



## **Niroofarab Industrial Group**

**2023**

### **Niroofarab Manufacturer:**

- Intelligent greenhouse climate control systems
- Intelligent feeding and irrigation machines
- Greenhouse waste water treatment machine
- Greenhouse power supply systems
- Whole fogger equipment

### **НИРУ ФАРАБ производит**

- Интеллектуальные системы климат-контроля в теплицах
- Интеллектуальные машины для кормления и полива
- Машина для очистки сточных вод теплиц
- Системы электроснабжения теплиц
- Все оборудование для туманообразования

**[www.niroofarab.com](http://www.niroofarab.com)**



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NIROOFARAB Industrial Group started its activity in 2006 with a binary presence in the fields of electrical-electronics-mechanics and agriculture engineering. In this line, with the aim of providing new services, including consulting, design, control and intelligentization of greenhouses, it has stepped into the field of competition and has taken steps in this line, saving 35-60% of energy and human resource, and the ability to control equipment and raise quality & quantitative production in the greenhouse industry. Also, for extended period of time and the cause of problems such as lack of water and considering that 80% of water consumption in the agricultural part is wasted and other problems such as plant malnutrition caused by wrong timing and the incorrect consumption of nutrients for different crops and with its experienced experts and relying on its update knowledge, it succeeded in manufacturing intelligent feeding and irrigation machines and was able to see the needs of farmers in this field.

In order to expand its field of activity of greenhouses, NIROOFARAB started its activity in 2013 in order to supply fogger equipment suitable for the water in Iran, and it surveyed and analyzed all the problems caused by the use of fogger products in Iran. So That it produced fogger equipment with the best efficiency and compatible with the waters of the Iranian region.

Presently, NIROOFARAB is the first manufacturer of fogger equipment in Iran. In recent years, due to the increase of hydroponic greenhouses in Iran, in order to save water consumption and reuse greenhouse wastewater, it has designed and produced a greenhouse wastewater treatment machine.

## Certificates



ISO 10004 : 2018 ISO 45001 : 2018

CE

ISO 50001 : 2018 ISO 9001 : 2015 ISO 14001 : 2015

Промышленная группа НИРУ ФАРАБ начала свою деятельность в 2006 году с двойного присутствия в области электротехники, электроники, механики и сельскохозяйственной техники. В этом направлении, с целью предоставления новых услуг, включая консалтинг, проектирование, контроль и интеллектуализацию теплиц, она вышла на поле конкуренции и предприняла шаги в этом направлении, сэкономив 35-60% энергии и рабочей силы. Эта группа привнесла способность контролировать оборудование и увеличивать превосходное количественное и качественное производство в тепличной промышленности.

Кроме того, с течением времени и появлением таких проблем, как нехватка воды и учитывая, что 80% потребления воды в сельскохозяйственном секторе тратится впустую, и других проблем, таких как недоедание растений, вызванное неправильным временем и неправильным потреблением питательных веществ для различных культур, и с помощью своих опытных экспертов, и полагаясь на свои постоянно растущие знания, группе удалось создать интеллектуальные машины для кормления и орошения и в некоторой степени удовлетворить потребности фермеров в этой области.

Чтобы расширить сферу своей деятельности в области теплиц, НИРУ ФАРАБ начала свою деятельность в 2013 году с целью поставки оборудования для туманообразования, подходящего для воды в регионе Ирана, а также исследовала и проанализировала все проблемы, вызванные использованием туманообразования в Иране.

Это привело к производству устройств для туманообразования с максимальной эффективностью, совместимых с водами иранского региона. «В настоящее время НИРУ ФАРАБ является первым производителем оборудования для туманообразования в Иране». Кроме того, в последние годы, в связи с увеличением количества гидропонных теплиц в Иране, для экономии потребления воды и повторного использования сточных вод теплиц была разработана и изготовлена машина для очистки сточных вод теплиц.

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# Energy Efficient Greenhouse Intelligent Climate Control Systems

Niroofarab has succeeded in producing a qualified product that is sold in the foreigner & interior markets and which has been welcomed by greenhouse owners for more than one decade of successful production of intelligent greenhouse climate control systems and using the technical knowledge of Iranian experts in the fields of electricity, electronics, mechanics, instrument control and agriculture.



## Greenhouse Equipment under Farab Control

- One-side and two-side Ceiling vents
- Single and group heating system
- Heating system
- Fogger
- Circulating fans
- Fan and pad
- Internal shade curtain
- External shade curtain
- Artificial light (lighting)
- Roll-up pad
- Irrigation and fertilizing system
- Dioxide Maker
- Lighting of hall
- Defined exit by the user
- Roof sprinkle
- Sulfur Burner

## Farab Sensors

- Ambient temperature
- Ambient humidity
- Soil temperature (substrate)
- Soil moisture (substrate)
- Water temperature
- Fridge temperature
- Water pH
- Soil pH
- Rain detection
- Water EC measurement
- Boiler temperature
- Wind speed and direction
- Outdoor temperature
- Light Luxury
- Carbon dioxide
- Carbon monoxide
- Leaf temperature
- Temperature of upper level of shade

## Various Levels of Artificial Intelligent Systems (Based on Artificial Intelligence)

Farab greenhouse intelligent climate control systems are divided into three groups based on control algorithms, which are: single-mode systems, three-mode systems, and four-mode systems.

They are also presented in two models based on the equipment and area of the greenhouse, which are:

- PID Plus model: suitable for flower greenhouses or complete equipment greenhouses and more than 5000 sqm
- Economic model: suitable for small greenhouses

## Distinction of Farab Climate Control:

- Temperature and humidity optimum control of the environment with the least stress to the plant
- Automatic fault finding & alarm system
- Sensing protection system
- Graphing and recording statistics with Excel output
- Monitoring and control in the management network
- A high-level user connection
- Different access levels such as worker, security, supervision, expert
- Permanent access for an expert to provide 24-hours services and support

**1 YEARS  
WARRANTY**

**3**

1 year warranty and 10 years after-sales service





# Niroofarab Fogger Controller and Power Supply Systems

In order to improve the quality of power supply systems and its optimal integration with the greenhouse climate control system, Niroofarab has designed, produced and implemented greenhouse power supply projects. In the production of power supply systems, it has always tried to use high-quality standard industrial power equipment and has also considered all protection systems for optimal control of greenhouse equipment and preventing possible errors. Also, through using the expert workforce, it has done the complete implementation of the electrical system, including tray laying, cabling, motors and micro-switches, valves and pumps, installation of electric equipment for greenhouse heaters, etc. Whole of electrification operations are designed and executed according to the type of structure and facilities used. Observation relevant standards to raise product safety and quality and possible and additional changes in design are considered.

## Greenhouse Equipment under the Control of Electrical Panels

- Roof valves
- Heating system
- Fogger
- Circulating fans
- Fan and pad
- Internal shade curtain
- External shade curtain
- Artificial light (lighting)
- Roll-up pad
- Irrigation and fertilizing system
- Lighting of hall
- Fridge



## Distinction Aspects of Farab Power Supply Systems

- Use of electrical panels with IP55 with galvanized panel and electrostatic paint to prevent possible rusting
- Use of junction boxes and distribution boxes to prevent copper cables from being sulfated
- Use of trays and ladders to protect cables and improve quality cabling
- Use of protective equipment in the connections of the cables to prevent the penetration of moisture and physical shocks
- Use of roof valve control panels separately from the main panel to control one by one the ceiling valves, and a separate order to open and close in the place
- Use of the High Earth Standard System to protect electrical equipment and users' lives
- Use of protective equipment in the connection of all electric motors
- Quality control of equipment assembled in electrical panels and final approval
- Use of standard and qualified parts in the production of electrical panels, use of lighted switches for better seeing the off and on status of each equipment

## Farab Fan and Fogger and Valve Controller

- Specifications**
- Display of temperature, humidity and wind speed
  - Display of minimum and maximum temperature, humidity and wind speed
  - With a temperature and humidity sensor and a wind speed sensor
  - Observation statistics of minimum and maximum temperature, humidity and wind speed during 24 hours
  - With alarm output when an error occurs
  - Monitoring and remote control through SMS and application

- Features**
- Closing the valves when there is strong wind
  - Controlling the exhaust fans for 2 modes of aeration and dehumidification
  - Controlling the turning off and on of the mist sprinkler in two modes of automatic operation and timer
  - Automatic draining of water inside nozzles and fogger tubes in order to control dripping nozzles



It is suitable for controlling the temperature and humidity of greenhouses and mushroom breeding halls and chicken farms





# Niroofarab Fogger Equipment & Fogger Pump

By virtue of the needs of greenhouse owners for fogger and humidifying systems, during the last decade, Niroofarab company has been supplying high-quality fogger equipment suitable for the water of Iran, and presently, it has produced these product internally in order to be able to provide better quality and services for interior and foreign customers in this field.

## Whole Fogger Equipment



### Hose

- Polyamide 3.8
- Polyamide 1.2
- single-layer and double-layer wire pressed 3.8

### Fittings

- wrench 3.8
- Normal 3.8
- Wrench / normal 3.8

### Nozzle base

- Single nozzle
- Dual Orifice 90 Degree Nozzle
- Dual Orifice 180 Degree Nozzle
- Dual Orifice 120 Degree Nozzle

### Fogger nozzle

- Fixed disc
- Replaceable disc
- All steel
- steel head

## Fogger Pump Industrial Pack

The fogger package is used for quick and easy installation of the fogger system which is the integrated electrical panel, filtration and fogger pumps on one chassis, in addition to the beauty of the appearance; it causes work order and prevents the depreciation of the equipment.



**Niroofarab is the first producer of all fogger equipment in Iran**

**3 YEARS WARRANTY**

Fogger equipment with 3 years warranty in Plus fittings  
and 10 years after sales service



## Smart Greenhouse Feeding & Watering Machines

For the years of successful production in the field of intelligent greenhouse climate control systems, Niroofarab company has produced intelligent feeding and watering machines. Nutri Farab intelligent feeding and watering machines have PID control technology, which improves the uniformity of food injection in Irrigation water and finally EC and PH are adjusted uniformly.

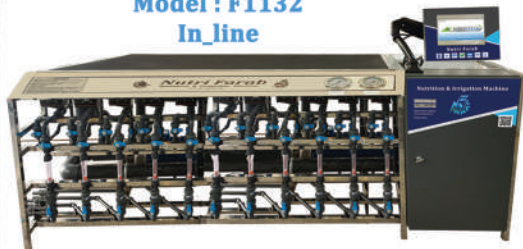
According to the type of product and area, various feeding and irrigation machines are produced in Niroofarab.

### Features:

- Feeding each plant separately
- Uniform injection of nutrients and acid
- Adjusting the grouping of irrigation valves
- Automatic control of irrigation by soil moisture and light intensity
- Charting the irrigation status and storing it indefinitely
- Saving water consumption
- With 4 food inputs and 1 acid input
- Fertilizing and watering corps up to 4000 modes
- Watering and commanding 32 solenoid valves
- Remote irrigation control and control by mobile phone and computer
- Connecting 2 EC sensors and 2 PH sensors simultaneously in the device
- Setting automatic pressure of irrigation lines
- Checking the volume of liquids in food tanks
- Connect to the climate control system and sewage treatment
- Connect the EC and PH sensor of the sewage output

### Online Feeding & Watering Machines

**Model : F1132**  
**In\_line**



11 online stocks  
for areas up to 2 hectares  
(Plus model up to 6 hectares)

**Model : F532**  
**In\_line**



5 online stocks  
for areas up to 2 hectares  
(Plus model up to 6 hectares)

**Model : F316**  
**In\_line**



3 online stocks  
for areas up to 2 hectares  
(Plus model up to 6 hectares)

### Offline Feeding & Watering Machines

**Model : F516 O**  
**Off\_line**



5 offline stocks  
for areas up to  
1 hectares

**Model : F316 O**  
**Off\_line**



3 offline stocks  
for areas up to  
7000 square meters



**1 YEARS**  
**WARRANTY**

3 years warranty  
and 10 years after sales service





# Niroofarab Greenhouse Wastewater Treatment Machine

Presently, Iran has a long-term period of drought and the water shortage crisis has challenge for the country more than ever. Considering the fact that %90 of the country's water is consumed in the agricultural part and the number of hydroponic greenhouses in Iran raise, the new methods of wastewater reuse has become more significance. With the advancement of sciences and technology, scientists discovered that through producing electromagnetic lights and radiating them to water with a certain wavelength, they are able to deactivate the organisms that cause pollution in water easily. The basis of the water disinfection system, or the UV water device, is ultraviolet radiation.

Through shining ultraviolet light, this product is able instantly remove all germs and pathogenic microorganisms in the greenhouse effluent in the shortest possible time. In this method, no chemicals are added to the water.

## Advantages of a UV Sewage Treatment Device

- 1 Removal of bacteria, viruses, parasites, etc.
- 2 Healthy, quick, low-cost disinfection
- 3 Quick and simple replacement of the UV lamp
- 4 With an anti-acid steel body
- 5 No Harmful traces on the environment
- 6 Not changing the physical and chemical properties of water
- 7 Optimum use of fertilizer and water and saving at least 40-60%

Why should  
greenhouse  
waste be thrown  
away!?

## Device Features

- Use in all types of feeding machines
- Turbidity control system in the UV lamp package
- UV lamp protection system against burning
- Stopping the device from operating without water
- With a UV wave detection sensor
- With a UV package temperature detection sensor
- With injection Oxygen Water and acid
- Adding backwash system automatically

## Models of the machin

according to the area and volume of the greenhouse effluent, this device is offered in different capacities and facilities in two **Off-line** and **In-line** models.







**Niroofarab**  
**Industrial Group**



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