



UPTO
30%
Power Saving Transformer
Compare to Current
NEA Design



K.B ELEX PVT. LTD.

Manufacturers of Power & Distribution Transformer, Wires & ACSR Conductor

K.B ELEX PVT. LTD

K.B. Elex Pvt. Ltd. is one of the biggest companies in the electrical industry, registered under the Nepal government. It products array comprises of Power & Distribution Transformers, ACSR Conductor, Enameled Copper Wire, PVC Insulated wire and Power Cables. K.B Elex is an ISO: 9001-2015 certified company, the company has gained the reputation of being one of the best in Quality Company in the Nepal Power sector; and is setting a new benchmark in quality and versatility.

Our product are required for Electricity line distribution, Hydro power Projects, House wiring and other infrastructural development projects of country. The products are available in many sizes, capacity and other specifications as per the requirement of clients.

At K.B. Elex, we constantly strive to bring greater happiness to our customers through best in class products and services. As a result we are consistently supplying products to all major National Government projects as well as International projects. Nepal electricity Authority, Department of water Supply and Irrigation Govt. of Nepal projects are to name a few from our major clients.

At K.B. Elex, we believe that our competitive edge lies in product innovation as well as superior quality and ready availability. For this, the company has highly experienced and qualified set of professionals, with strong adherence to the quality management system. Our manufacturing facilities are created to address these specific needs. Therefore, our timely delivery, extended assistance for choosing the right product and consistency in quality are the main reasons for our burgeoning success in the market.

PRODUCTS AND DETAILS



ACSR Conductor

1

Distribution Transformers

Elex transformer offers a complete range from 10 KVA to 3000 KVA of the voltage class 11kv/400v, 33kv/11kv, 33kv/400v of power and distribution transformers designed to grant the reliability, durability, and efficiency required in utility, industrial and commercial applications. Elex's liquid-filled transformers are manufactured in accordance with the most demanding industry, international and NEA standards. Transformers can be used for indoor or outdoor applications and can be provided with off-load and on-load tap changers.



2

Small Distribution Transformers

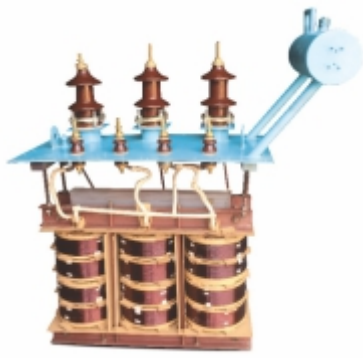
Small distribution transformers are typically oil-immersed and suitable for pole-, pad- or ground-mounting. They represent an economical option for certain networks, particularly those with low population densities.

Depending upon requirements, transformers may be connected between two phases of a three-phase system (two high voltage bushings) or from one phase to ground (single high voltage bushing).

The units are suitable for residential overhead distribution loads, as well as light commercial or industrial loads and diversified power applications.

Product scope

- ▶ Primary voltage: up to 33 kV
- ▶ Typical fluid: mineral oil



“ At K.B Elex,
we integrate best resources to provide
you Quality Solutions... ”

Available 30 Months warranty on Transformers

3

COMPARTMENTS

1

Core

Core, being the kernel and the key element of the transformers, is made of Cold Rolled Grain Oriented (CRGO) Magnetic silicon steel sheet of high quality Elex uses core which is high magnetic materials for NEA specified transformer.

MOH laser core is used for energy efficient low loss transformer, This makes it possible for Elex to design and produce rational, low-level loss transformers, which are durable to high magnetic induction. Advance designs with high precision yield production of low-level loss transformer cores, which are extremely resistance to high magnetic flux density.

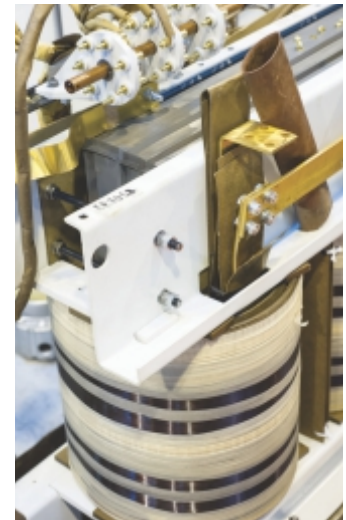


2

Coils

Cylindrical coils are used in power and distribution transformers since they possess a significant endurance as opposed to the power generated in the course of short circuit events. Except for the HV coils used in small type distribution transformers, LV and HV conductors are isolated in wire insulator machine with very high insulation materials. In coil production, environmental friendly, cellulose containing insulator materials are used.

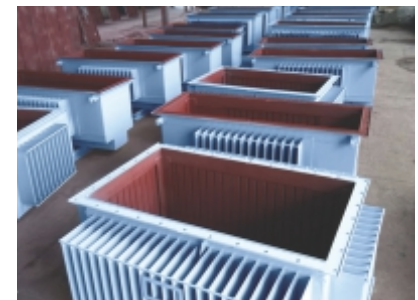
LV coil in distribution transformer are produced by using paper insulated Flat Copper strip. However HV coil production is achieved by using round enamel insulated copper conductor are wound to form layer type, disc type high voltage coils etc are the primary techniques used in Elex production facility.



3

Tank & Cover

The corrugated tank and cover production for power and distribution transformer are made in our plant. The tank and cover are made of high quality steel. Tanks and cover are manufactured with high tech equipment's in accordance with the technical parameters and drawings of the specific design and projects with high quality standards. Prior to body coating of the tanks, detailed leakage test is applied. In line with customer demands, bushing coverage and cable box production is also available in the standards of NEA.



AS PER NEA SPECIFICATION & APPROVED BY NEA

4

MANUFACTURING PROCESS

1

Paint

After passing through the testing process successfully, transformer tanks need to be refined from lubricant, dirt and dust in order to enhance the contact of the dyestuff to adhere to the metal surface. Metal parts are undercoated with special safety primers once or several times. Since transformer tanks are subject to tough air condition for long years, they are coated with 105 micron thick, climate retardant paints.

“Quality has to be caused, not controlled”

2

Assembly and Drying

Building components that are the active part of the transformers are assembled in the installation phase. Coils are placed in the core. Tap changer, bushing and all other connections are assembled. Some parts are subjected to additional isolation against excessive stress. Active parts are reinforced to gain extra mechanical durability. Following the installation process, active part is subjected to drying process; the tanks are placed in oven chamber to extract the accumulated moisture. The drying process takes, the insulation materials used in transformers is aged more. Immediately after drying, the transformers are tanked and filled with pre-dried, degassed transformer oil.



3

Transformer Oil

Each transformer is filled with high quality, clean and tested oil, which complies with BS148/84, IEC296 and NEA standards.

ACCESSORIES

- › Pole Mounting Brackets/Base Channels
- › Magnetic and Mechanical Oil level indicator
- › Air dryer (Dehydrating breather with silica gel)
- › Oil temperature indicator
- › Lifting Lugs
- › Earthling Terminal
- › Name Plate with connection diagram
- › Primary Bushings
- › Secondary Bushings
- › Draining Plug

Tests

- ✓ Type Test
- ✓ Temperature Rise Test
- ✓ Impulse Test
- ✓ Short Circuit Test

Routine Tests

Routine tests have been applied to every transformer, which is produced in line as per NEA and NS standards.

- › Measuring of voltage ratio and check of phase displacement
- › Measurement of winding resistance
- › Measurements of no load losses
- › Applied voltage withstand ability test
- › Measurements of Impedance and Load Loss
- › Measurement of insulation resistance (Megger test)
- › Leak testing with pressure for liquid immersed transformer
- › Transformer oil test
- › Insulation Resistance Test
- › Ratio Test
- › Short circuit Test

Tested in NEA Hetauda

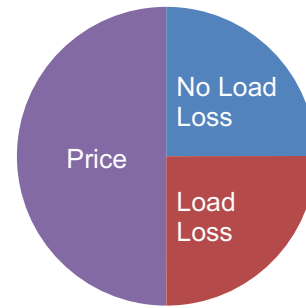
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Transformer Repair:

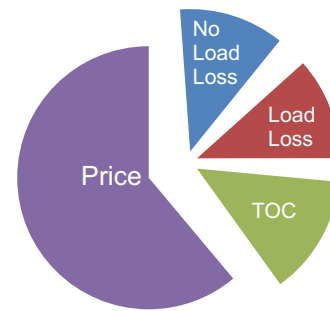
We offer effective emergency repairing services for correcting faults or failures faced by our end users that include power transformer repair, transformer repair services, etc. Also to meet the contingency, we make sure in providing prompt repair services and spares to replace the obsolete parts of the transformer.

We offer transformer-repairing services, which include transformer oil filtration and high tension repairing. These services offered by us are unmatched and reliable. To ensure speedy and efficient services, we have a team of technicians who ensure that the fault is repaired immediately.

Standard NEA Design



High-Efficiency Low Loss Design



Total Ownership Cost

Whilst Elex high efficiency Low Loss Transformer may be marginally little expensive than others but Elex are most cost effective in long term and over the whole of life. Cost effective transformer calculations should consider capital cost, energy costs, No Load Losses and Load Losses to calculate Total Ownership.

When you buy low cost transformer for a while you may feel that you have saved money, but in long run due to high Load Loss and High No Load Loss you end up paying high Electricity bills.

Elex Design 5 Star energy saving transformer might be expensive than others company transformer but due to its low loss design, your company will save on electricity bills in long run which will save 30% electricity compare to current available transformer in market.

CERTIFICATION

Quality Assurance

At KB Elex, our goal is not only to meet the needs of our customers today but also to provide them better life in the future.

Quality is an indivisible part of our work ethics and products. We use stringent quality norms for the manufacturing of our products. The impeccable quality of our products has helped us on achieving a great height of success.

Our stringent adherence to international standards of quality coupled with our constant penchant for innovations has seen us come out with incredible ideas. We take pride in our world-class infrastructure. We firmly believe in investing in quality machinery to deliver globally viable products. This is enabled by our quality assurance team, who maintains quality standards, cutting across every stage of production, right from the procurement of the material to the actual delivery and installation of Transformers.



➤ **Design & Engineering Control**

Any design and engineering change is controlled by manager design who reports to the Managing Director. Departments concerned are not authorized to deviate or make changes without documented approval from the manager.

➤ **Raw Material Procurements**

In general raw materials like Copper wires, Copper & rods, Electrical Switchgears & Accessories, Auto Transformers, Meters, Hardware insulating materials, plates / CRGO sheets / pipes / rounds etc. are being procured from reputed vendors / dealers.

➤ **Quality Control of Assembly, Wiring, And Testing**

Our quality control engineers lay down the manufacturing procedures and supreme pose inspection procedures stage wise. They release the job stage wise for further process.

➤ **Final Assembly Quality Control**

The job moves through the total Quality Control plan and is ready for assembly. Sub-assemblies are carried out and subjected for test and released for final assembly. The equipment's are subjected to rigorous trials for the parameters and performance. Where ever actual trial is not possible mock trials with alternative materials are taken. Only after complete satisfaction, these assemblies are carried for final assembly i.e., finished transformer.

➤ **Preservation Packing and Control**

The entire surface is painted with polyurethane paint for anti corrosive protection especially for humidity and for protection from water etc, With due care is packed for safe transportation to the destination for installation.

Transformer that is built to last



Aluminum Conductor

Aluminum conductor steel-reinforced is a type of high-capacity, high-strength stranded conductor typically used in overhead power lines. The outer strands are high-purity 1350 or 1370 aluminum alloy, chosen for its excellent conductivity, low weight and low cost.

Aluminum Conductor Steel Reinforced (ACSR) is concentrically stranded conductor with one or more layers of hard drawn 1350-H19 aluminum wire on galvanized steel wire core. The core can be single wire or stranded depending on the size. Steel core wire is available in Class A coding protection.

Elex manufacture and supply ACSR on Non-Returnable wooden reels or loose depending on customer requirement.

Features

- ✓ High Tensile strength
- ✓ Better sag properties
- ✓ Economic design
- ✓ Best suited for transmission lines with long spans

Specifications

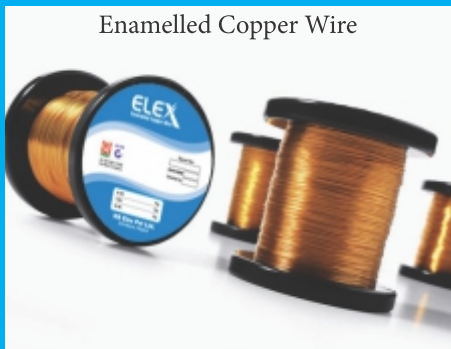
ACSR manufactured by Elex meets or exceeds the requirements of international standards like BS, IS and NS etc.



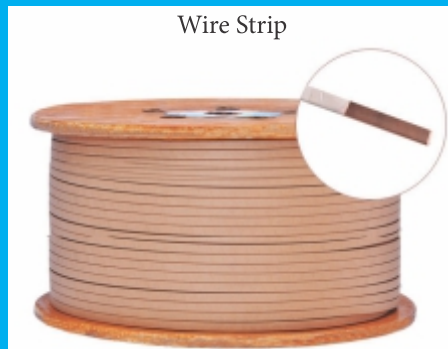
www.bnmahtogroup.com

A Manufacturer of
Distribution Transformer, ACSR Conductor, PVC Insulated Cable, Enamelled Copper Wire and Wire Strip.

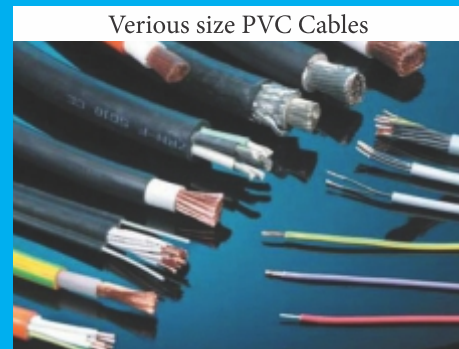
Enamelled Copper Wire



Wire Strip



Verious size PVC Cables



Factory & Head Office:
Mujeliya, Janakpur, Nepal
Ph: +977 41 229026, 41 527103
Fax: +977 41 522272
E-mail: info@bnmahtogroup.com