



Cooling of As-containing Cu-concentrate Outotec for Codelco, Chile

This project

Outotec supplies to Codelco a roasting plant for Cu- and As-containing raw materials that after roasting will have to be cooled prior to transport from the roasting plant to the copper smelter.

AB Torkapparater (ABT) supplies two calcine coolers, each mainly consisting of one indirect tubular cooler with associated equipment.

YEAR OF DELIVERY:

2011

TECHNOLOGY:

Indirect tubular coolers, Bojner systems.

TREATED MATERIAL:

Roasted Cu- and As-containing material.

PRODUCTION CAPACITY:

Approx. 40 ton/h each

TEMPERATURE IN/OUT (°C):

Approx. 650 / maximum 80

COOLING MEDIUM :

Water

HEAT RECOVERY:

Cooling water is supplied in a closed circuit system which is cooled by an overall process cooling system.

SCOPE OF DELIVERY:

Two tubular coolers and pump rack, common for the two coolers with pumps, heat exchangers and valves.

Alternative solutions

We offer tailor-made systems for drying of all types of solid materials – indirect systems in one or two steps being our specialty. Besides steam, exhaust gases, thermal oil, etc can be applied as heat source. We also offer direct drum drying which is a simple and robust technology, however with less opportunities for heat recovery and elimination of fire hazards. Please get in touch with us and explain your situation!



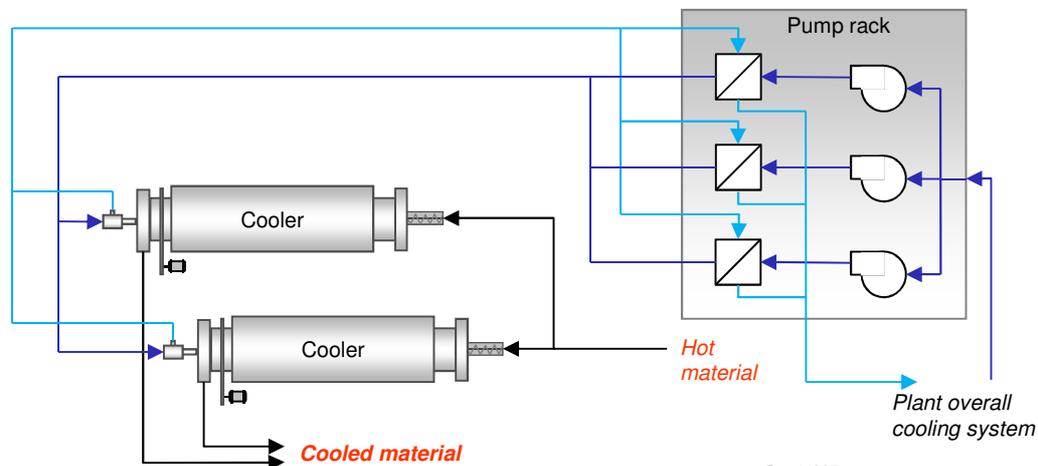
The cooling of the material is executed in two parallel rotating tubular coolers. The tubulars are indirectly cooled by water through the mantel surfaces and tubes inside the rotor.

The cooling water is supplied in a closed circuit system by a pump rack, containing pumps, heat exchangers and valves.

During the cooling process, the cooling water is heated from approx. 40°C to 75°C and is cooled down in the pump rack by the plant overall cooling system.

The roasted material is supplied at a temperature of approx. 650°C before the cooling process and needs to be cooled down to below 80°C before it could be transported from the roasting plant to the copper smelter.

The material includes e.g. Copper and Arsenic and may not be in contact with oxygen at elevated temperature due to the risk of oxidation. Each cooler is therefore equipped with specially designed seals in order to prevent leakage of air into the process.



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