

QPS[®]

Automatic Voltage Stabilizer

V - SERIES

V - Series



Voltage – Fluctuation – High - Low:

Voltage fluctuation is common in any electrical supply system. Continuous variation of loads and extension of power lines are the main factors which contribute to the above problem. In spite of all efforts done by the utility companies, they are still unable to provide a constant supply to the users yet.

In general, most electrical or electronic equipment are designed to operate within a voltage fluctuation of $\pm 10\%$ of its rated supply. It means that if the equipment is designed to operate within their specifications at rated 240V single phase or 415V three phase, their performance should not deviate from their specifications when the voltage fluctuates within 216V to 264V for single phase or 373.5V to 456.5V for three phase.

However, sophisticated equipment requires stable voltage supply in order for them to perform accurately, such as Transmissions & Tele-communications equipment, Laboratory and Test equipment, Computer Numerical Control (CNC) equipment etc.

Effects:

Voltage fluctuation can cause testing equipment to give inaccurate data, computerized or automatic machines to produce defective parts, security system malfunction, inconsistency of motor speed etc. These effects are very costly too in terms of downtime and rejects.

Solutions:

QPS Single Phase and Three Phase Servo - Motor Automatic Voltage Stabilizers (AVS) are capable of eliminating the above problems with ease. They are designed to cater for:-

- Input voltage variation from:
 - **Single Phase** : $230V \pm 12\%$
 - **Three Phase** : $415V \pm 12\% + N$
- Excellent output voltage accuracy of within $\pm 1.5\%$ set value.
- Regulation response time approximately 0.05 ~ 0.07 sec per volt.
- Minimum maintenance due to its simplicity in design.
- Easy installation.
- Tailor make to special voltages and configuration are possible.

QPS Servo - Motor Automatic Voltage Stabilizer provides a continuous monitoring of the output voltage (true RMS sensing) by means of an electronic Control Circuit that compares the instantaneous output voltage with the set value. When changes are detected due to fluctuation of supply voltage or sudden changes in load, an electrical signal will be transmitted to the servo – motor which is coupled onto the brush gear of the variable transformer, causes the brush gear to rotate until the appropriate voltage, is restored. This method of stabilization does not create interference or harmonic in the supply system.

Specifications are subject to change without prior notice.

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QPS Three Phase Automatic Voltage Stabilizers are also designed to cater for unbalanced load. This is made possible with its independent phase monitoring system.

QPS Automatic Voltage Stabilizers offer high quality performance at competitive prices. They are created to solved problems and increase productivity.

Control Features:

- ON / OFF Circuit breaker
- Analog Voltmeter
- Phase selector switch for Voltmeter (For three phase only)
- Phase indicator lamps

Applications:

- CNC wire- cut / EDM
- CNC drilling machine
- CNC milling machine
- X – Ray equipment
- Industrial robots
- Communication system
- PLC Equipment
- Broadcasting equipment
- Photographic processing equipment
- Photocopy machine
- Test equipment
- Computers
- Medical equipment
- LAB equipment

Optional Features:

• TRANSIENT VOLTAGE SURGE SUPPRESSION

Metal – Oxide Varistors (MOVs) are added on across the input of the supply lines. To protect voltage-sensitive components against damage from high-energy surge of transient voltage spikes. The protection afforded by these devices not only guards expensive and sensitive equipment from physical damage, but also improves functional reliability in components that encounter temporary upset due to transient voltages of lower amplitudes.

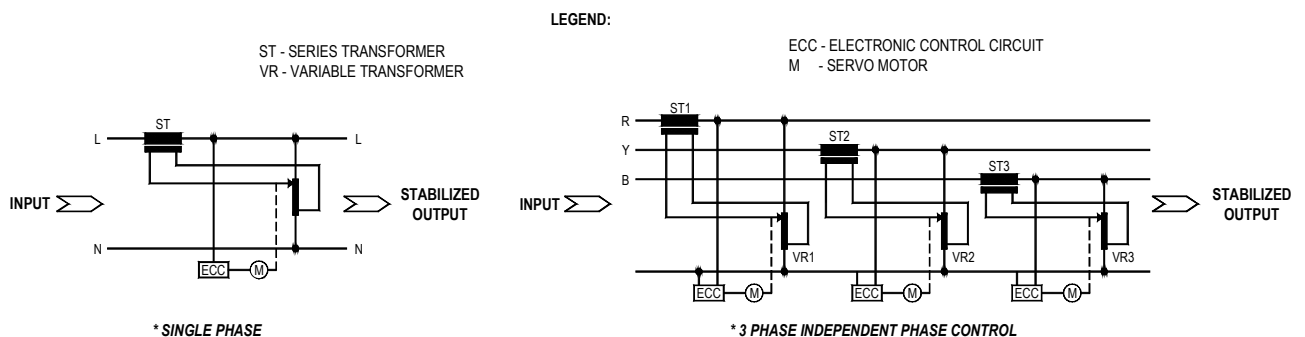
• PHASE LOSS (3 PHASE MODEL) C/W PROGRAMMABLE UNDER / OVER VOLTAGE DETECTOR

To prevent 3 phase motor from damaging due to one of the phase open-circuit, QPS Servo Motor Automatic Voltage Stabilizers are equipped with high precision Phase Sensing Protection System which provides constant monitoring of output supply of individual phases. Abnormal voltage when detected will deenergise the AVS output contactor and cut off supply voltage to load.

• AUTOMATIC OUTPUT DELAY ON SYSTEM

Automatic Output Delay on System minimizes the inrush current to the load whenever the equipment is being switch on under initial stage of after a power failure occurs, by ensuring that the output voltages are correctly regulated before they are being supplied to the load.

Single Phase & Three Phase Servo – Motor Voltage Stabilize Block Diagram



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(... continuation)



Single Phase Standard Fittings:

Over current Breaker Voltmeter come with input or output selector switch phase pilot lamp:-

Input Termination:

1. Power Cord c/w 13A BS 3 Pin Plug – Model 1 & 2KVA
2. Power Cord c/w 15A BS 3 Pin Plug – Model 3 & 4KVA
3. Terminal Block for Hardwire – Model 5 ~ 30KVA

Output Termination:

1. 13A BS 3 Pin Socket – Model 1~ 5KVA
2. Terminal Block for Hardwire – Model 5~ 30KVA
3. Voltage Purge Suppressor – Only Single Phase Model.

Three Phase Standard Fittings:

1. Over current breaker – Model 3 ~ 150KVA
2. Voltmeter Input – Line / Phase Voltage – Model 30 ~ 150KVA
3. Voltmeter Output – Model 3 ~ 150KVA

Phase Pilot Lamp Input & Output Termination:

2. Terminal Block – Model 3 ~ 150KVA

Technical Data:

Input Voltage

Output Volatge (True RMS)

Rated KVA

Output Wavefrom / Distortion

Response Time

Frequency

Efficiency

TVSS Protection (Surge)

Over Current Protection

Phase Loss Sensing Protection

Automatic Output Delay on System

Operating Temperature

1 - SINGLE PHASE	3 - THREE PHASE
230VAC ± 12%	415VAC ± 12% + Neutral
230VAC ± 1.5%	415VAC ± 1.5%
1KVA - 30KVA	3KVA - 150KVA
SINWAVE / FOLLOW INPUT	
0.05 ~ 0.07 SEC / V	
50 / 60 Hz	
>95%	
STANDARD	OPTIONAL
MCB / MCCB (UP TO 3Ø 150KVA)	
PHASE SENSING RELAY / OPTIONAL	
TIME DELAY / OPTIONAL	
0° C - 45° C	

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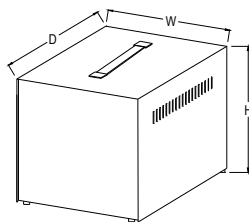
SINGLE PHASE V SERIES 230VAC

MODEL	CABINET TYPE	RATED OUTPUT POWER (KVA)	RATED OUTPUT CURRENT (A)	INPUT RANGE (VAC)	OUTPUT ACCURACY	DIMENSION (mm)			WEIGHT (Kgs)
						H	W	D	
VSS1 - 2	1	1	4	230V ± 12%	±1.5%	183	200	220	8
VSS2 - 2	1	2	9	230V ± 12%	±1.5%	200	230	245	10
VSS3 - 2	1	3	13	230V ± 12%	±1.5%	283	260	330	23
VSS4 - 2	1	4	17	230V ± 12%	±1.5%	283	260	330	24
VSS5 - 2	1	5	22	230V ± 12%	±1.5%	283	260	330	24
VSS7 - 2	2	7.5	33	230V ± 12%	±1.5%	370	270	560	45
VSS10 - 2	2	10	43	230V ± 12%	±1.5%	370	270	560	50
VSS15 - 2	2	15	65	230V ± 12%	±1.5%	370	270	560	53
VSS20 - 2	2	20	87	230V ± 12%	±1.5%	370	270	560	57
VSS25 - 2	2	25	109	230V ± 12%	±1.5%	640	400	375	68
VSS30 - 2	2	30	130	230V ± 12%	±1.5%	640	400	375	73

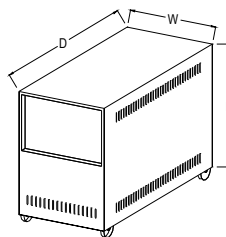
THREE PHASE 415VAC

MODEL	CABINET TYPE	RATED OUTPUT POWER (KVA)	RATED OUTPUT CURRENT (A)	INPUT RANGE (VAC)	OUTPUT ACCURACY	DIMENSION (mm)			WEIGHT (Kgs)
						H	W	D	
VST3 - 4	2	3	4	415V ± 12%	±1.5%	530	295	460	32
VST6 - 4	2	6	9	415V ± 12%	±1.5%	530	295	460	35
VST10 - 4	2	10	14	415V ± 12%	±1.5%	660	360	600	75
VST15 - 4	2	15	21	415V ± 12%	±1.5%	660	360	600	78
VST20 - 4	2	20	28	415V ± 12%	±1.5%	660	360	600	96
VST30 - 4	2	30	42	415V ± 12%	±1.5%	700	380	810	115
VST40 - 4	2	40	56	415V ± 12%	±1.5%	700	380	810	128
VST45 - 4	2	45	63	415V ± 12%	±1.5%	700	380	810	134
VST50 - 4	2	50	70	415V ± 12%	±1.5%	700	380	810	136
VST60 - 4	2	60	83	415V ± 12%	±1.5%	700	380	810	190
VST75 - 4	2	75	104	415V ± 12%	±1.5%	820	475	1070	218
VST100 - 4	2	100	139	415V ± 12%	±1.5%	790	475	1070	315
VST125 - 4	2	125	174	415V ± 12%	±1.5%	790	475	1070	330
VST150 - 4	3	150	209	415V ± 12%	±1.5%	1480	660	580	385

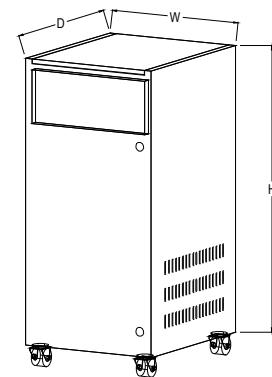
Dimension:



CABINET TYPE - 1



CABINET TYPE - 2



CABINET TYPE - 3

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