

## **Application**

The FR Series is a versatile inline duct fan. These models can be used for multiple point exhaust, residential and commercial applications, crawl space venting or make-up air supply. They are also widely used as booster fans to move air from one room or area to another. These models are not designed for nor should be used in radon applications.

## **Design**

The fans feature a fully sealed plastic housing.

The housing for model sizes FR 100 thru FR 160 is joined via a vibration welding process. The process uses transverse, reciprocating motion at the point of contact between the housing's inlet and outlet pieces. The friction produces heat that melts the thermoplastic material at the interface. The melted material quickly re-solidifies, resulting in a fused, single-piece housing. The fused seam is inherently air tight, very strong and permanent.

The housing for model sizes FR 200 thru FR 250 is joined and sealed via an adhesive caulk.

An air-tight fan ensures that efficiency is not lost and contaminants are not spilled due to leakage.

The fan can be mounted in outdoor and wet locations. The FR Series features external rotor motors that have proven dependable year after year.

A large electrical wiring enclosure is designed into the fan housing, making electrical installation easier.

## **Motor protection**

Thermal overload protected with automatic reset. The fans can be controlled via a solid state speed controller.

## **Guide Specifications for Model FR Inline Duct Fans**

Supply, exhaust or return air inline fans shall be of the centrifugal, direct driven type.

### **Housing**

- Fan housing shall be constructed of UV resistant, flame retardant Polycarbonate (PC) thermo plastic.
- Fan housing shall be a single piece casing formed by the joining of inlet and outlet pieces via a vibration welding process. The joining process shall not utilize mechanical fasteners, caulk or adhesive, and the seam where the pieces were joined shall be permanent and inherently leak free.
- Capacitor shall be provided and shall be located within the fan electrical terminal box for easy access. Electrical terminal box is water tight.

### **Motor**

- Motorized impeller shall be an external rotor type, class B insulation, totally enclosed PSC Type for maximum efficiency.

- Motor shall be a permanently sealed self lubricating ball bearing type.
- Motor shall be equipped with automatic reset thermal overload protection.
- Motor shall be acceptable for continuous duty.
- Sufficient service factor shall be provided to ensure long maintenance free operation over maximum load conditions.

#### **Wheel**

- Fan wheel shall be of the backward inclined centrifugal type with a well designed inlet venturi for maximum performance.
- Motorized impeller shall be both statically and dynamically balanced as one integral unit to provide for vibration free performance.

#### **Performance**

- Fan air flow performance shall be certified by HVI and licensed to bear the HVI Tested/Certified Performance Logo.

#### **Code Approval**

- Fan shall be certified by UL for safety.  
FR Series shall be manufactured under the authority of Fantech, Inc., Lenexa, KS.