A brand of

ISO 9001-2015 certified company with experience of more than 3 decades in ‘FINE ART OF ENERGY MANAGEMENT’.
Diverse product portfolio with focus on production innovation.
Committed to keep planet Green and hence focus on developing environment friendly products

Corporate Office: Sai Dhaam, Victoria Park, Meerut – 250 001 (U.P.), India
Works: Khasra No. 54, Vill. Rali Chauhan, Kila Road, Meerut, U.P. INDIA
VISION

To emerge as one stop solution provider for energy management services and power conditioning equipment, continually contributing towards energy efficiency and environmental health.
Business Processes and Key activities

- Products conforming to Indian standards (IS) and International Standards (IES)
- In-house R&D
- In-house Design team
- Production management system (PMS)
- Lean Production
- Quality adherence – Kaizen, 5S technique
- Testing
- Dedicated after sale services team
- Onsite repair
Transformer range

- Distribution transformers & Servo voltage stabilizers
  - Power conditioning Transformers
    - Lighting
    - Isolation
    - Ultra Isolation
  - Specialized Transformers
    - Auxiliary Transformers for Railways / Substation
    - Booster Transformers for Metro Rails
- Corrugated transformers
- Linear Servo Stabilizers
- Power Transformers
  - Power Transformers 20MVA 33kV
  - Furnace Transformer
  - Compact Substation
- 4HD Transformers
Issues with conventional Transformers

- Fire hazards
- Accelerating maintenance costs
- Lost revenue due to downtime
- Environmental hazards
Fire Hazards

➢ **Uphaar Cinema Accident, 1997**
  - Loose connections caused sparking in transformer
  - Around 59 people lost lives
  - Loss of property valued in crores

➢ **Noida Fire Mishap, 2019**
  - Transformer exploded
  - 3 children lost their lives

➢ **Vasai Fire Incident, 2019**
  - Accident caused by fire in transformer
  - Several vehicles damaged

➢ And many more incidents due to explosion or fire in transformers
Environmental hazards

- Mineral-oil-filled transformer explosions and fires causes heavy collateral damage and raises major safety concerns.

- Environmental concerns over the toxic effects of uncontained mineral oil spills.

- Higher carbon footprint of mineral oil filled transformers.

- Environmental contaminant, and the insulating properties of mineral oil are rapidly degraded by even small amounts of water.

- Difficult to dispose easily.
Value proposition of 4HD Transformers

- Products with higher ‘Flash point’ and ‘Fire point’.
- Higher temperature stability
- Biodegradable oil
- Environment friendly
- Low carbon footprint
- Energy efficient products
- Lower losses
- Increased load-ability
- High Uptime
- Maintenance free
4HD Transformers Advantages

❑ **High Fire Protection:**
  • Organic (Ester) oil filled in transformers
  • Exceptionally high Fire & Flash point of 360°C & 330°C respectively.

❑ **High Reliability:**
  • Use of non-conventional materials like Ester oil and thermally upgraded insulation paper.
  • Increased transformer life and no maintenance
  • Higher overloading capacity
  • **No failures** for Powerware corrugated transformers till date

❑ **High Environmental friendliness**
  • Natural ester fluid used in 4HD transformers is biodegradable and environment friendly to use.
  • Lower carbon footprint – only 2% carbon emissions than that of mineral oil.
  • Non-toxic oil.

❑ **High Efficiency:**
  • Transformers conforming to IS 1180 or customer specified lower losses that ensures high efficiency leading to energy saving and reduced energy bills.
## Comparison

<table>
<thead>
<tr>
<th>630 kVA 11/0.433 kV TRANSFORMER (Level 2 IS 1180)</th>
<th>4HD</th>
<th>Dry type</th>
<th>Normal Transformer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point (Fire hazard)</td>
<td>&gt;320</td>
<td>260</td>
<td>180</td>
</tr>
<tr>
<td>Dimensions</td>
<td>0.85</td>
<td>1.2</td>
<td>1</td>
</tr>
<tr>
<td>Environment impact</td>
<td>Very Low</td>
<td>High</td>
<td>Very High</td>
</tr>
<tr>
<td>Maintenance</td>
<td>No maintenance*</td>
<td>Frequent maintenance</td>
<td>Oil maintenance</td>
</tr>
<tr>
<td>Total Losses (in KW)</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Approx. Price (Lacs)</td>
<td>14.60</td>
<td>18.80</td>
<td>11.68</td>
</tr>
</tbody>
</table>
Call to customers – Need for a **Green Planet**

**Green Products**
- Environment friendly transformers
  - Considering estimated procurement of about 1 lakh new transformers by 2020, estimated carbon emissions due to mineral oil filled transformers will be around 40MT of CO2.
  - Our transformers can hugely reduce carbon emissions, increase efficiency and save valuable foreign exchange

**Need for Green Environment**
- Reduce Carbon footprint
- Reduce Air & Water pollution
- According to Paris climate accord, India has to reduce its carbon intensity by one third by 2030

**Green initiatives at production Plant**
- Solar Panels for Transformer Oil Processing.
- Natural Gas for Firing Ovens.
- Rain Water Harvesting
- Optimized Design to reduce raw material wastage
Other products

➢ **Products** – 4HD voltage stabilizers with adherence to quality standards (IS 2026 & IS 9815)
  - Customized and standardized both, as per customer requirements.

➢ **Services** – Annual maintenance contracts, repairing services, Transformer design services, online condition monitoring systems (OCMS).

➢ **Compact Sub Station (CSS)** – consists of in house built metal enclosure, MV switchgear, transformer, LT switchgear, power factor correction system, and other site specific requirements.
  - Tailor made product designed as per customer limitation and requirements
  - Occupies only \((\frac{1}{4})\)th of the space in comparison of open conventional installation
Thank You