

# Spencer®

## Power Mizer® Cast Multistage Centrifugal Blowers

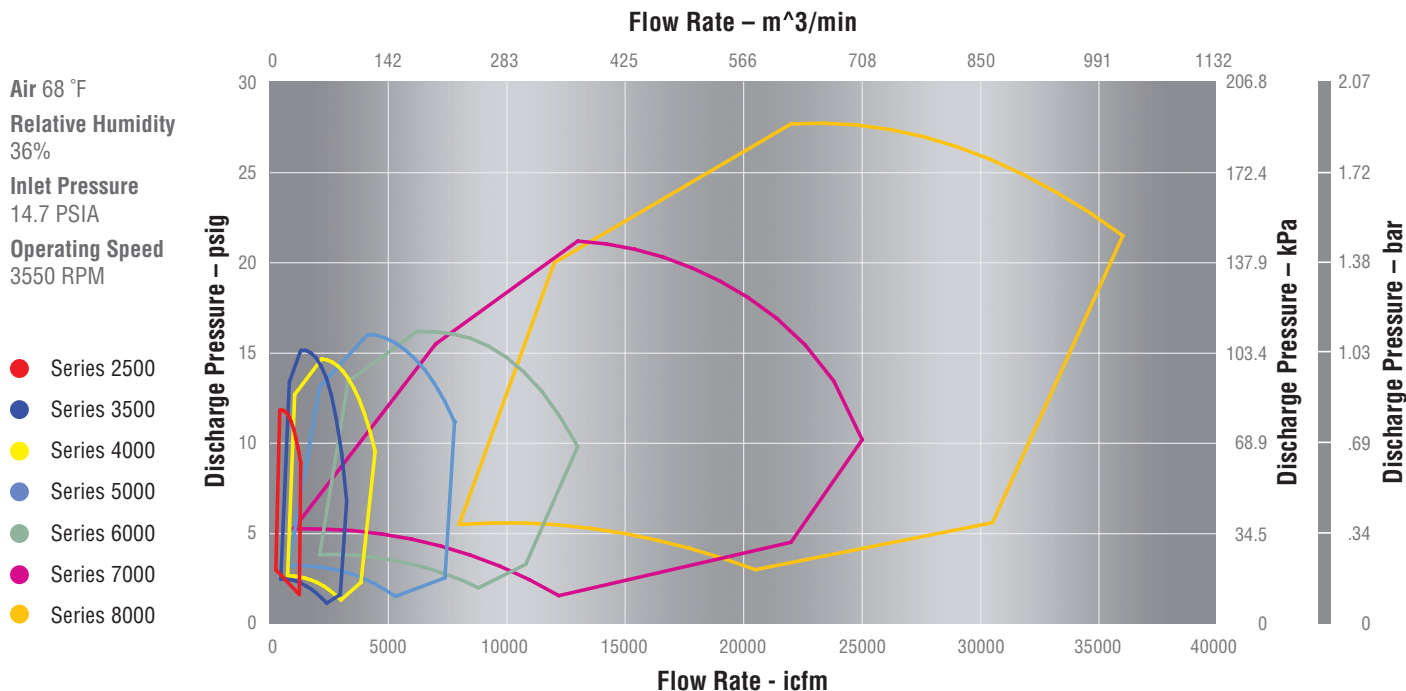


**High Efficiency Blowers  
For Industrial Process Applications**



# Spencer high-efficiency blowers reduce operating costs and provide quick payback on your investment.

## Blower Performance



**Spencer Power Mizer multistage centrifugal blowers provide high efficiency air delivery in heavy-duty industrial process applications such as:**

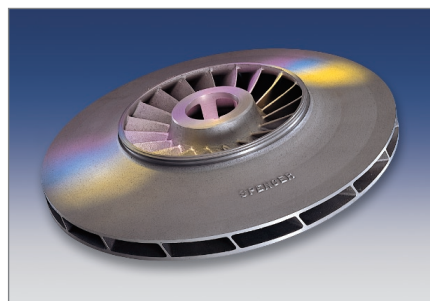
- Sulfur recovery
- Air knives
- Hazardous vapor control
- Soil remediation
- Fluidized beds
- Central vacuum systems
- Debris removal
- Felt dewatering
- Air separation
- Landfill gas boosting
- Combustion air delivery
- Wastewater aeration

### Cast components with low operating sound levels

The inlet section, return channels and discharge section of Power Mizer blowers are gray cast iron with excellent strength, chemical resistance and sound attenuation.

The rotor assembly of Power Mizer blowers in Series 4000 through Series 7000 contain cast aluminum impellers. Their three-dimensional blades transfer energy to the airstream with very high efficiency.

Blade configurations include radial, backswept and combinations of both, selected by Spencer engineers using specialized computer software.



Cast aluminum impeller.

### Superior aerodynamics

The air handling components of these blowers were designed in the Spencer Development Laboratory. By avoiding abrupt velocity changes that create turbulence and waste energy, Spencer engineers achieved smoother, more energy-efficient airflow from blower inlet to discharge.

Uniquely shaped impellers, return channels with airfoil-shaped vanes, redesigned inlet and discharge passages and vaneless diffusers all contribute to a peak adiabatic efficiency that is above 80%.

### Precisely balanced rotors

Spencer's exacting balancing procedures produce an overall vibration level of .19 in/sec or less for Series 2500 to 7000; and .23 in/sec or less for Series 8000 – the best in the industry. This decreases bearing stress, which improves bearing life and blower reliability.

### Year-in, year-out savings

Power Mizer blowers offer long-term power savings of tens of thousands of dollars per blower per year. And you can often downsize the motor to save even more!

#### EXAMPLE\*

$$38 \times .746 = 28.348 \text{ kW saved}$$

$$28.348 \times 24 \times 365 \text{ (continuous annual operation)} = 248,328 \text{ kWh}$$

$$248,328 \times \$0.10/\text{kWh} \text{ (local utility cost)} = \$24,832$$

Motor efficiency of 95% yields an actual savings of \$26,139 on an annual basis.

\*Assumes savings of 38 HP for one blower.

# Power Mizer Blower Features

**Inlet Section, Discharge Section and Return Channels** – Cast iron class 30.

**Motor** – Horsepower requirements are available up to 3700 BHP at standard conditions.

**Rotor Assembly** – One-piece machined shaft supporting cast aluminum, dynamically balanced impellers.

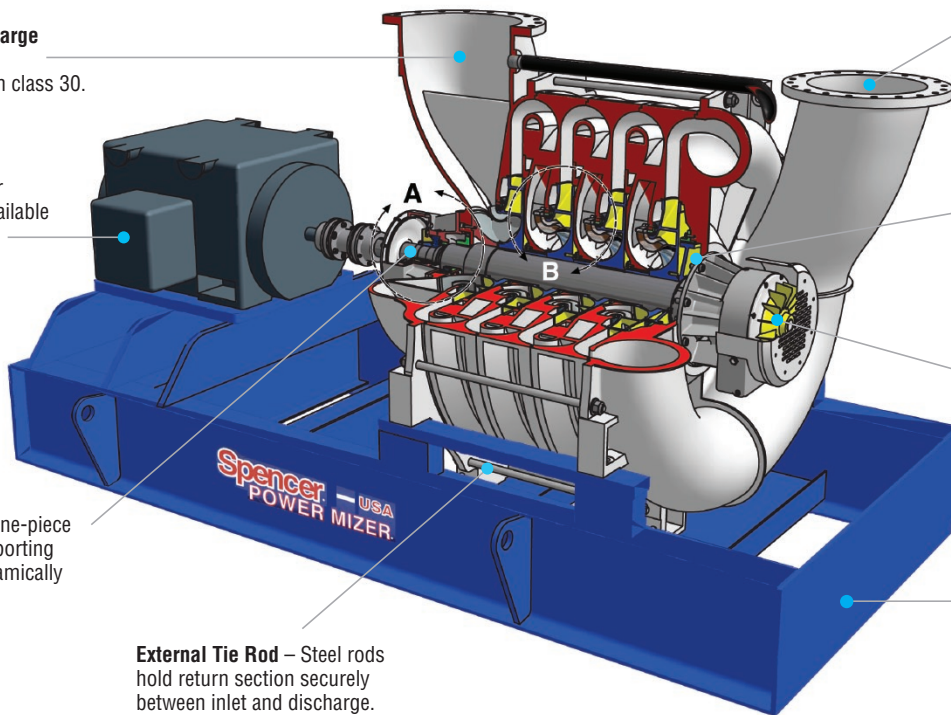
**External Tie Rod** – Steel rods hold return section securely between inlet and discharge.

**Inlet and Discharge Flanges** – Drilled and tapped to ANSI B16.5 125#/150# standards; positioning can be vertical or horizontal (left to right).

**Balance Piston (Series 7000 and 8000)** – Equipped on larger models, it is designed to lessen the thrust load to protect the bearings from overloading.

**Bearing Housing Cooling Fan (Series 8000)** – Optional feature to significantly reduce discharge bearing temperatures.

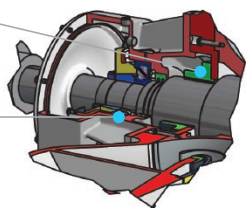
**Base Design** – Structural steel base design. Optional API design bases are available.



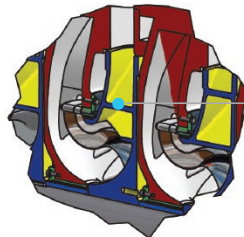
**Shaft Seals** – Depending upon intended blower use, either aluminum labyrinth seals or carbon ring seals are provided.

**Bearings** – Rotor assembly supported at both ends by outboard bearings designed for minimum L-10 life of 100,000 hours.

Detail A



Detail B



**Impellers** – Cast aluminum alloy impellers with varying combinations of radial and backward curved blades available to attain desired performance ratings.

## Product range

Seven Power Mizer series with two to ten stages per blower

Pressure to 28 psig; volume to 35,000 icfm; power to 3700 bhp

Oil lubrication is available on all series while grease lubrication is also available for Series 2500 and 3500



Unique setup of two Power Mizer blowers in series, driven by a single motor, delivers air for a high altitude test rig for automotive engines. Heat exchanger between blowers removes the heat of compression generated in the first blower.

**You can save only once on the purchase price, but you'll save continuously with a Power Mizer high efficiency blower!**

## Over a century of experience

After devoting more than 100 years to air and gas handling equipment, The Spencer Turbine Company is respected worldwide for its quality products and value-added services.

## Sales and technical support

Besides direct sales offices, Spencer has manufacturers' representatives covering all of North America and other agents around the globe. Altogether, Spencer has the industry's largest sales organization for on-site assistance with system design and product selection.



Power Mizer vacuum producer with pulse-type separator providing a continuous duty, high velocity dust collection system at a printed circuit board manufacturer.

## Integrated system approach

Spencer offers full system supply capability from blowers and their controls to tubing, valves and other required components. You can count on Spencer to provide air and gas handling systems that are process-optimized, energy-efficient and totally integrated.

In addition to Power Mizer cast blowers, other blower selections include:

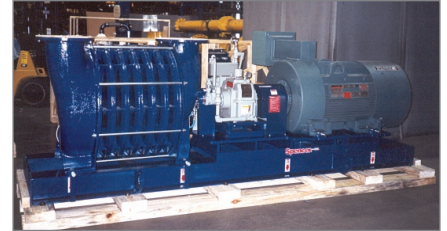
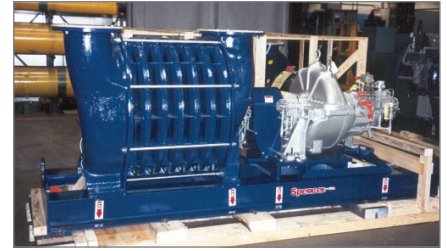
- Fabricated centrifugal blowers
- Gas boosters
- Regenerative blowers
- Single-stage pressure blowers

## Accessories

- Standard and custom electrical control panels, UL and CUL Listed controls
- Blower and motor protective devices
- Valves and silencers
- Gauges and instruments
- Tubing and fittings of steel, stainless steel, galvanized steel and aluminum



Power Mizer blower with Acoustical Belly Wrap™, an effective noise reduction device.



Power Mizer blowers for installation at an Indonesian plant feature two special drive configurations: one has a steam turbine power source; the other has a motor and gear increaser for use with 50 Hz electricity.

## Services

Custom designs

Testing and applications laboratory

Spare parts supply

In-house and field service for all Spencer products

**For product selection assistance, please email [marketing@spencer-air.com](mailto:marketing@spencer-air.com) or visit our website at [www.spencerturbine.com](http://www.spencerturbine.com) to locate the Spencer representative in your area.**

Power Mizer® is a registered trademark of The Spencer Turbine Company.



The

**Spencer**

**Turbine Company, 600 Day Hill Road, Windsor, CT 06095 USA**

TEL 800-232-4321 ♦ 860-688-8361 ♦ FAX 860-688-0098 ♦ [www.spencerturbine.com](http://www.spencerturbine.com)

Bulletin No. 808G Copyright ©2011 The Spencer Turbine Company 042111KBA.0

