

Unit Substation



Dimensions

Height: 62.80" - 68.80" (1,595.12 mm - 1,747.52 mm)
Width: 50.76" - 71.50" (1,289.30 mm - 1,816.10 mm)
Depth: 36.00" (914.40 mm)

Approximate

Weight: 775 lbs. - 2,800 lbs. (354.3 kg - 1,280.0 kg)

UL File No. E229729-1-1

General Specifications for Unit Substations

All Substations Must Meet the Following:

Part I. General:

1.1 General Requirements:

- A. Shall be tested and certified to be in compliance with UL 1062 entitled "Unit Substations"
- B. Shall be certified to be in compliance with UL 1561 entitled "Dry Type General Purpose and Power Transformers"
- C. Shall be certified to be in compliance with UL 67 entitled "Panelboards"
- D. Shall be certified to be in compliance with UL 489 entitled "Molded Case Circuit Breakers"
Shall be certified to be in compliance with UL 50 entitled "Cabinets and Boxes"
- F. Shall be certified to meet all sections NFPA 303 DTD "2006 Marinas and Boatyards"
- G. Overload capacity shall meet ANSI L57.96-01.250.

Part II. Products:

2.1 Distribution Equipment:

- A. Dock Boxes Unlimited, Inc.
1-800-559-4269
www.dockboxes.com

2.2 Unit Substations - General Specification

A. Main Housing:

- a. The housing shall be constructed of 14 or 16 gauge, 316L low carbon stainless steel and shall be coated with UV-resistant polyurethane resin over a powder coating. It shall be UL listed as a type 3R weatherproof enclosure.
- b. The housing shall have a solar shield top to reduce heat transfer from the sun and to reduce the heat transfer from the transformer.
- c. Long-life thermostatically controlled fans shall be located such that the fans move air from the transformer compartment.

B. Doors:

- a. Stainless steel access doors to the transformer and panelboard compartments shall use key-entry, quarter turn, wing-nut handles.
- b. The doors shall be sealed by 360° neoprene gaskets and be watertight.

C. Transformer:

- a. Transformers shall be wound with class H heavily insulated copper bar and double dipped in tough insulating varnish that protects the copper.
- b. The temperature rise of the transformer shall not exceed 150° C.
- c. The insulation class for the transformer shall not exceed 220° C per UL standards.
- d. Standard frequency shall be designed for 60-Hertz operation. 50-Hertz operation is available upon request.
- e. Standard taps shall be FCAN (+2) and FCBN (-2) at 2.5% each. Custom taps are available upon request.
- f. Standard primary voltages shall be:
 1. 480V, 3-phase, Delta
 2. 480V, 1-phase
 3. 600V, 3-phase, Delta
 4. 600V, 1-phase
 5. Other voltages available upon request
- g. Standard secondary voltages shall be:
 1. 120/208V, 3-phase, Wye
 2. 127/220V, 3-phase, Wye
 3. 277/480V, 3-phase, Wye
 4. 120/240V, 1-phase
 5. Other voltages available upon request
- h. Standard primary circuit breaker protection shall be provided for incoming electrical feeds. Primary circuit protection may be removed where acceptable per the NEC upon request.

D. Panelboard:

- a. Panelboard shall be Cutler-Hammer Pow-R-Line.
- b. All bus work shall be density rated copper.
- c. All circuit breakers shall be bolt-on type.
- d. Panelboard shall be provided with a main circuit breaker or main lug only.
- e. Branch circuit breakers shall be provided per the customer's specifications.

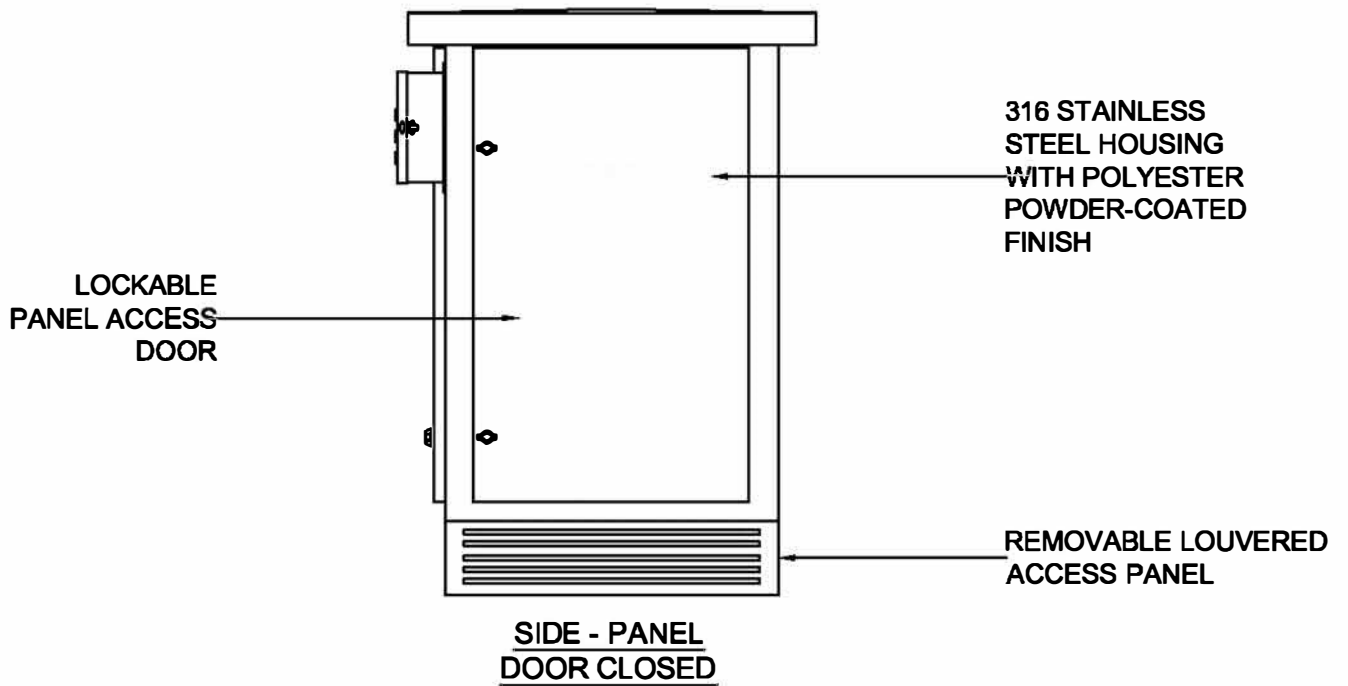
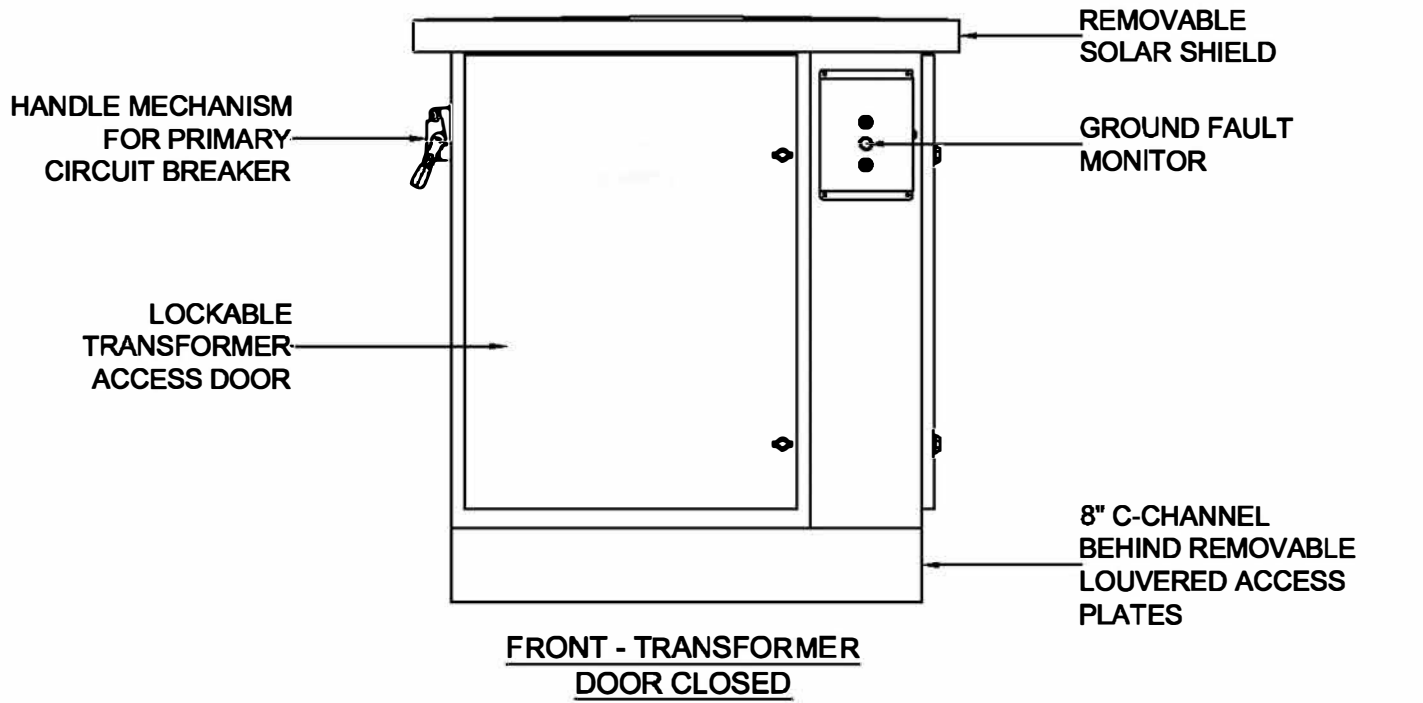
E. Internal Wiring:

- a. All secondary wire shall be completed with 600 V insulated copper wire.
- b. This wire shall pass through a special molded grommet assembly between the transformer and the distribution panel chambers.

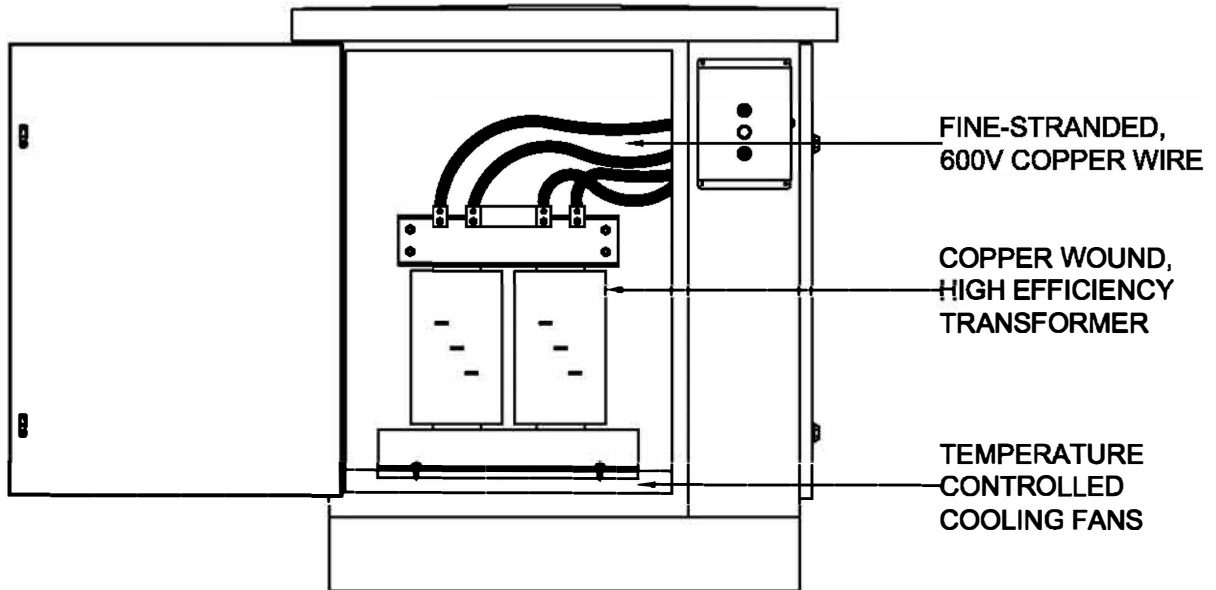
-
- F. Grounding:
- a. All exposed metallic parts must have an integral ground that is a part of the equipment grounding system.
- G. Electrical Components:
- a. All electrical components shall be located at least 12" above the mounting surface.
- H. Installation Equipment:
- a. Two heavy-duty stainless steel "C" channels shall be provided for easy mounting of the unit to the dock.
 - b. Removable louvered skirting shall be provided to cover the mounting area.
 - c. Cable gland plates shall be provided on both the primary and secondary side of the unit base.
 - d. Four Lifting eyes shall be provided with each unit, located on the top of the unit. These eye-bolts shall be stainless steel and can be found under the solar shield.
- I. Optional Ground Fault Monitoring:
- a. Monitoring can be single-level (monitoring for a single main circuit breaker) or multi-level (monitoring for multiple branch circuits).
 - b. Indicator lights shall be visible on the outside of the substation enclosure when ground fault monitors are included.
- J. Optional Lighting Equipment:
- a. Photocell for external lighting equipment
 - b. Lighting contactors
 - c. Three Position Hand-Off-Auto Control

(END OF SECTION)

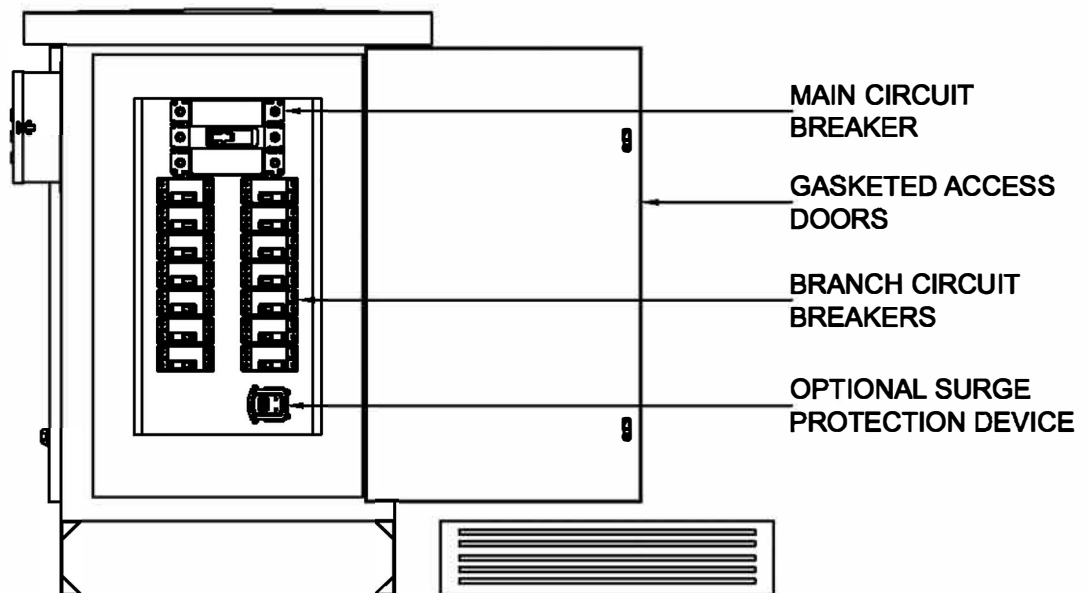
Product Features



Product Features (cont.)

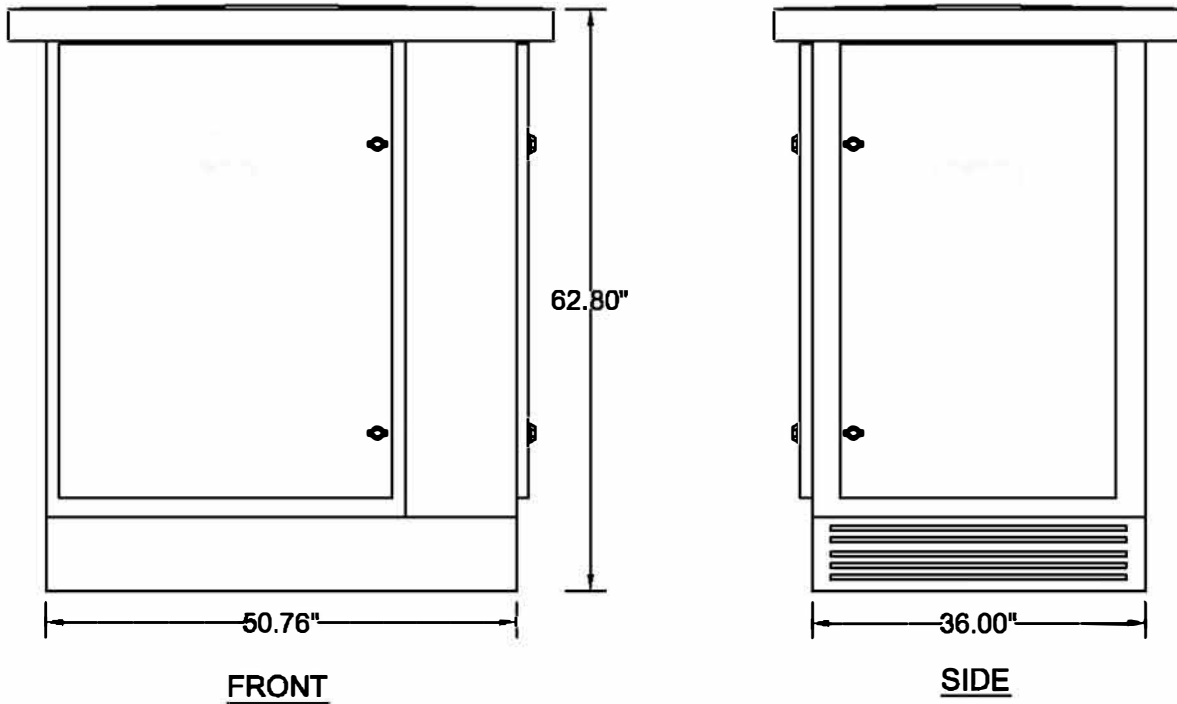


FRONT - TRANSFORMER
DOOR OPEN

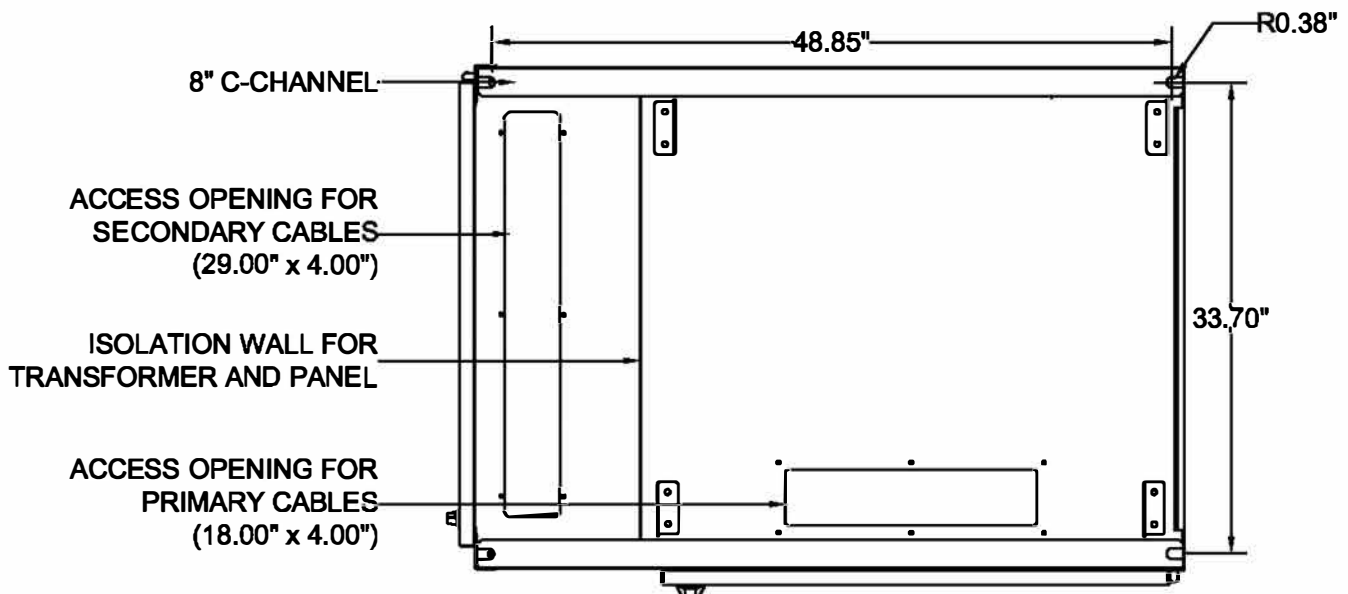


SIDE - PANEL
DOOR OPEN

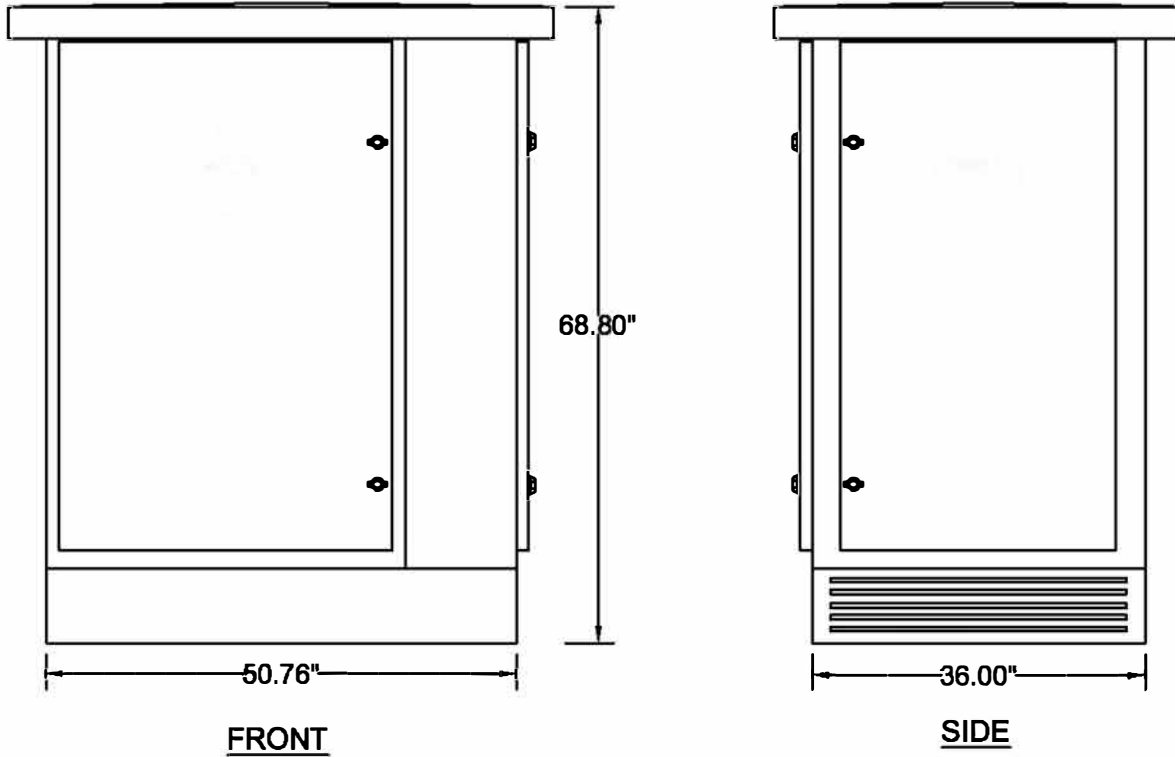
Product Dimensions - Standard Single Panel Substation - 250KVA Transformer or Below



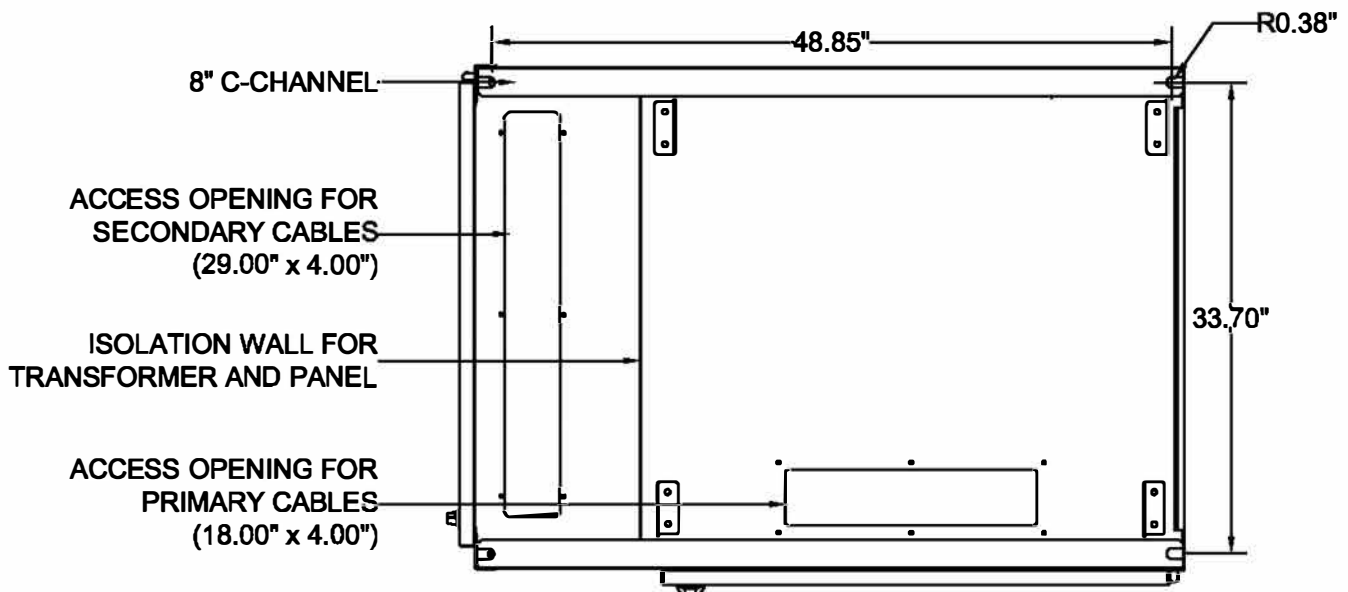
Base Dimensions - Standard Single Panel Substation - 250KVA Transformer or Below



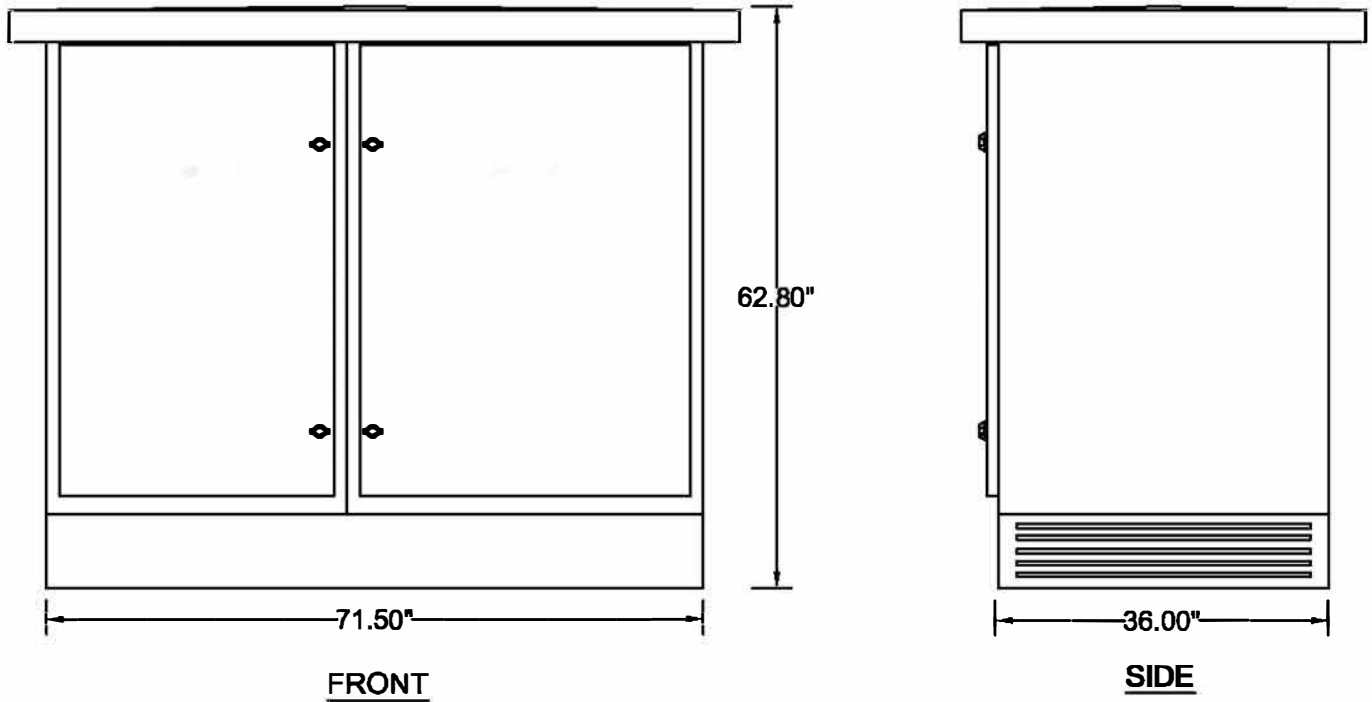
Product Dimensions - Standard Single Panel Substation - Above 250KVA Transformer



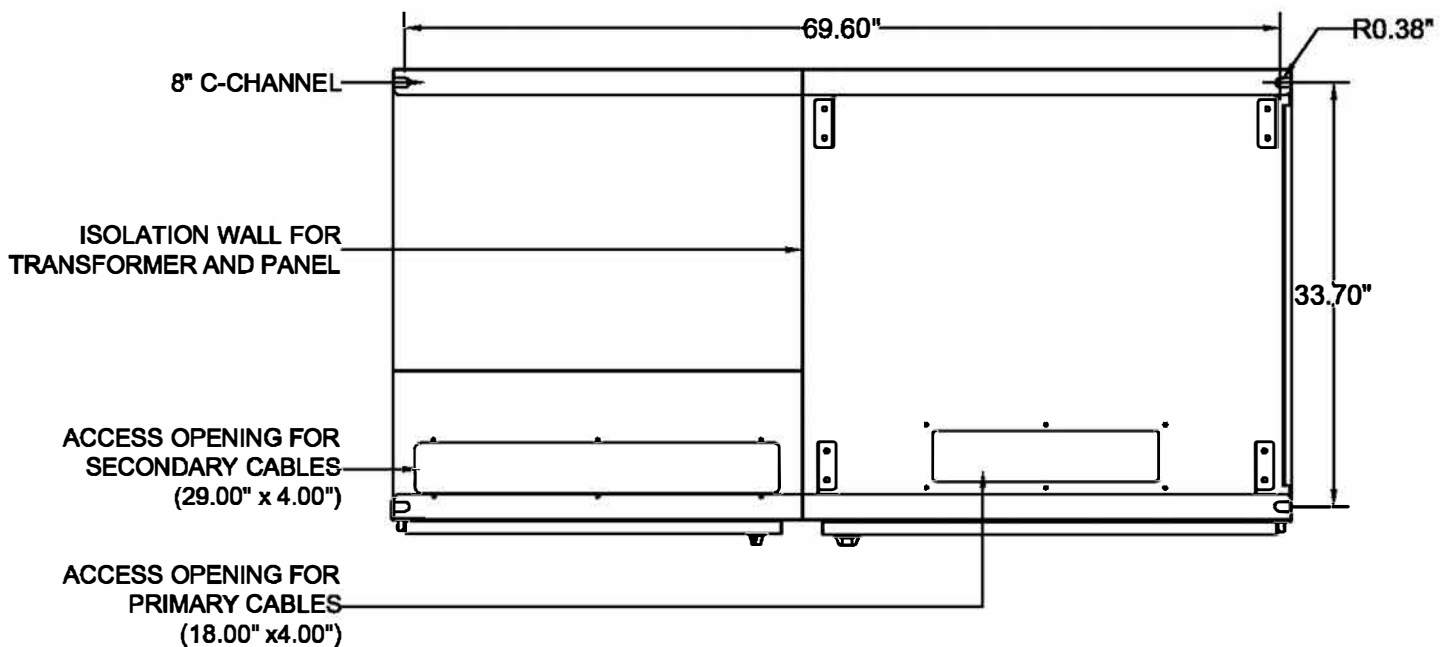
Base Dimensions - Standard Single Panel Substation - Above 250KVA Transformer



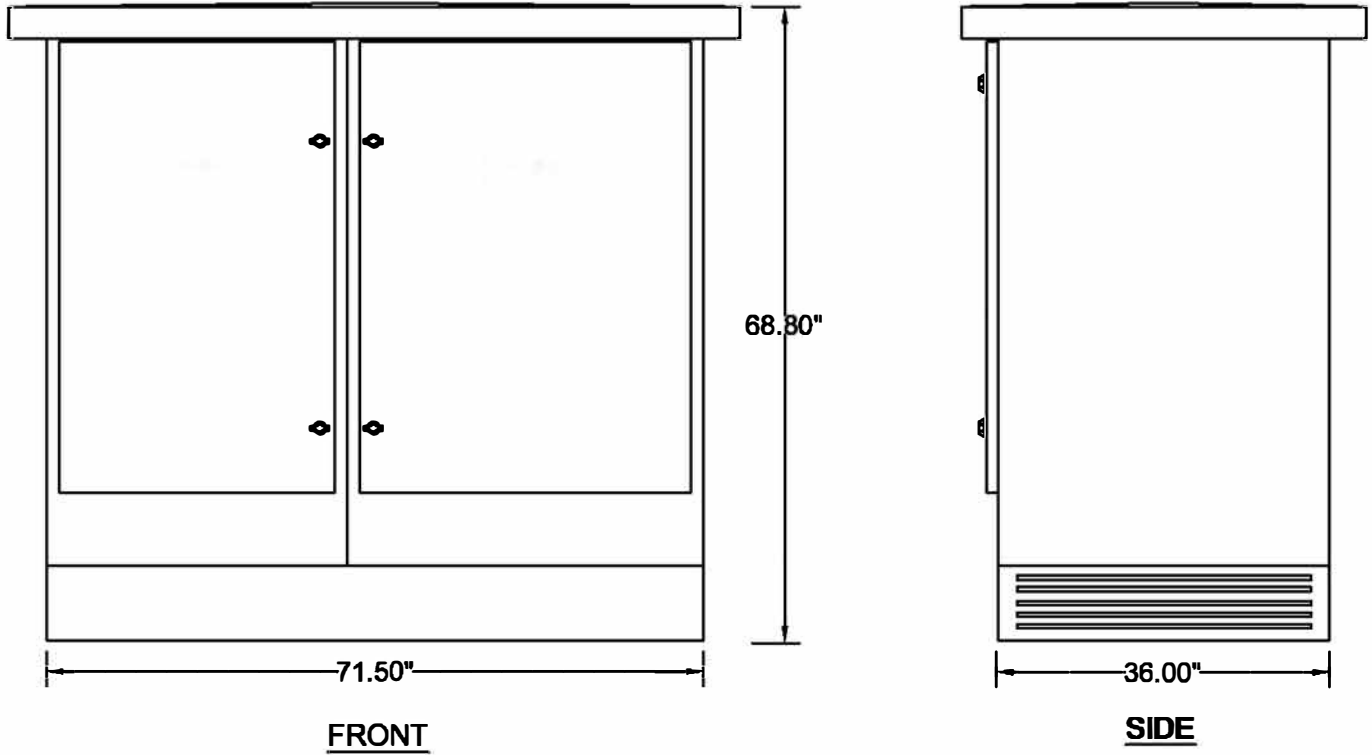
Product Dimensions - Side-By-Side Single Panel Substation - 250KVA Transformer or Below



Base Dimensions - Side-By-Side Single Panel Substation - 250KVA Transformer or Below



Product Dimensions - Side-By-Side Single Panel Substation - Above 250KVA Transformer



Base Dimensions - Side-By-Side Single Panel Substation - Above 250KVA Transformer

