



## OTR Rectifier and Converter liquid immersed transformers

### ELECTRICAL DATA & DESIGN FEATURES

<b>Rating Power:</b>	<b>Up to 120 MVA</b>
<b>N° of Phases:</b>	Single or three phase construction also with phase shifting
<b>Windings &amp; type of design:</b>	<ul style="list-style-type: none"> <li>- Double tier design with or w/o intermediate joke</li> <li>- Concentric arrangement (only for particular systems)</li> <li>- Air gap core design</li> </ul>
<b>Cooling:</b>	(K)ONAN - (K)ONAF - (K)OFAF - (K)ODAF - (K)OFWF
<b>Frequency:</b>	50, 60, 25, 16 2/3 Hz (Fix or variable)
<b>Standards:</b>	Any Standard applicable
<b>Primary Winding:</b>	Single or multi-primary voltage design
<b>Max Working Voltage (U<sub>m</sub>):</b>	Up to 170 kV
<b>Voltage Regulation:</b>	<ul style="list-style-type: none"> <li>- No Load Tap Changer (NLTC)</li> <li>- On Load Tap Changer (OLTC)</li> </ul>
<b>Secondary Winding:</b>	Single or multiple secondary windings design
<b>Insulating Level:</b>	Up to L.I. 750 kV
<b>Winding Conductors:</b>	Cu or Al
<b>Bushing Protection Degree:</b>	Cable boxes, GIS, Oil to Oil, RIP, Composite or any special bushing execution or coupling, Plug-in type
<b>Ambient Temperature (MIN/MAX):</b>	From (minus) -60°C to MAX required design
<b>Altitude of installation:</b>	Up to 4500 m
<b>Installation:</b>	<ul style="list-style-type: none"> <li>- High Vibration Conditions</li> <li>- Rectifier multi-pulses</li> <li>- Converter and excitation</li> <li>- Mining</li> <li>- Traction</li> <li>- Chemical electrolysis processes</li> <li>- Steel &amp; metallurgical processes</li> <li>- DC electric traction</li> <li>- Variable Speed Driver (motor applications)</li> </ul>
<b>Painting Cycles:</b>	Available Know-how in a wide range of environment conditions
<b>Tank Execution:</b>	<ul style="list-style-type: none"> <li>- Cover bolted or welded</li> <li>- Standard tank or Bell type</li> <li>- Material and design suitable for any site requirement</li> </ul>
<b>Available Insulating Liquid:</b>	Mineral oil, Silicon fluid, Synthetic or Vegetal Ester fluid (Bio)

### ACCESSORIES ON REQUEST

A wide of state of the art Accessories available for:

- Life safety equipments
- Fire detection
- Power quality integration
- Auxiliary boxes
- Life cycle monitoring unit device
- Any other special needs if applicable

### SPECIAL TECHNICAL REMARKS

- Latest design and production technology checked by a fully equipped test lab and validated by a wide range of special and type test certification.
- Insulation material could be improved by using of fiber-glass and Class F components.

ALL KIND OF DESIGN IMPLEMENTATION AVAILABLE ON REQUEST (if applicable)

