As a result of years of experience in plant engineering and construction, Schenck has a very detailed understanding of the requirements and processes involved in cement production. We offer reliable and efficient feeding systems for the entire cement production process—from the rock quarry to the loading of cement. Our process solutions have even redefined the state of technology in bag filtration plants.

The advantages associated with our know-how and comprehensive program of services are especially evident during modernization or upgrade work. Thanks to our centralized approach to project planning and execution, as well as our core competencies in automation and installation, even complex projects can be realized with production downtimes of only a few weeks.
Highest Operational Availability During Kiln Dedusting

Because of the development of suitable filter media for highest exhaust gas temperatures and the trend towards increased use of secondary fuels, today’s approach to kiln dedusting focuses almost exclusively on the use of bag filtration plants or on the conversion of electrostatic precipitators to bag filtration systems.

RMC Technology
Because of its size, the RMC filter is the ideal application to showcase RMC technology and fully exploit its potential with respect to energy efficiency and reduced operating costs. In addition, the RMC filter operates with a stable differential pressure without pressure fluctuations and is also insensitive to short-term overloads that occur, for example, when adding secondary fuels, replacing kiln shell sections, or during switching procedures.

In this type of application, highest operational availability of the plant during continuous operation is therefore assured. With this unique technology, it is possible to use filter bags with lengths of up to 60 meters, which also has a positive impact on investment costs.

In the case of new plant designs, the chiller cooler exhaust gas is often fed into the RMC exhaust gas in a mixed filter in order to utilize synergy effects or to increase the amount of available heat when using extremely damp raw materials. RMC filter plants rated at up to 3,000,000 km have already proven themselves with respect to these concepts.

Cooling Systems
During direct operation, the RMC exhaust gas is fed into the filter directly from the prechamber, which reduces the installation of an upstream cooling system. Cooling is accomplished by injecting water into a GCT (gas conditioning tower) or by the evaporation of ambient air.

Reduction of NOX Emissions
Depending on the requirements of the application, we offer process-adapted SCR technologies for both clean gas and waste gas configurations. Individual process configurations with a variety of pre-cleaning systems or integrated heat management systems ensure reliable and economical operation.

Cyclone Bypass
When using a high percentage of secondary fuel, process-related considerations can require a reduction in the moisture content in the 6th flow, too. We offer appropriate and complete solutions that range from collection and cooling to filtration and removal of the extremely problematic bypass dust.
High Levels Of Operating Safety
During Clinker Cooler Dedusting

- Because temperatures can spike to 900 °C or higher during upset operation, we usually install air-to-air heat exchangers upstream of the bag filtration plant for the purpose of gas cooling. A carefully implemented safety and control concept that allows the heat exchanger to react promptly to upset operation is an important part of this system.

This ensures a maximum temperature of 150 or 200 °C depending on the quality of the filter bag material. As an alternative to air-to-air heat exchangers, we also offer cooling systems using water injection or innovative concepts for heat utilization, heat recovery or heat displacement, or even cooling with the FMB reduction process.

FMB Technology
The main advantage of FMB technology in clinker cooler dedusting lies in the significantly longer service lifetime of the filter bags. The use of hot gas resistant filter bags that becomes of commercial interest and makes it possible to achieve a significant reduction in operating costs over the life cycle of the plant.

Safe Solutions For Fuel Preparation

- In the case of primary and secondary fuels, fuel preparation requires dedusting systems to have specific design features with respect to explosion protection and monitoring devices.

As a rule, filtration plants installed downstream from coal grinding plants feature a shock pressure resistant design according to VDI 4657 and are equipped with extensive safety devices such as pressure vents, explosion doors and equipment for monitoring the performance of the cleaning system.

Depending on the defined zone, the components of the dedusting system used for secondary fuel preparation must meet different safety requirements according to the ATEX Directive. Our customers benefit from our comprehensive cross-sector support in explosion protection as well as from our tested components and autonomous protection systems.
HIGH EFFICIENCY IN GRINDING PLANTS

- The grinding of cement, blast furnace slag or slag sand creates extremely fine dust and high dust loads of up to 300 g/m² are not uncommon. Especially in this kind of application, homogeneous filter films are an important prerequisite for the efficient recovery of material.

To accomplish this, we use CFD simulation to ensure optimal inflow and to minimize uniform loading of the entire filter area. In addition to increasing the efficiency, this also sharply reduces missing Alf during the grinding of slag.

EQM Technology

Independent of the design of the grinding plant or other EMT, there exists a low risk of pressure loss and minimal consumption of compressed air.

The main advantage of EQM technology when used in grinding plants is a constantly low differential pressure and the significantly longer service life of the filter bags. This makes it possible to achieve consistent product quality and clearly reduced operating costs over the entire lifecycle.

SECONDARY DEDUSTING COMPACT AND PRE-ASSEMBLED

In the case of so-called secondary dust collection systems, we use being crushing, grinding, transport, storage and packaging - the trend is towards compact de-dusting systems installed directly at the emission source.

For applications like these, we offer a complete, proven and highly tuned filter program for volume flows ranging from 10 m³ per m² to 400 m³ per m². Depending on the available space and volume flow, filter bags can be installed vertically or horizontally, and filter cartridge can also be used. These systems, plants are pre-assembled, equipped with filter bags, and then delivered ready for connection and can include an optional baked enamel and precoated.
Your Reliable Partner

With our qualified employees, we offer our customers a single source solution – from consulting and project planning to production, assembly, commissioning, service and emissions testing. This makes it possible to assure not only on-time delivery, reliable commissioning with guaranteed values and efficient project handling without interface problems, but to also ensure competent customer service even after commissioning is complete. With our worldwide network of partners, we are also able to organize and coordinate Individual on-site service packages such as manufacturing, assembly or service.