

Efficient, compact cooling for dry-type transformers

Transformers play a crucial role in power distribution. So the issue of operational dependability is of major significance. ABB is making an important contribution here with an innovative cooling system.

Hanover, 23 April 2012 – Transformers are a vital constituent of the entire power distribution system, so their operational reliability is all the more crucial. The cooling function here, though, is often neglected. ABB has countered this with a new thermosyphon-based air-to-air cooling system for transformers. Similar technologies have already for quite a long time been keeping semiconductors successfully in the ideal temperature range, which is why they are used in the automotive and aviation industries as well.

In comparison to previous cooling systems, the innovative thermosyphon-based air-to-air cooling system from ABB achieves notable advantages for the same cooling performance. The heat transfer geometry, for example, is improved, while the cooler requires less power. Energy consumption is downsized still further by automatic speed control of the motors. Moreover, less material is needed, which reduces the weight and permits a more compactly dimensioned housing.

Fundamentally, the thermosyphon cooling system is suitable for use wherever transformers are installed in housings featuring a high degree of protection. Typical application categories include mining, at sea, or in the oil and gas industries. In Malaysia, a first ABB customer project for a shore-to-ship application is already in existence: two RESIBLOC cast-resin-encapsulated transformers, rated at not less than 6,000 kVA each, supply power for an oil and gas platform used for unloading liquid-gas tankers. The special converter transformers are installed outdoors in an IP54 protective housing, with cooling handled by the thermosyphon-based air-to-air cooling system.

Photo:

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Further information:

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