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Albario Engineering Group



ALBARIO  
Engineering

GRIT

## Introduction

Grit, an Albario Group company has emerged as a world class Distribution Transformer & Switchgear Manufacturing unit located in Lahore, Pakistan. Grit is an ISO 9001: 2015 ISO 14001:2015 OHSAS 18001:2007 certified company from ITC and registered Manufacturer of National Transmission & Dispatch Company (NTDC). Our transformer testing laboratory is also ISO/IEC 17025:2017 certified from Pakistan National Accreditation Council (PNAC).

Grit, manufactures custom built and special purpose Pole & Pad Mounted Transformers ranging from 10 kVA ~ 5000 kVA. Our finished product goes under rigorous testing to ensure longer life of transformer. We believe in technological advancement and continuous improvement in product and process through Research & Development to make best use of available resources. Our Engineering Team provides best support to clients in order to achieve maximum customer satisfaction.

# Distribution Transformer

## Manufacturing Capability

- Oil Immersed Distribution Transformers
- Pole Mounted
- Pad Mounted
- Furnace Transformers
- Welding Transformers
- Power Transformers



## Product Range

- Rated Power: 5~5000 kVA (Step up & step down)
- Phase: 1~3 Phase
- Frequency: 50~60 Hz
- Primary Voltage Range: 11~33 kV
- Secondary Voltage Range: 400-415-433 Volts
- Type of Cooling: Oil Natural Air Natural Cooling System (ONAN)
- Insulation Class : 'A' & 'H'

## Type of Tank

- Free Breathing with Conservator
- Hermetically sealed without Conservator

## Type of Design

- Tubular
- Detachable Radiator

## Standards

- WAPDA (DDS84:2011, DDS-71:2007)
- IEC-60076
- K-Electric (K/R&D/DT/28)
- VDE-532
- BSS-171



# Distribution Transformer

Rating	DIMENSIONS (LxWxH) in mm	4% Impedance	Oil Weight (Kgs)	Gross Weight without Oil (Kgs)
10kVA	720 x 620 x 900	4% Impedance	41	215
15kVA	760 x 620 x 925	4% Impedance	42	240
25kVA	830 x 700 x 975	4% Impedance	61	320
50kVA	1185 x 710 x 1075	4% Impedance	81	440
100kVA	1310 x 755 x 1245	4% Impedance	114	640
200kVA	1540 x 910 x 1395	4% Impedance	172	1010
400kVA	1785 x 1070 x 1905	4% Impedance	430	2030
500kVA	1665 x 1135 x 1905	4% Impedance	585	2250
630kVA	2105 x 1305 x 1995	4% Impedance	649	2810
750kVA	1740 x 1550 x 1955	5% Impedance	600	2540
1000kVA	1765 x 1550 x 2205	5% Impedance	700	3160
1250kVA	1830 x 1895 x 2240	5% Impedance	850	3500
1500kVA	1885 x 2045 x 2260	5% Impedance	1050	4170
2000kVA	1970 x 1970 x 2455	6.25% Impedance	1510	4950
2500kVA	2045 x 2310 x 2590	6.25% Impedance	1540	6100
3000kVA	2030 x 2350 x 2965	6.25% Impedance	1870	7200
3500kVA	2220 x 2540 x 2960	6.25% Impedance	2220	8665
4000kVA	2420 x 2600 x 2990	7.15% Impedance	2570	9050



# Medium Voltage Switchgear

## 11KV Switchgear

- Metering Panels
- Protection Panels
- Industrial Panels

Incorporating VCBs from Schneider, Hyundai, ABB, Siemens

## Technical data

- Rated voltage upto 17.5KV
- Rated Current 630~2500A
- Rated short time current upto 40KA
- Cb type vacuum



## Standards

- WAPDA (P44:96)

## Ring main units

- 3 ways, 4 ways, 5 ways
- LBS arrangements
- LBS + Fuse protection arrangements
- VCB arrangements

Incorporating switchgear from Schneider, ABB, Lucy & Siemens

# Low Voltage Switchgear

## Technical data

- LT Panels
- AMF / ATS Panels
- PFI Panels
- Motor Control Centers (Fixed & Draw out)
- Synchronizing Panels
- Distribution Boards
- Bus Tie Ducts
- LT Service Boxes

## Design

- Welded
- Bolted

Confirming to IEC standards and various IP clauses

Incorporating leading switchgear brands i.e. Schneider, ABB, Terasaki, Legrand, Chint



## Manufacturing Facility

The Manufacturing facility located in Lahore has a covered area 32,000 square feet with an annual production capacity 300 MVA.

Our works are equipped with latest CNC machinery and whole manufacturing process is supervised by qualified engineers, having vast knowledge and experience of designing and Manufacturing transformers. By implementing Total Quality Management on each phase of Manufacturing process, reliability and high quality of the product is ensured.



## In-House Testing Facility

### Routine Tests

- Turn Ratio & Connection Group Test
- Induced Voltage withstand Test
- No Load Test (Iron Loss Test)
- Winding Resistance Test
- Power Frequency High Voltage Test
- Insulation Resistance Test
- Full Load Test (Copper Load Test)
- Tank Pressure Test

### Type Tests

- Temperature Rise Test

### Accredited from Pakistan National Accreditation Council (PNAC)

Periodic Calibration of Testing Equipment from Pakistan Council of Scientific & Industrial Research (PCSI) laboratories.



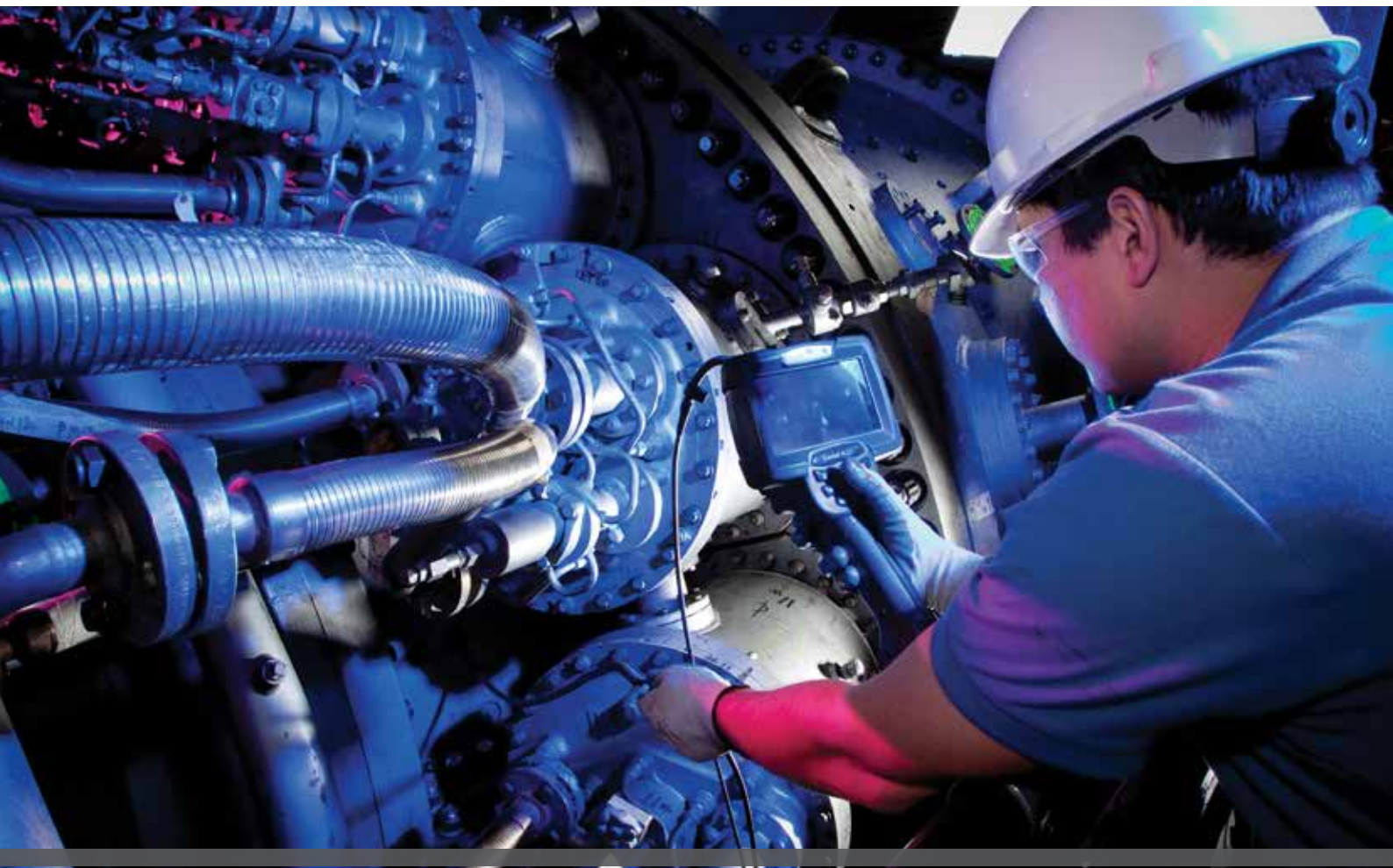
# AEPL Group Achievement Synopsis

Albario Group of Companies is a premier business house of Pakistan. The group has presence in all major engineering sectors including Electro Mechanical Contracting, Operations & Maintenance Services, Oil & Gas, Renewables, Plant Outage / Turnaround Services, Civil Construction, Engine Spares & Services, Inspection & Testing and Manufacturing of Distribution Transformers & Switchgear. Albario Group also performs Civil & ETC Works for Grid Stations.

Salient features of our Group achievements are;

- 60 + Years of experience in Energy & Infrastructure Sector
- 9,000 + MW Power Plants installed
- 5,000 + MW Reliable O&M Services
- 500 + Outages of Combined Cycle Power Plants
- 1,000 + Skilled Manpower for Turnaround Services
- 5,000 + Manpower for Construction and O&M Services

With the support of experienced and dedicated work force, a strong footed financial position and a progressive management, Albario Group continues to march towards the frontiers of excellence.





### Head Office

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