

# Automatic Voltage Regul

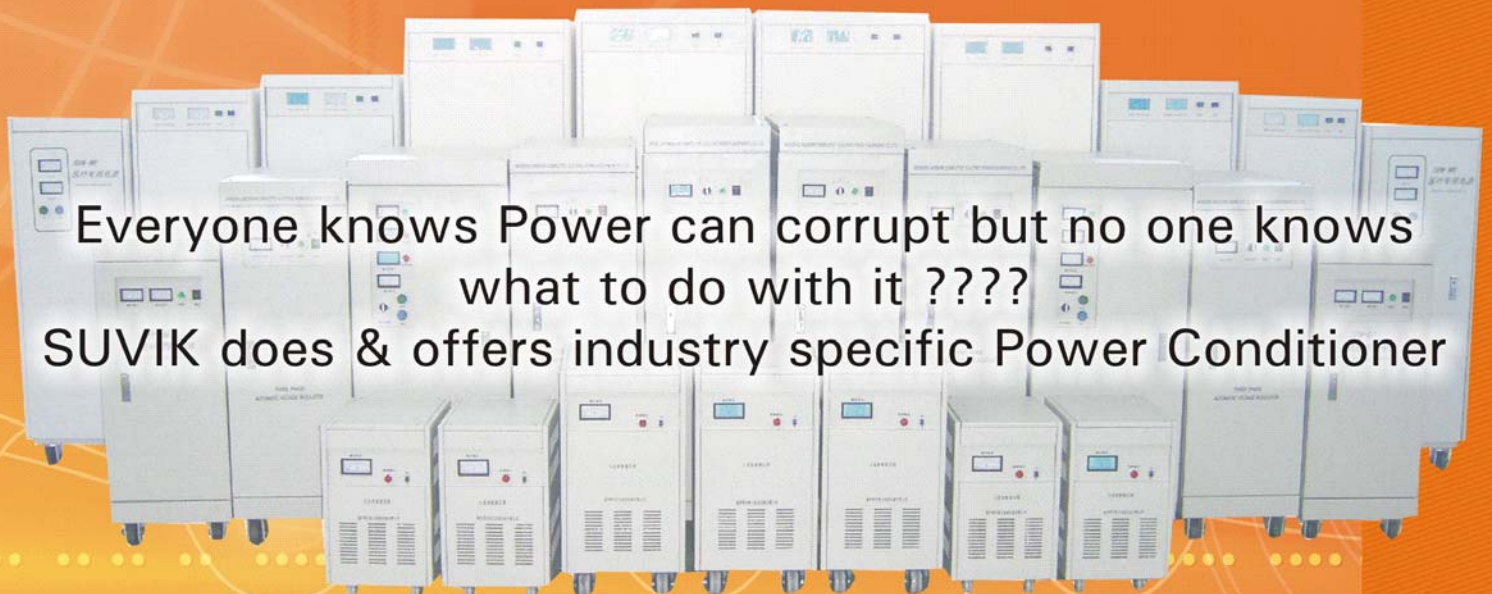
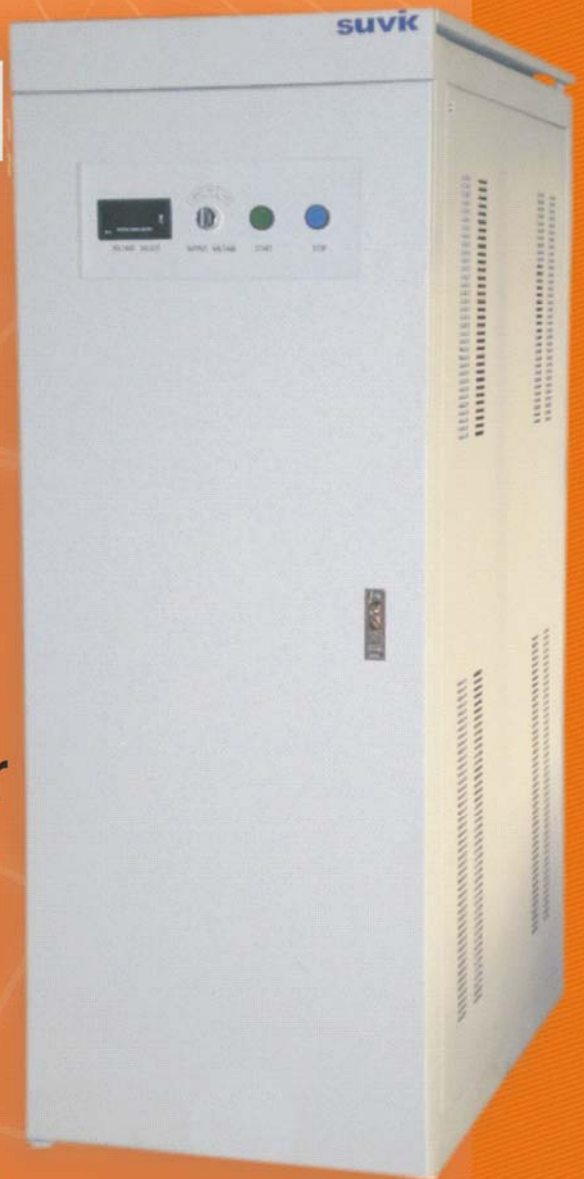
**suvik**

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Launches

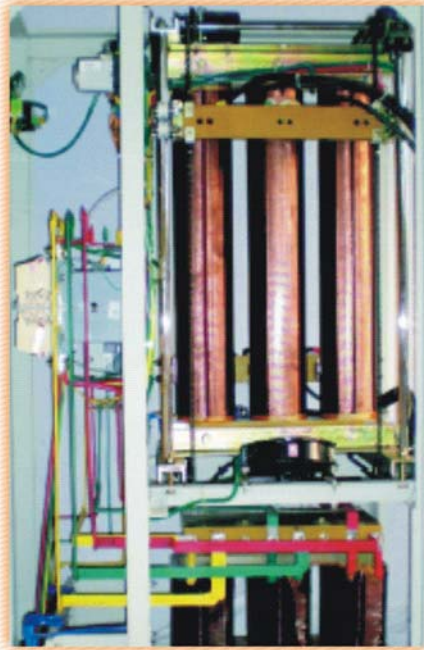
## Innovative Power Conditioner

The only "Linear AVR"  
in Air-cooled Version



Everyone knows Power can corrupt but no one knows  
what to do with it ????

SUVIK does & offers industry specific Power Conditioner

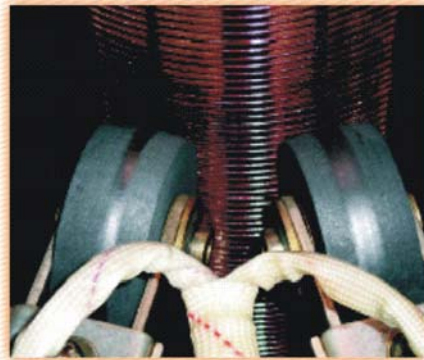


Inside View

## Introduction

Unconditioned power and host of other electrical evils like transients, surges, sags, harmonics etc. can damage the hi-tech electrical and electronic equipments to an un-affordable level. Voltage fluctuation is a common phenomenon. Today most of the industrial loads run 24x7 all 365 days. 90% of the industrial loads consists of electrical motors. Electrical motors tend to have premature failures under unhealthy voltage conditions. This had generated need of AVR. The conventional torroidal type AVRs have demerits on maintenance, efficiency as well as design limitations specially in higher KVA units. Hence, deployment of "Linear Regulators" is seen as the ultimate solution.

## Technology



Roller Brush Assembly

Unlike conventional torroidal regulators, linear regulators employ vertical linear transformer instead of the torroidal variac. Linear regulators are equipped with carbon rollers on both the sides of coil. Unlike the fixed type flat carbon brush used in torroidal variac technology, the roller brush assembly gives high reliability due to less wear & tear. Linear technology employs heavy section of electrolytic grade rectangular copper strip instead of copper wire in order to minimize the losses & increase the efficiency of equipment. The core is built from grain oriented silicon steel laminations which keep losses to minimum. Additionally linear AVR technology is suitable for 100% continuous duty along with over load capability for heavy starting load.

Due to unmatched merits the payback period for such kind of linear AVR works out to be 8 to 12 months depending upon input voltage variation window and number of working hours of the plant.

### Comparison Chart Between Linear AVR & Conventional AVR

Terms	Linear Type AVR	Conventional AVR
Life cycle	15-20 years	3-4 years
Duty Cycle	100 %	60 %
Power consumption	0.5% to 1.5%	2% to 7%
Power Losses	Negligible	Maximum
Power Factor	> 0.95	Between 0.5-0.9
Waveform Distortion	Nil	Present
Maintenance Cost	Tends to nil	Higher
Design	Self lubricating carbon roller assembly	Carbon brushes
Roller movement	Both side	Only one side

## General Specification :

Input	Voltage range Frequency range Phase	340-480/415 vac 3 $\Phi$ , $\pm 20$ % 50 HZ, $\pm 5\%$ Hz Three phase + neutral + GND
Output	Voltage range Frequency range Power Factor Waveform Phase Overload Capacity	380/400/415 vac, 3 $\Phi$ $\pm 1.5\%$ (adjustable voltage by preset) Synchronized with the supply frequency(line mode), 50Hz, $\pm 5\%$ Hz >0.95 Sinusoidal pure sine wave/ no distortion Three phase + neutral + GND 120% - 60s, 200% - 10s
Display		Digital/Analogue I/P & O/P volt meter, Digital/Analogue current load meter (optional)
Protection		Over voltage 253 vac (L-N), Output shutoff after 4-7s delay. low voltage 176 vac (L-N), Output shutoff after 4-7s delay, Automatic circuit breaker rated at 130%, Overload capability for heavy start load.
Control		Power ON/OFF- Normal circuit breaker switch, Output voltage selector switch, Power start button, Power stop button .
Response Time		< 35 ms/volt
Insulation Resistance		D.C. 1000V $\geq 2$ M $\Omega$
Features		Compensator & auto self starting after power failure
Electrical Strength		2000 v power frequency for 60 seconds without breakdown & flash over
Efficiency		> 98 %
Environment	Ambient Temperature Relative Humidity Audible Noise	-20°C to +50° C <90% (no condensation) 45 dB - 55 dB at 1 meter

## Mechanical Specification

Rating (Kva)	I/P VAC	O/P VAC	Amp.	W x D x H (mm)	Wt. Kg
30 kva	340-480V	415V ( $\pm 1.5\%$ )	42	400 x 800 x 1300	220
40 kva			56	400 x 800 x 1300	240
50 kva			70	400 x 800 x 1300	260
60 kva			83	600 x 900 x 1600	290
75 kva			104	600 x 900 x 1600	315
100 kva			139	600 x 900 x 1600	345
150 kva			209	650 x 950x 1800	395
200 kva			278	650 x 950 x 1800	455
250 kva			348	650x 950 x 1800	575
350 kva			487	850 x 1200 x 2200	750
400 kva			556	850 x 1200 x 2200	820
500 kva			695	850 x 1200 x 2200	950
600 kva			835	750 x 1050 x 2000(two)	1050
800 kva			1113	750 x 1050 x 2000(two)	1450
1000 kva			1391	750 x 1050 x 2000(two)	1650

Higher KVA models are available on request.

## Features :

- Wide voltage regulation range
- Individual regulation for each phase
- High accuracy : +/- 1.5%
- High efficiency > 98%
- Over voltage and under voltage protection
- Over current auto protection
- Multiple output on request
- Surge suppression protection
- EMI/RFI filter on request
- Indoor and outdoor version on request
- Cooling , air as well as oil available
- Maintenance free roller type brush design
- No additional wave form distortion
- No phase deviation
- Start output delayed function
- Low temperature rise
- Very low audible noise
- Customized design available
- Response time < 35 ms
- Manual by-pass facility (Option)
- Built in Isolation Transformer (Option)

## Comprehensive Technologies offered for AVR :

- Servo Controlled AVR
- Linear AVR
- IGBT/PWM based Static AVR

## Other Products in Green Power Technology :

- Online UPS
- Ultra Isolation Transformer
- Float cum boost charger
- Harmonic Filter
- CESS - The Energy Saver
- PIU - Power Interface Unit

## Applications :

- CT scanners
- MRI systems
- X-ray machines
- Angiography systems
- Radiation therapy Machine
- Mobile BTS centers
- Outdoor telecom shelter
- Rural telecom networks
- Satellite communications stations
- Transmission relay stations
- Micro wave stations
- Telecom exchanges
- Network control centers
- Passenger & Cargo elevator
- Ropeway elevator
- Escalator
- Milling machine
- CNC Machining Centre
- Special purpose machine
- CNC turning centre
- CNC int./ext. grinding machine
- Laser cutting machine
- Punching machine
- Health care equipments
- Industrial automation
- Continuous process industry

## Depreciation Advantage :

80% depreciation as per INCOME TAX RULES under heading of Electrical Energy Saving Devices Rule 5 Part A (III) 8 (ix) E ( c ) Automatic Voltage Controller

An ISO 9001:2000 Company

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