

TRANSFORMER PRODUCTS



TRANSFORMERS

A trusted supplier of high-performance transformers, specializing in providing solutions for substations and critical power infrastructure. With a commitment to innovation and quality, we ensure that every transformer we supply is rigorously tested and compliant with industry standards, allowing for confidence that the power systems will operate seamlessly and safely.

DESIGN SERVICES

At NuVolt Group, our engineers are equipped to deliver complete power solutions through innovative, customized designs. We take the time to understand each of your unique needs, collaborating closely with you to create durable outcomes tailored specifically to your requirements. From vision to implementation you will have full control over the process, ensuring that we develop a personalized solution that perfectly fits your application.

DISTRIBUTION

NuVolt Group's service team has safely and successfully executed construction and maintenance projects on both overhead and underground distribution circuits. Our expertise has also been called upon for Storm Restoration Services across North America, where we've provided critical support in challenging conditions.

POWER

Our wiremen and technicians are experts in navigating complex environments, wiring systems that are crucial to the operation and production of electrical generation plants. Our services are delivered across a range of environments including refineries, oil and natural gas facilities, nuclear and hydroelectric power generation sites, substations, and hazardous locations.

SUBSTATION

NuVolt's substation services deliver reliable and efficient power distribution solutions for utility, commercial, and industrial applications. We offer complete, customized support from design and installation to maintenance and upgrades, prioritizing safety, reliability, and optimal system performance. Our comprehensive approach ensures smooth energy flow, improved operational uptime, and future-ready electrical infrastructure.

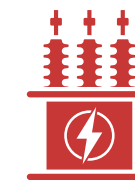
ECO POWER

With the momentum toward renewable energy sources growing, NuVolt Group is uniquely positioned to lead the transition with advanced energy storage, EV charging, solar, and natural gas solutions. Supported by a team of experienced linemen, electricians, energy analysts, and engineers, we bring the expertise and innovation needed to drive sustainable change and support a cleaner, more efficient energy future.



TRANSMISSION

NuVolt Group has extensive experience in constructing and maintaining overhead high-voltage transmission lines, as well as installing hundreds of miles of optical ground wire. NuVolt has successfully completed transmission work for some of the largest utilities in the country, often under challenging conditions.



POWER TRANSFORMERS

Structural Features and Functions

The UHV transformer is optimized and verified using Toshiba's proprietary analysis software and calculation program. This comprehensive approach covers the transformer core, coil, body, lead oil tank, and other components to ensure outstanding product performance. The transformer is characterized by superior process equipment, meticulous material selection, and efficient production techniques. As a result, it offers a compact size, lightweight design, low power loss, minimal partial discharge, and reduced noise levels. The transformer boasts exceptional product quality, energy efficiency, environmental friendliness, ease of installation and maintenance, reliable operation, and a significant reduction in operational costs.



Our SSZ20-240000/220 model has successfully undergone and passed both the short circuit withstand tests and all routine type evaluations conducted by the National Transformer Quality Supervision and Inspection Center.

This product is characterized by its stability, reliability, cost-effectiveness, and environmental friendliness, making it well-suited for power plants, substations, as well as large industrial, mining, and petrochemical organizations.

Service conditions:

The altitude shall not exceed 1000m

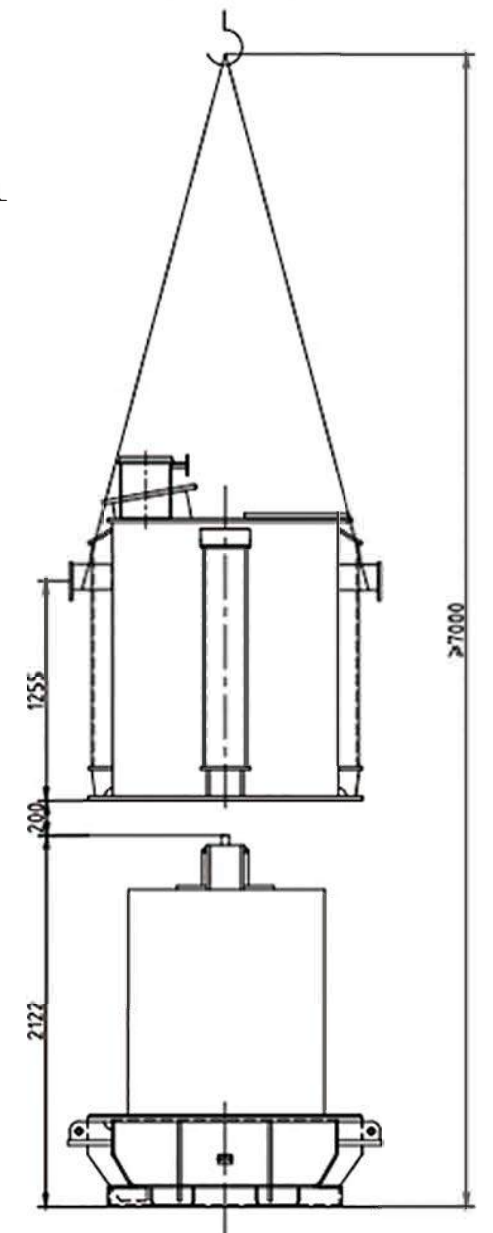
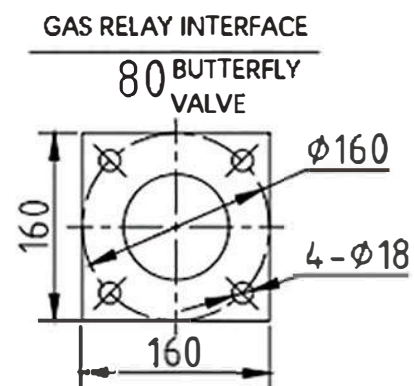
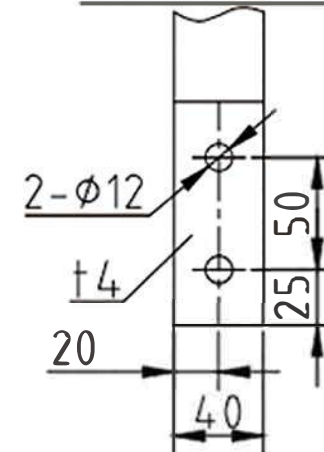
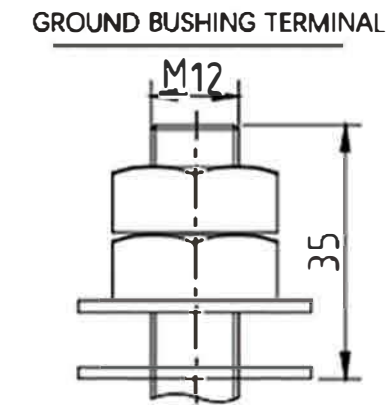
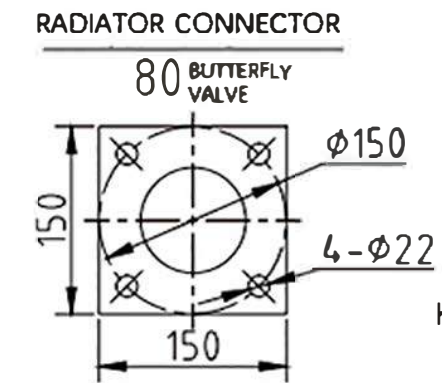
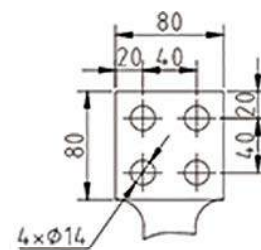
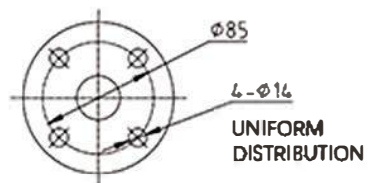
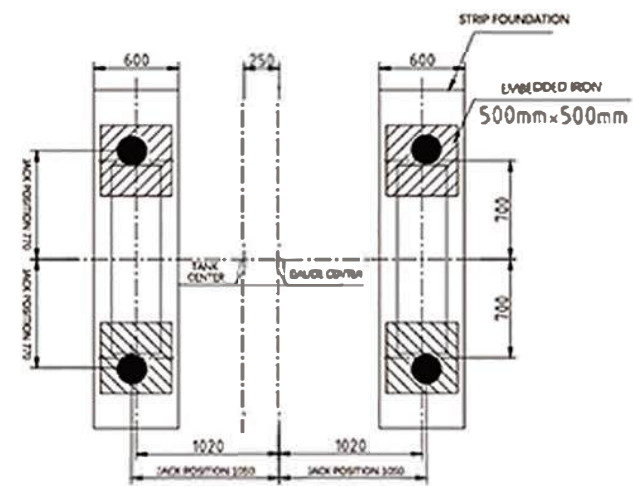
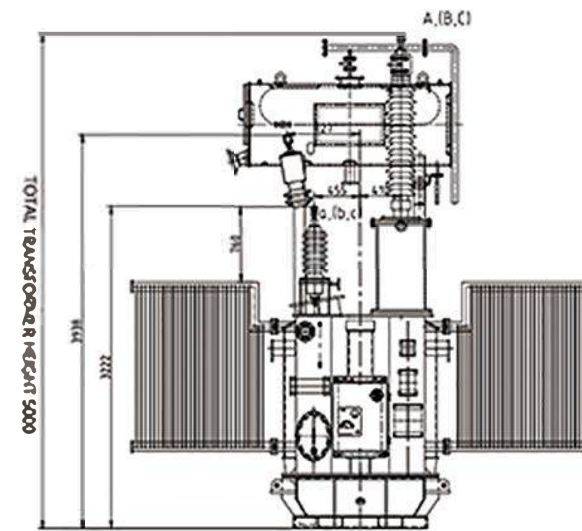
Maximum ambient temperature: +40 °C

Maximum daily average temperature: +30 °C

Maximum annual average temperature: +20 °C

Minimum outdoor temperature: - 25 °C





110kV Three-Phase On-Load Power Transformer

Rated capacity (kVA)	High Voltage (kV)	Voltage regulation range (%)	Medium Voltage (kV)	Low Voltage (kV)
6300	110	$\pm 2 \times 2.5\%$ $\pm 8 \times 1.25\%$ $\pm 8 \times 1.78\%$ $\pm 9 \times 1.25\%$ $\pm 9 \times 1.5\%$ $\pm 9 \times 1.78\%$ $\pm 12 \times 1.78\%$	36 37 38.5	6.3 6.6 10.5 21
8000				
10000				
12500				
16000				
20000				
25000				
31500				
40000				
50000				
63000				

220kV Three-Phase On-Load Power Transformer

Rated capacity (kVA)	High Voltage (kV)	Voltage regulation range (%)	Medium Voltage (kV)	Low Voltage (kV)
31500	220 230	$\pm 2 \times 2.5\%$ $\pm 4 \times 1.25\%$ $\pm 6 \times 1.25\%$ $\pm 8 \times 1.25\%$ $\pm 8 \times 1.78\%$ $\pm 9 \times 1.5\%$ $\pm 9 \times 1.78\%$	69 115 121 150 158	6.3 6.6 10.5 21 36 37 38.5 63 66 69
40000				
50000				
63000				
90000				
120000				
150000				
180000				
120000				
150000				
180000				

THREE PHASE PAD MOUNTED TRANSFORMERS



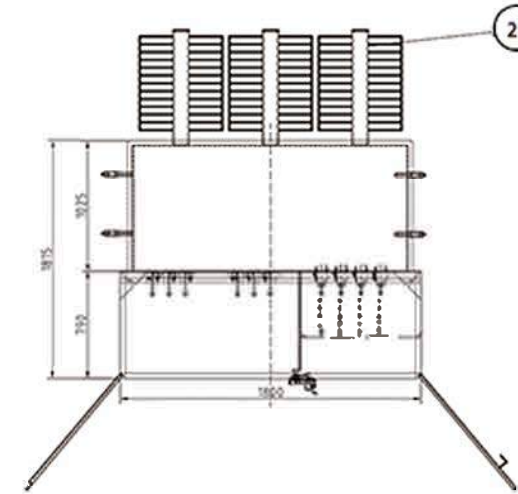
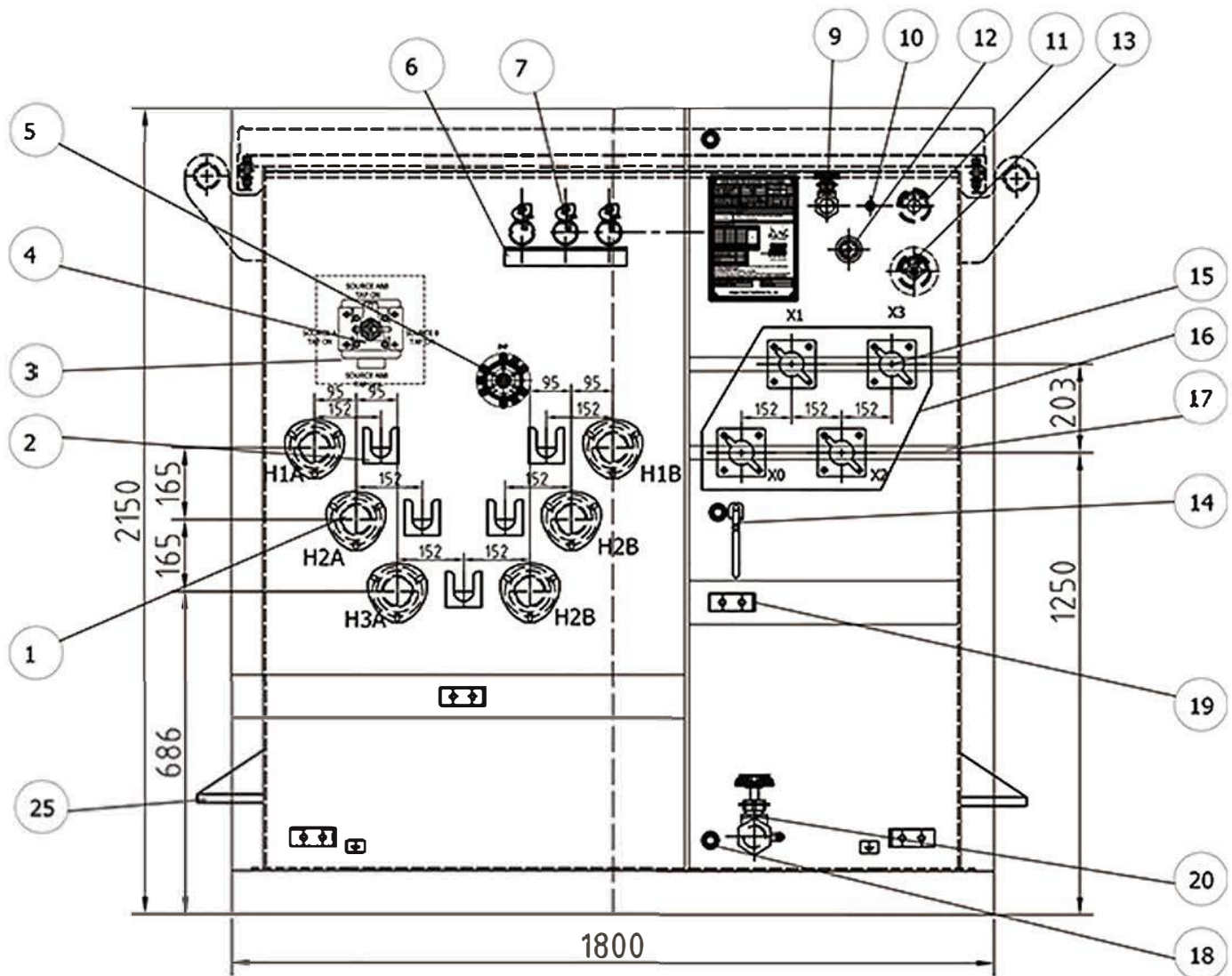
Product Overview

- 1. The design is compact and takes up minimal space, making installation straightforward and efficient.
- 2. Features include reduced loss, low noise levels, minimal temperature increase, robust load capacity beyond the rated output, and strong resistance to sudden short circuits.
- 3. It operates within a fully enclosed, fully insulated framework, ensuring stable and reliable performance.
- 4. Offers flexible wiring options suitable for both terminal and ring network systems, allowing for easy conversion and enhanced power supply reliability.
- 5. Simple to operate and maintain, with a short production timeline and low project expenses.

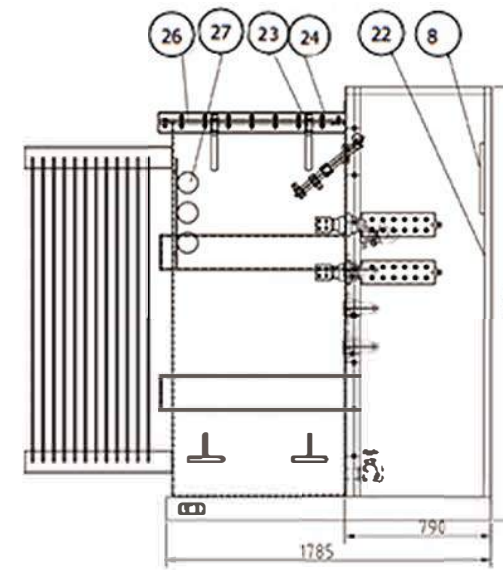
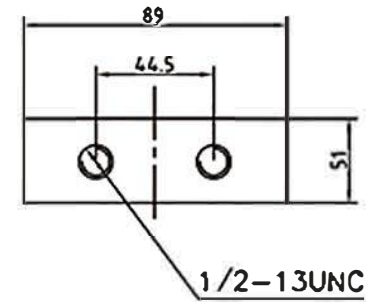
Application Field

Suitable for small unattended substations operating at 35kV or less, and with main transformer capacities up to 5000kVA. It is broadly utilized in urban industrial substations, 10 kV ring network systems, 35kV rural power grid substations, and similar environments.

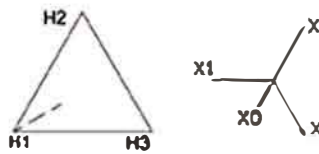




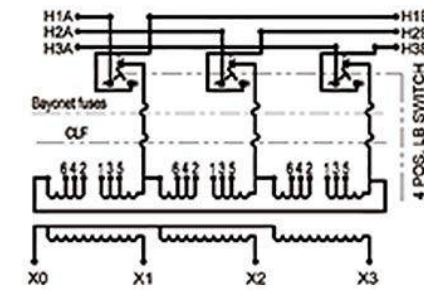
**GROUND PAD
STAINLESS STEEL**



HV LV

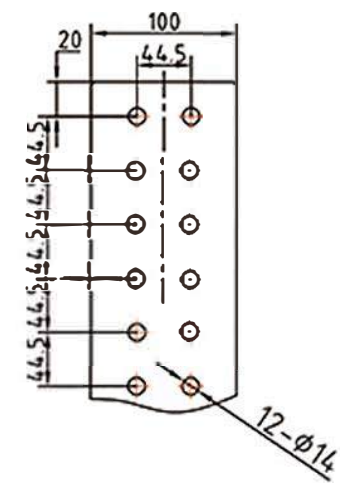


PHASOR DIAGRAM



CONNECTION DIAGRAM

L.V TERMINAL



Standard Features

1. HV Bushing(15kV,200A)
2. Parking stand bracket
3. Loadbreak switch nameplate
4. Four position loadbreaker switch
5. Position tap changer +/-2x2.5%
6. Drip tray
7. Bay-o-net fuses
8. Nameplate
9. 1" Upper fill plug
10. Pressure relief valve
11. Vacuum pressure gauge
12. Oil level gauge

13. Oil temperature gauge
14. Door handle
15. LV Bushing 12 holes, bil 30kV
16. 750-4000 Padmount LV plate
17. LV Bushing additional support
18. Fixed projecting cup
19. Ground steel pads
20. 1" Drain valve with 3/8 sampler
21. Radiator
22. Hinged door
23. Lifting lug
24. Flip top cover
25. Jack
26. Bolted removable tank lid
27. Current limited backup fuse

Environmental Conditions For Use:

(1) Normal environmental conditions

1. Upper limit of ambient air temperature:+40 °C, lower limit: - 25 °C.
2. Altitude: not more than 1000m.
3. Relative ambient temperature: air humidity is not more than 90%.
4. Outdoor wind speed shall not exceed 35m/s.
5. The ground inclination is not more than 5 °C, and there is no severe vibration and impact.
6. There is no conductive dust, no explosion hazard, and no corrosive metal and electrical components.

(2) Special working conditions

When the product is used under normal environmental conditions beyond the speci-fied limit, the user shall negotiate with our company.

Rated capacity (kVA)	High Voltage (V)	Low Voltage (V)
75	34500 19920 13800 7957 13200 7620 12470 or others	240 480 480Y 277 600Y 347
112.5		
150		
225		
300		
500		
750		
1000		
1500		
2000		
2500		

SINGLE PHASE TRANSFORMERS



Application:

The overhead transformer can be utilized individually to provide power to a single phase-load, or combined in sets of three for supplying a three-phase load. This unit can be mounted directly onto wooden or concrete poles, or grouped on a pole for three-phase applications. These transformers are crafted to service residential overhead distribution neds and are also ideal for light commerical loads, industrial lighting, and various power distribution purposes.

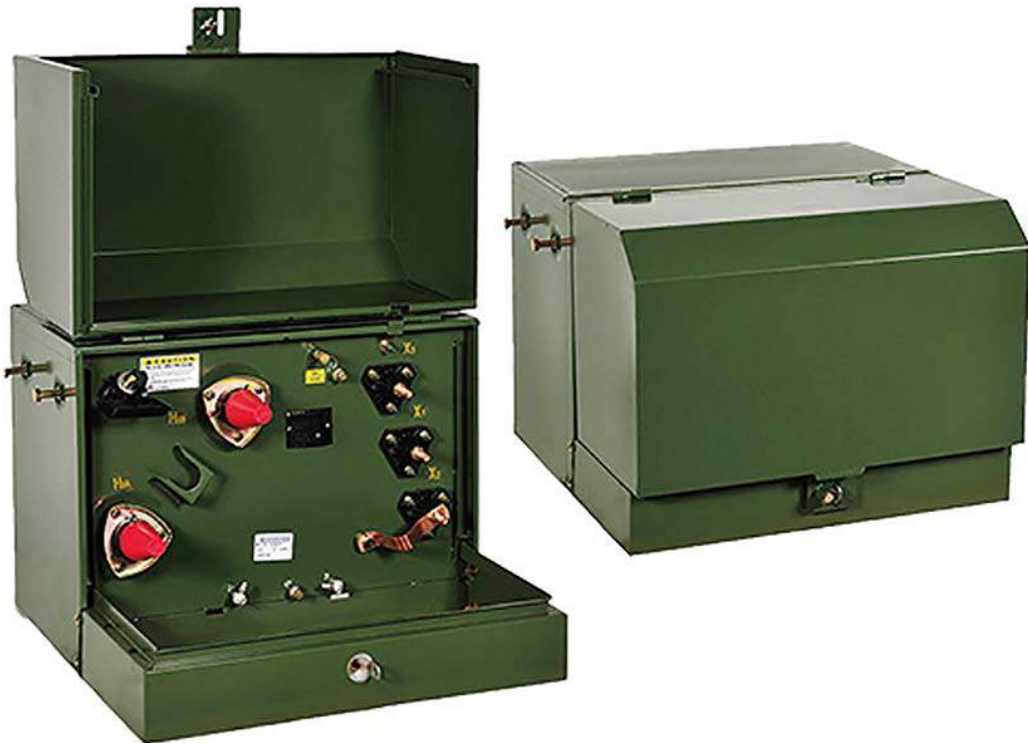
CSP Type:

These transformers are of the CSP variety, designed to safeguard themselves from lightning strikes, power surges, and short circuits. They also help protect the transmission and distribution lines against current failures due to their own malfunction. While they share some common features with conventional models, such as cylindrical tanks, hooks, lifting lugs, grounding equipment, nameplates, as well as core and winding designs, they also possess unique characteristics and devices.

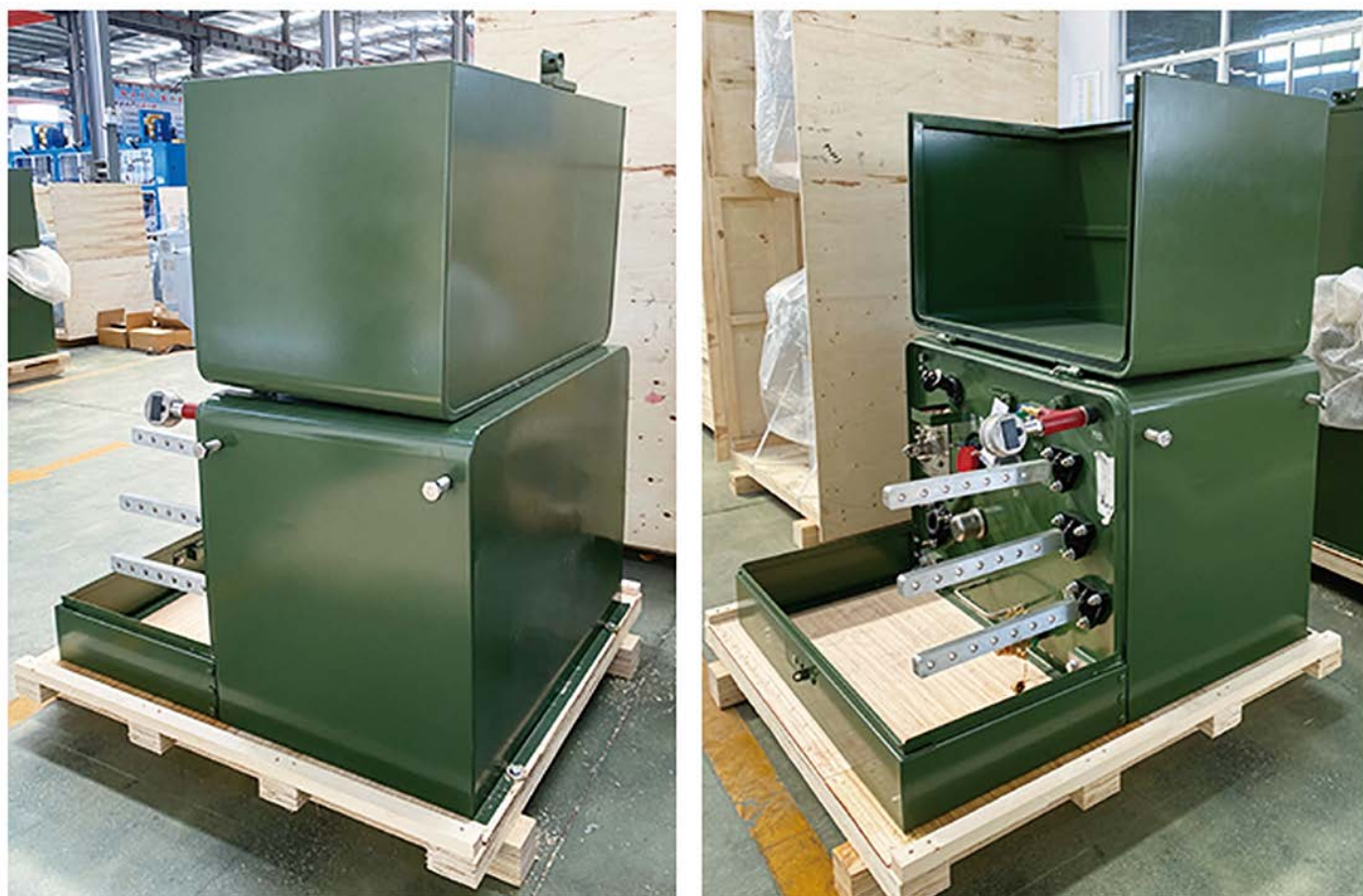
- 1. The cover features one or two high-voltage bushings equipped with fuses.
- 2. Mounted on the side of the tank are one or two arresters, with their upper ends positioned close to the high-voltage bushing, and they are connected via a copper strip. Inside the tank, above the winding, is a secondary breaker switch, complete with an operating handle, overload reset, and signal light.
- 3. The low-voltage bushing extends from the side of the tank, and the grounding device is attached at position X2. One end of the single bushing connects through the high-voltage bushing, while the other end is linked to the ground.
- 4. All units are constructed in compliance with IEC60076, ANSI/IEEE C57.12.20, CSA C2.1-06, CSA C2.2-06, among other standards.

Rated capacity (kVA)	High Voltage (V)	Low Voltage (V)
5	34500 19920 13800 7957 13200 7620 12470 7200 or others	120-240 240-480 347 600
10		
15		
25		
37.5		
50		
75		
100		
167		

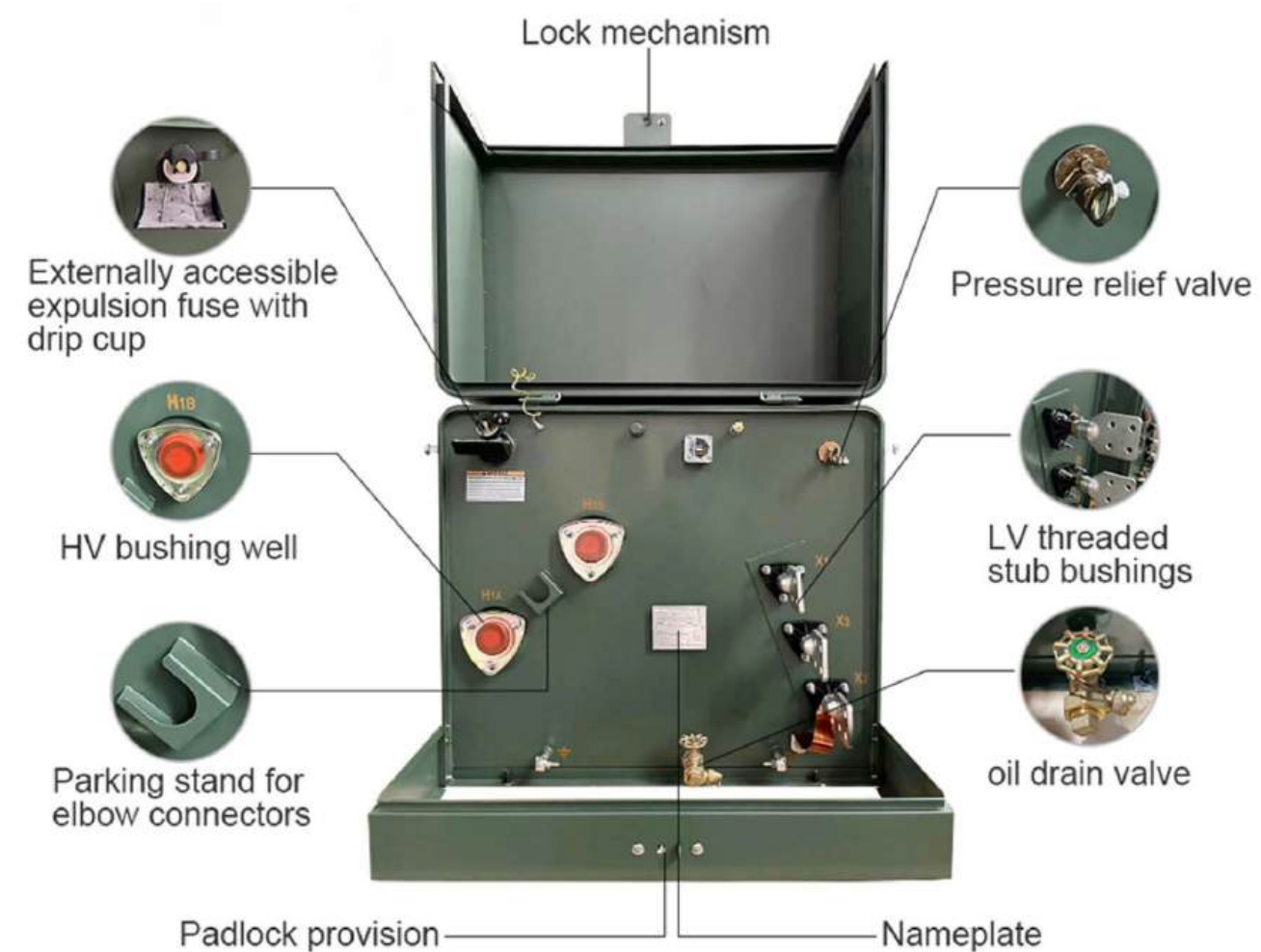
SINGLE PHASE PAD MOUNTED TRANSFORMERS



NuVolt's single-phase pad-mounted transformers are designed per applicable ANSI, IEEE, NEMA and Department of Energy standards and are built to allow safe and reliable operation in underground electrical distribution networks. Our transformers are designed to be installed in radial or loop feed distribution systems and can be configured to meet specified switching and protective requirements.

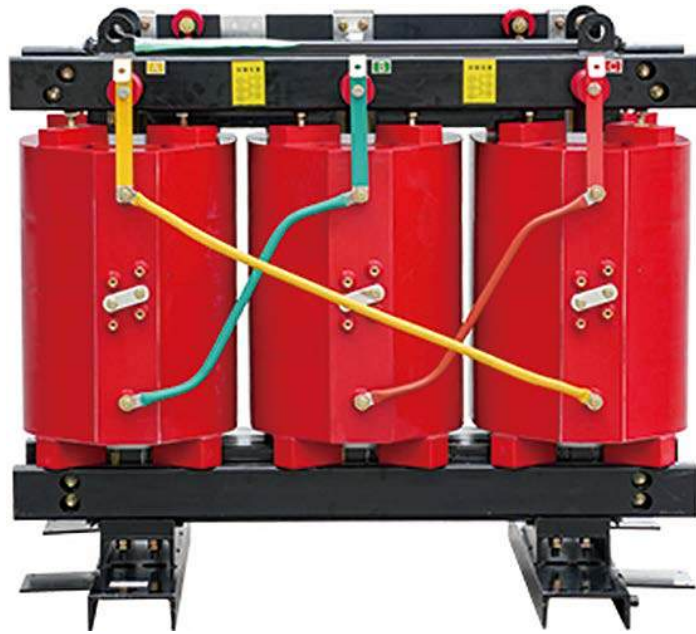


Structure



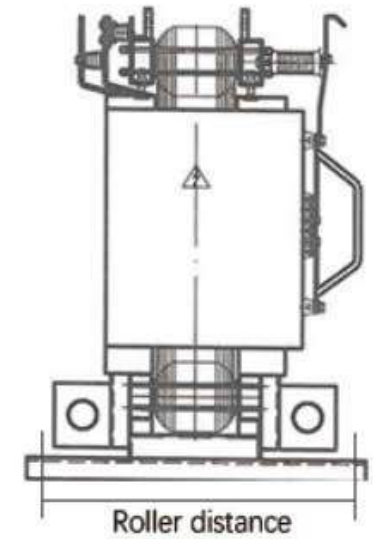
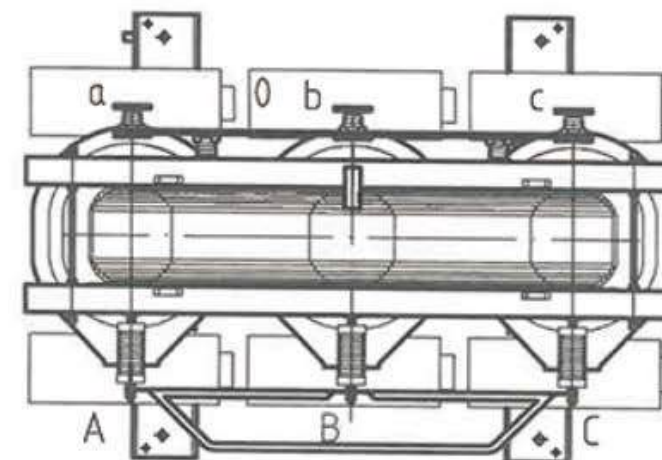
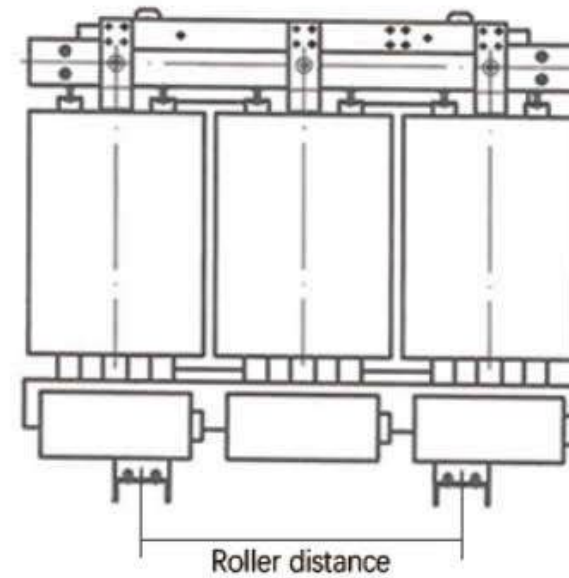
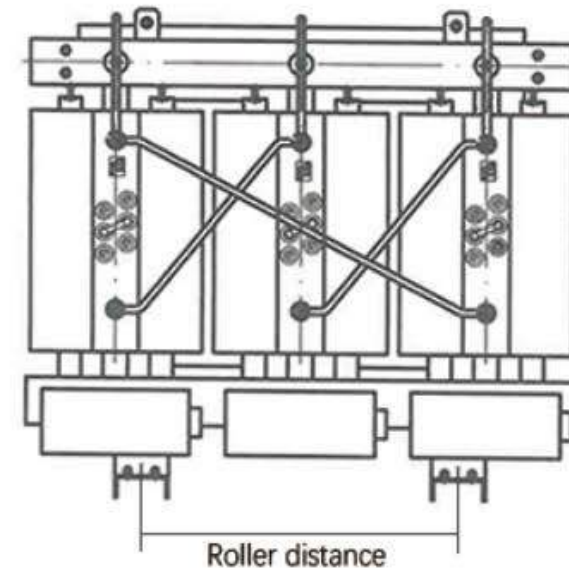
Rated capacity (kVA)	High Voltage (V)	Low Voltage (V)
15	34500	120-240 240-480 347 600
25	19920	
37.5	13800	
50	7957	
75	13200	
100	7620	
167	or others	

DRY TYPE TRANSFORMER

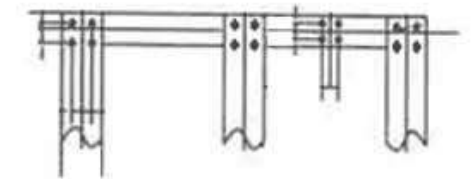


Operating conditions:

1. Installation height: average altitude 1000m
2. The waveform of power supply voltage is similar to sine wave;
3. Symmetry of polyphase power supply voltage: the power supply voltage connected to the polyphase transformer shall be approximately symmetrical.
4. Ambient temperature. Maximum air temperature: +40 °C; Daily maximum average temperature +30 °C, annual maximum average temperature +20 °C. Minimum air temperature -25 °C (applicable to indoor transformer).

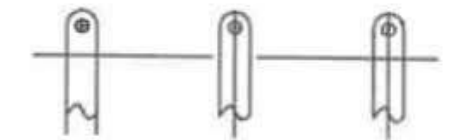


LOW VOLTAGE TERMINAL BLOCK



A, B, C, O ARE 14X140TMY

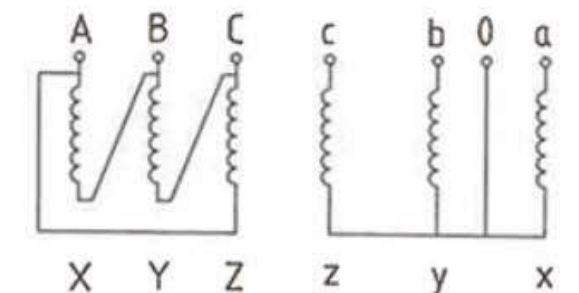
HIGH VOLTAGE TERMINAL BLOCK

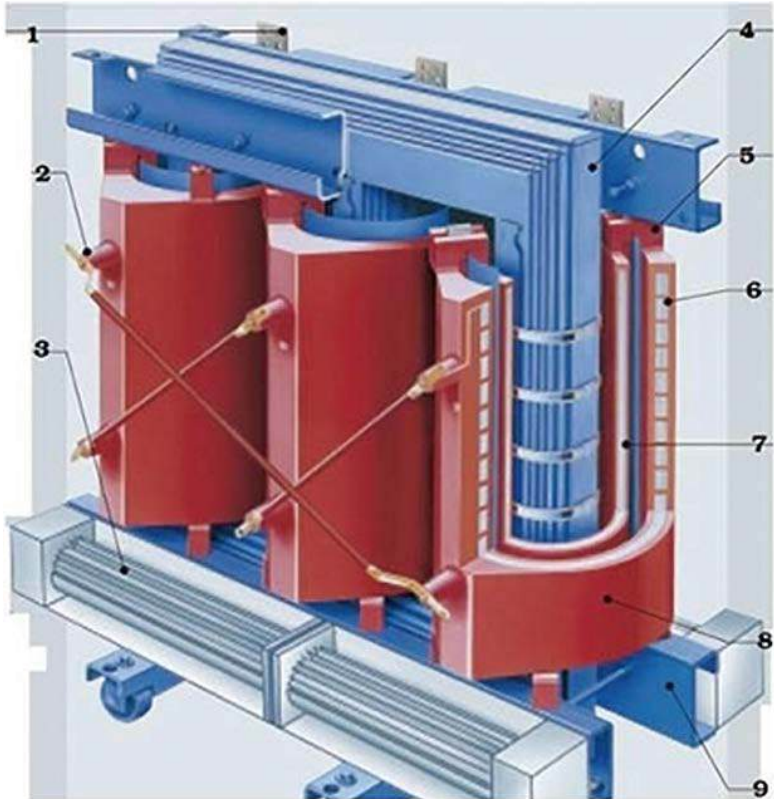


A, B, C ARE 3X40TMY

WIRING DIAGRAM

High pressure side Low pressure side





- 1-LV terminals
- 2-HV terminals
- 3-Cross-flow fans
- 4-Three-leg core
- 5-Resilient spacers
- 6-HV winding
- 7-LV winding
- 8-Insulation: Mixture of epoxy resin and quartz powder
- 9-Clamping frame and truck.

SCB10, SCB12, SCB13, SCB14, SCB18 series Structural Characteristics of Resin-Insulated Dry-Type Power Transformer:

Box-form coil design: The low-voltage winding utilizes copper foil for its full section, crafted on a specialized low-voltage foil winding machine with Class F insulation. This foil coil approach addresses significant issues such as excessive short circuit stress, imbalance of ampere-turns, inefficient heat dissipation, winding spiral angles, and variable quality in manual welding. Additionally, our company ensures the winding end is resin-sealed to provide solidification, moisture resistance, and protection against contamination. The lead copper bar is welded automatically via roller arc welding.

Temperature control mechanism: This transformer incorporates the BWDK series of signal thermometers. The temperature sensors are embedded at the top of the low-voltage coil, enabling automatic detection and display of each phase coil's operating temperature. It also features a system for over-temperature alarms and automatic shutdown.

Voltage class 10kV, 30 up to 2500 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	PO [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP20	Width [mm] IP00/IP20	Height [mm] IP00/IP20	Total Weight [kg] IP00/IP20	Roller distance [mm]
SC10-30/10	11 10.5 10 6.3 6	30	4	190	710	50	900/1650	760/1450	1000/2000	380/680	550
SC10-50/10		50	4	270	1000	55	1000/1650	760/1450	1100/2000	560/860	550
SC10-63/10		63	4	320	1170	55	1100/1650	760/1450	1100/2000	600/900	550
SC10-80/10		80	4	370	1380	55	1100/1650	760/1450	1100/2000	690/990	550
SCB10-100/10		100	4	400	1570	55	1100/1650	760/1450	1150/2000	780/1080	550
SCB10-125/10		125	4	470	1850	55	1200/1650	760/1450	1200/2000	1010/1310	550
SCB10-160/10		160	4	540	2130	58	1200/1650	760/1450	1200/2000	1120/1420	660
SCB10-200/10		200	4	620	2530	58	1300/1650	760/1450	1200/2000	1360/1660	660
SCB10-250/10		250	4	720	2760	58	1350/1950	760/1600	1250/2000	1480/1830	660
SCB10-315/10		315	4	880	3470	60	1350/1950	760/1600	1250/2000	1550/1900	660
SCB10-400/10		400	4	980	3990	60	1350/1950	760/1600	1250/2000	1680/2030	660
SCB10-500/10		500	4	1160	4880	60	1350/1950	760/1600	1250/2000	1900/2250	660
SCB10-630/10		630	4	1340	5880	62	1600/2350	850/1650	1400/2000	2740/3240	660
SCB10-630/10		630	4	1300	5960	62	1600/2350	850/1650	1400/2000	2400/2900	660
SCB10-800/10		800	6	1520	6960	64	1600/2350	850/1650	1500/2000	2950/3450	820
SCB10-1000/10		1000	6	1770	8130	64	1700/2350	850/1650	1550/2000	3320/3820	820
SCB10-1250/10		1250	6	2090	9690	65	1700/2350	850/1650	1650/2000	3770/4270	820
SCB10-1600/10		1600	6	2450	11730	66	1900/2650	850/1850	1750/2500	4680/5230	820
SCB10-2000/10		2000	6	3050	14450	66	1950/2650	1200/1850	1800/2500	5430/5980	820
SCB10-2500/10		2500	6	3600	17170	68	2100/2650	1200/1850	1950/2500	6580/7130	1070

Voltage Class 20kV, 315 up to 2500 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	PO [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP20	Width [mm] IP00/IP20	Height [mm] IP00/IP20	Total Weight [kg] IP00/IP20	Roller distance [mm]
SCB10-315/20	20 22	315	6	972	4085	60	1600/2350	850/1650	1500/2000	2060/2560	660
SCB10-400/20		400	6	1152	4845	60	1600/2350	850/1650	1500/2000	2210/2710	660
SCB10-500/20		500	6	1350	5795	60	1650/2350	850/1650	1550/2000	2620/3120	660
SCB10-630/20		630	6	1530	6840	62	1700/2350	850/1650	1600/2000	2720/3220	820
SCB10-800/20		800	6	1755	8265	62	1800/2350	1000/1650	1650/2000	3120/3620	820
SCB10-1000/20		1000	6	2070	9785	64	1800/2350	1000/1650	1850/2000	3600/4100	820
SCB10-1250/20		1250	6	2385	11543	64	2000/2650	1000/1850	1950/2500	4350/4900	820
SCB10-1600/20		1600	6	2790	13870	66	2100/2650	1000/1850	2000/2500	5650/6200	820
SCB10-2000/20		2000	6	3240	16388	66	2200/3000	1200/1850	2050/2500	6520/7210	1070
SCB10-2500/20		2500	6	3870	19380	68	2300/3000	1200/1850	2100/2500	7720/8410	1070
SCB10-2000/20		2000	8	3240	17860	66	2200/3000	1200/1850	2000/2500	6070/6760	1070
SCB10-2500/20		2500	8	3870	21280	68	2500/3000	1200/1850	2100/2500	8000/8690	1070

Voltage Class 34.5kV, 315 up to 4000 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	PO [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP20	Width [mm] IP00/IP20	Height [mm] IP00/IP20	Total Weight [kg] IP00/IP20	Roller distance [mm]
SCB10-315/35	38.5 35 34.5	315	6	1179	4513	60	1800/2650	1000/1850	1800/2500	2370/2920	820
SCB10-400/35		400	6	1377	5415	60	1800/2650	1000/1850	1800/2500	2810/3360	820
SCB10-500/35		500	6	1620	6650	60	1900/2650	1000/1850	1850/2500	3410/3960	820
SCB10-630/35		630	6	1863	7695	62	1900/2650	1000/1850	1850/2500	3510/4060	820
SCB10-800/35		800	6	2160	9120	62	2000/2650	1000/1850	1950/2500	4480/5030	820
SCB10-1000/35		1000	6	2430	10450	64	2100/3000	1200/1850	2100/2500	5240/5930	820
SCB10-1250/35		1250	6	2835	12730	64	2200/3000	1200/1850	2200/2500	6220/6910	820
SCB10-1600/35		1600	6	3150	15485	66	2300/3000	1200/1850	2250/2500	7370/8060	1070
SCB10-2000/35		2000	6	3825	18240	66	2450/3200	1200/1850	2250/2500	8290/9110	1070
SCB10-2500/35		2500	6	4455	21850	68	2550/3200	1200/1850	2300/2500	9650/10470	1070
SCB10-3150/35		3150	6	11620	28090	70	2950/3900	1400/2150	2400/3000	11780/12780	1070
SCB10-4000/35		4000	6	12450	33840	70	3000/3900	1400/2150	2600/3000	12980/13980	1070

CONTACT US

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Service Locations

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