

Industrial solutions
for controlling the emission
of particles into the atmosphere

AL

Aluminium Industry

ICT FILTRACIÓN

High Technology Eco-efficient
Filter Bags, Cloths and Solutions
for Industrial Filtration



Good news for the Planet

The European aluminium industry has reduced PFC emissions in Europe by 83% since 1990*, with a better performance than the global industry in terms of reducing gas emissions and increasing energy efficiency.

Demanding environmental regulations and the constant effort by the industries have made Europe the world centre of primary aluminium technology and the aluminium industry in one of the most demanding sectors with regard to legislation on the emission of particles into the atmosphere.

* Greenhouse Gas Global Sectoral of International Aluminium Institute (IAI)

ICT
FILTRACION, S.L.



Solutions for controlling the emission of particles into the atmosphere in the Aluminium Industry

After years contributing experience and knowledge to the aluminium industry as a partner specialising in aluminium, at ICT FILTRACIÓN we have reached a conclusion that fills us with enthusiasm:

Everything has still to be done!

Because providing solutions to this demanding sector is a great permanent challenge: researching, innovating, imagining and creating in order to offer new and better solutions adapted to present and future needs.



More information on ICT FILTRACIÓN in:
www.ictfiltracion.com & www.ictcomet.wordpress.com

This vision and attitude inspire our high technology eco-efficient solutions, based on high-performance products, assistance services, advising and customer services, our own manufacturing and finishing technologies and state-of-the-art materials. All backed with ISO certification and compliance with ATEX, FDA and legislative regulations.

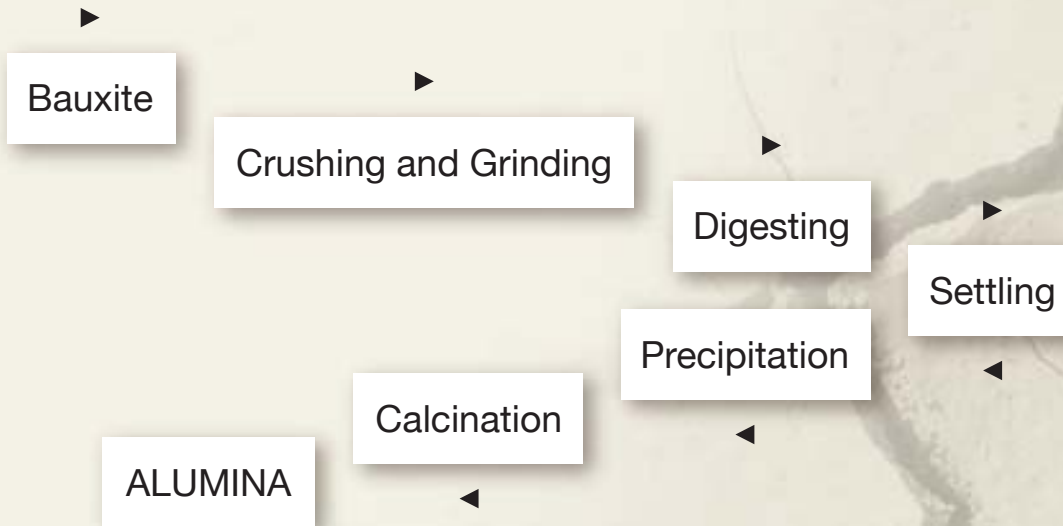
Our mission is to help industries to be more competitive and responsible, by promoting, guaranteeing and finding the balance between maximum industrial development and minimum environmental impact.

About ICT FILTRACIÓN

ICT FILTRACIÓN, based in Montgat, Barcelona, is one of the leading European manufacturers of filter bags, cloths and high technology eco-efficient solutions for the industrial filtering of dust, air, liquids and fluids. ICT FILTRACIÓN designs, manufactures and markets services and products of high quality, either standard or customised, for industrial applications that entail a risk of emission of particles into the atmosphere in sectors such as the aluminium, chemical, pharmaceutical, cement or food industry, among others. The products and services of ICT FILTRACIÓN are exported to countries in the five continents and aim to help industries to be more competitive and responsible, by promoting, guaranteeing and finding the balance between maximum industrial development and minimum environmental impact.

The human team at ICT FILTRACIÓN is the key to its specialisation and potential in areas of knowledge such as research with new materials, development of new manufacturing technologies and the design of innovative construction and finish techniques.





Products of ICT FILTRACIÓN and points of application

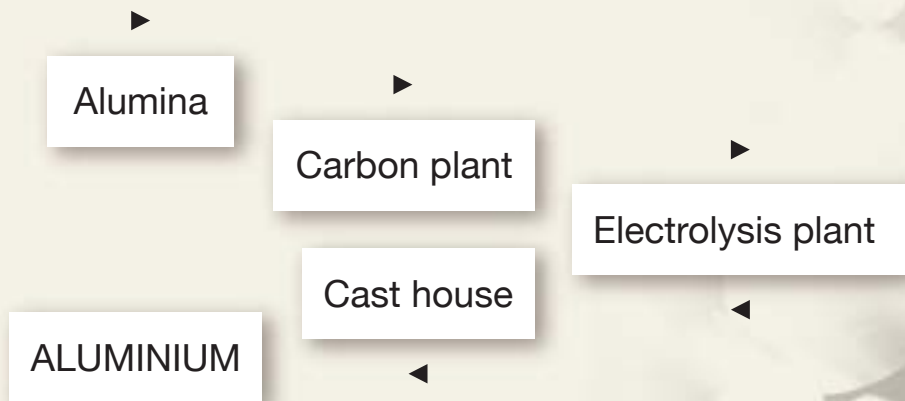
The manufacturing technology and innovative finishes of the ICT FILTRACIÓN filter elements allow us to supply products of high precision and perfect finish for all points of application in the alumina industry processes.

Products for Alumina manufacturing plants

- Filter Bags
- Cartridges and Pleated Elements
- Cloths for Filter Presses
- Cloths for Rotating Filters
- Fluidification or Air Slide Fabrics
- Filter Bands
- Cages for Filter Bags
- Mannequins for Multi-channel Pockets
- Leak Detection Powder
- Components for Filter Cleaning and Maintenance

All ICT FILTRACIÓN products express our commitment and responsibility for quality, customers, industry and the environment in the form of labelling and complete technical datasheets which include information about their origin (manufacturer, country of origin, etc.), technical specifications and composition (type of fabric, permeability, strengths or tolerances, etc.), certifications and approvals to back up this information, as well as their features in use.





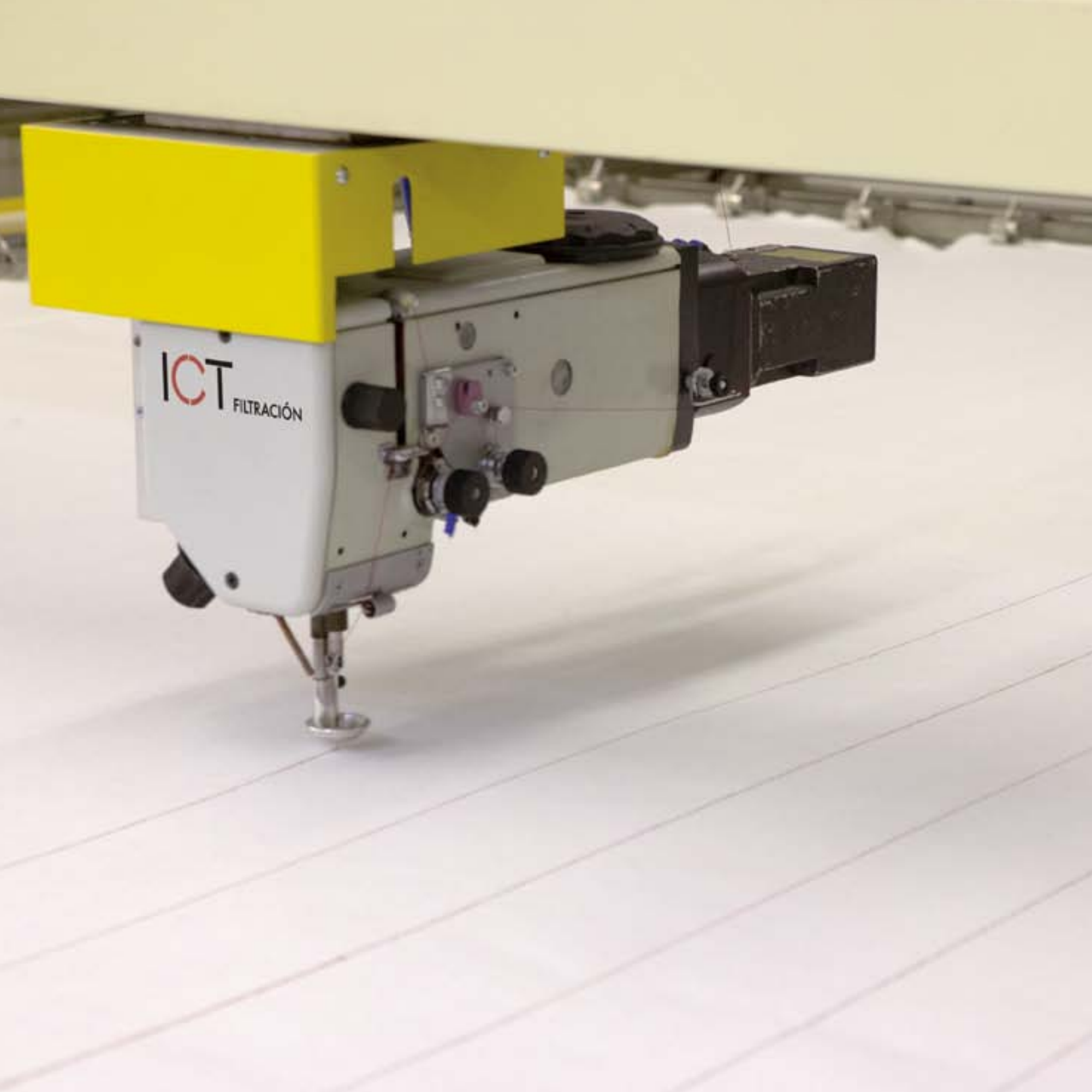
Products of ICT FILTRACIÓN and points of application

The manufacturing technology and innovative finishes of the ICT FILTRACIÓN filter elements allow us to supply products of high precision and perfect finish for all points of application in the aluminium industry processes.

Products for Aluminium production plants

- Filter Bags
- Multi-channel Pockets
- Cartridges and Pleated Elements
- Fluidification or Air Slide Fabrics
- Cages for Filter Bags
- Mannequins for Multi-channel Pockets
- Leak Detection Powder
- Components for Filter Cleaning and Maintenance

All ICT FILTRACIÓN products express our commitment and responsibility for quality, customers, industry and the environment in the form of labelling and complete technical datasheets which include information about their origin (manufacturer, country of origin, etc.), technical specifications and composition (type of fabric, permeability, strengths or tolerances, etc.), certifications and approvals to back up this information, as well as their features in use.



Multi-channel pockets

These are used in the electrolysis process of the aluminium industry because this eliminates the risk of atmospheric emissions of fluorine produced during this process, and because it allows as much as possible of this gas to be re-used in the production process.

Their special design calls for precision manufacturing. ICT FILTRACION has therefore made a considerable investment in technology to set up a specific process to assure measurements and the best possible value for money.

Design

The design of multi-channel bags varies in terms of the number and distance between the channels, and also in the length of the pocket. ICT FILTRACION has produced models ranging from 9 to 32 channels.

In many cases the filters are conventional, i.e. with tubular bags and interior support cages. In others, the multi-channel pockets are more compact “Vibrair” filters with mannequins. Devised to work with moderate air/cloth ratios, they offer a higher retention efficiency, even when the installation is in a small space and, therefore, a large filter surface is required.

Textiles

The textile used depends on the cleaning system and the operating conditions (chemical conditions, humidity and temperature).

NEEDLE-PUNCHED FELT

The large size of these filters combined with the quantity of dust they retain - sometimes up to 18/20 g/m² of fresh alumina is injected to absorb the fluorine - means that the weight of these bags is very significant during filtering. Because of this, the felt used in manufacture must have good mechanical resistance.

POLYESTER FIBRE OR ACRYLIC FIBRE

At the same time, the temperature and humidity conditions generally let polyester fabric be used successfully, although sometimes it is advisable to use acrylic fibre.

Finishes

The weight (g/m²) and the air permeability of the felt are parameters that should be chosen taking into consideration the bag cleaning system.

To avoid the effects caused by oscillations in temperature while also providing greater dimensional stability, the felt must always be thermoset. In addition, depending on the conditions of use, in most cases it is recommendable for the felt to receive surface finishes, such as singed finishing on the powder face or a damp-repellent chemical treatment that also facilitates dust release.





Filter bags

All filter bags manufactured by ICT FILTRACIÓN guarantee absolute tightness, high efficiency in particle retention and pure end products thanks to the high-quality fabrics used and thermowelded finishes with ultrasound-reinforced bonding.

Fabrics

- Polypropylene
- Acrylic Homopolymer (Dolanit - Ricem)
- Polyester
- Meta-Aramid (Konex, Nomex)
- PPS (Ryton)
- Co-Polyamide (P-84)
- PTFE (Teflon, Rastex, Toyoflon, Profilen)

Treatments and finishes

- Singed
- Eggshell
- Calendered
- Coating
- Semi-polymerisation
- Silicone
- Teflon B 10%
- Fluorocarbon
- PTFE



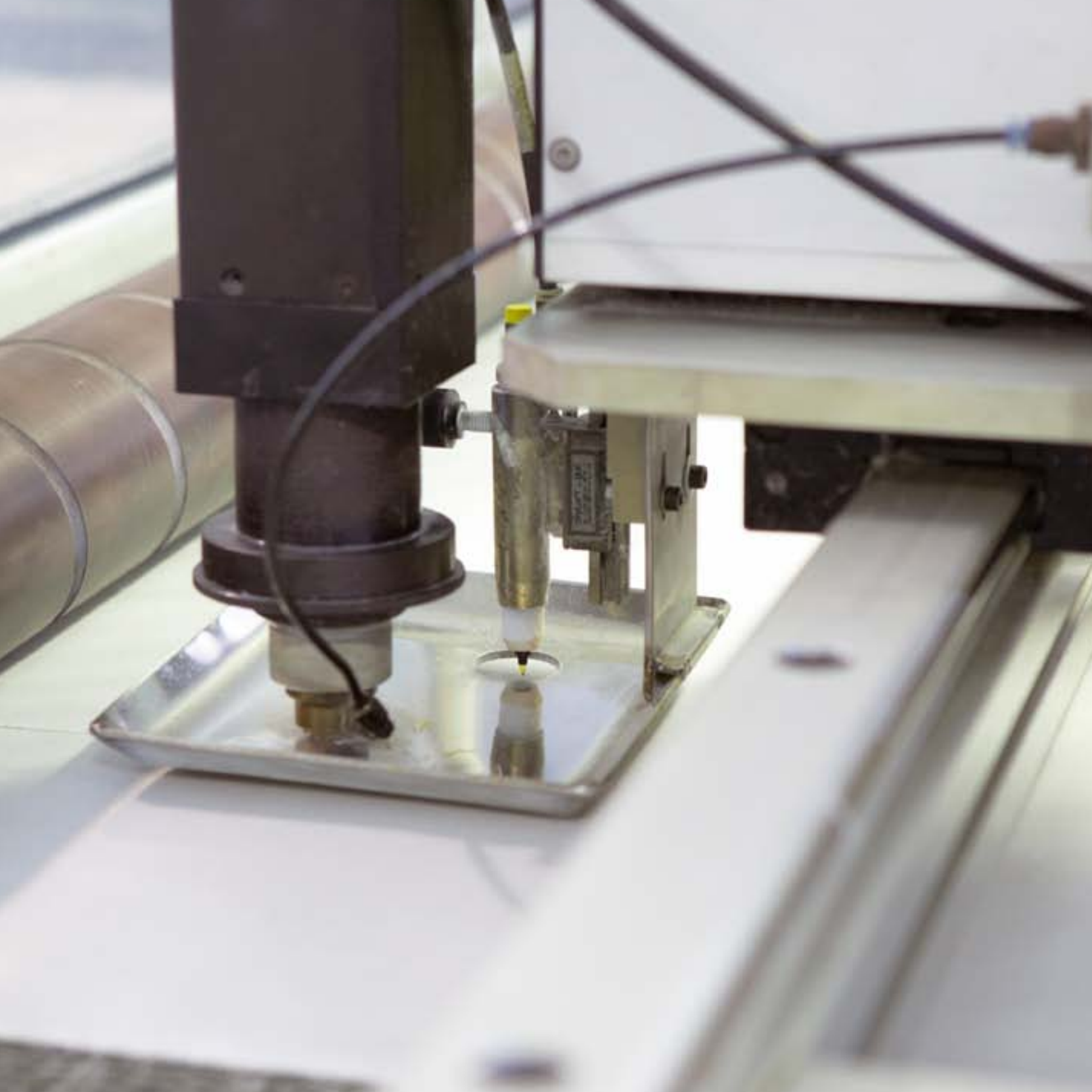


Cartridges and pleated elements

ICT FILTRACIÓN filter cartridges and pleated elements are high-performance components, with standard and custom-designed models and operating temperatures of up to 180 °C.

They are available in different finishes to fit customer requirements (fluorocarbon treatment, PTFE membrane, antistatic, etc.), offer maximum filtering surface in minimum space, fixing systems with maximum seal security and certificates in accordance with the various requirements on the market (FDA, ATEX...).





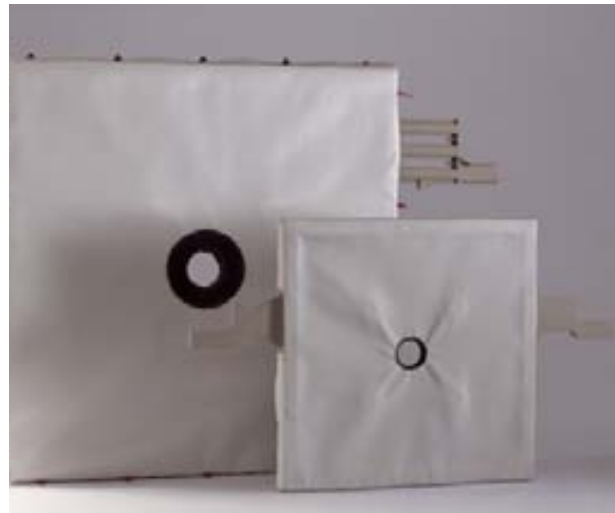
Cloths for filter presses

Different fabrics, compositions, porosities, physical and mechanical features, weaves, thicknesses and a long list of other different features make it possible to find the right cloth for any application, however complicated it may seem. On the basis of this choice, cutting to measure and laser cleaning, in an individual process which is fully automated and monitored, ICT FILTRACIÓN designs the total solution which will best meet the requirements specified: from a standard product to a unique individualised, customised system.

As well as maximum performance over a long life cycle, the filter press cloths offer a range of fabrics and finishes depending the purpose and easy removal of cake (sludge).

Finishes

ICT FILTRACIÓN prevents wrinkles appearing in the cloths thanks to a design and working approach to “clothing” filter press plates: precision in measuring up the cloths, accuracy in cutting and correct positioning of the side grommets and the holes in the top ensure that the plate is perfectly secured.





Fluidification or air slide fabrics

The fluidification or air slide fabrics supplied by ICT FILTRACIÓN are used to transport substances in powder form conveyed in channels by a process involving sending compressed air into the channel, generally at 1.5 bar. When the air passes through the porous, permeable fabric, it gets to the product in powder form to be conveyed (in the top channel) and fluidifies it, allowing it to slide along the channel, which slopes to take the product to the desired destination.

Air slide fabrics are generally supplied in reels of 25 and 50 linear metres, with widths customised to meet customers' needs, though they can also be supplied in lengths cut to meet specific requirements.

Grades

8mm-thick cotton material was formerly used as a fabric for fluidification. It has now been proven that polyester can replace cotton and reduce the necessary thickness to 5mm, at the same time achieving a longer effective duration of air passage.

However, in cases where the temperature exceeds 140° C, it is possible to use aramid-grade fabric which can handle temperatures of up to 200° C.





Venturis and cages

These metal structures used with filter bags to help the suction and cleaning systems when they are based on injecting compressed air.

ICT FILTRACIÓN venturis are manufactured in spun or cast material. The cages for filter bags are produced by ICT FILTRACIÓN to order, according to the fabric used to manufacture the filter bags. This information will determine the number of bars the cages should have.

Fabrics such as polyester, acrylic or meta-aramid work with cages with 10 to 12 bars. With other fabrics, such as Teflon or fibre glass, the distance between bars should not be more than 25 mm, and therefore (depending always on the required diameter), in some cases the cages have 20 bars.

To improve resistance to the oxidations often suffered by epoxy painted iron cages or similar cages, even before they are installed in the filter bag, there is a treatment called Bezinal, where resistance to corrosion is two or three times higher than wires galvanised with a triple layer of zinc. In addition, it is a ductile and uniform coating with an excellent degree of mechanical deformation, and is an excellent conductor of static electricity as it contains aluminium.

Venturis and cages are designed and manufactured according to the needs of the installation or to the measurements provided by the customer.

Eco-efficiency

- Anti-corrosive treatments to prolong the life of the cages
- All joints are welded to prevent tearing the fabrics.

Specifications:

- Manufactured to measure
- Galvanised or epoxy painted finishes
- Manufactured in INOX AISI 304 and 316
- Cages with or without venturi
- Cages with Bezinal anti-corrosive treatment



The logo features the text "atac" in a lowercase, sans-serif font. The letters "a", "t", and "a" are white, while the final "c" is red and composed of several segments, giving it a fragmented or circular appearance. The text is centered within a dark gray circle that has a thick white border.

atac

Specialised ATAC services

The Specialised Technical Assistance and Customer Services (ATAC) of ICT FILTRACIÓN express our commitment to you and to the production and environmental goals of your business. That is why they are designed to help you maximise performance, reduce costs and improve the eco-efficiency of your filter installation.

Real benefits

- Increase in the performance, eco-efficiency and life cycle of the product and the system.
- Reduction in direct and indirect costs, from product consumption to the number of technical shutdowns in your production process.
- Improvement in safety in the event of risks of leaks and emission.

Free general filter study

Your answers to a technical questionnaire help us to know your installations, operation, needs and opportunities for improvement.

Filter visit

Onsite compilation of technical information on the use and results of the bag and the filter installation. A visit to the site is carried out, and the final report will include photographs, comments, proposals and conclusions of the ICT Filtración technician.

Analysis of used or new bags

Find out the real features and operation of a bag, i.e. why and how it acts (or fails to act) in the filter installation, beyond its commercial virtues. In the case of new bags, this is useful for prescribing purposes. In the case of used bags, for rectifying purposes.

Mechanical inspections

These consist of studying and reviewing the fundamental parts of the filter while the installation is shut down, and measuring pressures, flows and temperatures while the installation is in operation. The aim is to optimise the products to be used and obtain the highest possible performance from the installation.

Technical assistance in changing filter bags

The ICT FILTRACIÓN technical team offers assistance in the changing of bags carried out by the customer's maintenance department. Based on an analysis of the products and the mechanical installation, this assistance service makes the difficult easier and assures that the entire filter system is perfectly matched and operates to perfection.

Changing filter bags

This service goes beyond technical assistance in changing bags: it is a team of specialists from ICT Filtración that performs such changes. This represents an important saving in time and, above all, a total guarantee that the installation will operate once the change has been completed. This service also includes a review of the filter to detect possible anomalies.



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