#### **TECHNIFIED EFFI** GATION SOLUTIONS

# hermisan PROYECTOS E INSTALACIONES DE RIEGO



# BEGINNINGS

### SINCE 1979

Hermisan was born as a logical consequence of the demand generated by the huge development in the 70s and 80s of the Off–Season crops in Spain, taking advantage of the mild climate, mainly in the Mediterranean area.

More than 40 years later we keep the same vitality and excitement that motivated us to create HERMISAN, S.A. Each project, each client, each new challenge has made us better, more innovative and more efficient.

AÑOS

"A HISTORY OF CONSTANT GROWTH"



Hermisan is your technological partner for the development of advanced projects for agricultural drip irrigation, automation and fertirrigation.



FROM THE INITIAL PROJECT TO THE FUNCTIONAL SOLUTION

### ARGE PROJECTS

COMPANY'S FUNDAMENTAL PREMISE

RATIONAL USE OF WATER

COMMUNICATIONS

### COMPREHENSIVE PROJECT, DESIGN, SUPPLY, INSTALLATION AND MAINTENANCE

Hermisan undertakes comprehensive projects: from the design, installation, start-up, maintenance and technical advice for automated drip irrigation installations, for intensive culture in greenhouses and large surfaces.

Choosing Hermisan is choosing the appropriate partner: our R&D&I department, in collaboration with the most prestigious Universities, has developed a unique combination of solutions that place us at the technological forefront of our sector.

FERTIRRIGATION

IRRIGATION

CLIMATE

360° SOLUTIONS

PHOTOVOLTAIC





INSTALLATION



### COMMITMENT TO WATER EFFICIENCY

Our objective has been to provide the most modern and efficient solutions for agriculture.

Hermisan, S.A. has focused on the study, project, design, manufacturing and installation of irrigation systems, and specifically on fertirrigation and the automation of those systems.

ENERGY MANAGEMENT

> At Hermisan we are at the technological forefront of the sector

### FERTIRRIGATION

Hermisan manufactures and supplies advanced nutrition machines: compact equipment for the dosing of fertilisers, acid and other phytosanitary products, which allow our clients to obtain effective and optimum fertirrigation, thanks to the application of various methods, such as pH and EC control or an application method proportional to the irrigation volume, etc.

# SOLUTIONS

#### IRRIGATION

Hermisan manufactures, distributes and installs Programmers, Controllers and Hydrocomputers that enable the easy execution of previous extremely complex tasks.

Hermisan's equipment has great flexibility and efficacy, and offers a high range of features.



### CLIMATE

With Hermisan's Climate Solutions, our clients can fully optimise the production in their greenhouses.

The system, comprising a hydrocomputer and a series of probes inside and outside their greenhouses, monitors and activates climate control devices, such as heaters, CO2 injection, humidification systems, thermal and shading screens, windows, fans, etc., in order to maximise productivity and benefits.

#### WIDE RANGE OF IRRIGATION MANAGEMENT SYSTEM

### IRRIGATION AUTOMATION

The automation of irrigation systems is one of the most efficient and easiest ways to manage an agricultural business. COTOVETA 30,17,30 ALLA ALLA hermisan N O O N N N N N N N O O O O N N A T O O - \* M N S O O A F U AK

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At Hermisan, we have a wide range of management systems for irrigation and fertirrigation that enable us to meet each and every one of the needs of your facilities.

From simple programmers for small and medium–sized businesses, ACTIVA programmer, and touch controllers, MERIDIAN, that allow the management of full irrigation systems with an inexpensive and practical solution. Up to SUPRACONTROL Hydrocomputers, developed to perform a complete control on irrigation, fertirrigation and climate in any installation, with a powerful graphic and management tool, allowing to obtain, among other data, real consumptions of fertilisers injected by plant, to monitor the operation of the project's electric engines, etc.

Each control included is the result of experience in installations undertaken by Hermisan S.A., and of the addition of the latest technologies in automatic and computer devices and systems.





ADVANCED NUTRITION MACHINES

# AUTOMATION OF FERTIRRIGATION

### NUTRICOMPACT EQUIPMENT

NUTRICOMPACT is a system for the Injection of Fertilisers, acids and phytosanitary products by using electromagnetic pumps and mixing tanks of a nutritional solution, which solves all the disadvantages of traditional injection systems (such as the acidification of the nutritional solution and the degradation of fertilisers, an unstable control of pH and EC, etc.). Enabling a uniform nutritional solution with a constant and balanced flow of fertilisers and acid, thus keeping the desired nutritional formula with a correct pH and EC control.

NUTRICOMPACT

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H<sub>2</sub>O

NPK HNO HPO." HCI

pHI EC

NUTRIVENT EQUIPMENT

hermisan

NUTRICOMPACT

NUTRIVENT is a system for the injection of Fertilisers and Acid by means of the Venturi system, with inexpensive equipment easy to install and maintain.



MANUEL COLLADO XAMORA



### THE PERFECT ECOSYSTEM FOR OFF-SEASON CROPS GREENHOUSES

### CROPS IN GREENHOUSES

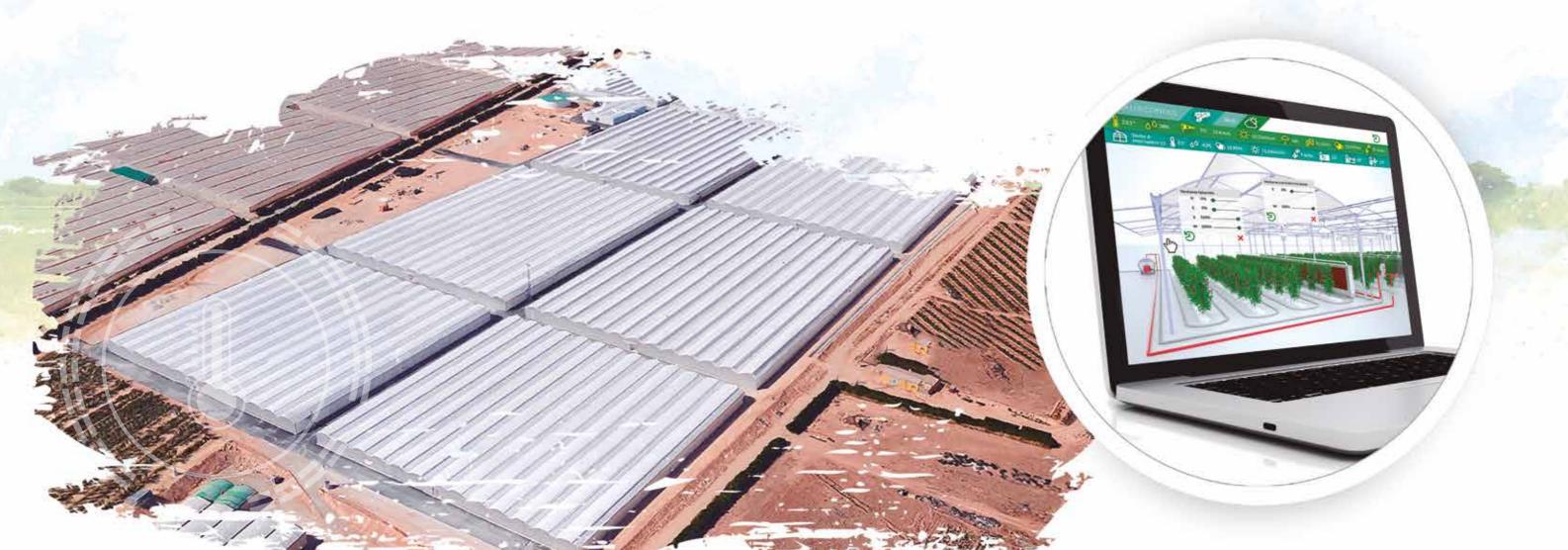
Many of the clients of our irrigation systems grow their crops in greenhouses. Therefore, it was easy to take the step towards the design, manufacturing, marketing, logistics and maintenance of greenhouses.

We are in a position to design and offer a great variety of greenhouse installations, that are able to hold all types of crops and adapt to any circumstance of the soil, climate, production systems, etc.



### ABSOLUTE CONTROL BY MAXIMISING PRODUCTIVITY CLIMATE MANAGEMENT

With Hermisan's Climate Solutions, our clients can fully optimise the production in their greenhouses.





Comprehensive systems for a maximum productivity of greenhouses

# COMMUNICATIONS

Our R&D&I team has applied the latest developments in communications, allowing our clients to have remote access using 3G, Wi-Fi, Ethernet, so they can manage their installations without physically being there.

#### FLEXIBILITY:

Data about the status of all the farm devices can be received on-line: motor pumps, filters, deposits, valves, etc., together with the meteorological data and other parameters of the plants and soil, which are essential to take decisions about the crops management.

Actions can be programmed from these data and past events can be revised using statistics.

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### AGRICULTURE 4.0

We are entering the 4.0 stage. Modern measuring methodologies of what happens underground are introduced, as well as the interpretation and decision-making consistent with each situation.

Always attentive to anything that can improve the efficiency and profitability of crops, Hermisan has formed an alliance with WISE, a leading company in agro-technology, to share their products and research. This way Hermisan offers its clients, a system that uses probes in the ground to measure at all times the water available for each plant.

#### FULL CONTROL:

By using the data obtained from the inside and outside probes of your greenhouse, you can manage the climate control devices.



## PRECISION IRRIGATION

This reading allows us to establish the soil humidity retention curve in each area, to interpret those data and to take the most appropriate decisions related to the fertirrigation needs at each time.

The information of this new system, its recordings and statistics are integrated in Hermisan's SUPRACONTROL hydrocomputer.

#### MAXIMUM PRODUCTIVITY **BOOM SPRAYERS**

Hermisan's carts allow a perfect distribution of irrigation and fertirrigation in plant production.

### **IRRIGATION FOR NURSERYS**

- vibrations and damage to the structure.
- gearboxes with variable speed drives.
- irrigation or fertilisation.

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- 1. The movement of the train is carried out using 2 rails, which allows us to offer a more robust and durable product by avoiding

- 2. It allows the programming of different speeds for the train's movement, with Starts and Soft Stops by using motorised

- 3. You can select the different areas to be irrigated or fertilised within each tray line, excluding the passage ways.

- 4. In each irrigation area, you can choose whether to use water or fertiliser, as well as the possibility to drain the previously applied solution still present in the pipes, before starting a new

5. Combined with the Nutricompact advanced fertirrigation system and the use of mother tanks with a solution of buffered fertiliser, it is the perfect tool for plant control and growth.



# NON FROST CONTROL

Frost can ruin a crop in a few hours. HERMISAN's anti-frost system is an innovative and effective procedure to protect the plants.

PROTECTING THE FRUIT ON THE TREE

A constant application of a thin water film saturates the plants' surface with humidity. That way, evaporation is reduced and conduction and heat loss in cultivation plots are lowered. The plant, covered in a very thin ice film, keeps temperature at 0° C.

The Non Frost–Control System achieves a saturation of humidity with minimum water consumption per square metre. It avoids flooding and tears in branches.

This Non Frost–Control system, one of the most advanced in the market, enables the protection of crops from high temperatures in the summer. On a day of 40° C, the plot's temperature can be lowered to 25° C.









### WE MEET THE REQUIREMENTS OF EACH PROJECT ACTION AREAS

### LARGE PROJECTS

The Spanish State, through the Ministry of Economy and Treasury, grants the various classifications to contractor companies. In Spain, this requirement is necessary to be able to contract with Public Administrations, and this requires proof of technical and financial solvency of the company wanting to be classified.

Hermisan S.A. has the following list of CLASSIFICATIONS:

GROUP	SUBGROUP	DESCRIPTION OF THE WORKS IT QUALIFIES FOR			
А	01	Grading and excavating			
Е	01	Supply and sanitation hydraulic works			
Е	04	Hydraulic works irrigation ditches and drains			
Е	05	Hydraulic works for bank and channelling defences			
Е	07	Hydraulic works with no specific qualification			
1	06	Low-tension distribution electrical installations			
I	07	Telecommunications and radio installations			
I	08	Electronic installations			
I	09	Electrical installations with no specific qualification			





### SUPPLY SOLUTIONS TAILOR-MADE SOLUTIONS

#### CIVIL WORKS AND INFRASTRUCTURES

Hermisan has planned and implemented a great number of national and international projects with the greatest efficacy, both in Public and Private Works.

### SOLUTIONS FOR IRRIGATION ASSOCIATIONS

The control of water supply systems for irrigation associations requires a management process from each of the irrigators individually, but integrated in the network's global control.

Hermisan offers an integrated solution in which each irrigator or group of irrigators has one water intake from the water network installed with specific characteristics in each case, in order to supply certain levels of pressure, filtering, etc.

This water intake may be automated using an autonomous electronic system, that allows all the systems installed in the intakes to be interconnected with each other and with a central equipment, which controls the operation of the whole and of all intakes at all times.

That way, a periodical storage of statistics, consumption invoicing and the control of all working conditions for which each association is designed takes place, allowing irrigation shifts, sectorisation, maximum flow control and damage prevention, alarms, leaks, etc.



Large modern agricultural businesses need to optimise their resources and processes in order to be profitable in an increasingly competitive environment.





#### ENERGY SELF-CONSUMPTION HORIZON

### PHOTOVOLTAIC SOLUTIONS

#### SOLAR PUMPING AND PHOTOVOLTAIC SELF-CONSUMPTION

We offer "turnkey" solar pumping and photovoltaic self-consumption solutions, from the technicaleconomic feasibility study to the legalization and management of aids/subsidies.

A photovoltaic solar plant allows coverage of 60–80% of daily consumption: a saving of 20–40% of our total electricity bill. Photovoltaic self– consumption with an energy storage system also makes it possible to extend irrigation or water extraction schedules.

Solar pumping can maintain a constant water withdrawal level and increase irrigation efficiency.

Using photovoltaic energy on a farm contributes to creating a CO<sub>2</sub>-free space and reducing the carbon footprint of agriculture.

> the intelligent use of energy on farms improves their profitability and is key to the principle of sustainability

Hermisan is a valuable technology partner also in everything related to energy.

The energy consulting and tariff consulting offered by Hermisan resolves the technical complexity of all decisions related to energy consumption. Always proposing and negotiating the best option for the farmer.



### ENERGY MANAGEMENT SOLUTIONS

### CORRECT CONSUMPTION MANAGEMENT IMPROVES PROFITABILITY



The energy audits carried out by our highly qualified personnel allow us to improve the facilities and optimize the power necessary for the proper functioning of the farms.

The correct processing of aid and subsidies are an important part of the energy management carried out by Hermisan.



SPREAD HALFWAY AROUND WORLD

### GLOBAL PRESENCE INTERNATIONAL PROJECTION

Hermisan is present in more than 20 countries, either with a direct presence or through its strategic partners. Among our clients we find the most important fruit and vegetable companies in Europe, Asia, Latin America, Africa and Australia.





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