

Medium-Voltage Substation Style Load Bank

A robust, medium voltage, high capacity load bank ready for the great outdoors.

The MV Series Load Bank offers the most robust, medium-voltage, high-capacity, outdoor design in the industry. This turn-key package is ideal for medium voltage diesel engine generators or gas turbines where 5 kV or 15 kV load testing is required. A typical package will include a medium-voltage step-down power transformer and a standard low-voltage load bank mounted and wired onto a common substation style structural skid. Optional features include a load interrupter switch on the transformer primary and a secondary circuit breaker between the transformer secondary and load bank. Typical lead-time is 10-12 weeks which is less than half the lead-time of competing medium voltage load banks.



Shown above: 15kV Substation Style 2500kW Load Bank

Dry-Type Power Transformer

The medium-voltage, dry-type transformer is the highest quality available and is ideally suited for a load bank application. The dry-type construction eliminates the concern with contamination and fluid leakage containment found in conventional oil or liquid-filled power transformers. Weight savings is also significant when compared to liquid-filled power transformers. Lowered installed costs and minimal maintenance make this package the ideal choice for testing any medium voltage generator or turbine. The transformer has a cylindrical coil with special high-grade silicon steel core with standard 220°C Nomex insulation. The complete core and coil is vacuum pressure impregnated with polyester varnish and oven-cured for maximum reliability. Separate air terminal compartments for the primary and secondary connections are also included.

Typical Ratings

Primary Voltages: 13800, 12470, 12000, 8400, 8000, 7200, 4160, 2400 VAC, 60 Hz (custom voltages or 50 Hz voltages also available – consult factory)

Power Ratings: 1000, 1250, 1500, 1750, 2000, 2250, 2500 kW (custom power ratings also available – consult factory)

Construction | Built to Last

The MV Series Load Bank is constructed of galvanized steel with the highest quality durable powder-coat paint finish, and external stainless steel fasteners. All power, motor, and control connections are provided in a sealed thermostatically controlled heated compartment to limit any harmful effects of moisture and condensation. The load bank is factory mounted to a structural steel, substation style skid along with the power transformer plus bus duct copper connections between the transformer secondary and load bank input bus. An optional load interrupter switch on the transformer primary and an optional secondary circuit breaker between the transformer secondary and load bank are available and mounted in separate bays in the substation line-up. Heavy-duty lifting eyes are provided on the structural skid base for ease of lifting and handling during installation.

Pad or Trailer Mounted



PowerDyne™ | When Quality Matters

PowerDyne® Load Resistors are the most rugged in the industry. The non-corrosive resistance alloy can fully handle the effects of an outdoor installation. They are completely supported across their entire length within the air stream by stainless steel support rods which are insulated with heavy-duty, high-temperature ceramic insulators. Change in resistance is minimized by maintaining conservative resistor designs.

Automatic Load Dump

This circuit provides user interface provisions to the generator controls, automatic transfer switch, or building management system, to disconnect and disable all load steps from a normally closed (NC) set of auxiliary contacts. In the event of an actual power failure, all load bank load is removed from the source under test.

Operator Protection | When Safety Matters

The MV Series Load Bank comes equipped with a remote control panel (with enclosure) and includes an Emergency-Stop push button allowing the operator to take the unit off-line should a critical hard-stop condition occur. Branch circuit fuse protection provides short-circuit fault protection of all load bank steps eliminating the potential for catastrophic failure. Blower On, Motor Overload, Air-Flow Failure, and Over-temperature circuits disable all load steps during a fault condition with operator visual indicators. The Load Dump circuit provides the operator visual indication if all load steps have been removed.

Load Bank Operator Controls

- > Emergency Stop (E-Stop)
- > Illuminated Main Power On/Off
- > Illuminated Blower Start/Stop
- > Master Load On/Off switch
- > Individual Load Step Switches
- > Fault condition smart indicators provide operator display and load disconnect during Air-Flow Failure, Over-temperature, Motor Overload, and Load Dump



Load Bank Cooling System

> Integrally mounted blower motor(s) with high-performance, direct-driven fan blade delivers the required airflow volume (CFM) for cooling resistor load elements

> Blower motors can be wired to operate internally off the main input load bus from the power transformer or independently from an external 3-phase power source

> Motor circuits are short-circuit protected by current-limiting fuses and thermally protected by overload relays

