

Dutch tap water



Due to safety reasons, during the past decades, the Dutch market has opted for double-wall tap water Brazed Plate Heat Exchangers (BPHEs) in their district heating networks. SWEP's patented double-wall technology has been used in a majority of the installations for tap water heaters.

The double-wall (DW) philosophy could assure the quality of tap water for all European citizens. However, the Netherlands is still the only market to have adopted this very useful technology to a significant extent. SWEP's largest customer for double-wall products is AGH, which manufactures systems for domestic heating. SWEP is also the vendor for Redan/Nathan and AGPO/Ferrol, which compete with AGH.



The new residential area of Leidsche Rijn, near the Dutch city of Utrecht, is already home to 10,000 people. By 2015, 30,000 dwellings will have been built in Leidsche Rijn.

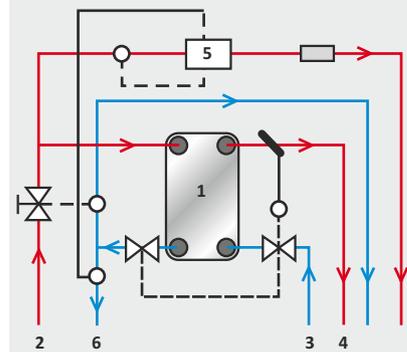
At first glance, the heat transfer task in this case does not appear to be very complicated. However, there are two challenges. First, Dutch law prohibits single-wall heat exchangers in tap water applications if the heat load is more than 45 kW. Second, the maximum pressure drop on the hot water side must not exceed 15 kPa.

SWEP was one of the first companies to manufacture compact brazed double-wall heat exchangers. SWEP's double-wall BPHE has been proven to solve this problem in the most efficient (in terms of heat transfer) and reliable way possible.

Should a leakage occur, for example due to corrosion, water will seep out

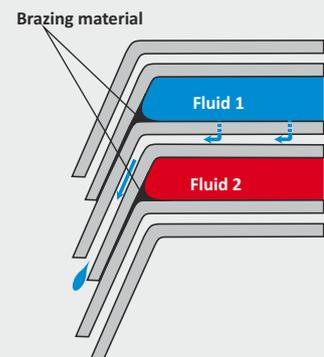
between the vented double walls to the atmosphere. The water seeping out from the BPHE gives a visual alarm that something is wrong. Contamination of the tap water by heating water delivered by the energy company can thereby be prevented.

To date, this effective solution is almost exclusively limited to the Dutch market. However, awareness of the technology is increasing in other countries. The German government, for example, recommends double-wall technology in tap water applications, but it is still not a legal requirement.



SWEP's double-wall BPHE is integrated into a variety of tap water systems. This diagram shows the principle of a typical system.

The tap water heat exchanger (1) can be a single- or two-pass BPHE (a single-pass BPHE in the diagram). The energy in the hot water (2) from the energy company heats the tap water (3 to 4). The energy consumption can be measured (5) when the temperature difference between the incoming hot water flow and the return flow (6) is known. The system is continuously controlled on the outlet tap water temperature.



SWEP's DW concept. The water will seep out to the atmosphere instead of the fluids mixing in the event of leakage.

APPLICATION DATA for Dutch tap water heating

	Hot side	Tap water side
Entering Water Temperature	70 °C	10 °C
Leaving Water Temperature	35 °C	60 °C
Max pressure drop	15 kPa	50 kPa
Flow		6,8,10 or 12 l/min



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