



AL SHIVAVI GROUP FZCO



TRANSFORMERS, PACKAGE SUBSTATIONS, CONTROLS & PANELS

Our Products and Services :-

- POWER TRANSFORMERS
- DISTRIBUTION TRANSFORMERS
- DRY TYPE (CRT/VPI) TRANSFORMERS
- SKID TYPE SUBSTATIONS
- PACKGAE/MOBILE SUBSTATIONS
- LT SWITCHBOARDS/ CONTROL PANELS
- BUS DUCT/ RISING MAIN
- CABLE TRAYS
- SERVICE & SUPPORTS



AL SHIVAVI GROUP FZCO



AL SHIVAVI GROUP FZCO is a Dubai-UAE based company with highly experienced professionals having more than three decades of versatile experience. AL SHIVAVI GROUP FZCO offers a wide range of best quality products in Energy Sector including Solar Energy. We gained a reputed position in this market because we supply reliable and good quality products tested by our professionals. We don't compromise on the product quality as we use high quality raw materials.

We maintain long standing partnerships with leading technology suppliers, we offer technology solutions that best meet our client's needs. Being one of the largest manufacturers of electrical control solutions, We offers high value panels, short lead times, and exceptional quality. Our manufacturing operations are well known & listed in each segment of user, and recognized for a long-standing commitment to safety and operational excellence. Our world-class manufacturing space is flexible to accommodate a wide range of projects and thus allows us to decrease lead times, and expedite control panel deliveries without negatively impacting quality. Our manufacturing units are located in different geographical locations in world.

- Designing and developing control panels for industrial and utility applications is a multi-step process that requires attention to detail. Build to print; we have produced virtually every type of panel – low voltage control panels, motor control panels, substation panels including simplex, duplex and freestanding enclosures, modular racks, as well as entire substations.
- As a first step, we review all customer documentation and identify potential inconsistencies that can become an obstacle to success. Our engineering services group creates detailed, dimensioned control panel layout drawings, bills of materials, including quantities and part numbers; and full machine, process, and panel one-line diagrams and schematics.
- Once approved, we move into full production following our time tested quality procedures every step of the way. Our workmanship and attention to detail ensure that shipments are of the best quality and made exactly to your specifications.
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AL SHIVAVI PRODUCTS & RANGE

POWER TRANSFORMERS (3.15 MVA to 80 MVA)-132 KV

A power transformer is a passive electromagnetic device that transfers energy from one circuit to another circuit by means of inductive coupling. Power transformers differ from other transformer types in that they are. A power transformer is used primarily to couple electrical energy from a power supply line to a circuit system, or to one or more components of the system. A power transformer used with solid state circuits is called a rectifier transformer. A power transformer's rating is given in terms of the secondary's maximum voltage and current-delivering capacity.



DISTRIBUTION TRANSFORMERS (25 KVA to 2500 KVA)-11,22,33 KV

A distribution transformer or service transformer is a transformer that provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines to the level used by the customer.



LT TRANSFORMERS (DRY TYPE 10 KVA to 1 MVA)-UPTO 1.1 KV

Three phase or single phase dry-type low voltage (LV) transformers are used as isolation transformers or to adjust the voltage level in the LV distribution grid. The windings are made of aluminium or copper and impregnated with epoxy resin of thermal class F or H by simple or vacuum pressure impregnation (VPI).

Our low voltage transformers are widely used in industrial applications and in commercial and public buildings. They are also used for adjusting the voltage from 690 V to 400 V or as isolation transformers with a voltage ratio of 1:1, providing galvanic separation. Dedicated products are available for various applications in renewable power generation including: – Wind or photo voltaics – Transportation (i.e., marine or railways) – Uninterruptible power supply (UPS) – Chemical, oil and gas industry – Converters



Ratings :

- No. Of Phase : 3 or 1
- Rated Power : 10 KVA to 1000 KVA (Other on request)
- Primary / Secondary Voltage : 220, 230, 240, 380, 400, 415, 600, 690 Volts
- Frequency : 50, 60 Hz



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AL SHIVAVI PRODUCTS & RANGE

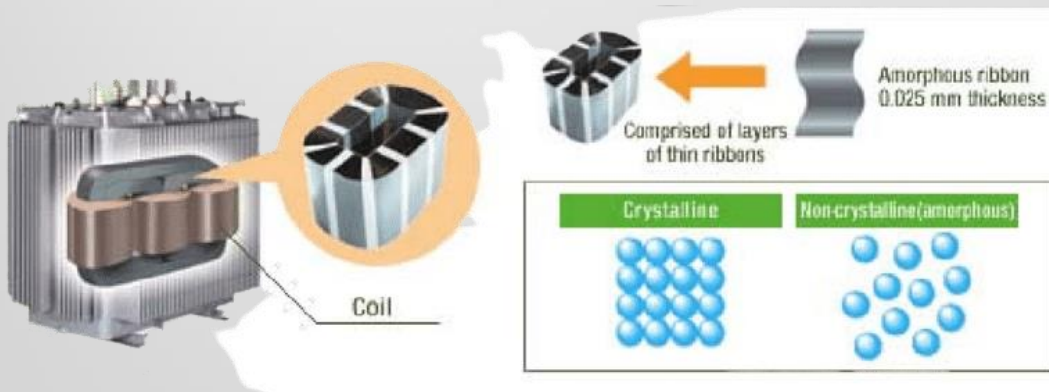
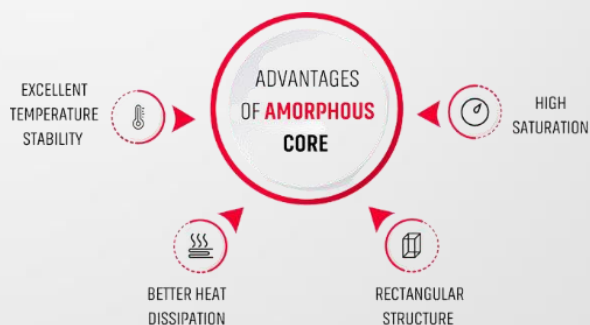
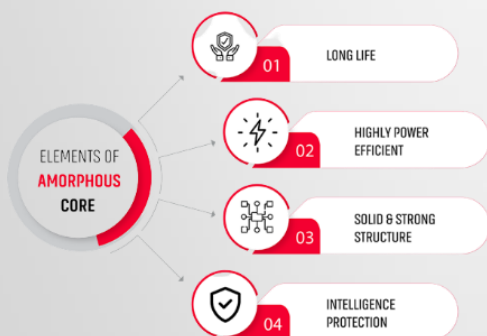
ENERGY EFFICIENT AMORPHOUS CORE

The Amorphous Core is a soft magnetic material. It is produced through the advanced technology of rapid solidification of molted metal. It consists stacks of laminations that are made from silicon steel. Amorphous core contains excellent magnetic properties, mechanical properties, high electrical resistivity, and electromechanical properties.



USAGE

Amorphous cores are widely used in electrical power system such as distribution transformers and inductive devices because of low core loss. It has an attractive core contained ferromagnetic shapeless metal alloyed. This lace of steel is twisted to shape the core of the transformer. The material utilized as a part of amorphous core transformers has high attractive vulnerability, low connectivity, and high electrical resistance.





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AL SHIVAVI PRODUCTS & RANGE



ANTI THEFT

DRY TYPE TRANSFORMERS

(100 KVA to 5MVA)-UPTO 33 KV



NO OIL

We deal in both types of dry type transformers which are CRT (Cast Resin Dry Type Transformer) & VPI (Vacuum Pressure Impregnated Transformer) .

CRT (Cast Resin Dry Type Transformers)

Cast resin dry type transformer (CRT) is used in the high moisture prone areas. It is because of its primary and secondary windings are encapsulated with epoxy resin. This encapsulation helps to prevent moisture to penetrate to affect the winding material. Complete protection is achieved by this cast resin encapsulation so that the transformer can work without disruption in highly moisture prone area. Thus this transformer is non hygroscopic. This type of transformer is available in ratings of 25 KVA to 5000 KVA. with insulation class of F (90°C Temp. Rise).

Some advantages :-

- Better over load capacity.
- Low partial discharge along with low loss. Hence efficiency is very good.
- As it is with non inflammable winding insulation, it offers zero risk to fire hazard. So it is suitable for indoor installation.
- Can be fitted outdoor in IP 45 enclosure.
- And off course non hygroscopic.



NO OIL

VPI (Vacuum Pressure Impregnated Transformers)

This type of transformer is made with minimum flammable material as insulation of windings. The windings of this transformer are made in foil or strip in a continuous layer. But for higher voltages, the winding is made of disks that are connected in series or parallel as per power rating with respect to voltage level.

The insulation of the winding is void free impregnation that is made with class H polyester resin. The primary and secondary winding with core are laced safely within a vacuum protective box. Moisture Ingress Protection is high and it never gets affected by moisture.

This type of transformer is available from 5KVA to 5 MVA with insulation grade F(155°C) and H(180°C). It's with Protection up to Ip56.



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Advantages of Dry Type Transformer:

- High mechanical strength.
- Void free insulation.
- No temperature fluctuation.
- Easy maintenance.
- Less prone to fire hazard.
- Safety for people and property.
- Maintenance and pollution-free solution.
- Easy installation.
- Side clearance is less.
- Environmentally friendly.
- Excellent capacity to support overloads.
- Reduced cost on civil installation works and fire protection systems.
- Excellent performance in case of seismic events.
- No fire hazard.
- Excellent resistance to short circuit currents.
- Long lasting due to low thermal and dielectric heating.
- Suited for damp and contaminated areas.



ANTI THEFT



NO OIL

Application of Dry Type Transformer:

- Chemical, oil and gas industry
- Environmentally sensitive areas (e.g. water protection areas)
- Fire-risk areas (e.g. forests)
- Inner-city substations
- Indoor and underground substations
- Renewable generation (e.g. off-shore wind turbines)





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THE MANUFACTURING STAGE OF TRANSFORMER

CRGO LAMINATION

The magnetic core of the transformer is built-up of cold rolled grain oriented (CRGO) steel lamination. Hi-B grade (Domen Refined) lamination is used to reduce the no load losses & noise level of transformer. Lamination are cut at an angle of 45Deg, Core Leg & Core yoke laminations are interleaved in mitred joints in order to facilitate the passage of magnetic flux & to avoid hot spots & reduce No Load Losses, No Load current & noise level.



Coil Winding

The windings are designed to optimize dynamic, thermal, mechanical & electrical stresses depending upon the current & voltage requirements. Spiral crossover, Helical continuous disc, Fully or partly interleaved winding are used depending on the specific design criteria. The winding machines are equipped with hydraulic break system which ensures the proper tension is maintained during the winding. Individual coils are dried & pressed to size in accordance with the calculated short circuit forces to obtain the design height & to guarantee full short circuit resistance.



Core & Coil Assembly

The magnetic core with the windings and some accessories fitted together forms the active part of the transformer. The windings are slipped over the core legs & laminations of the upper yoke are interleaved. All connections between windings and bushings & tapplings to tap changer are made. the tap changer allows the increase or decrease of a certain no of turns in the high voltage winding in order to compensate for a voltage drop or to adopt the transformer to an unstable supply, so that the rated low voltage can be maintained. Subsequently the top cover, on which the bushing for high voltage and low voltage are already fixed, is fitted.



Drying/Heating

A transformer may contain no trace of humidity; otherwise there will be a danger of flash over within the windings. The active part of transformer is completely dried before transformer is filled with transformer oil under vacuum.



Tank

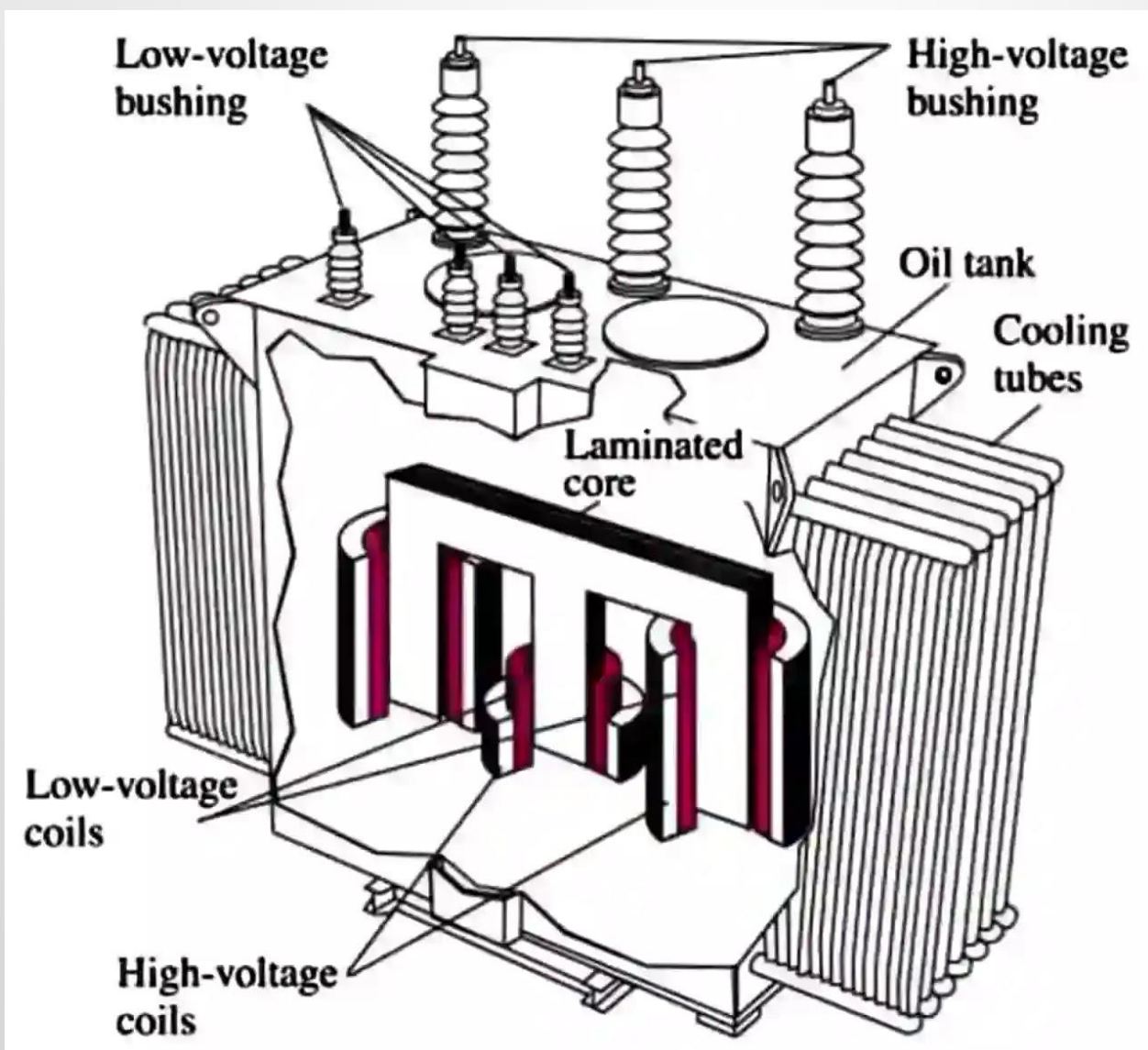
Our tank design is fully computerized. The computer determines the optimum size and the number and location of required tank supports. Occasionally the corners of the tank will be rounded off to further reduce the transformer weight without sacrificing quality and reliability. The objective is to reduce the tank size and weight as much as possible, which facilitates easier handling, transportation, assembly and installation on site. All tanks are designed to withstand full vacuum and are manufactured from high- quality steel plate. The transformer can be designed with a welded or a bolted cover or as a bell type tank.





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TRANSFORMER PARTS





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TESTING



All transformers are subject to all routine tests in our sophisticated laboratory at factory confirming to latest national and international standard specifications. Tests are intended for use for the basic validation of design & basis for performance, safety & reliability of the transformers. All transformers are subject to all routine tests.

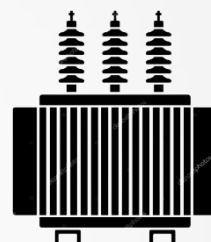
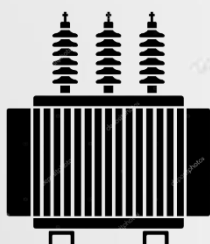
This includes following tests which is in-house facilities:

- Insulation Resistance Test
- Resistance measurement of winding
- Turn ratio Test
- Polarity and phase sequence test
- No load losses & Impedance voltage test
- Load loss measurement
- Insulation of oil test
- Dielectric test
- Leakage test of transformer tank
- DVDF of test
- Switchgear testing
- Relay Testing
- Wiring Testing
- High Voltage Test
- Temperature rise
- Other test as per client request





AL SHIVAVI GROUP FZCO



VISION

Our vision is to become a leading solution provider to our customers. We will achieve this through excellence in service, innovation and providing our customers the cutting edge Engineering.

MISSION

MISSION Our goal is to achieve customer satisfaction through excellence in design, supply chain management, manufacturing and repair solution.

ETHICS

We are committed to highest standards of integrity, behaviour and ethics in dealing with all stakeholders, including our shareholders, joint – venture partners, employees, customers, suppliers and society at large.



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AL SHIVAVI PACKAGE STATION



SAVE THE SPACE.....



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AL SHIVAVI PACKAGE STATION
GALLERY





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Package Substation (PSS / USS)(Range 100KVA to 2000 KVA) - up to 33 KV

Package substation (PSS) is ready to use application power station, it save the time, space & money, there are following type of PSS are being manufacture :

Type-1550: In this type of PSS capacity is 100 to 315 KVA voltage up to 33 KV

Type-2000: In this type of PSS capacity is 400 to 1600 KVA voltage up to 33 KV

Type-2400: In this type of PSS capacity is 500 to 2000 KVA with on load tap changer

PSS can be supplied with APFC or Metering system, also with several outgoing as per client requirement. RMU may be 1-way, 2-way or 3-way

Compact / Unit substations are self – contained units available in different designs and dimensions.

Each unit comprises the following assemblies:

- One hermetically sealed transformer / Dry type Transformer.
- One metal clad SF6 / oil insulated ring main unit (1-Way- 3 way)
- One metal clad low voltage distribution panel

Special Features :

- Metal clad housing with Alu zinc or hot dipped galvanised steel
- Lockable doors
- Powder coated finis
- Lifting lugs
- Max. degree of protection – IP 5
- Sand ingress ventilation louvers

Transformer:

- Hermetically sealed with corrugated fins or radiators
- Mineral Oil, Silicon fluid or Vegetable Oil
- Dry Type Transformer (VPI & CRT)
- With & without OLTC & AVR Panel

HV Switchgear:

- SF6 insulated Ring Main Unit
- Oil insulated RMU
- Oil / SF6 Insulated load break switch
- Air or Vacuum insulated fused Load break switch
- Any one of the above can be offered.

LV Switchgear:

- Incoming breaker or insulator up to 5000A (motorised or manual)
- Outgoing breakers / Fuse switches.
- Computerised load monitoring relay (on request)
- Instrument transformers and metering

TECHNICAL PARAMETERS

- KVA : Up to 2500
- Phases : Three
- HV rating : up to 33 kV
- LV rating : up to 1000V
- BIL : up to 200kV
- Vector group : Dyn 11 * (Other vector groups available on request)
- Frequency : 50 Hz, 60 Hz, 50/60Hz



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HV SWITCHGEAR

OUTDOOR



SF6 insulated with vacuum circuit breaker protection

Characteristics:-

- 36KV with upto 630 A rating
- Extensible and Non-Extensible Range with wide choice of configurations.
- Any configuration of load break switches.
- AF and AFLR internal arc protection.
- Intuitive single line diagram.
- Horizontal cable terminations.
- Front access earth and test facility.
- Vacuum circuit breaker protection for relays.
- Fully interlocked, anti-reflex mechanisms with padlocks.
- Maintenance free with long life.

INDOOR





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LV SWITCHGEAR



Characteristics:-

- Incoming breaker or Insulator upto 5000A (motorised or manual)
- Out going breaker/Fuse Switches.
- Computerised mode monitoring relay.(on request)
- Instrument transformer and metering.
- Customised LV.
- Fully interlocked.
- Maintenance free with long life.



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MV/VCB Control Panel (Indoor & Outdoor Application)

- We provide vacuum circuit breaker (VCB) Panel up to 33 kV with following technical parameters:
- Maintenance free design • Horizontal draw out and isolation
- Positive racking mechanism
- Interlocks to prevent insertion/withdrawal of closed CB
- CB can operate in test or service position only • Identically rated CBs are fully interchangeable
- Easy retro fitting with cassette system • As per IEC60056/IS 13118/IEC 62271-100
- Rated Voltage (kV): 12 / 24 / 36
- Insulation level (kVrms/kVp): 28/75- 50/125-70/170
- Rated Current (A): 1250-2500 / 1600 / 1600
- Braking Capacity (kA): 18.5-40 / 40 / 26.2 • other details on request.....





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"PACKAGE SUBSTATIONS APPLICATION AREAS"



HOSPITAL

SCHOOL COLLEGES



CORPORATE BUILDING



MALLS





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SKID MOUNTED SUBSTATION



Skid Mounted Substation (SMS) which contains of RMU as per client requirement, Transformer, Low Voltage Distribution Board/Low Voltage Feeder Pillars following on a skid base. Substation includes a skid base that by default is constructed to a very robust and proven design ensuring they are capable of being towed or pushed into position in adverse conditions. The base is usually hot dipped galvanized and can be provided with towing bollards, floating axles, removable rubber wheels etc.

Rating for skids:-

100KVA to 6MVA upto 33KV.

SPECIAL FEATURES:-

- Containerized design for easy moment.
- Four Side Lockable doors.
- Protective Barricades.
- Ready to use outdoor type substation.
- Fully tested at plant.
- Fully protections as per site requirements.



AL SHIVAVI GROUP FZCO

AL SHIVAVI FABRICATION WORKSHOP

We have specialized fabrication workshop for power & distribution Transformer Tank, Frame parts, Enclosure, CT PT Tanks, special fabricated items & other as per customer requirements.





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AL SHIVAVI LT CONTROL PANEL



PCC PANEL

MCC PANEL

AMF PANEL

APFC PANEL

VFD PANEL

PLC PANEL





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SPECIALS:-

- Latest design concepts & manufacturing processes.
- Unique techno modular construction with CRCA sheet steel.
- Fully compartmentalised.
- Suitable for indoor installations.
- Fixed Type-available in single/double front execution.
- Draw Out Type-available in single front / double front execution.
- PU Foam gasket-can withstand temperatures from -40°C to +120°C.
- 7-10 Tank spray based treatment-unique in the industry.
- RAL 2000 finishes or galvanised mounting plate options available.
- Up-to 4000A, 50kA horizontal bus bars with E91E grade Aluminium/Copper bus bars.
- Aluminium E91E grade vertical bus bars/higher ratings with electrolytic grade copper bus bars.
- Short Circuit withstands capability-busbar system suitable for 50kA for 1 sec. & 105kA peak.
- Powder Coating with RAL7032 (default) or other user specified structure finish for enclosures.



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PCC PANEL

Power Control Centre (PCC) is used for distribution and control of various power source used in industry. Normally PCC is installed near power source hence fault level is high. Busbar system in Power Control Centres are designed to suit the fault level as well as temperature rise to 40°C above ambient. Ample space is provided for cable termination. Various protections like short circuit, overload, earth fault, under voltage etc. are provided to protect source and equipment. Rating up to 6300 Amp



MCC PANEL

A motor control centre (MCC) is an assembly of one or more enclosed sections having a common power bus and principally containing motor control units. Motor control centres are in modern practice a factory assembly of several motor starters. A motor control centre can include variable frequency drives, programmable controllers, and metering and may also be the electrical service entrance for the building.





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AMF PANEL

Auto Main Failure Panels, also known as AMF panels, are used to automatically changeover from mains electricity supply to stand-by generator on failure of the mains supply. When the mains supply is restored, the system automatically changes back and stops the Generator. The stand-by generator will be eventually shut down after a short cooling down period.

We customised these panels (both automatic and manual modes) to meet client-specific requirements.



APFC PANEL

APFC or Automatic Power Factor Control Panels are mainly used for the improvement of Power Factor. Power Factor can be explained as ratio of active power to apparent power and it is a key factor in measuring electrical consumption. Use of these control panels becomes indispensable in those industries where electrical installations are meant to supply to large electrical load. Range up to 1600 KVAR, 230 – 525 Volts, IP-52, Switching – Contactor / Thyristor.





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DGS PANEL

We are actively involved in manufacturing of high performance DG Synchronisation Panel which comes complete with Controlling & Protection Relays capable of synchronising of more than one DG sets / with Mains & DG and with necessary protections. The offered product is precisely designed and manufactured by utilising optimum quality raw material and best technology.



VFD PANEL

A Variable Frequency Drive (VFD) is a type of motor controller that drives an electric motor by varying the frequency and voltage supplied to the electric motor. Other names for a VFD are variable speed drive, adjustable speed drive, adjustable frequency drive, AC drive, micro drive, and inverter.



PLC PANEL

Programmable logic controller (PLC) control panels are known as PLC Automation Panel are one of the most important and efficient kinds of control panels. Which are generally used in variety of electronic and electrical circuit fittings. PLC Control Panels are highly capable of giving higher output at less power consumption. Integrated with solid PLC logic and flawless PLC hardware programming. We are engaged in designing and manufacturing of PLC & Automation Panels that that is widely appreciated for longer service life and high efficiency. All these panels are hard wired, PLC based and electrically controlled and is used for various machines.





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**A-2, DDP BUILDING, SILICON
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