

Industrial
AIT Technology Corp.

HIGH TEMPERATURE FANS AND BLOWERS

CONSTRUCTION
OPTIONS



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 Gasketing** – 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 Temp Guard
- High Temp Gaskets

301°– 400°F Degree Package Includes

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

401°– 600°F Degree Package Includes

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

601°– 800°F Degree Package Includes

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

801°– 1000°F Degree Package Includes

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