



## **JetStream™ Axial Mine Fans (AMF Series)**

The *Jetstream™* Adjustable Pitch Vane Axial fan line was designed specifically to blend aerodynamic performance and ease of application. Based upon over 60 years of experience with axial fan installations, the design of these fans has been refined in order to offer the most reliable, maintainable equipment at an economical price.



### **Product Range**

ALPHAIR offers a range of heavy duty axial fans designed specifically for main mine ventilation. These robust, adjustable pitch fans have been designed to deliver up to 1,000,000 cfm (470 m<sup>3</sup>/s) and 14 inches (3.5 kPa) total pressure. Ranging in sizes from 76 ½" to 148" (1900 to 3800 mm), this fan line has been designed to offer high efficiency and reliable service.

### **Housing & Structural**

- ASTM A36 steel all welded construction.
- Structural steel bracing, stitch welded to housing.
- Bolted and gasketed splits for removal of wheel and shaft assembly and splits for field welding, as required for shipment.
- Designed to meet the strictest vibration specifications.
- Vertical and horizontal installations.



### Pedestals

#### Arrangement #3

Rotor mounted between bearings. Bearing supported by fabricated steel pedestals mounted in fan centre body. Pedestals are boltable to permit bearing changes with rotor and shaft in place.

#### Arrangement #4

Rotor mounted directly on motor shaft. Motor pedestal mounted in fan centre body, downstream of rotor.

### Shaft

- C-1030/1040/1045 Alloy steel shaft.
- Shaft designed for a first critical speed ratio of 1.25 minimum

### Rotor

- 16 Blades, at-rest adjustable pitch, with tapered bore to assure accurate fit up and large hub/shaft contact area, materials of construction:
  - Blades ASTM A701.1 Age Hardening Aluminum Alloy
  - Centre Hub 1030/1040 Mild Steel Epoxy Painted
  - Hub Structural Plates ASTM A242 Steel Epoxy Painted
  - Hub Rim Steel Alloy Plate or Forging Epoxy Painted



- The hub rim is formed with spherical profile to be aerodynamically smooth and to ensure minimal gap between the base of the blade and the wrap at all blade positions.
- The blade pitch is individually adjustable, with easy access from outside of housing through an access door in the wheel track. Releasing a series of socket-head screws and turning the blade to the desired pitch can vary the blade angle.
- This feature allows for fast and easy blade pitch changes without having to access the interior of the fan.

**10150 AMF 6100 JetStream™**  
Fan, 700 rpm, 1100 rpm

### Shaft Seals

- Cast aluminum flinger seal shaft at fan stationary nose cap.

### Painting



- A variety of surface preparations are available, including SSPC-SP 3, Machine Tool Preparation; SSPC-SP 6, Uniform Commercial Sand Blast; and SSPC-SP 10, Near White Sand Blast.
- A variety of coatings are available, such as Red Oxide Primer; Enamel, and Epoxy.

### **Coupling**

- Floating Shaft Coupling with stainless steel disc pack sized for minimum 2.5 Service Factor.

### **Bearings**

- Type SKF oil lubricated spherical roller and/or self-aligning ball bearings.
- Constant level oilers on both bearings, mounted exterior to fan, optional.
- Minimum bearing life ( $L_{10}$  life) of 100,000 hours.

### **Motor Base (Optional)**

- 4-Way adjustable base with jacking bolts. Heavy plate construction sized to suit selected motor.

### **Monitoring Equipment (Optional)**

#### **Fan**

- ♦ 100 OHM, 3 wire Platinum bearing RTD's - 1 per bearing.
- ♦ Vibration transducers mounted on fan bearings.