

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.

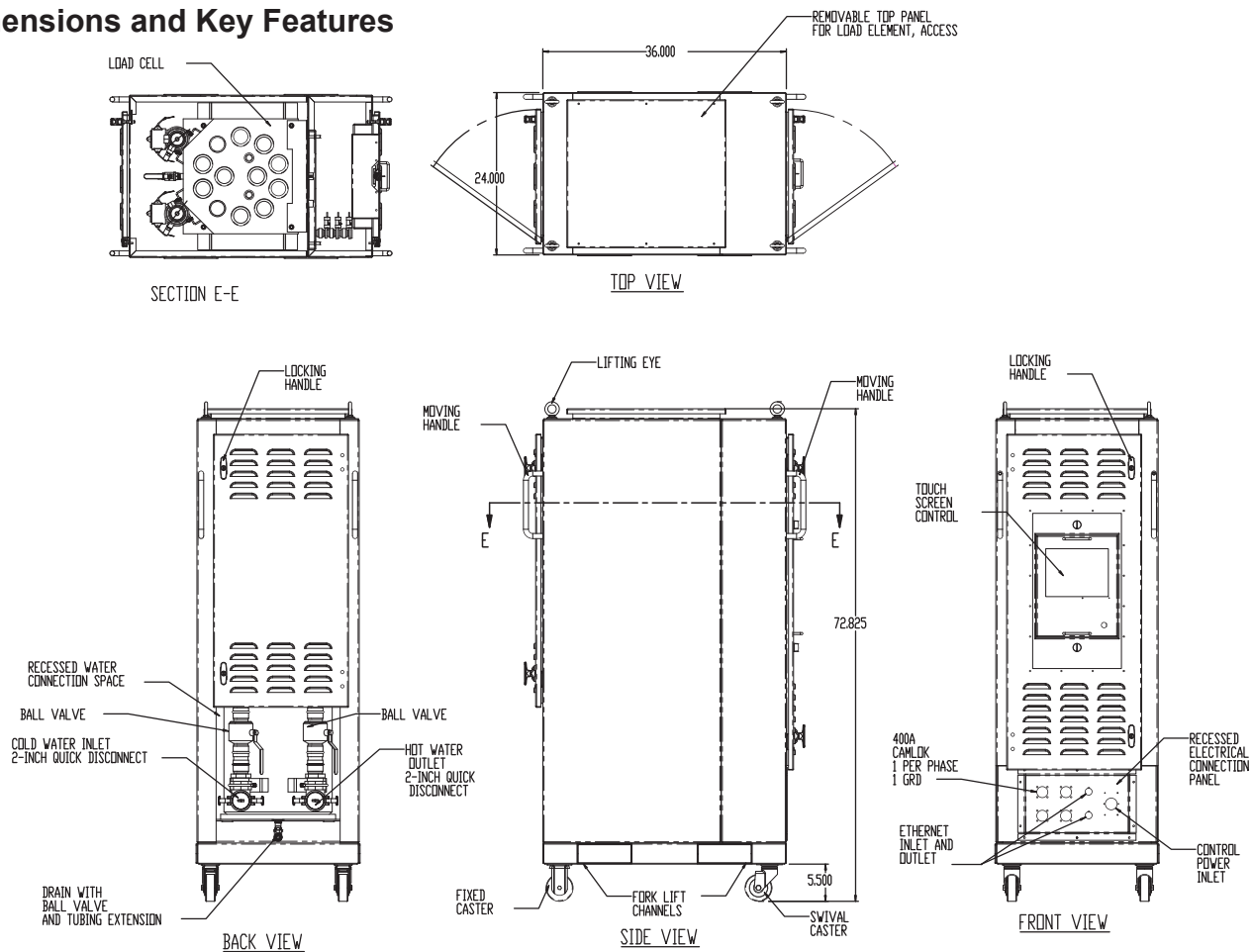
Enclosure: Environmental type 1 freestanding, indoor, portable enclosure. Aluminum frame clad with aluminum panels and doors. Front power connections. Rear water connections. Casters, forklift pads, lifting eyes. Powder coated white cabinet, blue doors. 72H x 24W x 36D

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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.