls and positions the arm during use.

2. Mount the connection flange to the vertical duct. Be sure the connection flange and the duct is solid.

3. Attach the swivel 90° elbow to the underside of the flange. Use the hardware supplied. Snug the swivel base to the flange evenly. There is no need to over tighten the swivel 90° elbow.

4. For assembly of the whole arm refer to the arm assembly on page 6.

BOOM ARM ASSEMBLY

There will be assembly required for the boom arm and the flex arm (if purchased with boom). Lay out the enclosed components and compare to the list and to Figure 5, to be sure that you have received all the correct components. The boom arm components are in 2 long boxes. Remove the components and place in order as shown in Figure 5. The flex arm (if purchased with boom) is packaged in a shorter box, refer to page 6 & 7 for the parts list and see Figure 1 for the arm layout. **Note:** Mounting plate not included.

1. Flex hose
2. Hose clamps
3. Duct cradle (2)
4. Short spiral pipe
5. Spiral pipe splice fitting
6. Long spiral pipe
7. 90 degree elbow
8. Solid steel pivot support pin
9. Steel mounting plate with friction brake
10. Boom mounting section
11. Thrust bearings
12. Threaded stud for duct cradle (2)
13. Boom extension section
14. Clamp profile with 6 bolts, tooth washer and nuts
15. Exhaust mounting support

NOT SHOWN 4 bolts, tooth washers and nuts to secure boom sections.

NOW YOU ARE READY TO ASSEMBLE AND ADJUST THE ARM. SEE ENCLOSED DRAWINGS AND INFORMATION.

1. The steel mounting plate (wall/column bracket) is constructed to withstand a torque of up to 5500 ft. lbs. Be sure the support structure is designed to withstand the stress and strain that the boom/arm may develop under use.

THE FACTORY IS NOT RESPONSIBLE FOR ANY FAILURES OR DAMAGE CAUSED TO THE BOOM OR TO THE BUILDING STRUCTURE DUE TO INSTALLATION NEGLIGENCE.

2. Take the mounting plate and remove the steel pivot rod by removing the small bolt and nut on the bottom of the rod. Please note that the mounting plate has a brown friction pad. This pad will assist you in telling top from bottom of the mounting plate. The friction pad and rod with bolt is the bottom of the bracket. Be sure to mount bracket as such. See figure 6.

3. Using a level, mount the bracket. Once you have mounted the bracket, recheck for squareness and strength. BE SURE THE BRACKET IS PERFECTLY VERTICAL.

4. Mount the first half of the boom arm with the groove on the bottom to the wall bracket. You should have noticed a flat and a thick steel thrust washer on the steel pivot rod when you removed the rod from the wall bracket. Be sure these thrust washers are installed on the underside of the boom. See figure 6. Slide pivot rod into the top of the mounting bracket and into the bearing on the boom and through the thrust washers and into the bottom of the mounting bracket. The rod has flat sides and the mounting bracket has matching flat sides. Be sure the rod slips completely into the flat sides. Install the small bolts and nuts and tighten snugly.

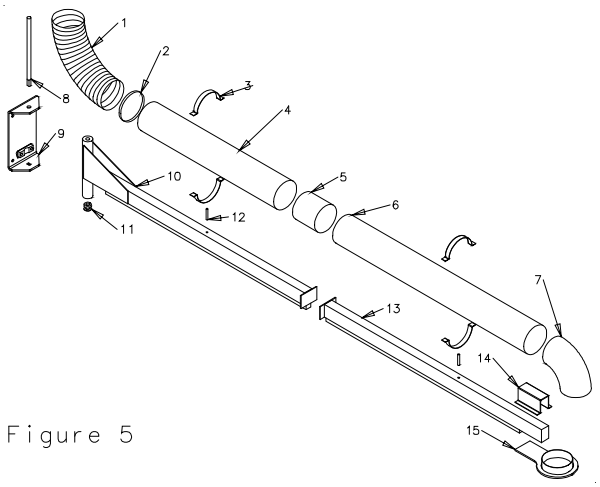


Figure 5

5. Install the second half of the boom arm to the first half and use the 4 large bolts, tooth washers, and nuts. Tighten the bolts firmly.

6. Install the clamp profile to the exhaust arm mounting support using the 6 bolts, nuts, and tooth washers. Slip this assembly over the end of the boom end with the angle flange facing up. See figure 5. Slip over until the arm mounting support hits the groove channel. Tighten this assembly.

7. Install the threaded studs into the duct cradles. Be sure to install the flat threaded end into the cradle nut. Now install the assemblies into the top of the boom. You will find two threaded holes. Snug the assemblies to the boom. Remove upper half of the cradle so the duct can sit on the bottom half of the cradle.

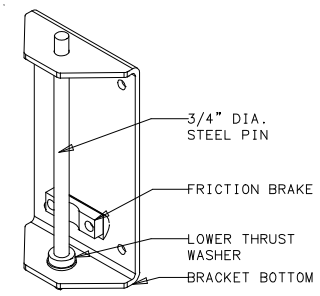


Figure 6

8. Using a small amount of lubricant on the rubber seals, install the 90 degree elbow into the exhaust arm mounting bracket.

9. Assemble the 6" hard duct sections together and make one piece. Set the assembly into the lower half of the duct cradles. Slip the end of the assembly into the elbow. You may want to use a small amount of lubricant on the seals to ease the installation. Be sure the longer hard duct is installed in the elbow.

10. Once the duct assembly is completely sealed into the elbow, then install the upper half of the cradle and secure the cradles to the duct.

11. Clamp the flex hose to the hard duct.

12. If you purchased an arm, attach the swivel 90° elbow to the underside of the flange. Use the hardware supplied. Snug the swivel 90° elbow to the flange evenly. There is no need to over tighten the swivel base. For assembly of the whole arm refer to the arm assembly on page 6.

75-500 and 75-675

Please note that the arm support structure is inside a tube. The hose for the arm is on the outside of the tube. First remove the hose from the tube. Take care not to damage the hose. Patience is the best assurance. Secondly, remove the support structure from inside the tube. The kit requires several components. Lay out the components to be sure that you have received all the correct components. See figure 1 for arm layout and figure 11 for blower/motor layout.

1. For instruction on mounting the arm, refer to page 6 (instruction 1 thru 11) on assembly for wall/column mount.

2. For instructions on connection flange, blower, and motor. Refer to the section on page 7, on connection flange assembly, **MODEL 75-800D**.

WALL MOUNT EXTENSION BRACKET
MODELS: 75-803WM, 75-805WM and 75-807WM
See figure 7

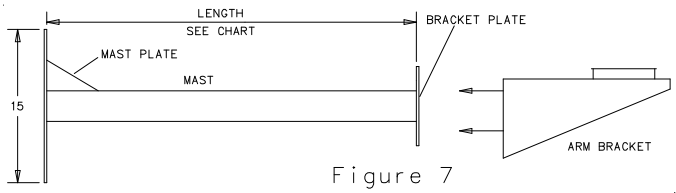


Figure 7

CEILING MOUNT EXTENSION BRACKET
(MODEL 75-803CM, 75-805CM, 75-807CM)
See figure 8

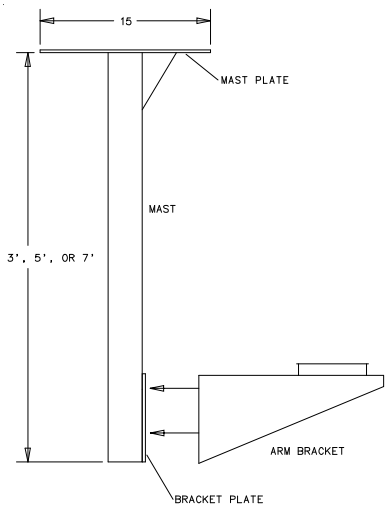


Figure 8

FLOOR MOUNT EXTENSION BRACKET
(MODEL 75-803FM, 75-805FM, 75-807FM)
See figure 9

1. Locate your desired area to mount the extension bracket. The support structure should be solid and fairly strong. Please note that this assembly will develop stress on the support structure when the user pulls and positions the arm during use.
2. Using the extension bracket, position the mast plate to the support structure and, using a level, mark the holes in preparation for attaching the bracket. Be sure the bracket is as square and as level as you can make it. Use the level

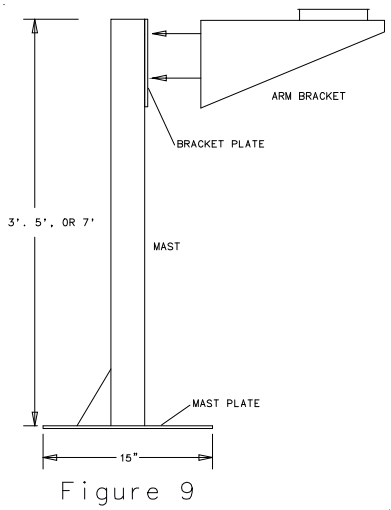


Figure 9

for this. Now mount the bracket and be sure it is secure.

3. To mount the arm, refer to arm assembly on page 6.

CONNECTION FLANGE ASSEMBLY

MODEL 75-800 (Connecting arm to duct)

1. Notice the mounting bracket for the arm has a connection flange with a rolled lip on the top.

2. In order to use a 6" connecting duct to the main duct from the arm, **MODEL 75-800** connection flange and snap ring are required. The connection flange and the snap ring mount directly to the mounting bracket (See Figure 10).

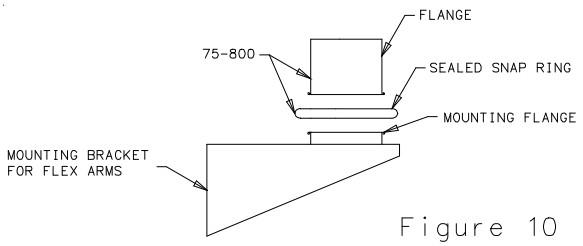


Figure 10

3. Open up the snap ring fully and set it over the mounting bracket rolled lip flange. Then set the flange on top the rolled lip and slide the snap ring up and lock the flange to the rolled lip.

4. Now the 6" duct can be attached to the arm so the connection from the arm to the main duct can be completed.

5. **NOTE: Hard duct is preferred over flex pipe from arm to main duct.**

MODEL 75-800D (Connector - arm direct to blower)

1. Notice the mounting bracket for the arm has a connection flange with a rolled lip on the top.

2. In order to use a blower (blower with 4 studs on the inlet side) connecting to the mounting bracket from the arm, **Model 75-800D** connection flange and a snap ring are required. This is a funnel type fitting that is to be bolted directly the fan inlet (See Figure 11).

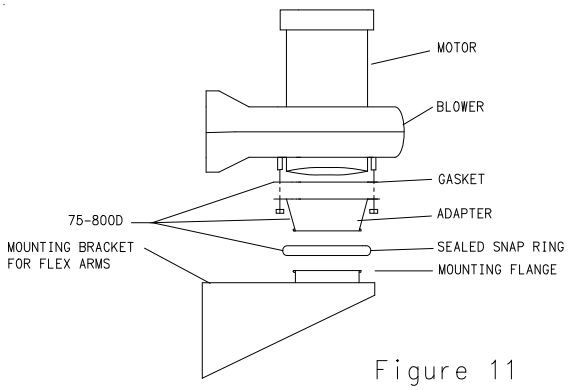


Figure 11

3. Open up the snap ring fully and set it over the mounting bracket rolled lip flange. Then place the blower with the flange on top the rolled lip and slide the snap ring up and lock the flange to the rolled lip.

4. The fan discharge can be positioned at any point around a 360 degree circle.

5. **NOTE: Hard duct is preferred over flex pipe from fan discharge to main duct.**

Please contact your local distributor or Ace Industrial Products for any assistance you may need. Like all equipment, your arm will give a good, long life with proper care and maintenance.

Ace Industrial Products IS NOT RESPONSIBLE FOR ANY FAILURES OR DAMAGES CAUSED TO THE BOOM, ARM, OR TO THE BUILDING STRUCTURE TO INSTALLATION NEGLIGENCE.

BLOWER INSTALLATION

Blowers Available

001-0029……½ HP TEFC 5/230 VOLTS, 1 PH
001-0032……½ HP TEFC 208/230/460 VOLTS, 3 PH
001-0030……1 HP TEFC 115/230 VOLTS, 1 PH
001-0033……1 HP TEFC 208/23/460 VOLTS, 3 PH
001-0020……1 ½ HP TEFC 115/230 VOLTS, 1 PH
001-0019……1 ½ TEFC 208/230/460 VOLTS, 3 PH
001-0031……2 HP TEFC 208/230/460 VOLTS, 3 PH
001-0034……3 HP TEFC 208/230/460 VOLTS, 3 PH

ASSEMBLY

The tools necessary to complete assembly of the blower-exhauster are a screwdriver and a wrench. If your unit requires wiring, wire the motor according to the following directions.

WIRING

1. Have a qualified electrician wire the motor following the wiring diagram located on the motor nameplate for high or low voltage as needed. Check nameplate for electric characteristics to connect motor to an identical power outlet. (NOTE: Wiring directions do not guarantee proper rotation.)

CAUTION: PROPER ROTATION IS ESSENTIAL TO ACHIEVE OPTIMUM CFM DELIVERY.

2. Before starting the unit, check the blower wheel to see that it is rotating freely and that there are no obstructions or loose material present. If the unit has been in storage or subject to adverse moisture conditions, it is advisable to make sure the motor is dry before starting the unit.

CAUTION: BEFORE ELECTRICIAN LEAVES, VISUALLY CHECK ROTATION OF THE FAN WHEEL.

3. To check for proper rotation, turn the power ON and OFF quickly. As the blower is slowing down, check to see that the fan wheel is rotating in the same direction as the directional arrow located on the motor. If the fan is not turning in the direction of the rotation arrow, the unit is wired in reverse. There will be very little suction or air movement if wired in reverse. If the unit is wired correctly, the wheel should turn clockwise or toward the viewer. The proper rotation will increase the amount of suction by almost 50%.

4. If the motor top is not vented (as with explosion proof motors) and view is obstructed, observe the blower wheel rotation by looking into the exhaust duct. The wheel should turn clockwise or toward the viewer if the unit is correctly wired.

CAUTION: DO NOT LOOK DIRECTLY INTO THE MOTOR COMPARTMENT OR OUTLET WITH THE POWER ON OR WITHOUT WEARING SAFETY GOGGLES.

TROUBLESHOOTING

Motor does not start or runs very slowly

Check the wiring. Check all wire connections. After rechecking and the motor still does not start or runs slowly, there is an internal motor problem and must be handled by an authorized Baldor Service Center.

Unusual Noise

Check the cooling fan on the top of the motor for damage. The fan must be replaced if damaged. Contact your supplier for more information.

Check to see that the wheel turns freely. With the unit disconnected from the electrical supply, rotate the wheel by hand. If the wheel is not turning freely, the wheel has slipped on the motor shaft. Determine if the wheel has slipped toward the motor or away from the motor. Through the intake opening, slightly loosen the 2 set screws. Put thread lock on the exposed threads of the screws. Move the wheel so that the motor side of the wheel is ¼" from the housing. Tighten the screws and energize the motor.

If the noise is still present, contact a Baldor Service Center or www.baldor.com.

Smoke

Check the voltage to make sure the unit voltage and the source voltage are the same. Contact a Baldor Service Center if damage has occurred to the unit.

Little suction or air movement immediately after start-up

Check for any obstructions in the inlet and the outlet of the blower.

Recheck wiring and wire connections. Reverse the wiring could cause the wheel to spin in the wrong direction. If problem persist, contact a Baldor Service Center or www.baldor.com.

Reduced suction after running for a period of time

Check for any obstructions in the inlet or outlet. Remove obstructions

Check if intake hose or duct is kinked, crushed, or clogged

Check to be sure there is enough make up air. If not, open an outside window.

Not enough suction to exhaust pollutant

Check the nozzle positioning. For most efficient pickup, the nozzle should be 1 duct diameter or less from the source of pollutant, and no more than 2 duct diameters away.

Check the length of the duct or hose and the number of bends in such. Excess length and/or bends will result in poor pick-up. Contact your distributor for assistance.

Check the number of drops from the unit. Too many drops will cause poor pick-up. Contact your distributor for assistance.