

## ANNEXURE-2

### AUTOMATIC VOLTAGE STABILIZERS – LOW VOLTAGE

<b>1. Description of Function</b>	
1.1	Automatic regulation relay type voltage stabilizer will provide a preset AC output 220 volt $\pm$ 10V for fluctuating AC input voltage and Frequency 50 Hz.
1.2	It will be connected with Ice lined refrigerators and deep freezers used for storage of vaccines.
<b>2 Operational Requirement</b>	
2.1	Should be able to provide stable AC power output for a wide range of fluctuations as per required output
2.2	The out put capacity of the stabilizer should be 1 KVA to be connected with two nos of cold chain equipments (Ice lined refrigerators & deep freezers) having capacity 500 VA each.
<b>3 Technical Specifications</b>	
3.1	Should work for input voltage range of 100 – 240 volt AC single phase with high input voltage cut at 240 volt.
3.2	Step up voltage -10 volt per stage
3.3	Overload protection at input, automatic cut-off time – between 2-4 seconds of Under voltage/Over voltage cutoff at output.
3.4	Maximum power loss due to leakage of current – 2%
3.5	Restart delay of 6-9 minutes after the cut-off along with quick start button.
3.6	The output voltage should be stable and capable of operating continuously with respect to any change in ambient temperature and regulation should be automatic.
3.7	Automatic Line Voltage stabilizer (step type) should be of copper wound complete with voltmeter (digital/analog) with selector switch to indicate input and output voltage and construction conforming to IS: 8448/1989 Reaffirmed 2003.
3.8	The output side shall be provided with MCB of suitable rating duly ISI marked.
3.9	Provision for two output sockets of 15 Amps ISI marked.
3.10	Details of transformer should be furnished, such as rating, weight of winding and core, which should be verified during inspection.
3.11	A Metal Oxide Varistor (MOV) for surge suppression should be provided and connected directly on the power line.
3.12	4 Light Emitting Diode should be provided to indicate power input, power output, equipment in standby condition and high input voltage.
<b>4.0 Environmental factors</b>	
4.1	The unit shall be capable of operating continuously in ambient temperature of (-) 20 deg.C to (+) 50 deg.C and relatively humidity of 15-90%
4.2	The unit shall be capable of being stored continuously in ambient temperature of (-) 20 deg.C to (+) 50 deg.C and relatively humidity of 15-90%
4.3	Outer cabinet should be enameled after proper anti rust process.
<b>5.0 Standards and safety</b>	
5.1	Manufacture should submit the test certificate from test lab accredited by NABL/STQC and submit the test certificate along with tender.
<b>6.0 Documentation</b>	
6.1	Certification of calibration and inspection from the factory at the time of pre-dispatch inspection.
6.2	User/technical/Maintenance Manuals to be supplied along with the supply of stabilizers to the consignee.

