MOBILE GENERATOR LOAD TESTING

600 kW

Resistive load bank

Trolley mounted. Manually controlled. 656 kW installed capacity with additional loading reserve.



400–430 V	656 kW	50 Hz
Working voltage	Installed at 430 V	Unity power factor

01 / ELECTRICAL & MECHANICAL

Configured for the duty

600 kW requirement. 656 kW installed at 430 V: an additional 56 kW (9.3%) of loading capacity for greater test flexibility.

Installed load	656 kW at 430 V AC; working voltage 400–430 V
Supply system	Three-phase, 4-wire, balanced load; 50 Hz
Power factor	Unity (resistive)
Full-load line current	Approx. 881 A at 656 kW / 430 V; auxiliaries additional
Load control	18 manually selected steps; 1 kW nominal resolution See step schedule on page 3
Heating elements	Kanthal Grade D resistance material; stainless steel outer sheath; Grade 3 magnesium oxide insulation
Element terminals	Brass nuts, bolts and washers
Cooling	Forced-air cooling with heavy-duty fans
Control panel	Separate fabricated MS sheet-metal enclosure
Mounting & finish	Trolley mounted, closed steel enclosure; powder-coated body; towing hook; bearing-type trolley wheels, 18 inches or larger
Duty requirement	24-hour continuous operation
Warranty	One year

CUSTOMIZED DIMENSIONS

1,200 × 1,800 × 1,200 mm (±100 mm)

02 / OPERATION

Controlled load. Clear status.

Manual load selection and visible electrical measurements keep generator testing straightforward.

18 manual steps • kW

1, 1, 2, 2, 5, 5, 10, 10, 10, 20, 20, 20, 50, 50, 50, 100, 100, 200.
Total: 656 kW at 430 V.

Digital monitoring

Electrical monitoring provides clear operating feedback during load testing.

Visible indication

LED status indication and fuse-protected monitoring circuits for clear operating feedback.

Protection functions

01	Under-voltage & over-voltage
02	Over-current & short-circuit
03	Over-temperature warning & trip
04	Fan interlock
05	Airflow-failure protection
06	Emergency stop

Capacity advantage & design conditions

Additional 100 kW step included: 656 kW total, providing 56 kW reserve above the 600 kW requirement at 430 V. Resistive step power varies with voltage squared; total available load is approximately 568 kW at 400 V.

Class F insulation • 2.5 kV dielectric test requirement
Ambient: up to 55°C • Humidity: up to 100%
Full-load temperature-rise requirement: ambient +50°C
Service-life design target: 15 years or more

03 / EQUIPMENT PROTECTION

Protection built into operation

Electrical and cooling protections disconnect the load when an unsafe operating condition is detected.

Under-voltage protection

Trips the load when the supply voltage falls below the set limit, preventing continued loading under low-voltage conditions.

Over-voltage protection

Trips the load when the supply voltage exceeds the set limit, helping protect the resistor bank and associated equipment.

Over-current & short-circuit protection

Protective breakers interrupt excessive current or fault current to protect load circuits and power wiring.

Over-temperature protection

Temperature monitoring gives a warning and trips the load if the temperature exceeds the set protection limit.

Fan interlock

Permits load application only when the cooling-fan operating condition is established. Loss of the fan permissive removes the load.

Airflow-failure protection

Monitors cooling airflow and trips the load if airflow is insufficient or lost, including a blocked or failed cooling path.

Emergency stop

Allows the operator to immediately disconnect the applied load during an emergency.

Protection setpoints and trip delays are coordinated with the approved electrical design and commissioning settings.

04 / MECHANICAL EXECUTION

Built around site movement

Trolley construction brings the load bank to the generator testing location.



Accessible enclosure

Panel access supports inspection and servicing of the load-bank assembly.

Practical mobility

A wheeled trolley and towing arrangement simplify repositioning at site.

Existing VCS load-bank execution shown. Project configuration follows the specifications in this brochure.

05 / MANUFACTURING

Engineered for your application

Volt Control System combines load-bank manufacturing experience with project-specific engineering.



Discuss your load-testing requirement

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