



*50 years  
at your service*

***ASPIRATION AND PURIFICATION OF FUMES  
PRODUCED BY ALUMINIUM MELTING OF  
ALUMINIUM***

*The purification process is generally dry, it does not involve the use of absorbing liquid.*

*First, when fumes cooling is necessary, it is obtained by realizing an exchanger with natural convection completed by automatic valves which exclude the cooling sectors so as to maintain stable the temperature of the fumes arriving to the filter at about 150/180° C.*

*This temperature is the ideal to avoid the formation of acid condensation due to low temperatures.*



*Natural convection exchanger*

*At the end of piping, there is a special rolling gate servocontrolled which allows the entry of a certain quantity of false air if the temperature of the fumes is too high.*



*False air gate*

*The final protection for the filter against overheating is given by a contact thermometer placed in the bag filter which automatically stops the centrifugal fan in case of high temperature alarm.*

*The fumes produced by the furnaces are mainly composed by:*

- a) Particles and carbon residual*
- b) Sulphur dioxide*
- c) Hydrochloric acid*
- d) Steam and carbon dioxide.*

*In order to neutralize the acidity of the fumes, a reagent is introduced in the fume duct through a dosing system:*

*-lime*

*-bicarbonate*

*-activated carbon*

*-soda*



*Lime doser*

*Generally the filter bag is made up of a synthetic fibres texture, of various materials in relation to the temperature, which in any case does not bear temperatures over 220° C.*



*Bag Filter*

*Solenoid valves give impulses of compressed air for the automatic cleaning of the filter when necessary*





*To increase the life and efficiency of the filter a centrifugal separator for the heavy particles is installed before it.*



*Cyclone separator*

*After the bag filter, where the fumes gases are purified, there is a centrifugal ventilator that provides the outflowing of the purified gases through a chimney into the atmosphere.*



*Fumes Fan and Chimney*



*Fumes Treatment Plant and control Panel*