



For special cooling needs

Proven design – highest process flexibility – low maintenance

The Fluo Solid Cooler (FSC) is designed for indirect cooling of fine materials or even dust and is characterized by **highly efficient cooling** with improved heat transfer. Low dusting and no rotating parts are major advantages of this cooler.

The Fluo Solid Cooler is a counterflow-type heat exchanger equipped with water-cooled pipe bundles. At the feed end of the hot material, the preheated water is discharged, while the cold water is fed at the discharge end of the cooled material. The majority of the cooling is carried out via water-cooled pipe bundles. No moving parts are needed.

The hot material is fed at one side of the cooler, flows slowly through the FSC and is cooled by the cold surface of the water pipes on its way to the material outlet arranged as an overflow at the opposite site. Additional strategically placed baffle plates stall the material flow for an increased residence time in the cooler.

Through a special wire mesh bottom, a relatively small amount of gas, usually air, is pressed into the material bed, realising the agitation of the particles. By means of this agitation, the

fine-grained material then flows in a water-like manner around water-cooled pipe bundles. The gentle agitation of the material by gas ensures excellent heat transfer from the material to the pipe bundles.

The agitation gas leaves the FSC at the top and is dedusted by a bag filter. The collected dust can be added to the product.

Agitation is usually performed with air. Other gases can be used as well. In the event that oxidation of the feed material has to be avoided, agitation is carried out using nitrogen. This nitrogen can be recycled to limit operating costs.

Fluo Solid Cooler



Fields of application

Cooling of fine-grained, free-flowing materials

Used in particular at low product temperatures and/or in the case of high heat transfer demand

Gentle agitation allows even for cooling of abrasive materials

Main features

Highly efficient indirect cooling with counterflow design, leading to low discharge temperature

Gentle agitation of product from the bottom leads to improved heat exchange (no barrier layer of cold material on pipe bundles)

Majority of heat transferred from hot material to water-cooled pipe bundles

Static vessel with compact design and no moving parts

Design parameters

Input material temperature from 150 °C to 800 °C

Improved efficiency at high feed temperatures

Final product temperatures of 80 °C or below can be achieved easily

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