

# **Industrial** *Air* Technology Corp.

MANUFACTURER OF INDUSTRIAL FANS & BLOWERS



## **HIGH TEMPERATURE FANS AND BLOWERS**

MANUFACTURED TO MEET YOUR SPECIFIC NEEDS

Industrial Air Technology Corp.— Customer Service: 989-731-5840, Fax: 989-732-1641 M – F 8:00 a.m.— 5:00 p.m. EST

[www.indairtech.com](http://www.indairtech.com)

# INDUSTRIAL AIR TECHNOLOGY CORP. HIGH TEMPERATURE COMPONENTS

Proper fan specification is crucial to successful air handling applications. Harsh temperature applications require components designed to limit and reduce heat transfer to critical components for extended life in these environments. To help simplify your selection process, Industrial Air Technology, Corp. has developed standard & customizable high-temperature product offerings to promote air circulation for a cooling effect in critical component areas with interfaces sized for thermal expansion.

**High Temperature Door Gasket** – Woven fiberglass tape to form the seal in higher temperature environments.

**High Temperature Shaft Guard** – Expanded metal to facilitate air circulation around the bearings

**High Temperature Shaft** – High alloy shafting resists creep and high cycle fatigue at elevated temperatures.

**Shaft Coolers** – Finned aluminum disk attached to the shaft between the housing and inboard bearing. Designed to dissipate heat before it reaches the bearing. Also causes air circulation around the bearings and through the shaft guard.

**Copper Lube Lines** – Extended lubrication lines that won't melt or soften

**Heat Slot / Gap** – Provides clearance for the shaft cooler wheel. Causes a torturous path for heat conduction from the housing to the bearing pedestal top plate. If left open, can cause air circulation under the bearing pedestal top plate.

■ **Ceramic Felt Shaft Seal** – ¼ inch thick Alumina Silicate Ceramic Felt is designed to tolerate elevated temperatures, or

■ **Extended Ceramic Felt Shaft Seal** – The ceramic felt and steel shaft seal cover are sized to approximately the same width and height as the shaft guard. The intent is to slow the heat transfer into the space under the shaft guard and keep the air surrounding the bearings cooler, or

■ **Stuffing Box** – Provides additional shaft sealing and insulation to limit heat transfer.

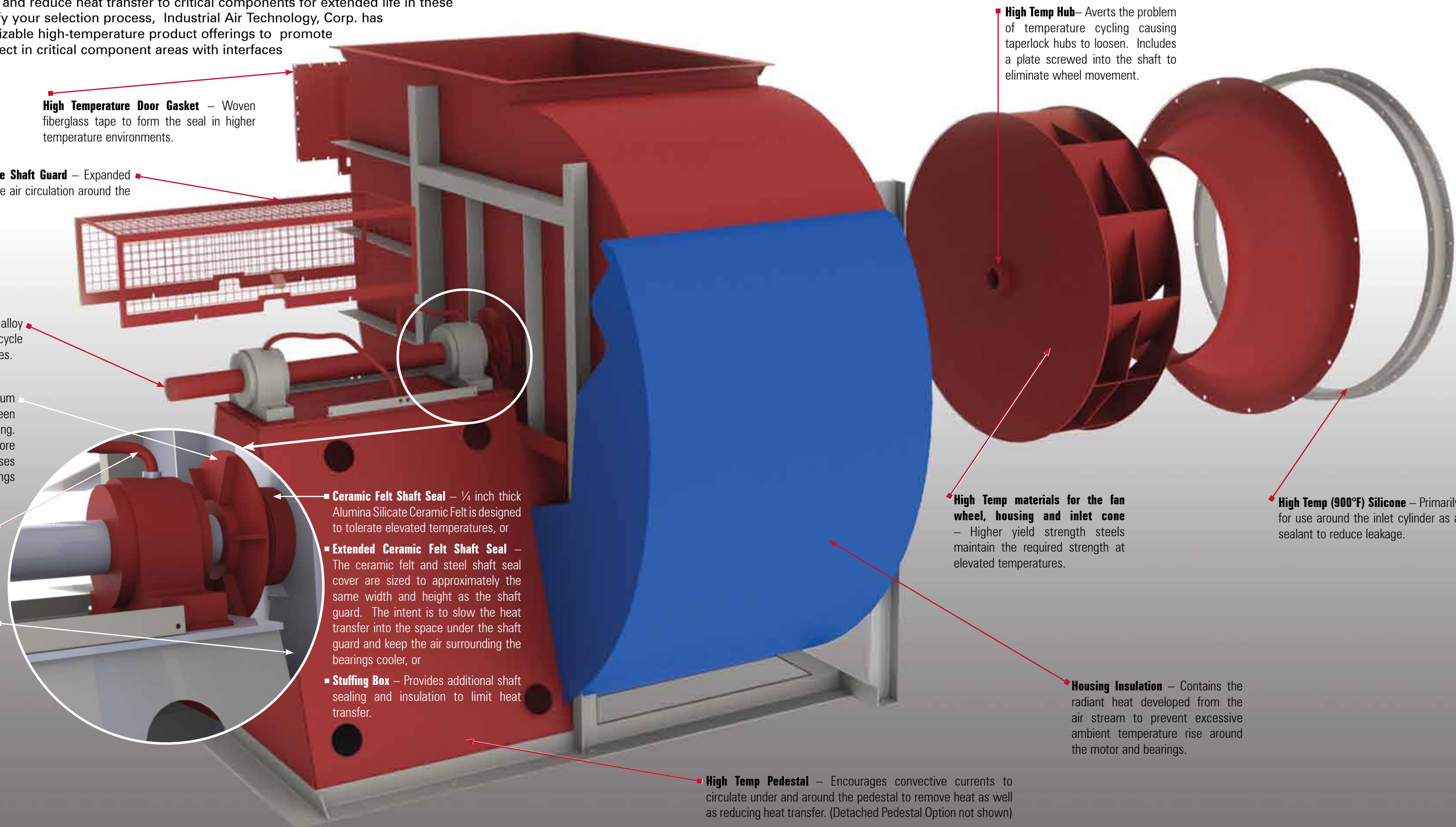
■ **High Temp Pedestal** – Encourages convective currents to circulate under and around the pedestal to remove heat as well as reducing heat transfer. (Detached Pedestal Option not shown)

■ **High Temp Hub**– Averts the problem of temperature cycling causing taperlock hubs to loosen. Includes a plate screwed into the shaft to eliminate wheel movement.

■ **High Temp materials for the fan wheel, housing and inlet cone** – Higher yield strength steels maintain the required strength at elevated temperatures.

■ **High Temp (900°F) Silicone** – Primarily for use around the inlet cylinder as a sealant to reduce leakage.

■ **Housing Insulation** – Contains the radiant heat developed from the air stream to prevent excessive ambient temperature rise around the motor and bearings.



# HIGH TEMPERATURE FAN PACKAGES

Industrial Air Technology Corp. has developed pre-engineered high temperature fan packages grouped according to operating temperature ranges. The packages contain features selected for each fan model, with progressively higher temperature ranges requiring additional elements to meet more severe demands. All standard high temperature designs anticipate clean to lightly loaded airstreams with a rate of temperature change not exceeding 15° F per minute. Additionally, the packages are designed for ambient air conditions that do not exceed 110° F. Customers can mix and match package features with various models for a “customized” package. For applications beyond those requirements, Industrial Air Technology Corp. will help guide you with the proper selection.

## 201°– 300°F Degree Package Includes

- Ceramic Felt Shaft Seal
- High Temperature Guard
- High Temp Door Gaskets

## 301°– 400°F Degree Package Includes

- Ceramic Felt Shaft Seal
- High Temperature Guard
- High Temp Door Gaskets
- Heat Slot/Gap
- Shaft Cooler

## 401°– 600°F Degree Package Includes

- Extended Ceramic Felt Shaft Seal
- High Temperature Guard
- High Temp Door Gaskets
- High Temperature Silicone
- Heat Slot/Gap
- Shaft Cooler
- High Temperature Pedestal

## 601°– 800°F Degree Package Includes

- Stuffing Box
- High Temperature Guard
- High Temp Door Gaskets
- High Temperature Silicone
- Heat Slot/Gap
- Single or Double Shaft Cooler(s)
- High Temperature Pedestal
- High Temperature Shaft
- High Temperature Hub and Wheel
- High Temperature Housing and Inlet Cone
- Housing Insulation
- High Temperature Bearings
- High Temperature Lubrication
- Copper Lubrication Lines

## 801°– 1000°F Degree Package Includes

- Stuffing Box
- High Temperature Guard
- High Temp Door Gaskets
- High Temperature Silicone
- Single or Double Shaft Cooler(s)
- High Temperature Detached Pedestal
- High Temperature Shaft
- High Temperature Hub and Wheel
- High Temperature Housing and Inlet Cone
- Housing Insulation
- High Temperature Bearings
- High Temperature Lubrication
- Copper Lubrication Lines

# INDUSTRIAL AIR TECHNOLOGY CORP. WHEEL TYPES

Industrial Air Technology, Corp. centrifugal fans are used in industrial ventilation, exhaustion, pressure blowing, pneumatic conveying or supplying combustion air. They are well suited for airstreams that are clean, dust or material laden. Once you have considered the environmental conditions that impact your fan selection, the proper wheel selection should be made. Wheel types below are also available in fan packages for abrasion resistance, corrosion resistance, spark resistance or high temperature applications.

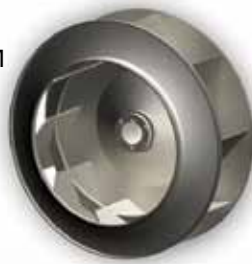
## AF

**Air Stream:** Clean Air  
**Pressure Range:**  
2.5"–28" WG  
**Volume Range:**  
1500–280,000 CFM



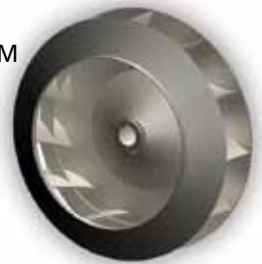
## BI

**Air Stream:** Clean Air  
**Pressure Range:**  
1/2"–22" WG  
**Volume Range:**  
3200–280,000 CFM



## RTS

**Air Stream:** Dirty Air  
**Pressure Range:**  
6"–32" WG  
**Volume Range:**  
10,000–220,000 CFM



## BCHS

**Air Stream:** Clean to slightly dirty air  
**Pressure Range:**  
1/2"–50" WG  
**Volume Range:**  
1500–250,000 CFM



## BCLS

**Air Stream:** Clean to Lightly Loaded Air Stream  
**Pressure Range:**  
25"–78" WG  
**Volume Range:**  
5000–70,000 CFM



## IRO

**Air Stream:** Material Handling  
**Pressure Range:**  
1/2"–45" WG  
**Volume Range:**  
200–100,000 CFM



## IRF

**Air Stream:** Material Handling  
**Pressure Range:**  
1/2"–45" WG  
**Volume Range:**  
200–100,000 CFM



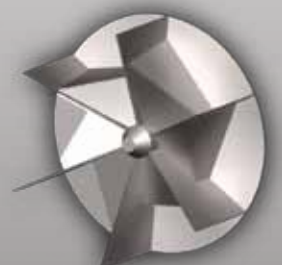
## IRW

**Air Stream:** Material Handling  
**Pressure Range:**  
1"–30" WG  
**Volume Range:**  
800–16,000 CFM



## IRV

**Air Stream:** Material Handling  
**Pressure Range:**  
1"–30" WG  
**Volume Range:**  
800–16,000 CFM



## IRT

**Air Stream:** Material Handling  
**Pressure Range:**  
1"–45" WG  
**Volume Range:**  
1000–125,000 CFM



## TROH

**Air Stream:** High Pressure-High Volume  
**Pressure Range:**  
Up to 110" WG  
**Volume Range:**  
1000–26,500 CFM

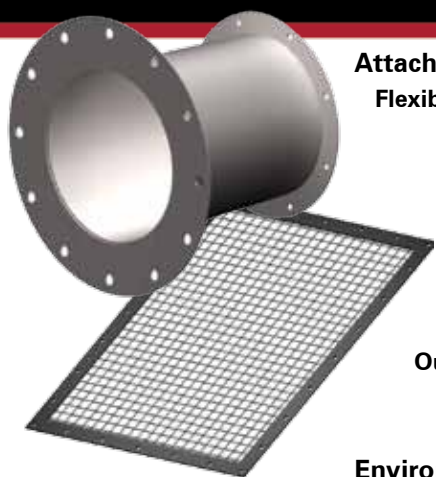


## TROL

**Air Stream:** High Pressure-Low Volume  
**Pressure Range:**  
Up to 110" WG  
**Volume Range:**  
500–11,000 CFM



# INDUSTRIAL AIR TECHNOLOGY CORP. ACCESSORIES



**Attachments:** *In round, square or flanged configurations*

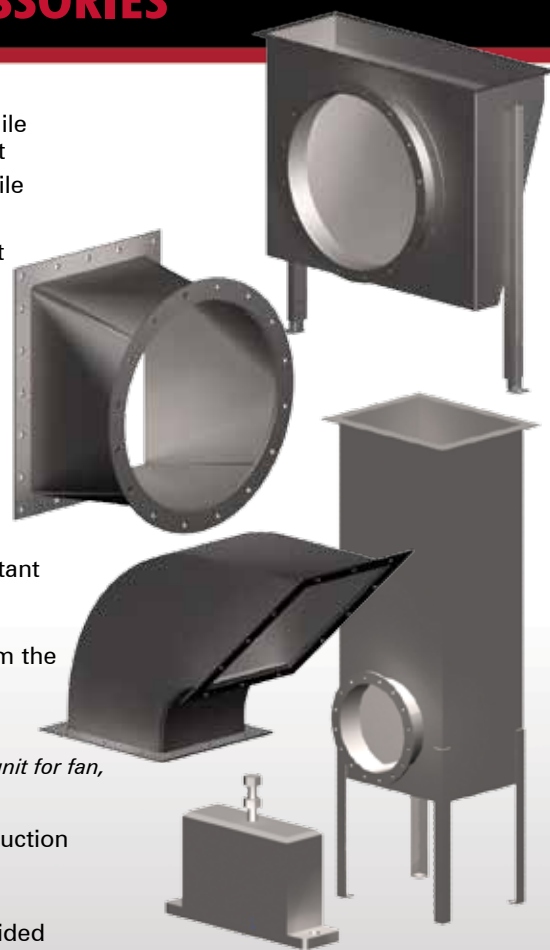
**Flexible Connections** – Isolates load and vibration while accommodating misalignment

**Screens** – Restricts objects or debris while allowing airflow

**Inlet Box** – Connects fan and duct at right angles with minimal losses

**Inlet Transitions** – Connects fan inlet and other components

**Outlet Transitions** – Connects fan outlet and other components



**Environmental options:** *Limits interaction between the fan and its surroundings*

**Insulation** – Acoustic or temperature resistant

**Weather Hoods** – Covers inlet or duct openings

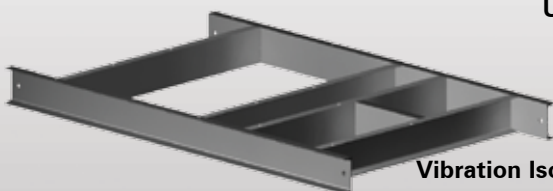
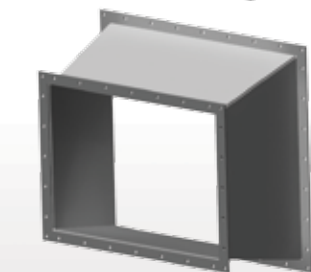
**Silencers** – Reduces noise emanating from the inlet or outlet

**Base Support:** *Stabilizes and provides common mounting unit for fan, motor & accessories*

**Unitary** – Rigid mount C-channel construction ready to install

**Inertia** – Sturdy construction frame to accommodate customer provided concrete

**Vibration Isolators** – Floor mounted springs to reduce transient vibrations



**Bearing Accessories:** *Special configurations to combat excessive load, corrosion and extreme applications*

**Lubrication Provisions** – Fittings and extended lines for ease in bearing maintenance at no additional cost

**Sensors** – Speed, temperature and vibration monitoring device

**Dampers:** *Air volume (flow) limiter available for both inlet and outlet locations*

**Butterfly** – Low maintenance one piece pivoting design for high pressure blowers

**Opposed Blade** – Adjacent blades rotate in the opposite direction

**Parallel Blade** – Blades rotate in the same direction

**Variable Inlet Vane (VIV)** – Blades are connected to a circular hub

**Shaft Accessories:** *To optimize fan operating conditions*

**Cooler** – Designed to dissipate heat and provide air circulation

**Seals** – Provide protection from contaminants and process air

**Speed Switches** – Shaft rotation monitoring device

