

# Smoke Extraction Motors



Firex Series

## Firex Series Havells Smoke Extraction Motors



### Overview

The low-voltage motors with squirrel-cage rotors for implementation in automatic smoke & heat extraction units to EN 12101-3 are mainly designed for driving smoke extraction fans. For this reason, they are known as Smoke-Extraction Motors. They are mainly used in buildings or structures in which smoke control is necessary due to their shape & arrangement.

Temperature/time classification according to EN 12101-3 is as below.

- F180 corresponds to 180°C for 120 min
- F250 corresponds to 250°C for 120 min
- F300 corresponds to 300°C for 60 min
- F300 corresponds to 300°C for 120 min

### Testing & Test Certificates

The smoke-extraction motors are manufactured with AEG Technology. These motors have been tested & approved by TUV-SUD, India Certification No. IND:3410/Havells/A.S/09-A dated 27/05/2012.

We at Havells have also made such motors under above certification & found them functionally sound under temperature of 250°C for 120 min and 300°C for 60 min from 71Fr. to 250Fr.

## The Smoke-Extraction Motors offer the user a number of advantages

- The assignment of standard outputs is unchanged. This means that a larger construction size is not required for smoke-extraction motors.
- Radial-Flow & Axial-Flow fan drive are possible.
- Self-ventilated motors with a metal fan impeller can be used as radial-flow fan drives.
- Forced Air Cooled Motors can be used as axial-flow fan drives taking into account the required volumetric flow of motor cooling. In this case the driven fan performs the ventilation.



### Benefits

The Smoke-Extraction Motors operate as so-called “Dual-Function Motors”:

- Normal operation (no instance of fire): Incoming/ Outgoing air flow
- Fault operation (in case of fire):
- Removal of smoke from escape & access routes
- Supporting fire fighting by creating a smoke-free zone
- Protecting devices & equipment
- Reducing the heat stress of components during a fire
- Reducing secondary damage due to thermal bi-products & hot gases



## Technical Specification Standards & Regulation

In addition to relevant standards & regulations, EN 12101-3 applies for non-portable fire-fighting systems:  
Systems for controlling smoke & heat flows, part 3, specification for smoke & heat extraction units.

## Voltage & Frequency

### Rated voltages according to IEC 60034-1

- 230VΔ 50Hz
- 400VΔ 50Hz & 400VY 50Hz
- 500VΔ 50Hz & 500VY 50Hz
- 690VY 50Hz

### Non-standard voltages as well as 60Hz are available on request

Operation in the event of fire

In addition to normal duty, operation in the event of a fire as specified in EN 12101-3 is available.

At the end of the fire incident, the motor may be unfit for normal duty. It is therefore specified that the motor is removed & overhauled or replaced with a new motor.

In the event of a fire, any "thermal motor protection" must be deactivated.



### Standard Number of

- 2, 4 & 6
- Higher poles & pole-changing / dual speed motors are also available against specific enquiry.

### Paint Finish

- The motors finished with the colour RAL 9005.

### Bearings, Grease

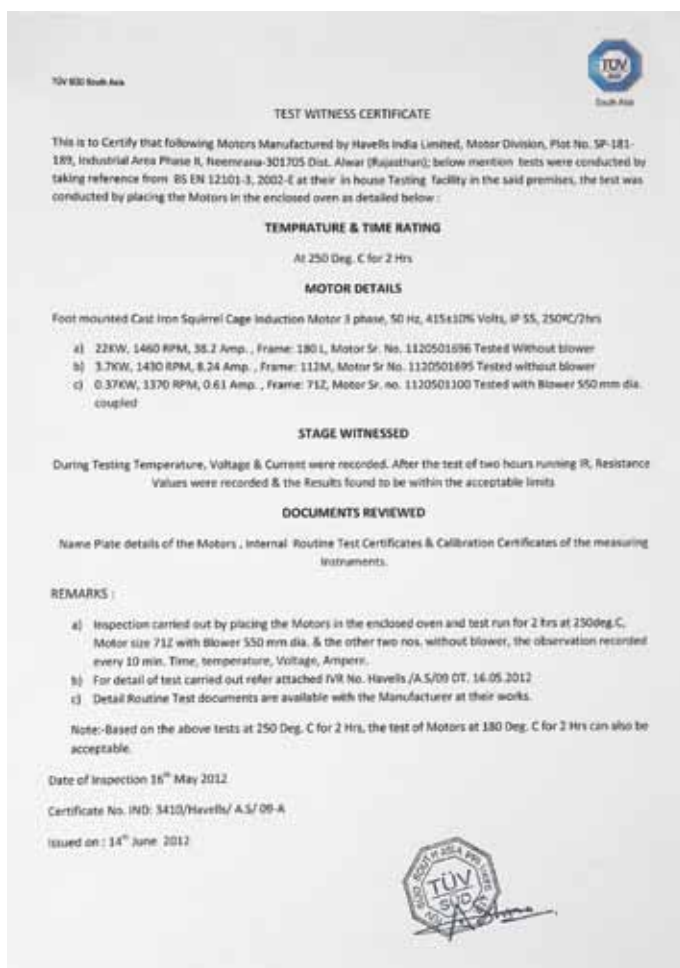
Special bearing systems are used that are matched to the respective temperature classes. Deep-groove bearings of series 62 or 63 without play are used depending upon F180/250, F300 & the frame sizes. Special high temperature grease is used so as to withstand the demand as per F180/250 & F300.

### Application

The smoke-extraction motors are designed for use in automatic smoke & heat extraction units to EN 12101-3.

Typical application examples include:

- Tunnels
- Single & multi-storey shopping centres
- Industrial buildings & warehouses
- Building complexes & atriums
- Theatres
- Indoor car parks
- Staircases





## Other Products

ACB



MCCBs



Digital MCCB



ATS



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Submersible & Motor Starter



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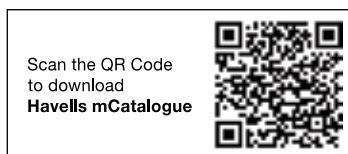
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