



TÉCNICAS DE FILTRACIÓN S.A.

## **COMPANY & PRODUCTS PRESENTATION**

**Barcelona 2022**

## TEFSA: ORIGINS & PRESENT SITUATION

- Filtration is our World. TEFSA is one of the leading European manufacturers of filtration equipment.
- A company dedicated to the search of complete solutions for diverse filtration processes.
- Founded in Barcelona in 1974.
- Family-owned company with German origins.
- Own financing.
- Own facilities (three main workshops in Barcelona and Manresa).
- Total of 115 employees (2021).
- Global turnover of EUR 44.6.- million (2020).
- Over 16,800 references successfully operating in over 80 countries.
- CE & ISO-9001 certificates.



## TEFSA: ORIGINS & PRESENT SITUATION



- New Head Quarters from April 2021.
- Total of 8.000 m<sup>2</sup> workshop and 3.000 m<sup>2</sup> offices.
- ECOTEC workshop.



## FACILITIES (I)

- ❑ TEFSA's main factories for the production and assembly of filtration equipment are both based in Barcelona with 8.500 m<sup>2</sup> and 8.000 m<sup>2</sup>
- ❑ Own filtration cloth confection center with 600 m<sup>2</sup>.
- ❑ Own offices with 1.800 m<sup>2</sup> and with 3.000 m<sup>2</sup> in at the same production facilities.
- ❑ ECOTEC independent factory in Manresa for plastic & non-corrosive equipment production with 3.500 m<sup>2</sup>.
- ❑ Four (4) satellite workshops in Barcelona owned by TEFSA: (1) robot welding process, (2) cylinders production, (3) hydraulic power packs design & construction, and (4) general parts production and CNC machining.





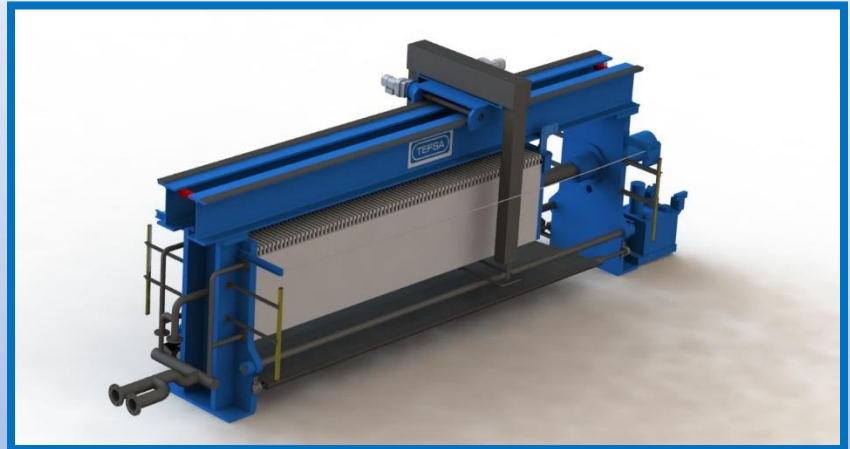
## TEFSA OFFICES & PARTNERS IN THE WORLD



- TEFSA HQ in Barcelona.
- TEFSA Asia Pacific in Taiwan + TEFSA-Shanghai Service Center.
- TEFSA-USA in California & TEFSA-Mexico Service Center.
- TEFSA-LatAM (Latin America) in São Paulo Brazil.
- Over 40 exclusive agents/distributors covering more than 60 markets, plus other non-exclusive partners.

## TEFSA: STRONGEST KEY POINTS

- ❑ Broad filtration production program with four (4) dewatering technologies.
- ❑ Quality-price relation.
- ❑ Solid and robust design & construction.
- ❑ Updated & latest technologies.
- ❑ Simplicity for heavy duty mining operations.
- ❑ First rated materials (EC origin) & construction systems.
- ❑ Company flexibility.
- ❑ Broad experience in application diversity and filtration systems.



## TEFSA FILTER PRESSES

TEFSA manufactures both overhead and sidebar filter presses.

The Filter Press is the TEFSA main product, manufactured since the early 70's and in all types and automation levels, as further described.



## **FILTER PRESS: MAIN TEFSA CHARACTERISTICS**

1. Filter presses with overhead plate suspension or sidebar plate suspension.
2. Automatic, semi-automatic or manual operation.
3. Filter plate sizes from 300 x 300 mm to 2.200 x 2.800 mm.
4. Filtration pressures up to 60 bar.
5. Recessed, mixed-pack or membrane plates.
6. Plate materials in polypropylene from reliable supplier; cast iron, aluminium or stainless steel plates from own design and production.
7. Special constructions according particular requirements: standard, sanitary, anti-acid, special corrosion protections, ATEX zone, etc.
8. Complete auxiliary equipment availability for the filtration unit and the global installation.
9. Case evaluation through test work.
10. Dedicated service through out the equipment lifetime!.



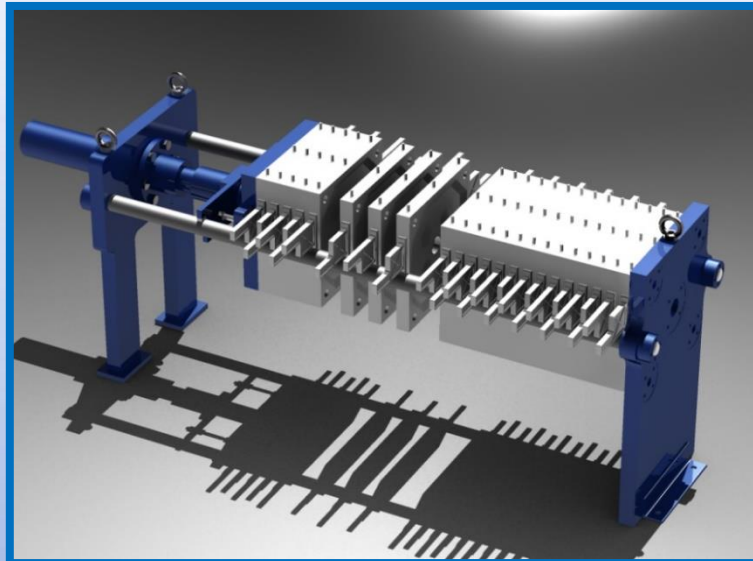


## MAIN CONSTRUCTION DETAILS



## SIDEBAR FILTER PRESSES

- Ideal size & type of filter press for small/medium plants.
- Ideal for particular applications and/or plate shapes.
- Total manual operation (manual hydraulic power pack, «HPL» Series)
- Semi-automatic operation (electrohydraulic power pack, «HPLE» Series)
- Automatic plate transport/cake discharge
- Fully automatic high yield mining press («EHM» & «PFO» Series)
- Pilot units.





## MANUAL Filter Presses - «HPL» Series

- ❑ Plates suspended from the sidebars.
- ❑ Plate transport system (consequently the cake discharge) is fully manual.
- ❑ The hydraulic closing system is fully manual with TEFSA power pack («HPL» Series) or market hand-pump («HPL-SL» Series).
- ❑ Suitable for small applications, single-cycle operation and test units.
- ❑ Small presses are also important!



## AUTOMATIC Filter Presses - «EHC», «EHR» & «EHM» Series

- Plates suspended from the sidebars, maximum plate capacity of 35.
- Electrohydraulic closing system.
- Plate transport system (consequently the cake discharge) is automatic by means of the hydraulic piston installation with long stroke and the chain link system.
- «EHR» Series with cake shaker / «EHC» Series, basic execution.
- «EHM» (mining) Series with cloth rinsing & external filtrate ports.





## AUTOMATIC Filter Presses - «PFO» Series

- Best alternatives for ore concentrates application.
- Complete automatic & programable equipment.
- Filter cloth washing & movement after each cycle (after discharge).
- Dead time elimination.
- Operation by four side pulling cylinders.
- Including load cells.
- Simple mechanical design of the conventional sidebar horizontal press.
- Minimum maintenance operation and consequent costs.
- Cheap spares in relation to the vertical tower-presses.
- External feeding & filtrate ports implying with simple filter cloths.



## OVERHEAD FILTER PRESSES

- Ideal size & type of filter press for medium/large plants.
- Ideal for particular applications and/or plate shapes.
- Automatic plate transport/cake discharge only.
- Heavy duty operation.
- Simplicity & security. Mechanisms simplification & lower maintenance.
- Total filter pack access.
- Filter cloth change: fast & easy without plate removal.



## AUTOMATIC Filter Presses «PSEH» Series

- ❑ The «PSEH» automatic plate transport system is based on a carriage with reversible «to-and-from» movement driven by a cable which moves the plates one by one within the discharge area from one side to the other.
- ❑ Individual and consecutive plate transport system.
- ❑ Ideal discharge and inspección control on the cakes thanks to the «one by one» discharge method.
- ❑ Reduction on the transport mechanisms with a minimum maintenance cost.
- ❑ Clean operation, ideal for food applications.
- ❑ Low maintenance.





## AUTOMATIC Filter Presses - «PEH» Series

- The «PEH» automatic plate transport system is based on a double transport chain with hauling hooks which slide over the transport carriages of the filter plates.
- Each hook engages a plate and, with the continuous movement of the system, the total plate pack transport process and corresponding cake release is achieved in a very short period of time.
- Plate transport & cake discharge capacity: 100 plates in less than 3 minutes.





## APPLICATION FIELD EXAMPLES: Decontamination Projects

Supply of complete plants with very high capacities and demands for river/harbor decontamination projects.

Own TEFSA design & construction thickeners.



## APPLICATION FIELD EXAMPLES: Water Plant Projects



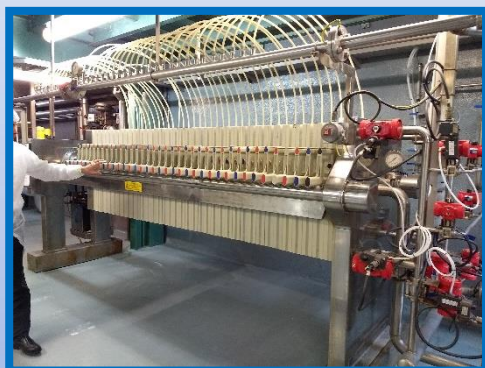


## APPLICATION FIELD EXAMPLES: Food & Pharma Industry Projects (I)

Complete food-graded (FDA Certification) filter presses for the food & pharmaceutical industry applications, fully stainless steel protected/lined when requested: sugar industry, edible oils, dairy products, beverages, gelatines, agar-agar, etc.



## APPLICATION FIELD EXAMPLES: Food & Pharma Industry Projects (II)





## APPLICATION FIELD EXAMPLES: Food & Pharma Industry Projects (III)



## MANIFOLDS

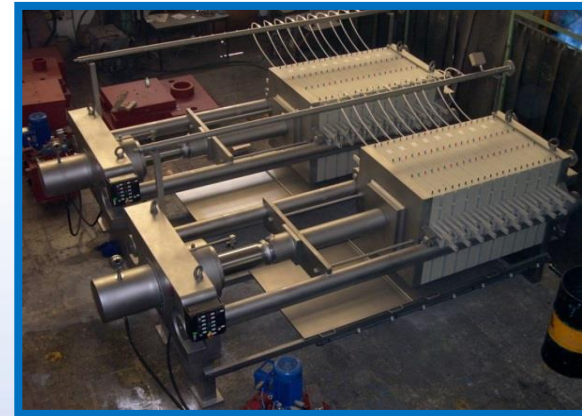
- Complete control on the sludge inlet, core blow process and filtrate return.
- Different cake washing and cake blowing processes: single or double crossed.
- Material diversity for each application: carbon steel, stainless steel, PP, PVDF, others.
- Automatic valves provided according execution and TEFSA design.





## COMPLETE FRAME LINING: stainless steel

Complete frame protections for FDA filter presses in the food industry and for the pharmaceutical applications. Overhead & sidebar automatic filter presses.



## SLUDGE FEEDING PUMPS

1. Not fixed to a specific type or model of feeding pump.
2. The product characteristics and the overall process will determine and recommend the pumping system.
3. TEFSA has a broad experience in all applicable pump types: air operated diaphragm, progressive cavity, centrifuge, hose, and piston-membrane.
4. Possibility to combine with different pump executions the feeding pump system with a filling pump (at low pressure around 6 bar) and a pressure pump (at high pressure around 16 bar).





## TEFSA BELT FILTER PRESSES

TEFSA manufactures a complete range of belt filter presses.

The Belt Filter Press is one of the TEFSA main products, manufactured since the early 70's for a wide range of applications, as further described.



## GENERAL FEATURES OF TEFSA BELT FILTER PRESSES

- Different models and operation pressures
- Belt width from 0,5 to 3,0 meter.
- Accessories: predewatering units (Gravity Belt Thickeners), post-pressing systems, conical mixers, etc.
- Complete range of installation auxiliary equipment: feeding pumps, washing pumps, thickeners, polymer make up units, dosification systems, etc.
- Frame construction in carbon steel or stainless steel, sanitary executions, antiacid execution, corrosion protections, etc.
- Waste sludge dehydration, food industry applications and others.
- Start up services and commissioning.





## TEFSA THICKENERS





## TEFSA FLOC-CONTROL SYSTEM

- ❑ Optimization of the polymer consumption in the thickener unit.
- ❑ Ideal for the aggregates industry with variable inlet solids range.
- ❑ Constant control of the polymer dosing pump.
- ❑ Photoelectric cells based system, where the settling time is measured.
- ❑ Control with PLC.
- ❑ Reliable and long lasting equipment.



## SERVICE & AFTER SALES

- Market leader and worldwide maintenance provider for filter presses, belt presses, vacuum filters, pressure filters and other related equipment.
- Responsible for all maintenance on 10.000+ operating units.
- Guaranteed availability & site response time: true 24/7, plant operation, plant optimisation, commissioning, plant refurbishment & upgrade.
- Spare Parts Department.
- Mobile test units for rent.
- Laboratory services.
- Complete filtration advice.





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