

EFFICIENT SILENT ARRAY™

Advanced Direct Drive Plenum Fans



PENNBARRY™



MODULAR. COMPACT. SCALABLE.

The PennBarry™ Efficient Silent Array™ is a direct drive plenum fan with the flexibility to be used singularly or in parallel so you can construct a multiple fan system to meet the exact performance criteria for your application.

Applications

Systems

- High performance VAV systems
- Air Handlers
- Rooftop units
- General supply and return exhaust
- Telecom data centers
- Clean rooms

Commercial Facilities

- Hospitals & Healthcare facilities
- Universities & Schools

Efficient Silent Array Advantage

- Fan redundancy ensures the system continues to perform, even with a fan in the array shut off.
- Stackable, individual units allow flexibility to meet any design criteria.
- Direct drive premium NEMA motor eliminates bearings, belts, and pulleys, reducing maintenance costs significantly.
- Motor base optimization eliminates wasteful, costly, and unnecessary materials.
- Eliminates all resonance conditions.
- PennBarry's proprietary balance process improves on currently accepted AMCA specifications by considering the effects of the rotating mass on the unit as a whole, not just the wheel.
- Modular units fit through standard door openings for retrofit applications.
- Sound panels enclose the fan and motor to reduce attenuation levels.



FEATURES & BENEFITS



Reliable Performance

Efficient direct drive configurations extend maintenance intervals, while system redundancy ensures air performance across the full operating range.



Simple, Scalable Solution

With its extensible design, optimal system performance is attained by scaling the array, increasing or decreasing fan modules as your needs or system requirements change.



Industry Best Vibration Performance

Assembly balanced to G6.3. There are no resonant conditions throughout full operating range.



Robotically Welded Aluminum Airfoil Wheel

Wheels are available in 9-blade and 12-blade configurations with wheel widths of 80%, 100%, and 120%.



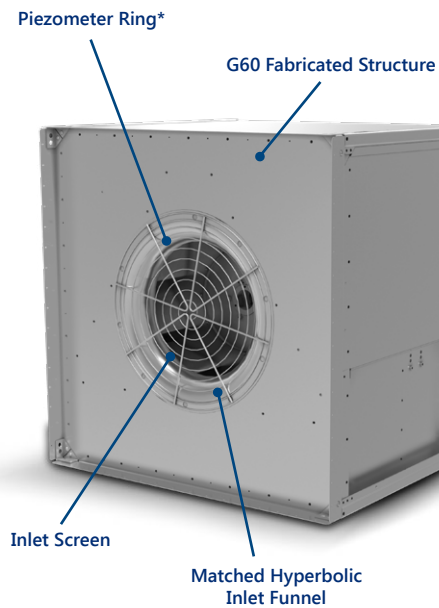
Galvanized Steel Frame and Base

These sturdy features are assembled with high strength fasteners.

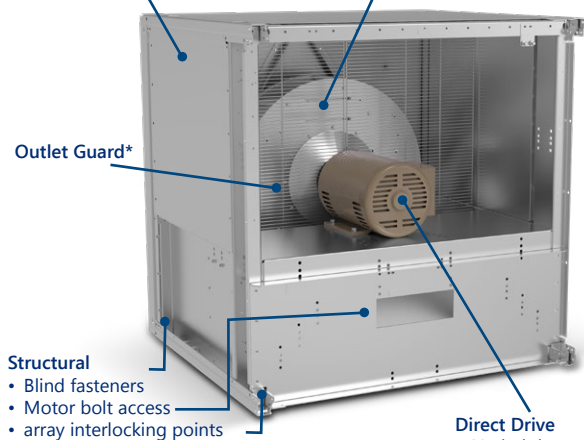


Low Maintenance

No belts, bearings, or sheaves results in lower costs and improved system uptime.



- Acoustic Panels***
 - 2" thick
 - Perforated sheet
 - Fiberglass fill
- Aluminum Impeller**
 - Extruded blades
 - Multiple width options
 - Robotically welded
 - G6.3 assembly balance grade



*Optional



EFFICIENT SILENT ARRAY™ SPECIFICATIONS

More ESA Features

- Available sizes: 10" through 40"
- 9 or 12 blade, aluminum airfoil wheel
- G90 mechanically fastened frame
- Performance: up to 10 in-wg and 76% efficiency

Efficient Silent Array™ Dimensional Data					
Wheel Size	Housing Dimensions			Max Stacked Cubes **	Max Motor Frame Size
	Width (W)	Height (H)	Depth (D)*		
10	20.03	18.79	24.56	4	184T
12	22.66	20.89	25.81	4	184T
13	24.53	22.40	28.06	4	213T
15	26.78	24.20	30.63	3	215T
16	29.03	25.75	35.31	3	254T
18	30.41	30.00	36.77	3	256T
20	33.75	34.00	37.85	3	284T
22	37.41	37.10	39.19	2	284T
25	41.43	41.00	40.57	2	284T
27	44.88	44.88	39.76	2	286T
30	49.25	49.25	44.56	2	326T
33	53.75	53.75	46.91	2	326T
36	59.38	59.38	50.52	2	405T
40	64.75	64.75	51.85	1	405T

* Cabinet dimension only. Overall length including motor will vary based on motor type, size, and manufacturer.

** Recommended max stacked cubes based on max hp. Higher stacks are possibly with smaller hp-contact PennBarry engineering.

EFFICIENT SILENT ARRAY™ OPTIONS

Piezometer Ring

This system for measuring pressure consists of pressure taps installed around the perimeter of the inlet cone.

- Measures airflow.
- Can be used as a "kill" switch for the fan.
- Can be installed by factory or in field.

Shaft Grounding Kit

This kit diverts stray voltage spikes to ground, extending motor bearing life.

Special Motors

PennBarry can install most NEMA frame motors.

Inlet Damper

These dampers control the airflow to each fan or array.

Inlet Guard

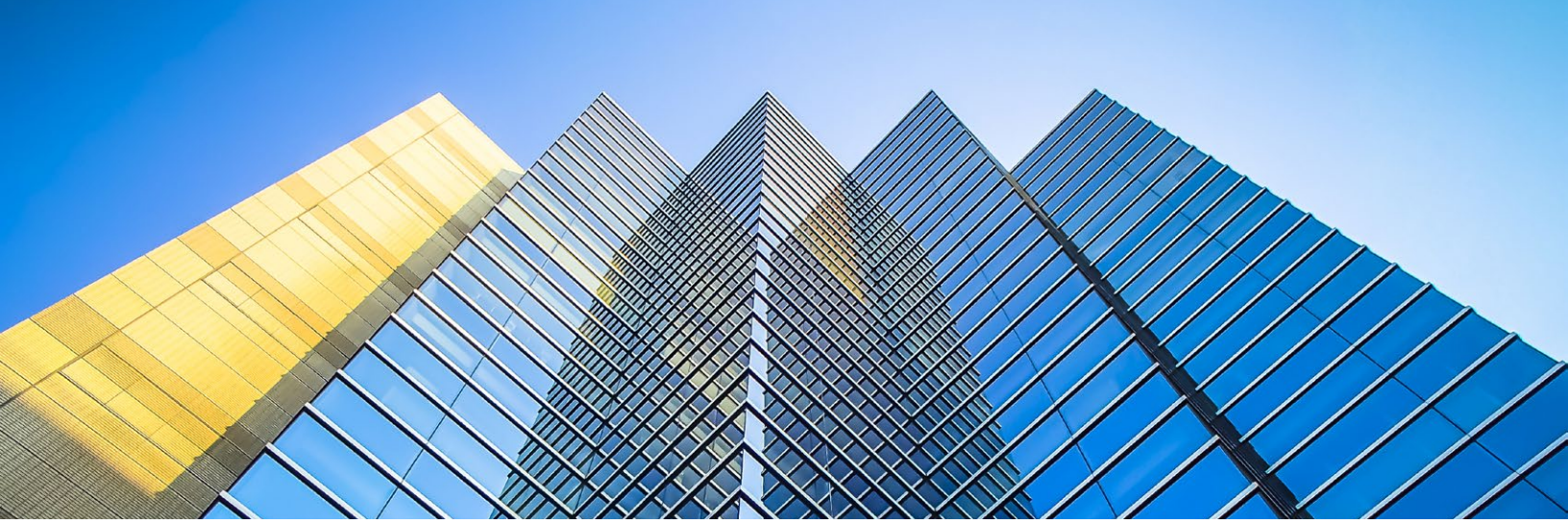
This is a safety feature for the intake of the fan.

Cloth Wrap

Recommended for clean room applications, cloth wraps help reduce in-stream particles.

Outlet Guard

This safety feature for the outlet area ensures no hand penetration into moving parts.



EFFICIENT SILENT ARRAY™

Maximum performance, reliability, and efficiency.

Smaller Cabinet Footprint

Stackable, individual units allow flexibility to meet any design criteria. The Efficient Silent Array's unit design is compact and figurable.

Reduced Ecological Footprint

PennBarry's experienced design engineers and technicians utilize state of the art engineering and laboratory facilities to provide solutions to help meet the needs of the present without compromising the ability of future generations to meet their own needs.

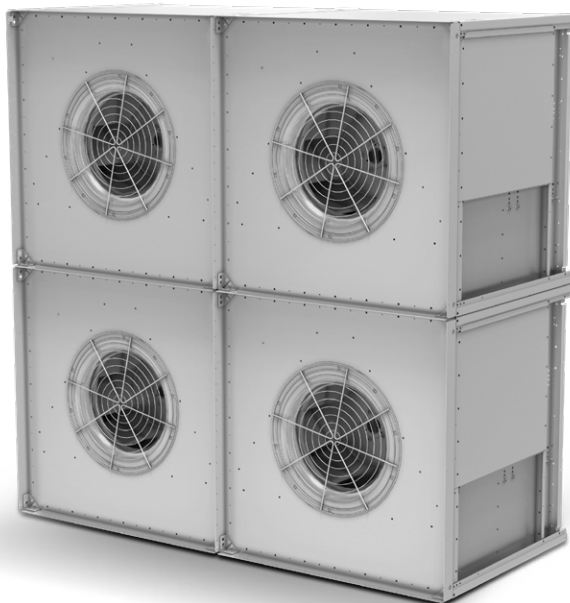
In addition, PennBarry products are produced in multiple factory locations, which ensures optimized logistics and freight cost savings.

Redundancy / Reliable

Efficient Silent Array's redundancy ensures system continues performing, even with a fan in the array shut off.

Reduced Maintenance Costs

The Efficient Silent Array's direct drive, NEMA motor eliminates bearings, belts, and pulleys, thus reducing maintenance costs significantly. Also, motor base optimization eliminates wasteful, costly, and unnecessary materials.



PennBarry is proud to be your preferred manufacturer of commercial and industrial fans and blowers. Learn how PennBarry can assist you in your next application by contacting your PennBarry Representative or visiting us on the web at www.pennbarry.com

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PennBarry reserves the right to make changes at any time, without notice, to models, construction, specifications, options and availability. This document illustrates the appearance of PennBarry products at the time of publication. View the latest updates on the PennBarry website.

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