RLV

Vapormatic starters for low and medium power slipring motors up to 750 kW

RLV vapormatic starters are used when the driven machines are of great inertia or when the rating power of starting / driven machine is low.

- Reliable: no moving parts, unaffected by demanding atmospheres
- Economical: cable saving, reduced maintenance, competitive price
- Customizable to specific motor requirements

Description

RLV vapormatic starters are used when the driven machines are of great inertia or when the rating power of starting / driven machine is low. They have the following advantages:

Reliability

- No moving parts other than the short circuit contactor
- Unaffected by damp, dusty or corrosive atmospheres

Savings

- Cable saving: integral contactors
- Facilitate installation beside motors
- Electrical and mechanical maintenance considerably reduced
- Competitive price

Adaptability

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

Operating principle

The starting principle 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 features:

Reference	Protection	Tank	Number of electrode assemblies	Rating	Short circuit contactor (choice)
M15	IP63	15 l	1	30 kW (40 ch.) max	140 A 175 A
M35/1	IP63	35 l	1	30 kW (40 ch.) max	
M35/2	IP63	35 l	2	30 to 60 kW (40 to 80 ch.) max	110 A 175 A 380 A
M35/3	IP63	35 l	3	30 to 90 kW (80 to 125 ch.) max	
M35/4	IP63	35 l	4	90 to 120 kW (125 to 160 ch.) max	
M70/4	IP63	70 l	4	90 to 120 kW (125 to 160 ch.) max	140 A 175 A 280 A 420 A 630 A 700 A
M70/6	IP63	70 l	6	120 to 200 kW (160 to 270 ch.) max	
M350/2A	IP54	350 l	2	200 to 300 kW (270 to 400 ch.) max	1300 A
M350/2B	IP54	350 l	2	300 to 440 kW (400 to 600 ch.) max	
M350/3	IP54	350 l	3	440 to 750 kW (600 to 1000 ch.) max	

Rotor voltage between slip rings:
- M15 / M35 / M70: 750 V
- M350: 1500 V

Further features

Electrolyte	Composition : In powder or crystal form for mixing with drinking water and anti-evaporation oil Electrolyte temperature is controlled by thermostat: - M15 / M35 / M70: 10 A / 220 V, 8 A / 380 V or 5 A / 500 V - M350: 9 A / 380 V Electrolyte level: - M15 / M35 / M70: By filler pipe - M350: By magnetically operated float switch (250 V – 60 VA) in each compartment
Electrode assembly	The RLV “triphase” electrode assembly is a standard component. The value of resistance is factory preset according to the data of the driven machine given by the customer at the order. It is always possible for him 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.
Rotor starter protection system	On request we can supply your starter with an electronic module type DRS. This module allows the following: - 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 panel.

General specifications

Reference	Average weight with contactor	
Without electrolyte	With electrolyte	
M15	25 kg	25 kg
M35/1	38 kg	73 kg
M35/2	38 kg	73 kg
M35/3	38 kg	73 kg
M35/4	38 kg	73 kg
M70/4	115 kg	185 kg
M70/6	115 kg	185 kg
M350/2A	170 kg	530 kg
M350/2B	170 kg	530 kg

M350/3	170 kg	530 kg

Models and accessories

In order for us to quote a starter adapted to your application, please let us know the following information:

About the starter:

- Power
- Speed (rpm)
- Stator voltage
- Required starting torque
- Motor voltage
- Stator current

About the driven machine:

- Type
- Coupling method
- Moment of inertia
- Speed (rpm)
- Number of consecutive starts

About starter options:

- Protection IP31 or IP52
- Tropicalisation
- Antifreeze
- Breathing pipes
- Louvres
- Level lamps
- Ammeters
- Thermostat
- Corrosion proof PVC frames
- WS enclosure in polyester

Particular specifications:

- Control panels

Consumables:

- Electrolyte
- Antifreeze
- Anti-evaporation oil

Starter enclosure protected version RC or RW:

Ordering code structure: R-Number of chassis-Power-Protection/Number of electrode assemblies-Contactor

Please select the required options from tables below to define the right device reference.

Number of chassis

C	One
W	Several

Power

2	Low power, 30 kW (40 ch.) max
5	Medium power, from 75 to 225 kW (300 ch.) max

Protection

P	IP 31
E	IP 52, waterproof

Number of electrode assemblies

3	3 electrode assemblies
6	6 electrode assemblies
9	9 electrode assemblies
n	n electrode assemblies

Incorporated short ciruit contactor

B25	25 A
B45	45 A (RC5 or RW5 only)
B55	50 A
B125	125 A
B200	200 A (RC5 or RW5 only)
B300	300 A (RC5 or RW5 only)

Options and accessories:

Tropicalisation

Antifreeze

Louvre doors

Level lamps when tanks are covered with louvres

Amperemeter with current transformer

Resistance frame RZ:

Ordering code structure: RZ-Power/Number of electrode assemblies

Please select the required options from tables below to define the right device reference.

Power

2	Low power, 30 kW (40 ch.) max
5	Medium power, from 75 to 225 kW (300 ch.) max

Number of electrode assemblies

3	3 electrode assemblies
6	6 electrode assemblies
9	9 electrode assemblies
n	n electrode assemblies

Options and accessories:

Tropicalisation

Separate enclosure WS:

Ordering code structure: WS-Protection- Contactor

Please select the required options from tables below to define the right device reference.

Protection

P	IP 31
E	IP 52, waterproof

Incorporated short ciruit contactor

B445	445 A
B550	550 A
B800	800 A
B1000	1000 A*

* Box 1000 x 800 x 400 mm

Options and accessories:

Tropicalisation

Antifreeze

Louvre doors

Level lamps when tanks are covered with louvres

Amperemeter with current transformer

Breathing pipes

Anti-corrosion GRP enclosure