

## Impeller Technology

- The fan adopts advanced technology, Design of backward curved centrifugal impeller is optimized by means of CFD hydro-field simulating. The design is more accordant with the aerodynamic characteristics, and has lower noise, and stable airflow.
- Steel plasma cutting, precise positioning jig and all-welded manufacture.
- Steel laser cutting, precise positioning jig and all-welded technique are adopted for the blade to ensure smoothness of the margin of the blade. The welding angle is accurate, the whole blade is with strong strength, and the stress is evenly distributed during long-time high-speed operation. The operation is stable and reliable.
- Each impeller is subjected to dynamic balance test. We insist to the balancing level of G4.0, Long-term quiet and stable running of the fan is ensured fundamentally.
- Large volume and wide high-efficiency range.
- Double air inlet structure is applied to the impeller, which ensures a large volume. In addition, the pneumatic performance of the wheel is smooth and flat, and has a wide high-efficiency range.

## General Features

### 1. High Reliability

- Fan shaft is subjected to finish turning & hardening and tempering. Maximum load surpasses 35% of limit speed.
- Bearing seal can be lubricated.
- The fan is supported by stable channel steel base, so that stable running of the fan is ensured.

### 2. High Energy Efficiency Classification

The fan adopts backward curved impeller with high balancing level and high efficiency. In combination with housing designed by CFD flow field simulation and inlet Venturi pipe, high-efficiency and energy-saving operating of the fan is ensured.

### 3. All-steel Welded Structure

- The FEA theoretical design structure is adopted for the main body of the fan. It is made through welding the steel plates, which ensures a stable structure and high strength of the fan, as well as better safety performance.
- Continuous welded scroll, ensuring excellent air-tight performance.
- The scroll of the fan is made of steel by continuous welding, which ensures excellent strength of the scroll, and meanwhile prevents leakage of gas.

### 4. Convenient Mating Device

Design of the fan (A6 drive arrangements) ensures that the driving mechanism could be installed on both ends of the shaft. Driving mechanism of right-handed rotation or left-handed rotation could be adopted as the mating device according to actual needs.

## Technical Information

### 1. Quality Standards

The fan shall be tested according to AMCA design procedure, the products are produced within very control procedure following ISO 9001, ISO14001 and ISO 45001.

## 2. Fan Type

The fan shall be single inlet with steel backward curved centrifugal impeller. The drive type shall be belt drive. Structure of the fan shall allow convenient withdrawal of the impeller for maintenance and cleaning.

## 4. Coating

Fan surface shall be polished and cleaned up to remove particulates, welding slag, burrs, sharp edge, iron, oil, then epoxy coating or high temperature coating for high temperature environments use, fan surface shall be free of sags, wrinkle, blisters, exposed metal or peeling after coating. It shall be no corrosion and rust at least 5 years in allowable working condition.

## 5. Main Fan parts

Fan Part	Description
Impeller	The impeller shall be steel backward curved centrifugal and fully welded. It shall be statically and dynamically balanced to level G4.0 in accordance with AMCA. When the impeller is operating at the highest allowable speed, the volume shall be stable and the noise shall be low. Impeller features shall be able to avoid performance downgrade resulting from sliding of the working points.
Fan Housing	The fan housing shall be steel, the thickness and strength shall be adequate to support fan max running weight. The volute shall be continuously welded and equipped with access door for removing possible foreign objects entered into the scroll.
Motor	The motor shall be carefully matched to the fan load. It shall be (IP55,IP56, ...etc) rated with Class F,H Insulation according to project specification . The motor bearing shall be of ball type and lubrication- free. Out of the air stream shall the motor and drive mechanism be located to avoid grease or dirt accumulation.
Inlet	Fan inlet shall be aerodynamic design round curved section to smoothly transit the air to the wheel cone, it will have good commutate effect to effectively reduce turbulence, improve fan efficiency and reduce noise.