Larson Electronics LLC
9419 E US HWY 175, Kemp, TX 75143
Phone: 800.369.6671

www.LarsonElectronics.com
Email: sales@LarsonElectronics.com
Fax: 903.498.3364

MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2

1 MVA Pad Mount Network Transformer - 13200GrdY/7620 Grounded Wye Primary, 24940GRDY/14400 Grounded Wye Secondary - KNAN/Bell Green - 304 Stainless

Product ID: 297570



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-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 Pad Mount Transformer
Transformer Type: Outdoor Pad Mounted, Compartmental-Type
Transformer Configuration: Liquid Filled Pad Mounted
Transformer Feed Type: Radial Feed
Operation: Step-Up Operation
Phase: Three Phase
Capacity: 1 MVA (1000 KVA)
Vector Group: YnYn
Continuous Voltage Range: 10%
Primary Voltage: 13200GrdY/7620
Primary Voltage Switch: N/A
Primary Voltage Class: 15 kV Class
Primary Phasor: Grounded Wye
Primary BIL: 95 KV
Secondary Voltage: 24940GRDY/14400
Secondary Voltage Class: 25 kV Class
Secondary Phasor: Grounded Wye
Secondary BIL: 150 kV
Frequency: 60 Hz
Temperature Rise: 65°C
Insulation Rating: Class A Insulation
Cooling Class: ONAN; Self-Cooled
Forced Air (Fans): None
Tap Changer: 5-position Tap Changer
Tap Qty: (2) FCAN Above Taps, (2) FCBN Below Taps
Tap %: 2.5%
Tap Changer Switch Rating: 300-Amp, 35 kV
Tap Changer Switch Location: High Voltage (HV) Front Compartment

Ratings

Meets/Exceeds DOE 2016 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 C62.11
Complies with ASTM D3487
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
Hot Stick Included, HV Door Mount
100% Stainless Steel Construction, Corrosion Resistant

Efficiency %: 99.20%
Based on transformer operating at 50% of nameplate base kVA.

Load Losses Based on 85°C Reference Temp.
No Load Loss (in watts)): +/- 1350W +10% Tolerance
Full Load Loss (in watts) at 100%: +/- 12330W +10% Tolerance
Total Load Loss (in watts) at 100%: +/- 13680W +10% Tolerance

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

Impedance (Typical): 5.5% - 6.0%
Primary Connection Type: Dead Front, Side Mounted With Full Length ATC Bottom Entry
Primary Termination Arrangement: -
Primary Termination: -
Primary Connections: 15kV Class, 200A Bushing Well & Insert
Primary Connection Qty: (4), Staggered Terminal Arrangement
Primary Parking Stand Qty: -
Primary Bushing Rating: 30% Phase Bushing Rated For Positive Sequence Applications; 100% Phase Bushing Rated For Phase Independent Applications
Primary Neutral Connection: -
Primary Surge Arrestors: -
Primary Surge Arrestor Voltage Rating: -
Primary Surge Arrestor MCOV Rating: -
Primary Over Current Protection (OCP): -
Primary Over Current Protection Method: -
Primary Over Current Protection Holder: -
Primary Grounding Provisions: (1) Grounding Lug
Secondary Connection Type: Dead Front, Side Mounted With Full Length ATC Bottom Entry
Secondary Termination: Standoff Well Bushings w/ Removable Studs, 200A Load Break Elbows w/ Inserts
Secondary Connections: Externally Clamped Integral Bushings w/ Removable Studs, 600A Dead Break Elbows
Secondary Connection Qty: (4) Primary Connections w/ (4) Standoff Brackets for Parked Elbows
Secondary Connection Supports: N/A
Secondary Surge Arrestors: High Voltage Elbow Surge Arrestors, Included
Secondary Surge Arrestor Voltage Rating: 26 kV Class
Secondary Surge Arrestor MCOV Rating: 15 kVrms
Secondary Over Current Protection (OCP): Bayonet Fuses, Partial-Range Current-Limiting Fuses
Secondary Over Current Protection Method: Fused w/ Isolation Link
Secondary Over Current Protection Holder: Bayonet Fuse Holder w/ Drip Shield
Secondary Neutral Connection: 30% Phase Bushing Rated For Positive Sequence Applications; 100% Phase Bushing Rated For Phase Independent Applications
Secondary Grounding Provisions: (1) Grounding Lug
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 DOE 2016 Standards, Meets ANSI/IEEE Standards
K-Factor Rating (Harmonic Mitigation): K-0 (Standard)
Pulse Drive Rating: N/A
Insulation Fluid: Mineral Oil Insulating Fluid - Non PCB Fluid
Fluid (Oil) Capacity*: 270 Gallons
Fluid (Oil) Weight*: -
Radiators: Removable With Isolation Valves - Galvanized, Stainless Steel, Powder Enamel Coated
Liquid Level Indicator: Analog Dial Gauge w/ Alarm and Trip Contacts
Temperature Indicator: Analog Dial Gauge w/ Alarm and Trip Contacts
Pressure/Vacuum Indicator: Analog Dial Gauge w/ Contacts and Bleeder Valve
Pressure Relief Device: Included, Automatic Action - Cover Mounted with Contacts and Shroud
Sudden Pressure Relay: With Seal In Contacts
Fill Valve: Removable Bolt 1"
Fill Valve Location: Front Compartment
Drain Valve: Included, Drain Valve w/ Sampler
Drain Valve Location: Front Compartment
Control Box: NEMA 4 (IP54) Stainless Steel, NEMA 4X (IP54) Auxiliary Wiring Cabinet w/ Strip Heater, Breaker, Thermostat, GFI Outlet, and Door Switch Operated Light
Winding Material: Copper

Total Load Loss (in watts) at 50%: +/- 3762W +10% Tolerance

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
Zero sequence impedance
Factory dissolved gas analysis to be sent with FAT results

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

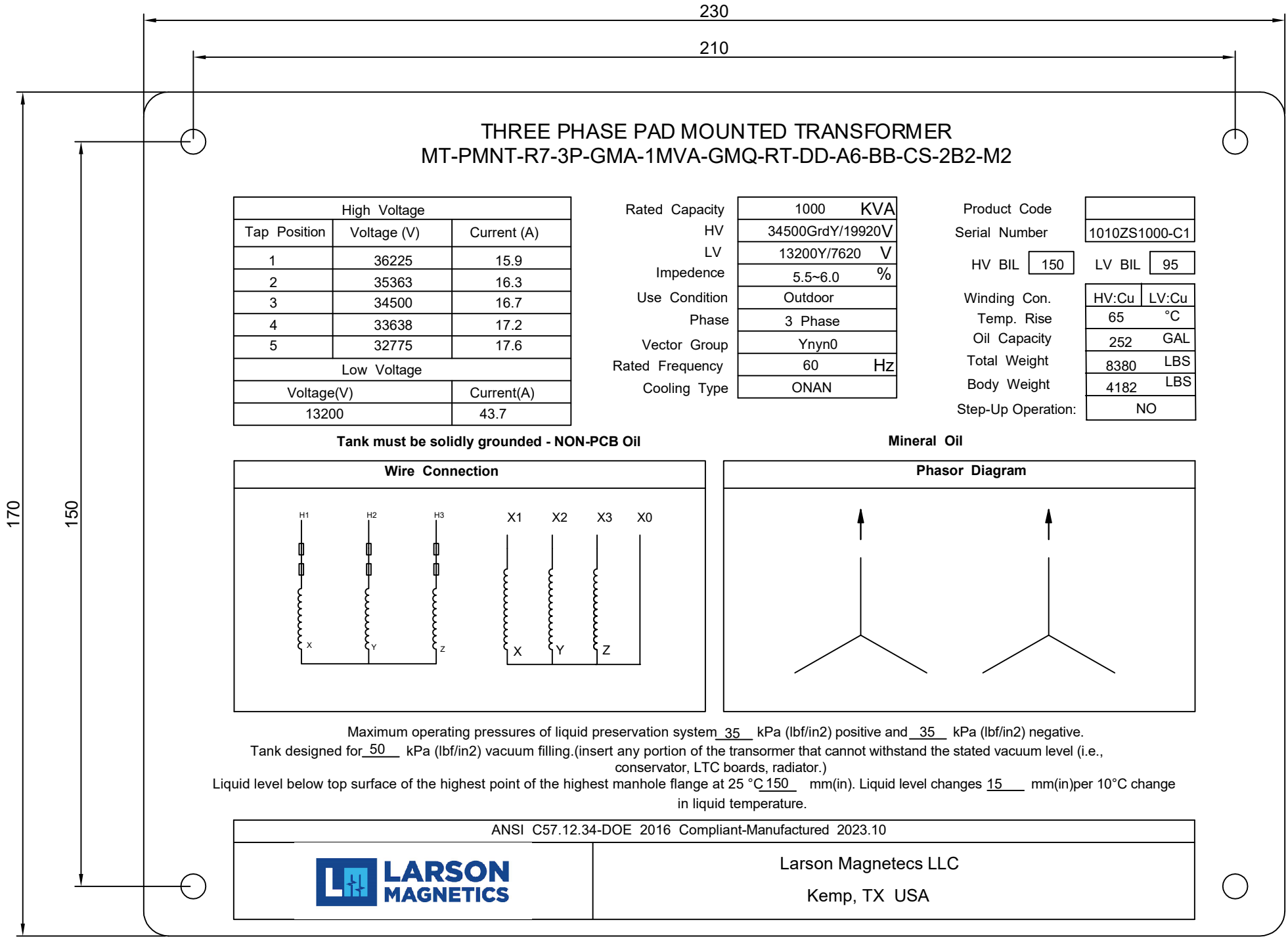
Ambient Temperature Rating: 40°C
Sound Level: 62 dBA
Elevation (Altitude): 3300ft (1000 meters) Above Sea Level
Core Material: Grain Oriented Steel
Tank Material: 304 Stainless Steel
Cabinet Material: 304 Stainless Steel
Base Platform Material: 304 Stainless Steel
Portability: Lifting Lugs, Provisions for Jacking Under Base, w/ Base Construction Suitable for Using Rollers or Skidding
Housing Type: Compartmental Air-Filled Cabinet w/ Locking Doors, Steel Barrier Separation
Enclosure Rating: NEMA 4 (IP54)
Seismic Rating: Yes
Paint Type: Weatherproof and UV Resistant Epoxy Coating and Undercoating
Finish Color: -
Mounting: Pad Mounted
Conduit Opening: Bottom Feed Underground Entry/Exit
HV Compartment Base Wireway Dimensions*: -
LV Compartment Base Wireway Dimensions*: -
MV/LV Compartment Cabinet Depth*: -
Tank Cover Access Handhole: N/A
Dimensions*: 102"-W x 83"-D x 70"-H
Weight: 7,550 lb
*Please note that numbers are approximate and subject to change

Special Orders - Requirements
Contact us for special requirements

Toll Free: 1-800-369-6671
Intl: 1-214-616-6180
Fax: 1-903-498-3364
E-mail: sales@larsonelectronics.com

The MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 from Larson Electronics is an Industrial Pad Mount Network Transformer that offers powerful, reliable, and efficient power distribution in indoor, outdoor, and public locations. The low operating costs, low heat emissions, and low cost of ownership makes this network transformer ideal for a wide range of applications and businesses.
PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO POWER DISTRIBUTION PANELS, TRANSFORMERS, OR SUBSTATIONS*
Transformer Features: With a transformer rating of 1000 KVA (1 MVA), the industrial transformer features a primary voltage of three-phase 13200GrdY/7620 Grounded Wye and a secondary voltage of three-phase 24940GRDY/14400 Grounded Wye. The unit has a primary radial feed for single installations and dead-front primary connections. This transformer features a 5-position tap changer with two, +/- 2.5% taps above and two, +/- 2.5% taps below to allow small changes for voltage. There are no load break switches or rapid rise relays present on the system.
Copper transformer winding material helps improve performance, reduce weight and lower cost. Compared to aluminum, copper windings have lower eddy losses due to higher resistivity. 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-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 is air cooled and does not have fans or mounting provision for fans.
Enclosure Design: This pad mounted transformer does not have a full external enclosure. Instead, there are several control boxes and connection boxes constructed from 304 stainless steel. These boxes carry a NEMA 4 (IP54) rating and feature locking doors and steel barrier separation. The control box is equipped with a strip heater, breaker, thermostat, GFI outlet, and door switch operated light.
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 1000 KVA (1 MVA). 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.
Radiators: The MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 is

equipped with galvanized, stainless steel, powder enamel coated, removable radiators with isolation valves.
Insulation Fluid: The MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 features mineral oil insulating fluid (ONAN) with a capacity of 270 gallons.
Gauges: The following gauges are included with the system: liquid level, temperature, and pressure/vacuum gauges. Standard liquid level, temperature, and pressure/vacuum gauges are analog, manual reading types. These gauges have auxiliary contacts.
Fault Pressure Devices: This transformer features an automatic action fault pressure device. Fault pressure devices are used to detect high rates of pressure rise within the tank. The pressure relief device is equipped with contacts and shroud.
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 Arrestors: This system comes with high elbow surge arrestors on the secondary side. Designed for over-voltage and transient voltage protection, the components prevent damage caused by lightning, internal switching, or voltage surges. We can offer models without high elbow surge arrestors that have mounting provisions for customer-provided surge arrestors.
Valves: The MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 is equipped with a pressure relief valve, fill valve, and drain valve with sampler port.
Protection Fuses: This transformer contains bayonet protection fuses on the secondary 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 power distribution system can be pad mounted on concrete pads.
Benefits: The MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2 pad mount 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, public locations, 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
MT-PMNT-R7-3P-GMA-1MVA-GMQ-RT-DD-A6-BB-CS-2B2-M2

High Voltage		
Tap Position	Voltage (V)	Current (A)
1	36225	15.9
2	35363	16.3
3	34500	16.7
4	33638	17.2
5	32775	17.6
Low Voltage		
Voltage(V)		Current(A)
13200		43.7

Rated Capacity	1000 KVA
HV	34500GrdY/19920V
LV	13200Y/7620 V
Impedence	5.5~6.0 %
Use Condition	Outdoor
Phase	3 Phase
Vector Group	Ynyn0
Rated Frequency	60 Hz
Cooling Type	ONAN

Product Code		
Serial Number	1010ZS1000-C1	
HV BIL	150	LV BIL 95
Winding Con.	HV:Cu	LV:Cu
Temp. Rise	65	°C
Oil Capacity	252	GAL
Total Weight	8380	LBS
Body Weight	4182	LBS
Step-Up Operation:	NO	

Tank must be solidly grounded - NON-PCB Oil

Mineral Oil

Wire Connection

Phasor Diagram

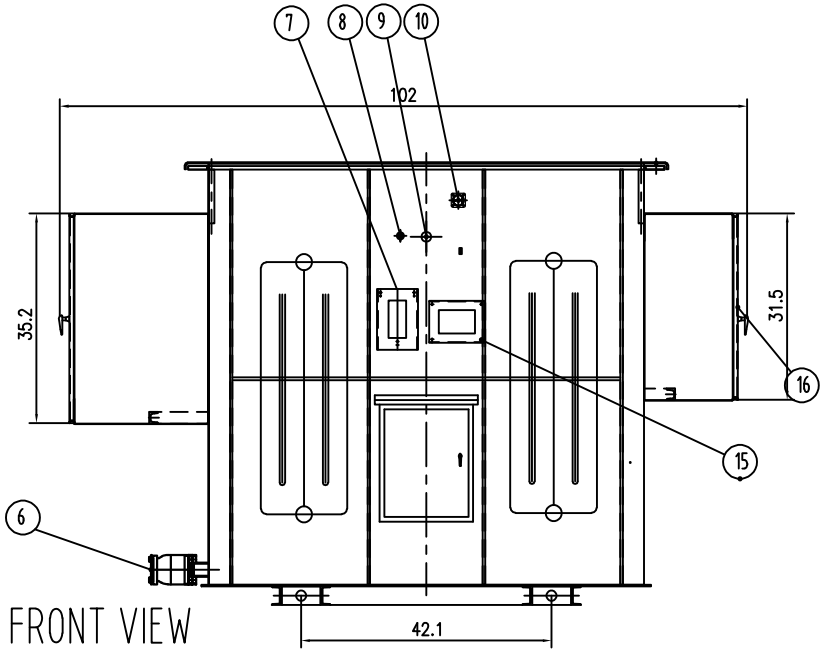
Maximum operating pressures of liquid preservation system 35 kPa (lbf/in2) positive and 35 kPa (lbf/in2) negative.
Tank designed for 50 kPa (lbf/in2) vacuum filling.(insert any portion of the transormer that cannot withstand the stated vacuum level (i.e., conservator, LTC boards, radiator.)
Liquid level 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

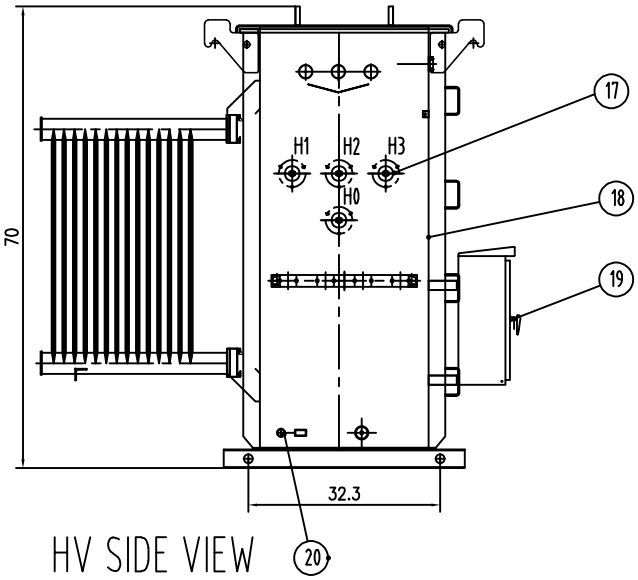
LARSON MAGNETICS

Larson Magnetecs LLC

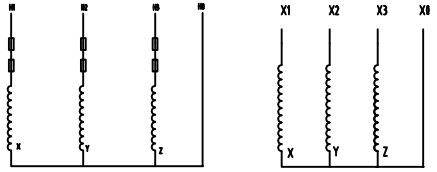
Kemp, TX USA



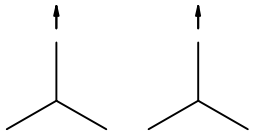
FRONT VIEW



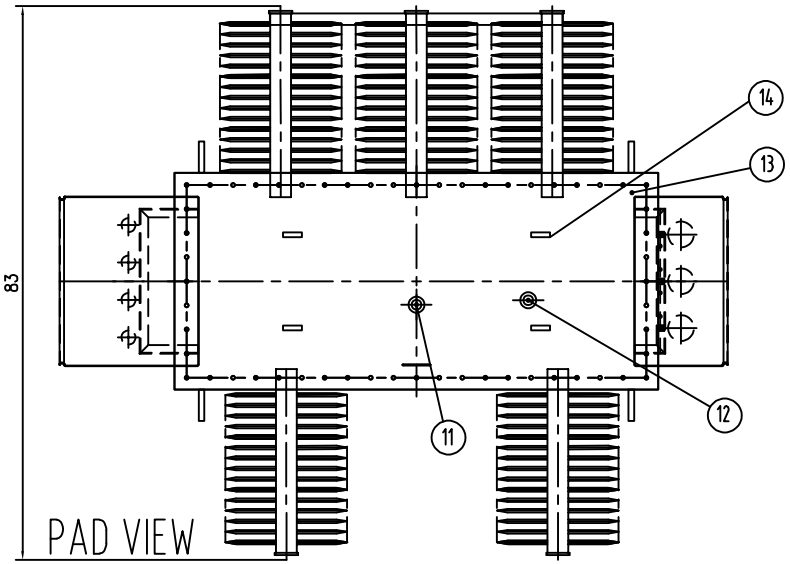
HV SIDE VIEW



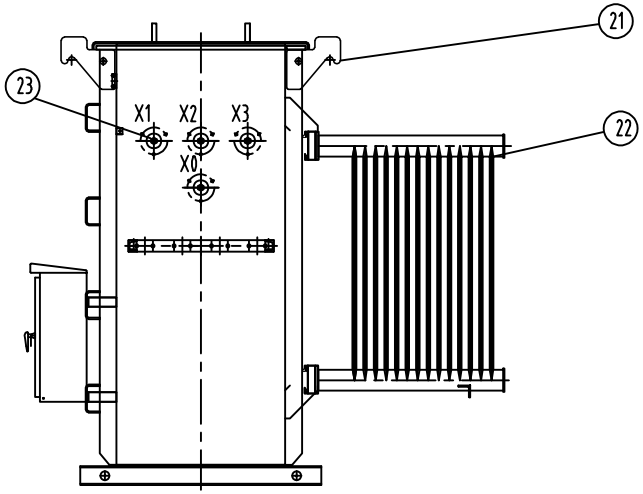
WIRING CONNECTION



PHASOR DIAGRAM



PAD VIEW



LV SIDE VIEW

Approx. Weight: 7550LBS.

NO.	Code	Name	QTY	Material	Unit Weight	Total Weight	Remark
23	T	LV bushing	4				well&insert
22		Radiator	5	304SS			removable
21		lifting lug	4	M16X35			
20		grounding bolt	2	M16X35			with washer
19		terminal box	1	304SS			IP54
18		tank	1	304SS			
17		HV bushing	4	600A bushing			35kV Class
16	Hinge, door lock	door	1				
15		Nameplate	1				
14		lifting lug	4				for tank cover
13		tank cover	1	304SS			
12		Sudden Pressure Relay	1				
11		pressure relief valve	1				
10	I	oil level guage	1				
9		tap changer	1				
8		temperature senson	1				
7	.	temperature guage	1				
6		drain valve	1				w/sampler
5		LV coil	(1)	copper			
4	.	ative part insulation	(1)				
3		HV lead wire	(1)	copper			
2	.	core assembly	(1)				
1		HV coil	(1)	copper			

marked	revise	revision	signature	date
designed		Kong	standard	
checked			examined	
audited			approved	
crafted			date	

1000/34.5 drawing

YNyn0

pattern mark	mass	scale
page		page

LARSON ELECTRONICS

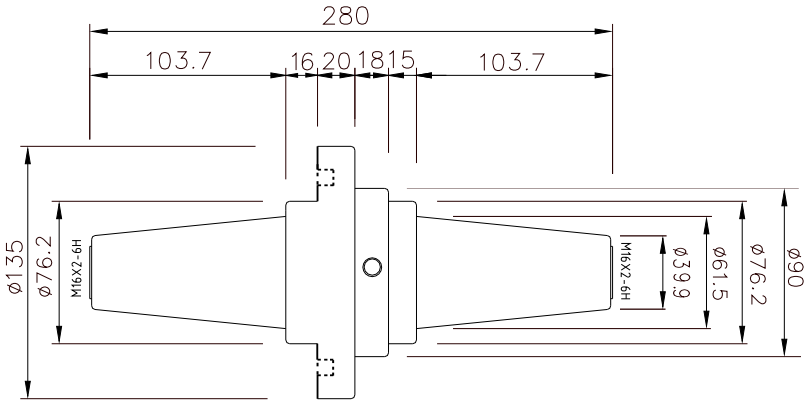
Remark: dimensions here are in inches. Only for approval/preliminary design..

35kV 600A Bushing

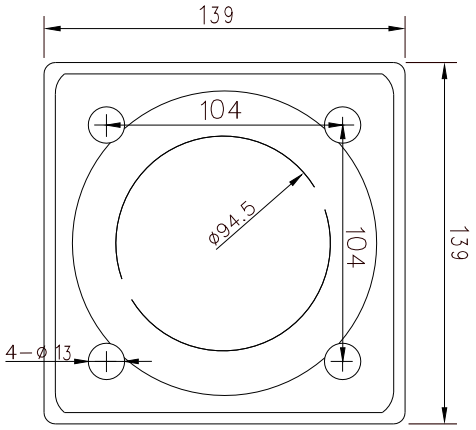
APPLICATION

35kv 600A Bushing 35kv box-type substation, wind energy is mainly used in substation, aeration tank outlet and inlet line of high pressure and shielding cable joint connection, outlet and inlet line of implementing full insulation, fully sealed, full screen. products using imported epoxy resin, APG injection molding technology, excellent electrical performance and mechanical performance. use safer, more reliable. installation conditions are not affected by the bad environment, prevent condensation, filth, free maintenance, product built-in shielding net, bring their own sensors can be connected to the charged indicator function, display busbar charged state.





35kV Bushing



SCOPE OF DELIVERY

- Bushing body
- Mounting plate
- Sealing ring
- The instructions
- Certificate

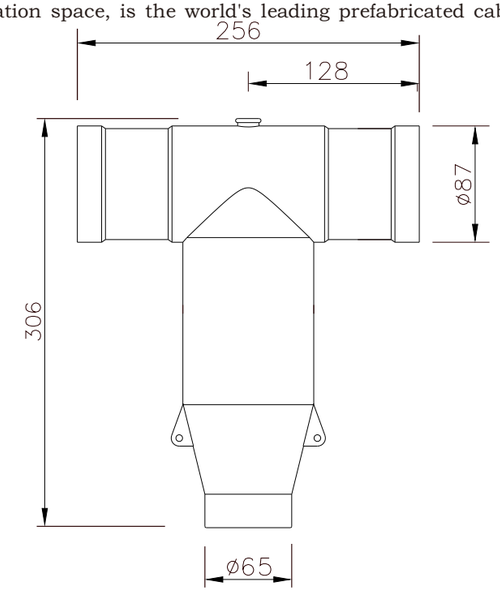
35kV 600A Front connector

APPLICATION

35kV 600A Front connector,it is suitable for power supply and discharge voltage of 35kV and below power plants, substation power distribution devices and high voltage electrical, such as: cable branch box, modular transformer, inflatable cabinet, wind power substation system. and the casing seat, butt joint casing, unilateral casing connected to achieve full insulation, sealed, full shield. products using the international advanced post-injection insulation technology, electrical performance to the international advanced level, the use of more secure, more reliable. installation conditions are not affected by harsh environments, anti-condensation, anti-pollution, maintenance-free. product stress handling the introduction of german technology, product structure size is small, fully meet the requirements of the installation space, is the world's leading prefabricated cable head. applicable cable cross section50-500^2 。



Front connector



PERFORMANCE CHARACTERISTICS

- It is suitable for the input、output line of high voltage electrical equipment, power conversion station or 35kV, such as cable branch box, combined transformer system
- Anti condensation and anti pollution, maintenance free,Partial discharge of stress cone
- Small size design to meet the requirements of the installation space

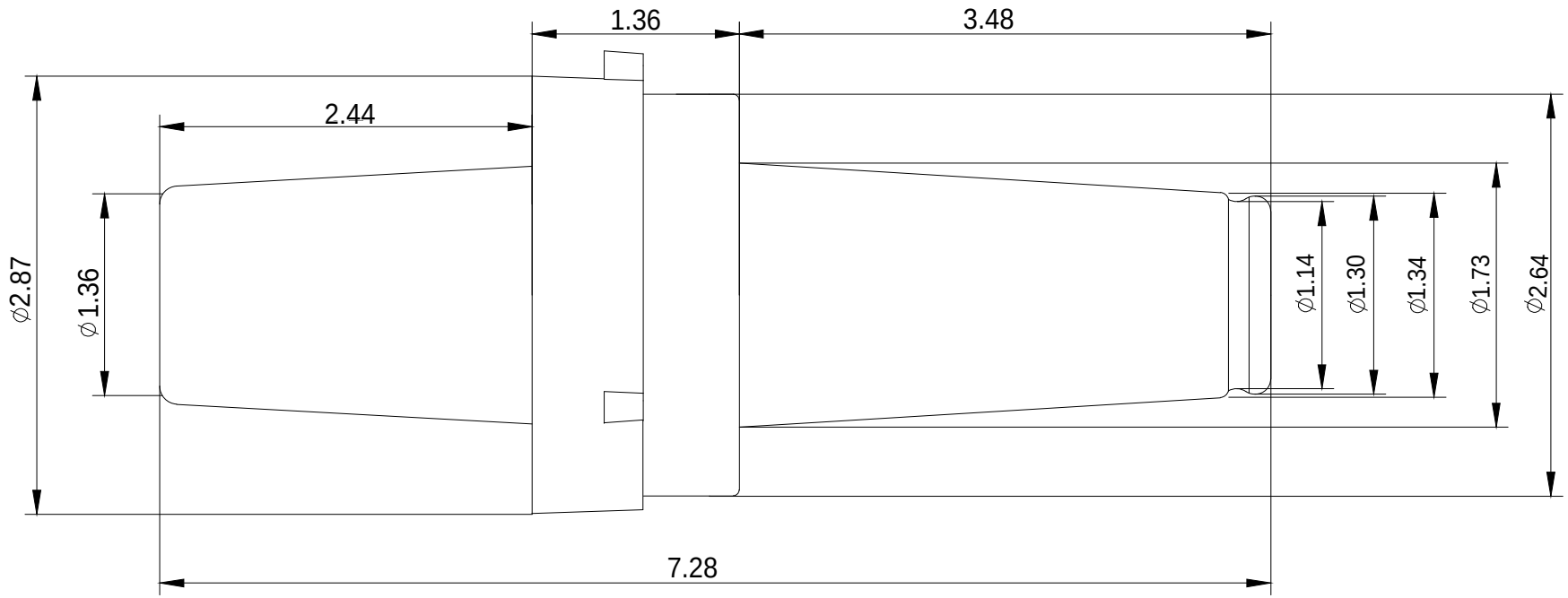
STANDARD PACKING

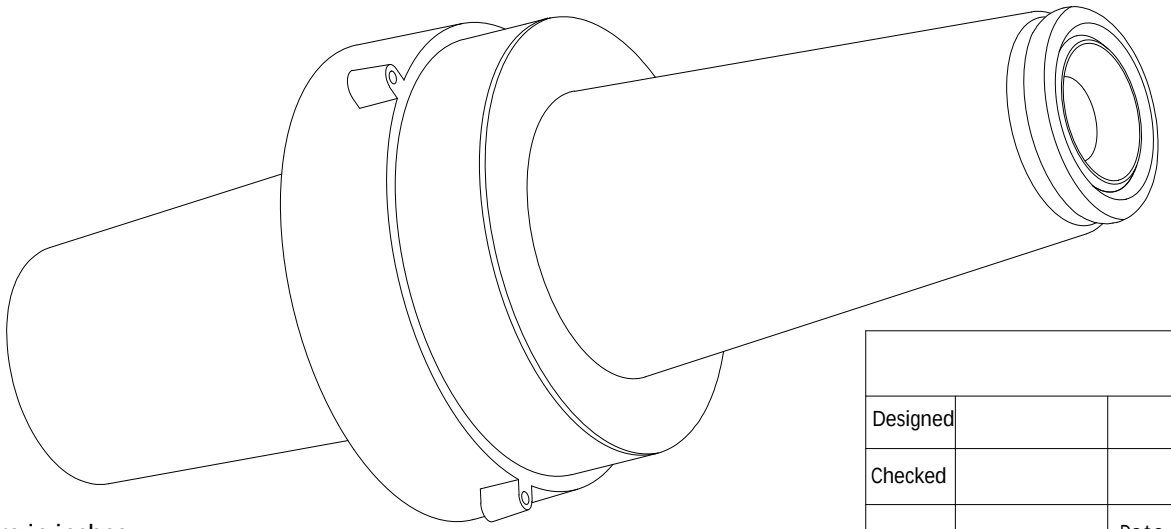
- Front connector body
- Black dust cap (non insulated protective cap)
- Cable adaptor
- Crimp terminal
- Insulation plug
- Semiconductive belt
- Double head bolt and flat pad, elastic pad, nut
- Copper grounding wire, silicon grease, cleaning paper
- Install scale card, installation tools, installation instructions
- Product information

ELECTRICAL PARAMETERS

Voltage grade	**35kV**
Rated voltage	**40.5kV**
Rated current	**600A**
1 minute A.C withstand voltage	**95kV**
15 minutes DC withstand voltage	**117kV**
Lightning impulse withstand voltage	**200kV**
Minimum corona onset voltage	**26kV**
The short-time withstand current	**27kA/3S 40kA/0.2S**
Partial discharge	**40.5kV ≤10Pc**

SECONDARY BUSHING DETAILS

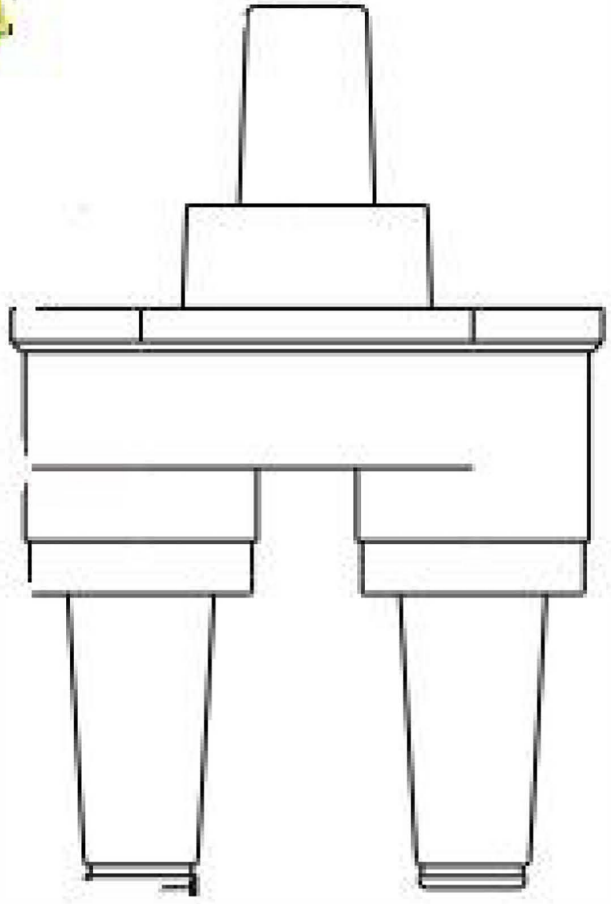




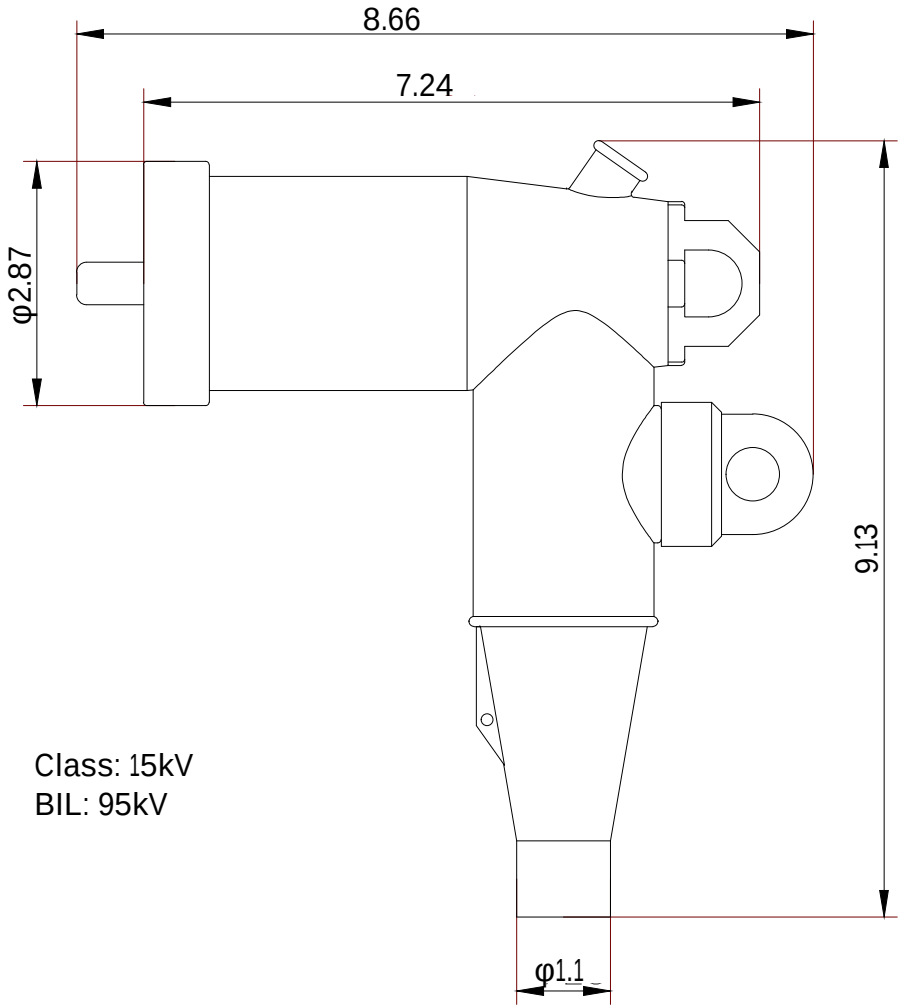
Designed			G003	Product Name	15kV Class 200A Insert
Checked					
		Date	2023.6		

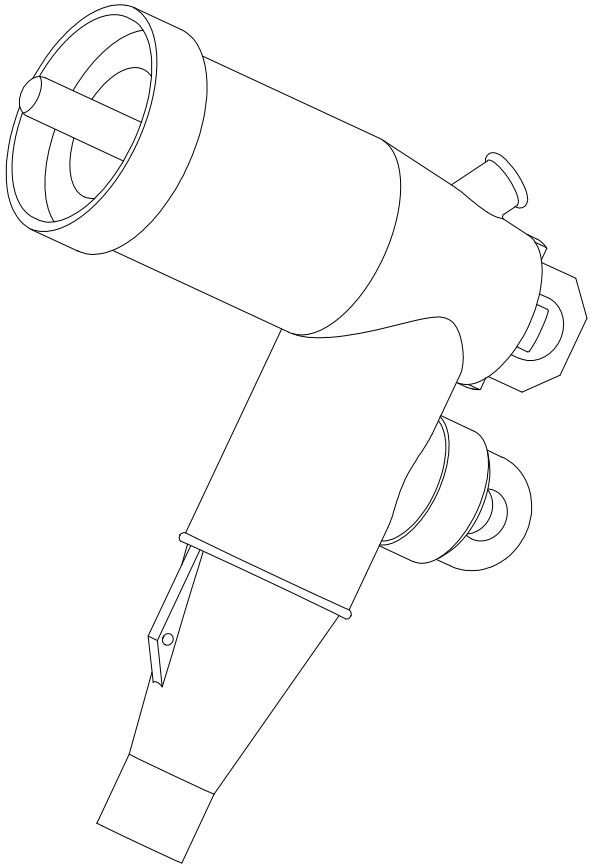
Remark: dimensions here are in inches.





200A Rotatable feedthru insert





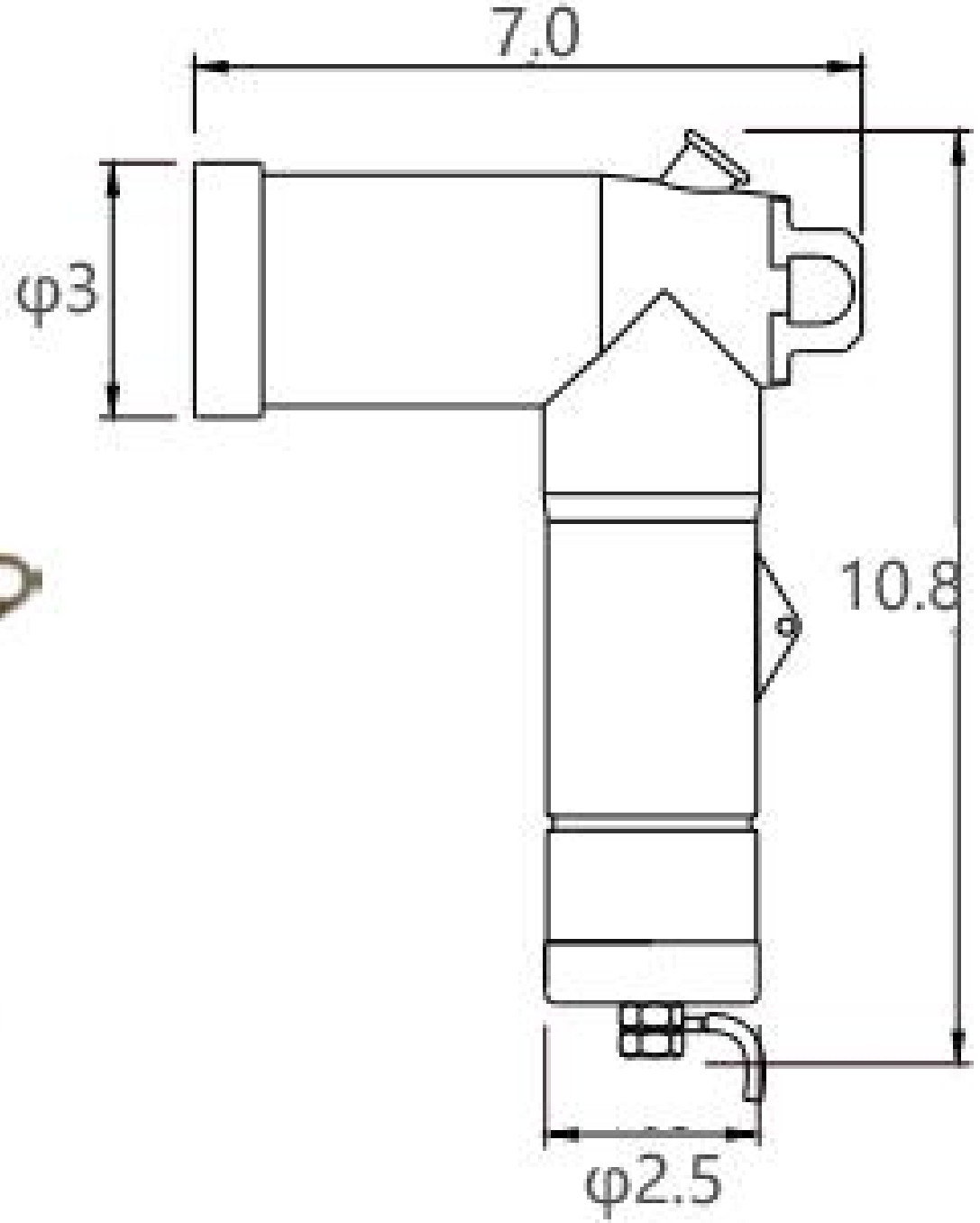
Class: 15kV
BIL: 95kV

Remark: dimensions here are in inches.

					15kV class 200A elbow connector

Seconday voltage arrester





Frequently Asked Questions (FAQ)