Re-starting the motors is achieved by two methods:-

- auto-reset
- manual-reset

The 'auto-reset' will permit the fan motor to automatically re-start when the windings cool down. It is recommended they be connected to a current control relay.

The 'manual-reset' type requires the thermal contacts to be wired to a remote trip contactor which has to be reset manually.

SUPPLY VOLTAGE

As the speed of external rotor motors can be controlled by varying the applied voltage, they can be used where the voltage varies from the standard of 240V/1ph/50Hz or 415V/3ph/50Hz without detrimental effect to the motor. Indeed, on voltages as low as 200 volt on single-phase, or 346 volt on three-phase supply, only a slight reduction of the motor speed would be detected.

TROPIC-PROOFING

Tropic-proofing consists of an anti-fungal treatment of the windings. Further modifications may be necessary for high humidity applications.

WARRANTY

Note that warranty is void if the thermal contacts are not used.

AS/NZS3000:2007 wiring rules state that motors required to run unattended shall be fitted with over-temperature devices such as thermal overload relays. If this is not complied with warranty will be void.

A licensed electrical contractor or engineer, experienced in motor protection, should be engaged to assess the motors and specific requirements of the installation.

STANDARD MOTORS

INTRODUCTION

Constructed to appropriate Australian, European and International Standards, standard motors are used to drive a range of fans extending from window and wall units to large industrial axial flow and centrifugal fans.

STANDARDS

The standard motors used are foot, flange or pad mounted, metric type and totally enclosed as produced by most of the world's major manufacturers. They will run continuously with the minimum of attention and have been selected for their universal interchangeability and availability in countries throughout the world. The motors comply with the appropriate British, Australian and International Standards as far as:-

- output
- performance
- dimensions
- minimum energy performance standard (MEPS) to AS/NZS1359.5:2004

are concerned.

TEMPERATURE RANGE AND ALTITUDE

In general the motors can operate in ambients from -20°C to +40°C at altitudes up to 1000 metres above sea level. Motors to operate outside this range can be supplied if required.

ENCLOSURE STANDARD

The minimum is IP54 in accordance with the appropriate standards. IP55 enclosure can be supplied for fully weatherproof applications.

FINISH

Standard finish is enamel paint top coat on suitable primer to give good appearance and protection for general usage. Alternative finishes such as epoxy coating can also be provided.

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STANDARD MOTORS (Cont.)

SPEED CONTROL

Certain sizes of single and three-phase motors are suitable for variable speed control. If the fan is controlled by a variable speed drive, the installation must be compliant with CISPR14.1:2003 to satisfy EMC compliances.

BEARINGS

Unless otherwise nominated, all fans are fitted with ball or roller bearings. The bearing housing of motors up to frame size D132 as a minimum, are fully enclosed, sealed-for-life and therefore do not require maintenance.

Bearings are pre-packed with grease and, under normal circumstances, last for several years.

Larger frame sizes are fitted with lubrication nipples. When these motors are fitted to axial flow fans, lubricators, extended to the outside of the fan casing to facilitate lubrication, are fitted. Grease relief valves must be fitted when extended lubrications are fitted.

ELECTRICAL SUPPLY

Motors are generally wound for 415V/3ph/50Hz or 220-240V/1ph/50Hz, however, we can provide motors wound for all voltage and frequency variations.

INSULATION

Insulation to Class F with Class B temperature rise is used throughout, allowing for operation in ambients up to +40°C. Motors for higher temperatures can be provided upon request.

TROPIC-PROOFING

Tropic-proofing consists of an anti-fungal treatment of the windings. Further modifications may be necessary for high humidity applications.

MULTI-SPEED MOTORS

Many applications require the maximum design conditions for only relatively short time periods, resulting in a waste of energy and consequently, a high running cost.
To overcome this, fans can be supplied with 2-speed motors.

Using this method, power savings can be substantial, as well as generating much lower noise levels.

THERMAL PROTECTION

Thermal protection in the form of thermistors can be incorporated in any of the squirrel cage induction motors on request.

Thermistor overloads must be used in conjunction with these motors.

HIGH TEMPERATURE APPLICATIONS

When continuous operation in higher ambients is essential, the motor can be wound with Class H insulation.

The maximum continuous ambient temperature for Class H insulation is:-

- Class H - 80°C

The above figure is a guide only as the maximum ambient depends upon the load being applied to the motor and the temperature rise of the motor.

If in doubt, refer to our sales office.

SMOKE-SPILL APPLICATIONS

Refer to page C-8.

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