statormatic starters for cage motors RC5 - RW5 - RZ5

RED statormatics starters offer an unrivalled starting capability and have the following advantages:

• Reliability
- They do not have any moving parts other than the short circuit contactor.
- There is no current peak at the end of the starting period.

• Savings
- The electrical and mechanical maintenance is considerably reduced.
- The units are pre-wired.

• Easy use
The starting characteristics are "made to measure" and can be altered for a change of motor or machine by simply replacing the electrolyte.

- For motors up to 750 kW
- Proven technology
- Reduced maintenance
- Absence of noise (radiofrequency and harmonic interference)

description

The starters of this range can be supplied in three formats: RC, RW or RS.
They are made up of two parts:
- The electrolytic starting resistance in a frame with tanks and a thermostat.
- The equipment
  • an enclosure integral to the frame which contains a short circuit contactor, timing relay, optional line contactor, etc.
The RC5 and RW5 units are supplied in this form up to a maximum power of 225 KW.
  • a separate WS wall mounting enclosure can be used with RZ5 frames up to a maximum power of 750 KW.
The RZ/WS modular assemblies are pre-wired.

operating principle

The decrease in resistance of an electrolyte when heated is utilised inside an electrode chamber.
The resistance is connected in series with the motor windings to reduce terminal volts, starting torque and current drawn from the line. As the motor runs up to speed, there is an automatic decrease in resistance value with a consequent increase in motor voltage, giving smooth acceleration without torque or current peaks.
At the end of the run-up period a timed contactor closes and short circuits the residual resistance.
Reduction of the starting torque is determined according to the requirements of the driven machine or the current limitation.

specifications

Electrical characteristics.....

- Rating
  - 75 kW (100 HP) max. (RC5/3, RW5/3, RZ5/3)
  - 150 kW (200 HP) max. (RC5/6, RW5/6, RZ5/6)
  - 225 kW (300 HP) max. (RC5/9, RW5/9, RZ5/9)
  - 300 kW (400 HP) max. (RZ5/12)
  - 375 kW (500 HP) max. (RZ5/15)
  - 750 kW (1000 HP) max. (only RZ).

- Voltage between phases: 690 V.

- Incorporated short circuit contactor:
  - 25 A, 50 A, 125 A, 200 A in RC5 or RW5
  - 200 A, 300 A in RW5
  - 445 A, 550 A, 800 A, 1000 A (in separate box WS3)

- Number of electrode assemblies: 3, 6, 9, 12 or 15.
- External connections via undrilled gland plates (to be made in accordance with the circuit diagram supplied with the equipment).

- Delay time by timing relay.

Electrolyte.....

- In powder or crystal form for mixing with drinking water and anti-evaporation oil. Electrolyte is included with each starter.
- Electrolyte temperature is controlled by thermostat 16 A/400 V.
- Electrolyte level: level is visible through transparency of tanks. Level lamps provide visual indication when tanks are covered with louvres.

Electrolyte tanks.....

These are built in modules of three and stacked to form the model required. Each tank has a capacity of 5 litres.

Environment .....

IP 31 (RC5P, RW5P)
IP 52 (RC5E, RW5E)
IP 11 (resistance component of RC5, RWR and RZ5)

Presentation.....

- Finish: resin polyester based textured paint.

Thickness: 60 microns minimum.
Shade grey-beige RAL 7032.

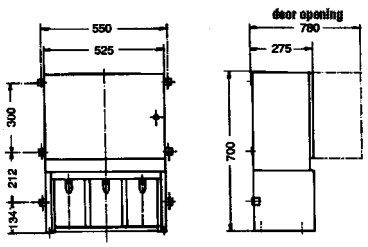
Weight.....

Please refer to table below.

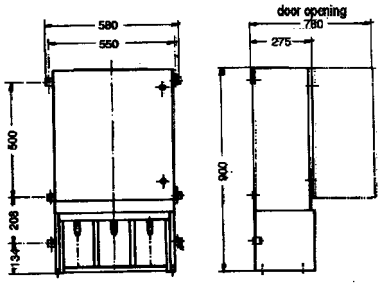
Reference	Average weight with contactor Without electrolyte	With electrolyte
RC5/3	25 kg	40 kg
RC5/6	45 kg	75 kg
RC5/9	70 kg	115 kg
RW5/3	40 kg	55 kg
RW5/6	60 kg	90 kg
RW5/9	85 kg	130 kg
RZ5/3	12 kg	27 kg
RZ5/6	24 kg	54 kg
RZ5/9	35 kg	80 kg
RZ5/12	47 kg	107 kg
RZ5/15	60 kg	135 kg
RZ5/18	70 kg	160 kg
RZ5/24	94 kg	214 kg
RZ5/30	120 kg	270 kg
RZ5/36	140 kg	320 kg

dimensions

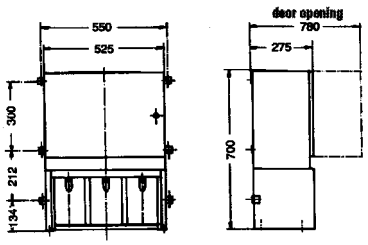
RC5/3



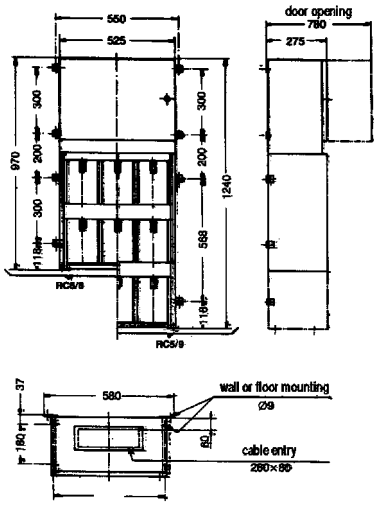
RW5/3



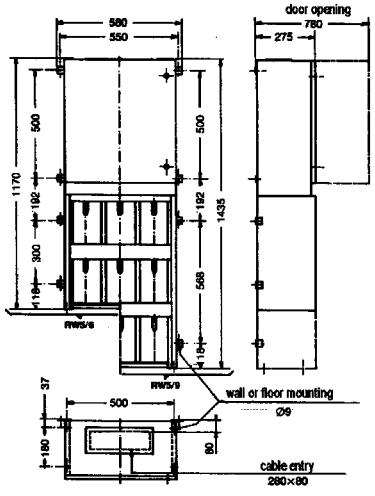
RC5/3



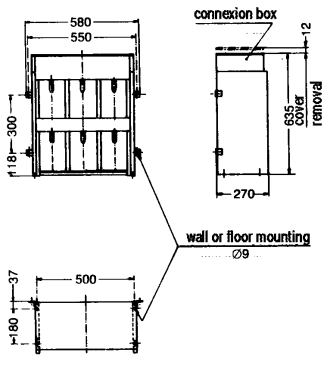
RC5/6 - RC5/9



RW5/6 - RW5/9

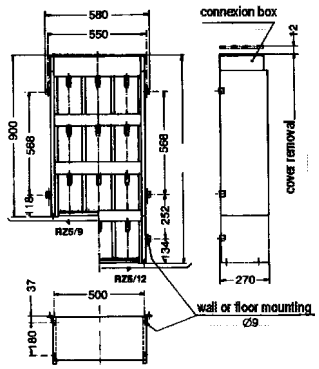


RZ5/6



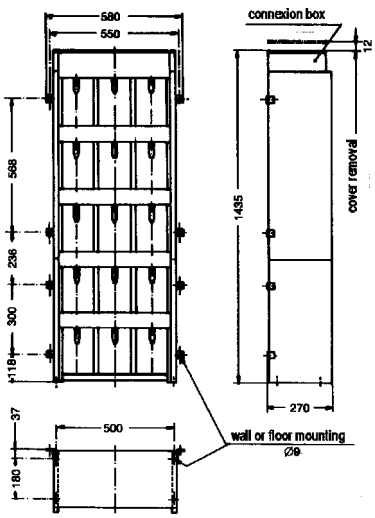
Dimensions in mm

RZ5/9 - RZ5/12

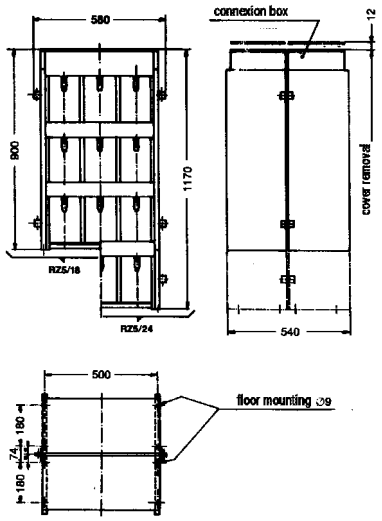


Dimensions in mm

RZ5/15



RZ5/18 - RZ5/24



When more than 15 tanks are required, the frames will be assembled back to back, for example: RZ5/18= 2 RZ5/9
RZ5/24= 2 RZ5/12
RZ5/30= 2 RZ5/15
RZ5/36= 2 RZ5/18

Please note that for the RZ5/18 and RZ5/36, it is possible to install them in 3 columns side by side (ie: 3 RZ5/6 or 3 RZ5/12) to reduce bulkiness and gain ease of access.

electrode assembly

This is a standard component designed for a unit power of 75 kW.
The value of resistance is preset at our works according to drive and motor particulars.

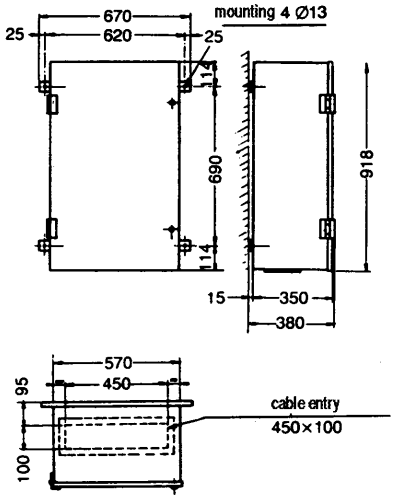
It is always possible to make adjustments on site, either for a change of drive of for a different duty. This is easily carried out by changing the electrolyte and/or the size of the electrode chamber.

enclosure WS3

The WS3 enclosure has been designed to accept equipment which cannot be mounted in RC and RW enclosures and when the starter is supplied with RZ type resistance frames.

- Short circuit contactor ratings: 445 A, 550 A, 800 A or 1000 A.
- Connections via undrilled gland plates.
- Timing relay.
- Protection
IP 31 protected version
IP 52 dust and water protected version.
- Finish: resin polyester based textured paint, thickness 60 microns minimum, shade grey-beige RAL7032.
Key operated door lock.
Dimensions: 670 W x 918 H x 380 D mm.
Weight: 50 kg approx.

Options.....
- Tropicalisation.
- Dust and water protected to IP52.
- Ammeter with current transformer.
- GRP (glass reinforced polyester) enclosure (for use with corrosion proof resistance frames in PVC)



Dimensions in mm

control panels

These can be supplied to customer requirements, and include items such as isolators, HRC fuses, ammeters, special protection relays, etc.
Panel builders can also incorporate either RZ frames or sets of tanks fitted with electrode assemblies in their cubicles (must be mounted at the bottom of the panel).

options

RC5 / RW5 / RZ5 .....
• Antifreeze: protection down to - 20°C. Can be used throughout the year but cannot be added to existing electrolyte as it alters the value of resistivity.
• Tropicalisation.
• Breathing pipes for mobile and marine applications.
• Louvres.
• Level lamps when tanks are covered with louvres.
• One thermostat per phase.

RC5 / RW5.....
• Line contactor.
• Ammeter.
• Dust and damp protection.

RZ5 .....
• Corrosion proof chassis in PVC (for use with polyester waterproof enclosure WS) for chemical industries and for marine environments.

ordering instructions

For a starter customised to your application, please supply:

For motors .....
• Power
• Speed (rpm)
• Stator voltage
• Required starting torque
• Motor voltage
• Stator current

For the driven machine.....
• Type
• Coupling method
• Moment of inertia
• Speed (rpm)
• Number of consecutive starts

Starter options .....
• Protection IP31 or IP52
• Tropicalisation
• Antifreeze
• Breathing pipes
• Louvres
• Level lamps
• Ammeters
• Thermostat
• RZ5 corrosion proof PVC frames
• WS enclosure in polyester

Particular specifications.....
• Control panels

Consumables .....
• Electrolyte
• Antifreeze
• Anti-evaporation oil

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