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Product ID: 305913

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



Image:

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-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-2ZZ-M1 Conservator Transformer	Ratings
Transformer Type: Power Transformer Substation, Conservator Type	Meets/Exceeds DOE 2
Transformer Configuration: Liquid Filled Pad Mounted	Meets/Exceeds CSA E
Transformer Feed Type: Radial Feed	Complies with ANSI / I
Operation: Step-Down Operation (Not Approved for Step-Up)	Complies with ANSI / I
Phase: Three Phase	Complies with ANSI / I
Capacity (w/o Fans): 15 MVA (15,000 KVA)	Complies with ANSI / I
Capacity (w/ Fans, Stage 1): 20 MVA (20,000 KVA)	Complies with CSA C8
Capacity (w/ Fans, Stage 2): 25 MVA (25,000 KVA)	Complies with CSA C8
Vector Group: YNyn1	Complies with ANSI / I
Primary Voltage: 69000Y/39837	Complies with ANSI / I
Primary Voltage Switch: N/A	Complies with ANSI / I
Primary Voltage Class: 72 kV Class	Complies with ANSI / I
Primary Phasor: Grounded Wye	Complies with ANSI / I
Primary BIL: 350 KV	Complies with ANSI / I
Primary Neutral BIL: 110 KV	Complies with ANSI Z5
Secondary Voltage: 34500Y/19920	Complies with ANSI / I
Secondary Voltage Class: 35 kV Class	Complies with ANSI / I
Secondary Phasor: Grounded Wye	Complies with ANSI / I
Secondary BIL: 200 KV	Complies with ASTM D
Secondary Neutral BIL: 110 KV	Complies with ASTM D
Tertiary Winding: Included	Complies with CSA C2
Tertiary Winding Voltage: 12470V Delta	Complies with CSA C2
Tertiary Winding BIL: 110 KV	Complies with CSA C8
Frequency: 60 Hz	Complies with CSA C8

Temperature Rise: 65°C
Insulation Rating: Class E Insulation - 120°C, 248°F
Cooling Class: ONAN/ONAF/ONAF
Forced Air (Fans): Included, Two-Stages, 120/240V-1Ph rating, totally Enclosed, Individually Protected Type, Fan Blades Of One-Piece Cast aluminum, Galvanized Fan Guards. Fan Motors Are Totally Enclosed And Furnished Without Centrifugal Switches.
Cooling Radiators: Included, Detachable
Tap Changer: 33-Position On-Load Tap Changer (OLTC)
Tap Qty: (16) FCAN Above Taps, (16) FCBN Below Taps
Tap %: 0.625%
Tap Changer Switch Rating: 2000-Amp, 72 kV, On-Load Rated
Tap Changer Switch Location: High Voltage (HV) [Left Side]
Impedance (Typical): 5.0-7.5%
Primary Connection Type: Live Front
Primary Termination Arrangement: Top Mounted Terminals
Primary Termination: Porcelain Bushings w/ NEMA Spade Terminals
Primary Connection Qty: (4) Primary Connections
Primary Bushing Rating: 72 KV Class, 350 kV BIL, 2000A
Primary Neutral Connection: Included, 72 KV Class, 110 kV BIL
Primary Bushing Current Transformer: Included, (1) 1200:5 Ratio-MR-800 Accuracy Class For Each Bushing, (1) 200:5 Ratio-SR-0.3B0.9 Accuracy Class For Each Bushing, (1) LDC CT 400:5 Ratio- 0.5B1.5 Accuracy Class Mounted On H2 Bushing
Primary Neutral Bushing Current Transformer: Included, (1) 1200:5 Ratio-MR-800 Accuracy Class Mounted On H0
Primary Surge Arrestors: Included, HUBBELL CAT P/N: EVP004800-3001
Primary Surge Arrestor Voltage Rating: 60 KV
Primary Surge Arrestor MCOV Rating: 48 KV
Primary Over Current Protection (OCP): N/A
Primary Over Current Protection Method: N/A
Primary Over Current Protection Holder: N/A
Primary Grounding Provisions: N/A
Secondary Connection Type: Live Front
Secondary Surge Arrestors: Included, HUBBELL CAT P/N: EVP002400-3001
Secondary Surge Arrestor Voltage Rating: 30 KV
Secondary Surge Arrestor MCOV Rating: 24.4 KV
Secondary Termination Arrangement: Side Mounted Terminals w/ NEMA Spade Terminals
Secondary Connections: Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs w/ NEMA Spade Terminals
Secondary Connection Qty: (4) Externally Clamped One-Piece Epoxy Bushings Copper Threaded Studs
Secondary Connection Supports: N/A
Secondary Bushing Current Transformer: Included, (2) 1200:5 Ratio-MR-800 Accuracy Class For Each Bushing, (1) HSCT 420:5 Ratio-0.5B1.5 Accuracy Class Mounted On X2 Bushing
Secondary Neutral Bushing Current Transformer: Included, (1) 1200:5 Ratio-MR-800 Accuracy Class Mounted On X0
Secondary Over Current Protection (OCP): N/A
Secondary Neutral Connection: Secondary X2 Neutral Grounded to Tank via 1/2"-13 UNC Tapped Hole, 7/16" Deep Bung & Copper Ground Strap, 35 KV Class, 110 kV BIL
Secondary Grounding Provisions: (1) NEMA Ground Bar attached to tank via (2) Welded Ground Bungs
Metering Current Transformer (CT): N/A
Metering Panel: N/A
Auxiliary Control Panel : Included Fan Control Panel w/ 13200-120/240V XFMR
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: Mineral Oil Insulating Fluid - Non-PCB Fluid
Fluid (Oil) Capacity*: 4228 Gallons In Main Tank, 154 Gallons In OLTC Compartment, 252 Gallons In OLTC Compartment, 207 Gallons In Conservator Tank.
Fluid (Oil) Weight*: 31710 Lbs In Main Tank, 1155 Lbs Gallons In OLTC Compartment, 1890 Lbs Gallons In OLTC Compartment, 1555 Lbs Gallons In Conservator Tank.
Liquid Level Indicator: Analog Dial Gauge

Complies with CSA C8
Complies with NEMA 2
Complies with 10 CFR
Complies with CSA C2
Complies with CSA C5

Features

Pentahead Bolt Entry A
Hot Stick Included, HV
NEMA 3R Wiring Comp
Hinged Front Compartr
Non-PCB Insulating Flu
Tamper Proof Housing

Efficiency %: 98.00%
Based on transformer c

Load Losses Based o
No Load Loss (in watt
Full Load Loss (in wa
Total Load Loss (in w

Total Losses at 55°C
Total Load Loss (in w
***Note:** Losses offered a*

Labeling:

Externally Stencilled (P
Externally Stencilled (P
External Non-PCB Labe
External Warning & Da
External Barcode Labe
Internal Busing & Acces
Stainless Steel Riveted

Factory Tests:

Winding Resistance Te
Insulation Resistance T

Temperature Indicator: Analog Dial Gauge

Pressure/Vacuum Indicator: Analog Dial Gauge

Pressure Relief Device: Included, Automatic Action

Fault Indicator: Included, Buchholz Relay

Gas Sampler Valve: Included, Schrader Valve

Fill Valve: 1" NPT Port w/ Removable Bolt Plug

Fill Valve Location: Front Compartment

Drain Valve: 1" NPT Port w/ 5/8" NPT Sampler Valve

Drain Valve Location: Front Compartment

Winding Material: Copper

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: 316 Stainless Steel

Cabinet Material: 316 Stainless Steel

Base Platform Material: 316 Stainless 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: Weatherproof and UV Resistant Epoxy Coating and Undercoating

Finish Color: ANSI 61 Grey

Mounting: Pad Mounted

Conduit Opening: N/A

Tank Cover Access Handhole: N/A

Dimensions*: TBD

Dry Weight (w/o Oil)*: 69,090 Lbs

Total Weight (Liquid Filled)*: 105,400 Lbs

*Please note that numbers are approximate and subject to change

Voltage Ratio Error Tes

Short-circuit Impedance

No-load Loss (Wattage

Load Loss (Wattage) T

Induced Voltage Withst

Separate Source Voltag

Pressure Integrity Test

Shipping:

Shipped on pallet on op

Palletized on Wooden P

Pallet Skid Facing Outw

Note: *Crated shipping*

Special Orders - Spec

Contact us for special r

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The MT-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-2ZZ-M1 Conservator 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 makes 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 conservator 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 69000Y/39837 Grounded Wye and a secondary voltage of three-phase 34500Y/19920 Grounded Wye. The transformer features a tertiary winding with voltage 12470V Delta. This system is rated for 15 MVA (15,000 KVA) natural convection, 20 MVA (20,000 KVA) with first stage fan cooled, and 25 MVA (25,000 KVA) second stage fan cooled. We offer systems with loop or radial feed, as well as dead front or live front primary connections. This transformer features a 33-position on-load tap changer with sixteen, +/- 0.625% taps above and sixteen, +/- 0.625% taps below to allow small changes for voltage. There are no rapid rise relays or protection fuses present on the system.

The system features copper windings for high strength and thermal/electrical conductivity. This transformer consists of rectangular coil and five-legged wound core design with three coils and four core loops (this is for three-phase transformers only; single-phase units have one coil and two core loops).

The MT-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-2ZZ-M1 has fans for forced air cooling. This non-sealed system features breathers for cooling when operating temperatures increase.

Temperature Rise: This unit features 65°C temperature rise for reduced heat waste, increased reliability and longer life. At 65°C temperature rise, the transformer offers 15 MVA (15,000 KVA) without fans operating, 20 MVA (20,000 KVA) with first stage fans turned on, and 25 MVA (25,000 KVA) with second stage fans turned on. 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-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-2ZZ-M1 features mineral oil cooling fluid (ONAN/ONAF/ONAF). We offer transformers with biodegradable 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 load break switch.

Valves: The MT-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-2ZZ-M1 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.

Protection Fuses: This transformer does not have bayonet protection fuses on the primary side. For units without protection fuses, up stream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.

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

Benefits: The MT-PSTC-R7-3P-GXA-15MVA-GMA-HT-LS-X6-BMFF-CC-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

Product ID: 305913

Warranty: 24 Months.

Export Control Classification Number (ECCN): EAR99

Links (Click on the below items to view):

- **Operations Manual**(https://www.larsonelectronics.com//images/product/Manual/305913.PDF)
- **HigResPic1**(https://www.larsonelectronics.com//images/product/HigResPic1/305913.JPG)
- **Video1**(https://www.youtube.com/watch?v=4-JEyYeYcn8)
- **Video6**(https://www.youtube.com/watch?v=olihKUo24KU)
- **Video7**(https://www.youtube.com/watch?v=Yez7eCilgDE)
- **Video8**(https://www.youtube.com/watch?v=Ac5BDPSy964)
- **ISO 9001 Certification**(http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF)
- **Business Certificate**(https://www.larsonelectronics.com/images/pdfdocs/w9.PDF)
- **Shipping Time Map**(https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf)