Heat accumulator for a district heating plant, Berlin-Neukölln

Initial situation:
Fernheizwerk Neukölln AG is the local heat supplier for Berlin-Neukölln and supplies around 40,000 households with district heating. In 2014/2015, the main shareholder, Vattenfall Europe Wärme AG, invested around 12.5 million euros in the renovation of the plant. The existing heat storage system was also thoroughly renovated.

Customer request/order:
The client wanted a unique lighting solution that displayed the temperature conditions inside the 22-meter-high heat accumulator on the outside.

The solution from BRAUN:
Once again BRAUN was able to convert creativity and well-founded know-how from electrical engineering into an ideal solution. A 20m-high light column was specially developed and installed on the outside of the hot water tank.

The challenges were to construct the column in such a way that it could be fixed safely and is both wind- and weatherproof. In addition, it had to be able to withstand the heat radiation of the storage tank. The LED technology used had to be rotationally symmetrical and the respective light colors clearly visible even in sunny lighting conditions. A Pt100 resistance thermometer with platinum sensor elements was used, which change their electrical resistance depending on the temperature. With special control and switching electronics using DMX, a digital control protocol from stage technology, color changes are also generated. The finished light column thus displays four color gradients, with each color representing a different temperature range.

The result was inspiring – at a glance, the technician is informed about the processes inside the heat accumulator without having to visit the control room. The light column at BRAUN’s remote power station is not only an ingenious technical solution but also attracts attention and visually enhances the massive heat accumulator.

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