

# MINING COOLING SYSTEMS

We offer complete implementation of a direct and indirect method of underground cooling, from project preparation to implementation in the following scope.

## Central Cooling System

This is an indirect method of cooling of mine workplaces using water cooled down at a surface up to a temperature of 1.5 °C.

The cooled water is fed through the insulated pipeline to the workplace into the wind chillers where these mining winds are cooled by fans. Operation is automatic with occasional periodic supervision within the meaning of European standard EN 378.

Modern technology using so-called „Freecooling“ allows the use of low temperature air in winter for water pre-cooling, which leads to energy savings. Another applied technical device is three-chamber heat exchanger, which in the mine serves to reduce the high pressure of the water circulation brought by the pit from the surface to the required working pressure of the mine water circulation. At the same time it performs the function of returning (returning) water from the mine to the surface.

## Segmental Cooling System

or indirect method of cooling of mine workplaces is ensured by water cooled in the mine to a temperature of about 5 °C, which is further fed through the heat-insulated pipeline to the workplace into the wind chillers.

Heat transferred from the cooled device is fed through the condenser of the cooling aggregates by further mining circulation into the backwards coolers and then to the exhausting winds.

## Within turnkey delivery we secure

- expert advice
- calculations performance
- climatic conditions prognosis
- PD
- work realization
- operation and service

## Mobile cooling equipment

It is direct method of the mining winds cooling in the mining work using evaporator with a fan. Withdrawing heat is removed from the condensers of cooling devices by water and to the backwards coolers and subsequently to the exhausting winds.

### Used technical equipment

Cooling Compressor

Evaporating Compressor

Cooling Towers

Plate Capacitor

Plate Evaporator

Pumps

Mining Wind Chiller

Coalface Wind Chiller

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