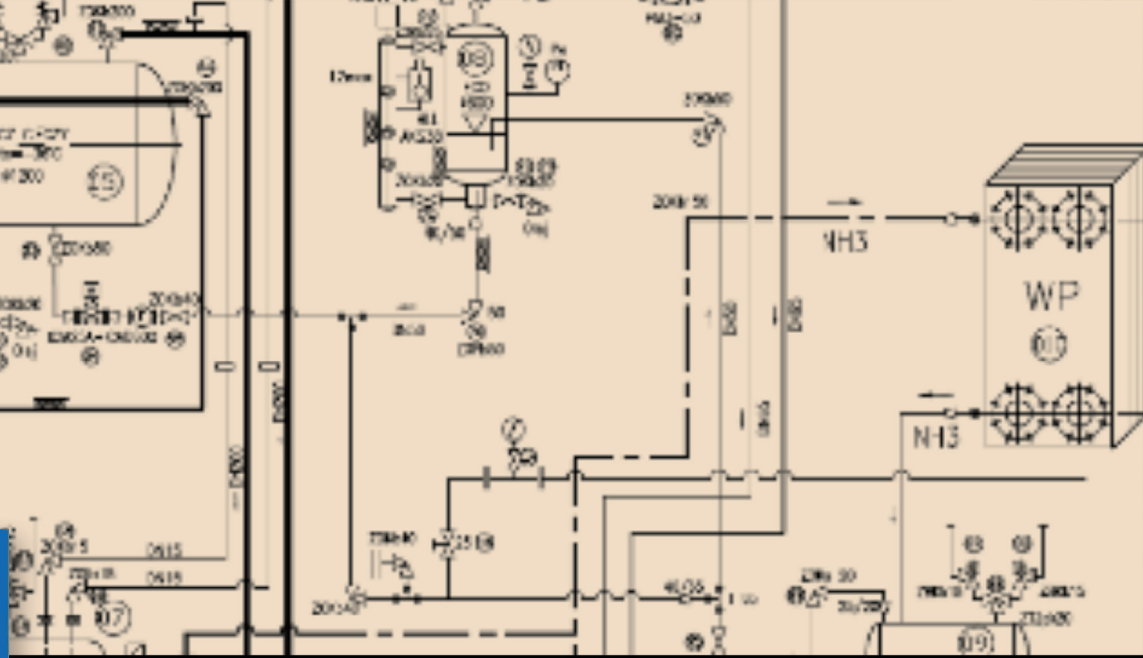




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## Great performance at low filling quantities

A quote by Leslaw Wereszczynskiego, Managing Director of the company Wuch „PZL-Debica“ SA, about thermowave goes as follows: „Plate heat exchangers of the company thermowave are compact and their great performance distinguishes them from competitors' products. These are an important fact in this project. We are very satisfied with the plate heat exchangers supplied by thermowave and certainly recommend thermowave.“

In recent years, different plate heat exchangers for cooling a calcium chloride solution in a mining-frozen system have been delivered to the company WUCH „PZL-Debica“ S. A. in Poland.

The delivery included four ammonia evaporators from the product line thermolineVario TL 850. The cooling capacity is used for freezing the recently built pit shaft. By the evaporation of ammonia, the calcium chloride solution is cooled down to a temperature of minus 32 °C. Water-bearing formations are one of the critical factors in mining of preparation of mine shafts ; this is why, since 1853, a process named freeze well process has been applied.

### Technical data

Business Line:	Refrigeration
Application:	Process Cooling
Country:	Poland / Debica
Refrigerant:	Propylenglykol (35 %)
Product:	thermolineVario TL 650 KDCL thermolineVario TL 850 KCKL

Moreover, four condensers from the product line thermolineVario TL 650 with an overall capacity of 7,000 kW were used.

Mines and pits placed special demands on plate heat exchangers because a high level of humidity poses enormous additional requirements to plates and gaskets. For this reason, the used thermowave evaporators and condensers had been attuned to these conditions.

**Plate heat exchangers from the series TL 650 KDKL are characterized as follows:**

Refrigerant	Water	Ammonia
Input temperature [°C]	26,0 [°C]	55,0 [°C]
Outlet temperature [°C]	32,0 [°C]	35,0 [°C]
Condensation temperature [°C]		35,0 [°C]
Output [kW]	1.740 [kW]	
Dimensions (L x W x H) [mm]	1.500 x 730 x 1.750	
Weight (lempy) [kg]	2.293,6 [kg]	

**Plate heat exchangers from the series TL 850 KCKL are characterized as follows:**

Refrigerant	CaCl <sub>2</sub>	Ammonia
Input temperature [°C]	-27,6 [°C]	
Outlet temperature [°C]	-32,0 [°C]	
Condensation temperature [°C]		-36,0 [°C]
Output [kW]	940 [kW]	
Dimensions (L x W x H) [mm]	1.250 x 730 x 2.290	
Weight (lempy) [kg]	2.577,6 [kg]	