

# FSYDRIP Fertigation equipment introduction

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#### **Company Profile**

FSY Water Saving Technology Co., Ltd. has more than 10 years of experience in drip irrigation project planning and installation. Our main products have four categories:

- Filter
- Intelligent fertigation equipment
- Drip irrigation fitting
- Dripper / Micro sprinkle





### Introduction of fertigation equipment



The intelligent water and fertilizer integrated

machine is an efficient and precise irrigation

technology that integrates irrigation and fertilization.

That is, with the help of a pressure system, the soluble

solid or liquid fertilizer is mixed with the irrigation water,

and then the crop is supplied proportionally through

the controllable irrigation system.



#### **Performance parameter**

- 1. Name: Three-channel intelligent fertilizer applicator;
- 2. Model: FSY#SFJ-001
- 3. Technical parameters:
- a. Power supply: three-phase 380V/AC;
- b. Fertilizer suction power: 1.1KW;
- c. Single-channel fertilizer absorption capacity is 60~600L/H;
- d. Water inlet and outlet of fertilizer applicator: DN25;
- e. Working pressure: 0.2-0.6mpa
- 4. This product is suitable for planting area (5 ha-100 ha)



# PRECISION PLANTING LARGE-SCALE IRRIGATION AREA MANAGEMENT

Water and fertilizer integration Crop management system Professional version

#### **Product detail**

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#### Features of intelligent water and fertilizer integrated machine



#### Touch screen

Simple fertilization and irrigation controller, fully realize man-machine interface display and equipment control function



#### Multiplex control

Multi way fertilization flow control, fertilizer suction pump linkage control, water pump independent control, irrigation area control

### **Corrosion resistant**

Corrosion resistant UPVC piping and accessory fittings



#### Strong ability of absorbing fertilizer

Fertilizer absorption capacity 2m3 / h (optionally 4m3 / h), three kinds of liquid fertilizer can be absorbed at the same time





Aluminum alloy Durable aluminum alloy, beautiful frame

#### PRODUCT DETAILS

01 Stainless steel water pump Stable operation



03 Industrial grade sensor High precision, industrial quality





#### **02** New generation PLC

Fast calculation speed, excellent performance, accurate and sensitive



# 04

Industrial grade PVC pipe

More acid and alkali resistant, pressure 16KG



### Main functions of the system

- 1. Precisely control the amount and time of fertilizer application
- 2. Compile rotation irrigation program to realize automatic irrigation function
- 3. EC/PH monitoring function
- 4. It can be equipped with a weather collection system to monitor environmental parameters in real time
- 5. Data analysis function
- 6. Remote control by mobile phone and computer
- 7. Can be customized according to customer requirements



### **Operation instructions**

1, After turning on the power, first enter the login page



Enter the user name and password to log in to the system



### **Operation instructions**

2, The process flow screen will appear after logging in to the system



Automatic irrigation and manual irrigation buttons, can be selected according to customer needs



#### **Manual operation**

1. Mode selection: As shown in Figure 1: In the operation mode, press the manual button, the current mode displays manual, and the box color is green; when manual and automatic are not selected, it displays not selected;

Automatic mode operation 15:21:10
Operation Mode Selection Manual mode Automatic Mode Current Mode Not Selected
Channel Selection
Fertilizer injection control mode
Time-setting mode Quantitative model
Current Fertilizer injection control mode Time-setting mode
Status Display Fertilization is over.
Data Clear Data Clear Emergency stop.
Work started. Work started.
Previous Page
(Figure 2)



#### **Manual operation**

#### 2. Irrigation:

Enter the irrigation control screen, as shown in Figure 3, select manual control for the irrigation mode, click the solenoid valve on or off button for each irrigation area to open or close the solenoid valve corresponding to each irrigation area. When the solenoid valve is open, the indicator light turns red. When the solenoid valve is closed, the indicator light shows green; you can also directly operate the knob on the rotary button box to open or close the solenoid valve of each irrigation area. When the solenoid valve is opened, the red indicator light on the control box door is always on, and it goes out when it is closed.



#### **Manual operation**





#### **Manual operation**

#### 3. Mixing:

Press the start button of the corresponding fertilizer bucket mixer, the mixer starts to work, press the stop button after mixing, the mixer stops working; the mixing impeller is rotating when the mixer is running, and it is static when it is stopped; the cumulative mixing time is set in the parameter The screen can be displayed as shown in Figure 4;

Parameter setting 15:21:10		
Channel A	Channe I B	Channel C
Mixer State	Mixer State	Mixer State
Valve state close	Valve state Close	Valve state Close
Cumulative mixing time	Cumulative mixing time	Cumulative mixing time
888 m88 s	888 m 88 s	888 m 88 s
Cumulative fertilization time	Cumulative fertilization time	Cumulative fertilization time
888 m 88 s	888 m 88 s	888 m 88 s
Cumulative fertilizer application	Cumulative fertilizer application	Cumulative fertilizer application
8888 L	8888 L	8888 L
Wixer time setting 9999 min	Mixer time setting 9999 min	Mixer time setting 9999 min
Fertilization time setting	Fertilization time setting	Fertilization time setting
9999 min	9999 min	9999 min
Fertilizer Quantitative Setting	Fertilizer Quantitative Setting	Fertilizer Quantitative Setting
9999 L	9999 L	9999 L
Work started. Previous Page		



#### Manual operation

#### 4. Fertilization:

first press the solenoid valve open button of each channel to open the solenoid valve, then press the start button of the fertilizer pump to start the fertilizer pump, stop the fertilizer pump after fertilization is completed, and finally close the solenoid valve of each channel. The fertilization time and fertilization amount are in the parameter setting It can be displayed on the screen (as shown in Figure 4);



#### Automatic irrigation and fertilization

1. First enter the irrigation control screen, as shown in Figure 3, select the irrigation mode as onekey rotation irrigation;

2. Operate the fertilization button to display fertilization;

- 3. Set the rotation time;
- 4. Choose the round irrigation area, you can choose all or several freely;
- 5. Enter the fertilization parameter setting screen as shown in Figure 4: Press the automatic button in the operation mode, the current mode displays automatic, and the box color is orange;

6. Select the mixing fertilizer bucket: press the A bucket, B bucket, C bucket button to select.

7. Selection of fertilizer control method: selected or quantitative; the current fertilizer control method can display the selected fertilizer control method, the color of the quantitative box is red, and the timing is green;



#### Automatic irrigation and fertilization

8. Parameter setting: first set the mixing time of the selected fertilizer tank, and then set the timing time or quantitative fertilizer amount of each channel;

9. Press the work start button, the mixer starts, when the set time is reached, the mixer stops working, and automatically enters the fertilization link, the solenoid valve corresponding to the channel of the selected fertilizer bucket is automatically opened, the fertilizer pump works, and the selected channel reaches the set timing time Or after a quantitative amount of fertilizer, the solenoid valve is automatically closed, and the fertilization pump stops working after all fertilization is completed, and the selected irrigation areas are rotated one by one until all 10. Status display: display preparation work before automatic start, display mixing when the mixer is working, display fertilizing when the fertilizer pump is working;



#### Precautions

1. Before each operation of this equipment, first press the data reset button to initialize the program;

2. In case of accidents such as water leakage, press the emergency stop button, after dealing with the problem, reselect manual or automatic and start working;

3. When the fertilizer applicator is working, the door of the control box must be closed and locked, so as to prevent the pipeline from leaking and splashing in and causing a short circuit and burning electrical components.

4. This equipment is used indoors to avoid rain and sun.



# intelligent irrigation and fertilization system





#### **Application scenarios**





Application scope: soilless culture, hydroponics, greenhouse, orchard, field, support mobile APP remote control

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#### extensions

1. The remote monitoring function of mobile phone APP and PC terminal can be added

2. It can be connected to a weather moisture station, such as a greenhouse, and it can integrate the environmental control system (such as automatic wind, regular rolling curtains, atomization and humidity control, etc.) with the fertilization system

3. EC/PH real-time online monitoring and timely adjustment

#### Meteorological and Soil Moisture Station



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The small weather station adopts state-of-the-art sensing and data collection technology to transmit the collected data to the data display platform in the experimental area in real time. Guide agricultural production to provide accurate data support.

Common information collected by weather stations:

- 1, air temperature and humidity
- 2, wind speed and direction
- 3, light intensity
- 4, atmospheric pressure, etc.

Data collection and communication:

485 communication port can communicate with third-party controllers, and then upload data to the cloud platform through wireless network card or wireless network

Display system: can be matched with LED screens of different sizes For example, the control room can be equipped with a single LCD screen to display the collected data



"Smart agriculture" can significantly improve the efficiency of agricultural production and operation.

Based on the accurate agricultural sensor for real-time monitoring, using cloud computing, data mining and other technologies for multi-level analysis, and the analysis instructions and various control equipment linkage to complete agricultural production and management.

This kind of intelligent machinery not only solves the problem of the increasing shortage of agricultural labor force, but also realizes the high scale, intensive and industrialized agricultural production, improves the response-ability of agricultural production to the natural environment risk, and makes the weak traditional agriculture become a modern industry with high efficiency.



# THANK YOU FOR YOUR TIME

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