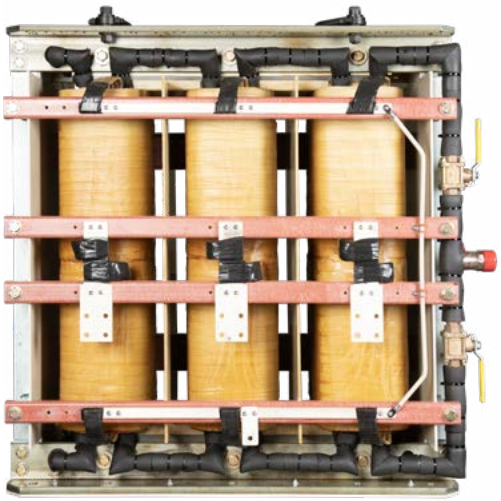
440V TO 440V YDD PHASE SHIFT MULTIPHASE TRANSFORMERS

VERSATILE POWER CONVERSION WITH DUAL SECONDARIES
FOR INDUSTRIAL AND MISSION-CRITICAL SYSTEMS

High Efficiency

Reliable

Long-Term Durability



Our 440V to 440V YDD transformers are designed and manufactured to meet the highest standards of efficiency, reliability, and durability in challenging industrial environments. Built with advanced modeling, strict quality control, and comprehensive testing, these transformers provide dependable performance with flexible configurations for load management, phase conversion, and power distribution.

Key Features & Benefits

- 3-Phase, 440V Wye primary to 440V Delta dual secondaries
- Vacuum Pressure Impregnated (VPI) insulation for superior dielectric strength and protection against moisture
- Copper windings for excellent conductivity and thermal stability
- Flexible cooling options: natural air, forced-air fan, or water cooling
- Primary-to-secondary isolation for safe and reliable operation
- Optional electrostatic shielding to minimize electrical noise coupling

Typical Applications

- Industrial control power systems
- Power distribution networks
- Load balancing applications
- Phase conversion and load management
- Isolation transformers for sensitive equipment
- UPS and power conditioning systems

PARAMETER	SPECIFICATION
General	
Transformer Type	Dry type, Vacuum Pressure Impregnated (VPI)
Service	Small power transformer
Environmental Conditions	
Maximum altitude	3300 ft
Ambient non-operating temperature (min / max)	-40 °C / 75 °C
Ambient operating temperature range	0 – 50 °C
Design ambient operating temperature	50 °C
Shock	MIL-S-901D, Grade A (Vertical 25G, Side-to-Side 15G, Fore & Aft 15G)
Location	Indoor
Unusual service conditions	Yes
Vibration	MIL-STD-167-1, Type I
Airborne noise	MIL-STD-1474, 79 dB max
Structure-borne noise	MIL-STD-740-2, 60 dB max
Technical Data	
Electrical System	
Rated voltage (HV)	440 V
Rated voltage (LV1)	440 V
Rated voltage (LV2)	440 V
Rated frequency	60 Hz
Rated power	630 kVA
Transformer Data	
Dielectric withstand (HV, 60s)	1.88 kV
Dielectric withstand (LV, 60s)	1.88 kV
Dielectric withstand (RTDs, 60s)	500 VDC
Insulation resistance (HV @ 500VDC)	≥ 50 MΩ
Insulation resistance (LV @ 500VDC)	≥ 50 MΩ
Insulation resistance (RTDs @ 500VDC)	≥ 10 MΩ
Lightning impulse withstand (HV / LV)	Not required
Number of phases	3
Vector group	YDD
Winding	
Conductor material	Copper

PARAMETER	SPECIFICATION
Technical Data Continued	
Winding Continued	
Stabilizing winding	Not required
Earthing of stabilizing winding	Ungrounded
Insulation class	N
Graded (non-uniform) insulation	Yes
High-temperature insulation	Yes
Termination	
HV termination	Cable + Bus
LV termination	Cable + Bus
Cooling	
Cooling method	Water cooling (optional air/fan configurations)
Accessories	
Lifting lugs	Removable hoist rings optional
Design Data	
Electrical Parameters	
No-load loss @ rated voltage	1410 W
Load loss @ rated voltage	6440 W
Efficiency @ 500 kW	98.50%
% Impedance (AN rating)	2.75%
Construction	
Conductor material	Copper
HV winding type	Layer wound
LV winding type	Layer wound
Core & winding weight	3700 lb
Dimensions (W × D × H)	43" × 24" × 44.25" (+ 4.85" hoist rings)
Testing Requirements	
Temperature rise test (90 °C rise)	Yes
Dielectric type tests	Yes
No-load loss & current @ 90% / 110%	Yes
Dielectric special tests	Yes
Capacitance measurement (winding-to-earth & between windings)	Yes
Lightning impulse withstand (HV / LV)	Not required
Number of phases	3
Vector group	YDD

Design, Engineering & Manufacturing Capabilities

- Fully custom-engineered designs to match specific load profiles and customer requirements
- Advanced Ansys Maxwell and FEM-based thermal modeling to maximize heat dissipation and service life
- Optimized winding layout for:
  - Reduced eddy current losses
  - Improved efficiency
  - Low acoustic noise and vibration performance
- Complete in-house electrical and mechanical engineering support for tailored applications
- Vacuum Pressure Impregnation ensures long-term insulation integrity and moisture resistance

Testing & Compliance

- Tested in accordance with IEEE Standard C57.12.91-2020
- Meets Grade A shock requirements of MIL-S-901D
- Meets Type I vibration requirements of MIL-STD-167-1
- Full Factory Acceptance Testing (FAT) available with complete documentation
- Custom test programs available to meet customer-specific requirements

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