

## Ratings and Applications

Airflow Range	7.9 ~ 70 m <sup>3</sup> /s
Thrust Range	220 ~ 3,000 N
Drive Types	Direct Drive
Mounting Types	Ceiling hung / Sidewall mounted
Applications	Mainly used in tunnels, including metro tunnels, road tunnels, railway tunnels and underground car parks.



## Impeller Technology

Mounted with airfoil blades of great efficiency and low sound, the impellers of YFTNV jet fans have hubs and blades made of high-strength die-cast aluminum alloys. Each impeller has undergone heat treatment, X-ray flaw detection, tensile test, metal processing and dynamic balancing tests to ensure reliable quality. The blade angles are statically adjustable.

## Technical Information

### 1. Quality Standards

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

### 2. Fan Type

The YFTNV jet fan shall be directly driven and the impeller shall be mounted with axial airfoil blades. A streamlined air straightener upstream of the fan inlet shall be mounted. Tube silencers shall be attached to the inlet and outlet ends of the fan with high strength bolts. Steel safety guards shall be mounted on both the inlet and outlet ends of the fan to ensure safe operation.

The YFTNV jet fan includes unidirectional and reversible types. The unidirectional jet fan is designed for ventilation in one direction and can be made under special conditions to have reverse rotation with thrust 50% to 70% of normal rotation. The bidirectional reversible fan can be used for ventilation in two directions with relatively the same thrust and airflow levels.

### 3. Surface Processing

The surface shall be treated for corrosion and rust prevention. There shall be at least two layers of primer and finish coat resistance to high temperature. The fan surface shall be galvanized for enduring corrosion prevention on special occasions as required.

### 5. High Temperature Resistance

The YFTNV jet fan can run for a straight hour at 280 degrees without mechanical, electrical or structural failures and can be used for emergency smoke removal.

### 6. Rotation Reversible

# YFTNV - TUNNEL JET FAN

The rotor has a low moment of inertia. The rotation of YFTNV jet fan can be reversed smoothly to the rated speed within 30 seconds.

## 7. Nameplate

A permanently fixed aluminum nameplate shall clearly display the fan number, product model and serial number (A unique ID for each fan) so that the parts used can be traceable by customers.

## 8. Main Fan parts

Fan Part	Description
Impeller	<p>The hub and blades of the YFTNV jet fan shall be die-cast with high strength aluminum alloys. X ray flaw detection must be conducted on each blade to ensure manufacturing quality for reliable operation.</p> <p>Airfoil blades of optimal air performance shall be fastened to hub with high strength lock bolts. Every impeller shall be dynamically balanced. The blade angles shall be statically adjustable to meet different operating conditions.</p>
Fan Housing and Mounting Brackets	<p>The laser cutting and plasma cutting processes are used. The housing is automatically welded and formed by spinning. The surface is hot-dip galvanized or coated for better fan strength and corrosion resistance. The mounting brackets are designed based on actual field conditions.</p>
Silencer	<p>The YFTNV jet fan has silencers of 1 times fan diameter mounted at both the inlet and outlet ends. If sound is a primary consideration, silencers of 2 times fan diameter is recommended. The outer shell is rolled and welded with quality steel sheets. Insulation material with super fine glass fiber is placed inside the silencers between the alkali-free fibrous glass cloth on the outside and a perforated steel inner liner. The streamlined nozzle helps improve flow filed and efficiency.</p>
Fan Stack	<p>The fan stack shall be formed in quality steel sheet through the processes of rolling, continuous welding, spinning and flanging. Brackets for both the fan stack and motor shall be wholly welded to be strong enough to withstand the dynamic load generated.</p>
Motor	<p>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.</p> <p>The motor lead wire can be connected to the junction box on the fan stack, The grease tube leading all the way from the grease nipple to the fan housing makes greasing and maintenance much easier.</p>