

# Vapormatic starters for slip ring motors M 70



The M70 starter is of heavy duty metal construction suitable for use in dust laden atmospheres or outdoors.

- For motors from 90 to 200 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 vaporisation 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
- M70/4: 90 to 120 kW (125 to 160 HP),
- M70/6: 120 to 200 kW (160 to 270 HP),
- Rotor voltage between slip rings: 750 V maximum,
- Integral short circuit contactor: 140 A - 175 A - 280 A - 420 A - 630 A - 700 A,
- Number of electrode assemblies: 4 or 6,
- Connection: 1 or 2 stages (tank divided

- into two sections),
- Cabling via undrilled gland plate,
- Delay time: timing relay.

Electrolyte.....

- Electrolyte temperature thermostatically controlled,
- Electrolyte level indication by filler pipe,
- Electrolyte included with each starter in powder or crystal form for mixing with

drinking water and anti-evaporation oil.

Tank .....  
Tank capacity: 70 litres.

Environment .....  
Protection IP 63.

Presentation.....  
- Resin polyester based textured paint finish.

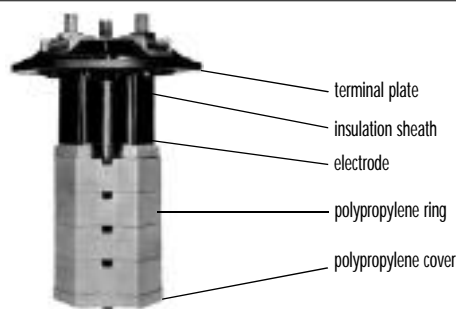
Thickness: 60 microns minimum.  
Grey-beige RAL7032.

- Average weight with contactor  
- without electrolyte: 115 kg,

. with electrolyte: 185 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.

## options

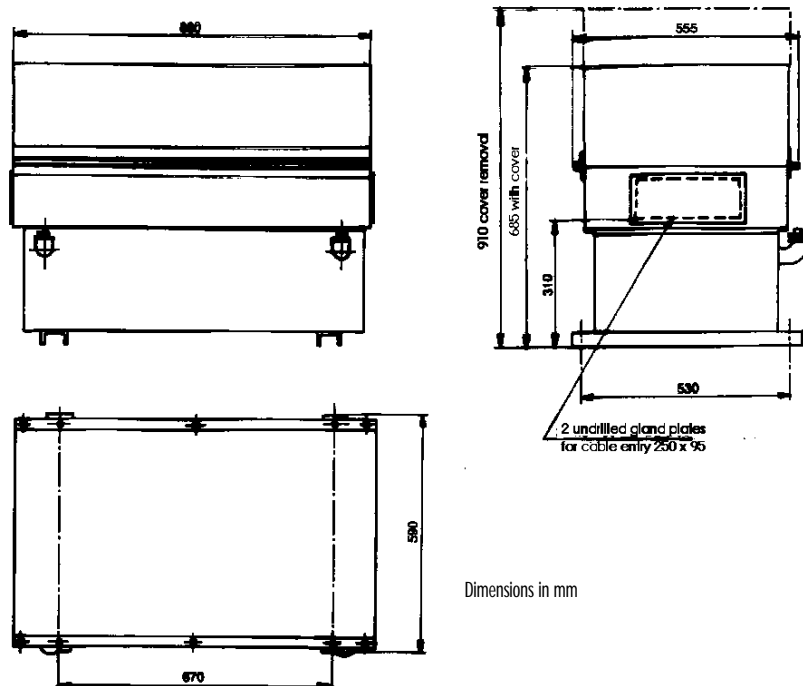
Antifreeze .....  
For temperature down to - 20°C.  
Can be used throughout the year but can-

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

Tropicalisation.

Electrolyte level detector.

## dimensions



Dimensions in mm

## ordering instructions

Starter 90 to 120 kW M70/4  
Starter 120 to 200 kW M70/6  
  
Consumables and accessories .....  
Electrolyte On request  
Thermostat ER60102B

Option .....  
Tropicalisation On request  
Antifreeze On request  
Electrolyte level detector ER60136-000



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The above characteristics are subject to modification.