

2009

Single Phase Overhead Distribution Transformers



Type CSP



Type S

Power Partners, Inc. single phase, oil-filled, pole-mounted distribution transformers are specifically designed for servicing residential overhead distribution loads. They are also suitable for light commercial loads, industrial lighting and diversified power applications. These transformers are designed for the application conditions normally encountered on electric utility power distribution systems.

Ratings

- 5-1000 kVA
- 65° C temperature rise
- 60 hertz standard, 50 hertz optional
- Low voltages: 120/240, 240/480 and 277
- High voltages: 2400 through 34,400 Volts
- Insulation levels:

| Rated Voltage Ranges | Insulation Class | Basic Impulse Level (kV) |
|---|------------------|--------------------------|
| 120-600 | 1.2 | 30 |
| 2160-2400 | 5.0 | 60 |
| 4160-4800 | 8.7 | 75 |
| 7200-12470 | 15.0 | 95 |
| <i>Optional 125 kV BIL 12000 volts available.</i> | | |
| 13200-14400 | 18.0 | 125 |
| 19920-22900 | 25.0 | 150 |
| <i>Optional 125 kV BIL 19920 volts available.</i> | | |
| -34400 | 34.5 | 200 |

Standard Features:

1. Lifting lugs.
2. Arrester mounting pads.
3. Cover-mounted high voltage porcelain bushing(s) with eyebolt terminal (10-100 kVA) or spade terminal.
4. Low voltage insulators are available in fiberglass reinforced polyester material or porcelain (both eyebolt and spade terminals).
5. Low voltage neutral grounding strap (furnished on 10-50 kVA single HV bushing units).
6. ANSI support lugs (hanger brackets).
7. Cover has 13 mils minimum of polyester coating providing 15 kV dielectric insulation of tank ground parts from live parts and increased resistance to corrosion.
8. Self-venting and resealing cover assembly.
9. The core/coil bolt-in pads are 180° apart.
10. Embossed low voltage leads.
11. Oil filled plug with cover ground strap.
12. Tank ground pad.
13. Laser etched anodized aluminum nameplate with bar coded serial number.
14. The paint finish process applies a durable, corrosion resistant finish to the product. The finish meets or exceeds all the performance require-

ments of ANSI C57.12.28. The multi-step process includes an epoxy primer uniformly applied by cationic electro-deposition and a urethane top coat.

The following additional features are all standard on self-protected type CSP® units:

15. Primary protective link.
16. Surge arrester.
17. Secondary circuit breaker.
18. Secondary breaker operating handle with emergency overload reset and overload signal light.

Options

1. Primary Termination
 - Cover-mounted high voltage porcelain bushing(s) with spin top terminal.
 - Side-wall mounted high voltage porcelain bushing(s) with spin top terminal (Standard on all 4800 volts and below).
 - Primary current limiting backup fuse.
2. Secondary Termination
 - Low voltage porcelain bushings with NEMA spade terminals (Standard on all units 167 kVA and above).
3. Primary Switching
 - Externally-operated tap changer.
 - Externally-operated dual voltage switch or internal terminal board.
4. Overcurrent Protection
 - Internally-mounted current limiting fuse in series with protective link.
5. Contact the division for voltages and dimensions on 666 through 1000 kVA.

Optional Accessories

1. High voltage bushings are of two types and are made of wet process porcelain:
 - Speed wrench operable eyebolt bushing for cover mounting.
 - Spin-top bushings for either cover or side-wall mount.
2. Tap changers compensate for small voltage variations along the distribution system. The externally-operated tap changer is a single-phase, five-position design for de-energized operation.
3. A dual voltage switch permits use of the same transformer on distribution systems with different system voltages.
4. The CSP® protection package consists of four related components that work together to provide complete self-contained protection against surge currents, short circuits and overloads:

- The protective link removes an internally-faulted transformer from the primary line, maintaining service to other customers on the line not served by the faulted unit.
- The MOV polymer arresters handle

surges of 65,000 amperes (small block) and 100,000 amperes (large block).

- Secondary circuit breakers protect against overloads and external short circuits.

- An optional current limiting fuse supplements the protective link when the fault current exceeds the link's rating.
5. Stainless steel tanks and covers are available.

Overhead Distribution Transformers

Approximate weights and dimensions

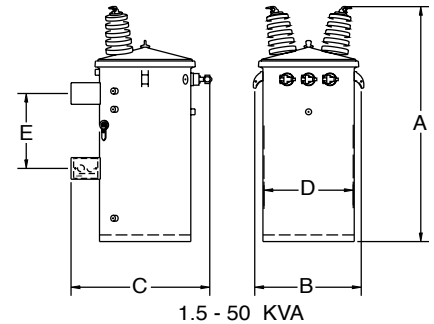
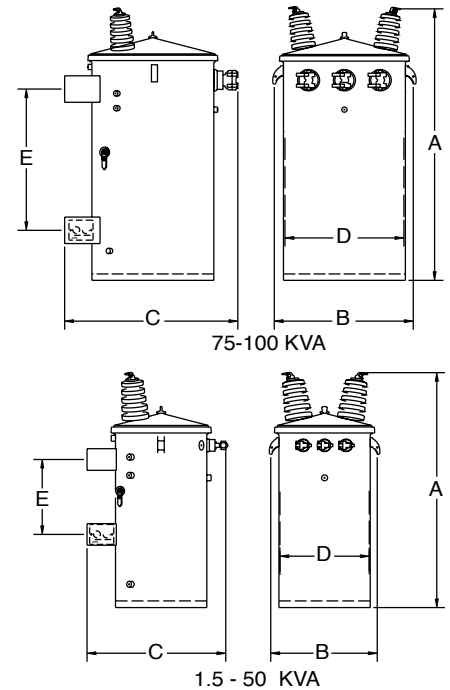
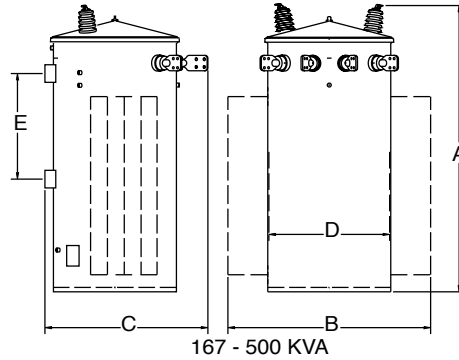
Standard Design Dimensions and Weights
(All weights and dimensions are approximate. Dimensions may change to meet the customer spec.)

Single Phase, 60 HZ, OISC, 65° Rise High Voltage

(Refer to Division for available tap positions and dimensions for other primary voltages.)

Low Voltage 120/240 or 240/480 or 277
Standard Performance level

APPROXIMATE WEIGHTS AND DIMENSIONS OVERHEAD DISTRIBUTION TRANSFORMERS



Overall weights and dimensions are given in pounds, inches or gallons and are approximate
'A'=Overall Height, 'B'=Overall Width, 'C'=Overall Depth, 'D'=Tank Diameter, 'E'=Hanger Spacing
1 Phase

Type 'S' - Class 0A - 7200 /12470Y Primary Voltage

| KVA | A | B | C | D | E | Wgt | Ship Wgt | OIL Qty |
|------|----|----|----|-------|-------|------|----------|---------|
| 10 | 34 | 17 | 20 | 13.25 | 11.25 | 205 | 217 | 11 |
| 15 | 36 | 17 | 20 | 13.25 | 11.25 | 236 | 247 | 12 |
| 25 | 41 | 19 | 22 | 15.25 | 11.25 | 349 | 363 | 18 |
| 37.5 | 44 | 22 | 24 | 17.5 | 11.25 | 489 | 510 | 29 |
| 50 | 49 | 22 | 24 | 17.5 | 11.25 | 585 | 605 | 31 |
| 75 | 49 | 25 | 27 | 20 | 23.25 | 850 | 875 | 40 |
| 100 | 50 | 27 | 28 | 20 | 23.25 | 923 | 968 | 42 |
| 167 | 58 | 38 | 33 | 24 | 23.25 | 1475 | 1542 | 78 |
| 250 | 66 | 38 | 33 | 24 | 24 | 1820 | 1885 | 90 |
| 333 | 62 | 42 | 37 | 24 | 24 | 2040 | 2110 | 82 |
| 500 | 66 | 45 | 41 | 27 | 36 | 2850 | 2950 | 109 |

Type 'S' - Class 0A - 14400 /24940Y Primary Voltage

| KVA | A | B | C | D | E | Wgt | Ship Wgt | OIL Qty |
|------|----|----|----|-------|-------|------|----------|---------|
| 10 | 38 | 17 | 20 | 13.25 | 11.25 | 205 | 217 | 11 |
| 15 | 38 | 17 | 20 | 13.25 | 11.25 | 245 | 256 | 11 |
| 25 | 46 | 22 | 24 | 17.5 | 11.25 | 455 | 470 | 29 |
| 37.5 | 46 | 22 | 24 | 17.5 | 11.25 | 505 | 526 | 28 |
| 50 | 51 | 25 | 27 | 20 | 11.25 | 730 | 755 | 41 |
| 75 | 52 | 25 | 28 | 20 | 23.25 | 910 | 936 | 38 |
| 100 | 56 | 27 | 28 | 20 | 23.25 | 985 | 1025 | 46 |
| 167 | 56 | 38 | 33 | 24 | 23.25 | 1430 | 1495 | 70 |
| 250 | 68 | 38 | 33 | 24 | 24 | 1865 | 1930 | 91 |
| 333 | 61 | 42 | 35 | 24 | 24 | 1970 | 2041 | 75 |
| 500 | 72 | 45 | 39 | 27 | 36 | 2960 | 3055 | 121 |

All Approximate Dimensions shown reference designs with +/- 2.5% Taps