

## LOAD BANK

The load bank is required for periodic exercising and testing of the (stand by) emergency power source. The load banks play a good role to test the Gen set or batteries, UPS etc. Load bank is used to test the condition of the batteries by discharging the batteries at high current for short duration time. Emergency power sources like Gen set, UPS are useful when electricity takes shut down and that time if due to some reason these power sources does not work or fail to fulfill the power requirement then it is meaningless. So, emergency power sources should be regularly tested or exercised at periodic time. It helps them to be in active mode and if there is any technical problem in it then it will flashed out during testing period and hence it becomes easy to solve the problem. The load bank shall be permanently mounted in a weatherproof enclosure as per requirement suitable for installation on a concrete pad or structural base, forced air cooled with remotely mounted control panel.

Load banks are mainly two types: 1) **Resistive load bank** and 2) **Inductive load bank**.

1) **Resistive Load Banks** are working on Unity Power Factor. By constructional phenomena they are also of two types: a) Dry Resistive element type and b) Water tank type.

In **Dry Load (Resistive) element type Load bank**, resistive elements are used to consume the electricity. They are working on Unity Power Factor. Load elements shall be helically wound chromium alloy rated to operate at approximately half of maximum continuous rating of wire. Elements must be fully supported across the entire length within the air stream by segmented ceramic insulators on stainless steel rods. Element supports shall be designed to prevent a short circuit to adjacent elements or to ground. Load elements shall be contained in an integral resistor case. Resistors can be individually removed for inspection or service. In **Water tank type Load Bank** there are two electrodes suitably placed in a tank. These electrodes are applied the supply and now by controlling the water level in tank, Load current is controlled. This type of load bank is also working on Unity Power Factor. The electrodes are mainly of Stainless Steel made.

2) **Inductive Load banks** are working on non Unity Power Factor. As per demand it could be constructed as lead PF or lag PF as per demand. Inductor transformers are the main Load element in this type of Load Bank. The Load Bank could be constructed in steps also. E.g. If we suppose to have a load bank up to 1000KVA then there could be 4 steps of 250KVA or 8 steps of 125KVA. The control panel should be remote operated. As per construction the load elements structure is contained in a rugged MS Powder coated enclosure, with rigid lifting handles provided for simplified handling also unidirectional rollers provided at bottom. The control panel shall be a remote panel housed in a MS Powder coated enclosure. The control panel shall contain the manual controls like: 1) Power On-Off switch, 2) Blower Start and Stop push buttons, 3) Master load On-Off switch and 4) Load step switches for On-Off application of individual load steps. Control panel visual indicators shall like: 1) Power On indication light, 2) Blower On light and 3) Over temperature light if demanded.

The standard digital metering with digital display of Volts, Ampere, Frequency, and KW provided. The communicator or power analyzer could be introduced in control panel to all parameters in Laptop or PC.

The Load elements in any case Resistive or Inductive there should be arrangement for cooling by heavy duty, reliable, industrial blower. Load bank features vertical discharge of air for cooling to provide a low profile design for easy entry into areas such as parking garages. An integral control transformer shall be provided to supply 230V, 1 Phase, 50 Hz, to the load banks control and motor starter circuitry.



This unit should be simple to set up and operate by a single technician, saving valuable time in the field. Simple operation and maintenance will provide years of trouble free service. The control circuit should be fuse protected. The fan motor is electrically protected against overload using a motor overload device and short circuit protected if demanded. Control Transformer primary and secondary control circuits could be fuse protected. Also if demanded an over temperature switch could be provided to sense the load bank exhaust in the heater case assembly. The switch is electrically interlocked with the load application controls to remove load from being applied in the events of an over temperature condition. The change in resistance due to temperature shall be minimized by maintaining conservative watt densities.

## FEATURES

- » Simple to Operate, Reliable and durable Load Elements.
- » Easy to Read Meters.
- » Over temperature Protected (if demanded).
- » Master Load Control Switch and Load Step Toggle Switches for Load Control.
- » Portable for Load Testing at Multiple Sites.
- » Rugged Milled Steel Enclosure.
- » Easy to Transport with lifting handles as well unidirectional rollers and Trolley based construction could Be designed when specially demanded.

## STANDARD TECHNICAL SPECIFICATIONS

- » Operating Voltage in 1 Phase 230V, AC, 50/60Hz and in 3 Phase 415V, AC, 50/60Hz. Whereas in DC 110V or 220V.
  - » Steps as per demanded. Step designing as to minimize the cost and increasing smooth steps operating.
  - » Cooling Fan On-Off control on control panel.
  - » All steps control for On-Off as well all steps On/Off Indications are available on control panel.
- Digital read out for Volt, Amp, Freq, and Watt. Also power analyzer could be introduced to store data.

## OTHER PRODUCTS

Testing Instruments supports manufacturers, repairers, agency owners and contractor in each Power Sector related industry with a breadth of critical services.

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- » Winding Resistance Test Set.
- » Contact Resistance Test Set.
- » 1phase / 3phase Transformer / Motor testing panel. (Custom built).
- » All Kind of Transformers, Variacs (Auto Transformers) and Inductors.
- » Epoxy Resin cast high volt transformer. (1KV TO 100KV).
- » DC Power Supply.



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