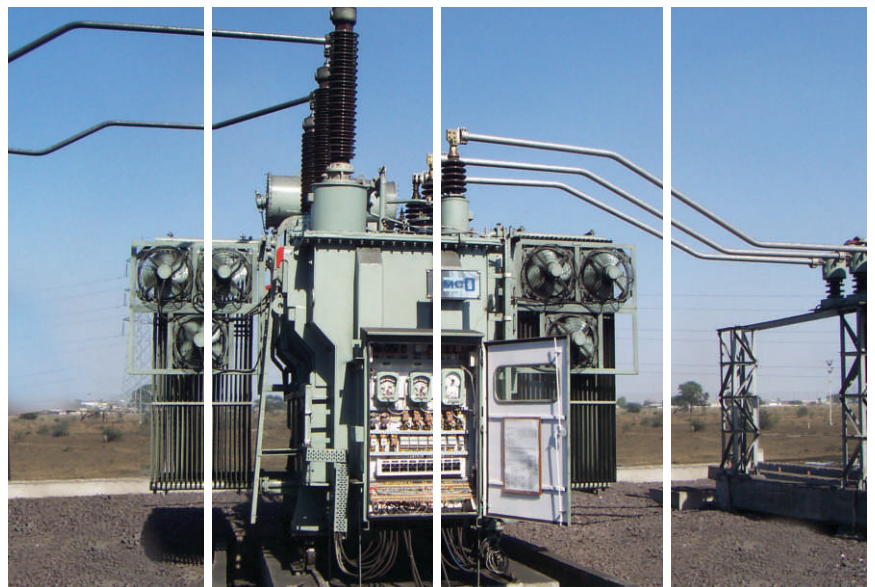


# Transformers

From the Lowest to Highest  
Ratings and Voltages



- Distribution Transformers
- Power Transformers
- Furnace Transformers
- Cast Resin (Dry Type) Transformers
- Containerised Secondary Substations (CSS)



## INTRODUCTION

Our aim is to provide a comprehensive range of highly reliable POWER equipments to Utilities, Contractors, Industry users, OEMs and Projects.

With the right mix of T&D products, a WORLD-CLASS Team and a REPUTABLE name for engineering and project management, we can provide you with the ideal solution for your particular power supply & distribution networks, whether standardized or customized.

Buying equipments from New India Electricals means gaining a partner you can rely on for your equipment's life time. We shall help you make decisions regarding your needs right from the early design stage, to the actual delivery phase and throughout its life cycle.

Our field of expertise covers the entire END-to-END solution for POWER DISTRIBUTION & TRANSMISSION upto '400KV. Design, Manufacture, Source, Supply, Erect, Test, Commission, Handover & Maintain.

Our equipments are manufactured under the most stringent quality processes with a clear focus on performance and longevity. This is why we source sub components from global leaders like ABB, AREV A, SIEMENS, ALSTHOM and the like.

We design and manufacture transformer with a simple philosophy of: Longevity & Reliability. Our Specifications conform to relevant IS / BS & IEC Standards. Our units are designed to withstand a higher degree of electrical impulses, short circuit forces, thermal and dynamic stresses. With Optimum utilization of active material we achieve compactness & efficiency in performance. With special design features developed over many years of practical experience we are able to offer trouble-free performance during surges & frequent short circuits. By Standardising manufacturing techniques we ensure cost effectiveness & reliability in performance.

## DISTRIBUTION TRANSFORMERS



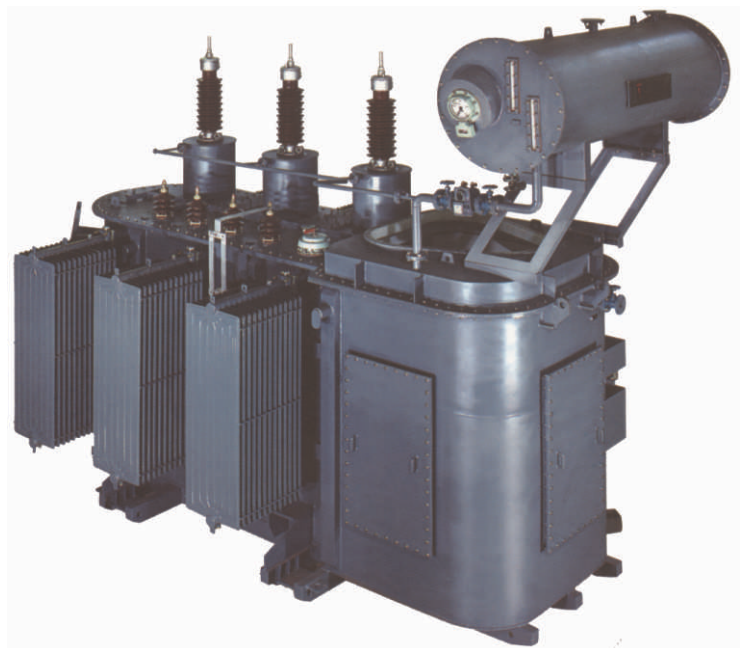
### SPECIFICATIONS

- 3Phase, 50 Hz in voltages of 11 kV, 22kV and 33kV
- Off-circuit tap changer to provide +5% to - 10%
- On-load tap changer to provide +7% to - 21% taps in steps of 1.75%
- Class A insulated
- Vector group Dyn 11
- Continuous duty
- Copper wound / Aluminium wound
- Painting as per IS / IEC standards
- HV side cable box
- LV side cable box / bus duct
- Standard fittings as per IS 2026 / IEC 76

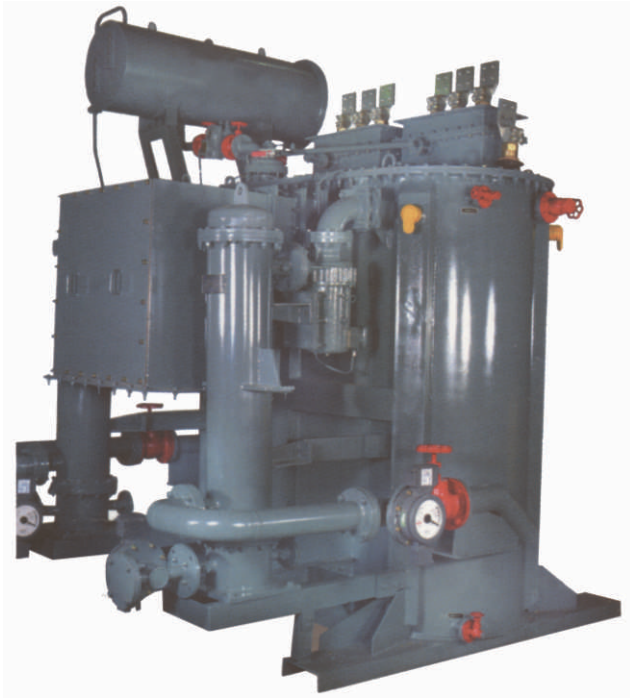
## POWER TRANSFORMERS

### SPECIFICATIONS

- 3Phase, 50 Hz in voltages of 11 kV, 22kV and 33kV, 66kV & 111kV
- Off-circuit tap changer to provide  $\pm 5\%$  to  $- \pm 7.5\%$  &  $\pm 5\%$  to  $- 10\%$  taps in steps of 2.5%
- On-load tap changer to provide  $+ 5\%$  to  $- 15\%$  taps in steps of 1.25%
- Class A, uniform / non-uniform insulated
- Vector group Dyn 11, YNd 11, YNyn 0
- Continuous duty, double copper wound
- Painting as per IS/IEC standards
- Both HV & LV side outdoor bushings or cable boxes
- Cooling radiators / fans.
- Standard fittings as per IS / IEC standard df
- Buchholz relay with alarm and trip contact with shut off valves
- Oil temperature indicator with alarm and trip contact
- Magnetic oil level gauge with alarm contact
- Mashalling box to house oil temperature indicator and winding temperature in dicator
- Cooler control unit
- Neutral current transformer



## FURNACE TRANSFORMERS



### SPECIFICATIONS

- 3Phase, 50 Hz in voltages of 11 kV, 22kV and 33kV
- Off-circuit tap changer to provide  $\pm 5\%$  to  $\pm 7.5\%$  &  $+ 5\%$  to  $- 10\%$  taps in steps of 2.5%
- On-load tap changer to provide  $+5\%$  to  $- 15\%$  taps in steps of 1.25%
- Class A, uniform / non-uniform insulated
- Vector group Dyn 11, YNd 11, Dd0y11
- Continuous duty, double copper wound
- Painting as per IS / IEC standards
- Both HV & LV side outdoor bushings / cable box / bus ducts / bus bar risers
- Standard fittings as per IS / IEC standards

### MAIN FEATURES

- Transformers are designed for induction furnace, arc furnace & submerged arc furnace application
- Magnetic circuit - lamination CRGO M3 to M5 type
- Electric circuit - electrolytic grade 99.9% pure copper with transposition in LV coil for current sharing in parallel conductors
- Dielectric circuits - Electric grade press paper, boards and mineral oil
- Thermal circuit - adequate cooling ducts are provided radially & axially for the smooth flow of oil internally. Radiators cooling banks are provided for natural air cooling ONAN & additional fans for ONAF cooling. High current transformers are provided with OFW cooling

## CAST RESIN (DRY TYPE) TRANSFORMERS



### SPECIFICATION

- Cast resin dry type transformer 11 kV / 433 V, 3 Phase, 50 Hz
- Off circuit tap links  $+ 5\%$  in steps of 2.5%
- Class F and H insulation
- HV Delta connected, LV Star Connected with Dyn 11 vector group
- Natural air cooling and forced air cooling
- Duty cycle - continuous
- Winding - copper duly resin casted
- Enclosure - IP 23 to IP 33 and as per customer specifications
- Cable boxes on HV and LV
- Painting shades as per IS and IEC standards

Our Transformers come fitted with all standard accessories to make it a ready to install unit, additional accessories can be supplied on request

35 years of existence in the market, laced with long-lasting partnerships with business partners are the best proofs of performance, reliability and credibility. Some of our prestigious product partners are:



ABB



SIEMENS

KALNIFE

ALSTOM



Power+



## CONTAINERISED SECONDARY SUBSTATIONS (CSS)



Designed in accordance with IEC 61330 standards, NIE's CSS is a prefabricated secondary substation with type-tested equipment and includes a distribution transformer, medium voltage switchgear, low-voltage switchboard, connections and associated equipment in a compact unit. Our CSS is designed keeping in mind high levels of personal safety and aesthetics as they are often located in high density, urban centres.

All components are housed in an enclosure, which protects the equipment against environmental hazards and unauthorized access. The enclosure is typically divided into three section or compartments-medium voltage switchgear, low voltage switchboard and distribution transformer. The substation can be operated from the inside or from the outside. The electrical equipment is cooled by natural ventilation through openings in the substation.

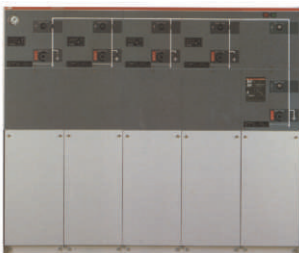
The standard degree of protection for CSS is IP23D in accordance 'with IEC 60529 standards. If required CSS can be supplied with door that company with IP54 standards, by including gaskets and excluding the door ventilation openings.



### SAILENT FEATURES

- Design conforms to IEC 62271 - 202 standards
- The compartmentalized construction prevents accidental entry to energized areas
- Meets IP53 / IP23 degree of protection
- Tailored configuration to customer needs
- Designed to withstand electrical impulses, thermal and dynamic stresses
- Variety and choices for MV / LV switchgear
- Low power loss and low noise transformer
- Number of feeders for LV can be customer specific
- Easy to install
- Delivery ready for commissioning
- Modern manufacturing techniques ensure cost effectiveness, reliability and long trouble free performances

## EQUIPMENT IN OUR CSS MEDIUM VOLTAGE SWITCHGEAR



Our CSS range has been designed using ABB's medium voltage switchgears. This consists of SafeRing, a Ring Main Unit (RMU) that can be supplied in various configurations and SafePlus a design that offers extendibility and fully semi modular configuration possibilities.

SafeRing / SafePlus are delivered as a completely sealed system with a stainless steel tank containing all the live parts and the switching equipment. Constant atmospheric conditions in the sealed tank ensures a high level of reliability, safety and a virtually maintenance free system.

The range of medium voltage switchgear includes both pre-configured and fully configurable gas-insulated solutions.

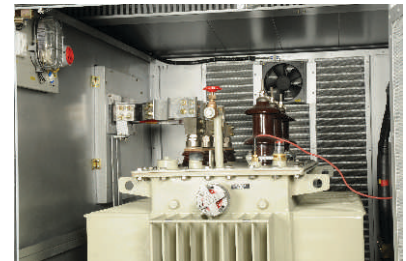
A high level of personal safety is ensured using type tested equipment.

## DISTRIBUTION TRANSFORMER

Our CSS are designed to house distribution transformers upto 1250 KVA / 24 KV:

- Oil-insulated model, hermetically sealed
- Oil-insulated with oil conservator

These can be supplied with a pre-installed distribution transformer. The possibility of lifting the substation with the transformer depends on the type of station, the relevant solution and the transformer size.



## LOW-VOLTAGE SWITCHBOARD

Our CSS is designed to house various low voltage solutions in accordance with standard norms and regulations. We use ABB T products to put together a robust and reliable switchboard.

