



# RELIABLE, WHISPER-QUIET AND ENVIRONMENTALLY FRIENDLY COOLING.

Cofely Refrigeration delivers cell cooling towers with an availability of 98 % for Zellstoff Pöls AG.

Zellstoff Pöls AG is the largest manufacturer of high-quality, chlorine-free bleached softwood pulp in Central and Southern Europe. With its long tradition of papermaking, the company's focus lies on quality, customer and market orientation, environmental protection and occupational safety as heart of its philosophy. This attitude influenced the decision for the cell cooling towers from Cofely Refrigeration, as the four EWZ 119 type cooling towers – with a total capacity of 100MW – fulfil particular requirements.

## RELIABILITY AND EASY MAINTENANCE, PROTECTION OF ENVIRONMENT AND LOCAL RESIDENTS

Cofely Refrigeration guarantees Zellstoff Pöls AG an availability of 98 % for the cooling towers. The units are operated non-stop for 18 months and then shut down during a period of 5 days for maintenance. The demanding requirements of adherence to schedules in pulp production are hence optimally fulfilled thanks to the reliability of the cell cooling towers.

Furthermore, the cooling towers from Cofely Refrigeration comply with strict noise protection requirements. Apart

from an exhaust air silencer, an intake air silencer has been installed, and other structural noise protection measurements have been taken on site.

The cooling towers are extremely easy and comfortable to maintain since overhaul and major maintenance work is limited to 5 days every 1.5 years only. The fan housing, for example, has been designed in a way facilitating particular easy and quick access to the fans.

Before leading the cooling water into the nearby Bolzbach River, the waste heat from production and turbine operation is cooled down to under 30°C using water as an environmentally friendly refrigerant. This ensures the local flora and fauna protection.

## CONVINCING TECHNICAL EXPERTISE AND CUSTOMER ORIENTATION

Zellstoff Pöls AG was hugely impressed by Cofely Refrigeration's technical expertise, in particular by the professional way of dealing with the governmental noise and environmental protection requirements. According to the customer wishes, the plant was delivered on time to be commissioned within the regular 5-day production

### Technical Data for 4 EWZ 119.

Water flow rate	5,400 m <sup>3</sup> /h
Warm water temperature	45 °C
Cold water temperature	29 °C
Number of fans	4 units
Evaporation loss	approx. 1,2 %

*Figure 1: Technical and performance data for the four EWZ 119 type cooling towers.*

shutdown. The governmental noise protection requirements have been entirely verified by an independent expert. The wastewater setpoint temperature is continuously monitored and the guaranteed cooling capacity has also been measured and confirmed.

## THE CELL COOLING TOWER DESIGN SHOWS THOUGHT-OUT DETAILS

The cell cooling towers from Cofely Refrigeration consist of a self-supporting structure. This structure is erected on top of an on-site concrete basin. The profiles consist of pultruded GRP and so do the wall panels installed all the way round from the top of the air inlet to the fan level.

The airflow-optimised fan housing is installed on the fan level, the inflow nozzle is located in the lower part of the housing, while the cylindrical



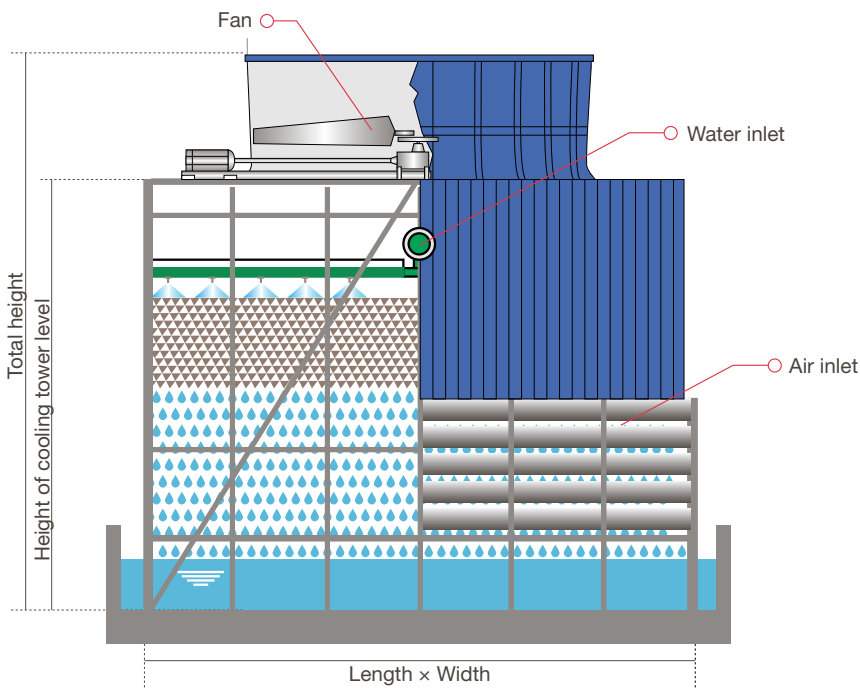
**Figure 2:** View on the four EWZ units of the cooling tower plant.

part houses the axial-flow impeller. The quiet axial-flow fan with forward-swept fan blades is mounted on top of the output shaft of a bevel-helical gear system. The warm water is equally distributed over the entire inner cooling tower surface. A separate water supply allows an independent operation of individual cells.

The internal cooling tower components are made of rot-proof, temperature-resistant plastic grids. Corrugated drift eliminators prevent the entrainment of water droplets in the air stream.

The vibration monitoring system ensures among other things a safe operation detecting quickly imbalances in the

fan. If vibrations exceed the permissible level, the fan is switched off in order to prevent damages. For the silencing dampers on the air inlet and outlet an aluminium housing and a perforated plate cover have been used.



**Figure 3:** Diagram of an EWZ cooling tower cell.

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