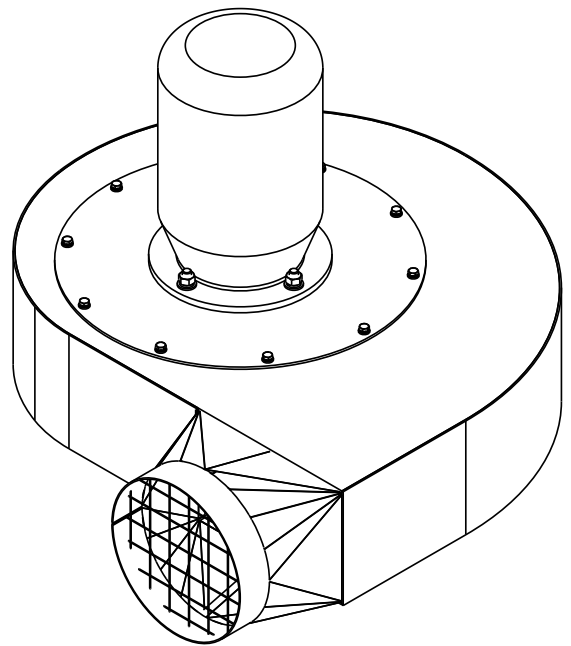




**Industrial Air Purification, Inc.**



## **EXTRACTION FANS**

USER'S MANUAL

Graphic symbols	3
General information	3
Product application	3
Equipment arrival	3
Construction and dimensions	4
Technical data	4
Arm installation	5
Extraction Fan characteristics	6
Maintenance	7
Troubleshooting	7

**GRAPHIC SYMBOLS**



important information



3D file or preview available



you will need tools, sub parts, accessories



keep away from source of high temperature



warnings, important notes



use respiratory protective equipment



protect from noise or eye damage



switch off before proceeding

**GENERAL INFORMATION**

This instruction manual contains Extraction Fan units use and maintenance information. Extraction Fan user should become acquainted with contents of this publication to learn about unit construction, principles of operation and means of its safe use. Manufacturer is not responsible for any consequences arising from the use of the unit against its intended purpose. Manufacturer reserves the right to make changes to improve performance and operational qualities of the product in the future without prior notice.



Store in dry and airy rooms. Place in a position ready for operation. Protect against possibility of shifting during transport.

**PRODUCT APPLICATION**

ZWR fan units can be operated without restriction in the technical areas intended for permanent human habitation. ZWR fans are designed for extraction of air from the dry dust (with particular emphasis on the processes of welding, grinding, polishing, pouring, dispensing, cutting metals and plastics). The temperature of the extracted air should not exceed 40°C.



Manufacturer does not recommend use of the unit for:

- air purification from dust containing asbestos, cadmium, beryllium
- air purification from wet dust

**EQUIPMENT ARRIVAL**

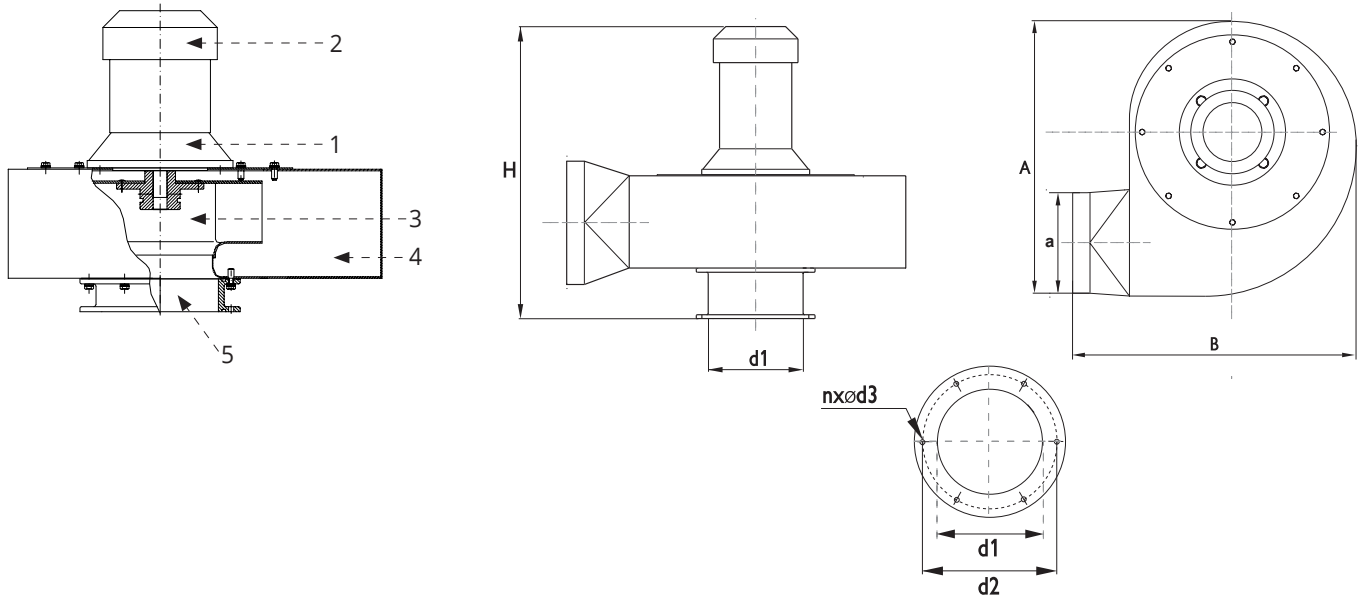
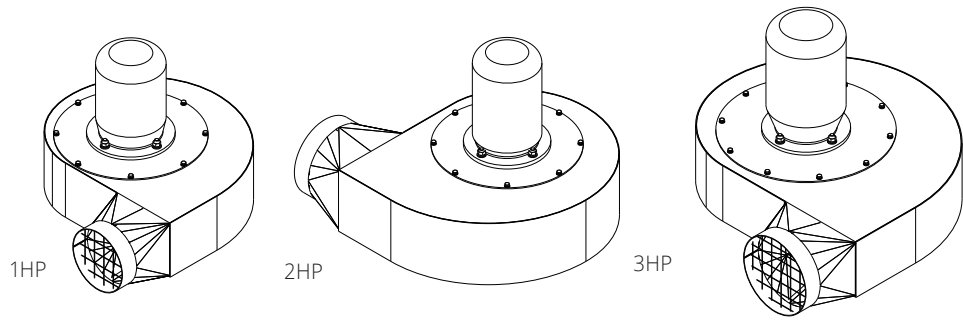
Upon arrival the user needs to thoroughly inspect the equipment and make sure there was no damage caused by the shipping carrier. If there is damage, the user needs to immediately contact their dealer.



If the package or device are damaged upon delivery the user needs to immediately contact the dealer and draw up a protocol with the representative of the shipping company (many shipping companies consider acceptance of the shipment to be sufficient to avoid liability for damage caused during shipping).

**CONSTRUCTION AND DIMENSIONS**

- 1. Fan housing
- 2. Motor
- 3. Impeller
- 4. Outlet
- 5. Inlet



Part number	Fits Arm Models	Model Type	A	B	H	d1	a	d2
104320	1620, 1630, 1640	1 HP	20.20"	22.60"	16.81"	6"	6"	7.68"
104321	1620, 1630, 1640	2 HP	22.72"	25.00"	18.94"	6"	8"	7.68"
104420	2020, 2030, 2040	3 HP	25.63"	27.20"	19.37"	8"	8"	9.69"

All dimensions are given in [inch]

**TECHNICAL DATA**

Part number	Model type	inlet Ø [inches]	Nominal capacity [cfm]	Power [HP]	Power supply [V] / [Hz]	Rotation [rpm]	Protection	Noise level [dBA]
104320	1 HP	6	600	1 HP	110/230 / 1 / 60	2780	IP55	77
104321	2 HP	6	1200	2 HP	110/230 / 1 / 60	2760	IP55	79
104420	3 HP	8	1750	3 HP	480V/3/60	2800	IP55	80

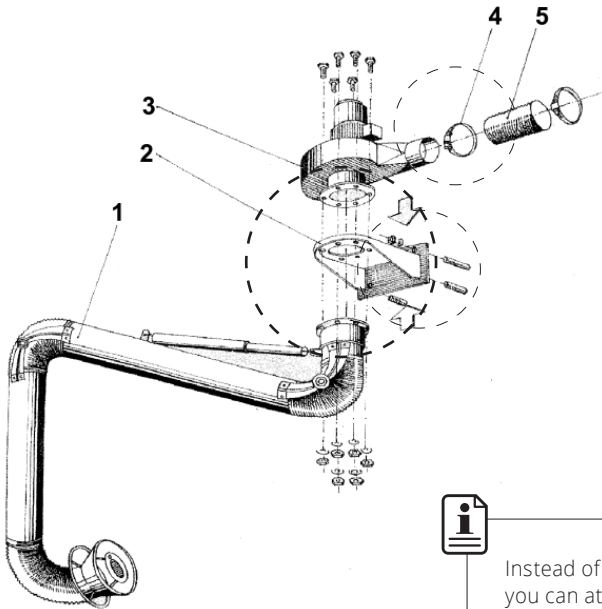


Connected according to the wiring diagram under the cover of the motor connection.

**INSTALLATION**

ZWR fan units are equipped with a connection flange (at the inlet), allowing installation directly to the mounting bracket and swivel of the extraction arm. Air outlet is adapted for connection to a flexible hose with clamps, which reduces the transmission of vibrations.

**ZWR FAN WITH A SELF-SUPPORTING FUME EXTRACTION ARM**



A. Attach the mounting bracket (2) to the wall, beam or stand. The bracket should be mounted in a horizontal position.

B. Install the fan (3) and a fume extraction arm (1) on the mounting bracket (2) using 6 screws M6x25 with spring washers, flat washers and nuts.

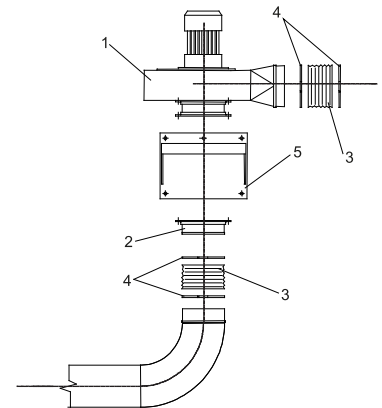
C. Connect the outlet to the extraction system of the polluted air using the elastic hose (6) with clamps (4).

- 1. Self-supporting fume extraction arm
- 2. Mounting bracket
- 3. Fan
- 4. Clamp
- 5. Elastic hose

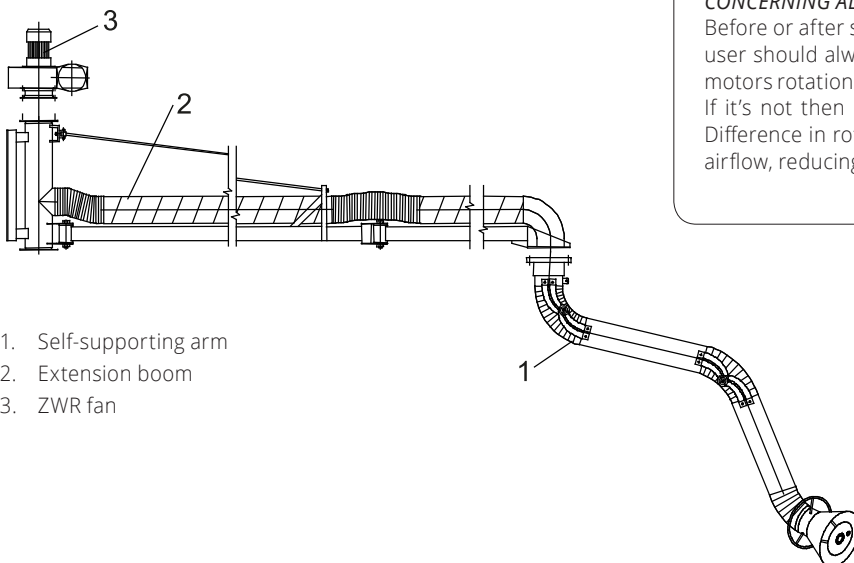


Instead of using a self-support arm, you can attach an elastic hose by using the connection flange and clamps.

- 1. Fan
- 2. Connection flange
- 3. Elastic hose
- 4. Clamps
- 5. Mounting bracket



**ZWR FAN WITH AN EXTENSION BOOM**



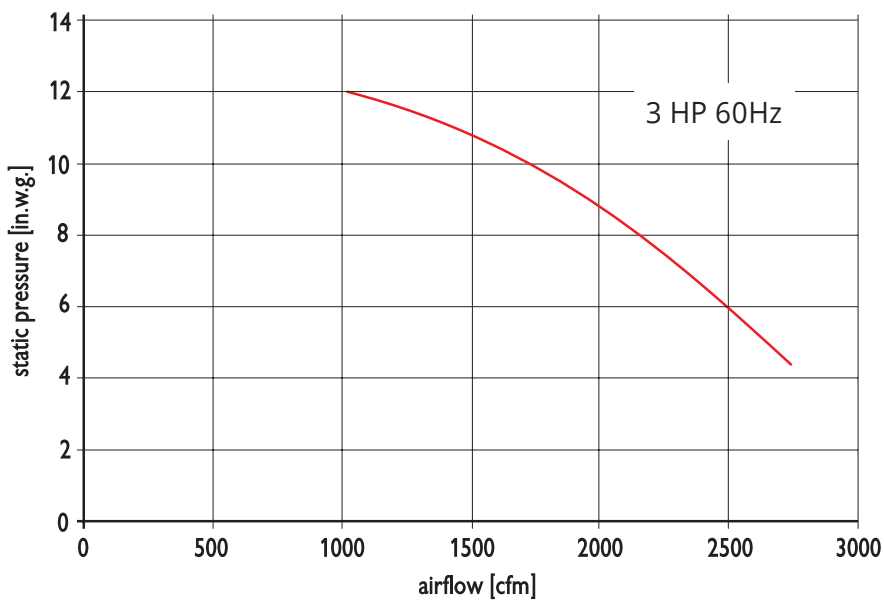
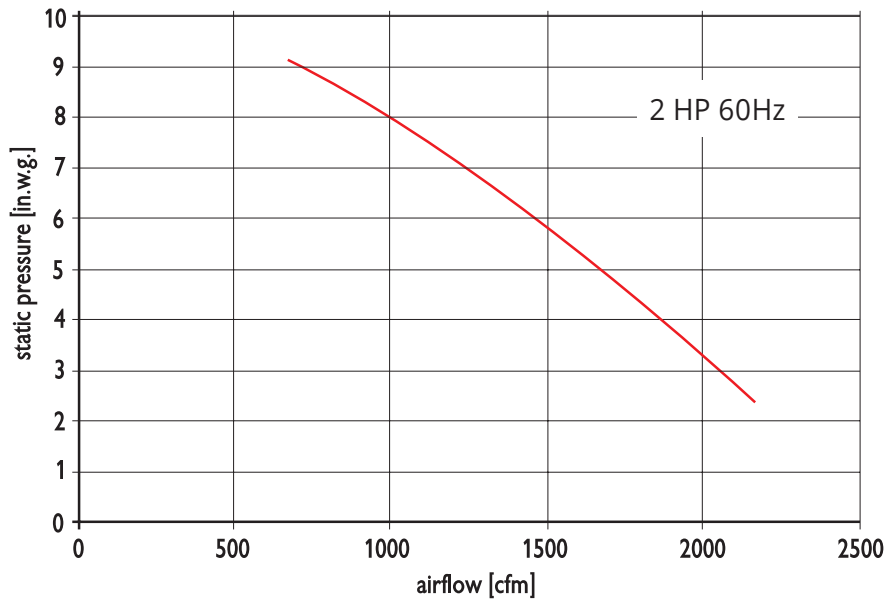
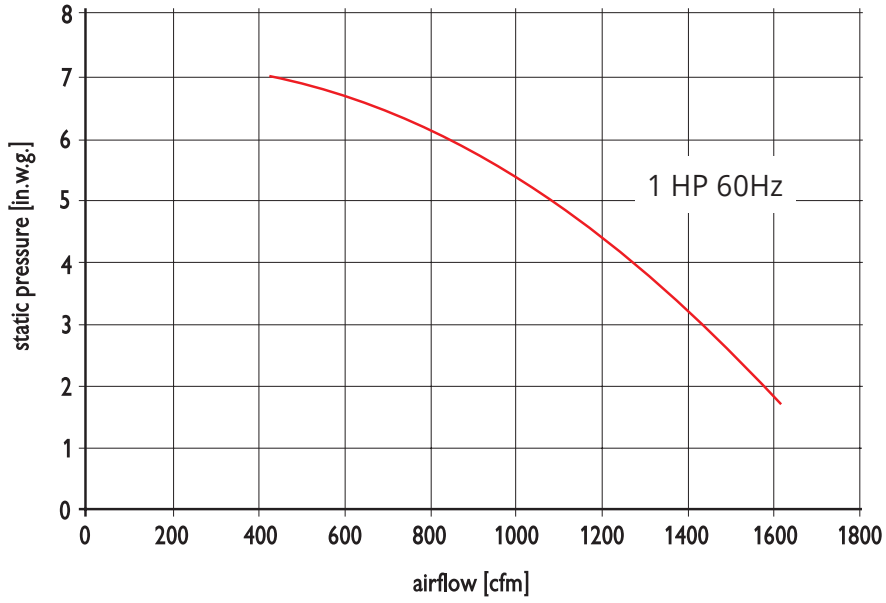
- 1. Self-supporting arm
- 2. Extension boom
- 3. ZWR fan



**CONCERNING ALL ZWR FAN MODELS:**

Before or after starting and disconnecting the fan from power, the user should always make sure that the direction of impellers and motors rotation is the same as indicated by the arrow on the motor. If it's not then an electrician must change the phase sequence. Difference in rotation direction is the most common cause of low airflow, reducing units efficiency by up to 2/3.

### EXTRACTION FAN CHARACTERISTICS



**USE AND MAINTENANCE**

DAILY	MONTHLY	YEARLY
<ul style="list-style-type: none"> <li>overall control for connection tightness, including the state of flexible hoses</li> </ul>	<ul style="list-style-type: none"> <li>visual inspection for signs of corrosion</li> </ul>	<ul style="list-style-type: none"> <li>inspection of electrical wiring</li> </ul>

**TROUBLESHOOTING**

SYMPTOMS	POSSIBLE REASONS	PROCEDURE
Low air volume.	Wrong motor rotation direction.	Change the direction according to the arrow on the motor.
Vibrations.	Unbalanced impeller.	Balance the fan to achieve the G 6.3 level in the AMCA standard or replace with a new one.
	Worn or damaged bearings.	Replace the bearings.
	Loose bolts.	Tighten the bolts.
Loud operation.	Loose or damaged bearings.	Replace the bearings.
	Foreign item blocking the impeller.	Remove the foreign item, clean the interior of the device and check the device for damage.



Room capacity, partition walls material, architecture of the interior, installation place of the device and other installed machines may increase the total sound pressure level at workplace.



In case of discovering unusual phenomena such as increased noise, vibrations or smoke you should:

- disconnect the device from the power source
- disconnect the compressed air line
- try to suppress the possible flame source by using a powder extinguisher
- notify relevant services at the workplace



Industrial Air Purification, Inc.

888-372-0050 x4  
Sales@IAP-AirProducts.com  
www.IAP-AirProducts.com