

# Combustion Air Fan Applications



# COMBUSTION AIR FAN APPLICATIONS

Chicago Blower is an industry leader for all combustion air applications. We offer a wide range of fans and blowers for forced draft, induced draft, FGR, primary air, overfire air, recycle fans and many other combustion applications. Our Packaged Forced Draft (PFD) fan has been specifically designed for wind box mounted applications and is pre-engineered to 250HP. Our engineers and representatives work hard to meet all customer specifications and Chicago Blower prides itself on it's API 560 and 673 fan offerings. Chicago Blower manufactures our own dampers, inlet boxes and mixing boxes, and work hand-in-hand with our silencer suppliers to provide the entire inlet assembly allowing us to be your one source for combustion projects. Whether it be a 3HP compact burner package or a massive 1000HP dual driven (motor and turbine) system, Chicago Blower can help with all of your combustion needs.

## PROJECT EXAMPLES



Burner installation utilizing three size 2700 Arrangement 4 Packaged Forced Draft Fans.



Two Design 5500 Forced Draft Fans, size 7678, Backward Curved w/Flue Gas Recirculation, designed to handle 115,753 ACFM & 49"wg for a Boiler application in Thailand.



DIDW API 560 FD Fan with a common inlet filter/silencer, special coating and disjointed base for a refinery application.



Heavy Duty Custom FD Fan w/FGR used in boiler application at a refinery.

## Capabilities & Options

- Damper types: Inlet Volume Control (IVC) or Pre-spin inlet, outlet, fresh air, and FGR dampers
- Split housing, inlet box and mixing box with FGR port
- AMCA Spark Resistant Construction
- Motor or Turbine; single or dual drive options
- Actuators, Silencers, piezometer or velocity tubes & other flow measuring devices, vibration & temperature monitoring
- Grease, static oil or circulating oil bearing lubrication are available
- API 560 & API 673 available
- Temperatures up to 1000°F

# FANS FOR COMBUSTION AIR APPLICATIONS

## AIRFOIL/BACKWARD CURVED

Efficient Choice for Fumes, High Pressure Supply Air



### Packaged Forced Draft

Direct drive Arrangement 4 PFD packaged fans with reinforced airfoil wheels are designed for higher pressure supply air applications, such as packaged boilers. Sleep, stable pressure curve.

- Sizes: 2000 to 5414
- Volumes to 120,000 CFM
- Pressures to 58" wg

[Request Bulletin PFD](#)



### Packaged Backward Curved

Chicago Blower's new PBC fan is a pre-engineered packaged fan specified by the world's major manufacturers of boiler and burner systems. PBC fans are also used extensively in combustion air, supply air and primary air applications. In addition, they are utilized for liquid agitation and product cooling and drying. Efficiencies to 80%. Temperatures to 800°F

- Sizes: 3000 to 5414, to 6000 for Arrangement 8
- Volumes to 90,000 CFM
- Pressures to 80" wg

[Request Bulletin PBC](#)



### High Pressure Backward Curved

An industrial backward curved fan available as a pre-engineered fan line, the Design 95 delivers the reliability of a custom designed fan at the price and lead time of a standard production fan. The wheel uses heavy backward curved blades designed to handle dusty and harsh environments. The solid steel blades are also ideal for custom applied corrosion resistant coatings. Temperatures to 800°F.

- Sizes: 182 to 890
- Volumes to 385,000 CFM
- Pressures to 40" wg

[Request Bulletin BCHP](#)



### SQAD/SQBD Direct Drive Fans

Compact direct connected fans are ideal for packaged supply, exhaust and combustion air applications. Options for partial width construction. Temperatures to 200°F.

- Sizes: 8-3/4 to 30
- Volumes to 27,386 CFM
- Pressures to 22" wg

[Request Bulletin SQD](#)



### SQA Airfoil

Versatile square fan housings are flanged on all sides for mounting in any of four discharge positions. Adjustable motor base mounts to all sides. Temperatures to 650°F.

- Sizes: 12-1/4 to 44-1/2
- Volumes to 70,000 CFM
- Pressures to 17" wg

[Request Bulletin SQA](#)

## CUSTOM AIRFOIL & BACKWARD CURVED *(Contact Factory or Your Local Representative)*

Typically used for Forced, Induced Draft, and Primary Air Applications



### Mechanical Draft Fans

A wide selection of airfoil, backward curved and radial tip wheel designs are available for forced and induced draft applications. Typical installations include incinerators, baghouses, kilns and furnaces, as well as other custom processes. Fans are custom built in most arrangements, fully factory completed, and field erected fans.

- Sizes: 122 to 365
- Volumes to 46,100 CFM
- Pressures to 23" wg

[For Airfoil Request Bulletin AF/BC](#)  
[For Radial Tip Request Bulletin RT](#)



### API Fans

Fans combine the "B" wheel with the capability of exhausting dirty industrial process air and Chicago's versatile square housing. Temperatures to 650°F.

- Sizes: 12-1/4 to 44-1/2
- Volumes to 70,000 CFM
- Pressures to 17" wg

[Request Bulletin API](#)



### Pressure Air Fans

Heavy radial wheels are recommended for pollution control applications, such as continuous duty of primary air on burners, pulverizers, fluidizers and scrubbers. Options include abrasion and corrosion resistant construction materials. Variable widths and diameters provide exact performance with direct drive convenience.

- Wheels to 150
- Volumes to 440,000 CFM
- Pressures to 108" wg

[Request Bulletin PA](#)

## PRESSURE BLOWERS

Used for Combustion Air, Process Applications, etc.



### Cast Aluminum

Design 38 blowers for fume/dust control, forced air drying and cooling. Match multiple wheels/ inlets to eight housing sizes to meet required performance. Temperatures to 200°F.

- Sizes: 800 to 1829
- Volumes to 5,000 CFM
- Pressures to 20" wg

[Request Bulletin CAPB](#)



### Single Stage

Design 53 blowers are suited for combustion, pneumatic conveying and various other high pressure applications. Available in aluminum and steel wheel styles up to 650°F.

- Sizes: A to R
- Volumes to 18,000 CFM
- Pressures to 91" wg

[Request Bulletin CPB](#)

## FanNet

Refer to Chicago Blower's FanNet software for performance, fan curves and sound data. For further assistance, contact your local Chicago Blower sales engineer.

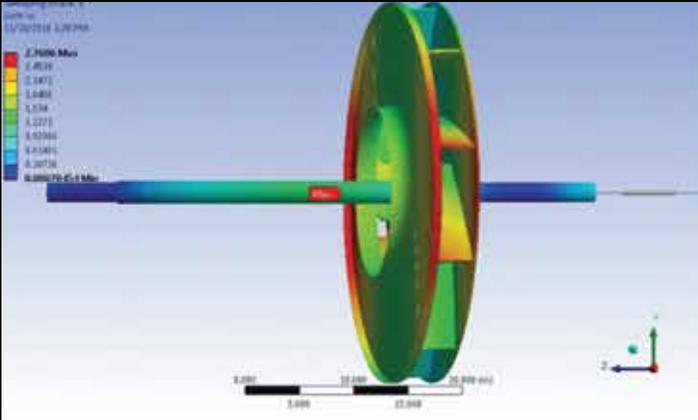


## RESOURCES

### CBC Fan App

Engineering calculations at your fingertips. Get it on Google Play or download on the App Store





# SETTING THE STANDARD FOR QUALITY

Innovative Engineering through Application Analysis

**Chicago Blower Fans are also available worldwide:**

- Argentina
- Australia
- Azerbaijan
- Belarus
- Belgium
- Brazil
- China
- Estonia
- Georgia
- India
- Indonesia
- Israel
- Kazakhstan
- Korea
- Kyrgyzstan
- Latvia
- Lithuania
- Luxembourg
- Mexico
- Mozambique
- Netherlands
- New Zealand
- Norway
- Russia
- Saudi Arabia
- Singapore
- South Africa
- Spain
- Sweden
- Taiwan
- Tajikistan
- Thailand
- Ukraine
- Uzbekistan
- Venezuela
- Zambia
- Zimbabwe



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