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One challenge – kill germs

Krones AG with headquarters in Neutraubling is a good address for equipment which is designed for the filling and packaging of liquid foods and beverages in PET, glass bottles and beverage cans.

In food and beverages producing industries, hygiene is to be treated with top priority. Therefore, high standards are crucial in the food industry.

For sterile conditions in bottles, a 3-stage thermowave plate heat exchanger is integrated into a sterile water UHT system. The thermowave plate heat exchanger of the product line thermolinePure sterilizes water and enables for properties for aseptic filling of beverages. The sterilisation of the bottle filler is performed by the sterile water UHT system leading to the filler pipe. The total pipeline system of the sterile water UHT system is heated by the plate heat exchanger from 125 °C to 140 °C and then cooled down.

Technical data

Business Line:	Food & Beverage Industry
Application:	Process Cooling
Country:	Germany / Neutraubling
Refrigerant:	water / propylene glycol (35 %)
Product:	thermolineVARIO TL 400 KBFL thermolinePure TL 400 FBFV thermolinePure TL 400 FBXV

Both the heating and the cooling of the system need no longer than 20 or 30 minutes. Moreover, a high amount of energy has to be removed from the system during the cooling process in a very short time. For this purpose, a pre-cooling step is included where the sterilization temperature is cooled down to 45 °C.

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Eventually, the final cooling stage – which is also active in the production associated with a closed cooling system – cools the system down to its final temperature. The operation of the counter-current principle of cold water with hot sterile water allows for an energy recovery of 90 %.

Fabr. no.	Media	Plate type	Gasket	Plate material	Gasketed
FN 41588	water / water	TL 400	EPDM-NT-LM	1.4404	x
FN 45786	soft drink / water / PG 35 %	TL 400	EPDM-NT-LM	1.4404	x
FN 45787	soft drink / water / PG 35 %	TL 400	EPDM-NT-LM	1.4404	x