

## EXTERNALLY MOUNTED FANS: FAN2301, FAN2302, FAN2303, FAN2316 AND FAN2317

Please ensure that these instructions are read thoroughly before commencing installation

**Please Note:** Internal Junction Box is supplied with all models.

### **Always switch power off prior to installation.**

All installations must comply with current Electrical and Building Regulations as required by your local authority. Electrical work shall only be carried out by a Registered Electrician. All building work must be done in accordance with local and national building and electrical codes as applicable. All electrical work must be done in accordance with local and national electrical codes as applicable.

**If in doubt check with the local council.**

### **ELECTRICAL CONNECTIONS**

#### **Outside of the Building**

**Important Note:** Junction Box supplied is not suitable for external use (Outside of the building).

A suitable weather proof, UV resistant enclosure must be used and all fittings and terminations must comply with the relevant electrical wiring regulations. Note that for models incorporating a centrifugal fan, (Models FAN2301, FAN2302, FAN2316 and FAN2317) capacitor start motor, the enclosure will need to house the capacitor as well as the terminal connections. The minimum available space required will be 70mm x 50mm x 50mm. Ensure that all cable entries are properly sealed.

Electrical connections should only be carried out by a suitable qualified electrical contractor.

**Method:** Make permanent connections per the relevant wiring information on pages 2-3.

#### **Inside the Building**

**Important Note:** Junction Box supplied is suitable for internal use ONLY.

For inside the building the motor lead gland hole is between the top fixing and the middle of the unit – allow enough lead to protrude from the duct as is required for termination. The motor lead has been terminated using a grommet to the outside of the base unit. The base unit assembly can now be placed in position in the wall penetration.

Once the assembly has been fastened to the wall, the electrical connections can be made. The junction box must be fastened to the inside of the building.

### **WALL MOUNTING INSTALLATION**

**The Externally Mounted Fan is suitable for external wall installations only. (The fan must be installed with the blades more than 2.1m above the floor).**

Open the contents of the box and confirm it is all present. To open the unit up carefully unscrew the two M4 screws and remove the star washers these will be required later in the installation, remove the Front Cover and carefully put to one side.

The duct is 150mm in diameter, if required use a 125mm -150mm reducer (not supplied) to fit other sizes of duct.

Ensuring that there is sufficient space for the product to be installed and that the Front Cover can be removed for maintenance.

- Confirm that the screws supplied are sufficient for the wall type (**see wall dog performance data**).
- Using the template provided, mark the duct, electrical cable position and fixing holes centres on the wall. Cut a 160mm diameter hole through the wall for the duct. Drill the wall for relevant screw fixing and the cable location.
- Locate the unit on the wall, feed the electrical cable through the wall and secure the semi rigid duct from the inside of the building to the inlet. Ensure there are no sharp bends or too much slack in the duct, trim any excess.

# EXTERNALLY MOUNTED FANS

## INSTRUCTION MANUAL



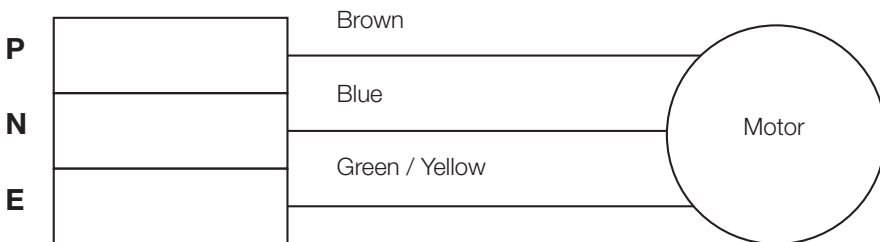
Continued from page 1.

- Fit the foam sealing tape supplied to rear of the Back Plate. Run tape around the outside of the mounting holes, joint located at the bottom.
- Apply tape on all duct joins and secure the duct to the inside of any cabinets or roof with a suitable strap; Secure the Back Plate into position using the screws provided (or alternative ones).
- Ensure that the fan rotates ok and does not catch on any of the metal work.
- Wire up the unit; use the white box provided and following the relevant wiring diagram below. Confirm that the fan operating correctly.
- Before fixing the Front Cover on, seal any of the edges/joints or holes to ensure that the installation is watertight.
- Fix the Front Cover on to the Back Plate, ensure that the open mesh is facing towards the bottom; the Front Cover clips over at the top and is secured at the bottom sides with the two screws and star washers from above. (These are needed to earth the outside cover and it is important that when testing the unit you check for this).
- Make the installation watertight using suitable sealants.
- Switch the mains power supply on and check that the fan is operating correctly.

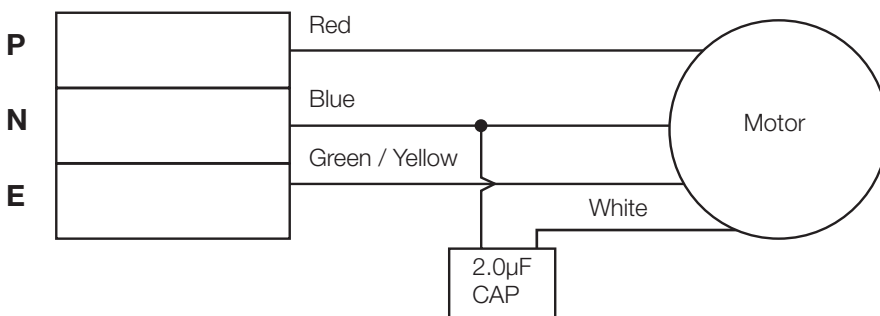
**IMPORTANT:** Please note that the unit must be checked for earth continuity at the two screw locations.

## WIRING CONNECTIONS

For Axial flow induction motor models (no capacitor): FAN2303



For capacitor start centrifugal fan models: FAN2301 (1 speed, 190 motor)

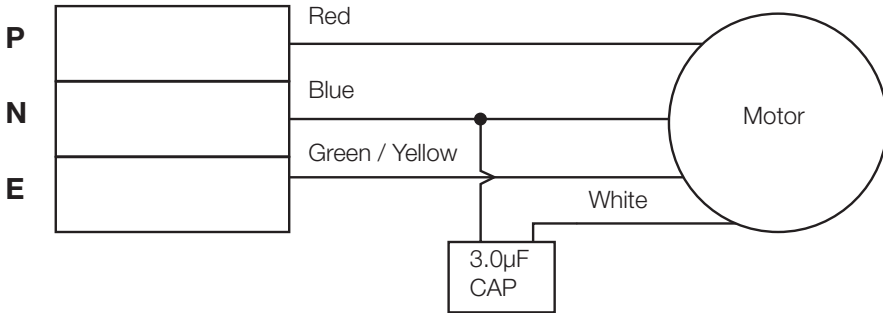


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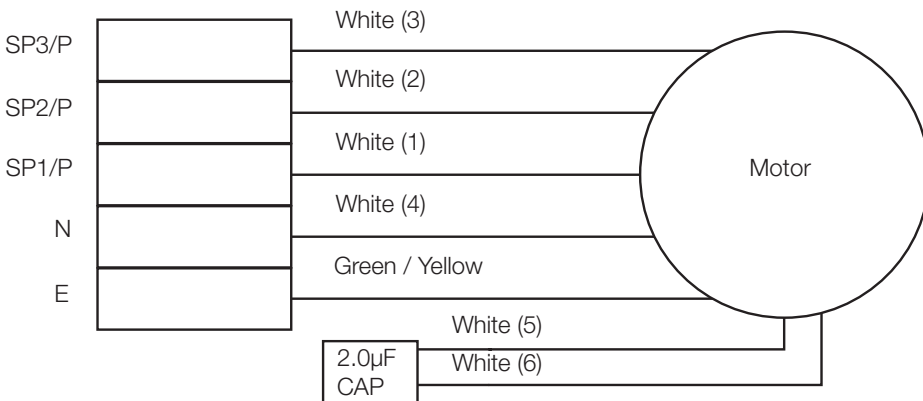
## INSTRUCTION MANUAL



For capacitor start centrifugal fan model: FAN2302 (1 speed, 220 motor)

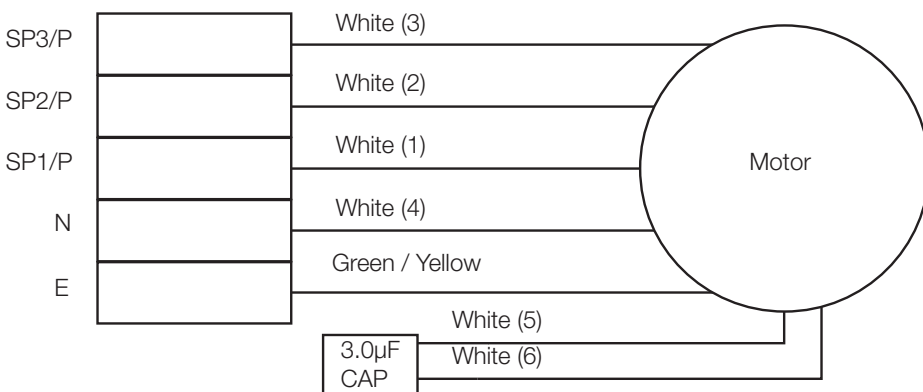


For capacitor start centrifugal fan model: FAN2316 (3 speed, 190 motor)



Connect SP3/SP2/SP1 to single phase (P) for High/Medium/Low speed control

For capacitor start centrifugal fan model: FAN2317 (3 speed, 220 motor)



Connect SP3/SP2/SP1 to single phase (P) for High/Medium/Low speed control

# EXTERNALLY MOUNTED FANS

## INSTRUCTION MANUAL



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### SETUP

**WARNING:** The fan and ancillary control equipment must be isolated from the power supply during the installation or maintenance.

### WIRING

**WARNING:** The fan and ancillary control equipment must be isolated from the power supply during the installation or maintenance.

Use 0.75mm<sup>2</sup> cable.

### SERVICING AND MAINTENANCE

**WARNING:** The fan and ancillary control equipment must be isolated from the power supply during maintenance.

At intervals appropriate to the installation, the fan should be inspected and cleaned to ensure there is no build-up of dirt or other deposits.

**The fan has sealed for life bearings, which do not require lubrication.**

### IMPORTANT SAFETY INFORMATION:

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Ensure that the fan is switched off from the supply mains before removing the guard.
- The fan is intended for mounting on external walls or windows.
- Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel burning appliances.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The fan is to be installed so that the blades are more than 2.1m above the floor.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

# EXTERNALLY MOUNTED FANS

## INSTRUCTION MANUAL



### WALL DOG PERFORMANCE DATA

#### Ultimate and Allowable Load Capacities for Wall-Dog in Normal-Weight Concrete<sup>1</sup>

Anchor Diameter <i>d</i> mm (in.)	Mini Embedment Depth <i>h<sub>v</sub></i> mm (in.)	Minimum Concrete Compressive Concrete Strength <i>f'<sub>c</sub></i> > 4,000 psi (27.6 MPa)			
		Ultimate Load		Allowable Load	
		Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
6.4 (¼)	19.1 (¾)	1.6	4.6	0.4	1.2
	25.4 (1)	3.2	4.8	0.8	1.2

1. Allowable load capacities listed are calculated using an applied safety factor of 4.0.

#### Ultimate and Allowable Load Capacities for Wall-Dog in Normal-Weight Concrete<sup>1</sup>

Anchor Diameter <i>d</i> mm (in.)	1/2" Wallboard		5/8" Wallboard		3/4 Plywood	
	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
6.4 (¼)	0.4	1.1	0.6	1.6	1.1	2.7

1. The vales listed above are ultimate load capacities which should be reduced by a minimum safety factor of 4.0 or greater to determine the allowable working load.

#### Allowable Load Capacities for Wall-Dog in Wallboard and Plywood<sup>1</sup>

Anchor Diameter <i>d</i> mm (in.)	1/2" Wallboard		5/8" Wallboard		3/4 Plywood	
	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
6.4 (¼)	0.1	0.3	0.2	0.4	0.3	0.7

1. Allowable load capacities listed are calculated using an applied safety factor of 4.0.

#### Ultimate Load Capacities for Wall-Dog in Grout-Filled, Hollow Concrete Masonry and Structural Brick Masonry<sup>1</sup>

Anchor Diameter <i>d</i> mm (in.)	Minimum Embedment Depth <i>h<sub>v</sub></i> mm (in.)	Anchor Location	Grout-Filled Concrete Masonry ASTM C 90		Hollow Concrete Masonry ASTM C 90		Brick Masonry	
			Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
6.4 (¼)	19.1 (¾)	Centre of Masonry Unit	-	-	-	-	1.8	2.9
	19.1 (¾)	T-Joint	-	-	-	-	1.6	2.7
	25.4 (1)	Centre of Masonry Unit	1.3	3.7	1.4	3.7	2.7	4.1
	25.4 (1)	T-Joint	1.3	4.1	1.3	4.1	1.7	3.7

1. The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 5.0 or greater to determine the allowable working load.

#### Allowable Load Capacities for Wall-Dog in Grout-Filled, Hollow Concrete Masonry and Structural Brick Masonry<sup>1</sup>

Anchor Diameter <i>d</i> mm (in.)	Minimum Embedment Depth <i>h<sub>v</sub></i> mm (in.)	Anchor Location	Grout-Filled Concrete Masonry ASTM C 90		Hollow Concrete Masonry ASTM C 90		Brick Masonry	
			Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)	Tension (kN)	Shear (kN)
6.4 (¼)	19.1 (¾)	Centre of Masonry Unit	-	-	-	-	0.4	0.6
	19.1 (¾)	T-Joint	-	-	-	-	0.3	0.5
	25.4 (1)	Centre of Masonry Unit	0.2	0.7	0.3	0.7	0.5	0.8
	25.4 (1)	T-Joint	0.3	0.8	0.3	0.8	0.3	0.7

1. Allowable load capacities listed are calculated using an applied safety factor of 5.0.