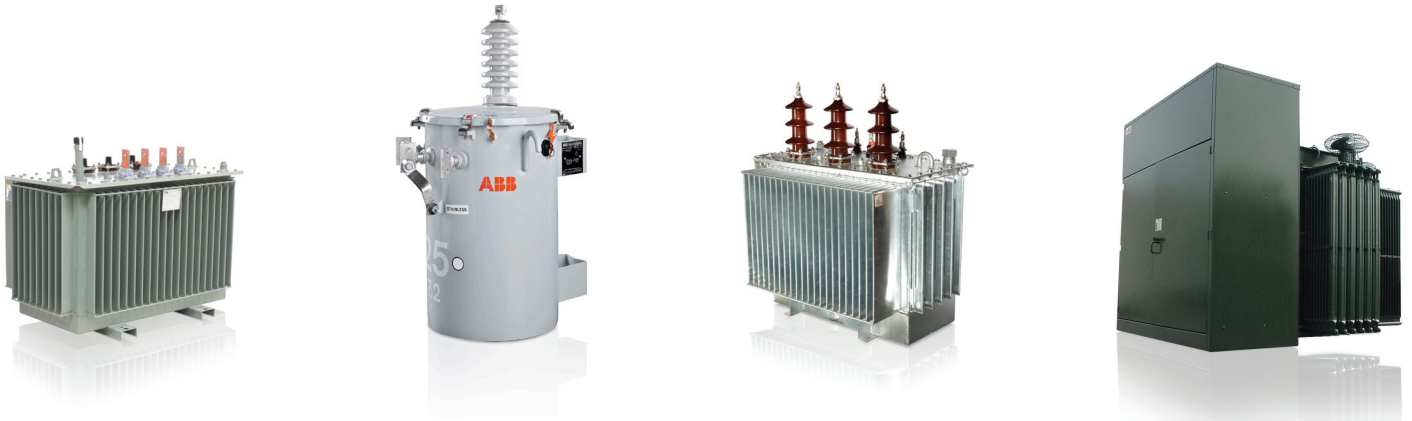


Liquid-filled distribution transformers presenting Green-R-Trafo™



Energy losses in distribution transformers are estimated to account for around 2-3 percent of the world's annual electric power production. Although most types of distribution transformers are already highly efficient, the sheer volume of their numbers means that they account for a significant portion of energy losses.

It is estimated that in the European Union alone, there are some 4.5 million distribution transformers, producing 38 TWh of losses and 30 million tons of CO₂ emissions a year.

Ultra High efficiency liquid-filled distribution transformers with an amorphous core can reduce no-load losses by up to 70%. With ABB's Green-R-Trafo™ distribution transformers, you can contribute to a more sustainable future by reducing the environmental impact and CO₂ emissions.

Contributing to a greener future without compromising performance

Reliability, quality and customized solutions, this is our standard. Our transformers are designed and tested to exceed applicable standards including short circuit tests. ABB's global technology platform is a flexible design tool integrating conventional and new technologies in order to optimize a solution based on customers' demand and requirement. ABB's global experience being at your service locally!

Reducing operating cost and environmental impact without compromising efficiency and reliability

ABB's Green-R-Trafo™ distribution transformers effectively reduce CO₂ emissions minimizing environmental impact. Using ester fluids, advantage can be taken of the features, including higher fire point (360°C), longer life and excellent biodegradability. Amorphous core transformers with an ester fluid offer an optimized solution reducing life cycle ownership cost and, green house emissions. Other benefits include, higher fire point, longer life and biodegradable insulation.

The Green-R-Trafo™ design can reduce no-load losses 40-70%, thus reducing total ownership cost (TOC) and CO₂ emissions. Each GW saved, correlates to an annual reduction of 5 million tons of CO₂ emissions, where one 1,000 kVA transformer can save 7 tons of CO₂ annually.

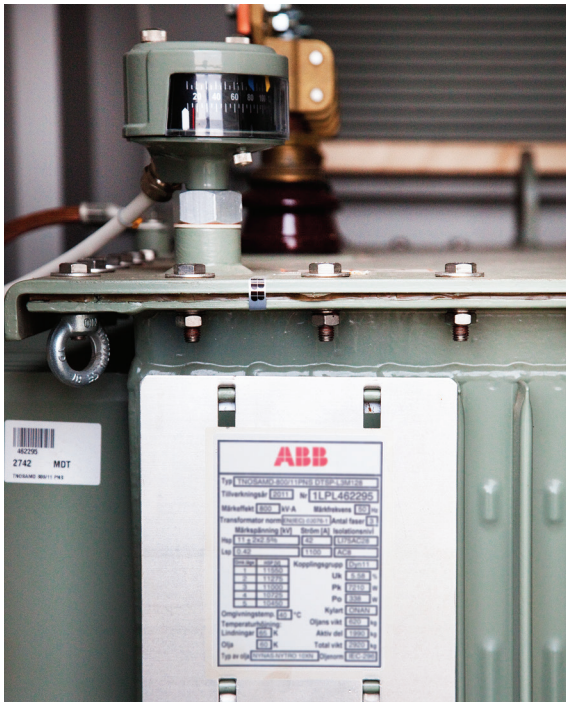
We offer you the total solution for ultra high efficiency transformers combining new and conventional technologies.

Amorphous core transformers with an ester fluid offer an optimized solution with the highest possible efficiency reducing life cycle ownership cost and green house emissions.

ABB being the worldwide supplier of Amorphous core transformers

ABB has already delivered around 15,000 amorphous core transformers worldwide. In Europe in excess of 2,000 transformers have been ordered since the beginning of 2011 when the product was commercially introduced.

ABB has calculated that over the course of a 30-year operating life, the approximately 2,000 transformers in Europe will save almost 135 GWh of energy and 140,000 tons of carbon dioxide emissions (dependent on country energy production carbon footprint).



Amorphous core transformer

For more information please contact:

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Affolternstrasse, 44
P.O. Box 8131
8050 Zurich, Switzerland

www.abb.com/transformers

Green-R-Trafo™ program

Amorphous core transformers with or without biodegradable fluids offer different alternatives.

Max energy efficiency:

- Amorphous cores, having two alternative amorphous ribbons addressing also low sound level requirements
- 5 limb core loops or EVANS core technology for customized requirements' having size limitations

Extended version:

- With ester fluids we can offer up to 10% continuous overload

Compact design:

- Allow +10°C temperature rise and get a smaller transformer footprint

Green-R-Trafo™ program – Value summary

- Higher efficiency throughout our electrical grid, maximizes utilization of existing infrastructure
- Higher efficiency helps meet government mandated lower energy consumption and CO₂ emissions
- Higher efficiency can lead to higher returns on electrical infrastructure investments
- Providing partners, share holders and/or investors with the best return on their investment
- And help meet growing energy demands with less infrastructure investments

		Technical Solution				
		Amorphous Core	Dielectric Thermal Stability	Dielectric High Fire Point	Fluid Biodegradability	70/75°C Winding Rise
Values & Benefits	Green-R-Trafo™ Benefits					
	Lowest Ownership Cost					
	Higher Efficiency					
	Smallest Footprint					
	Routine Overload					
	Environmental Cleanup					
	Safety – Personell					
	Safety – Fire Prevention					
	Property Damage					
	Indoor Application					

The value, benefit and technical solution matrix

Note

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