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MT-PSTC-R7-3P-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1

6 MVA Conservator Substation - 34500Y/19920 Grounded Wye Primary, 13800Y/7968 Grounded Wye Secondary - KNAN, Grey

Product ID: 298040



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-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1 Conservator Transformer	Ratings
Transformer Type: Substation Power Transformer, Conservator Type	Meets/Exceeds DOE 2016 Efficiency Ratings
Transformer Configuration: Liquid Filled Pad Mounted	Meets/Exceeds CSA Efficiency Ratings
Transformer Feed Type: Radial Feed	Complies with ANSI / IEEE C57.12.00
Operation: Approved for Step-Up and Step-Down Operations	Complies with ANSI / IEEE C57 12.28
Phase: Three Phase	Complies with ANSI / IEEE C57 12.29
Capacity: 6 MVA (6,000 KVA)	Complies with ANSI / IEEE C57 12.34
Vector Group: YnYn0	Complies with ANSI / IEEE C57 12.35
Primary Voltage: 34500GrdY/19920	Complies with ANSI / IEEE C57.12.70
Primary Voltage Switch: N/A	Complies with ANSI / IEEE C57.12.110
Primary Voltage Class: 35 kV Class	Complies with ANSI / IEEE C57.12.131
Primary Phasor: Grounded Wye	Complies with ANSI / IEEE C62.11
Primary BIL: 150 KV	Complies with ANSI / IEEE C62.22
Secondary Voltage: 13800GrdY/7968	Complies with ANSI / IEEE 386
Secondary Voltage Class: 15 kV Class	Complies with ANSI / IEEE C2
Secondary Phasor: Grounded Wye	Complies with ANSI / IEEE C37.47
Secondary BIL: 95 KV	Complies with ANSI Z535.4
Frequency: 60 Hz	Complies with ASTM D3487
Temperature Rise: 55°C	Complies with ASTM D6871
Insulation Rating: Class E Insulation - 120°C, 248°F	Complies with NEMA 260-1996
Cooling Class: KNAN; Self-Cooled	Complies with 10 CFR Part 431
Forced Air (Fans): None	Complies with CSA C2.1-06
Tap Changer: 5-Position Off-Load Tap Changer	Complies with CSA C50
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps	Complies with CSA C88
Tap %: 2.5% Taps	Complies with CSA C88.1
Tap Changer Switch Rating: 35 kV, On-Load Rated	Complies with CSA C88-16
Tap Changer Switch Location: High Voltage (HV) [Left Side]	Complies with CSA C227.4 & C227.5
Impedance (Typical): 7.0% - 10.0%	Complies with CSA C802.1
Primary Connection Type: Live Front	Complies with CSA C802-3

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Primary Termination Arrangement: Side Mounted Terminals
Primary Termination: Porcelain Bushings
Primary Connection Qty: (3) Primary Connections
Primary Bushing Rating: 35 kV Class, 150 kV BIL
Primary Neutral Connection: N/A
Primary Surge Arrestors: N/A
Primary Surge Arrestor Voltage Rating: N/A
Primary Surge Arrestor MCOV Rating: N/A
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 Termination Arrangement: Side Mounted Porcelain Bushings
Secondary Connections: Porcelain Bushings
Secondary Connection Qty: (3)
Secondary Connection Supports: N/A
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
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 : 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
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: 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: 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*: 142"-L x 122"-W x 127"-H
Dry Weight (w/o Oil)*: TBD
Total Weight (Liquid Filled)*: 31,900 lb
*Please note that numbers are approximate and subject to change

Features
Hot Stick Included, HV Door Mount
Pentahead 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

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): TBD
Full Load Loss (in watts) at 100%: TBD
Total Load Loss (in watts) at 100%: TBD

Total Losses at 55°C LL Temp.& 20°C NL Temp.

Total Load Loss (in watts) at 50%: TBD

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:
Winding Resistance Test
Insulation Resistance Test
Voltage Ratio Error Test
Short-circuit Impedance Test
No-load Loss (Wattage) Test
Load Loss (Wattage) Test
Induced Voltage Withstand Test
Separate Source Voltage Withstand Test
Pressure Integrity Test 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: 1-903-498-3364
E-mail: sales@larsonelectronics.com

The MT-PSTC-R7-3P-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1 Conservator Substation 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 34500Y/19920 Grounded Wye and a secondary voltage of three-phase 13800Y/7968 Grounded Wye. This system is rated for 6 MVA (6,000 KVA) and is approved for step up or 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 for voltage. There are no rapid rise relays or protection fuses present on the system.

The MT-PSTC-R7-3P-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1 does not have fans for forced air cooling. This non-sealed system features breathers for cooling when operating temperatures increase.

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 6 MVA (6,000 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-PSTC-R7-3P-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1 features biodegradable fluid (KNAN). We offer transformers with mineral oil or FR-3 fluid, 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 does not come with surge arresters on the primary side.

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

Valves: The MT-PSTC-R7-3P-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-M1 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.

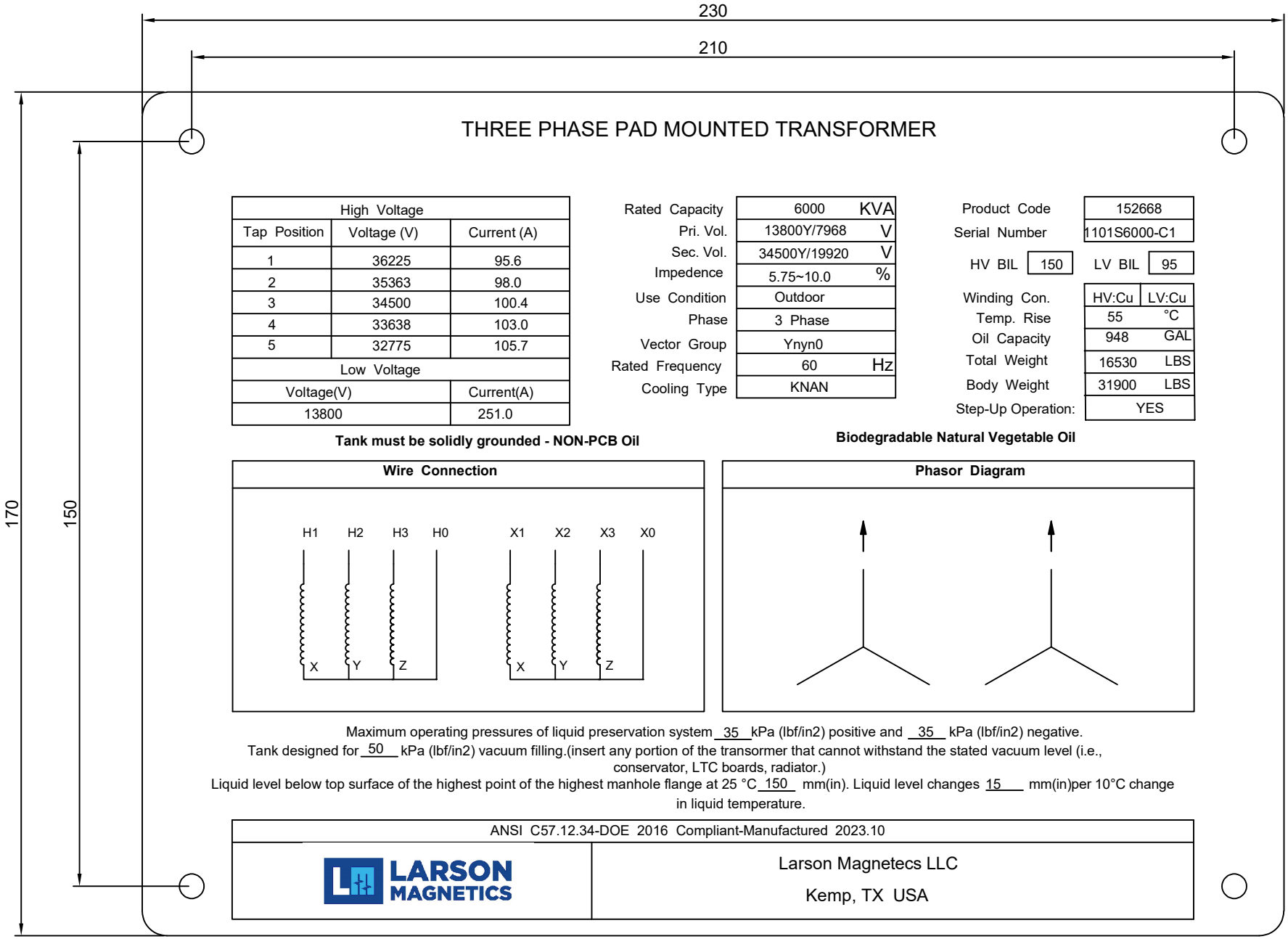
Protection Fuses: This transformer does not have bayonet protection fuses on the primary side. For units without protection fuses, up stream protection is provided. We recommend provisions for protection fuses when possible, as blown fuses may require more frequent oil changes.

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-GMA-6MVA-GMP-HS-LS-A6-AB-CZ-Z-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.



THREE PHASE PAD MOUNTED TRANSFORMER

High Voltage		
Tap Position	Voltage (V)	Current (A)
1	36225	95.6
2	35363	98.0
3	34500	100.4
4	33638	103.0
5	32775	105.7
Low Voltage		
Voltage(V)		Current(A)
13800		251.0

Rated Capacity	6000	KVA
Pri. Vol.	13800Y/7968	V
Sec. Vol.	34500Y/19920	V
Impedence	5.75~10.0	%
Use Condition	Outdoor	
Phase	3 Phase	
Vector Group	Ynyn0	
Rated Frequency	60	Hz
Cooling Type	KNAN	

Product Code	152668		
Serial Number	1101S6000-C1		
HV BIL	150	LV BIL	95
Winding Con.	HV:Cu	LV:Cu	
Temp. Rise	55	°C	
Oil Capacity	948	GAL	
Total Weight	16530	LBS	
Body Weight	31900	LBS	
Step-Up Operation:	YES		

Tank must be solidly grounded - NON-PCB Oil

Biodegradable Natural Vegetable Oil

Wire Connection

Phasor Diagram

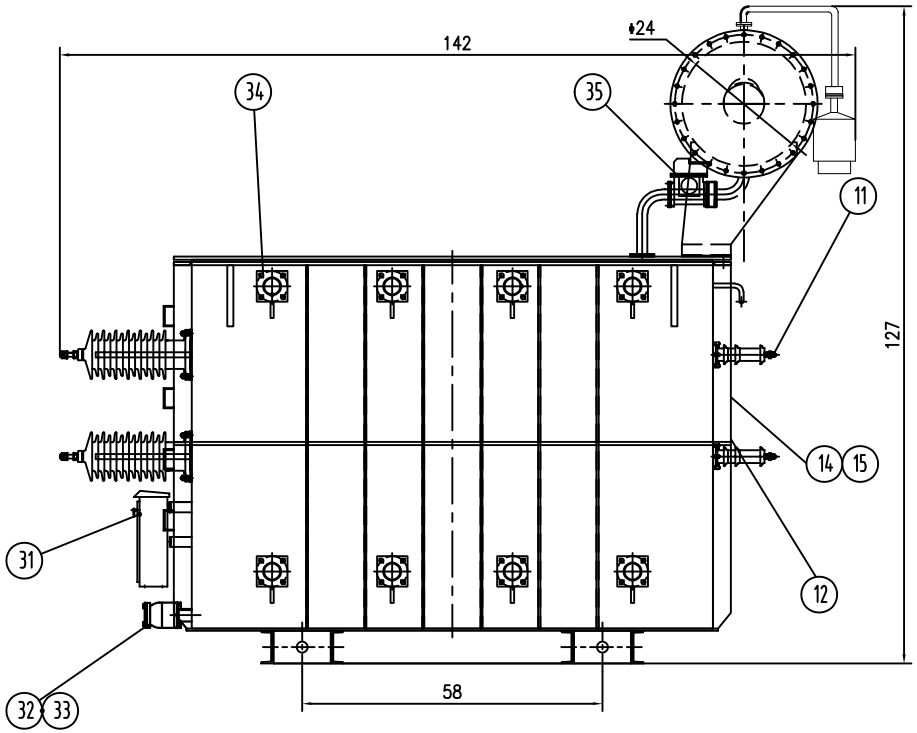
Maximum operating pressures of liquid preservation system 35 kPa (lbf/in2) positive and 35 kPa (lbf/in2) negative.
Tank designed for 50 kPa (lbf/in2) vacuum filling.(insert any portion of the transormer that cannot withstand the stated vacuum level (i.e., conservator, LTC boards, radiator.)
Liquid level below top surface of the highest point of the highest manhole flange at 25 °C 150 mm(in). Liquid level changes 15 mm(in)per 10°C change in liquid temperature.

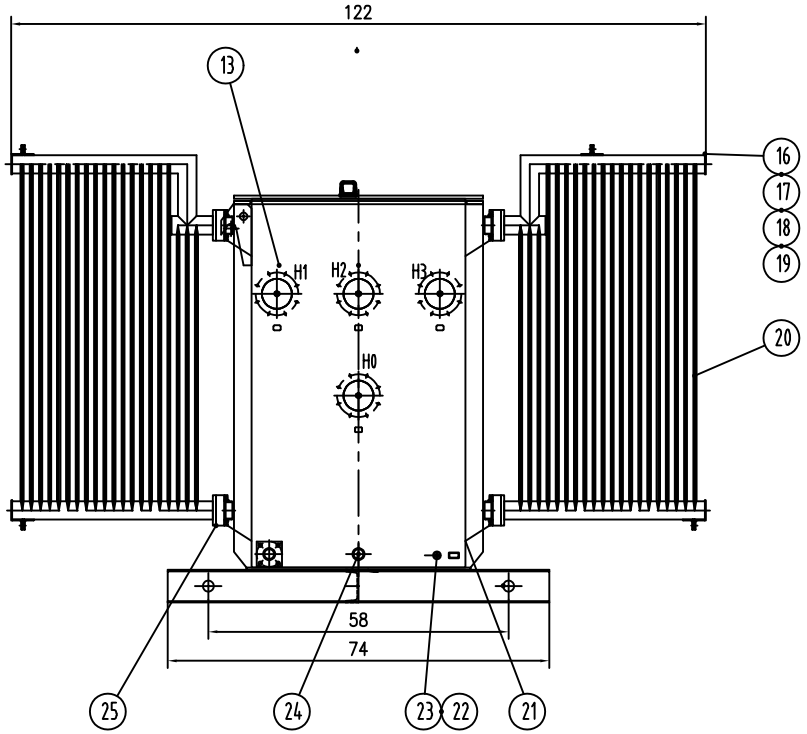
ANSI C57.12.34-DOE 2016 Compliant-Manufactured 2023.10

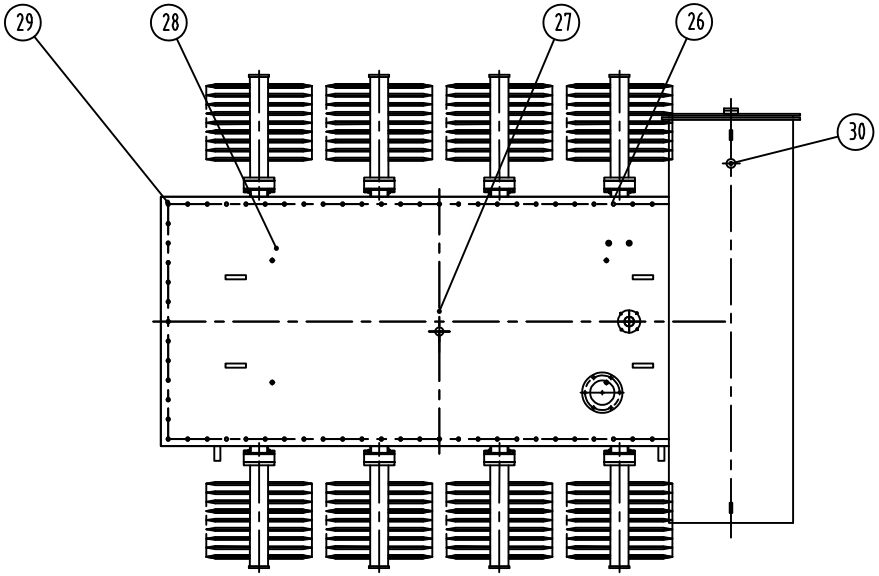
LARSON MAGNETICS

Larson Magnetecs LLC

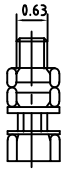
Kemp, TX USA

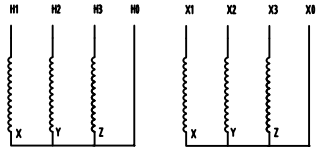






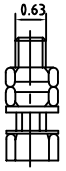
primary termination

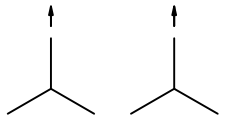




WIRING CONNECTION

secondary termination





PHASOR DIAGRAM

Remark: dimensions here are in inches.Only for approval/preliminary design..

Approx. Weight: 31900LBS.

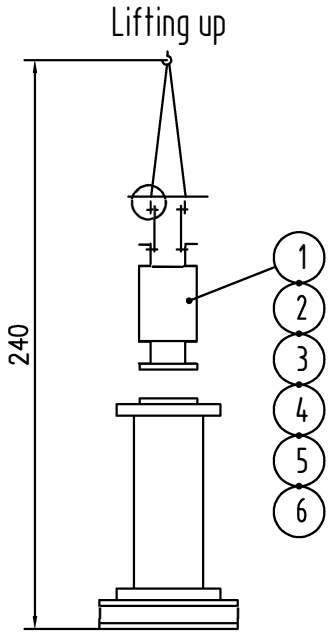
		revision	signature	date
designed		standard		
checked		examined		
audited		approved		
crafted		date		

LARSON ELECTRONICS

6MVA,13800Y/7968V Pri.
34500Y/19920V, Sec. YNyn0

pattern mark	mass	scale
page		page

Substation Transformer



No.	Code	Name	Qty	Material	Unit Weight	Total Weight	Remark
28		Pressure relief valve	1				
27		Tap changer	1				
26		Tank cover	1				
25		Butterfly valve	16				
24		Oil sampler valve	1				
23		Grounding bolt	2				
22		Letter plate	(1)				
21		Tank	1				
20		Radiator	8				
19		Radiator connector	4				
18		Nut M12	16				
17		Bolt M12x40	16				
16		Washer 12	16				
15		Brass screw	4				
14		Nameplate	1				
13		HV bushing	4				
12		Temperature gauge	1				
11		LV bushing	4				
10		Washer 20	16				
9		Nut M20	8				
8		Nut M20	8				
7		Screw	8				
6		LV lead wire	(1)				
5		LV coil	(1)				
4		Untanked insulation	(1)				
3		HV lead wire	(1)				
2		Core assembly	(1)				
1		HV coil	(1)				
35		Rapid Rise Relay	1				
34		Butterfly valve	1				
33		Insulation oil	(1)	Biodegradable oil			
32		Drain valve	1				
31		Terminal box	1				IP54
30		Plug seat	1				
29		Hange plate	2				

		revision	signature	date
designed		standard		
checked		examined		
audited		approved		
crafted		date		

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34500Y/19920V, Sec. YNyn0

pattern mark	mass	scale

page page

Substation Transformer

Frequently Asked Questions (FAQ)