

ENGINEER'S SPECIFICATIONS FOR LBD-SERIES LOAD BANKS
(ENGINE RADIATOR AIRFLOW COOLED)

Options in the specifications are in parentheses. Blanks indicated by "xxxx" are for addition of specific rating values.

1. GENERATOR LOAD BANK

1.1 General: An engine radiator airflow cooled, resistive Load Bank is required for permanent, on site installation as a component of a standby engine generator

1.2 Installation: The Load Bank shall be installed within the air outflow of the engine unit mounted radiator and shall be cooled by the radiator airflow. The L

1.2.1 Bolted attachment to radiator with duct and flex coupling to air outlet in wall.

1.2.2 Installation within air duct; flex transition to radiator and solid duct transition to air outlet in wall.

1.2.3 Bolted attachment to interior wall with duct and flex coupling to radiator.

1.2.4 Bolted attachment to exterior wall over air outlet. Load Bank should be weatherproof for this installation.

1.3 Electrical Connection: Power source to Load Bank connection is 3-phase, 3-wire plus ground. Additional control wire connections for remote control as requir

1.4 Load Bank Rating:

1.4.1 Capacity: xxxx KW, 1.0 p.f.

1.4.2 Load Steps (5, 10, 20, 25, 40, 50) KW load step resolution

1.4.3 Voltage: xxxx V AC, 3-ph., 3-W

1.4.4 Frequency: (50, 60, 400) Hertz

1.4.5 Air intake temperature: 155°F max (radiator air outflow)

1.4.6 Airflow requirements: Radiator air outflow

1.4.7 Duty Cycle: Continuous

1.4.8 Air temp. rise: 100°F, nominal

1.4.9 Air back pressure: .25-.50" water column

1.5 Load Bank Design

1.5.1 General: The Load Bank shall be a completely self-contained unit which includes all resistive load elements, load control devices, load element branch cir

1.5.2 The Load Bank shall be the manufacturer's standard product that has been investigated, tested and listed by Underwriters Laboratories as a system for the

1.5.3 Enclosure: NEMA type (1, 3R), galvanized steel, unit construction, consisting of a power section, for installation and wiring of the load elements and a c

1.5.4 Load elements: Load elements shall be UL listed, labeled or recognized, totally enclosed, sealed and weatherproof with an electrically grounded outer shea

1.5.5 Load element short circuit protection: Branch circuit fuses, per each 50KW load branch circuit. Fuses shall be 200,000 A.I.C current limiting type.

1.5.6 Load control: One magnetic contactor per each fused branch circuit.

1.5.7 Load Bank power wiring shall be 150°C XLP insulated.

1.5.8 Main terminals: Barrier type power terminal block with compression type terminal to accept stranded building wire. Provide chassis ground stud with compre

1.5.9 Control wiring shall be 105°C XLP insulated.

1.5.10 Control power shall be derived internally from the main load bus. Control and protective circuits shall operate at 120V via control power transformer or

1.5.11 System protection: The Load Bank shall include a comprehensive protection system to protect against overheating. The system shall function to disconnect

1.6 (Local, Remote) Control Panel

1.6.1 A NEMA (1,3R) control panel for (automatic, manual) operation shall be provided. The panel shall include:

1.6.2 Control power on-off pushbuttons

1.6.3 "Normal operation" indicator lamp

1.6.4 Master load control switch

1.6.5 Load step control switches

1.6.6 "Cooling failure" alarm indicator lamp

1.6.7 Remote control panel shall be UL listed.

1.7 Warranty: The Load Bank shall be supplied with a 2-year manufacturer's warranty which covers all materials and service labor. The manufacturer shall demonst

1.8 Start-up Service: The Load Bank manufacturer is to provide one day start-up service of the Load Bank, on site, after the Load Bank has been installed and co

1.9 Qualifications of Load Bank Manufacturer

1.9.1 The Load Bank shall be a product of a firm regularly engaged in the design and manufacture of generator Load Banks.

- 1.9.2 The Load Bank manufacturer shall demonstrate at least five years experience with at least twenty-five successful installations of Load Banks similar or eq
- 1.9.3 The Load Bank for this application shall be a Simplex LBD-Series as manufactured by Simplex, Inc. 1139 N. MacArthur Blvd., Springfield, Illinois 62702, 80

Add the following section to provide for Load Bank operation as an automatic load regulator to maintain a preset load level.

1.10 Automatic Load Bank Controller

- 1.10.1 The Load Bank is to be equipped with an automatic controller which will be activated when the Load Bank mode control selector switch is placed in the "au
- 1.10.2 In automatic mode, the Load Bank is to be on-line and continuously operative whenever the power source runs. The Load Bank shall provide a component of t
- 1.10.3 The automatic controller shall include control logic, solid-state sensors and time delays which shall act to apply/remove Load Bank component in multiple
- 1.10.4 The automatic controller shall function to maintain total load upon the power source within a preset bandwidth by adding Load Bank load component as exte
- 1.10.5 The automatic controller shall sense load (amperes, kilowatts).
- 1.10.6 Full manual control of the Load Bank shall be restored when the mode selector switch is placed in the "manual" position.
- 1.10.7 The automatic controller shall include a solid-state load sensor with level and time delay adjustment and output contacts for each load step. A current t