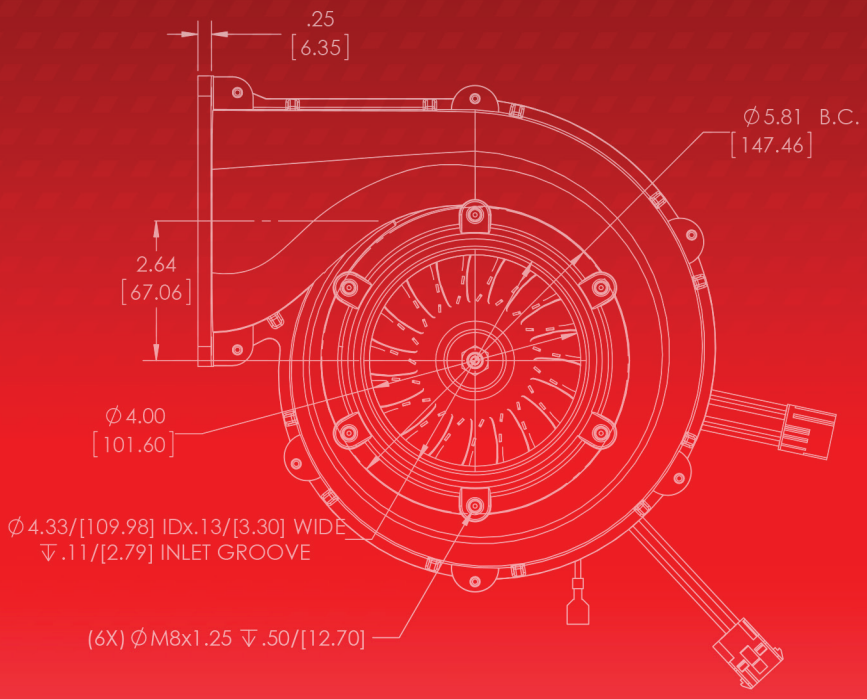
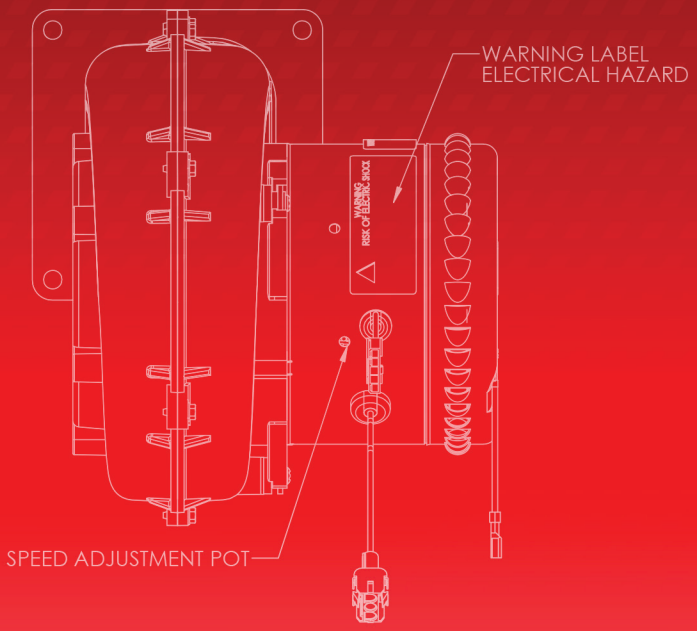
AMETEK®
DYNAMIC FLUID SOLUTIONS





Nautilair®

Combustion Guide

- High temperature options
- Moisture resistant silicone coated PCB options
- Multiple electrical wiring options
- Configurable speed control profiles
- Custom speed set points, ramps and more

Sizing the Proper Brushless Blower
FOR YOUR COMBUSTION APPLICATION

Nautilair®

Application Information

Nautilair variable speed brushless DC blowers have been engineered to deliver a measured air/fuel mixture in gas-fired burner systems for optimized combustion and reduced nitrous oxide and carbon monoxide emissions.

> **All Nautilair blowers are designed to accept several different gas valves that attach directly to the inlet of the blower**

Mechanical Characteristics

Nautilair blowers are designed for combustion applications and are typically mounted directly to the inlet of the burner. The fan housings are sealed to allow for the combustion gas and air to mix inside the blower. Fans have been designed to optimize air/gas mixtures and provide high efficiency combustion.

Their design uses an offset motor that allows for higher temperatures and condensation in the fan housing without effecting the blower PC board.

There are three sizes of blowers: 7.6", 8.9" and 12.3". We have a **Standard** and **High Output** version of each blower and we will customize the blower to meet your needs.

> **Nautilair blowers are more powerful than many competitive blowers at the same size**

Electrical Characteristics

The motor controller uses a digital signal processor (DSP) drive to control the speed of the blower. It is completely programmable for various speed profiles and several different speed signals (0-10VDC, PWM, 4-20mA, and mechanical).

Nautilair blowers have an optional internal speed control circuit that will maintain a specific speed regardless of load or supply voltage. This allows for a constant speed in areas of fluctuating supply voltages or varying pressures.

AMETEK blowers have the ability to accept **Universal Voltages**. One benefit of this option is the ability to use the same blower in applications installed anywhere in the world, without the need of a transformer. The **Common Performance** option standardizes the performance so that the blower output is the same while being run at any input voltage. In the case of voltage spikes, or the system being installed in a different location, the air performance remains constant.

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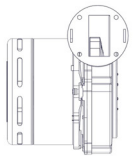
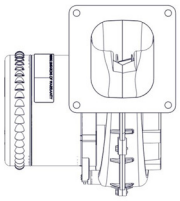
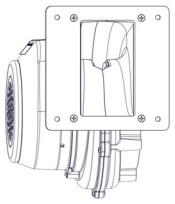


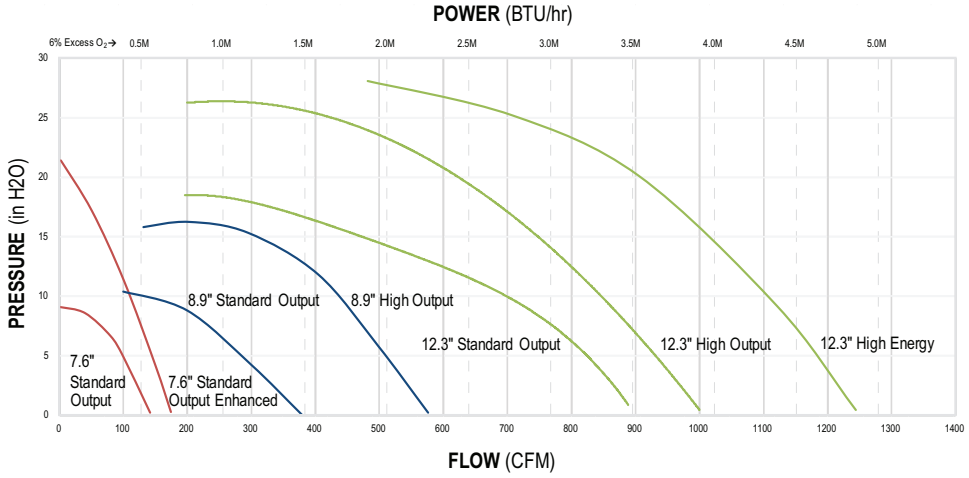
7.6" (193mm) Nautilair



8.9" (226mm) Nautilair



12.3" (312mm) Nautilair



Product Configuration – **Nautilair Family**

There are a wide variety of options available as part of the Nautilair lineup. These options make it possible to configure your Nautilair blower to fit seamlessly into your application.

Step 1

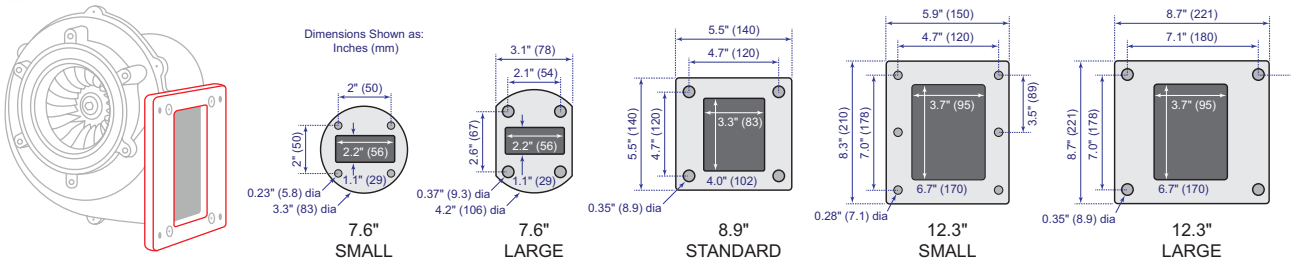
Sizing Based on Performance Requirement

The chart shown at the bottom of previous page can be used to identify the proper Nautilair family required based on the output of your application (BTU). Depending on the system resistance (pressure drop) of your system it may be possible that multiple blower models may be suitable.

Step 2

Determine Outlet Flange Size

Nautilair blowers have been optimized to fit into many standard combustion applications. Outlet flange options allow for the blower to **bolt up** to each specific application with minimal modification of the system.



Step 3

Determine Input Voltage and Control

Options for input voltage as well as control types makes the Nautilair lineup of blowers adaptable to a wide variety of applications. Depending on the application, the blower can be configured for open or closed loop control. In closed loop control, a specific speed control command, say 5vdc, is correlated to a specific blower speed, say 8,000 RPM. If the system resistance (pressure) changes the speed will be maintained. Open loop allows for the speed to vary according to the system resistance.

Input Voltages

120 VAC
230/240 VAC 1 Phase
230/240 VAC 3 Phase
380-575 VAC 3 Phase

Speed Control Inputs

Mechanical Potentiometer
0-10 VDC
PWM
4-20 mA

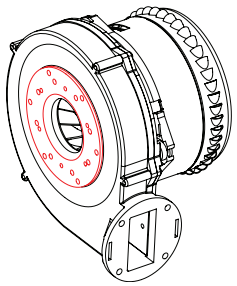
Speed Control Options

Open Loop
Closed Loop

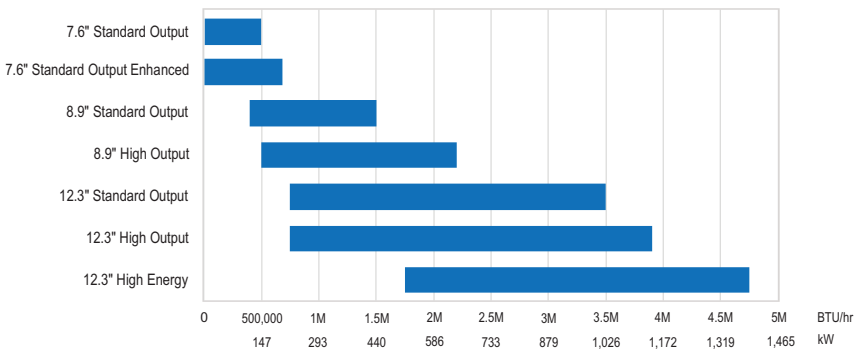
Step 4

Determine Inlet / Gas Valve Mounting

All Nautilair blowers are designed to accept several different gas valves that attach directly to the inlet of the blowers of Honeywell, Karl Dungs, SCC and Kromshroder. Your AMETEK sales representative can help you to determine the suitable inlet configuration to match the gas valve being used. Unique bolt patterns, tapped holes, O-ring grooves, and gasket locating features are only a few of the options available.

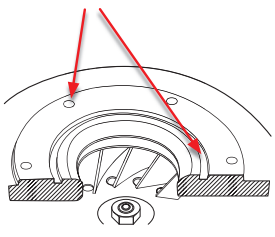


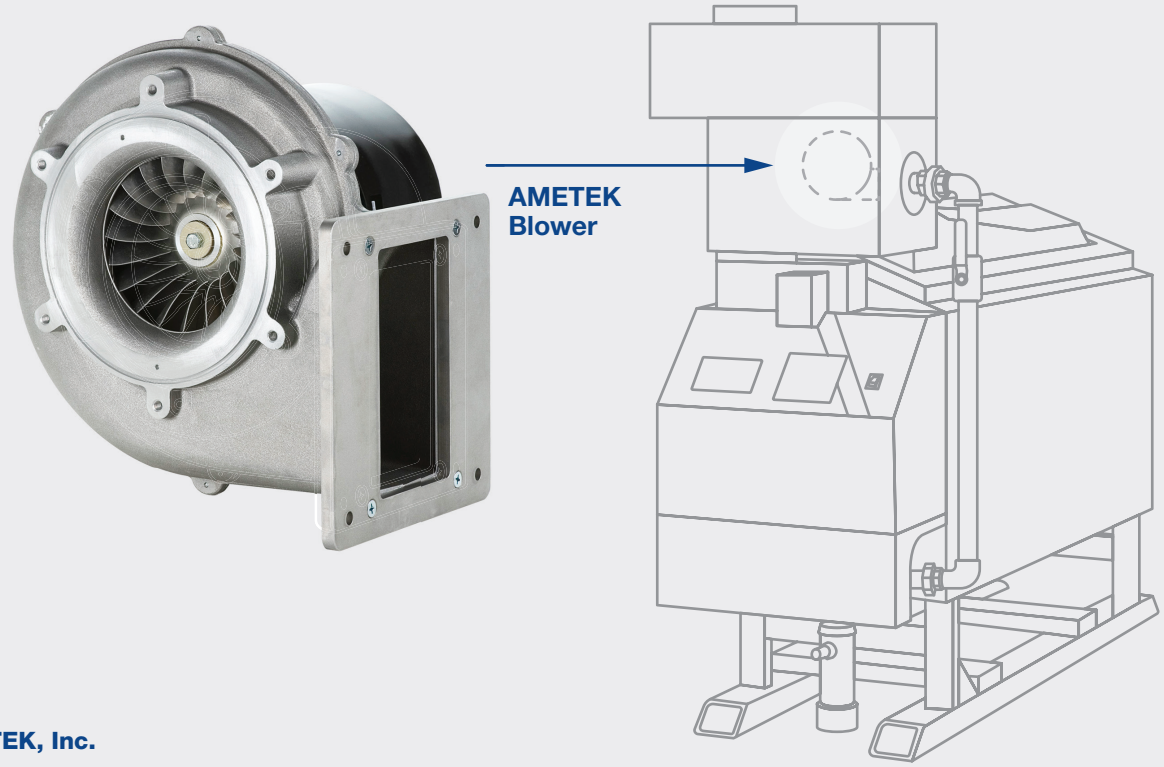
BTU Range of AMETEK Nautilair Blowers



Adaptations / Options

- O-Ring Groove
- Bolt Patterns
- Tapped Holes
- Gasket Keeper





AMETEK, Inc.

AMETEK is a global leader in electronic instruments and electromechanical devices with colleagues at numerous manufacturing, sales and service locations in the United States and in many other countries around the world.

AMETEK Dynamic Fluid Solutions

AMETEK Dynamic Fluid Solutions is a world leader in motors, blowers and pumps for mass transit, medical, business machine and computer applications. It also is a leader in regenerative blowers for pressure and vacuum applications used by a broad range of industries.

Dynamic Fluid Solutions supports its customers globally from its manufacturing facilities in the United States, Mexico, Serbia, Italy and China. Brushless DC motors, blowers, controllers, pumps, and fans are ideally suited for a wide range of applications, including medical instruments, robotics, pumps, compressors, office equipment, fans, machine tools, tape drives or any other precise rotary motion/air delivery applications.

Dynamic Fluid Solutions supplies the solution for unique performance, mounting, environmental and agency requirements.

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