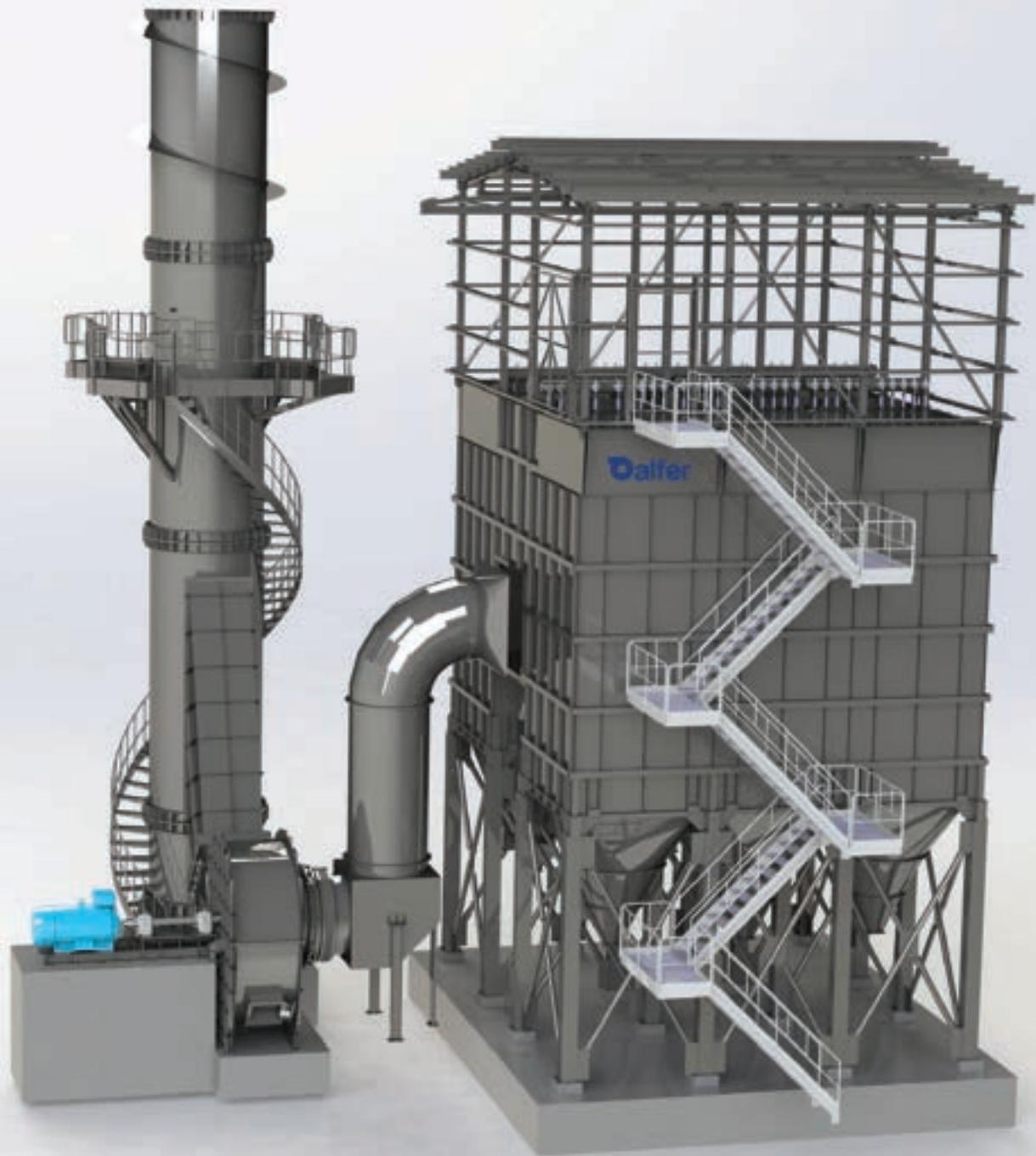


1984



**Dalfer**

DUST COLLECTION  
SYSTEMS



- Flow capacity up to **6,000,000 m<sup>3</sup>/h**
- Capacity and outlet emission guarantee up to **5 mg/Nm<sup>3</sup>**
- With advanced  $\Delta P$  Cleaning System **minimum compressed air consumption**
- Expertise in **Design, Project, Engineering, Manufacturing, and Commissioning** services

The logo for Dalfer, featuring a stylized blue 'D' icon followed by the word 'alfer' in a bold, blue, sans-serif font.



Dalfer



## About Us

- Alfer Engineering maintains its business activities with a total area of 20.000sqm located in Ankara along with consciousness of value added approach considering the needs of the industry.
- Alfer Engineering with its filtration systems commenced manufacturing since 1998 and became one of the mostly preferred brand at the industrial plants with its filtration systems. By starting its activities with pre-sales services provided to the customers such as project execution, technical consulting, exploration based site visits, as well as constant after-sales services such as periodic maintenance and instant site supervision activities.
- Dedusting systems designed with advanced level production methods, provides a privileged place to the Alfer brand in its sector by considering the importance of being a solution partner to its end-users.
- Although being one of the leading fan and filtration system solution provider in the domestic market with its strong structure, export activities do conduct in 41 different countries and constitutes 25% part of its capacity.
- Thanks to its production methods and the utilization of standard components in the production cycle, Alfer Engineering is capable of offering bag filters and fans considering high level of quality, efficiency, affordable pricing and short delivery durations.

- Due to the specific experience of tailor-made design and production activities of "Alfer Engineering", even the complex issues are subject to be solved in technical aspects
- Alfer ensures continuous development of the products by the Research and Development department and operates to be able to meet the special requests of its customers.
- Our institutional vision is to be a company acting in full compliance with the laws and ethic rules, adopting a participant and transparent administration form, giving particular attention to become integrated with the customer, making investment consistently to research and development by ensuring importance to the innovations and creativity, by acknowledging its responsibilities towards the community, state and environment acting accordingly, enlarging its aims by carrying its owned vision one step further.
- By being the leading company of its sector in Turkey, Alfer Engineering has also an aim to have a say in the world markets by improving itself day by day.

# Applications

## Cement Factories

The activities of Alfer Engineering has commenced with dedusting filter units and currently continuous with the production of;

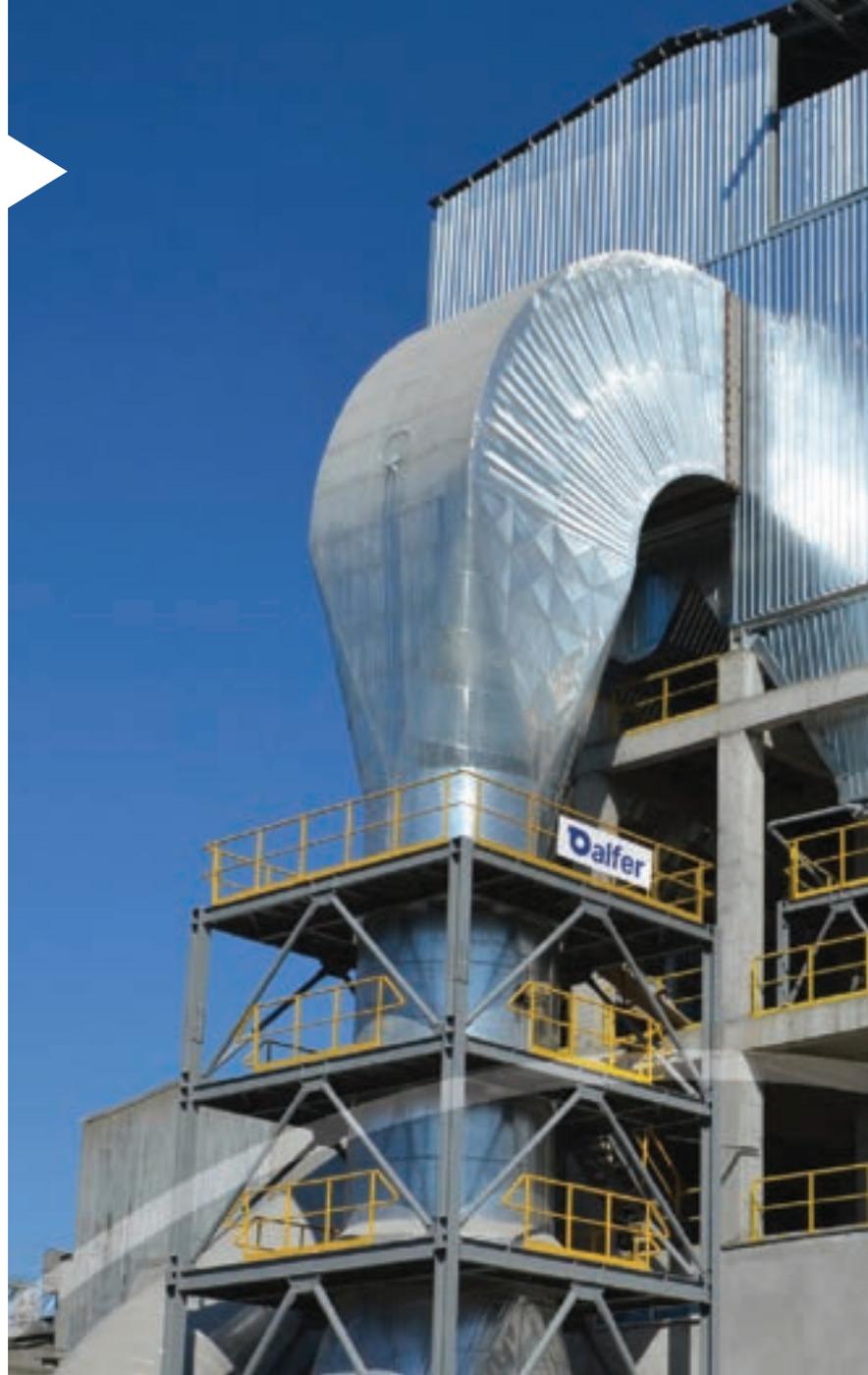
- Raw Mill Furnace Bag Filter
- Cement Mill Filter
- Clinker Cooling Bag Filter & Heat Exchanger
- Coal Mill Filter
- Dedusting filters

Bag filter units of Alfer Engineering are designed in compliance with the necessities of each single plant with a proven track record due to their high efficiency based operational functions.

## Iron and Steel Factories

For iron and steel factories;

- Sintering Plant Dust Collection System
- Sintering Cooling Area Dust Collection System
- Coal Breaking and Preparation Unit Dust Collection System
- Lime Plant Dust Collection Systems
- High Temp Furnace Casting Area Dust Collection Systems
- Arc Furnaces Area Dust Collection Systems
- Desulphurization Area Dust Collection Systems
- Pouring Pits Area Dust Collection Systems
- Band Conveyor Transfer Towers Dedusting Filters





## **Power Plant**

Alfer Mühendislik has the experience that shall meet the necessities of;

- Boiler Exhaust Chimney Filters
  - Coal Breaking and Preparation Unit Dust Collection System
  - Band Conveyor Transfer Towers Dedusting Filters
- for the Coal Boiler Steam Power Plants, it has been meeting for many years the requests of the steam power plants in this area.

In addition, Alfer Mühendislik has the experience, practice and international cooperation being able to fulfill the conversion requests of the currently used ESP type filter to bag house type ones.

## **Integrated Wood, MDF and Fiberboard Industry**

Our company has also created very important references within the integrated wood sector necessitate to have also significant experience and knowledge in the engineering and project area. Within this scope, Within this scope; Alfer Engineering is capable of providing below cited type filter systems;

- Laying Line Dust Suction Filter
- Press Line Dust Suction Filter
- Edge Cutting Line Dust Suction Filter
- Dimensioning Line Dust Suction Filter
- Coating Line Dust Suction Filter
- Parquet Line Dust Suction Filter
- Door Line Dust Suction Filter
- Faulty Polish Unit Dust Collection System
- Press Line Above Airing System
- Pneumatic transportation line system for carrying the under filter dusts to Reject silos

In addition, Alfer delivers the bag filter systems and pneumatic transmission lines by designing them according to the necessity of the plant.



Dalfer



## Other Application Areas

- Metal processes: grinding, stich, sanding and polishing
- Wood industry
- Bio mass Power Plant
- Chemistry and Drug Industry
- Asphalt Mixing Factories
- Material Processing
- Ceramic industry, Plaster Limestone Plants
- Mixing and blending processes
- Mining
- Food Plants
- Casting Factories
- Waste Washing Facilities
- Zink Facilities
- Glass facilities
- Battery facilities / Lead melting



Dalfer



# Dedusting Systems

Alfer, which is the preferred brand of the industrial/heavy duty fans for many years, commenced to take part in dust collection systems based industrial needs of the industry since 1998.

Alfer Engineering; has been carrying out projects, in specific to engineering, production, assembly, and commissioning works of the turnkey based dedusting systems consist of jet pulse bag filters, rotary valves, cyclone, fan and air circulation pipe installations, back flow valves, pneumatic dust transmission systems, air slides, transporters with bands and chains, transport elements.

## Characteristics

- Filters with Bags Up To the Capacity of 3.000.000 m<sup>3</sup>/h
- Capacity and Output Emission Guarantee [up to 5 mg/Nm<sup>3</sup>]
- Specially Designed Filters Suitable for Every Kind of Operation Conditions
- Filter Bags made of Fabrics Suitable for Load and Chemical Structure of the Dust to be Held, Humidity and Temperature of the Fluid
- Fully Automatic, PLC control Unit and Minimum Pressure Air Consumption by Means of Developed DP Cleaning System
- Dust Silos and Bunker Constructions
- Cyclone and Multi-cyclone Groups
- Silo Top Filters
- Filters with Cyclonic Bag





# Filters with Jet Pulse Bags

Jet Pulse Bag Filters have been used densely for the purpose of cleaning the industrial process gases. These filters in the steel structure consisted of bags, pneumatic air system, air lock, conveyor unit, automatic control system and fan that are selected in optimum number in conformity with the dust type.

## **Alfer Engineering, according to the needs of the customer:**

- Able to design the filters according to the cleaning method as online or offline.
- Able to produce the filters as rustproof or abrasion resistant steel.
- Makes the selection of the most suitable filter bag by taking into account the physical and chemical features of the dust to be filtered.
- Rustproof feature applied steel wire-frame might be utilized in specific to the requested length, diameter and dimension. Galvanization process also applied against rusting, or rustproof steel wire-frame and venturi might be utilized according to the feature of the system, by determining the number of wires, diameter and length according to the specification of the process.



# Bag Filter Accessories

Alfer Engineering manufactures filter and filter fans inhouse and procures the auxiliary equipment such as pneumatic air tank, filter cage, rotary valve, filter bags from the leading suppliers of the sector.



# Cyclone Dust Collectors

Cyclone dust collectors have been used, in the industrial facilities, as pre-extractor for the purpose of reducing the load of dust coming to the filter, holding coarse particules. By this means, bag filters do function in a better productivity level.

## Parameters required for the appropriate cyclone selection:

- Flow and heat of the gas
- Particle size of the material to be collected, analysis, dust distribution
- Specific weight of the material to be collected
- Desired dust load at cyclone exit
- Targeted collecting efficiency

i.e. they are the information such as ratio of the material held in the cyclone to material entering into the cyclone. Al-fer Engineering has been conducting the cyclone design and production by utilizing all these design inputs.





## Heat Exchanger – Cooling Exchanger

One of the effective operation condition of the jet-pulse bag filters is the filter inlet temperature of the gases due to the sensitivity of the filter bag units against heat. With respect to this matter, the temperature of these gases necessitate to be cooled down during penetration. This process does perform by means of pre-filtration systems called cooling exchanger, i.e. heat exchangers. The penetrated gases necessitate to be cooled down by flowing through the heat exchanger units located in the end of the filter by means of axial fan units. In the aftermath , dust collection process is being ensured.

Alfer Engineering, along with its bag house filter and fan system units , has been continuing to transfer its experience in the subject of fabricating cooling exchanger, together with the axial fans to the sector.



# ESP Conversion Projects

Alfer Engineering is able to carry out to complete and perform ESP (Electrostatic Dust Collecting Filter) conversion projects into jet pulse bag house type filter units with its design and engineering capabilities proven by several successful projects especially conducted in the Cement sector. Hence, each an every day the decision makers of the sector does prefer our tailormade solutions. Considering the similarities of the general body structure of the ESP and Jet pulse bag filters, our designers do prefer to utilize the same steel structure to be able to avoid additional cost necessitate to be reflected to the end-user. As a result of conversion projects, emission ratios of plants do drastically decrease down below 10mg/Nm<sup>3</sup>h as well as having energy and maintenance friendly cost effective applications. Our company, also in this subject, has been providing service to many companies leading in their sectors and providing solutions with its owned engineering knowledge and experiences.



**Cement Raw Meal Kiln ESP Conversion**  
895.000 m<sup>3</sup>/h



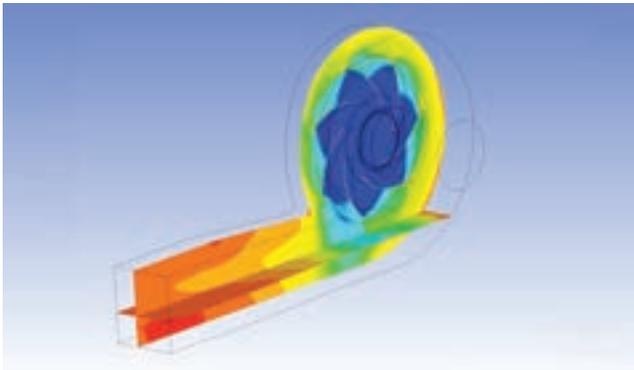
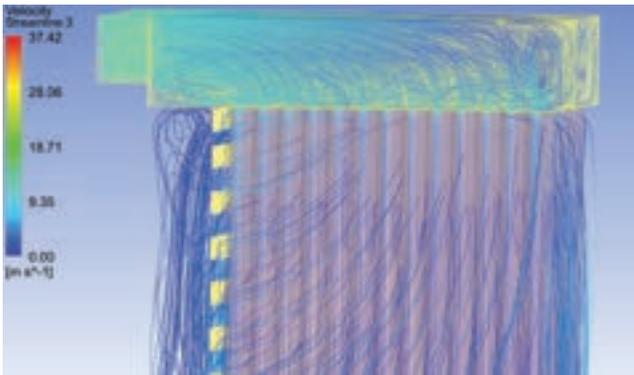
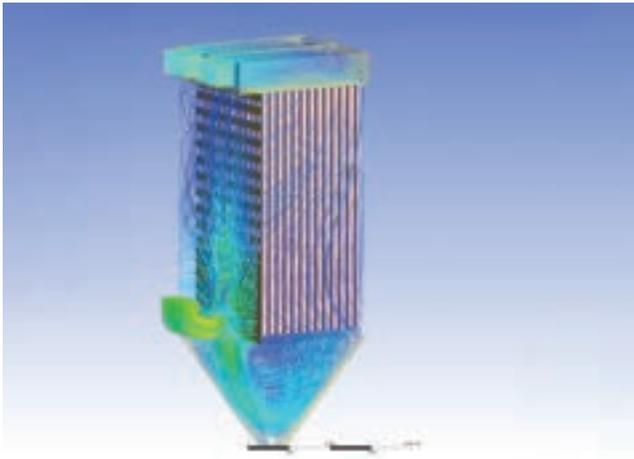
**Cement Raw Meal Kiln ESP Conversion**  
220.000 m<sup>3</sup>/h



**Cement Raw Meal Kiln ESP Conversion**  
425.000 m<sup>3</sup>/h



**Cement Mill ESP Conversion**  
90.000 m<sup>3</sup>/h



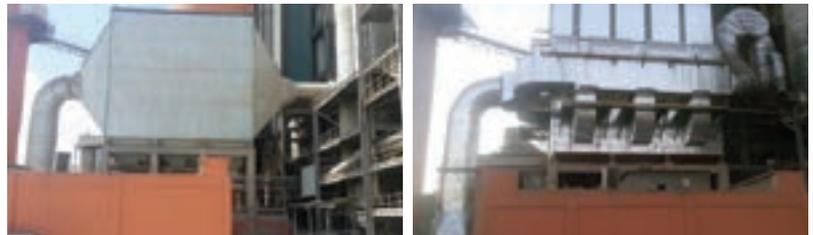
**Cement Raw Meal Kiln ESP Conversion**  
650.000 m<sup>3</sup>/h



**Cement Raw Meal Kiln ESP Conversion**  
500.000 m<sup>3</sup>/h



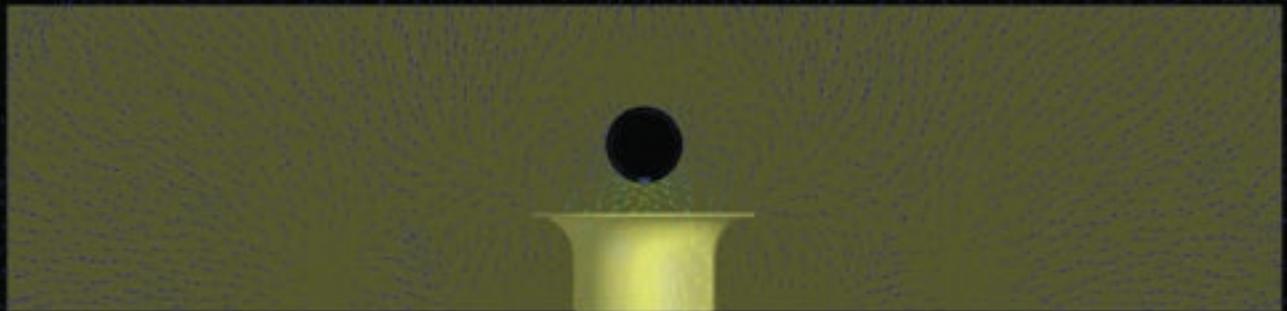
**Cement Raw Meal Kiln ESP Conversion**  
508.000 m<sup>3</sup>/h



**Cement Raw Meal Kiln ESP Conversion**  
647.000 m<sup>3</sup>/h

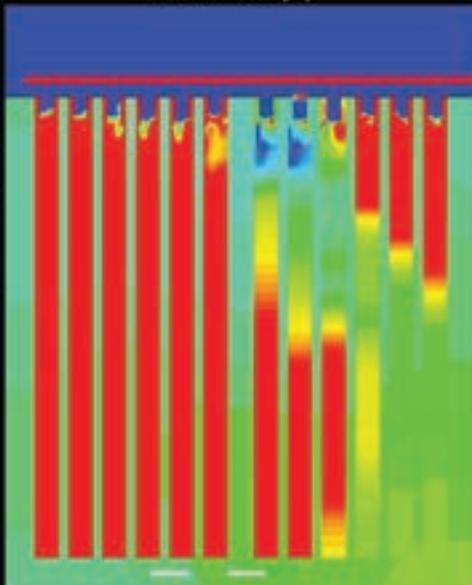
Time Value = 0.002 [ s ]

Velocity  
Vector 1

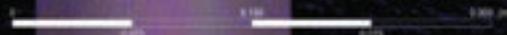
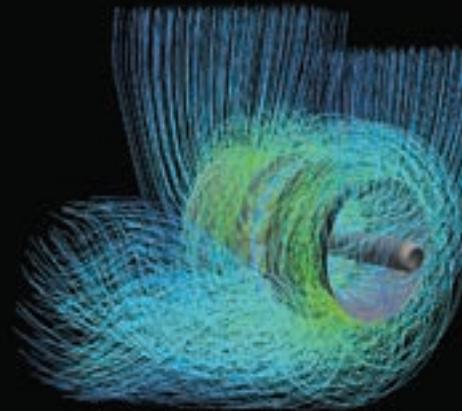


Time Value = 0.03 [ s ]

Pressure  
Contour 1



Velocity  
Streamline 2



# Research & Development

## How we do increase the filter performance ?

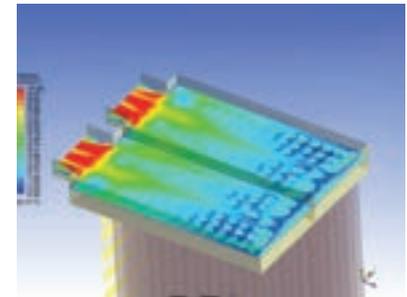
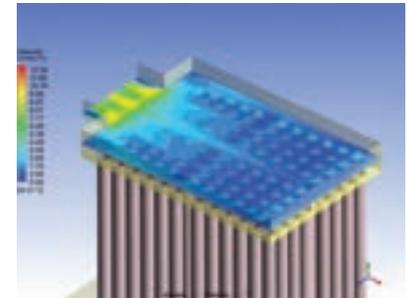
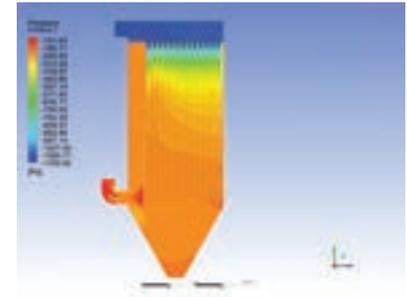
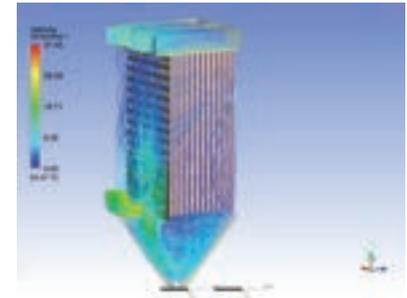
Alfer Engineering ascribes great importance to research and development during the entire manufacturing process. Our goal is to produce better quality, less energyconsuming systems and to provide these products to our customers. Alfer Engineering closely follows all the latest developments in filtration technology and energy efficiency fields, for the benefit of our customers and attempts to develop its products in this direction. All these activities are carried out by our R&D department.

## Flawless filtration units are designed by means of CFD Analysis;

- Thanks to our advanced CFD (Computational Fluid Dynamics) capabilities, we can perform the simulations of the filter unit related working conditions in order to see the flows in a computerized environment.

With the CFD simulation, we can provide detailed information on the following concepts and events:

- Fluid behaviors dependent on stable regime or time
- Pressure, velocity and temperature distributions
- Heat transfer
- Single-phase and multi-phase flows
- Constant density fluids and compressible fluids
- Particles and smoke distribution
- By means of cleaning system analysis and consumption of compressed air performance diagrams, tailor-made nozzle and venturi equipments.



# Our Services

All the services to be provided with respect to research and development, consultancy and after-sale fields are offered in an innovative manner and by following the latest developments in the market, by our experienced and dynamic team who acts with the awareness of being a solution partner and with the excitement of finishing new projects. Alfer Engineering experts take part in all the processes carried out on site within the scope of the installation, commissioning, training, maintenance and after-sales services, and they coordinate all the training activities deemed necessary.





### The Fields We Provide Services For

- Technical Consultancy
- Exploration visits and on-site detection of the needs
- Design
- Installation and commissioning
- Running CFD analysis for the sake of ensuring the aerodynamic optimization
- Technical Service and Periodical Maintenance
- Maintenance and Repair of Fans and All Our Products
- Revision and Capacity Increase in Filter Fans
- On-Site Vibration Analysis of the Filter Fans
- Making Flow and Pressure Measurements
- Spare Parts Supply Services





Dalfer

# References

Since 1984, Alfer Engineering has obtained important references in both product supply and turnkey projects in several different sectors including cement, iron and steel, integrated wood, metal, iron, machinery and construction sectors, both within the country and abroad, until today, several filter units of various capacities up t have been manufactured according to both customer demands and needs, relevant services, including installation, maintenance and repairing services.



**Cement Mill Bag Filter**  
610.000 m<sup>3</sup>/h



**Cement Mill Bag Filter**  
150.000 m<sup>3</sup>/h



**Cement Raw Mill Kiln Bag Filter**  
675.000 m<sup>3</sup>/h



**Cement Raw Mill Kiln Bag Filter**  
508.000 m<sup>3</sup>/h



**Cement Raw Mill Kiln Bag Filter**  
650.000 m<sup>3</sup>/h



**Cement Klinker Cooling Bag Filter and Heat Exchanger** 455.370 m<sup>3</sup>/h



**Cement Raw Mill Kiln Bag Filter**  
900.000 m<sup>3</sup>/h



**Cement Mill Bag Filter**  
610.000 m<sup>3</sup>/h



**Cement Mill Bag Filter**  
170.000 m<sup>3</sup>/h



Dalfer



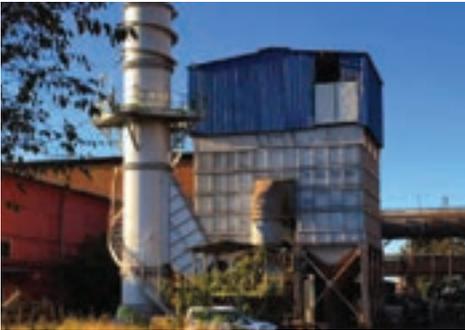
**Iron and Steel Desulphurization Plant Bag Filter**  
220.000 m<sup>3</sup>/h



**Iron and Steel Sinter Ore Preparation Plant Bag Filter**  
300.000 m<sup>3</sup>/h



**Iron and Steel Coke Crushing Plant Bag Filter**  
100.000 m<sup>3</sup>/h



**Iron and Steel Sinter Raw Material Warehouse Plant Bag Filter**  
275.000 m<sup>3</sup>/h



**Iron and Steel Induction Furnace Dedusting Filter**  
600.000 m<sup>3</sup>/h



**Integrated Wood Dedusting Plant Bag Filter**  
110.000 m<sup>3</sup>/h



**Magnesite Mine Dedusting Bag Filter**  
200.000 m<sup>3</sup>/h



**Integrated Wood Cyclonic Filter**  
5.000 m<sup>3</sup>/h



**Casting Plant Bag Filter**  
150.000 m<sup>3</sup>/h





## Our Certificates

Alfer Engineering shall continue, as well, to stand by its customers through new projects in accordance with its "customer oriented" principle, and to promote its name and to increase its share both in the domestic and foreign markets with its increasing quality of service.

With this understanding; we adopt the first article of our existing quality policy, which reads "to keep in mind customer satisfaction in all our activities, and in this respect, to deliver products and services comply with both nationally and internationally recognized values and standards" as our main principle, and we will continue on our way by adding new ones to our existing certificates.







## Alfer in the World

Having signed important projects with the giants of its sector in the domestic market, Alfer Inc. has also significant share in the foreign markets. In addition, our company has succeeded to become an approved supplier in cement and iron & steel industries through major contracts we made during recent years with the world's largest engineering and equipment provider companies as well as EPC contractors.. By doing this, our company shall have the opportunity to take part in important projects in the world market.



Dalfer

ALFER

www.alfer.it





**ALFER Mühendislik Taah. ve San. Tic. A.Ş.**

Ankara 1. Organize Sanayi Bölgesi Oğuz Caddesi

No:15 06930 Sincan/Ankara

Tel: 0312 267 01 42 / Fax: 0312 267 19 40

[www.alfer.com.tr](http://www.alfer.com.tr) [alfer.satis@alfer.com.tr](mailto:alfer.satis@alfer.com.tr)