



CML No. 9512620420

S&V SWITCHGEARS

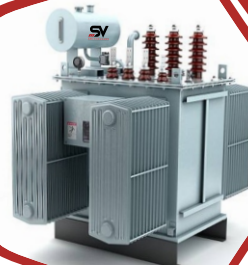
SV
SWITCHGEARS
SINCE
2015

- **POWER & DISTRIBUTION TRANSFORMERS**
- **SERVO VOLTAGE STABILIZER**

✓ **HIGHLY EFFICIENT**

✓ **ENVIRONMENT FRIENDLY**

✓ **ENERGY SAVING EQUIPMENTS**



www.svswitchgears.in

S&V SWITCHGEARS



About S&V SWITCHGEARS



State-of-the-art machinery, absolute process definition, seamless execution, technical ingenious, optimum resource collaboration and deployment are just a few facts that define S&V SWITCHGEARS.

S&V SWITCHGEARS, Founded by Er. SUDHIR POSWAL (Electrical Engineer Work Experience 15 years in Transformer Production & Testing Department & Also Work Experience As a Technical Manager in NABL Laboratory & BIS Laboratory) & VIKRANT SOROUT (BCA, MCA Work Experience With Transformer Industries 13 years as a Quality Manager) , with visionary mission of providing eco-friendly and cost effective products manufactured in clean & safe environment, with International level of quality standards

S&V SWITCHGEARS, a BIS approved, ISO 9001:2008 & 9001:2015 & 14001:2004 certified company, is an established manufacturer of Medium Power & Distribution Transformers, that do not just comply with Indian quality standards, but also scale up to the International levels of excellence.

Operational since 2015, S&V SWITCHGEARS is primarily operating with well equipped manufacturing units the production facility at Palwal (Haryana), which is spread over an area of 6000 Sq. meters.

Over the last 11 operational years, S&V SWITCHGEARS has not only proliferated in terms of functional capacity, but the company has exhibited exceptional product enhancement. To attain the position that S&V SWITCHGEARS currently enjoys and further move up the ladder, the company has followed a stringent policy in terms of product quality to exceed the end user's requirements and expectations.

The policy ground rules are defined by the inputs provided by continuous research and development undertaken at the firm to understand buyer's requisites, and persistent technical improvisation, fueling the growth drive.

The production is exclusively managed in house during the various production stages i.e. from Designing, Manufacturing & Testing of Power & Distribution Transformers up to 05 MVA, 33 kV Class.

Soon, we are upgrading our production capacity upto 10 MVA, 33 KV Class.



What we do

Operational since 2015, S&V SWITCHGEARS is primarily into manufacturing of Medium power and distribution transformers. We have state-of-the-art manufacturing facilities to cater any demands to satisfy.



Vision

To define new horizons in terms of product distinction, value creation and ethical operational standards in the manufacturing industry.

This is enabled, not just by manufacturing products that are empowered by technical innovation, but by ensuring that the products are priced well within the justified monetary limits and work with agenda of maintaining clean and safe environment.

Mission

S&V SWITCHGEARS a technology driven company, aims at utmost satisfaction of all associated with us by working continually in the direction of product improvisation and procedural excellence.

Quality

Our commitment is to stand by our words. Be it by providing world class products, investing continually in expensive research and testing methodologies and improvising the products to be in sync with customer needs.



CML No. 9512620420

IS : 1180 (PART-1)





The transformer manufacturing units of S&V Switchgears are more than just a production facility. These units represent the process of thought, driven by the idea of continual growth and dynamic existence.

The quality and output capabilities upon the class of raw materials used during the manufacturing process. At S&V Switchgears for production purpose, utmost focus is upon selecting the finest raw materials, hence complying with the applicable standards.

S&V Switchgears is well equipped with comprehensive in house processing facility of below mentioned major raw materials, which helps cater to our customers demands with quality products, while simultaneously ensuring cost effectiveness and earliest delivery.



Fabrication of Tanks And Rad Shot Blasting And Flow Painting.



**Our Product
at a glance...**

**We at
S&V Switchgears**
strongly believe in translating
customers need into product
specifications



Medium Power Transformers
(upto 05mva, 33kv Class)
05mva 33kv Class

**Distribution Transformers
Single Phase**
(upto 150 Kva, 33 Kv Class)

**Distribution Transformers
Three Phase**
(upto 2500 Kva, 33 Kv Class)

**Distribution Transformer With
CSP Features - Single Phase**
(upto 50 Kva, 33 Kv Class)

**Distribution Transformer With CSP
Features - Three Phase With
Oil Immersed Breaker**
(upto 200 Kva, 33 Kv Class)

**Distribution Transformer with CSP
Features - Three Phase with with
External MCCB**
(Upto 1000 kVA, 33 kV Class)
Hermetically sealed

Distribution Transformer
(Upto 2500 kVA, 33 kV Class)

Dry Type Transformer (VPI)
(Upto 3000 kVA, 33 kV Class)

Packaged or Unitized Sub-Station
200 kVA to 1250 kVA, 11 KV Class

Special Transformer
In response to the customer
demands for various applications, the
company facilitates special type of
transformers.

**Auto Transformer
Arc Duty Furnace Transformer
Booster Transformer
Dual Ratio Transformer
Earthing Transformer
Generator Transformer
Induction Duty Transformer
Isolation Transformer
Mining Transformer
Rectifier Transformer
Transformer for Solar Generation
Testing Transformer
Transformers for AC/DC Drives
Zig Zag Transformer**

Product Features

**Highly Energy Efficient
Low Loss & No Load Current
High Power Factor
Reduced Temperature Levels**

**Exceptionally Safe
Extremely Low Noise Design
Compact Design
Virtually Maintenance Free**

**Type Tested Products
BIS Certified Products
BEE Approved Products
Timely Committed Delivery**



POWER TRANSFORMERS

S&V Switchgears one of the few setups, which has grown to be recognized as one of the genuine performing brand of transformers in the market.

S&V Switchgears medium Power Transformers upto 05MVA, 33KV Class are designed, manufactured and tested at its owned production units and are most suitably meant for safe performance in challenging conditions.

S&V Switchgears medium Power Transformers are Type Tested from NABL Accredited Labs viz. CPRI, ERDA, NTH, to validate the quality and designs.

Technical Specification

Ratings 3 Phase upto 05 MVA, 33 KV Class

Applicable Standards IS: 2026/IEC: 60076

Frequency 50/60 Hz

Cooling ONAN/ONAF

Vector Group Dyn11/Dyn1/YNyn or as per customer specification

Class of Insulation Class A

Core Prime CRGO with step-lap design for low losses & current.

Windings Insulated Electrolytic Grade Copper

Insulating Fluid Mineral oil (both inhibited & uninhibited) as per IS: 335/IEC: 296

Tapping Switch On load tap changer (OLTC)/Off circuit tap changer (OFTC)

Standard Accessories:

HV & LV Bushings with metal parts Buchhloz Relay with Alarm & Trip contact. Magnetic Oil level Gauge with Alarm contact - Oil Temperature Indicator with two sets of electrical contact for Alarm & Trip Winding Temperature Indicator with two sets of electrical contact for Alarm & Trip Weather Proof Marshalling Box Tapping Switch (OLTC/OFTC) Explosion Vent with Diaphragm. Oil Level Indicator Inspection Covers Drain, Filter & Sampling Valves. Breather Arching Horns Skid Base for Bi-Directional Roller Arrangement Lifting & Pulling Lugs Jacking Pads Earthing Terminals Radiators. Silica-gel Breather. Arching Horns. Rating & Diagram Plate

Optional Accessories:

HV/LV Cable Boxes Pressure Relief Valve with Alarm & Trip contact Thermo Siphon Filter Air Cell Scada Compatible Oil & Winding Temperature Indicator RTCC Panel with AVR for On Load Tap Changer Bi-Metallic Terminal Connectors for HV & LV Flange Type Rollers

Distribution Transformers

S&V Switchgears offer technologically advanced and customized range of Oil Filled Distribution Transformers upto 33 kV class conforming to the Indian / International standards, to enhance the customer's satisfaction. Products are designed and developed by using modern manufacturing techniques and optimum utilization of finest raw materials, processed under one roof, to ensure cost effectiveness, reliability and a long durable trouble-free performance.

S&V Switchgears is approved to design, manufacture and test energy efficient transformers conferred upto 5 Star Ratings, in accordance with energy saving guidelines, defined by the BEE (Bureau of Energy Efficiency, Govt. of India),

S&V Switchgears also offers Corrugated Hermetically Sealed type Transformers upto 2500 kVA, which is compact in size and need no maintenance of dielectric insulating fluid.

S&V Switchgears vide range of Distribution Transformer are Type Tested from NABL Accredited Labs viz. CPRI, ERDA, NTH, to validate the quality and design.



Technical Specification

Ratings	Single Phase upto 150 KVA	Three Phase upto 5000 KVA
Primary Voltage	Upto 33 kV Class	Upto 33 kV Class
Secondary Voltage	230/240/250 Volts Or as per customer specification & requirements	400/415/433 Volts
Type	Conventional/Hermetically sealed	
Application	Indoor/Outdoor	
BEE Rating	Upto 5 Star	
BIS Energy Efficiency	Level 1/2/3	
Applicable Standards	IS: 1180 (Part-1): 2014, 15:2026, FEC: 60076	
Frequency	50/60 Hz	
Cooling	ONAN	
Vector Group	Dyn11/Dyn1/YNyn or as per customer specification	
Class of Insulation	Class A	
Core	Stack or Wound type using Prime CRGO	
Windings-Type	Aluminum / Copper-Round/ Rectangular/Foil	
Insulating Fluid	Mineral oil (both inhibited & uninhibited) as per IS: 335/IEC:296	
Tapping Switch	On load tap changer (OLTC)/Off circuit tap changer (OFTC)	
Radiators Type	Corrugated/Pressed Steel/Elliptical Tube	
Mounting	Pale/Platform	

Optional Accessories

Tapping Switch (OLTC/OFTC) RTCC Panel with AVR for On Load Tap Changer Bi-Metallic Terminal Connectors for HV & LV Conservator HV/LV Cable Boxes Disconnecting Chambers. Explosion Vent with Diaphragm Inspection Covers Skid Base for Bi-Directional Roller Arrangement Uni/Bi-Directional Roller Drain, Filter & Sampling Valves Jacking Pads Pulling Lugs. Dial Type Thermometer Pressure Relief Valve with Alarm & Trip contact Buchholz Relay with Alarm & Trip contact Magnetic Oil level Gauge with Alarm contact Oil Temperature Indicator with two sets of electrical contact for Alarm & Trip - Winding Temperature Indicator with two sets of electrical contact for Alarm & Trip Scada Compatible Oil & Winding Temperature Indicator Weather Proof Marshalling Box Thermo Siphon Filter Lightning Arrestor Bird Gaurd

Distribution Transformer (CSP Feature) upto 33kV Class

Single-phase: upto 50 kVA
Three-phase: upto 200 kVA with internal breaker upto 1000 kVA with external MCCB

CSP system has include three components:

1. Primary internal expulsion fuse for system protection
2. Secondary circuit breaker for over load & fault protection with signal light
3. Primary surge arrester for lightning protection

Standard Accessories

HV & LV Bushings with metal parts Oil Level Indicator-Thermometer Pocket Air Release Device Lifting Lugs. Earthing Terminals Silica-gel Breather Arching Horns Rating & Diagram Plate



Distribution Transformers according to BIS Specification

As per the Government of India norms w.e.f. 1st January 2024 onwards, BIS Certification for IS: 1180 (Part-1): 2014, is Mandatory for Outdoor type oil immersed Distribution Transformers upto and including 2500 kVA, 33kV- Specification

We are pleased to inform that S&V Switchgears approved by BIS (Bureau of Indian Standards. Govt of India) to manufacture, test and supply energy efficient transformers in accordance with BIS guidelines

Maximum Total Losses upto 11 kV Class Transformers (As per IS: 1189 (Part-1) : 2014

SL. NO	Phase	Rating (KVA)	Impedance (percent)	Maximum Total Loss (W)					
				Energy Efficiency Level 1		Energy Efficiency Level 2		Energy Efficiency Level 3	
				50 Percent Load	100 Percent Load	50 Percent Load	100 Percent Load	50 Percent Load	100 Percent Load
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	1	5	2.50	35	95	30	75	27	68
2	1	10	4.00	60	170	55	150	50	135
3	1	16	4.00	82	224	63	190	58	175
4	1	25	4.00	110	300	95	260	88	240
5	3	16	4.5	135	440	120	400	108	364
6	3	25	4.5	190	635	175	595	158	541
7	3	63	4.5	340	1140	300	1050	270	956
8	3	100	4.5	475	1650	435	1500	392	1365
9	3	160	4.5	670	1950	570	1700	513	1547
10	3	200	4.5	780	2300	670	2100	603	1911
11	3	250	4.5	980	2930	920	2700	864	2488
12	3	315	4.5	1025	3100	955	2750	890	2440
13	3	400	4.5	1255	3450	1150	3330	1080	3214
14	3	500	4.5	1510	4300	1430	4100	1354	3909
15	3	630	4.5	1860	5300	1745	4850	1637	4438
16	3	800	5.0	2287	6403	2147	5838	2015	5323
17	3	1000	5.0	2790	7700	2620	7000	2460	6364
18	3	1250	5.0	3300	9200	3220	8400	3142	7670
19	3	1600	6.25	4200	11800	3970	11300	3753	10821
20	3	2000	6.25	5050	15000	4790	14100	4543	13254
21	3	2500	6.25	6150	18500	5900	17500	5660	16554

Maximum Total Losses above 11 kV upto & including 22 kV Class Transformers (As per IS: 1180 (Part-1): 2014

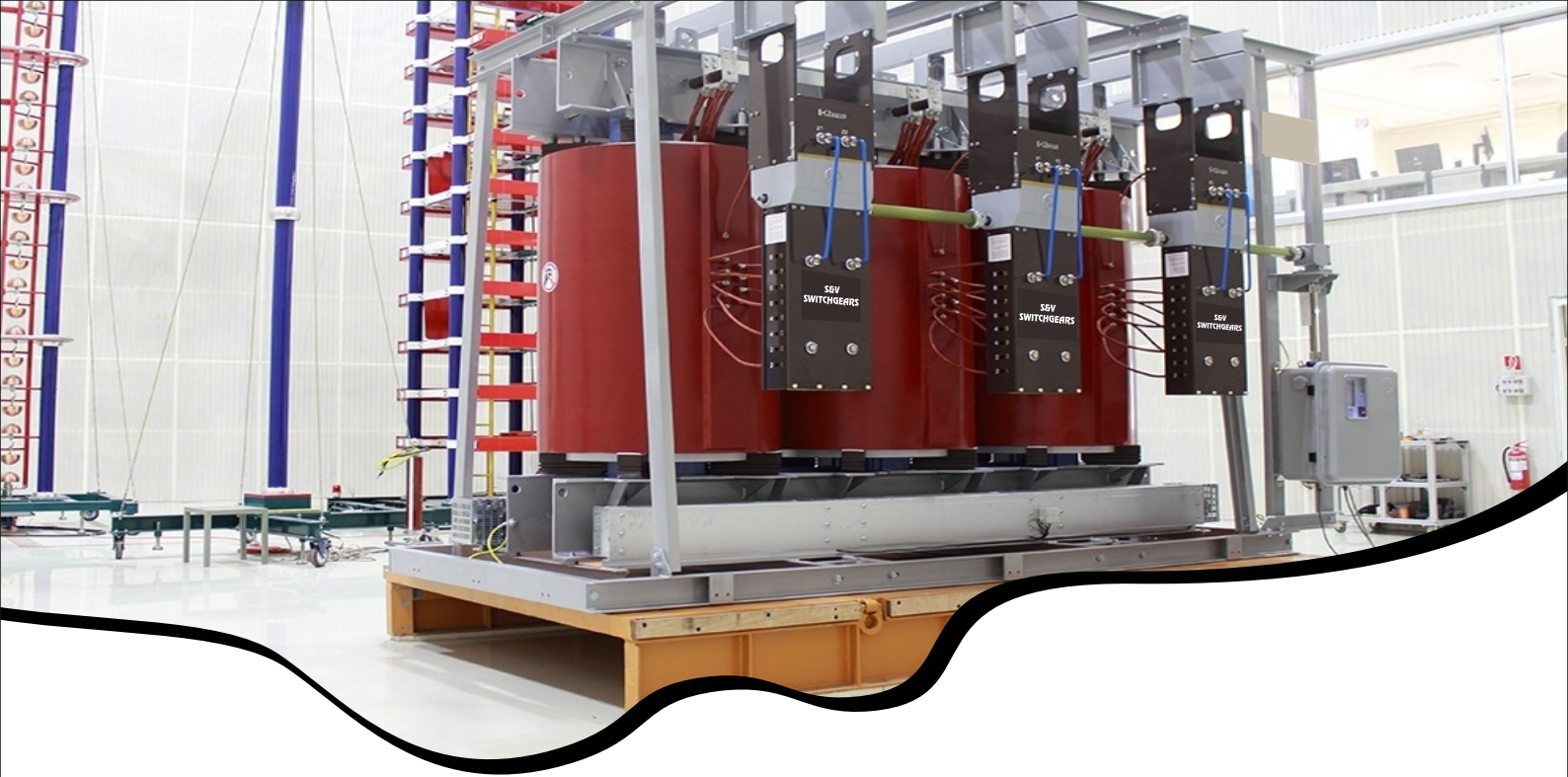
Single Phase Transformer	*7.5% of the Maximum Total Loss values given in above table
Three Phase Transformer	+5% of the Maximum Total Loss values given in above table

Maximum Total Losses above 22 kV upto & including 33 kV Class Transformers (As per IS: 1180 (Part-1): 2014)

Single Phase Transformer	+10% of the Maximum Total Loss values given in above table
Three Phase Transformer	+7.5% of the Maximum Total Loss values given in above table

Permissible Limit of Temperature Rise (As per IS: 1180 (Part-1): 2014)

Particulars	Oil Temperature Rise	Winding Temperature Rise
Upto and including 200 kVA, 33 kV Class transformer	35°C	40°C
From 250 kVA, upto including 2500 kVA, 33 kV Class transformer	40°C	45°



VPI DRY TYPE TRANSFORMERS

S&V Switchgears Environment friendly VPI (Vacuum Pressure Impregnated) Dry type transformers upto 3 MVA, 33 kV class are designed, manufactured and tested at S&V Switchgears owned production units, and are most suitably meant for safe & trouble free performance in challenging conditions.

These transformers are fitted in powder coated enclosure with IP Degree of Protection. No chances of spillages and leakages due to no oil involved. In case of fire, minimal non toxic smoke & gases are emitted this enables it environment friendly.

VPI Dry type transformers are preferably used in fire hazardous places, humid & chemically polluted atmospheres

Technical Specification

Ratings

3 Phase, Up to 3000 KVA,
33 kV Class

Vector Group

Dyn11/Dyn1/VNyn or as
per customer specification

Applicable Standards

IS: 1180, 2026, 11171
& IEC: 76

Insulation

Class For H/C

Application

Indoor/Outdoor

Core

Prime CRGO with Step-lap
Design for Low Losses
& Current

Frequency

50/60 Hz

Winding

Electrolytic grade copper
(with Enameled & Nomex
Insulation)

Cooling

AN/AF

Tapping Switch

On load tap changer (OLTC)/Off
circuit tap changer (OFTC)/Off
circuit tap links (OFTL)

UNITIZED SUB-STATION

In response to the customer demands for various applications, S&V Switchgears offers qualitative range of PSS (Package Sub-station) or USS (Unitized Sub-station) Transformer from 200 KVA to 1250 KVA in 11/ kV class conforms to IEC 62271-202 standards

Unitized Substation/simplifies conventional substation design through compact arrangement in powder coated enclosure with IP Degree of protection. Substation housing is divided into three compartments i.e. HV, Transformer & LV compartment, with specially designed ventilation opening facilitates air circulation for enhanced cooling

Technical Specification

HV Compartment

MV Switchgear - Ring Main Unit (RMU)

Vacuum / SF6 Circuit Breaker,
RMU & HV Fuse.

RMU & Load Break Switch

Protection & Metering Devices.

CT & PT for lifetering/Protection

Transformer Compartment

Oil Immersed Transformer

(Hermitically Sealed
Conventional Type)

With OFTC/OLTC

OR

Dry Type Transformer (VPI

LV Compartment

LV Distribution Board

LT Control Panel with Incomer
ACB & Outgoing MCCB

APFC Panel

LV Switch fuse unit

Instrumentation and Metering

Internal Lightning, Door Limit Switches & Locking Arrangement





Testing Facilities

S&V Switchgears testing lab is fully equipped with advanced and automated testing facilities, which confirm with the applicable National and International testing standards. All transformers are subjected to routine tests at various stages. We encourage our clients to witness all the routine and final tests to their utmost satisfaction. Calibration of all testing instruments is carried out at regular intervals from NABL Accredited Labs. Svasca in house testing facilities cover following Routine/Special tests:

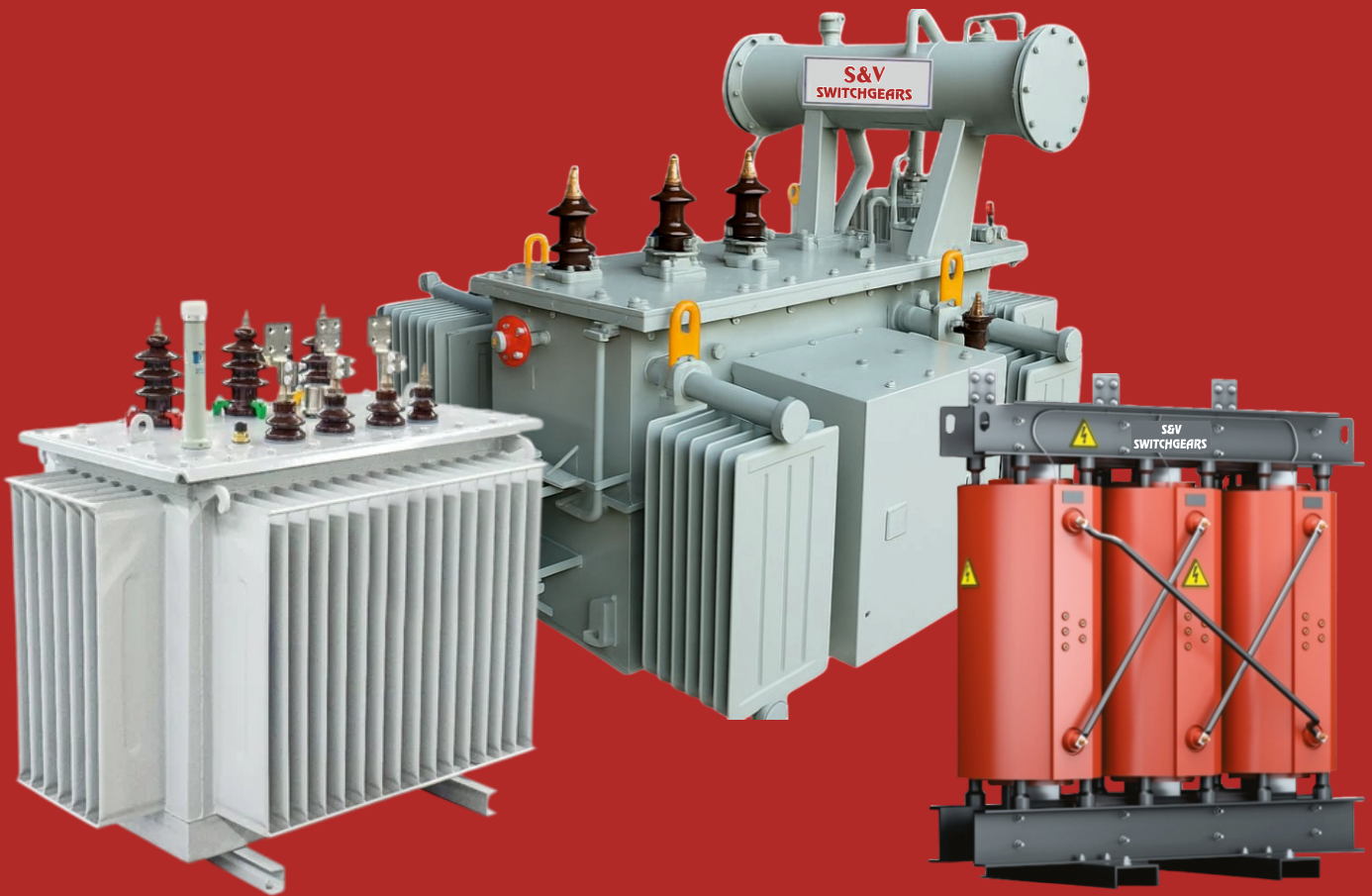
- Measurement of Insulation Resistance
- Measurement of Voltage Ratio
- Checking of Voltage Vector Relationship
- Measurement of Winding Resistance
- Separate Source Voltage Withstand Test
- Induced Over-Voltage Withstand Test
- Measurement of No Load Loss and Magnetizing Current
- Measurement of Short Circuit Impedance & Load Loss
- Unbalance Current
- Magnetic Balance Test
- Temperature Rise Test
- Measurement of Polarization Index
- Measurement of Acoustic Sound Level
- Measurement of the Harmonics of No Load Current
- Measurement of Zero Phase sequence Impedance
- Measurement of Tan Delta and Capacitance
- Air Pressure Test
- Vacuum Test
- Oil Leakage Test
- Oil Dielectric Test
- Tan Delta, Resistivity and Acidity of oil
- Paint Adhesion Test
- Measurement of paint thickness

In addition to the above Routine/Special tests, as per customer specifications and requirements, Special tests and Type Test i.e. (Short Circuit withstand and Lightning Impulse voltage Test etc.) are also conducted at NABL Accredited lab i.e. CPRI, ERDA, NTH.





S&V SWITCHGEARS



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