TRADITION AND INNOVATION - FOR LEADING CZECH TITANIUM DIOXIDE PRODUCER MIKROPUL-FILTER UP AND RUNNING ONLY 5 WEEKS AFTER ORDER

MikroPul GmbH of Cologne recently supplied a Mikro-Pulsaire fine dust collector for titanium dioxide production to Precheza a.s. in Prerov, the largest Czech producer of inorganic pigments.

Technical problems with the performance of a bag filter plant from a local manufacturer resulted in major delays in commissioning a newly-installed pigment drying line. MikroPul demonstrated flexibility and was able to come up with a solution in very short time. Within five weeks, a customized process filter was engineered, supplied and successfully put on stream. Several MikroPul systems on site are already working to customer's satisfaction, which provided confidence in MikroPul's commitment to provide the required performance and a quick execution.

The Mikro-Pulsaire is deployed for recovery of titanium dioxide product from the dryer exhaust air. The coated TiO_2 powder is a very fine multi-purpose white pigment. This powder has extremely high whiteness and is used in a wide variety of applications: paints, colours, house ware, window frames, plastic parts for the automotive industry or textile fibres contain titanium dioxide for high whiteness and colour intensities, for protection against yellowing and material brittleness. It is also used in cosmetic products (powder, cream, sun protection) or in solar panels as a whitener, brightener, catalyst or substrate.

The Mikro-Pulsaire process collector 480 L 10 TRL is designed for an operating gas flow of 33.000 m^3/h. For this application the design temperature is 160°C, whereas normal operating temperature does not exceed 125°C. Nomex, an aramid fibre providing high temperature resistance and mechanical stability was chosen as filter media. The 480 filter bags have an active filtration area of 550 m^2. A gas tight tube sheet separates the raw gas from the clean gas. The filter bags are inserted into the tube sheet from the top and fixed using MikroPul's optimized venturi bayonet fastening technology.

The fine TiO_2 powder settles on the surface of the filter bags, forming a "filter cake". Clean air leaves the filter at the top of the housing. Short pulses of compressed air at 3 - 5 bar are induced from the clean gas side into the bags to dislodge the product without interrupting operation. Once the differential pressure between raw gas and clean gas side reaches a control value, the cleaning cycle is repeated. For performance optimisation MikroPul designed special filter inlet internals to reduce vortex effects and gas velocities. Emission values in the clean gas during continuous operation are well below the specified limit of 20 mg/m^3.

With Mikro-Pulsaire filtration technology, Precheza Prerov has again chosen a proven and at the same time sophisticated technology – true to the MikroPul-Slogan "Innovation in Filtration".

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