

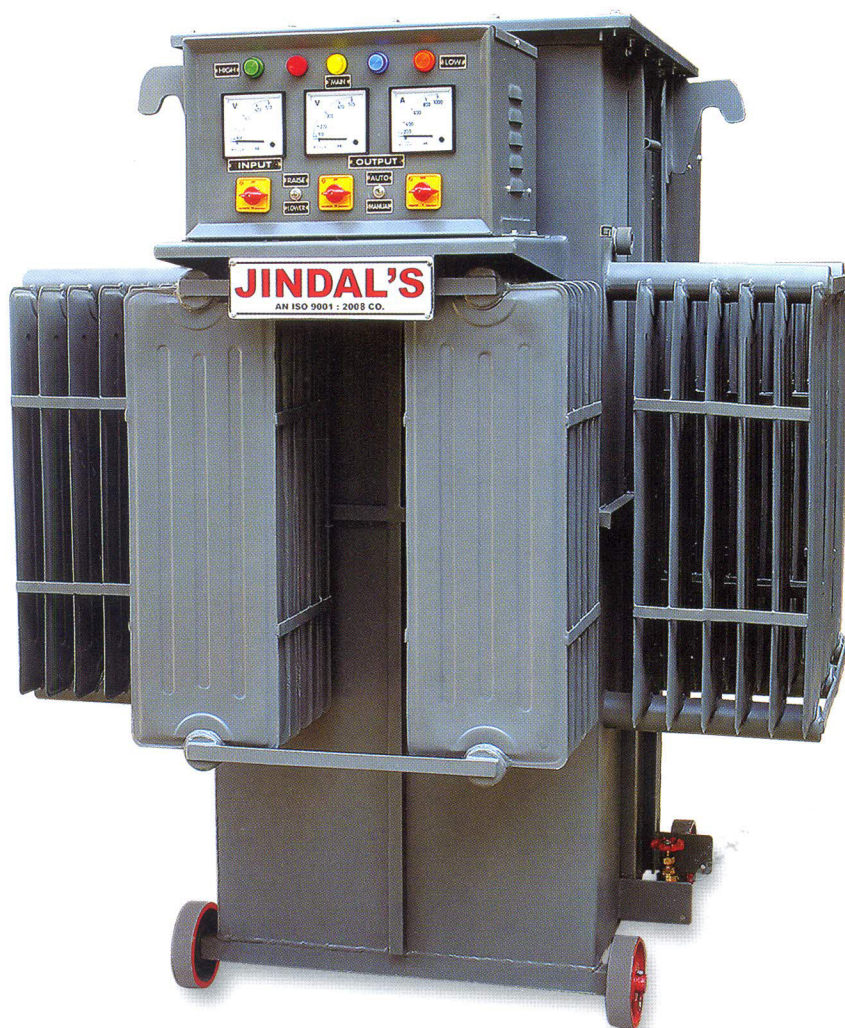
REDUCE FAILURE RATE OF ELECTRICAL EQUIPMENTS

&
SAVE ENERGY
by installing

JINDAL'S

AUTOMATIC VOLTAGE CONTROLLER

A breakthrough in energy conservation



AN ISO 9001 : 2008 CERTIFIED COMPANY

CAPACITY :
100 TO 2500 KVA

GENERAL TREND OF VOLTAGE DURING DAY TIME

340V-400V

09:00 HRS. - 12:00 HRS.

400V-440V

12:00 HRS. - 14:00 HRS.
Lunch Hours

340V-400V

14:00 HRS. - 18:00 HRS.

400V-430V

18:00 HRS. - 22:00 HRS.
Peak Hours Restriction

400V-470V

22:00 HRS. - 05:00 HRS.

400V-450V

05:00 HRS. - 09:00 HRS.

Introduction

JEMC is manufacturing Automatic Voltage Controllers (AVC) & Rectifier Equipments for Electroplating / Hydrogenation and also Special Purpose Transformers for industrial applications since 1967.

We have supplied more than 2000 Automatic voltage controllers/Rectifiers above 100 KVA capacity to different type of industries/reputed corporate houses throughout India as well as few outside India. As per customers feedback received, they have confirmed the advantages after installation of stabilizers and placed repeat orders. The equipment is the need of every power consumer.

Industrial Robot

Automatic voltage controller is an industrial robot which continuously monitors the voltage variation round the clock & whenever there is any voltage fluctuation, it rectifies to the desired level in few seconds.

The basic purpose of AVC is to maintain the desired voltage and to reduce the breakdown of electrical equipments due to low/high voltage. Power saving and reduction in MDI and improvement of P.F. will be added advantage at high voltage.

Capital & interest cost is just 1.5% per month.

Saving by reduction in breakdown of electrical equipment and energy saving shall be 4-8 times of capital & interest cost per month.

Voltage variation is common phenomenon. The input voltage is generally low during day time and high during night hours.

Apart from above, few months in a year/few days in a month/few hours in a day the voltage is either low or high due to the following reasons:

- **Holidays**
- **Peak Hours**
- **Rainy Days**
- **Agricultural Load**
- **Weather Conditions etc.**

Therefore for smooth function, it is suggested to install AVC with $\pm 15\%$ or 20% input voltage variation range i.e. 340-460 volts or 320-480 model.

In India all electrical equipments are designed for 230/400 volts single/three phase. After installation of Automatic Voltage Controller you will have the following Advantages:-

High Voltage

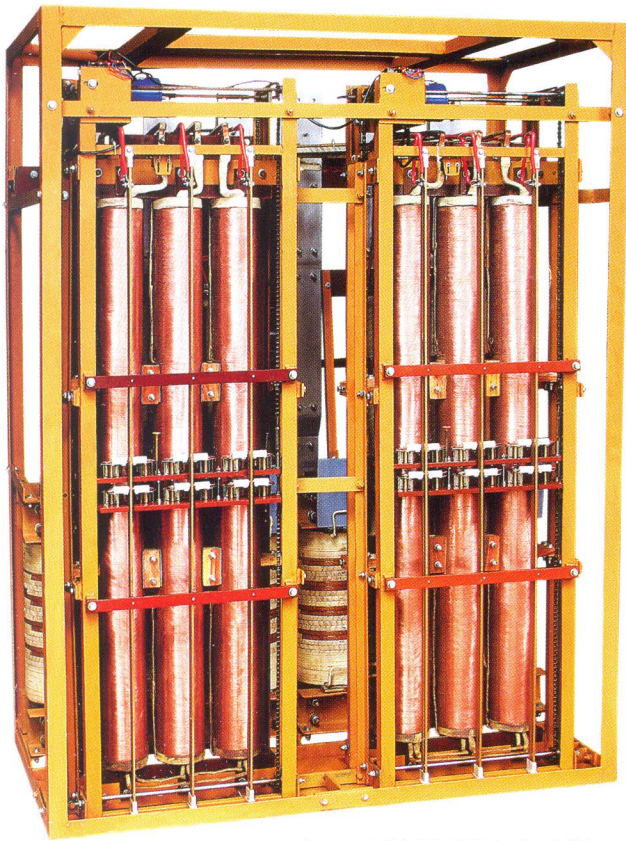
Voltage Variation	% Reduction possible in breakdown of Electrical Equipments with AVC		% Power saving possible with AVC	
	Motors Below 10 HP	Lighting load	Motors Below 10 HP	Lighting load
380-400 V	No Reduction and No AVC required		No Power saving and No AVC required	
400-420 V	5%	10%	3%	5%
420-440 V	10%	20%	5%	10%
440-460 V	20%	40%	7%	20%
460-480 V	40%	80%	10%	30%

Low Voltage

- At low voltage you will not be able to operate your machines at rated capacity resulting in lower production.
- You need to run the machines on DG set. The power cost of DG set is three times as compared to charge by electricity board.

Suggestion : It is suggested to note down hourly input voltage by installing digital voltmeter at the security gate of your factory premises for a week.

Check : Failure rate of Electrical Equipments such as Bulbs, Tubes, Chokes, Contactor Coil & Electronic Equipments etc.



Inner view of 2000 KVA Stabilizer

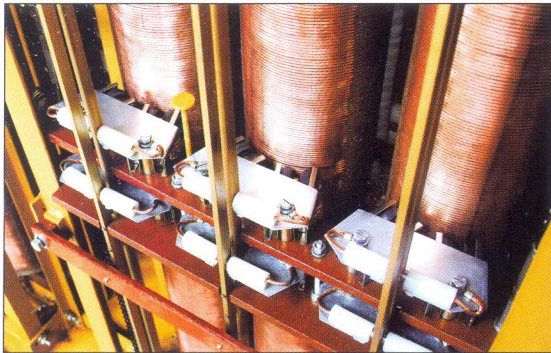
Advantages of AVC with Linear Regulator

Rolling Contact Carbon Roller Assembly

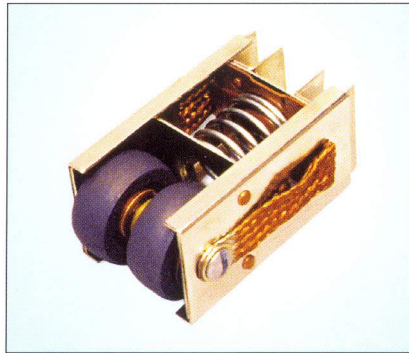
- Power consumption is below 0.5 to 1.5% depending upon the input voltage range
- Suitable for 100% duty cycle
- Life at full load is more than 15 years
- Five years Guarantee
- Economical for continuous / industrial load above 100 KVA

Specifications

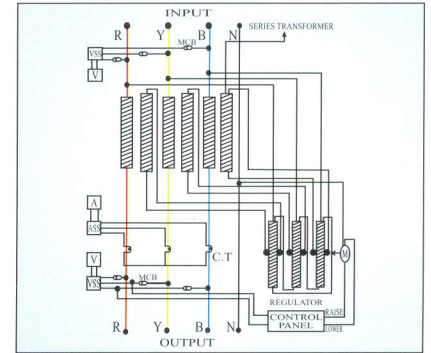
Jindal's Servo Stabilizers are available in a wide range and various models. The standard Three phase models are suitable for balanced & unbalanced supply and loads.



Carbon Roller Assembly



Close view of Carbon Roller



Basic Circuit

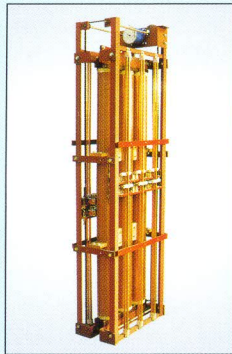
AVC's Application

- | | | |
|------------------------|----------------------------|----------------------------|
| ▪ Cement Plants | ▪ Paper Mills | ▪ Footwear & Leather Units |
| ▪ Flour Mills | ▪ Tube Mills | ▪ Distilleries & Beverages |
| ▪ Engineering Units | ▪ Rice Shellers | ▪ Hospitals |
| ▪ Pharmaceutical Units | ▪ Rubber Industries | ▪ Nursing Homes |
| ▪ Cold Storages | ▪ Tea Estates | ▪ Clubs |
| ▪ Rolling Mills | ▪ Food Processing Units | ▪ High Rise Buildings |
| ▪ Textile Mills | ▪ Oil and Vanaspati Plants | ▪ Malls & Multiplex |

Comparison of Automatic Voltage Controller with

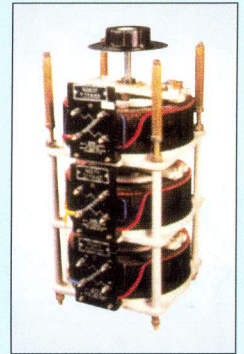
Linear regulator rolling contact carbon roller assembly

- Power consumption is below 0.5 to 1.5% depending upon the input voltage range
- Suitable for 100% duty cycle
- Life at full load is more than 15 years
- Five years guarantee
- Economical for continuous / industrial load above 100 KVA



Dimmer regulator sliding contact carbon brush assembly

- Power consumption is above 2 to 7% depending upon the input voltage range
- Suitable for less than 50% duty cycle
- Life at full load is less than 3 years
- One year guarantee
- Suitable for commercial / residential load below 50 KVA



Cost Per Month

It is such a fine equipment, which monitors the voltage variation round the clock and correct the same if required instantaneously & cost just 1.5% per month of capital & interest and will save 4-8 times as explained here under:

For Example :

The cost of AVC (Including Installation material, Expenses & Taxes etc.)	Rs. 10,00,000/-
Life of AVC Approx. 10 years Cost Per Month for 10 years (Rs. 10, 00,000 ÷ 120 months)	Rs. 8,333/-
Interest P.M. on Reducing Basis @ 12% on Rs. 10, 00,000/-	Rs. 5,000/-
	Total Rs. 13,333/-

Pay Back

It is a equipment, which pays back its cost within 1-2 years. Even if you appoint a supervisor to monitor the voltage variation round the clock. It will cost more than Rs.20,000/- per month and will be able to record the voltage variation, but shall not be able to do any rectification.

With the expenses of **Rs.13,333/- per month**, you will be able to achieve savings of more than **Rs.55,000 / 1,10,000/-** per month depending upon the input voltage variation and working hours of the plant due to the following advantages;

- Reduction in breakdown of electrical equipments up to 80%
- Energy saving up to 5%
- Improvement in power factor and reduction in MDI
- Uniform quality of end product
- Better efficiency in plant due to lesser Breakdown
- Depreciation @80% as per Income Tax Act

The above advantages have been confirmed by the customers by placing repeat orders for their expansion of plants.

Also Manufacturer of Special Purpose Transformers & Rectifiers

Works & Head Office :

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- And also sales and service engineers at various district level