

# Vapormatic starters for slip ring motors M 35



The M35 starter is of heavy duty metal construction suitable for use in dust laden atmospheres or outdoors.

- For motors up to 120 kW
- Suitable for outdoor or dust laden atmosphere

These starters have numerous advantages:

- Reliability
  - No moving parts other than the contactors,
  - Unaffected by damp, dusty or corrosive atmospheres.

- Economy
  - Cable saving: integral contactors facilitate installation beside motors,
  - Minimal electrical and mechanical maintenance,
  - Competitive prices.

- Adaptability
  - Easy adjustment gives "made to measure" starting conditions and conversion to suit different drives.

## operating principle

This is based on the difference in resistivity between a liquid electrolyte and its vapour, contained in an electrode chamber.

The passage of the initial rotor current causes immediate partial vapourisation of

the electrolyte and instantaneously adjusts resistance and starting torque to optimum values. During the run-up to speed, the thermal interchanges which occur progressively decrease the resistance.

A timed contactor then short circuits the

low residual resistance.

The starting torque is determined according to the requirements of the driven machine or the current limitation.

## specifications

### Electrical characteristics

- Rating
  - M35/1: up to 30 kW (up to 40 HP),
  - M35/2: 30 to 60 kW (40 to 80 HP),
  - M35/3: 60 to 90 kW (80 to 125 HP),
  - M35/4: 90 to 120 kW (125 to 160 HP).
- Rotor voltage between slip rings: 750 V maximum,
- Integral short circuit contactor: 140 A - 175 A - 280 A,
- Number of electrode assemblies: 1, 2, 3 or 4,
- Connection: 1 or 2 stages (tank divided into sections),

- Cabling via undrilled gland plate,
- Delay time: timing relay.

### Electrolyte

- Electrolyte temperature thermostatically controlled,
- Electrolyte level indication by dipstick,
- Electrolyte included with each starter in powder or crystal form for mixing with drinking water and anti-evaporation oil.

### Tank

- Tank capacity: 35 litres,

### Environment

Protection IP63.

### Presentation

- Resin polyester based paint finish. Thickness: 60 microns minimum. Grey-beige RAL 7032.

- Average weight with contactor
  - . without electrolyte: 38 kg
  - . with electrolyte: 73 kg.

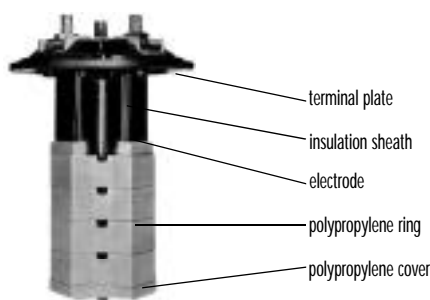
## electrode assembly

This is a standard component designed for a unit power of 30 kW.

The value of resistance is preset at our works according to drive and motor particulars.

It is always possible to make adjustments on site, either for a change of drive or for a different duty.

This is easily carried out by changing the electrolyte and/or the size of the electrode chamber.



## rotor starter protection system

On request we can supply your starter with an electronic module type DRS.

This module allows

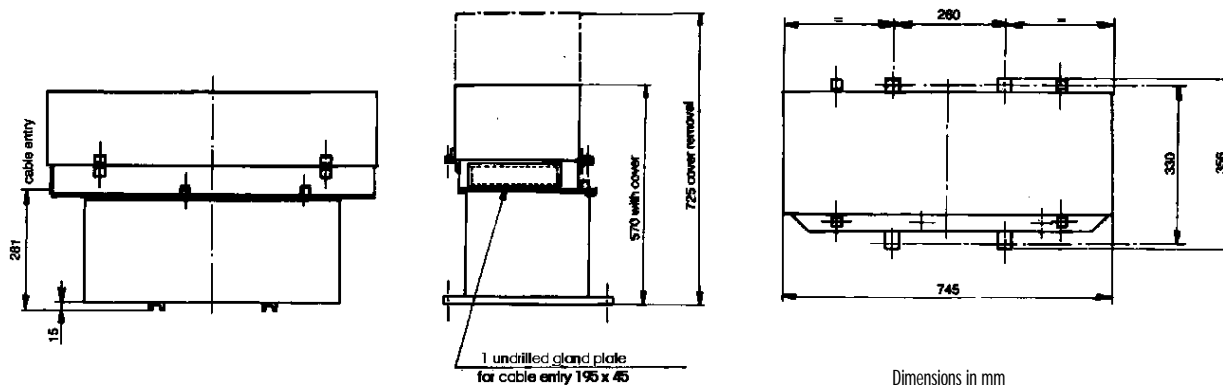
- locked rotor detection of your motor

- optimisation of the starting time by measuring the true speed of the motor
- temperature monitoring of the electrolyte
- limitation of the number of starts per

hour.

Any anomaly in the starting sequence is detected by a fault relay which can be connected to your control circuit.

## dimensions



## options

Antifreeze .....  
Antifrost protection down to - 20°C.  
Can be used throughout the year but can-

not be added to existing electrolyte as it alters the value of resistivity.

Tropicalisation .....

## ordering instructions

Starter up to 30 kW	M35/1
Starter 30 to 60 kW	M35/2
Starter 60 to 90 kW	M35/3
Starter 90 to 120 kW	M35/4

Consumables and accessories .....	
Electrolyte	On request
Thermostat	ER60102B

Options .....	
Antifreeze	On request
Tropicalisation	On request

The above characteristics are subject to modification without prior notice



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