

**hibon**<sup>®</sup>

# Multistage Centrifugal Blower

**PERFORMER** and **HIGH PERFORMANCE** series



**IR** Ingersoll Rand<sup>®</sup>

# Multistage Centrifugal Blower

## PERFORMER and HIGH PERFORMANCE series

Hibon Ingersoll Rand presents new state-of-the-art technology in Multistage Centrifugal Blowers. This model offers a wide range of design features and incorporates energy efficiency improvements, complying with the strictest operational requirements for a variety of applications.

Multistage blowers are ideally suited for operations where a variable flow at constant pressure is required. Hibon is a worldwide leader in Multistage Centrifugal Blower technology with thousands of units installed around the globe.

### Applications

Designed to handle air or gas, HIBON blowers are used in the following applications:

#### Mining

- Flotation air for flotation cells
- Leachate tank air
- CIL tank air
- Neutralization tank air
- Pneumatic Conveying

#### Power Industry

- Fly Ash Conveying
- Loopseal Blower Air (CFB Boiler)
- Flue Gas Desulfurization (FGD)
- Filter Scouring
- Circulating Fluidized Bed Boiler (CFB)

#### General Industry

- Combustion Air, Sulphur Recovery Units
- Industrial Waste Water Treatment
- Fluidizing air

#### Oil & Gas and Petrochemical

- Wet Scrubbers: Oxidation Air
- Carbon Black Production
- Pneumatic Conveying
- Industrial WWT
- SRU (Sulfur Recovery Unit) Combustion Air

#### Food

- Pneumatic Conveying
- Industrial WWT
- Yeast Fermentation

#### Gas applications

- Landfill Gas
- Barge Vapor Recovery
- CO<sub>2</sub>, N<sub>2</sub> & O<sub>2</sub> Boosters



Mining Application

Model 675.04

800 Hp, 3600 rpm

15 000 scfm

7.25 psig

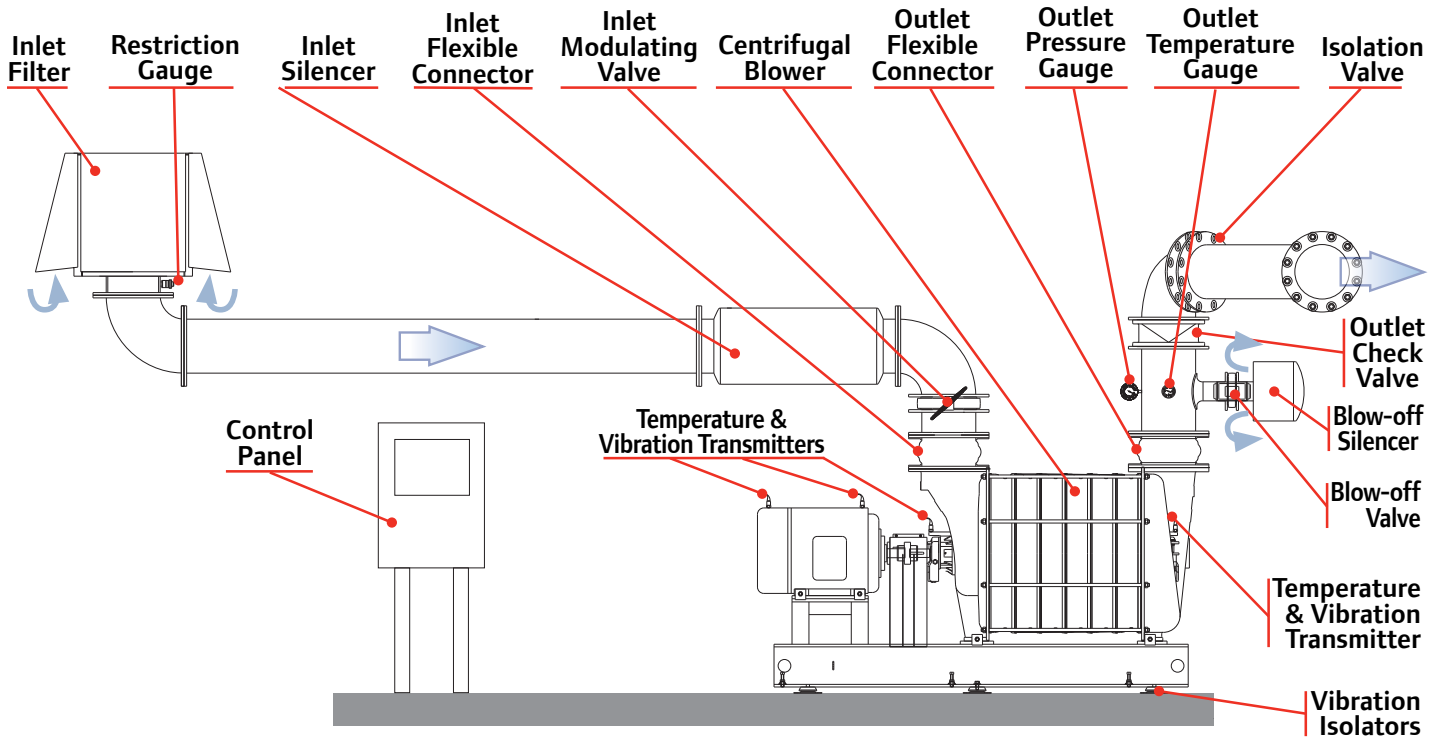
### Unit Assembly

Each blower is designed and tested (per ASME/ISO) to provide a complete, compact, and reliable package. Special attention is given to base construction and motor/blower alignment to provide a vibration free installation.

Many accessories are available to meet environmental and operational requirements. These accessories include inlet filter/silencers, modulating inlet and discharge valves, flexible coupling and check valves. Controls are available from the basic surge protection to a full comprehensive PLC based control.

Under most conditions, no special base or foundation is required for installation allowing easy placement in new construction or replacement of existing, less efficient blowers with minimal site modifications.

## Unit Assembly Diagram



## Range

### PERFORMER series



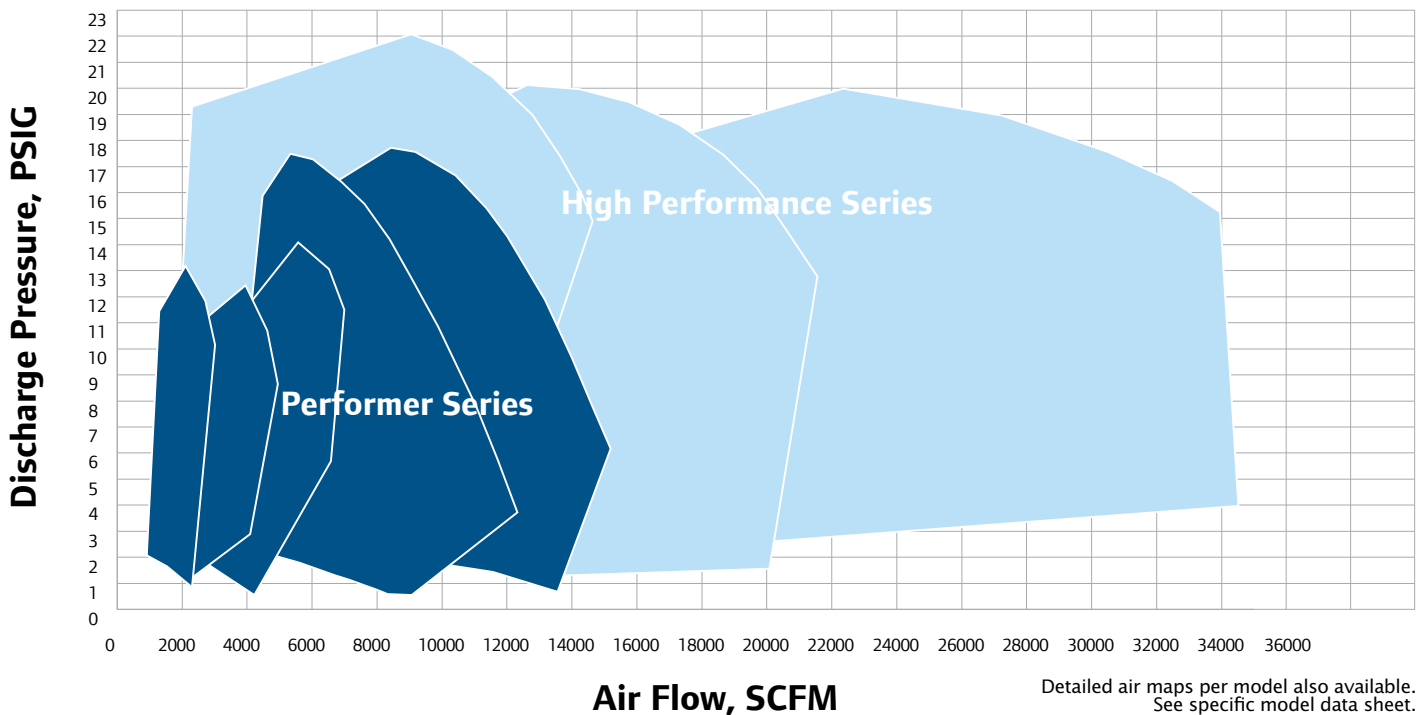
MODEL	INLET FLANGE (dia.)	OUTLET FLANGE (dia.)	IMPELLER (dia.)
60	8	6	24
100	10	8	24
200	12	12	25
350	16	14	28
450	18	16	28

### HIGH PERFORMANCE series



MODEL	INLET FLANGE (dia.)	OUTLET FLANGE (dia.)	IMPELLER (dia.)
475	16	14	29
575	20	18	31
675	24	20	35

All dimensions in inches.



# Multistage Centrifugal Blower

## PERFORMER series

The rugged and reliable Hibon Performer Series (models 60, 100, 200, 350, 450) provides a wide range of efficient low pressure solutions for the most critical applications.

Best suited for constant pressure and variable flows you will find the Performer as a critical component to power plants, oil refineries, mines and wastewater treatment plants. Offering state-of-the-art impeller, seal, and oiler design, Hibon leads the industry in efficiency and maintenance free operation. Combine this with high quality accessories and PLC controls and your Performer will provide trouble free operation for years.

**Manufactured with precise internal clearances for maintenance free operation. Offer spark free operation while providing some of the highest efficiencies in the industry.**

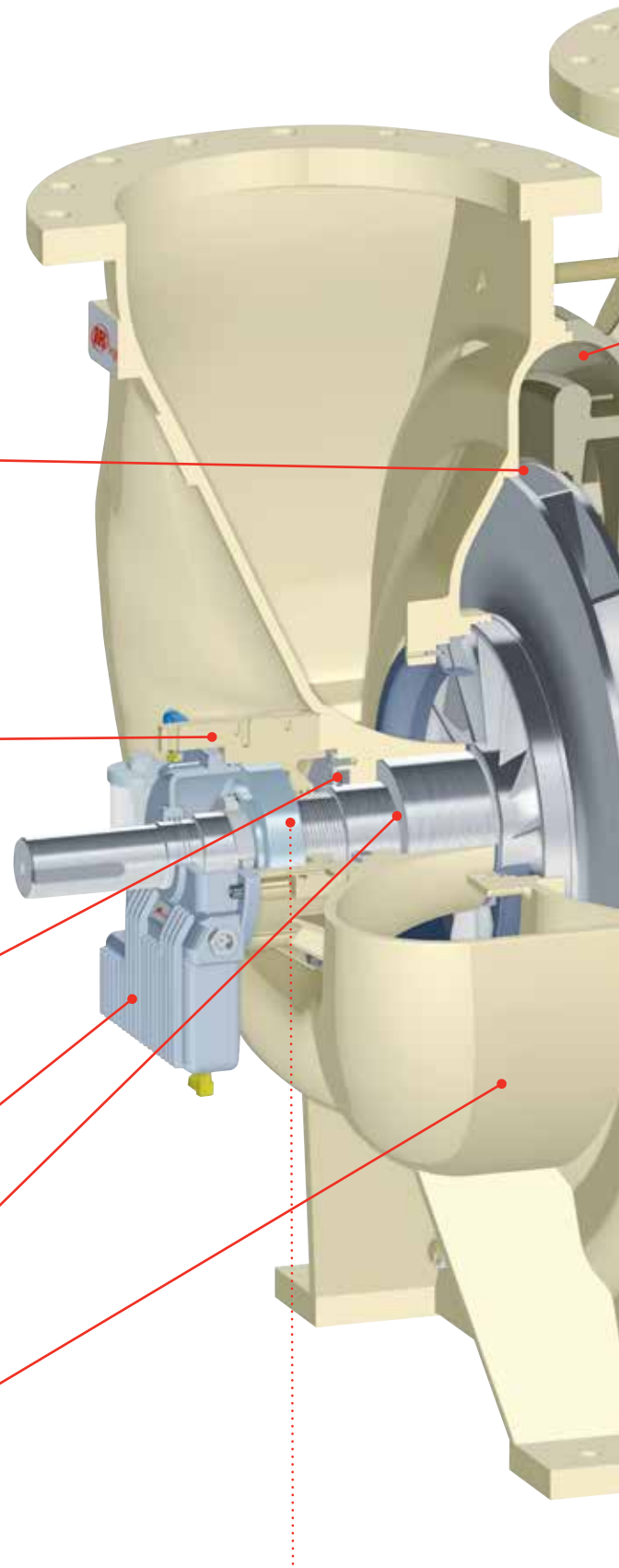
**Inboard and outboard bearing housings are manufactured from cast iron. They are precision machined to ensure parallel alignment to the casing and offer a unique one-piece design with a labyrinth seal to eliminate oil leaks and pressure build up sometimes found in multi-component housings. Protruding mounting block for optional vibration transducers simplify mounting and vibration monitoring. Bearings can be changed onsite without blower tear down.**

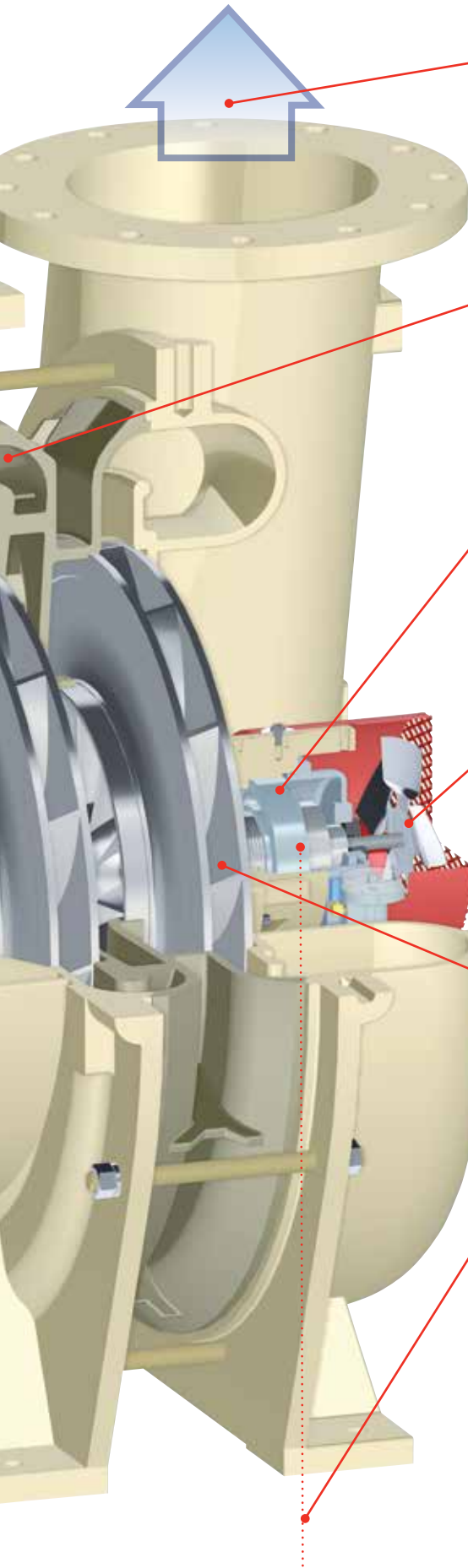
**Single carbon ring seals reduce air leakage. Double carbon ring seals with purge available upon request for special applications.**

**Constant Level Oiler with easy to read sight glass. Oil housing is cast aluminum for optimal heat dissipation with large oil sump.**

**Shaft is SAE 1045 (XC 38) steel.**

**Blower inlet / outlet heads and intermediate sections are fabricated from close grained cast iron ASTM A 48 class 30B (FGL 200) for superior strength.**





Compressed discharge air or gas is guaranteed 100% oil free. Engineering expertise and quality manufacturing ensure the pressure and volume required for every critical application.

High efficiency large turning radius of interstage channel minimizes friction and ensures maximum efficiency.

Type C3 Ball Bearings are designed for 100,000 hours of trouble free operation (AFBMA B-10). Bearings are oil bath lubricated by means of an integral constant level oiler for long service life.

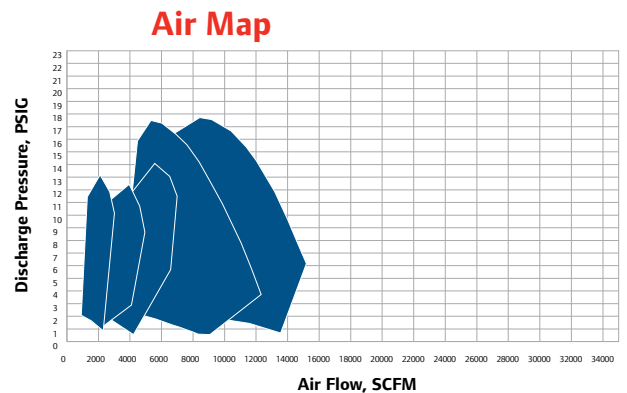
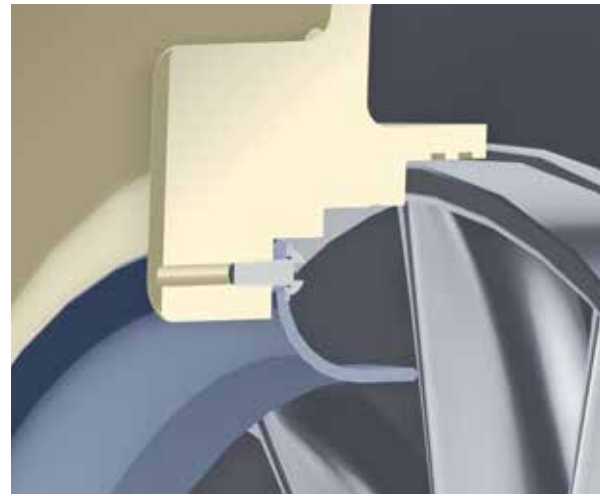
Optional shaft mounted cooling fan for high temperature applications.

Impellers are cast aluminum alloy with profiles that are computer designed and modeled for maximum aerodynamic efficiency. They are individually dynamically balanced and the complete rotor assembly is dynamically balanced for vibration free operation.

Minimal bearing span to reduce vibration.

## Impeller Seal Assembly and Internal Features

- Radial labyrinth on impellers and labyrinth seal on interstage spacers
- Minimises leakage between stages
- Optimized profile stainless steel baffle
- Optional internal baffle material and internal surface coating and plating available



Detailed air maps per model also available. See specific model data sheet.

# Multistage Centrifugal Blower

## HIGH PERFORMANCE series

The state-of-the-art Hibon High Performance Series (models 475, 575, 675) provides high volume flow and the highest pressure range of the Hibon line. The High Performance takes over where the Performer leaves off and brings technical improvements that make it one of the highest efficiency blowers in the market today. Like the Performer, the High Performance Series is best suited for constant pressure and variable flows. You will find the High Performance Blower as a critical component to power plants, oil refineries, mines and wastewater treatment plant. Offering state-of-the-art impeller, seal, and oiler design, Hibon leads the industry in efficiency and maintenance free operation. Combine this with high quality accessories and PLC controls and your High Performance Series Blower will provide trouble free operation for years.

**Manufactured with precise internal clearances for maintenance free operation. Offers spark free operation while providing some of the highest efficiencies in the industry.**

**Cast iron inlet baffle for increased reliability**

**Inboard and outboard bearing housings are manufactured from cast iron. They are precision machined to ensure parallel alignment to the casing and offer a unique one-piece design with a labyrinth seal to eliminate oil leaks and pressure build up sometimes found in multi-component housings.**

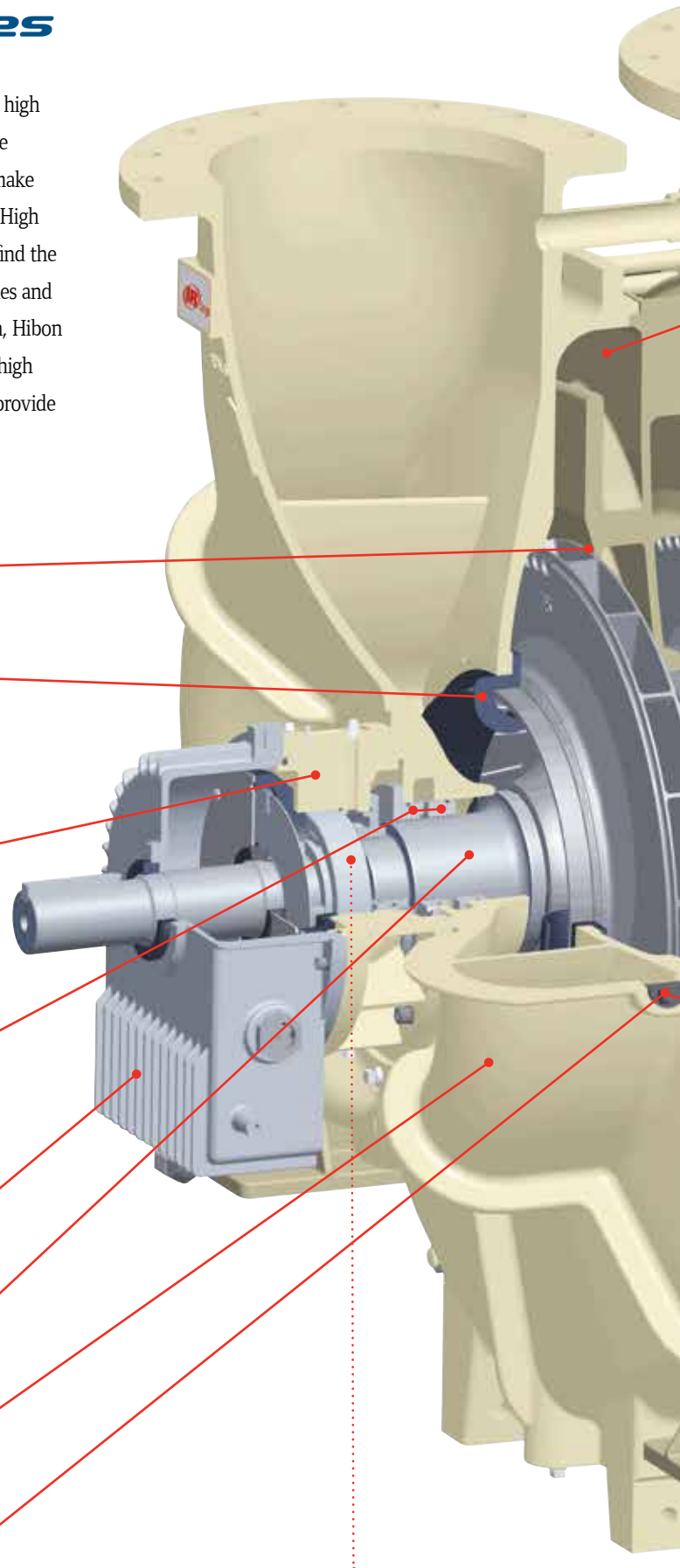
**Standard design uses abradable labyrinth shaft seals to reduce air leakage. Double carbon ring seals with purge available upon request for special application.**

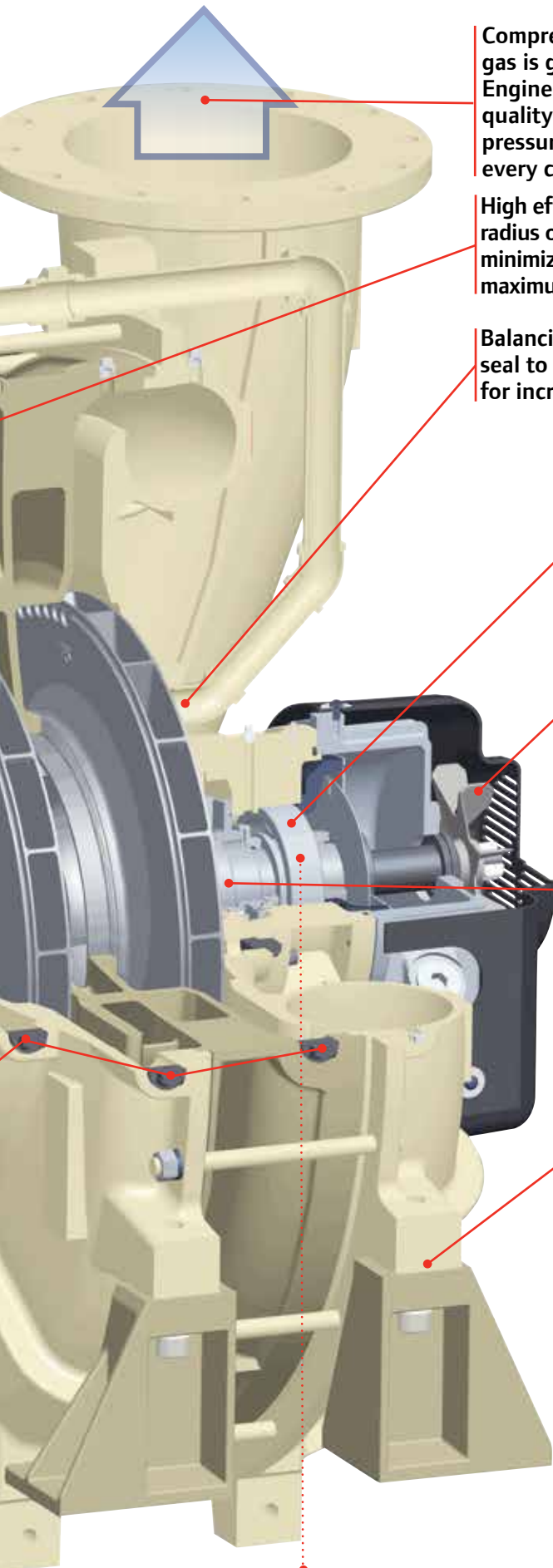
**Inboard and outboard oversized cast aluminum oil reservoir has a larger oil capacity for improved cooling and lubrication. Bearing lubrication is insured by shaft mounted oil thrower discs.**

**Shaft is SAE 1045 (XC 38) steel.**

**Blower inlet / outlet heads, and intermediate sections are fabricated from close grained cast iron ASTM A 48 class 30B (FGL 200) for superior strength.**

**Large 2" NPT diameter inspection ports.**





Compressed discharge air or gas is guaranteed 100% oil free. Engineering expertise and quality manufacturing ensure the pressure and volume required for every critical application.

High efficiency large turning radius of interstage channel minimizes friction and ensures maximum efficiency.

Balancing drum with labyrinth seal to reduce axial loading for increased bearing life.

Type C3 Ball Bearings are designed for 100,000 hours of trouble free operation (AFBMA B-10). Bearings are oil bath lubricated by means of an oil splash lubricator.

Optional shaft mounted cooling fan for high temperature applications.

Impellers are cast aluminum alloy with profiles that are computer designed and modeled for maximum aerodynamic efficiency. They are individually dynamically balanced and the complete rotor assembly is dynamically balanced for vibration free operation.

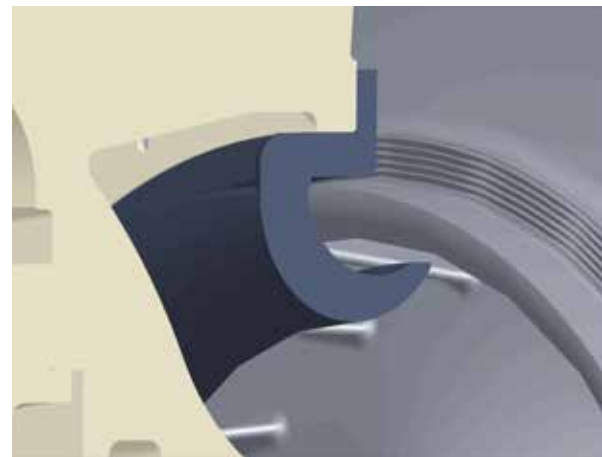
Supports brought closer to the center of gravity to reduce vibration and thermal growth effect.

Minimal bearing span to reduce vibration

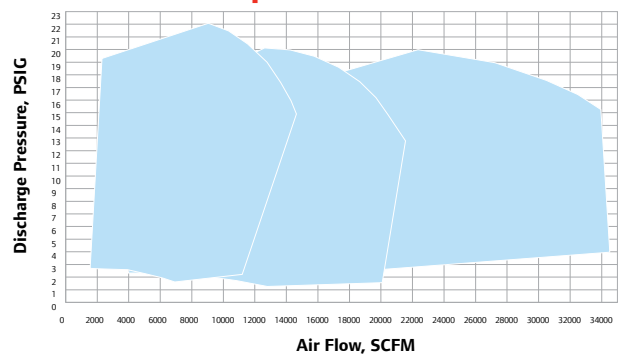
## Seal Assembly and Internal Features

Patented impeller AES (Axial Eye Seal) is not affected by thermal expansion between the aluminum impeller eye and cast iron section. It eliminates issues caused by thermal expansion sometimes seen on blowers with several stages. With smaller clearances, tighter tolerances, and less leakage the AES provides one of the highest efficiency blower lines on the market today.

- Axial eyesel on impellers and labyrinth seal on interstage spacers
- Minimises leakage between stages
- Optimized profile stainless steel baffle
- Optional internal baffle material and internal surface coating and plating available



## Air Map



Detailed air maps per model also available. See specific model data sheet.



# hibon<sup>®</sup> Lube

- Use Hibon Lube regularly in your Performer and High Performance Series blowers to insure optimum performance and maximum life.
  - Each bottle of Hibon Lube is furnished with convenient peel-off labels that can be used as reminders for the next oil change.
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