

**BEHINSA**  
Green Industries Optimizers



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# GREEN INDUSTRIES OPTIMIZERS

**Dust Collectors**

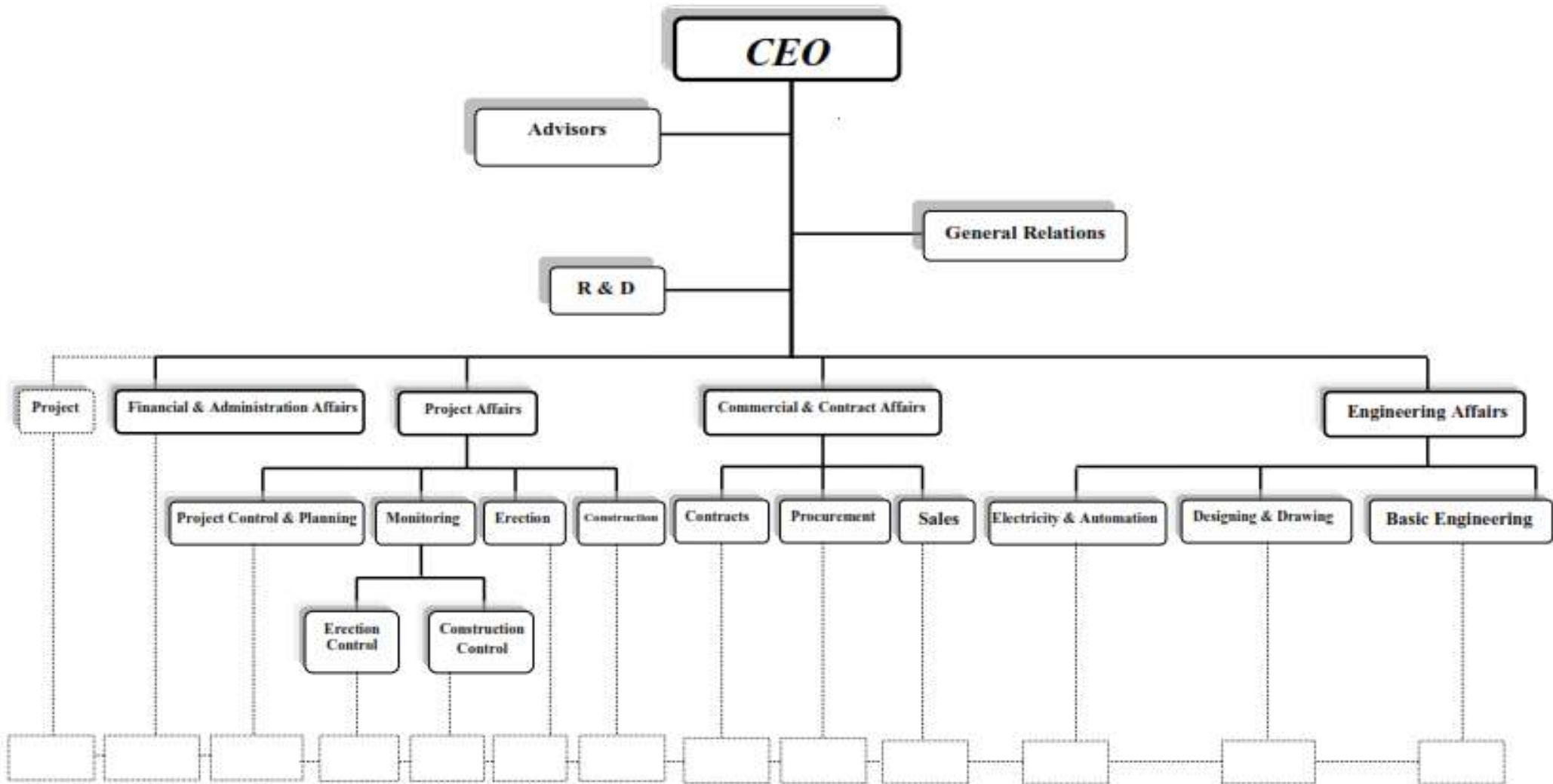
**High performance**

## **Introduction of BEHINSA.CO.**

Due to the importance of the safety and clean Environment in the world, Green Industries Optimizers Company (**BEHINSA**) has been established (in 2008) and started a mission in order to optimize and renovate the existing de dusting systems and equipments of different Industries and help to prevent environmental pollution.

### **Some of the targets in our mission are:**

- Designing, manufacturing, erecting, and commissioning of de dusting systems including ESP, Bag Filter, Hybrid Filter and all types of industrial ventilations
- Studying of existing de dusting systems and proposing the optimization ways
- Consulting for optimization of operation and maintenance of de dusting systems
- Designing, optimizing, manufacturing, and erecting of ducts
- Studying the Fans of de dusting systems and optimizing their operation
- Training courses for the personals for better operation and maintenance of de dusting systems
- After sales service and supplying of spare parts for filters such as, Filter Bags, Bag Cages, Venture, Air Tank and Diaphragm Valves.



*Organizational Chart of BEHINSA Co.*

# *Our Experience*

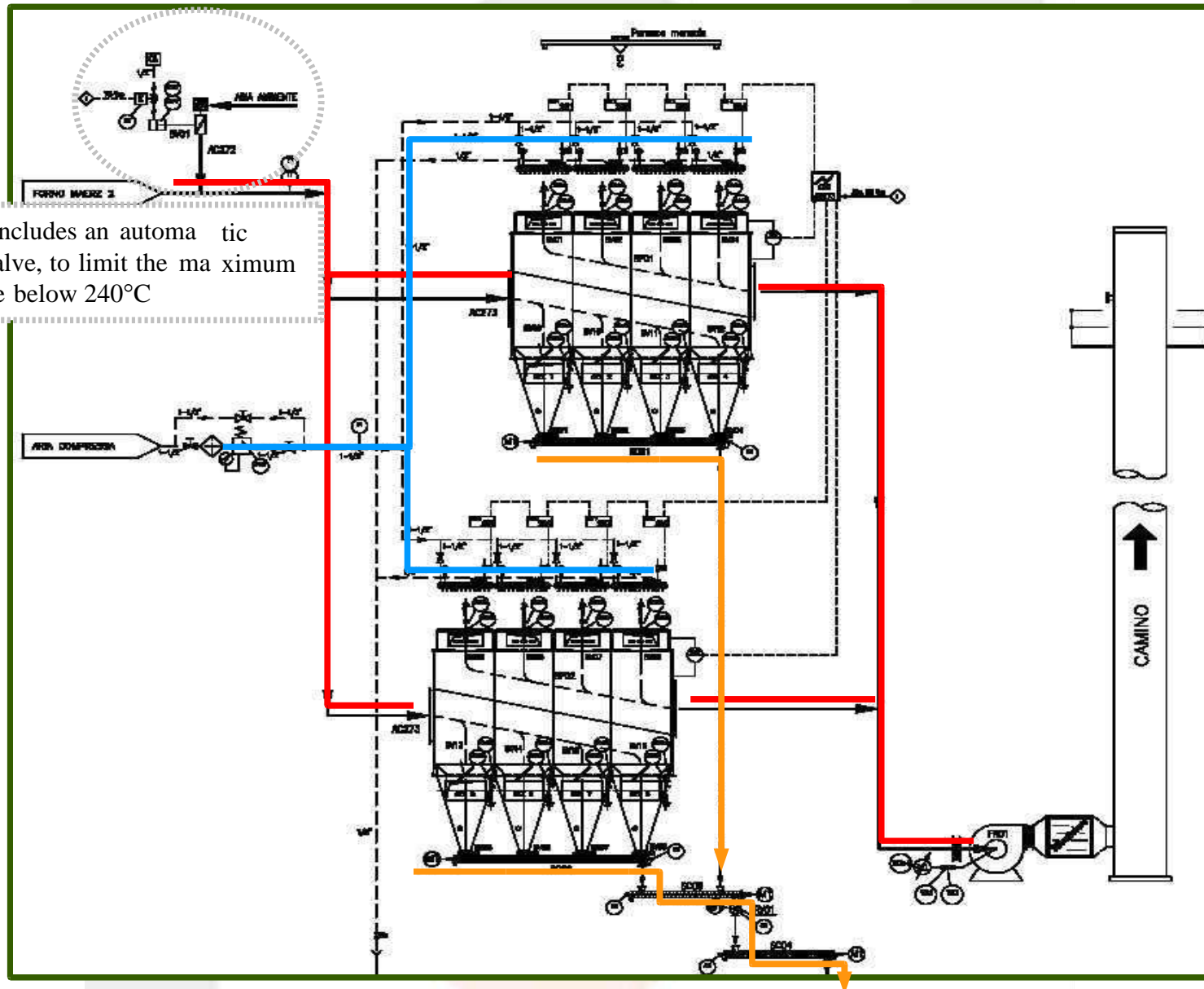
## *Our Experience*

- Design of more than 386 units bags filter and bag house in different departments including:
  - Design of filter main equipment and fan
- Design of filter accessories such as: Ducting (from de dusting points to filter , from filter to fan , stack , emergency dampers , fresh air system.)
- Conveying system and silo including chain conveyors , bucket elevators , screw conveyors, rotary air locks.



# PLANT FLOW SHEET

The plant includes an automatic bleed air valve, to limit the maximum temperature below 240°C

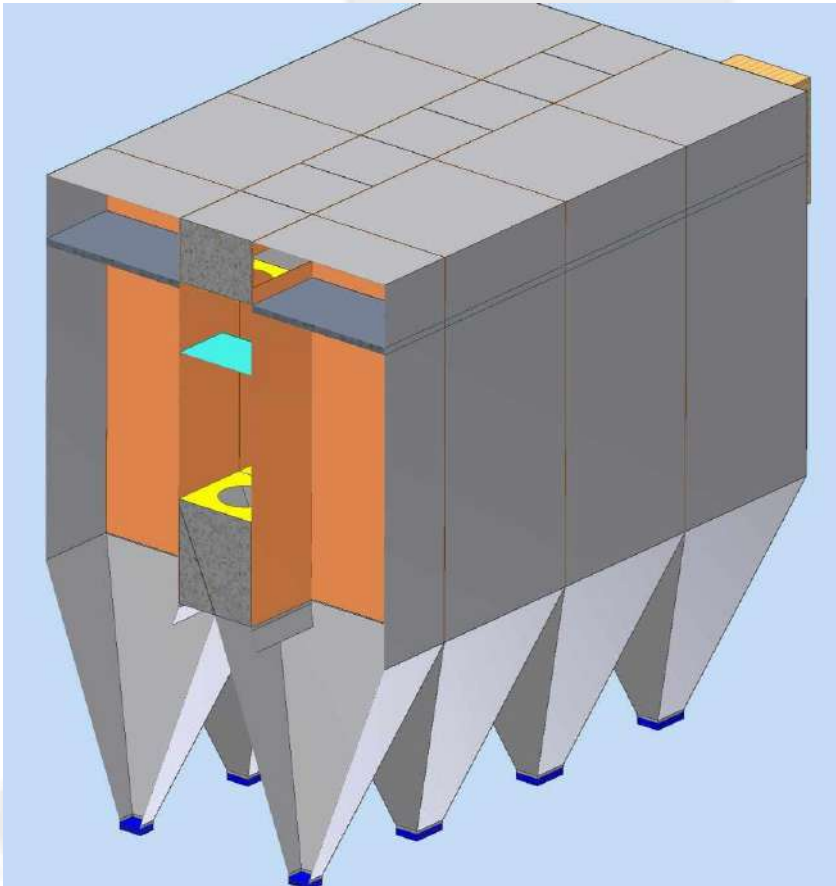


## Design

- General arrangement
- Cleaning and filtering system
- Ducting systems



## General arrangement



The filter is made Of 8 compartments, Arranged in roughs of 4, placed beside an integrated central duct (inlet and outlet)

## General arrangement



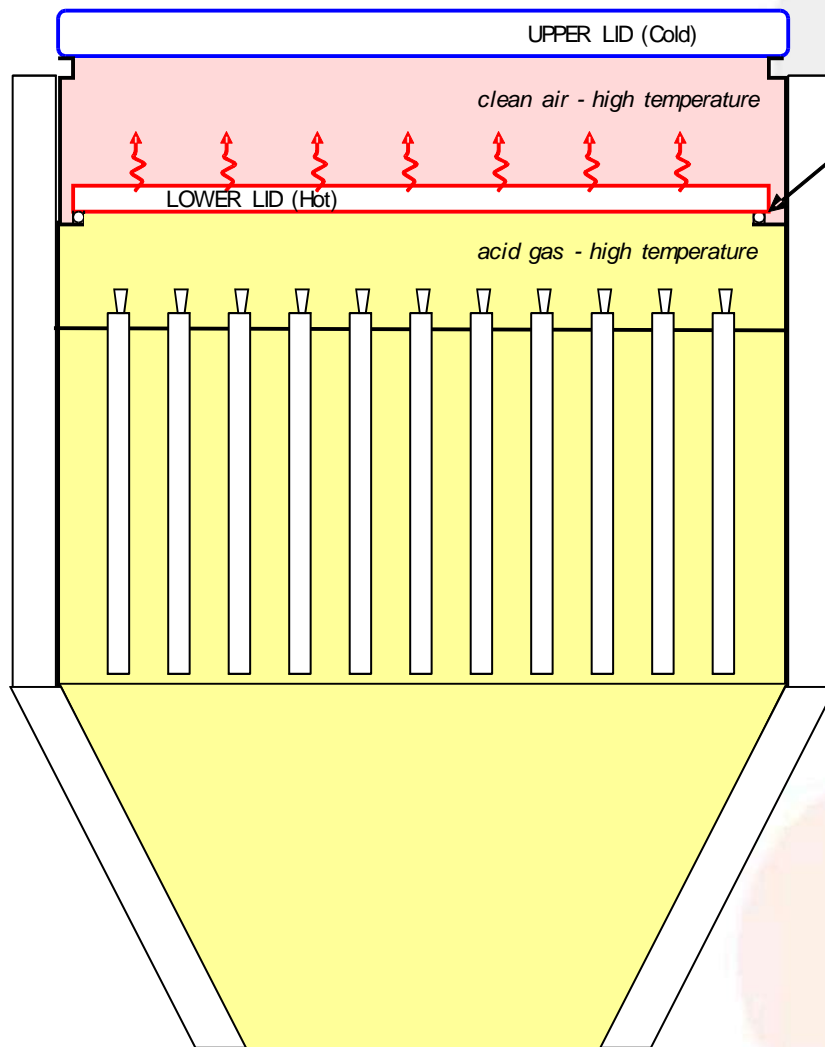
Compartments in the top housing



Hoppers arrangement and access

Both system and accessories are conceived in a clean solution, for easy access and safe maintenance

## DL Sinsulationsystem



sealing  
gasket

The filter head is equipped with our  
**Double LID System (DLS)**

### **LowerLid:**

- Gas tight
- No cladding

### **UpperLid:**

- Non air tight
- Thermally insulated

## Cleaning and filtering system



**SEMI-IMMERSED** air receivers  
fully shop assembled with:

- sealing on a single flange
- semi-immersed air pipes
- no additional flexible fittings
- best thermal insulation



**PRESS RING** bag fixing system

- best sealing for zero emissions
- easy and fast installation
- reduced critical points

# **Manufacturing, Transport & Erection**



## Manufacturing, Transport & Erection

The Design of the bag filters, as well as the other is focused to minimize the assembly phases during the erection :

- highest degree of pre-assembly
- dimensions optimized for the transport
- reduction of the number of parts
- reduction of the site welding



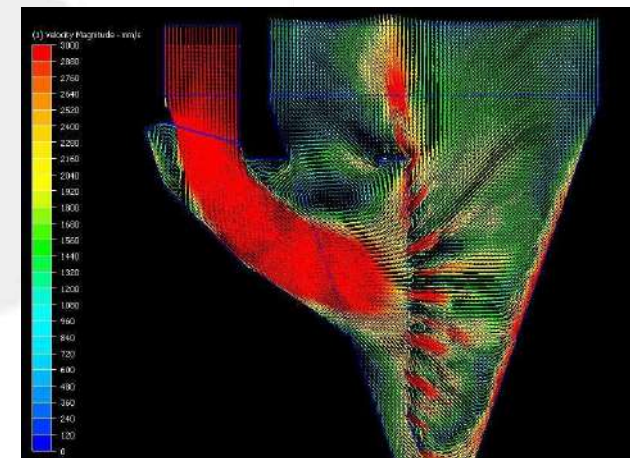
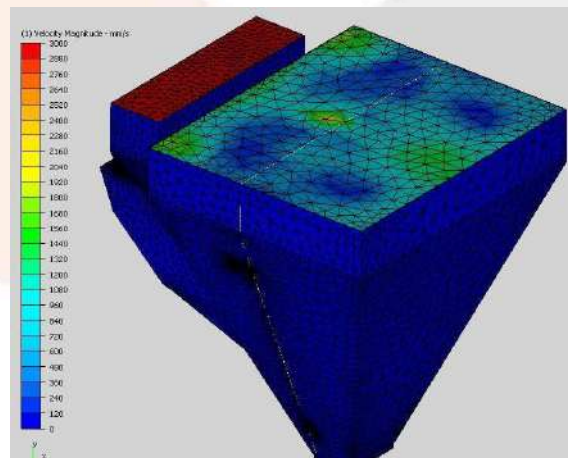
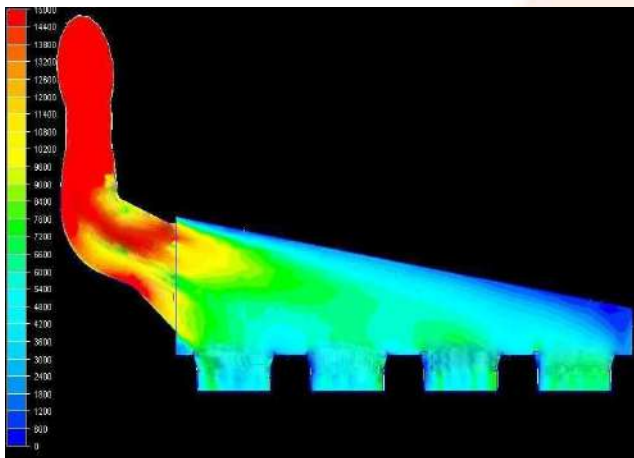
# Fluid-Dynamics & Gas Distribution



## Fluid-Dynamics&Gasdistribution

Special care has been taken with the gas distribution matters:

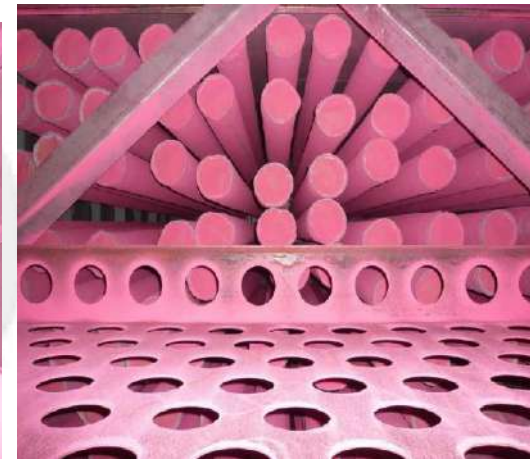
- gas flows division in the 8 hoppers
- reduction of velocity and swirls inside each hopper
- velocity distribution at the base of the bags
- reduction of the velocity gradients in all the parts of the filter



The FD design takes advantage of our 20 years experience in advanced dust collectors

## Fluid-Dynamics&Gasdistribution

The efficiency of the distribution system has been tested during the “leakage test” through fluorescent dust put in the duct up stream the filter



The dust was found evenly distributed between the compartments, on the walls and the bags



# **GREEN INDUSTRIES OPTIMIZERS**

## **Electrostatic Precipitators**

### **Revamping, Optimization, Maintenance**

## 3 QUESTIONS

- *Are you unsatisfied with your precipitator?*
- *do you need to reach better performance from it?*
- *is your wish to keep it at its best?*



**IF SO, THERE IS ROOM TO WORK TOGETHER**



## *Our VISION*

*The Electrostatic Precipitator (ESP) is a device that in certain domains and countries will remain the Reference Technology for fume dedusting Conditions for satisfactory and constant results at the stack are:*

- *SCHEDULED MAINTENANCE*
- *TECHNOLOGICAL UPDATING*
- *PROFESSIONAL TUNING AND PERMANENT SURVEY*

**We are available to assist the client in all the 3 phases of the process, with a dedicated structure made of skilled engineers and technicians**

## **PROPOPSAL OUTLINES**

*We are also available for deeper interventions, involving modification on several aspects, for improving the performance of an ESP:*

- ***FLUID-DYNAMICS AND GAS DISTRIBUTION AT INLET/OUTLET***
- ***REPLACEMENT OF ELECTRODES FRAMES, COLLECTING PLATES***
- ***REVAMPING OR REPLACEMENT OF HV SETS***
- ***PROCESS CORRECTIONS, INCLUDING GAS PURIFICATION***

### **REDUCTION OF THE EMISSION ALLOWANCE:**

**this kind of intervention can get you out of troubles, in a short time**

# *Some References*



### **PERSIAN GOLF SAROOJ LIME**

Basic engineering, detail design, supplying and manufacturing of the equipment of 16 Bag filters sets, including Bag filters, ducting and Fan...

### **SHAHROOD STEEL CO.**

Basic engineering and detail design the equipment of Bag house, ducting and Fan...

### **SABZEVAR STEEL CO,**

Basic engineering, detail design, supplying and manufacturing of the equipment of Bag filters, including Bag filters, ducting and Fan...

### **SIRJAN GOL GOHAR STEEL CO**

Basic engineering, detail design, supplying and manufacturing of the equipment of Bag house, including Bag House, ducting and Fan...

### **MOND DASHTI Cement**

Basic engineering and detail design the equipment of 19 Bag filters, including: GA, loading and manufacturing, ducting and chimney drawings

### **SIRJAN JAHAN STEEL COMPLEX**

Manufacturing of SRSM fume de-dusting system equipment for new steel making plant, including: 19 damper with actuators & dust transportation system (horizontal and vertical chain conveyor)

**GOL-E GOHAR IRON & STEEL DEVELOPMENT CO. (G.I.S.D. CO.) /  
KOWSAR GISD MEGA MODULE PROJECT**

Engineering, designing, manufacturing, supplying and installation of 4 dust collection system (Bag filter type), including: basic engineering, detail design, drawings, materials, fabrication, inspection, testing, painting, tagging, marking, commissioning and startup and 2 years spare parts, packing, preparation for transportation, guarantee and warranty of whole bag filters , etc.

**ZARAND STEEL CO.**

Manufacturing and erecting of 5000 tones steel structure and equipment of Sinter machine department

**PAXAN CO.**

Engineering, designing, manufacturing, installation and commissioning of a bag filter for spray dryer dept.

### **SHAHROUD Cement**

Engineering, designing, manufacturing and installation of a bag filter for top of clinker reject silo, line 2.

### **BRIS CASTING FACTORY**

Basic engineering and detail design the equipment of the Bag House, including: GA, loading and manufacturing, ducting

### **SHAHROUD Cement**

Engineering and redesigning of dust transportation system drawings for a bag filter under the silo of cement line 1, under the silo of cement line 2, reject BF line 1, Amund BF line 1 and crusher and lime BF.

### **DELIJAN CEMENT (OMRAN ANARAK Cement CO.)**

Optimizing of bag house cement line 1,2 with converting its cleaning system from reverse air to jet pulse.

**DELIJAN CEMENT (OMRAN ANARAK Cement CO.)**

Engineering, ducting designing and detail designing of all electrical and mechanical equipment of bag filters.

**DELIJAN CEMENT (OMRAN ANARAK Cement CO.)**

Re-analyzing and re-designing of 33 BF.

**GOLGOHAR Mining & Industrial Company**

Cabling, preparation, installation and commissioning for online monitoring

**SOUFIAN Cement**

Converting 4 bag filters from revers air to jet pulse with disassembly, installation and commissioning.

**TEHRAN Cement**

Basic engineering and detail design the equipment of Bag house, ducting and Fan...

**PETRO PARS Group (PPI Company)**

Engineering, designing, manufacturing and installation of 8 bag filter for south pars, phase 19.

**National Iranian Cooper Industries CO. (NICI CO.)**

Engineering, designing and manufacturing of a roll filter.

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*Some Pictures of our Projects &  
Workshops*





The emission frames have been completely replaced, without opening the ESP roof



The emission frames have been completely replaced, without opening the ESP roof





Complete replacement of the 24 ceramic insulators



Cleaning, revision, partial replacement of the hammering chain





Replacement of the shaft and bearings, repairs and balancing on the wheel



Screws and pneumatic conveyor





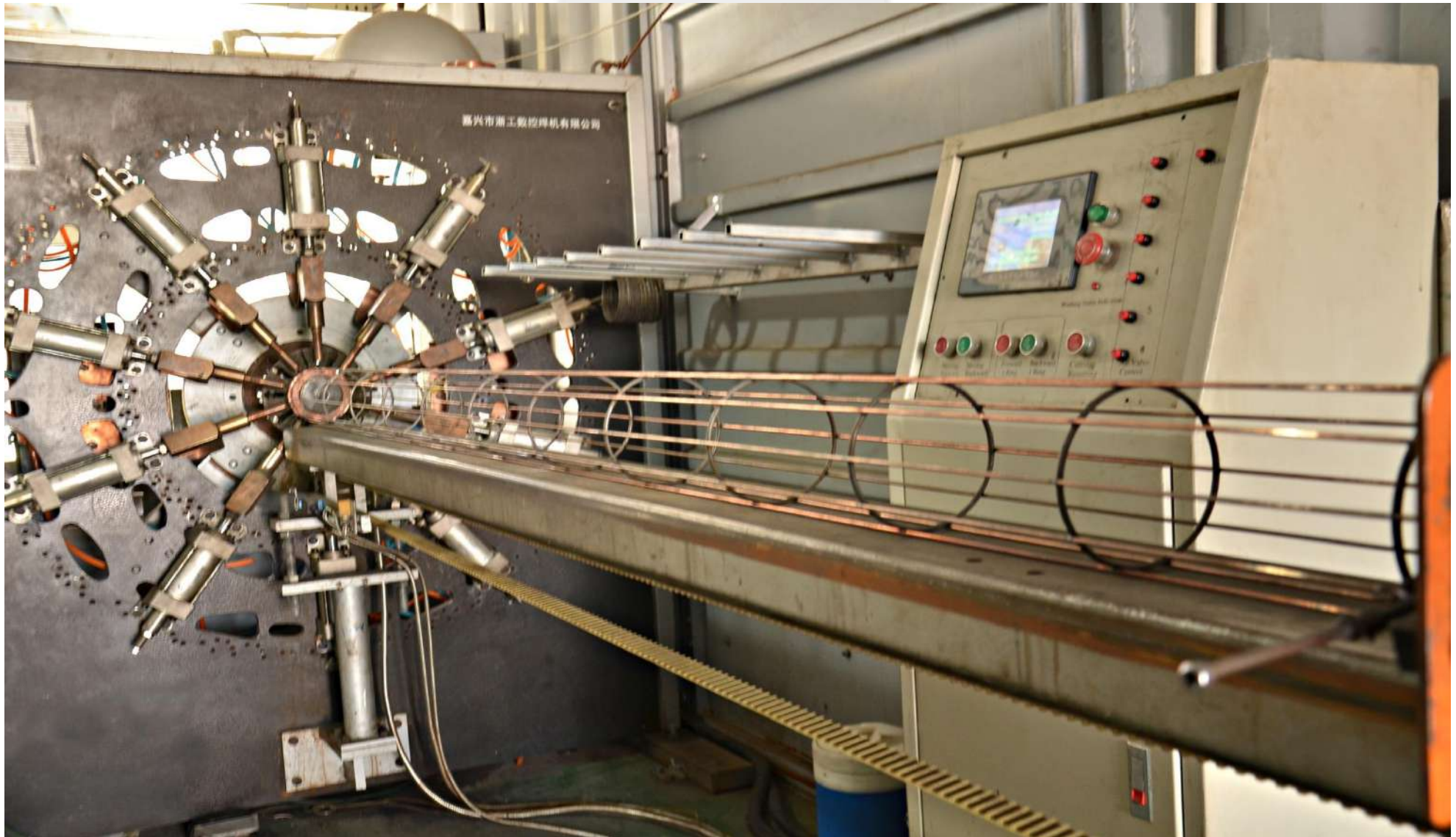




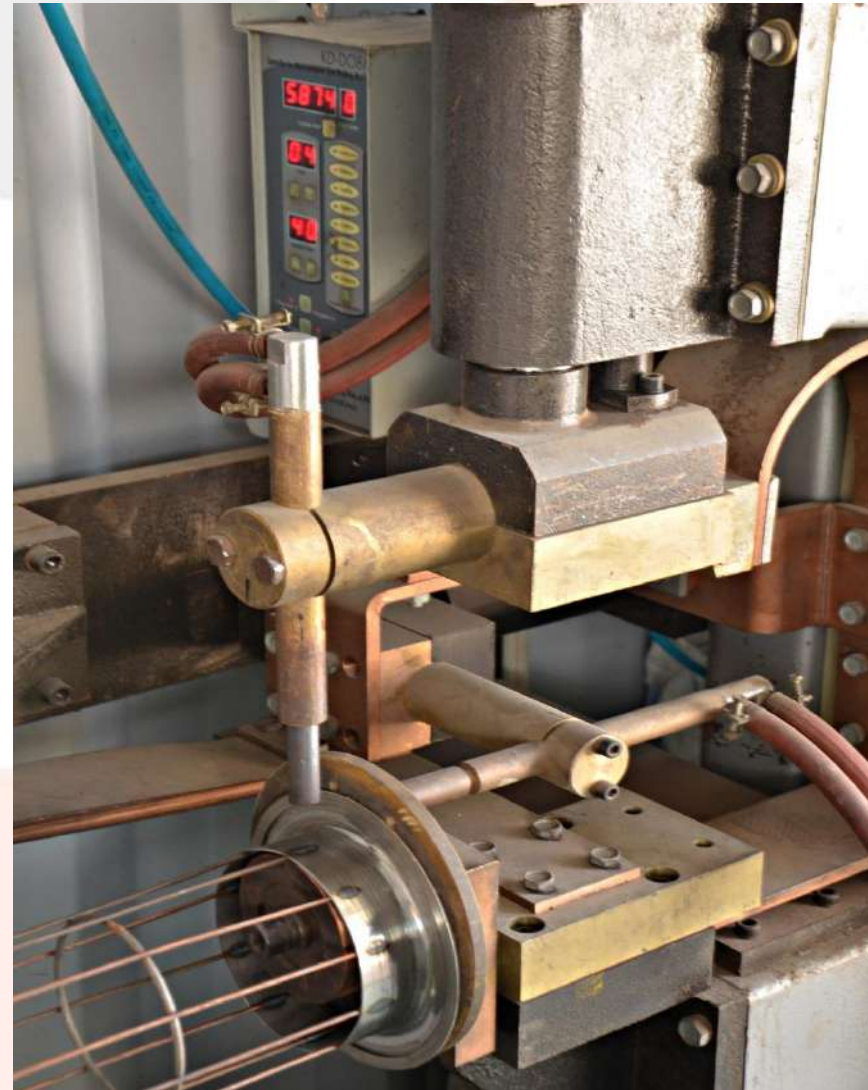


















## **Green Industries Optimizers Co. (BEHINSA)**

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