



BOLDORCCHI

ESTABLISHED IN 1909

CEMENT PLANTS APPLICATIONS



WORLDWIDE ENGINEERING & PRODUCTION EXCELLENCE

Boldrocchi Applications in Cement Plants

Boldrocchi is the right partner to design, supply and successfully start up the complete gas handling and dedusting system of any cement plant. Boldrocchi has the unique advantage of having the internal know how for each of the key components, including fans, bag filters, gas coolers, dampers and silencers.

HEAVY DUTY FANS

With an experience of more than 100 years, Boldrocchi has developed a complete series of process fans for all the possible application in a cement plant. Unique design features like machined inlet cone and integral flanges are distinguishing characteristics. For every application, Boldrocchi fans will be tailor made designed in different types, sizes and arrangements, according to the flow process conditions, dust load, plant layout, in order to meet all customer requirements, and to ensure the best performances and the lowest operating costs.



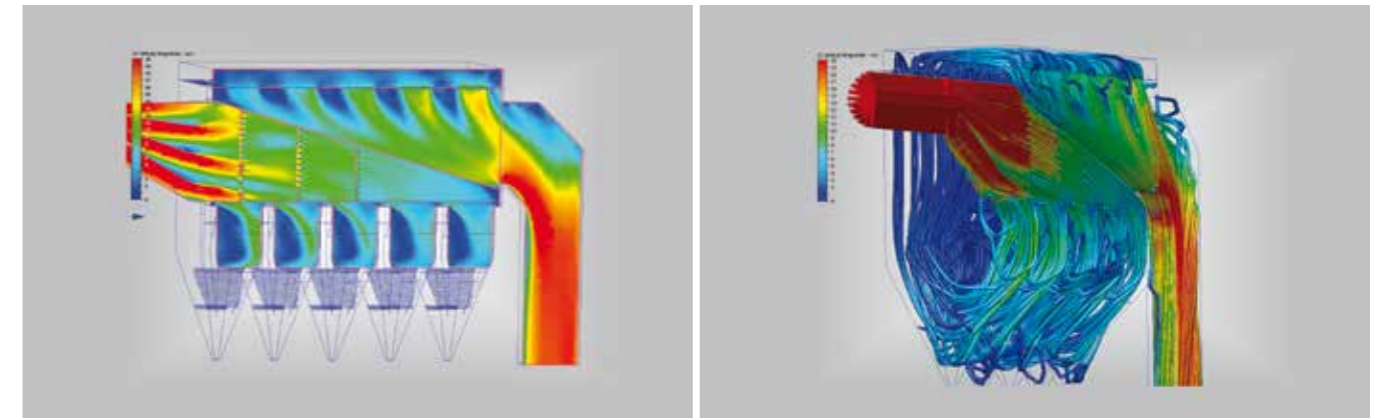
- **Kiln ID Fans** - Fan designed with operating and continuous temperature between 300° and 400° C, with peaks up to 500° C. Centre line supported fan and materials are selected for such temperatures.
- **Raw Mill Fans** - Fans with high pressure, abrasive and sticky dust are normally used for raw mill applications. Hard facing liners are foreseen on impeller blades and centre plate; material of chromium carbide used against dust abrasion.
- **Booster Fans** - Installed at the clinker cooler outlet afterword cyclones, designed suitable for high temperature and high abrasive dust content.
- **Bag Filter Exhaust Fan** - Fans with high capacity up to 2.000.000 m³/h and clean gas applications. Special design of blades, with airfoil profile, can be used to increase the static efficiency of the fan, up to 86%.
- **Cement and Coal Mill Fan** - Single or double inlet fans, with or without inlet regulating dampers, in order to meet the required performances. For no dust applications, airfoil blades can be used to increase the static efficiency.
- **Undergrate Clinker Cooler Fans** - A series of fans with different capacity and pressure, including air intake and silencers, is provided to cool down the temperature of the clinker. The arrangement is with impeller overhung, silencer in horizontal or vertical position.

PROCESS DAMPERS

Custom-designed dampers for many applications are built according to critical operational requirements, depending on pressure, temperature and airflow regulation. Additionally, we possess our technical knowledge to manufacture dampers in highly corrosive, abrasive and elevated temperature environments, like the ones installed in the down-comer ducts, raw mill circuits, clinker cooler ducts, etc.

AIR POLLUTION CONTROL

With experience gained in the course of its centuries-old history, Boldrocchi proposes itself as interlocutor prepared for the delivery of comprehensive solutions for the control of emissions in the cement industry. The portfolio of solutions that Boldrocchi is able to offer starts from the simple delivery of individual machines, up to the realization of complex turnkey plants. Knowledge of the process for each stage of production of cement is definitely the starting point in the preparation of the optimal solution: all the process equipment are tailor made designed in order to achieve the best performances.



- **Process Pulse Jet Bag Filters** - The Boldrocchi bag filters are based on the pulse jet technology, with “on-line” cleaning system, and have been developed with different types of design for each application, like Kiln and Raw Mill, Clinker Cooler, Integrated Systems and Bypass Systems.
- **High Dust Pulse Jet Bag Filters** - Specifically design to handle high dust content gas, typically from vertical mills, with the advantage to high pre-separation achievement prior to bags approach.
- **Electrostatic Precipitators** - Proprietary design and in-house manufacturing of the rigid electrodes, that are individually suspended at their top with the opposite end free for thermal expansion.
- **Hybrid Filters** - In the hybrid filters, most of the dust is collected in the first part by the ESP, while the second part reduce emissions to respect the most stringent norms.
- **Conversion of Electrostatic Precipitators in Pulse Jet Bag Filters** - When there is the need to reduce the dust emission in existing plants, the cheapest solution is generally the conversion of the ESP in a Bag Filter. The fluid-dynamic analysis of gas behavior and the design flexibility are utmost important.
- **Atex Pulse Jet Bag Filters** - Whenever there is presence of explosive dust, we are a specialist service provider, ensuring compliance to the regulations from a “Total Care” package to individual or tailored requirements.
- **General Dedusting** - Around the plant the Boldrocchi nuisance bag filters are installed to guarantee an environmentally friendly operation.
- **Gas Conditioning Towers** - GCT are proposed with dual fluid spraying system (water and compressed air) or with spillback spraying system (water at high pressure). Both solutions are with unique design in the distribution plates at the inlet to optimize the gas cooling and water evaporation.
- **Air-Air Heat Exchangers** - The Boldrocchi air-air heat exchangers are designed to last for long time, without any need of maintenance. The lowest pressure drop and power consumption is always a key feature of this equipment.

BOLDROCCHI SERVICE

Plant production can frequently be increased by modifying only few components, while others have been originally supplied with enough margin. The possibility of increasing the fan capacity and pressure, while minimizing the modifications to layout and ductwork, is an important parameter that may help to make the decision to proceed with the modification of the plant. EM&S is our service division dedicated to the upgrade of existing installations, having the possibility to grant all the needed services, starting from the feasibility study up to the supply, installation and commissioning of the new components, including field balancing.



COAL MILL FAN



RAW MILL FAN



KILN ID FAN



CEMENT MILL AND SEPARATOR FAN



BOOSTER FAN



BAG FILTER FAN



CLINKER COOLERS FAN



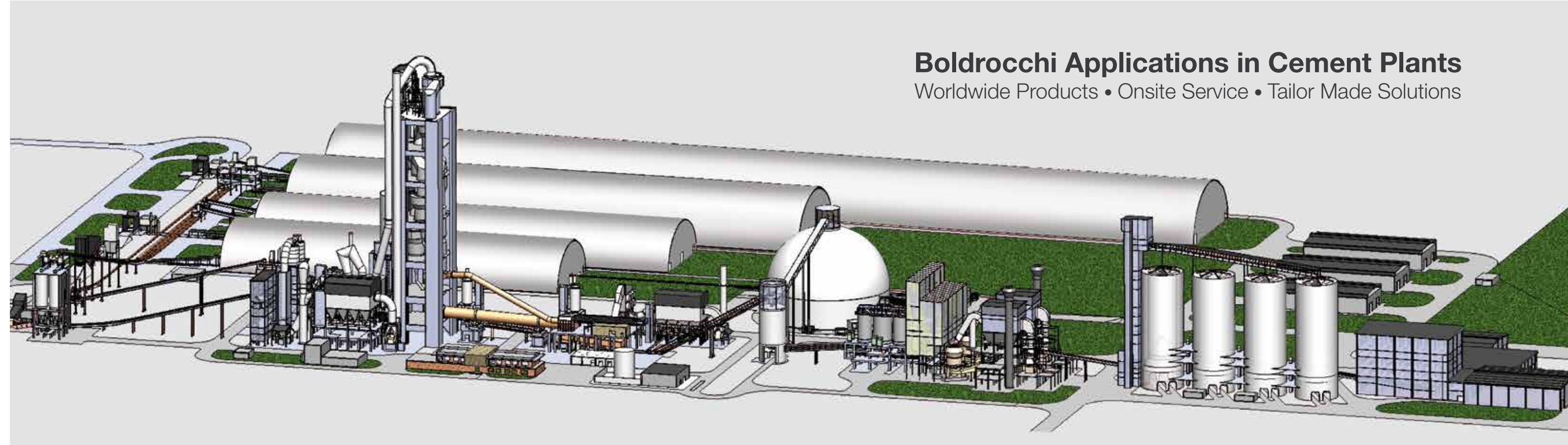
FAN UPGRADE



PROCESS DAMPER



GAS CONDITIONING TOWER



Boldrocchi Applications in Cement Plants

Worldwide Products • Onsite Service • Tailor Made Solutions



AIR-AIR HEAT HEXCHANGER



SILENCER



GENERAL DEDUSTING



ELECTROSTATIC PRECIPITATOR



BYPASS BAG FILTER



KILN AND RAW MILL BAG FILTER



INTEGRATED BAG FILTER



HYBRID FILTER



CLINKER COOLER BAG FILTER



COAL MILL BAG FILTER



CONVERSION OF ESP IN BAG FILTER



TURN-KEY PROJECTS



BOLDROCCHI

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