

ARIZON[®]

BUILDING SYSTEMS



**CUSTOM MANUFACTURED
AIR HANDLING SYSTEM**

CUSTOM MANUFACTURED AIR HANDLING SYSTEM

Arizon is the only company in the industry that designs and builds its air handling systems in-house. The structural integrity of an air-supported building is dependent upon the system inflating the building, which is why it is so important to pair each building with a reliable, efficient air handling system.

As part of the engineering phase of each project, Arizon's team of mechanical engineers studies and carefully analyzes each facility's unique needs in terms of building size, local climate, use, occupancy and other important factors to design a system to efficiently heat and/or cool the dome's interior while ensuring the building stays in operation under any circumstance.

Arizon does not use off-the-shelf or foreign pre-packaged equipment intended for other types of construction. Each Arizon air handling system is manufactured in St. Louis, MO.

DESIGNED FROM THE GROUND UP

Arizon's team of engineers and project managers will work with local construction resources to construct a concrete pad for the air handling equipment to be placed on, with natural gas and electrical utilities available nearby. This mechanical pad can be left open or fenced off and enclosed with any number of finishes, including a faux stone material that Arizon offers.



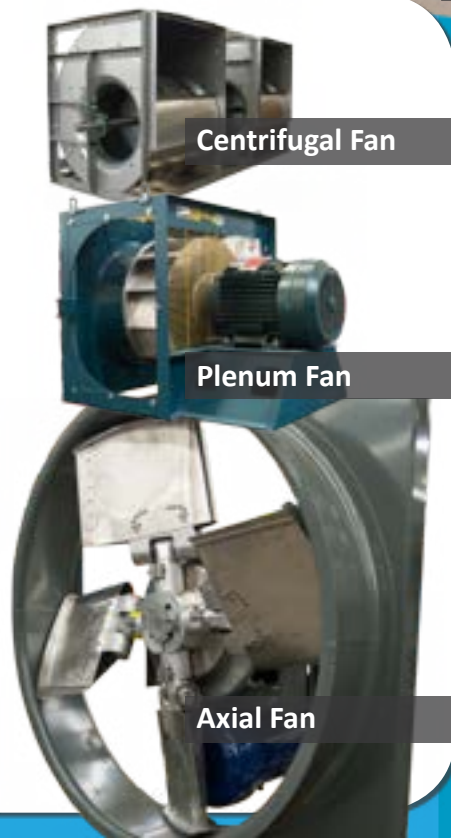
LOWER HP FANS, LESS MONEY

Each Arizon air handling system uses a multi-fan design to efficiently pressurize and condition the facility.

Arizon's multi-fan design splits the pressurization and conditioning responsibilities among two much lower-horsepower fans. First, a centrifugal fan draws in air from the outside to pressurize the dome. Then a second fan forces the air past heating or cooling elements to satisfy a specific temperature requirement.

Because the pressurization and conditioning duties are separated with Arizon's multi-fan design, only the very low-horsepower pressurization fan needs to operate during unoccupied hours or on days where substantial heating or cooling is not needed. During these times, the air handling system will operate as low as 3 motor HP versus 25 motor HP or more on another manufacturer's pre-packaged system!

Other systems on the market use a single-fan design, where one large fan is responsible for simultaneously bringing outside air in (to pressurize the space) and moving air across cooling or heating elements (to cool or warm the space). Despite only having one fan, the single-fan design is actually more expensive to operate than Arizon's multi-fan design because the fan has to operate at a higher total motor HP to perform both pressurization and conditioning duties at the same time. Plus, the single-fan must operate at all times, even in the middle of the night, to keep the building pressurized. Depending on the design, this could mean operating a 20 to 25 HP motor at all times, even when the building is unoccupied.



FEEL THE HEAT

Arizon offers customers the ability to add heat to their space by simply adding an indirect fired heat exchanger. This heater has a long life and has an outdoor rated vestibule cabinet. The heater also comes with its own flue and piping as well as its own extensions.



AIR-ROTATION® TECHNOLOGY

Arizon's UL listed and approved air handling systems incorporate Johnson Air-Rotation® HVAC Systems technology, which reduces energy consumption while evenly heating or cooling a facility from corner-to-corner and from floor-to-ceiling.

Air-supported buildings are naturally more susceptible to heat loss in the winter than other types of construction because of lower insulation values. Because of this, it is important to ensure that warm air stays near the surface where the building is occupied instead of rising near the roof where temperatures can be as much as 30°F higher in buildings that do not feature Air-Rotation technology.

AIR-ROTATION EFFECT



Where other systems will pull cold air from the outside, heat it to the temperature setpoint, blast it into the dome and let it rise to the ceiling before exiting the building, Arizon's air handling system will use Air-Rotation technology to evenly distribute the air throughout the space, and then re-heat or re-cool a majority of the air already inside the space after mixing with a small amount of fresh, outside air.

The even temperatures, lower energy consumption, and reduced heat loss that come with Arizon's Air-Rotation technology has demonstrated hundreds or even thousands of dollars per month in energy savings versus competitor systems.

KEEP YOUR COOL

A majority of Arizon's permanently-installed buildings now feature air conditioning for the warm, summer months. For these facilities, Arizon will provide cooling equipment appropriate for the building's size and the area's climate. A condensing unit will be placed on the mechanical pad next to the air handling system on these buildings. Seasonally-installed domes or facilities without air conditioning will not feature this equipment.

TAKE CONTROL

Arizon's in-house team of controls experts will provide a customized building management system to ensure that your facility can be monitored and controlled by all relevant personnel, regardless of their location. Arizon offers intuitive, remote-mounted, touchscreen control panels that can be placed in an on-site office or lobby area for building management to adjust pressurization and temperature settings without having to go outside to the air handling system. Arizon also offers a web-based remote monitoring system to allow off-site management access to the same controls from a computer, tablet, or smartphone – allowing you to stay connected from down the street or halfway around the world.

Arizon also offers wind and snow sensors that can be programmed to automatically adjust temperature and pressurization in response to surprise severe weather events.



PEACE OF MIND

Multiple redundancies are built into the Arizon air handling system to ensure operation in spite of what Mother Nature has to throw at us. Each Arizon Building System features a backup generator to power the pressurization system in the event of a power outage. In North America, this generator is typically connected to a natural gas line, while International customers and customers in areas where natural gas is not readily available may use diesel or other types of generators.

Additionally, Arizon's multi-fan design features two pressurization fans – one operational and one on stand-by that will automatically turn on in the event the primary fan fails or enhanced pressurization is required. In a pinch, the primary circulation fan can also be used to pressurize the building, offering further redundancy.

OPERATING COST EXAMPLES

Because each Arizon air-handling system is custom-manufactured to meet the specific needs of each customer, its operating costs will vary based on the facility it is designed for. The examples below illustrate how factors such as building dimensions, climate, local utility rates, and operation schedule can influence operating costs. With that said, Arizon has repeatedly demonstrated savings of hundreds and even thousands of dollars per month in operating costs versus other air structure mechanical systems on the market, regardless of location.

MULTISPORT DOME | DETROIT, MI

112,000 sq. ft. | Year-Round Installation

Heating & Air Conditioning:

\$65,751.00 (\$0.59/sf/yr)

+

Inflation system:

\$4,270.00 (\$0.04/sf/yr)

=

Total Arizon Air Handling System cost:

\$70,021.00 (\$0.63/sf/yr)

FOUR COURT TENNIS DOME | WASHINGTON, DC

28,000 sq. ft. | Year-Round Installation

5 Month Winter Heating (No Summer Air Conditioning):

\$5,145.00 (\$0.19/sf/yr)

+

Inflation system:

\$2,623.00 (\$0.09/sf/yr)

=

Total Arizon Air Handling System cost:

\$7,768.00 (\$0.28/sf/yr)

TWO COURT TENNIS DOME | NEW YORK, NY

13,000 sq. ft. | 7 Month Installation

7 Month Winter Heating (Dismantled for Summer):

\$5,561.00 (\$0.43/sf/yr)

+

Inflation system:

\$2,609.00 (\$0.20/sf/yr)

=

Total Arizon Air Handling System cost:

\$8,170.00 (\$0.63/sf/yr)

MULTISPORT DOME | ALBANY, NY

50,000 sq. ft. | Year-Round Installation

5 Month Winter Heating (No Summer Air Conditioning):

\$13,298.00 (\$0.27/sf/yr)

+

Inflation system:

\$2,806.00 (\$0.06/sf/yr)

=

Total Arizon Air Handling System cost:

\$16,104.00 (\$0.33/sf/yr)

OUR IN-HOUSE ENGINEERING TEAM DESIGNS EACH AIR HANDLING SYSTEM SPECIFIC TO YOUR FACILITY



MANUFACTURED IN THE USA

Arizon has remained steadfast in our mission to provide American manufactured HVAC, and fabric building products, which exceed industry quality standards while staying competitive with pricing.

Arizon proudly features over 180,000 square feet of manufacturing space in St. Louis, MO and Granite City, IL.