

# NAUTILUS 250

## 250KW Resistive Water Cooled Load Bank

### Description

The Simplex Nautilus-250 is a water-cooled load bank. The Nautilus-250 is a compact, portable product using a PLC with touchscreen HMI.

### Features

The load bank is a completely self-contained, freestanding unit, which includes all resistive load elements, load control, load element branch circuit fuse protection, main load bus and terminals, valves and fittings, control power supply, malfunction detection system.

**Control System:** PLC control with 8-inch color TFT touchscreen HMI. Screen is configured for local or remote operation. Remote requires 120v power source.

**Control Function:** Master control on-off button; keypad entry of load values, apply and remove buttons. **Displays:** AC 3-phase voltage and current, frequency, kilowatts. **Alarms:** high outlet temp, low flow, high pressure **Messages:** normal operation, water outlet temp.

**Capacity:** 250 kW

**Voltage:** 480vAC, 3-phase, 3-wire

**Frequency:** 60 Hertz

**Load Steps:** Digital control, comprised of circuits as follows -  
kW: 25-50-50-50-50

**Duty Cycle:** Continuous

**Ambient Temperature:** 52°C

**Control Power:** External, via power inlet and power cord to 120v 15A outlet

**Cooling Requirements:** Fresh water; Nominal 125 GPM supply yields approx. 12.5°F rise at full power; Flow rate is infinitely variable to a max temp rise not to exceed 180°F outlet -

$KW = GPM \times \text{Temp. Rise (F)} \times .16$

$GPM = KW / (\text{Temp. Rise} \times .16)$

$\text{Temp. Rise (F)} = KW / (GPM \times .16)$



**Weight:** Approximately 1600 lbs full of water, 900 lbs dry

**Water Connection:** 2-inch, water inlet and water outlet. Quick disconnect couplings, shutoff ball valves.

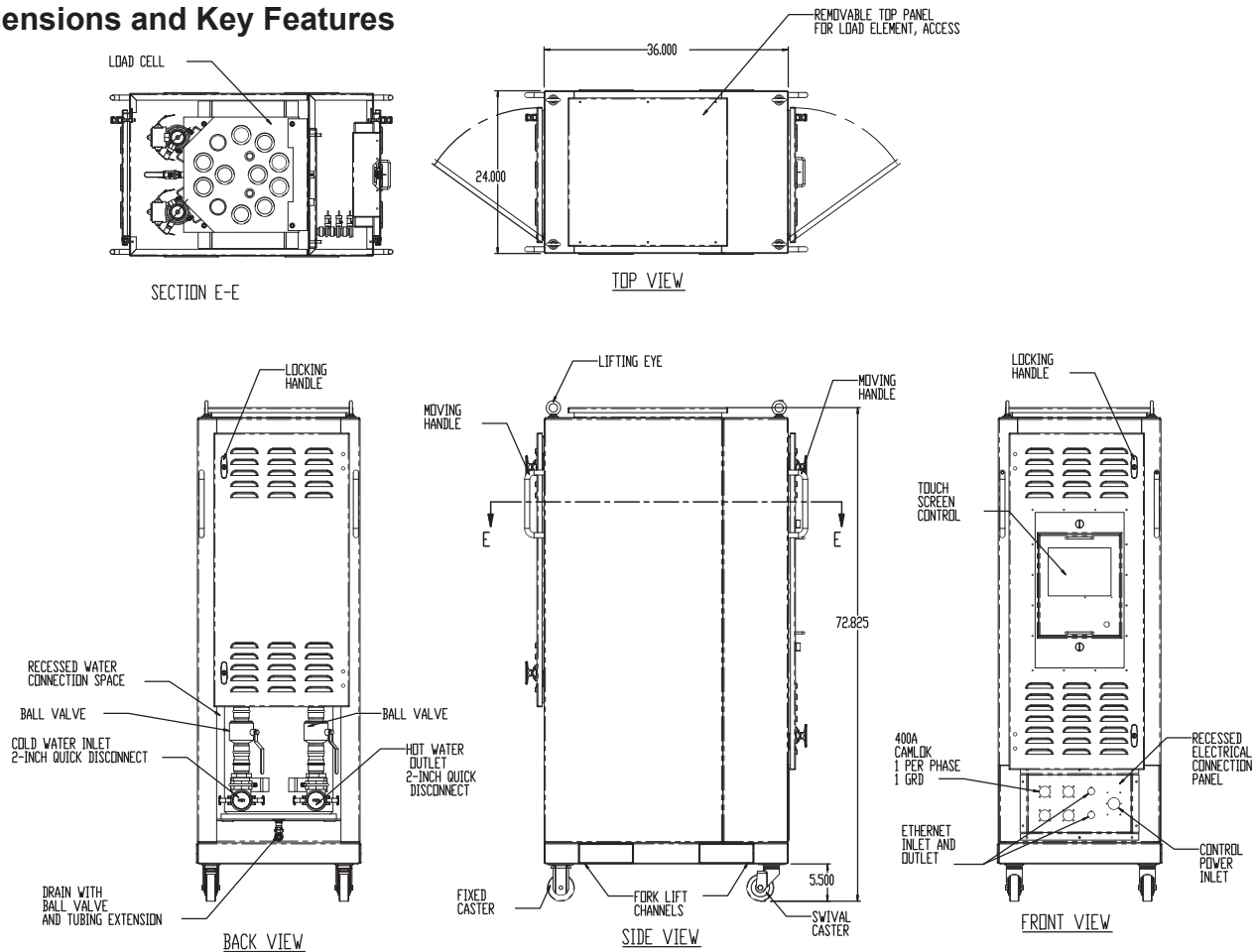
**Enclosure:** Environmental type 1 freestanding, indoor, portable enclosure. Aluminum frame clad with aluminum panels and doors. Front power connections. Rear water connections. Casters, forklift pads, lifting eyes. Powder coated white cabinet, blue doors. 72H x 24W x 36D

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# SIMPLEX®

## Dimensions and Key Features



### Load Cell

1 x 250 kW load, consisting of heavy-gauge, steel housing, load elements, control valves and sensors as described below.

### Load Elements

Immersion type, tubular construction, stainless steel or Incolloy sheathed, chromium-alloy conductor. Screw-plug mounting.

### Load Control

Triac and Branch circuit contactors, each 25 kw or 50 kW circuit.

### Element Circuit Protection

Branch circuit fuses, each 50 kW branch circuit or each step.

### Power Wiring

150°C insulated; color-coded and numbered, XLP insulation.

### Control Wiring

90°C, color-coded and numbered.

### Power Connection

Cam-Type connectors, 1 x 4/0 (400A) per phase and 1 x ground. Bulk-head mount connectors installed on front.

### System Protection

Sensors: Protection for High water temperature; Low water flow; High pressure. Alarm and shutdown upon failure detection.

### Sensors

Water temperature.

### Enclosure

Type 1 indoor freestanding. Approx 24" W x 72" H x 36" D.

### Water flow control

Equipped with main inlet and outlet shutoff ball valves, pressure relief valve.