

CLEAN AIR ON ALL CONTINENTS - MIKROPUL-FILTER FOR BAYER POLYMERS SHANGHAI

For an investment project for Bayer in Shanghai/China, MikroPul GmbH Cologne supplied a turn-key system for dust collection and product recovery. MikroPul had delivered a similar system to the same customer's Antwerp site in 1999. Since then it has been in continuous trouble-free operation to the customer's utmost satisfaction.

Reaching a total weight of 15 tons including accessories, the plant was shipped in a 40-foot container via Hamburg Seaport to Shanghai and successfully put into operation.

The stainless steel filter uses a nitrogen atmosphere to recover Bisphenol A, an abrasive industrial chemical product which tends to baking. It is mainly used as a component in polycarbonates and epoxy resins. Bisphenol A can be found in a wide range of industrial and consumer products like housings (electronics, electrical engineering), eyeglass lenses, headlight panes or paints and adhesives. Further application areas are fire prevention agents, colour developer, antioxidants for softeners or as coating for metal or plastic surfaces.

The Mikro-Pulsaire process collector 480 L 10 TRH is designed for an operating gas flow of 50.000 m³/h and is equipped with 480 filter bags. For this application a special thermo-resistant fibre with an oil and water repellent is used as filter media. The design temperature is 150°C, whereas normal operating temperature does not exceed 90°C. A bag length of 3,30 m results in an active filtration area of 528 m². Coarse dust is separated in the filter inlet area by special internals which reduce vortex effects and gas velocities. Fine dust settles on the surface of the filter bags, forming a "filter cake". Short pulses of nitrogen at 6 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. A gas-tight tube sheet separates raw gas from the clean gas side.

The filter bags are inserted into the tube sheet from the top and fixed using MikroPul's optimized venturi bayonet fastening technology. The clean gas chamber features a walk-in plenum for fast and comfortable bag exchanges and maintenance. The clean air leaves the filter at the top of the housing and is led to the stack. Emission values in the clean gas during continuous operation are well below the specified limit of 10 mg/m³.

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



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