



[ Solid Fuel Firing Systems ]

# Promatic & Micromatic

Cost Efficiency for the 21st. Century

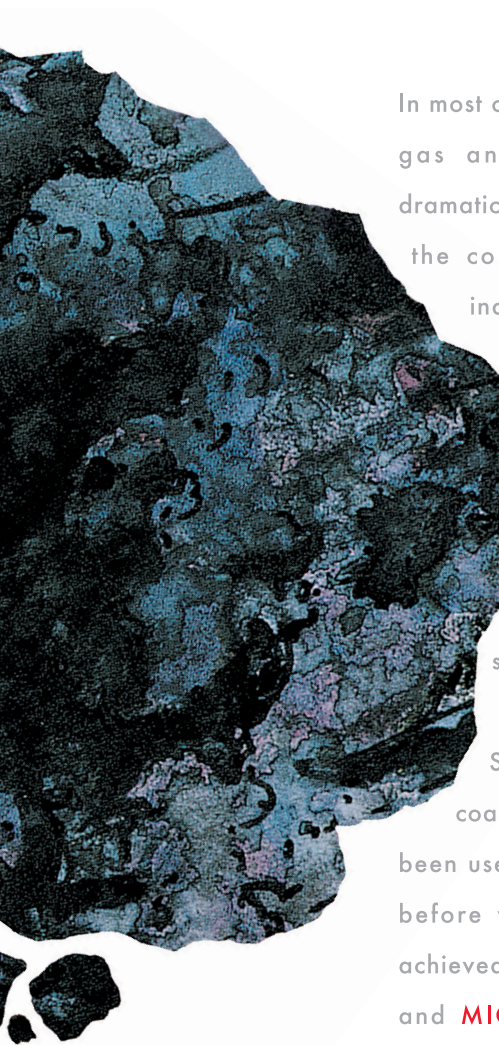






# New Needs

## New Responses



In most of the world, prices of natural gas and heavy oil have been dramatically increased, thus damaging the competitiveness of the ceramic industry

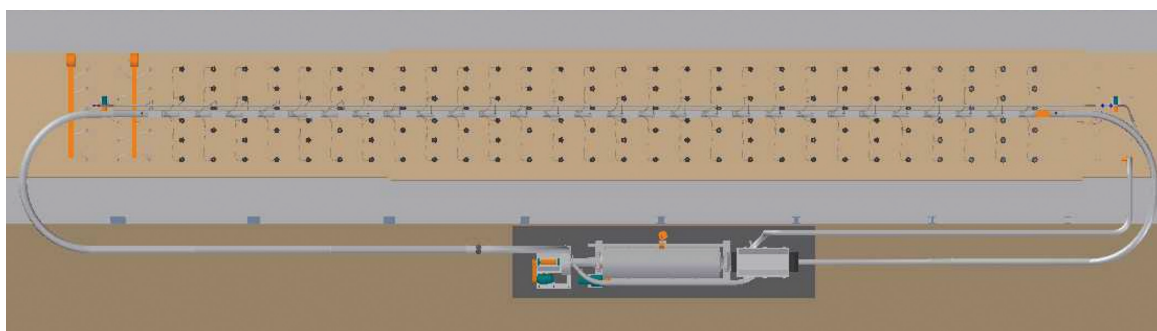
This situation requires the search for alternative firing systems that allow to keep acceptable cost efficiency ratios, yet keeping quality standards.

Solid fuels such as mineral coal or petroleum coke have long been used in brickmaking, yet never before with the quality standards achieved by our patented **PROMATIC** and **MICROMATIC** systems, which have already been put at work in over 100 brickyards in Europe, Africa, Asia, America and Australia.

This unparalleled experience in solid fuel firing allows **BERALMAR** to offer the most improved and tested solid fuel firing systems available in the market, characterized by its ease of use, cleanliness and automatic management.

To top the offer, **BERALMAR** also introduces the filtering station **FCB**, specially developed to filter emissions from the firing with solid fuels and keep up with the current norms.

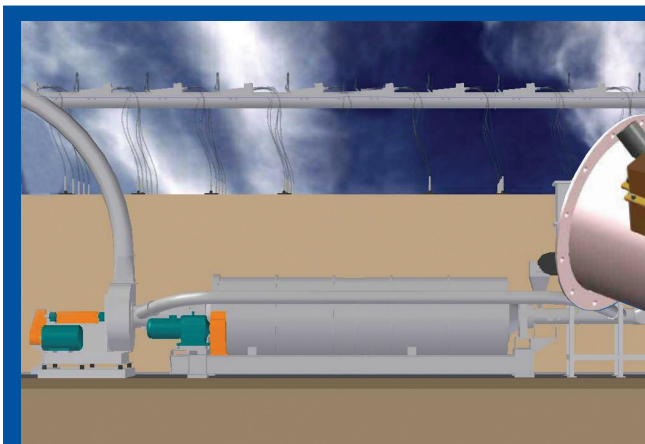
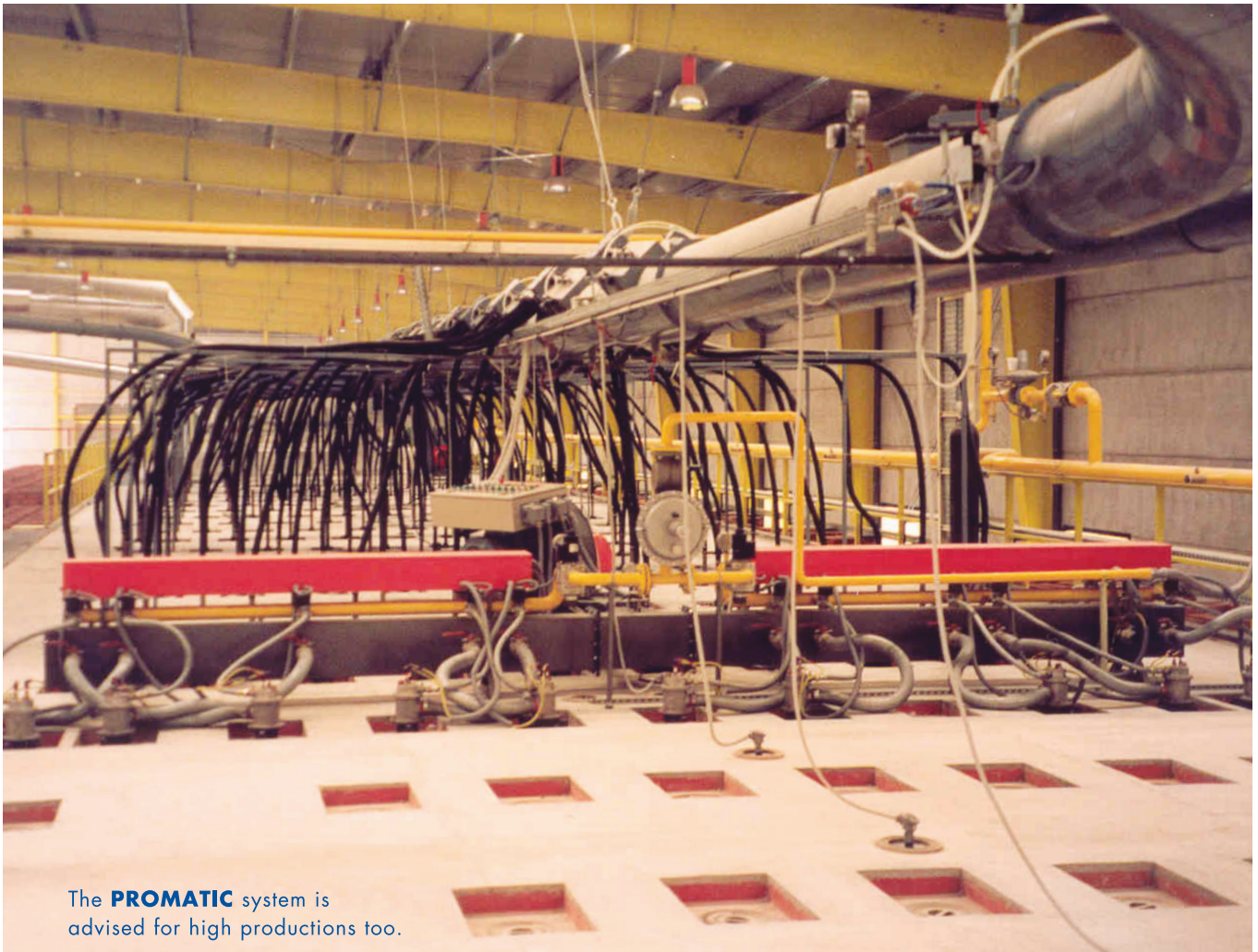
Another development in the field of solid fuel firing is the application of the existing systems for the firing with sawdust and other biological wastes, the **BIOMATIC** system.



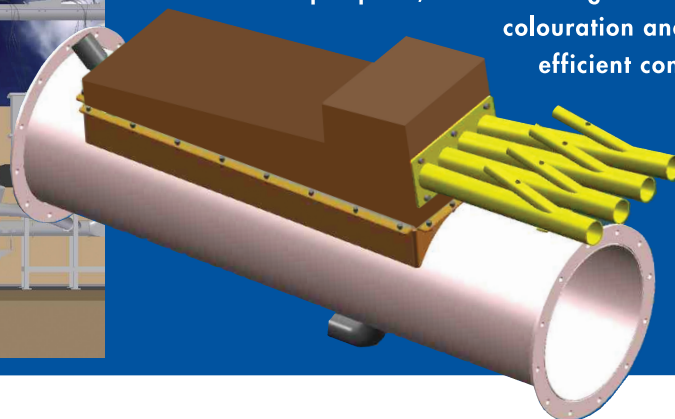
# Promatic System

[ clean working environment ] [ automatic management ] [ minimum maintenance ]

The **PROMATIC** system consists of a fuel feeder, a grinding mill, a closed fuel distribution circuit, equipments of injection and automatic control of the firing process.



The injectors regulate the fuel automatically and point-per-point, thus achieving a homogeneous colouration and the most efficient consumption.





## [ Fuel requirements ]

### **Petroleum coke**

Particle size: max Ø 25 mm.

L.C.V.: min 7.500 kcal/kg.

M.V. gross  $4 \div 6\%$

H<sub>2</sub>O maximum 6%

Ash-gray.  $0,2 \div 0,5\%$

H.G. index: minimum 60

### **Mineral Coal**

Particle size: max Ø 25 mm.

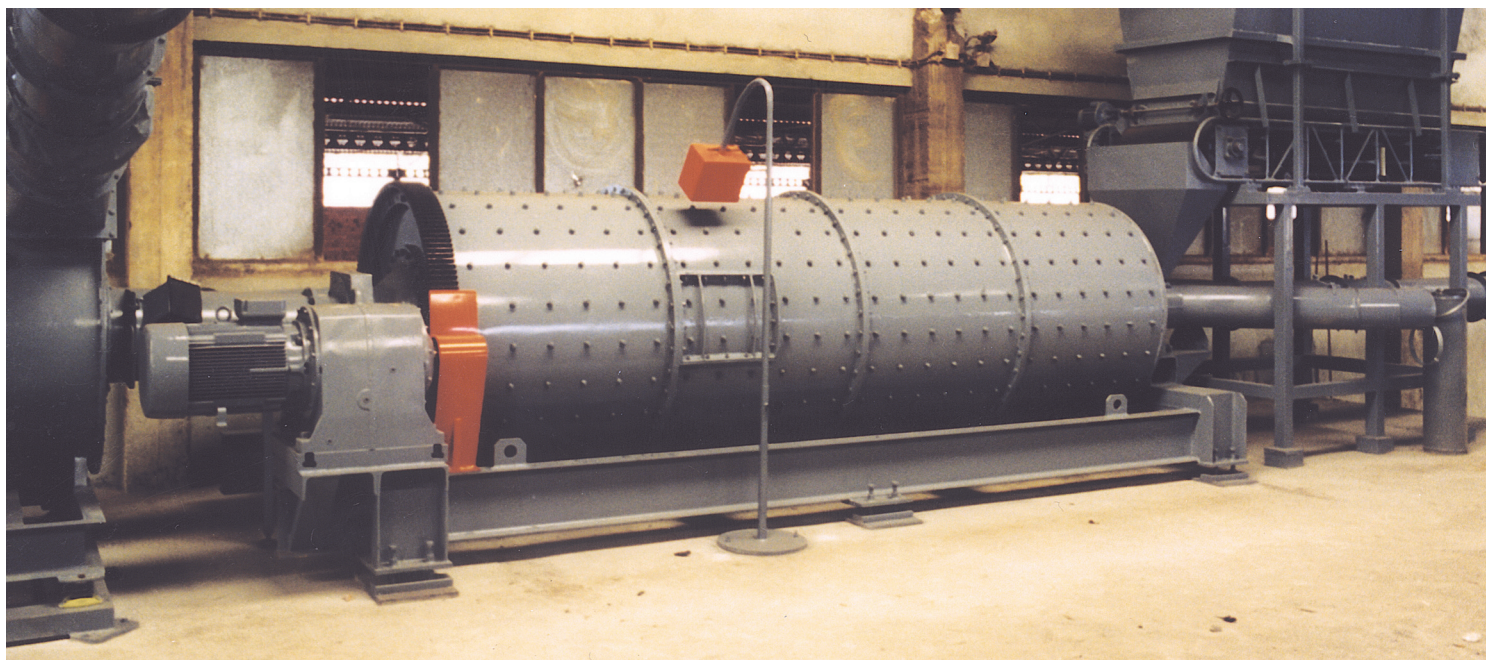
L.C.V.: min 5.500 kcal/kg.

M.V. gross  $11 \div 13\%$

H<sub>2</sub>O maximum 6%

Ash-gray.  $5 \div 12\%$

H.G. index: minimum 60



The **PROMATIC** system allows to use low-cost fuels and keep high quality standards, thanks to the low maintenance of the installation, the clean environment at work due to the closed distribution circuit, and the automatic control of the firing process. It represents a modern approach of firing with traditional fuels.





# Micromatic System

[ clean working environment ] [ automatic management ] [ minimum maintenance ]

Recommended for brickmakers with access to ready-micronized fuel, the **MICROMATIC** system consists of storage silos, a closed fuel distribution circuit, equipments of injection and automatic control.





## [ Fuel requirements ]

### **Petroleum coke**

Particle size:  $80 \div 100 \mu$

L.C.V. (Min.): 8.300 kcal/kg.

M.V. gross  $11 \div 13\%$

H<sub>2</sub>O maximum 1%

Ash-gray.  $0,2 \div 0,5\%$

H.G. index: minimum 60

### **Mineral Coal**

Particle size:  $80 \div 100 \mu$

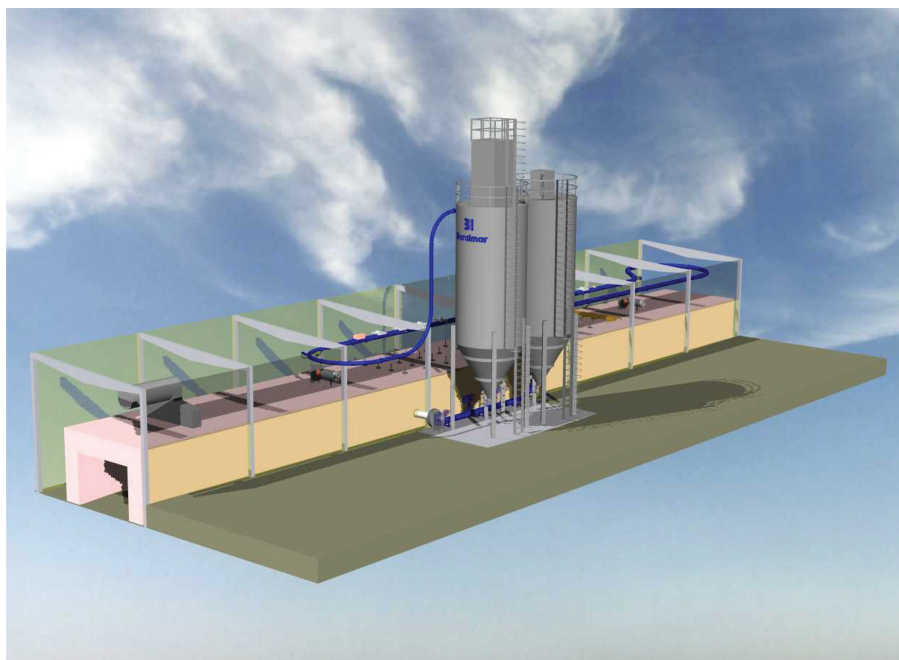
L.C.V. (Min.): 6.500 kcal/kg.

M.V. gross  $11 \div 13\%$

H<sub>2</sub>O maximum 1%

Ash-gray.  $5 \div 12\%$

H.G. index: minimum 60



The **MICROMATIC** system works on the same basis as the **PROMATIC** system as far as fuel distribution and injection is concerned. The access to ready-micronised fuel allows to do without a grinding mill which is replaced by storage silus that feed the distribution circuit. To date, more than 20 installations have been successfully put at work.



# Grinding Station

The GRINDING STATION is an installation to DRY, GRIND and STORE solid fuels in a silo

## INPUT

Particle size: max  $\varnothing 25\text{mm}$   
H<sub>2</sub>O maximum 6%  
H.G. index: minimum 60



## OUTPUT

Particle size:  $\varnothing 80+100\mu$   
H<sub>2</sub>O maximum 1%



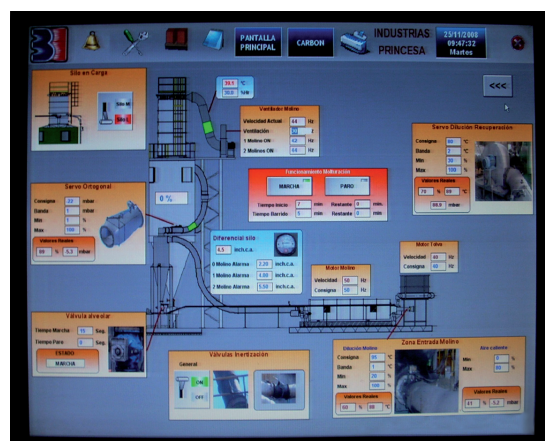
After drying and grinding, the fuel is sent to the silo through a bag filter to ensure a dry storage



The GRINDING STATION is an interesting option for supplying dry and micronised solid fuel to a MICROMATIC SYSTEM, whenever micronised solid fuels are expensive or not available in the market.



The GRINDING STATION is composed of one or more rotational grinders to dry and micronise the solid fuel and a storing silo.





# Biomatic System

[ clean working ] [ automated control ] [ minimum maintenance ]



Biomass is a resource which has so far not been fully exploited in the ceramics industry, where it has been used nearly exclusively for heat generation for the drying process.

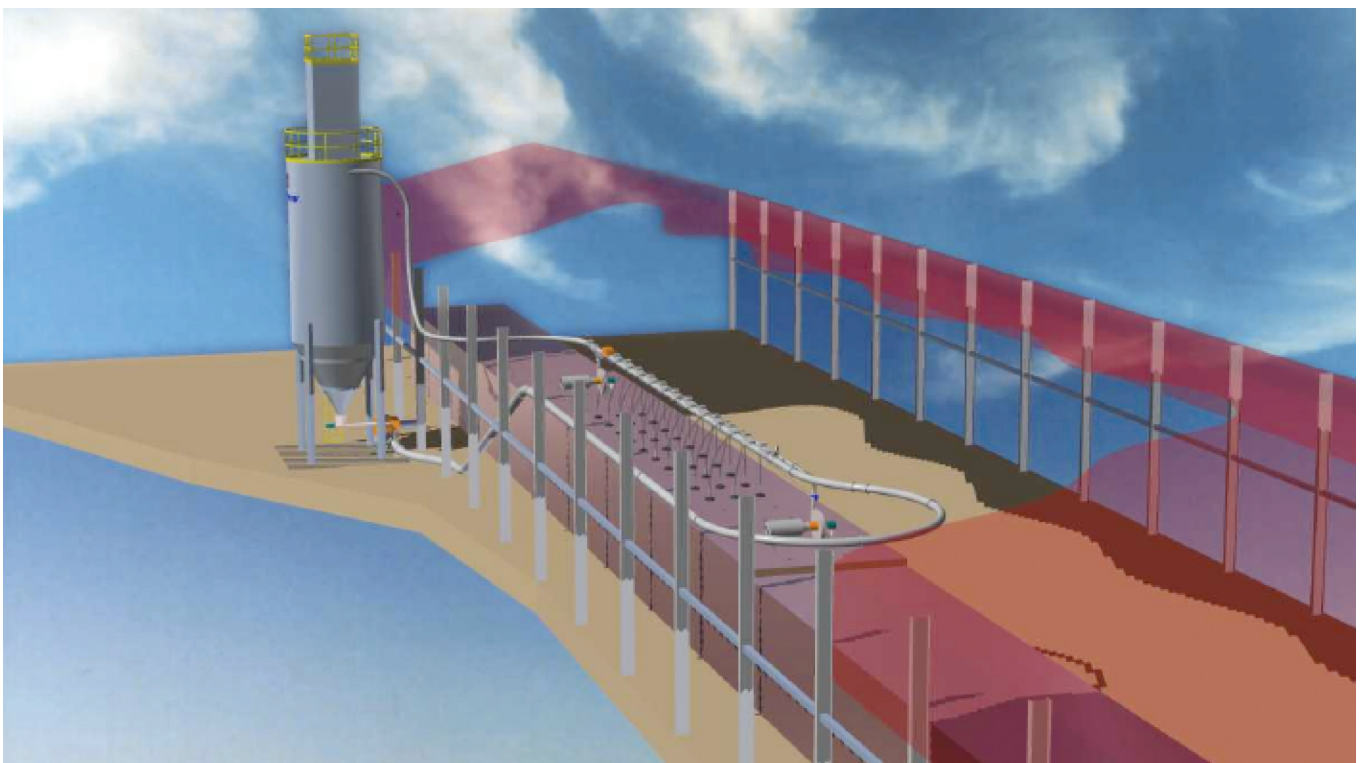
As well as having solid fuel heat exchangers for the aforementioned generation of clean hot air for

dryers, Beralmar also offers the possibility of using biomass for the firing process.

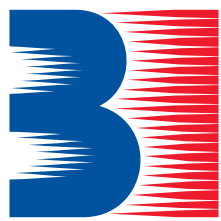
Based on the **MICROMATIC** system and the variations needed by the fuel, the **BIOMATIC** System has been developed as the most adequate method to fire with

biomass with full quality guarantees.

As well as the financial advantages of using it, biomass also has the advantage of not contributing to the global greenhouse effect, as the balance of carbon dioxide emissions is neutral.







# Beralmar

## [ History of the company ]

Founded in 1964, **BERALMAR** specialises in the structural ceramic industry (bricks and roof tiles). It designs, markets and installs equipments of drying and firing anywhere in the world, and develops projects of tunnel kilns, dryers and complete plants.

**BERALMAR** is based in Terrassa, a few kms. from Barcelona. It occupies a surface of 7,500 m<sup>2</sup>.

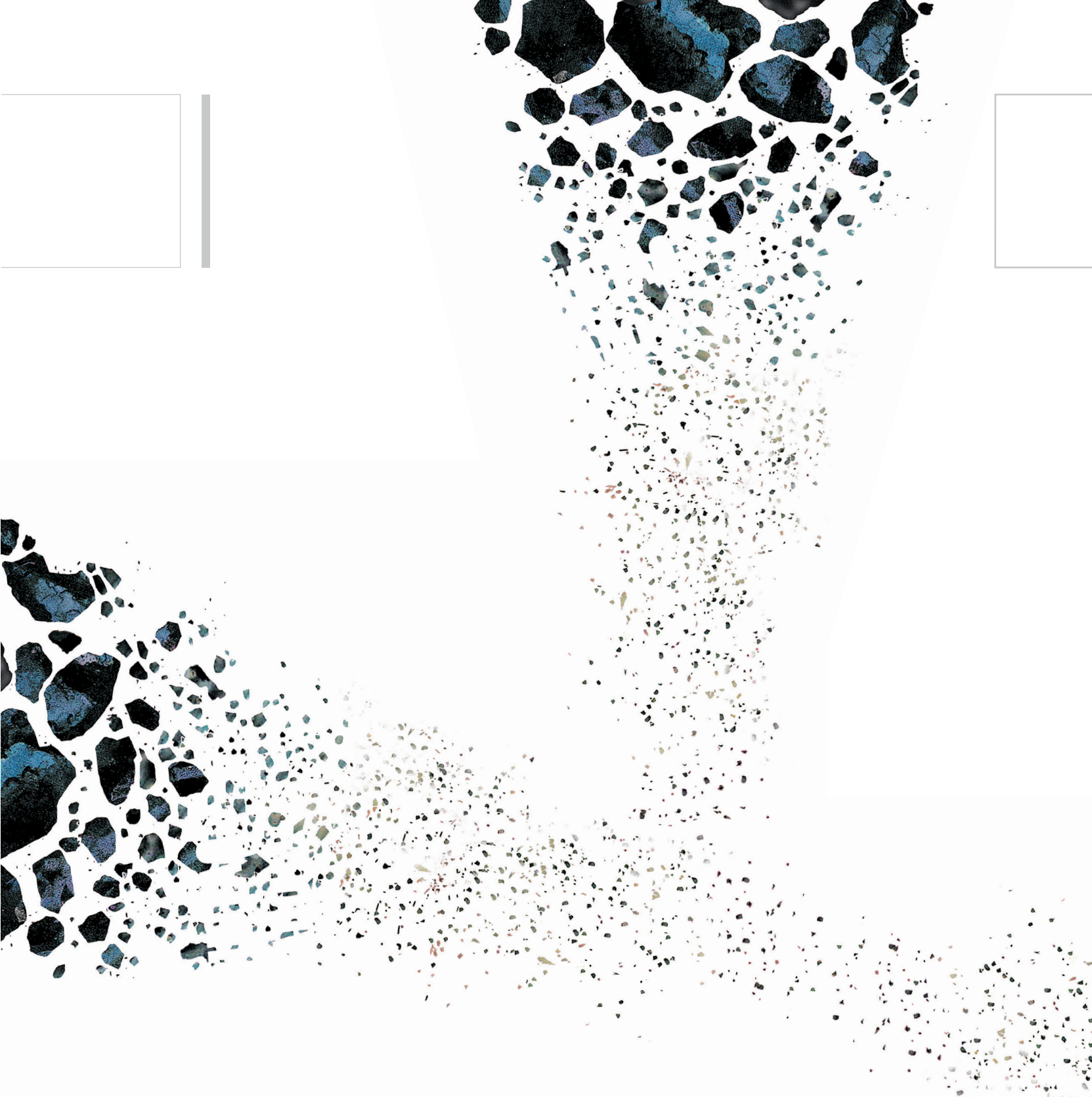
The firm is composed of different areas: Technical Office, Sales, Manufacturing, Administration and After-Sales Service. All these areas are strongly linked in order to achieve an efficient management.

Since the early days, **BERALMAR** has been characterised by a strong bet on developing new products, which has taken the firm from manufacturing a limited range of burners to become a complete supplier of the ceramic industry, offering kilns, dryers and complete

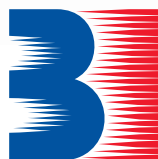
plants equipped with machinery of own design and manufacturing, including the widest range of burners in the market.

Another remarkable aspect of **BERALMAR** is its international orientation. Since commercial activities abroad started in the late 80's, **BERALMAR** counts with customers in more than 50 countries.





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# Beralmar

*Equipments and engineering  
for the ceramic industry*

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