



## Three-Phase Pad-Mounted Mobile Power Transformers

### Introduction

Howard Industries Mobile Power transformers are specially designed for use with mobile power systems and are the ideal choice for applications requiring step-up transformation and interconnection with an electrical distribution grid. These rugged transformers can take all the abuse a transportable system typically receives. And, they are specially designed and equipped for the rental power market, with many valuable features that improve portability and increase flexibility for use with different grid voltages.

Contact the factory or your local Howard Industries representative for more information about our Mobile Power transformer line and about the many custom solutions we can offer.

### Ratings

Standard ratings for Mobile Power transformers have been selected to satisfy typical requirements for mobile power systems. In addition to these standard ratings, a wide range of optional ratings is available to satisfy any special customer requirement.

- Standard capacities: 45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, and 5000 kVA
- Standard high-voltage rating: 14400 Volts delta, with taps at 13800, 13200, 12870, 12470, 12000, and 11700 Volts. Optional high-voltage ratings from 2400 through 19920 Volts
- Standard low-voltage rating: 480Y/277 Volts. Optional low-voltage ratings from 120 through 600 Volts
- Standard frequency: 60 Hertz. Optional frequency: 50 Hertz



FIGURE 1: Three-phase Mobile Power transformer

### Standard Features

- Designed and manufactured in accordance with all applicable IEEE/ANSI and NEMA standards
- Non-loadbreak high-voltage tap switch with operating handle located in the high-voltage compartment
- Externally clamped porcelain high-voltage bushings with spade terminals (live-front construction)
- Mounting provisions for lightning arresters in the high-voltage compartment
- Externally clamped epoxy or porcelain low-voltage bushings with integral spade terminals
- Removable neutral ground strap in low-voltage compartment
- Lifting provisions
- Jacking and rolling provisions
- Removable steel forklift channels
- Removable terminal compartment and front sill
- Tamper resistant removable tank access cover

- Three-point door latching system with padlock provision and recessed interlocking pentahead security bolt
  - Tank grounding provisions
  - Welded mild steel tank construction with mild steel terminating compartment
  - Mild steel barrier between high-voltage and low-voltage compartments
  - Corrosion resistant hardware
  - Recessed tank compartment bottom
  - Domed covers on tank and terminal compartment
  - Electrostatically applied powder paint finish with polyurethane topcoat (ANSI 70 light gray)
  - Oil fill/oil level plug
  - Oil drain valve with sampling device
  - Automatic pressure relief device
  - Dial-type liquid level gauge
  - Dial-type liquid temperature gauge
  - Electrical grade mineral oil insulating fluid with oxidation inhibitor
  - Laser engraved nameplate
  - Bushing designation labels
- Optional Features**
- Insulated interphase barriers
  - Lightning arrester mounting provisions (live front construction only)
  - Two 2.5% high-voltage taps above and below normal voltage, or four 2.5% high-voltage taps below normal voltage, or four 2.5% taps above normal voltage, or no high-voltage taps
- Dual high-voltage rating with non-loadbreak switch handle located in the high-voltage compartment (not available in combination with high-voltage taps)
  - High-voltage fuses, including internal expulsion fuses, draw-out expulsion fuses, internal backup current limiting fuses, and draw-out full-range current limiting fuses in dry-well canisters
  - Internal load-break high-voltage ON/OFF switch with operating handle located in the high-voltage compartment
  - Stainless steel tank and terminating compartment
  - Cover mounted high-capacity pressure relief device
  - Rtemp®, silicone, or seed-based vegetable oil insulating fluid
  - Cooling fans with control or fan mounting provisions only
  - Mounting provisions for external electricity meter
  - Hexhead security bolt (pentahead standard)
  - Temporary service access provision (conduit hole) in terminal compartment sill
  - Optional topcoat paint color: ANSI 49 light gray, ANSI 61 light gray, ANSI 24 dark gray, olive green (Munsell 7GY3.25/1.5), or white
  - Tank grounding connectors

### Unit Substation Designs

In addition to the standard pad-mounted compartmental design previously described, Mobile Power transformers can also be supplied in a unit substation design (Figure 2), available with a variety of different high-voltage and low-voltage termination interfaces, such as full-height flanges, throats, or air terminal compartments. Substation transformers are available in capacities through 10,000 kVA, with high-voltage ratings up to 69 kV.



**Figure 2:** Typical unit substation transformer.

## Mobile Power transformers

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