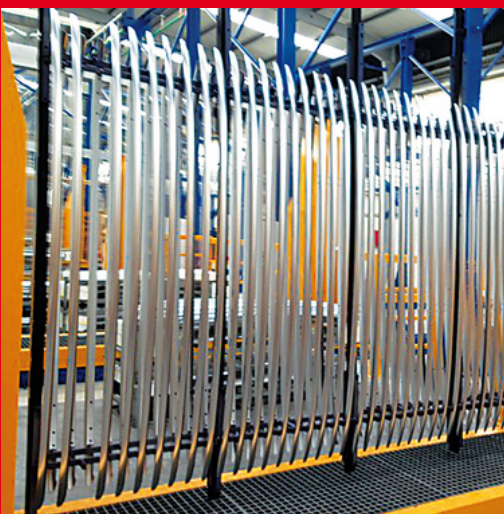


ANODIZING PLANTS



Since 1973 Cisart means reliability in supplying aluminium anodizing plants. **Plants** supplied by Cisart are all **custom made**, either specifically studied for profiles, or coils, or just for small items only. Each plant is carefully designed on a customer specified productivity, keeping in due consideration that when it will be operative, it should **be profitable** but it should also **safeguard** the well being of its **operators** and of the **environment**.

Main plant configurations supplied by Cisart
(for Manual or Fully Automated Operation Mode):

- **Horizontal Anodizing plants** for profiles up to 7000 mm long and a yearly productivity up to 10.000 tonnes/year;
- **Vertical Anodizing plants** for profiles up to 7000 mm long and a yearly productivity up to 35.000 tonnes/year;
- **Anodizing plants** for cut to size extrusions or die cast aluminium parts.

Cisart's technology, developed over several years of activity, aided by the best technicians available in the field, makes it possible to supply not only Standard Architectural Anodizing **plants**, but also **complex and sophisticated** ones such as Combined Vertical Anodizing and Powder Coating plants, or environmentally safe Chemical Polishing (and Electropolishing) plants.

Cisart also supplies High Thickness/Hard Anodizing plants for both full length profiles and small items, as well as plants using different anodizing solution (phosphoric, chromic, etc).

Amongst several other achievements, Cisart is proudly acclaimed since 2006 as having been the first manufacturer, among several suppliers of surface finishing plants, to **introduce "Flash anodizing"** in Europe as a pretreatment in a vertical powder coating plant for profiles up to 7 metres long at a major concern in Turkey.



FUMES TREATMENT PLANTS



Safeguarding the environment should be a top priority for all. During almost 40 years of activity in **supplying anodising** and **powder coating plants**, Cisart elaborated its own proprietechnology for making sure that both factory operators and the surrounding **environment** are safe and **free from chemical hazards**.

Fumes developed over some of the supplied process tanks need to be removed from the production area and expelled outside the building through a system of suction hoods and ducts.

In case of particularly aggressive and noxious fumes they shall also be washed through a scrubbing tower.

When highly poisonous fumes are generated, such as those developed in chemical polishing, the entire treatment area is confined and sealed within glass and stainless steel walls.

The suction system is boosted and the **NOx** containing fumes are thoroughly **scrubbed before emission** into the atmosphere at acceptable concentrations as stated by existing local regulations.

POWDER COATING LINES



Over the years **Cisart** developed several configuration powder coating plants, each **tailored over a specific customer need**. The pretreatment cycles and the chemical specification are established in agreement with major worldwide chemical specialty suppliers. The main plant configurations are:

A) "COMPACT" lines

Ever careful in using expensive floor space to its best, Cisart first developed small sized painting lines, nowadays known as "COMPACT", specifically developed **for powder coating standard sized aluminium profiles** in a limited environment.

Cisart makes it possible to paint **up to 96 profiles/hour**, also in different colours, thanks to a fast colour change available with two cabins moving side by side.

The **overhead curing oven**, placed directly over the painting area, is one of the "COMPACT" line's distinguishing features, together with the unconventional movement of the cabins along the profiles which otherwise are still during powder application.

A further development of the first model originated the "**MAXI COMPACT**" version, which, with a little extra floor space, makes it possible to paint **up to 144 profiles/hour**.

COMPACT powder coating units require separate pretreatment lines.

B) "TRADITIONAL " horizontal lines

Still within the optimal use of available floor space, when requested productivity is higher than what demanded of a Compact model, Cisart supplies traditional horizontal powder coating lines. These are available also for frequent colour changes, either with several parallel coating booths or with single newly available "QUICK COLOUR CHANGE" cabins. Horizontal lines are suggested for an average productivity of **up to 360 profiles/hour** and when **small lots** of different colours need to be painted **in large numbers** and **in a short time**, as presently demanded by more sophisticated markets.

HORIZONTAL powder coating plants require either crane operated basket pretreatment lines, or conveyor operated ones, in which case the profiles are not touched after conversion.

HORIZONTAL powder coating plants are also provided, with either spray or dip pretreatment, for die cast items such as heating radiators, etc.

C) VERTICAL lines

For same productivity output, **Cisart suggests** solutions where the available resources and the floor space are used to their best in a combined vertical pretreatment and powder coating plant of accurately defined dimensions. These plants are usually suggested with single powder application booths for a productivity of **up to 900 profiles/hour**.





PAINT PRETREATMENT LINES



In close cooperation with most worldwide chemical specialty suppliers, **Cisart** produces **Manual or Automated Paint Pretreatment lines** based on traditional chromic, or safer and more sophisticated chrome free technologies.

On demand, the lines are supplied with all necessary ancillary instrumentation and equipment, such as chemical dosing systems, flow metres, conductivity metres, temperature reading and control devices, etc, for both manual or automatic operation.

ANCILLARY PRODUCTS

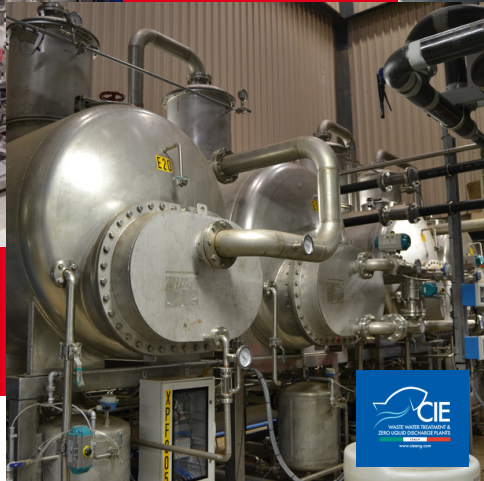


During several years of activity, exclusively in the business of supplying plants for the surface treatment of aluminum, Cisart developed at its own premises a number of equipment and ancillary products, studied specifically for this market and tailored on customer specifications. Amongst which can be found:

1. Automatic chemicals dosing systems (**AUTOCHEM**);
2. Anodizing solution temperature control and adjustment units (**SKID**);
3. Complete plant automation and generated data management system (**OXIMATIC**);
4. Dissolved aluminium removal units for anodizing solutions;
5. Anodizing (and electrocolouring) tank-top anodic bar clamping system, for safe and reliable electrical contacts with the power suppliers (**EPC**);
6. Deionising units (**DEMI**);
7. Reverse Osmosis units (**R/O**);
8. Ultrafiltration units (**ULTRAFIL**);
9. Complete laboratories (**LAB**);
10. Consumables, such as, but not only: custom made aluminium and/or titanium jigs and disks, G clamps and pliers, hollow and solid spheres for sealing tanks, aluminium wire, PE films, etc etc;
11. Loading/unloading stations (**LD/UNL**);
12. Laboratory scale complete anodizing plants.



DIE CLEANING EQUIPMENT AND WATER TREATMENT PLANTS



Water Treatment Plants

When installing a metal surface finishing plant it is of prime importance to foresee what impact such an establishment will have on the environment from the very first moment it is operational.

Overall water management should therefore be a prime concern, not to be overlooked from the early planning stages of a new installation.

Cisart in collaboration with CIE provides state of the art fresh and effluent water treatment equipment, especially designed for aluminium powder coating or anodising plants according to the many different laws of the final site of destination.

Our plants are able to achieve 98% water recovery and recycle by reducing the aluminium and calcium salt prior to the evaporator, which are able to operate with both hot water or steam and can utilize waste heat from other operations, including cogeneration to further reduce energy consumption

Finally, the ZLD plant incorporates the use of CIE's special solids removal system that provides a solid cake that is non-toxic and able to be disposed of in a suitable landfill at a low waste disposal cost

Die Cleaning Equipment

As always sensible to end user solicitation, Cisart produces reliable and convenient custom tailored manual or automatically operated die cleaning units developed in close cooperation with major worldwide located aluminium extruders.