

Impeller Technology

1. Optimized Design

The fan has the backward curved centrifugal impeller with its design optimized through CFD simulation and more accordant with the aerodynamic characteristics. High efficiency and more stable airflow are thus ensured.

2. Advanced Process

The plasma cutting, positioning fixture of high precision and all-welding technique contribute to the smoothness, high strength and great reliability of the steel blades that has uniform stress distribution for long-term high speed running.

3. High Balance Quality Grade

Each impeller has been dynamically balanced up to G4.0 standard (Just G6.3 for general products domestically and internationally). Durability, stability and quietness are guaranteed.

4. Wide Performance Range of High Efficiency

The impeller has stable and flat performance curves over a wide range of operating conditions which can efficiently avoid performance drop as the operating point moves up or down.

5. Non-overloading

There exists a maximum shaft power for the motor. When the motor is selected based on the maximum shaft power, motor power and motor service factor, the shaft power can never exceed the rated motor power as the fan runs within the operating range. The user can be rest assured in this respect.

General Features

1. Great Reliability

- FEA-aided design helps enhance the structural reliability.
- The scroll and impeller are strengthened and leak-proof thanks to the all-steel continuous welding method. Operational safety is also significantly improved.
- The new shaft and coupling technology ensure accuracy during the assembly process and improve product reliability.
- The fan shaft has been treated through hardening and tempering and finish turning processes. Its maximum load is 35% more than the highest speed to ensure the long-term safe and continuous operation.
- The bearing seal can be lubricated to ensure operational reliability and durability.
- The drive unit has a protective cover with a bright color for warnings to ensure safety.
- The product has undergone vibration tests before leaving the factory in order to achieve reliable and durable operation.

2. High Efficiency

- The impeller cone is carefully matched to the inlet cone for precise running tolerances to reduce air leakage and turbulence and improve air performance.
- The design is optimized repeatedly through CFD simulation to ensure the aerodynamic performance accords with the flow field characteristics.

3. User Friendly Convenience

- Different drive types make motor selection flexible.
- Some commonly used accessories are provided with the fan.

Technical Information

1. Standards and Codes

The fan shall be tested and certified in accordance with AMCA Standard 210, 300 & 205-12. AMCA Seal for (Efficiency Sound, Air Performance & Fan Efficiency Grade FEG) shall be tagged on each fan before leaving the factory as a standard seal, for other seals shall be tagged on the fan according to application and customer needs.

The manufacturer shall obtain Production License for National Industrial Products and be certified by ISO 9001, ISO 14001, ISO 45001.

2. Fan Type

The fan shall be of the single-inlet centrifugal type with the backward curved steel wheel. The drive types shall be direct, coupling or belt.

3. Surface Processing

The surface of the fan shall be polished to remove any protuberances, welding spatters, burrs, sharp edges, scrap iron and greasy dirt before being finished with electrostatic epoxy coatings. The finished gloss level shall be greater than or equal to 70%. The surface shall be a level one without sags, cracks, cockles or detachment.

4. Main Fan parts

Fan Part	Description
Impeller - Type L	The impeller shall be of the backward curved centrifugal steel type and all welded. It shall be statically and dynamically balanced up to G4.0 standard. Stable airflow and low sound should be ensured as the wheel is operating at the maximum allowable speed. Drop in performance shall be avoided as the operating point moves up or down. The impeller shall be readily removable for cleaning or maintenance.
Fan Housing	The fan housing shall be constructed of steel and it shall be thick and strong enough to withstand the maximum operating weight of the fan. The housing shall be continuously welded and have an access door for removing possible foreign bodies.
	The motor shall be carefully matched to the fan load. It shall be (IP55,IP56, ...etc) rated with Class

Motor	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.
Belt Drive and Coupling Drive	The fan shaft shall be treated through hardening and tempering and finish turning processes. Its maximum load shall be 35% more than the highest fan speed. The shaft shall be supported by two bearings with rating service life of (80, 000 to 150,000) hours at the maximum operating speed specified in the catalog as per the design. It shall be sealed and can be lubricated under normal operating temperatures. There shall be pulley and belt guard. Flexible coupling equipped with a guard shall be used. The factor of safety of power transmission and torsion shall meet the design requirements.
Inlet	The inlet shall be designed in line with aerodynamics. It shall be streamlined for better airflow movement and efficiency, reducing turbulence and sound.