

# *Resistive Load Banks*



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*M.S. RESISTANCES  
MICROELETTRICA SCIENTIFICA  
The Independent Resistor Builder ... Since 1952*



## Definition

The purpose of a load bank is to accurately **mimic** the operational or “real” load that a power source will see in actual application. It can therefore be defined as a self-contained, unitized, systematic device that includes load elements with control and accessory devices required for operation. Whereas the “real” load is served by the power source and uses the energy output of the source for some productive purpose, the load bank serves the power source, using its energy output to test, support or protect the power source.



## Applications

Load banks are used in a variety of applications, including Factory Test of **Diesel Generator Sets**, Reduction of **Wet Stacking Problems**, Periodic exercising of **Stand-By Generator Sets**, **UPS & Batteries** Test, Load Optimization in **Prime Power Applications**, Factory Test of **Turbines**...

*The three most common types of load banks are Resistive, Reactive and Capacitive Load Banks.*

### Reactive Load Bank

A “reactive” load includes **inductive** (lagging power factor) and/or **capacitive** (leading power factor) loads. Inductive loads are used to **simulate real-life mixed commercial loads** consisting of lighting, heating, motors, transformers...With a resistive/inductive load bank, full power system testing is possible, **giving the impact of reactive current** on generator / voltage regulator performance as well as effect on conductors and switchgear.

### Capacitive Load Bank

A capacitive load bank is similar to a reactive load bank in rating and purpose, except **leading power factor loads are created**. These loads **simulate certain electronic or non-linear loads** typical of telecommunications, computer or UPS industries.

### Resistive Load Bank

A resistive load bank, **the most common type**, provides equivalent loading of both generator and prime mover. The “load” of a resistive load bank is created by **the conversion of electrical energy into heat** by power resistors. This heat must be dissipated from the load bank, either **by air or by water**, by **forced means or convection**. In a testing system, a resistive load simulates **real-life resistive loads**, and heating loads as well as the resistive or unity power factor component of magnetic (motors, transformers) loads.

## Resistive Load Banks Request Form

1	System Voltage (AC/DC)	V	
2	Rated Full Power with Detail of Steps (if any)	kW	
4	Control Panel Requirement		
3	Cooling Method Requirement	Y / N	
5	Indoor or Outdoor Use		

*Other Comments*



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