

# Three Phase “T-connected” Overhead Distribution Transformer

The Power Partners “T-connected,” overhead distribution transformer can be used to serve most three phase applications up to 500 kVA. “T-connected” transformers consist of two single-phase core/coil assemblies. This type of connection is also referred to as a “Scott-T” connection.

“T-connected”, overhead distribution transformers can be used to serve most three-phase applications. However, Triplex designed three phase transformers are needed for some applications where large motors are the load and these motors are frequently started. Oil field pumping loads and some irrigation pumping loads should use only the triplex designs.

### Ratings

- 30-500 kVA
- 65°C rise
- 60 Hertz standard, 50 Hertz optional
- High Voltages: 13800 and below
- Low Voltages: 208T/120, 240T x 480T, and 480T/277
- Transformer BIL Ratings

Transformer Primary	Transformer BIL
2400T	60 kV
4160T	60 kV
4800T	60 kV
7200T	75 kV
8320T	75 kV
12000T	95 kV
12470T	95 kV
13200T	95 kV
13800T	95 kV

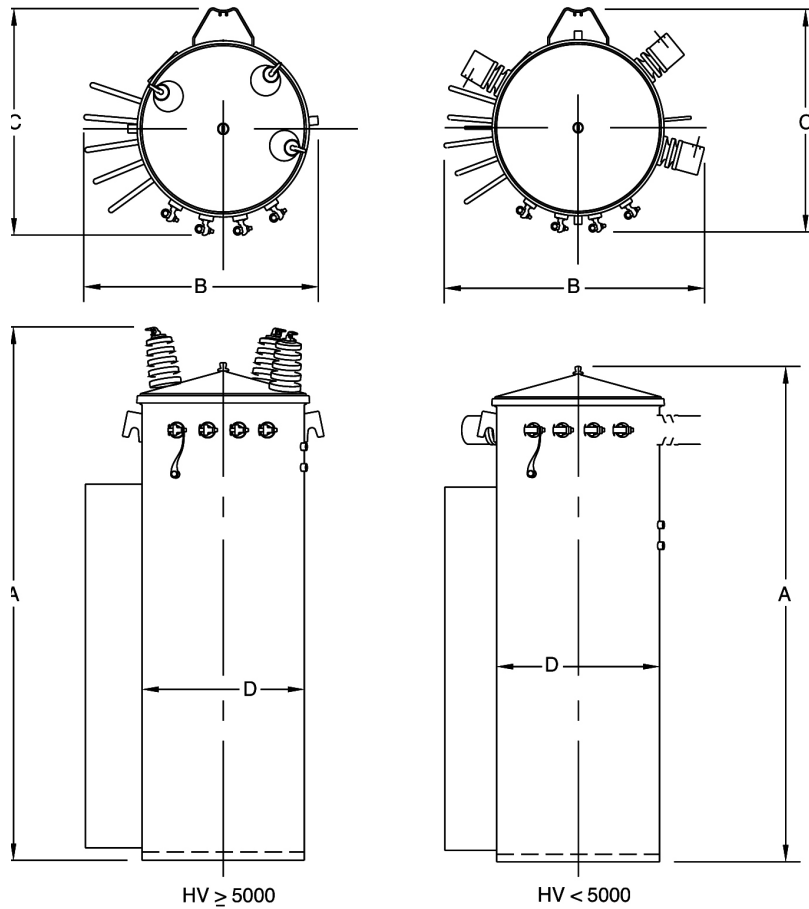
### Advantages

- Easier, more economical and cleaner installations are provided by three phase overhead transformers compared to three single-phase units.
- Lighter weight and lower cost provided by “T-connected” design compared to conventional three-phase design.
- Elimination of overloads from system unbalance by operating “T-connected” transformers without primary grounds.
- Avoidance of transformer neutral requirement since third harmonic currents on “T-connected” transformers are negative not requiring a ground path.
- Reduced installation costs, lower operating cost, safer operation, minimized service disruptions and increased transformer life provided by optional CSP coordinated protection package.
- The same design, manufacturing and performance advantages that are provided on Power Partners single phase overhead distribution transformers are incorporated into “T-connected” design.

### Features

1. Wound core with step-lap joints for increased efficiency and lower noise levels.
2. Progressively wound coils with adhesive resins on insulating paper or conductors for increased shortcircuit strength and thermal strength.
3. Three point core-coil bracing for increased mechanical strength.
4. CSP protection package available as an option for increased protection against surge currents, short circuits and overloads: (Max. 150 kVA)
  - Primary protective links
  - Surge arresters
  - Secondary circuit breakers
  - Secondary breaker operating handle with emergency overload reset and overload signal light.
5. Self-venting and resealing cover that eliminates the need for an auxiliary pressure relief device and offers increased safety through higher tank withstand.
6. The paint finish process applies a durable, corrosion-resistant finish to the product. The finish meets or exceeds all the performance requirements of ANSI C57.12.28. The multi-step process includes an epoxy primer uniformly applied by cationic electrodeposition and a urethane top coat.
7. Cover has 13 mils minimum of polyester coating providing 15 KV dielectric insulation of tank ground parts from live parts and increasing resistance to corrosion. The cover is sloped 15° preventing water from collecting, thereby reducing the chances of corrosion and leaking.
8. Tank bottom rim is three layers thick for increased durability and resistance to shipping and handling damage.

**Standard Design Dimensions and Weights** (All weights and dimensions are approximate.)



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

3 Phase T-T Connected								
High Voltages 2400T, 4160T, 4800T								
kVA	A	B	C	D	E*	Wgt	Ship Wgt	OIL Qty
30	54	25	26	17.5	23.25	754	792	39
45	54	27	29	20	23.25	1089	1139	48
75	54	25	32	20	23.35	1210	1293	57
112.5	63	36	34	22	35.25	1683	1788	68
150	63	32	33	24	35.25	1947	2024	77
225	67	37	32	24	35.25	2437	2533	89
300	70	45	40	27	35.25	3025	3146	108
500	86	50	46	27	35.25	3916	4015	130
High Voltages 12000T, 12470T, 13800T								
kVA	A	B	C	D	E*	Wgt	Ship Wgt	OIL Qty
30	59	22	26	17.5	23.25	770	809	42
45	59	27	29	20	23.25	996	1062	47
75	59	25	32	20	23.35	1293	1348	55
112.5	68	38	34	22	35.25	1656	1722	65
150	68	32	33	22	35.25	1898	1958	72
225	67	37	32	24	35.25	2514	2503	92
300	76	45	40	27	35.25	3207	3317	110
500	88	50	46	27	35.25	4197	4290	135

\*E is the distance between the hanger brackets.  
 All Approximate Dimensions shown reference designs with +/- 2.5% Taps