



Ultrasonic Cleaning,
Innovative Thinking

OPTICS

Dip and Flow coating line



Pioneering and high-performance multi-coating process

Health and safety standards impose increasingly higher criteria of physical-chemical resistance in all areas of personal safety protection : safety, defense, transport etc Up until now, manufacturers could only choose from a range of costly processes with low output to meet these criteria.

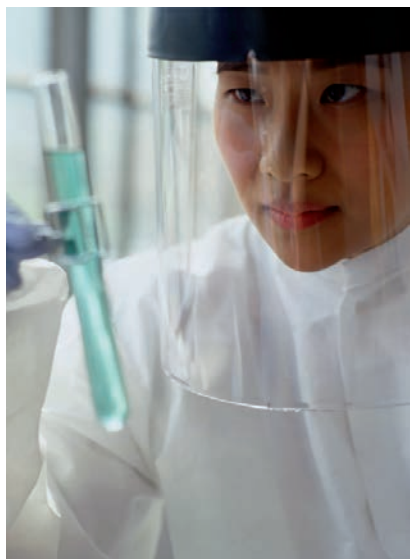
Designed in FISA's R&D department and validated in our laboratory, our new range of **mass production CCB/CCFB** machines are capable of applying several types of coating using different types of technology in the same machine, in order to adapt the process to the type of lens and even to one specific side, in a totally automated process.

A succession of innovations associated with our expertise in different coating processes and in collaboration with the principle coating suppliers, enable us to propose this technology and also meet your demands for cost price per part, capacity and quality.

We even go a step further : by creating machines that are easy to maintain and extremely reliable, we enable you to reach your goals even faster.

High Performance Treatment for the Optical Industry ►

Our expertise associated with flexibility



The **CCB/CCFB** series is a multi-layer and multi-coating coating system that, once assembled, forms a complete and consistent process that guarantees :

- optimal quality
- minimal production costs
- total control of risks and permanent pollutants

From the washing zone, to the polymerization oven via the different coating stages, we ensure that all the functions create an entirely modular assembly to ensure that it is custom-made and flexible depending on the processes that are used.



The cleaning module ensures optimal surface preparation depending on the condition of the parts going in to the machine:

- each liquid tank is equipped with **FISA Multisonic** technology for improved mechanical cleaning action.
- a range of specific detergent products developed by our chemical department allow you to eliminate any type of contaminant and activate the surface to be coated.
- DI and RO water production units, also designed by our engineers, guarantee you optimal final quality before coating.

The dip coating module can be installed and used, according to the type of coating and material required, to apply a single coat of primer or anti-scratch coating. In addition, each module can be made with one or two coating tanks to cover every possible combination of treatment.

As always, for ease of maintenance, all the tanks can be easily removed from the chassis to facilitate cleaning and filter replacement.

The **"LIFT-OUT"** function, equipped with 250 programmable speeds from 0,2 to 50 mm/sec enables you to create speed profiles for each type of part in order to consistently apply the same thickness of coating time after time.

The **FISA AUTOCOAT** device that can be installed on each coating tank permanently controls the density or viscosity by adding a calculated amount of coating or solvent to the tank. This system replaces manual adjustments and allows you to greatly reduce your coating consumption.

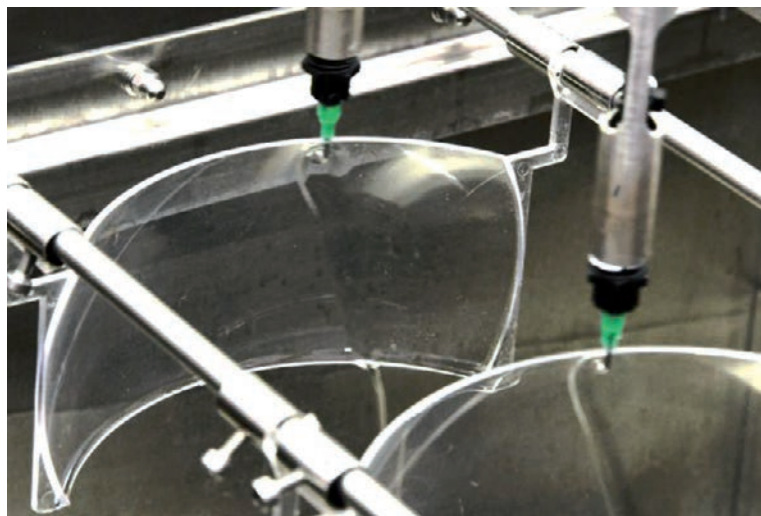


Constantly innovating to exceed your expectations

The **flow-coating** module, FISA's latest innovation, coats one single side of the parts to be treated using a robotic arm equipped with several nozzles.

A machine equipped with two flow-coating modules in series enables you to treat each side differently; apply anti-fog coating on the inside and anti-scratch coating on the outside for example.

The multiple axes of the robotic arm enable it to move in any direction and ensure optimal placement of the nozzles on the surface to be treated. A specific profile for each type of part enables you to apply the coating on the areas to be treated.



Permanent verification of the outflow and the pressure on the nozzles, ideally completed with the **FISA Autocoat** device ensure regular and even application of coating.

The flow-coating system can incorporate up to 12 flow nozzles, depending on the size and shape of the parts. This type of configuration associated with a rapid cycle time means that the cycle time is reduced to two or three times less than that of a traditional flow-coating machine with one single nozzle.

A final in-line **baking oven** is used to polymerize the coating. Perfect thermal insulation, added to optimal management of the air flow allows you to reach temperatures of over 130°C whilst reducing power and energy consumption.

Its single or multiple shelf construction reduces footprint. When associated with complex transfer robots and automatic return of the lenses to the trolley, it offers a much better solution to problems of space than any existing systems.

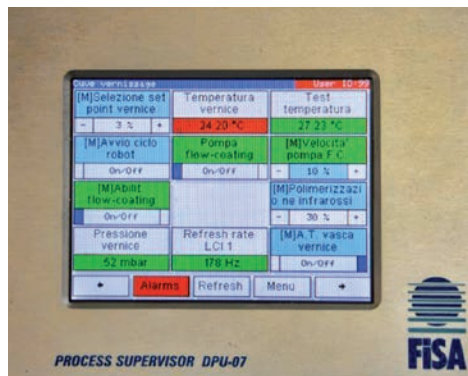


Permanent control of process parameters



Since our creation in 1982, FISA has developed our own automatic handling robots with over 10,000 models sold at present. Easy to program, they include an exclusive and very simple co-ordinate saving mode.

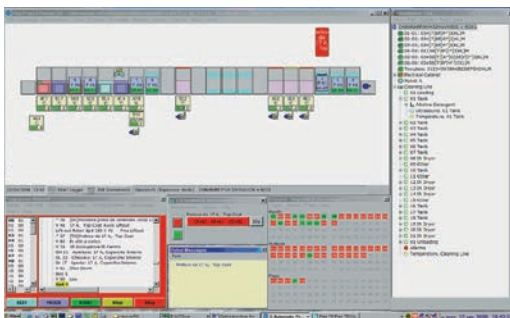
Wireless communication with the controller and independent position checking enables you to install up to 8 robots on the same transfer rail for optimal management of the total cycle time, as well as the process times required according to the types of tank and treatment.



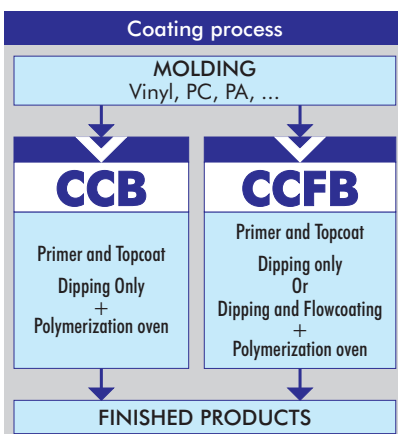
For this type of production, current manufacturing standards impose total control over the process.

As with all automated FISA machines, the **CCB/CCFB series** is equipped with a **Diagnostic Process Unit (DPU)**. The DPU consists of a graphic and intuitive HMI, a main control unit and a set of modules connected together by a local network. Each module can be equipped with one or more intelligent circuit boards.

These boards are capable of managing inputs as well as outputs to decentralise management of the main functions and their associated alarms. The DPU permanently shows you the status of the machine and alarms that are present.



As for the **FISA LOGGER**, it collects and saves all the process data depending on the baskets of parts currently in the machine to enable you to keep a record for each production batch (temperature, time, ultrasonics etc). It is also equipped with a maintenance management system capable of indicating maintenance operation dates : replacement of detergent products, filtering media or cartridges etc



To guarantee high output in terms of cleanliness and to reduce peripheral investments, FISA supplies all this equipment in a **class 100 (ISO 5)** environment with permanent overpressure management.

Furthermore, the hygrometry and temperature of the air in the coating zones is controlled according to recommendations from the coating manufacturer.

Finally, as most coatings contain highly flammable solvents, **CCB/CCFB** machines meet **ATEX standards**.

As world leader in the field, we can offer you :

- Our expertise in cleaning and coating
- Many years of experience
- Innovative technologies
- Worldwide presence via our local offices