

ENGINEERING  
TOMORROW

*Danfoss*

Case Story

# Chinese teahouse with **district heating technology**

Hamburg, Germany

**300 kW**  
capacity on 2  
heating circuits

[www.districtenergy.danfoss.com](http://www.districtenergy.danfoss.com)

Wherever district heating is available, it is an interesting alternative to traditional heating systems fuelled by oil or gas. This is not only the case in residential homes but also applies for all areas where heating and domestic hot water production is needed. The latest district heating project in Hamburg is the original Chines Teahouse, which the city of Shanghai bestowed on its sister city in order to promote the EXPO 2010.

Many things link the cities Hamburg and Shanghai to each other. Ever since September 2008 the reproduction of the legendary Huxing-Ting-Teahouse from the Yu-Garden in Shanghai counts as one of these things. With this gift to its sister city, Shanghai wishes to promote itself as the venue of the EXPO 2010. At the opening ceremony the governing mayor Ole von Beust ensured that you cannot tell the original and the copy apart. 115 tons Tai-Hu-Stones, 140,000 roof tiles and dozens of Chinese pine wood was shipped from Shanghai to Hamburg in 45 containers and assembled on a 3,400 m<sup>2</sup> building ground in the Feldbrunnenstraße. Surround-

ed by an idyllic pond the building next to the Teahouse also houses a Snack-bar and the gourmet restaurant Lü Bolang.

Whereas the exterior facade originates from China for the most part, the building automation was delivered and installed by the firm Mackens & Sohn. The scope of delivery also includes a welded Danfoss substation type FSD2550 H2 ECL 300 which transfers a capacity of 300 kW on 2 heating circuits and a domestic hot water system comprising a 500 liter storage volume. The energy company Vattenfall delivers the district heating with a flow temperature of 136 °C and 25 bar.

Thanks to the customized substation with its optimal dimensioning, weather compensation and high-quality automatic controls a maximum spread of 101 K is achieved. As a result, the return temperature is only 35 °C making the network and system operation very economic. Through the energy efficient operation mode the guests get to know the true promise of an extremely economic and environment-friendly heating solution, besides the culinary and cultural offers.



If you are interested in the implementation of district heating for heating and domestic hot water production, please contact your local energy supplier or visit this Internet address [www.heating.danfoss.com](http://www.heating.danfoss.com)

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