

Operation manual of intelligent water fertilizer integrated machine

JXSF-****

Ver1.0

威海精讯畅通电子科技有限公司

Weihai JXCT Electronics Co., Ltd.

Chapter 1 product introduction

1.1 Product Overview

1.1 Since the beginning of the century, with the progress of science and technology and the development of the times, the traditional fertilization, irrigation methods and equipment have been unable to meet the requirements of the development of agriculture or landscape architecture. According to the field investigation in many areas for several years, our company independently developed and designed a set of modern intelligent irrigation equipment - "intelligent water and fertilizer integrated machine".

This set of intelligent equipment developed by our company is to add soluble solid or liquid fertilizer into fertilizer tank by means of waterway pressure system, and then apply it with water evenly, regularly and quantitatively through fertilizer applicator.

The equipment is suitable for greenhouses, orchards, vegetables and garden field gardening and other fields.

1.1 functional features

It can be used for solid fertilizer and liquid fertilizer

The intelligent computer control can set the irrigation and fertilization time, irrigation method, etc. according to the different growth periods of the crops, and ensure that the fertilizer is retained in the main root layer of the crops regularly and quantitatively, so as to avoid fertilizer waste

The mixing function facilitates the uniform dissolution of fertilizer

It is suitable for drip irrigation, micro spray irrigation, sprinkler irrigation, reel, pointer sprinkler irrigation and other irrigation forms

There are instructions on the control panel, which are easy to understand

1.2 product advantages

It adopts aluminum alloy frame structure, which is durable, simple and easy to use

All electrical appliances are made of industrial first-line brands, and chemical grade high-pressure and corrosion-resistant pipes are used for pipelines.

Quick coupling pipeline connection, fast and easy installation.

Water saving, fertilizer saving, yield increase, environmental protection, labor saving, simple operation and high degree of intelligence.

1.3 host parameters

Parameter name	Parameter content
Power supply	380V
Outline dimension of single channel	76*60*130cm
Three channel dimensions	90*80*130cm
Inlet / outlet fertilizer pipe interface	DN25
Fertilizer absorbing interface	DN15
Water adding interface of fertilizer mixing tank	DN25
Single channel weight	34kg
Three channel weight	40kg

1.4 host display parameters

Parameter name	Parameter content
Screen display size	154*85mm
Screen	800*480pixel

resolution	
Screen	250nit
brightness	
Backlight	LED
Mode	
color	65K color

1.5 pump motor parameters

model	Power (kw)	Voltage (V)	speed (r/min)
BJZ-150T	1kW	380	2900

1.6 product functions

model	function
JXSF-00 (单路输出)	(1) Industrial grade 304 stainless steel water pump (not comparable to ordinary domestic pumps) (2) Fertilizer flow rate 0-250l (3) The maximum pressure of fertilizer injection is 5.5kg (4) Plastic rotor flowmeter is adopted (5) The voltmeter displays the voltage value in real time (6) 7 Inch Touch Screen
JXSF-01 (Three way output)	(1) Industrial grade 304 stainless steel water pump (not comparable to ordinary domestic pumps) (2) Fertilizer flow rate 0-250l (3) The maximum pressure of fertilizer injection

- is 5.5kg
- (4) Plastic rotameter and solenoid valve are used to add fertilizer in fixed time and quantity
- (5) The voltmeter displays the voltage value in real time
- (6) Inch Touch Screen

JXSF series water and fertilizer machines adopt aluminum alloy frame structure, which is simple in structure, firm in installation and convenient in use. It is powered by 380V power supply

Chapter 2 hardware connection

2.1 产品清单

Please check the equipment list before installing the equipment:

name	number
Water and fertilizer host	1set
Mixing drum	1-3 (optional)
Installation accessories	some
Warranty card / certificate	1copy

2.2 product appearance

At present, jxsf-00 series has two intelligent water and fertilizer machines. According to the use environment and irrigation area design, both can use 220 V or 380 V power supply, and the size of

irrigation area depends on the power of the water pump.

2. 3JXSF-00 水肥机

This type of water and fertilizer machine adopts single channel fertilizer absorption and fertilization, stainless steel water pump, * * inch touch screen display, automatic watering, automatic fertilization, rotation irrigation, timing, to achieve automatic control of water and fertilizer, automatic watering. It is suitable for single shed, single household or small-scale simple watering and fertilization. The host is shown in the



figure.

2.4jxsf-01 water and fertilizer machine

The machine adopts single channel fertilizer absorption, three channel fertilization, high-power stainless steel water pump, 7-inch touch screen display, automatic watering, automatic fertilization, rotation irrigation and timing, and can set different watering time and fertilization types according to different crops. It is suitable for multi area and large area watering and



fertilization. The host is shown in the figure



2.6 description of accessories

(1) Control host

The shell and key of jxsf series control host are made of high-quality steel and ABS materials, which have the advantages of light weight, corrosion resistance and durability. At the same time, it has a 7-inch touch control screen to display data and carry out relevant operations.

The control host has complex circuit wiring and is equipped with AC contactor and other control devices to ensure the safety and functionality of the control host, as shown in the



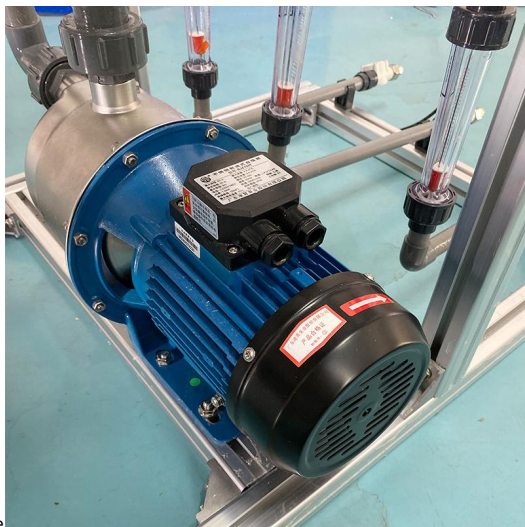
figure:

Note: the complex circuit wiring inside the main engine has been connected when leaving the warehouse. As long as the main engine is supplied with normal power, it is forbidden to move any line unexpected to the power line

(1) Stainless steel booster pump

Different models of jxsf series main engine use different pump models.

According to the use environment, irrigation range and frequency of the main engine, our company selects pumps with different speeds and powers to meet the needs of the host in various



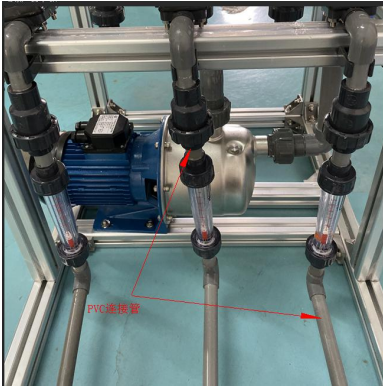
environments, as shown in the figure

(1) Aluminum alloy frame and PVC pipe

Jxsf series main engine uses light, strong, anti-corrosion and durable non aluminum alloy frame as support to ensure the normal operation of the host; at the same time, it uses thickened, pressure resistant, acid and alkali resistant PVC pipes to connect the pipes to ensure the normal fertilization.



As shown in the figure:



(1) Flowmeter

The capacity of jxsf series main engine flowmeter is selected according to the irrigation range and flow rate of main engine. The flowmeter of the main engine of our company uses threaded interface, which is convenient for self replacement; the measurement scale is clear and the fertilization is accurately controlled, which can save the



cost. As shown in the figure:

(1) Mixing drum

The mixing drum used by our company is made of brand-new materials, which has the advantages of impact resistance, strong acid and alkali resistance, wear resistance and environmental stress resistance, with long service life; at the same time, the power and speed of the motor used in the mixing drum will affect the mixing speed, so it can be selected according to the actual needs. As shown in the



figure:

Chapter 3 installation and operation instructions

3.1 installation instructions

(1) The bottom of the mixing drum is connected with the bottom interface of the water fertilizer



integrated machine through a hose connection.

(2) Next to the controller is the water interface, which needs to be connected with the water pipe through the joint.

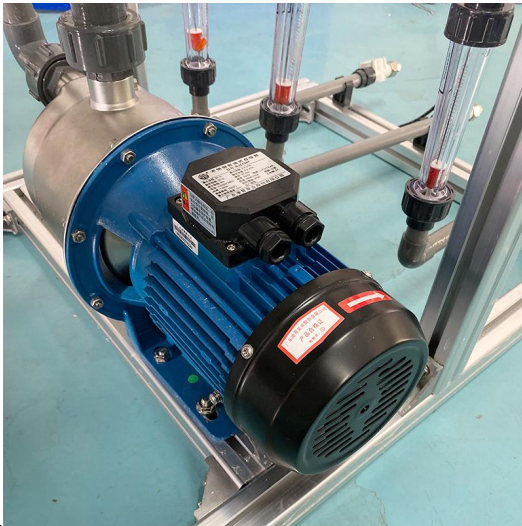


(3) The liquid in the pipeline will be mixed through a tee



joint.

(4) The mixed liquid will discharge water and fertilizer mixed liquid to the rear three outlets through the pump driven by the



motor.

3.1 wiring instructions

- (1) 380V power supply, observe the rotation direction of motor after power supply, if reverse, exchange any two-phase wiring
- (2) Connect the mixing motor in position.



3.3 operation guide

In this paper, three channel advanced edition is taken as an example to introduce the water fertilizer machine.

1. Carry out manual test to confirm whether each motor can work normally;

A) Click "manual test" on the left to enter the interface;

B) Confirm that the right mode button is in "manual mode"

C) Adjust the "+" - "-" on the right side of the setting time to set the motor on time.

D) Click "fertilization", "mixing 1", "mixing 2" and "mixing 3".

E) When it is allowed, the corresponding motor is turned on and the time starts to run for seconds, and the color of the corresponding motor button above will change.

2. Set the Fertilization Parameters of automatic fertilization mode;

A) Select fertilization metering mode: "timing mode" counts according to the set time; "quantitative mode" counts according to the sum of fertilizer flow of all channels.

B) Set the mixing time of fertilizer barrel before fertilizing every time the automatic irrigation is turned on.

C) Click "next page" to set the parameters according to the mode selected in step A.

3. Set the parameters of timing opening

A) Click any mode on the screen to enter the mode setting.

B) First, confirm that the mode on the right side is off (i.e. dark blue "start" is displayed) before modifying the parameters.

C) Select cycle mode or interval mode

"Circulation mode": set "month", "week", "day", "hour" and "minute". When the set time coincides with the current time and is in, automatic irrigation will be started.

For example, it is expected that No. 1 and No. 2 fields will be opened for irrigation every Monday at 9.30.

Setting: at 9:30 of * month, week * day, light up the area 1 and 2 below, and click open.

For example, it is estimated that No. 1 and No. 2 fields will be opened for irrigation on September 30, 13th every month.

*At 9:30 on the 13th of the month * week, light up the area 1 and 2 below, and click open.

"Cycle mode": set "interval day", "hour" and "minute"

For example, it is expected to open No.1 and No.2 fields for irrigation every other day at 9.30.

Setting: 1. Turn on the area 1 and 2 below at 9:30 every other day and click to open it.

There are 10 modes that can be turned on at the same time, but they will not be turned on if there is a conflict.

For example, mode 1 is set to open at 9:30, and mode 2 is set to start at 10:00. However, at 10:00, the automatic irrigation started by mode 1 does not end, so mode 2 will not be triggered this time.

D) Select parallel irrigation and rotation irrigation

"Parallel irrigation": at the same time, open all the electromagnetic valves of the selected irrigation area, and conduct irrigation at the same time. (this part does not exist for a single channel)

This mode can not be used with the quantitative fertilization mode, but can only be used in each

region according to the fertilization duration mode. (this mode is not recommended and may result in insufficient water pressure in the pump.)

"Alternate irrigation": turn on the corresponding solenoid valve of irrigation area in sequence

E) Click on the irrigation area that this mode is expected to open below.

F) After setting, click "return" and the corresponding mode in "timing opening interface" will turn to light blue.

4. Manual opening setting

A) Make sure you are in "automatic mode"

B) Click the left menu "manual open"

C) Select "parallel irrigation" or "alternate irrigation"

D) Lighting up the irrigation area to be opened this time

E) Click the menu "home" on the left

F) Click "automatic fertilization"

5. Precautions

A) "Manual start" and "timing start" all need to be in "automatic mode" before normal permission.

Each time the machine is in "manual mode", it is necessary for the field personnel to verify whether the external conditions are abnormal.

B) When it is in the "automatic fertilization" state, clicking "automatic fertilization" again will interrupt this fertilization.

C) There are 10 modes that can be turned on at the same time, but they will not be turned on if there is a conflict.

D) When the irrigation mode of quantitative mode is selected, parallel irrigation cannot be selected.

If you have any doubts about the above, please consult our after-sales technical personnel in time.

3.4 installation precautions

- (1) This machine uses three-phase 380V power supply. The minimum working voltage is 330V and the maximum working voltage is 450V. Please do not use it beyond this range. The total power consumption is less than 2.5kW. The power line shall not be less than 2.5 square national standard copper wire, and leakage protector shall be installed at the incoming line side
- (2) After installation, first check whether the voltage of the console voltage display is within the allowable range and whether the voltage is balanced
- (3) Check the water pump for correct steering. If the wiring is not correct, adjust the pump output phase line sequence
- (4) Exhaust before use, otherwise the pressure can not reach the rated output

Without communication with our technicians, users are not allowed to disassemble electrical components without permission, and the warranty is not allowed if the fault is caused

3.5 precautions

- (1) Under 0 °C in winter, water pump and pipeline flowmeter must be waterproof, otherwise frost crack will not be guaranteed
- (2) The voltage should not exceed the normal use range, otherwise the thermal protection will stop working
- (3) The fertilizer applicator must be used in the pump room, not in the rain or the sun, or the electrical parts will be short circuited and aged
- (4) In summer, the fertilizer applicator should not be in the greenhouse. Humidity will lead to short-circuit aging of the fertilizer applicator