fantech®
a systemair company

FR 100 Centrif. Inline Fan

Item Number: 411330
Variant: 115V 1~ 60Hz

- Airflow up to 150 cfm
- Vibration welded seam ensures leak proof housing
- Speed-controllable
- Air stream temperatures up to 140°F
- Not for Radon Mitigation applications! Use a radon fan Rn1 (89051)

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 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.
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.

Technical parameters

Norminal data		
Voltage (nominal)	115	V
Frequency	60	Hz
Phase(s)	1~	

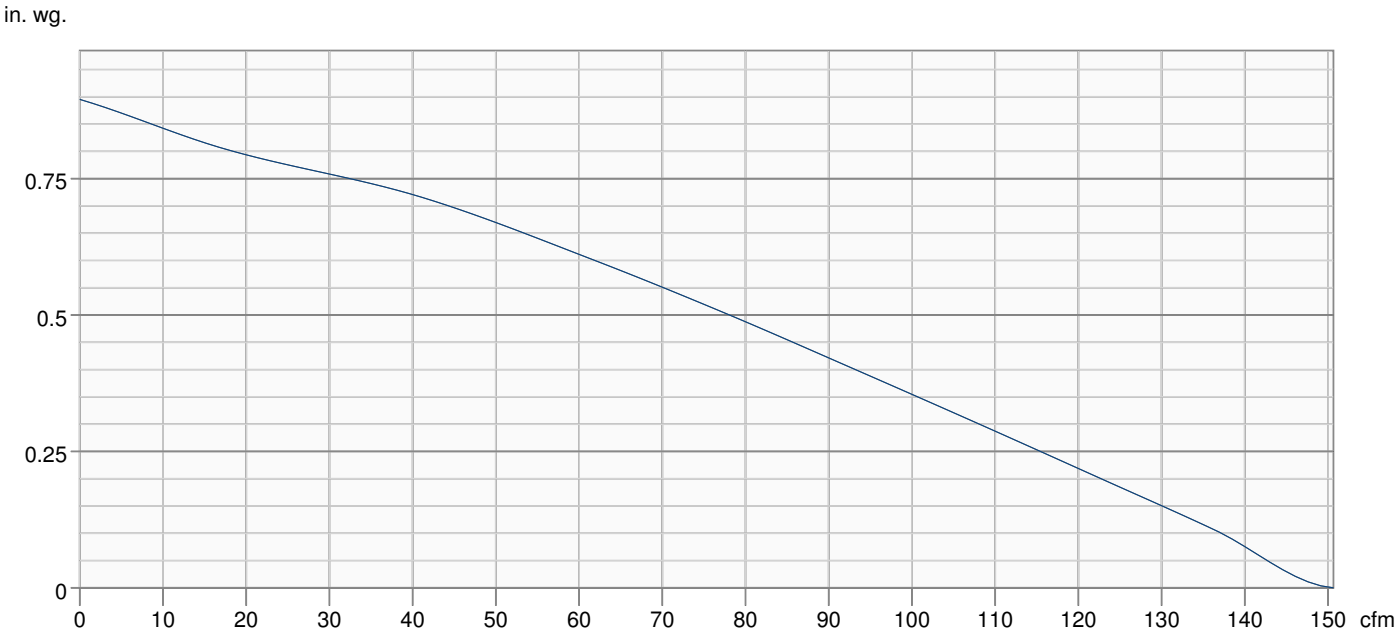
Input power	20	W
Input current	0.17	A
Impeller speed	1,833	r.p.m.
Air flow	max 151.0	cfm
Temperature of transported air	max 140	°F

Protection/Classification		
Enclosure class, motor	IP44	
Insulation class	B	

Dimensions and weights		
Duct dimension; Circular, inlet	4	in.
Duct dimension; Circular, inlet	100	mm
Duct dimension; Circular, outlet	4	in.
Duct dimension; Circular, outlet	100	mm
Weight	4.3	lb

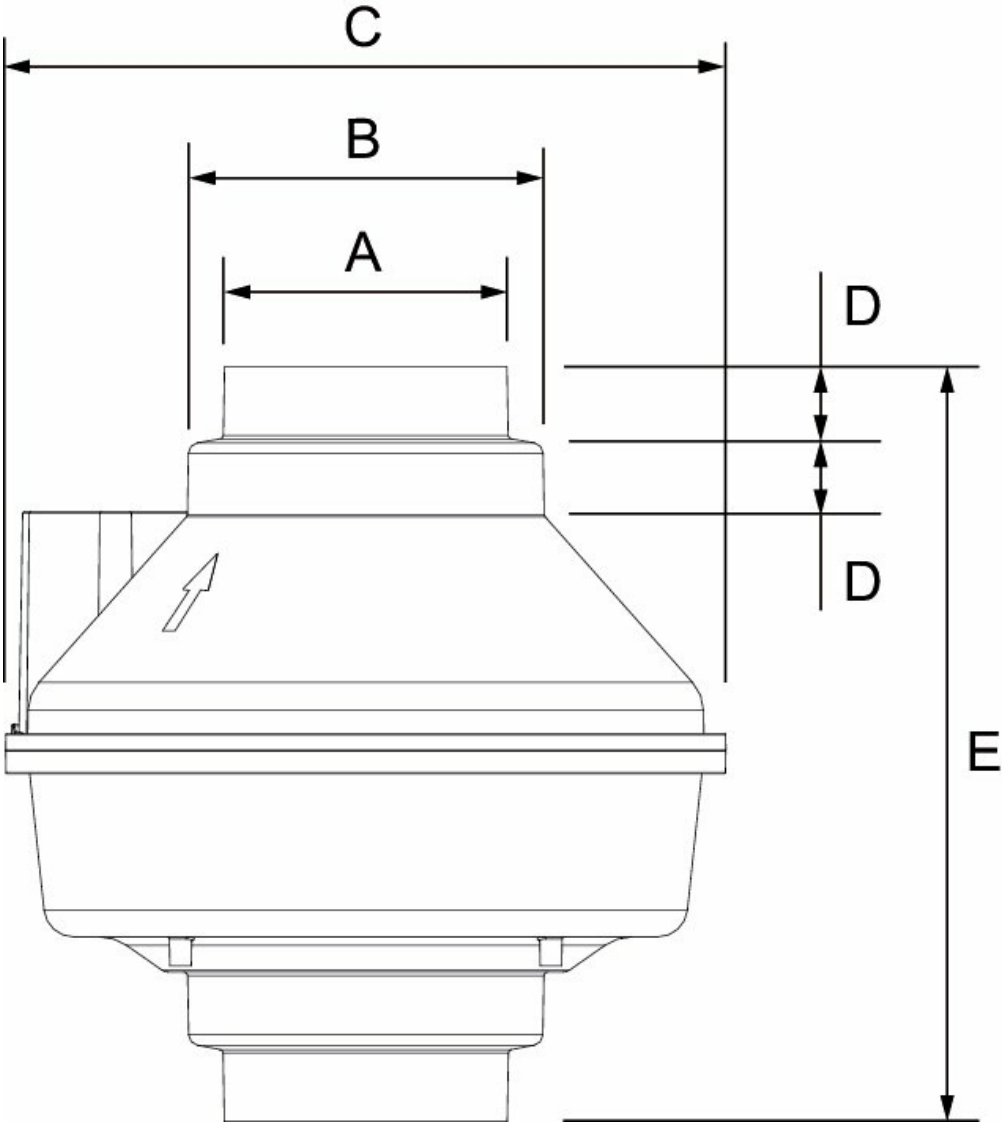
Optional		
Duct connection type	Circular	

Performance curve



Hydraulic data	
Required air flow	-
Required static pressure	-
Working air flow	-
Working static pressure	-
Air density	0.075 lb/ft³
Power	-
Fan control - RPM	-
Current	-
SFP	-
Control voltage	-
Supply voltage	-

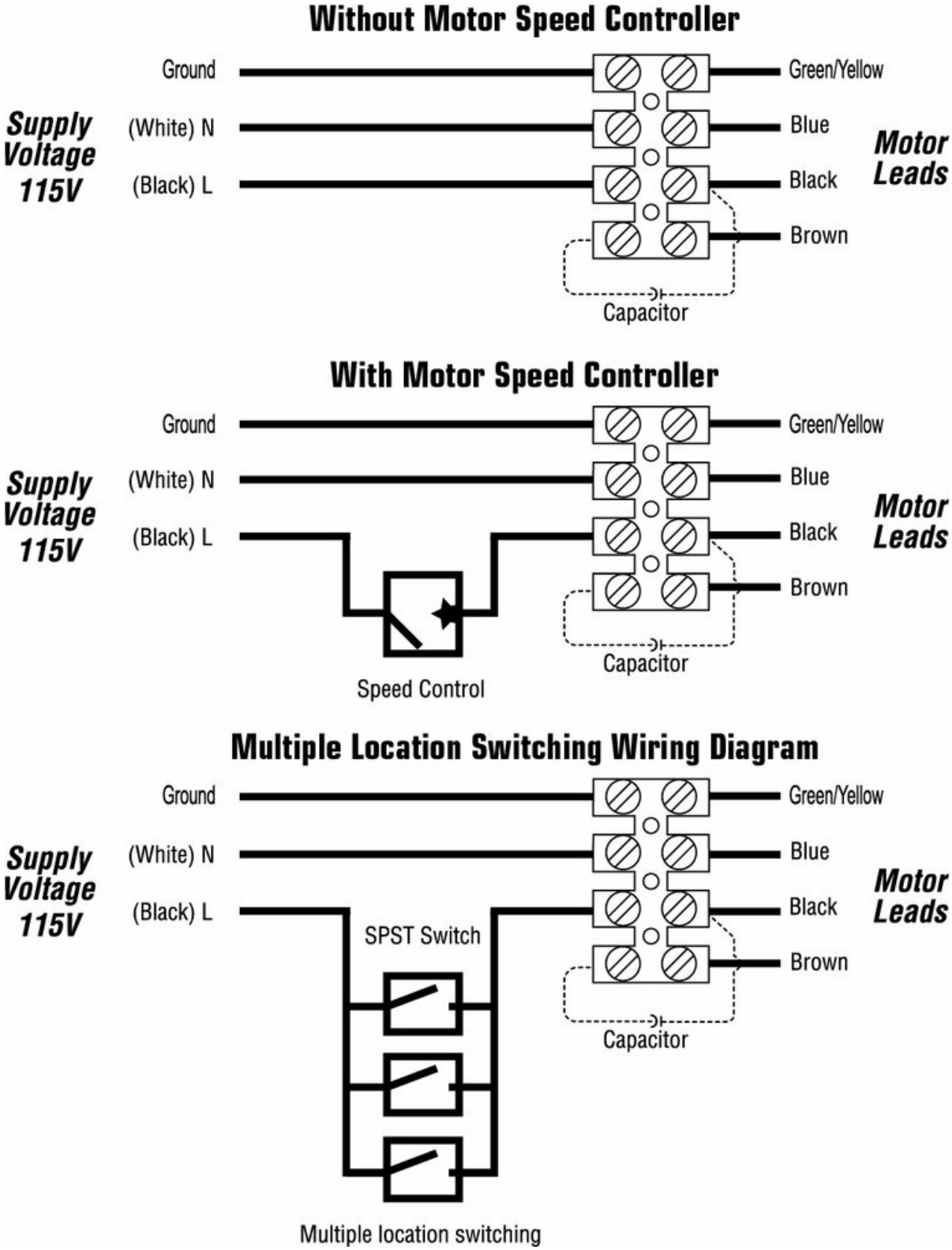
Dimensions



Model	A	B	C	D	E
FR 100	3 31/32 (110.5)	4 31/32 (126.5)	10 (256)	1 (25)	10 9/16 (268)
FR 110	3 31/32 (110.5)	4 31/32 (126.5)	10 (256)	1 (25)	10 9/16 (268)

Dimensions are in inches (mm)

Wiring


Without Motor Speed Controller
Ground
(White) N
(Black) L
Supply Voltage 115V
Green/Yellow
Blue
Black
Brown
Motor Leads
Capacitor
With Motor Speed Controller
Ground
(White) N
(Black) L
Supply Voltage 115V
Green/Yellow
Blue
Black
Brown
Motor Leads
Capacitor
Speed Control
Multiple Location Switching Wiring Diagram
Ground
(White) N
(Black) L
Supply Voltage 115V
SPST Switch
Green/Yellow
Blue
Black
Brown
Motor Leads
Capacitor
Multiple location switching

Accessories

- FC 4 Mounting Clamps (2 pcs) (411295)
- IR 4 Iris Damper (411234)
- RSK 4 Backdraft Damper (411112)
- VT20M Pgrm Fan Main Ctrl (45386)
- HS 4W External Louver Exhaust (45151)
- LD 4 Silencer (411282)
- VT20A Pgrm Fan Aux Ctrl (45385)
- WC 15 Speed Control (5A) (411102)

Documents

- 450418 FR Guide Spec EN.pdf
- 450371 FR Submittal Sheet EN.pdf
- 401444 FR OIPM EN FR ES.pdf
- 411330.dxf

Specification

Description

A centrifugal type exhaust/supply fan specifically designed for moderate size ventilation applications. The fan can be mounted in any angle at any point along the duct work and straight-through air flow design allows easy installation. By using accessory FC type mounting clamps fan can easily be removed from duct work for service. Fans are constructed in accordance with standard dimensions for spiral duct eliminating the need for transition pieces. Fan motors are capable of operating in air stream temperatures up to 140°F. Motor bearings are permanently sealed, self lubricating ball type. All fans are 100% speed controllable through a decrease in the voltage by using a solid state or transformer type control. Fans are not designed for nor should be used in radon applications. All FR Series fans are backed by Fantech's Five Year Warranty.

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.