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MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1

7.5 MVA Hermetically Sealed Substation Transformer - 67000Y/38680 Grounded Wye Primary, 34500Y/19920 Grounded Wye Secondary, Aluminum, KNAN/Future KNAF, Grey

Product ID: 329102

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Image: MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 Hermetically Sealed Substation Transformer

Transformer Type: Substation Power Transformer, Hermetically Sealed Type
Transformer Configuration: Liquid Filled Pad Mounted
Transformer Feed Type: Radial Feed
Operation: Step-Down Operations (Not Approved for Step-Up Operations)
Phase: Three Phase
Capacity: 7.5 MVA (7,500 KVA)
Vector Group: YNyn0
Primary Voltage: 67000Y/38680
Primary Voltage Switch: N/A
Primary Voltage Class: 72 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 350 KV
Secondary Voltage: 34500Y/19920
Secondary Voltage Class: 35 kV Class
Secondary Phasor: Grounded Wye
Secondary BIL: 200 KV
Frequency: 60 Hz
Temperature Rise: 55°C
Insulation Rating: Class E Insulation - 120°C, 248°F

Ratings

Meets/Exceeds DOE 2016 Efficiency Ratings
Meets/Exceeds CSA Efficiency Ratings
Complies with ANSI / IEEE C57.12.00
Complies with ANSI / IEEE C57 12.28
Complies with ANSI / IEEE C57 12.29
Complies with ANSI / IEEE C57 12.34
Complies with ANSI / IEEE C57 12.35
Complies with ANSI / IEEE C57.12.70
Complies with ANSI / IEEE C57.12.110
Complies with ANSI / IEEE C57.12.131
Complies with ANSI / IEEE C62.11
Complies with ANSI / IEEE C62.22
Complies with ANSI / IEEE 386
Complies with ANSI / IEEE C2
Complies with ANSI / IEEE C37.47
Complies with ANSI Z535.4
Complies with ASTM D3487
Complies with ASTM D6871
Complies with NEMA 260-1996

Cooling Class: KNAN; Self-Cooled
Forced Air (Fans): None
Provisions for Future Fan Cooling (Fans): Included
Radiators: Included
Tap Changer: 5-Position No-Load Tap Changer, Pad-lockable
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5% Taps
Tap Changer Switch Rating: 15 kV, Off-Load Rated
Tap Changer Switch Location: High Voltage (HV) [Rear Side]
Impedance: 7.3%
Primary Connection Type: Live Front
Primary Termination Arrangement: Top Mounted Porcelain Bushings
Primary Connection: NEMA 6-Hole Spade Terminals
Primary Connection Qty: (4)
Primary Bushing Rating: 72 kV Class, 350 kV BIL
Primary Neutral Connection: Included
Primary Surge Arrestors: Included, Station Class
Primary Surge Arrestor Voltage Rating: 72 kV
Primary Surge Arrestor MCOV Rating: 57 kV
Primary Overcurrent Protection (OCP): N/A
Primary Overcurrent Protection Method: N/A
Primary Overcurrent Protection Holder: N/A
Primary Grounding Provisions: Included
Primary Current Transformers: Included, 400:5A ratio for each phase
Secondary Connection Type: Live Front
Secondary Termination Arrangement: Top Mounted Porcelain Bushings
Secondary Connections: NEMA 4-Hole Spade Terminals
Secondary Connection Qty: (4)
Secondary Connection Supports: N/A
Secondary Overcurrent Protection (OCP): N/A
Secondary Surge Arrestors: Included, Station Class
Secondary Surge Arrestor Voltage Rating: 36 kV
Secondary Surge Arrestor MCOV Rating: 29 kV
Secondary Neutral Connection: Secondary X0 Neutral Grounded to Tank via 1/2"-13 UNC Tapped Hole, 7/16" Deep Bung & Copper Ground Strap
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs
Secondary Ground Current Transformers: Included, (1) 400:5A ratio
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel: N/A
Load Break Switch: N/A
Load Break Switch Qty: N/A
Load Break Switch Rating: N/A
Load Break Switch Location: N/A
Efficiency Standard(s): Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-1 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Biodegradable Natural Vegetable Oil Ester Insulating Fluid, Non-PCB Fluid
Fluid (Oil) Capacity*: TBD
Fluid (Oil) Weight*: TBD
Liquid Level Indicator: Analog Dial Gauge, w/ Contacts
Temperature Indicator: Analog Dial Gauge, w/ Contacts
Pressure/Vacuum Indicator: Analog Dial Gauge, w/ Contacts
Pressure Relief Device: Included, Automatic Action, Qualitrol 208
Fault Indicator: Included, Buchholz Relay, w/ Contacts
Gas Sampler Valve: Included, Schrader Valve
Fill Valve: 1" NPT Port w/ Removable Bolt Plug

Complies with 10 CFR Part 431
Complies with CSA C2.1-06
Complies with CSA C50
Complies with CSA C227.4 & C227.5
Complies with CSA C88-16
Complies with CSA C88
Complies with CSA C88.1
Complies with CSA C802.1
Complies with CSA C802-3

Features

Hot Stick Included, HV Door Mount
Penta-head Bolt Entry Assembly
High-Fire Point Insulating Fluid
Non-PCB Insulating Fluid
Tamper Proof Housing
Hinged Front Compartment Doors, Pad Lockable
NEMA 3R Wiring Compartment
3 Years Warranty
Efficiency %: 98.00%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.
No Load Loss (in watts): -
Full Load Loss (in watts) at 100%: -
Total Load Loss (in watts) at 100%: -

Total Losses at 55°C LL Temp. & 20°C NL Temp.
Total Load Loss (in watts) at 50%: -
Note: *Losses offered are typical only, not guaranteed*

Labeling:

Externally Stencilled (Painted) KVA Rating
Externally Stencilled (Painted) Voltage Rating
External Non-PCB Label
External Warning & Danger Label
External Barcode Label
Internal Busing & Accessory Labeling
Stainless Steel Riveted Nameplate

Factory Tests:

Transformer Turns Ratio (All Tap Voltages)
Polarity (Rated Voltage)
Phase Rotation (Rated Voltage)
No-Load Loss (Rated Voltage).
Excitation Current (Rated Voltage)
Impedance Voltage (Rated Voltage)
Load Loss (Rated Voltage)
Applied potential

Fill Valve Location: Front Compartment
Drain Valve: 1" NPT Port w/ 5/8" NPT Sampler Valve
Drain Valve Location: Front Compartment
Top FPV: Included, 1" Valve
Hose Length: 50ft
Bottom FPV: Included, 2" Valve
Breather: N2 Blanket
Winding Material: Aluminum
Winding Design: Core-form, Concentric Cylindrical Design
Ambient Temperature Rating: 40°C
Ambient Operating Temperature Range: -40°C to +40°C (-50°F to +104°F)
Sound Level: 67 dBA
Elevation (Altitude): 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: Coated Steel
Cabinet Material: Coated Steel
Base Platform Material: Coated Steel
Portability: Lifting lugs, provisions for jacking under base, w/ base construction suitable for using rollers or skidding

Housing Type: Metal Casing Liquid Filled Transformer

Enclosure Rating: NEMA 3R Weatherproof Wiring Cabinet, Sealed Tank
Seismic Rating: Yes
Paint Type: Prime exterior surfaces using high-quality, solid two-paint catalyzed epoxy; provided dry film thickness of 2 mils. Applied durable hard polyurethane topcoat with minimum dry film thickness of 1 mil to primed surfaces
Finish Color: ANSI 61 Grey
Mounting: Pad Mounted
Conduit Opening: Bottom Feed
Tank Cover Access Handhole: N/A
Dimensions*: 142"-L x 122"-W x 127"-H
Dry Weight (w/o Oil)*: -
Total Weight (Liquid Filled)*: 31,900 lbs
*Please note that numbers are approximate and subject to change

Induced potential.
QC impulse test
Insulation Resistance Test (Rated Voltage)
Leak Test
Temperature Test
Sound Test

Shipping:
Shipped on pallet on open flatbed
Palletized on Wooden Pallet w/ Skid Pockets

Pallet Skid Facing Outward Sides of Truck

Note: *Crated shipping in lieu of palletizing can be done upon request for an additional fee*

Special Orders - Special Requirements
Contact us for special requirements
Toll Free: 1-800-369-6671
Intl: 1-903-270-1187
Fax: 1-903-765-7664
E-mail: sales@larsonelectronics.com

The MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 Hermetically Sealed Substation Transformer from Larson Electronics offers powerful, reliable, and efficient power distribution in outdoor locations. The low operating costs, low heat emissions, and low cost of ownership make this transformer ideal for a wide range of applications and businesses. This transformer ensures extra space for storing oil and is equipped with breathers to facilitate air flow. The substation transformer should be installed on supporting structures.

PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*

Transformer Features: The industrial transformer features a primary voltage of three-phase 67000Y/38680 Grounded Wye and a secondary voltage of three-phase 34500Y/19920 Grounded Wye. This system is rated for 7.5 MVA (7,500 KVA) and is approved for step down operations. We offer systems with loop or radial feed, as well as dead front or live front primary connections. This transformer features a 5-position off-load tap changer with two +2.5% taps above and two -2.5% taps below to allow small changes in voltage.

The MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 does not have fans for forced air cooling but has provisions for future fan cooling.

Temperature Rise: This unit features 55°C temperature rise for reduced heat waste, increased reliability and longer life. At 55°C temperature rise, the transformer offers 7.5 MVA (7,500 KVA). The transformer meets standard efficiency requirements. The combination of low temperature rise and high efficiency makes this unit suitable for use in electrical rooms, air conditioned spaces in buildings, underground vaults, and similar locations, in addition to outdoor areas.

Insulation Fluid: The MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 features biodegradable fluid (KNAN). We offer transformers with mineral oil or FR-3 fluids, if needed.

Biodegradable Fluid: Biodegradable cooling fluid (vegetable oil) has a higher heat capacity compared to mineral oil, making the liquid safer to use and more reliable during operations. Vegetable oil has a higher flash point and fire point than mineral oil, hydrocarbon oil, silicone oil and synthetic ester. This cooling fluid is also non-toxic and can tolerate higher breakdown voltages than mineral oil. When operating at high temperatures, biodegradable cooling liquid sustains up to 120% loan conditions, which helps preserve the transformer's lifespan and performance.

Gauges: The following gauges are included with the system: liquid level, temperature, fault indicator, and pressure/vacuum gauges. Standard liquid level, temperature, and pressure/vacuum gauges are analog, manual reading types. These gauges do not have alarm contacts.

Fault Pressure Devices: There is a Buchholz relay fault indicator on this unit.

Rapid Rise Relay: There are no rapid rise relays on the unit. This safety component is designed for protection when a rapid increase in tank pressure occurs. The relay is suitable for detecting sudden pressure fluctuations above predetermined safe limits.

Surge arresters: This system comes with surge arresters on both the primary and secondary sides.

Load Break Switch: The transformer is not equipped with a disconnect switch.

Valves: The MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.

Protection Fuses: This transformer doesn't have protection fuses on the primary side. For units without protection fuses, upstream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.

Mount: This substation transformer should be installed on supporting structures, such as the roof of the transformer main tank.

Benefits: The MT-PSTH-R7-3P-GXD-7.5MVA-GMA-HT-LT-A6-ABP-AZ-2ZZ-M1 transformer offers many benefits to consumers. This transformer provides owners with significant energy savings, as well as offering environmental benefits. Higher efficiency not only extends the life of the transformer, but also turns into cost savings for owners in the form of lower energy bills and decreased cost of ownership.

Applications: General purposes, industrial sites, electrical rooms, underground vaults, manufacturing facilities, steel plants, offshore, commercial, military, processing plants, electric power distribution, utilities, and more.

Larson Electronics is a manufacturer and as such can build stationary and portable transformer systems to your specifications. Although we carry several models of power distribution transformer systems, we can deliver custom ordered units almost as quickly as our prebuilt units. If this model does not meet your needs, please contact us at 1-800-369-6671 or sales@larsonelectronics.com to discuss your specific requirements.

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Frequently Asked Questions (FAQ)

There are no Faqs

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Warranty: 24 Months.

Export Control Classification Number (ECCN): EAR99

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- **HigResPic3** (https://www.larsonelectronics.com/images/product/HigResPic3/329102.JPG)
- **Video1** (https://www.youtube.com/watch?v=4-JEyYeYcn8)
- **ISO 9001 Certification** (http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF)
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