

CMM hot dry air supply system



Range of Application

As delivery time and purchase price of high voltage power transformers are constantly increasing, the extension of the life time of existing transformers becomes more essential.

One of the major causes for transformer failure is aging of its insulation material. Paper, pressboard and wood form about 10% of transformer weight. One decomposition product in the cellulose de-polymerization of these materials is water, which is stored in the insulation and partially in the transformer oil. Other reasons of water penetration in the transformer are transformer non-hermeticity and air dehumidifier malfunction.

The well-established conventional process for transformer servicing is supply of dry air to transformer tank when disassembled. Therefore we offer our equipment

Specifications

Parameter		Value
1	Dry hot air capacity, m ³ /h	150
2	Dry air dew point, °C, no higher than	minus 50
3	Dry air pressure, mPa/bar, no higher than	0,01/0,1
4	Compressor	
	capacity, m ³ /h	150
	air pressure, max, mPa/bar	0,02/0,2
5	Adsorbent load per one adsorber, kg, no more than	190
6	Number of adsorbers, pcs.	2
7	Adsorbent regeneration temperature, °C	380-400
8	Air heater power consumption, kW, no more than	20
9	Rated power, kW, no more than	26
10	Three-phase nominal voltage at 50Hz, V	380
11	Air output temperature for other adsorbent regeneration, °C	390
12	Dry air maximum temperature, °C	100
13	Dimensions, mm, no more than:	
	length	1450
	width	1150
	height	1950
14.	Weight, kg, no more than	1200

Principle of Operation

The unit operation principle is based on atmospheric air drying in two synthetic zeolite-filled adsorbers, which operate in cycles. Dry air is purified from mechanical impurities in the filter. The air is heated by heater, which consists of 3 heating elements and supplied to transformer tank.

The unit can be operated in three operation modes:

- air drying and heating mode
- adsorbent regeneration (the unit filled with) mode - (regeneration of technical specifications of damp synthetic zeolite by means of hot air heating up to the temperature of 380 – 400 °C).
- adsorbent (other equipment filled with) regeneration mode

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