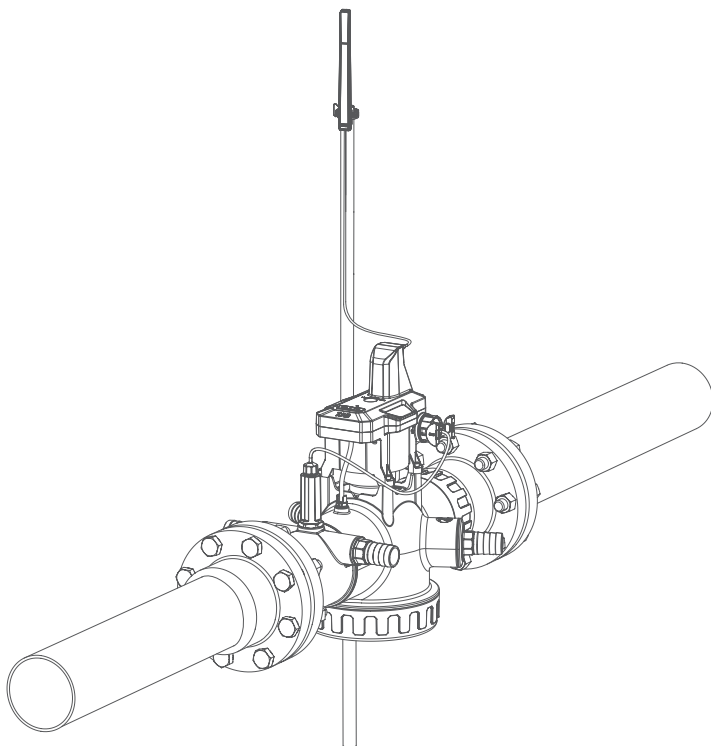


XAG FPI Pressurized Injector User Manual

Version 1.0 **EN**



To User

Dear user, thank you for choosing XAG's products.

For safety purposes and better user experience, it is highly recommended that you read this manual carefully and strictly follow the instructions hereof.

Contact Us

Manufacturer: Guangzhou Xaircraft Technology Co., Ltd.

Add: XSpace, No.115, Gaopu Road, Guangzhou, Guangdong Province, China

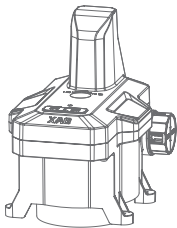
Technical Support Team: support@xa.com

Introduction

The XAG FPI Pressurized Injector ("injector") is part of the 2025 XAG Smart Farm series. Compatible with pressurized fertilizer tanks of various capacities, it supports simultaneous connection of two fertilizer tanks for operation. Through the XAG Farm app, users can remotely monitor fertilizer levels and schedule fertilizer application, enabling precise control over fertilization duration and effectiveness while improving operational efficiency.

List of Items

When unboxing, check the package contents against this list. Immediately contact your seller regarding any missing items.



Injector Controller
×1



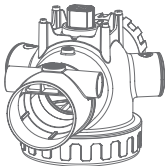
Sensor Quick-Connect Fitting
×1



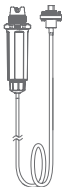
Air Tube
×1



M5 Screw
×4



Valve Body
×1



EC/pH Sensor
×1



End Cap
×2



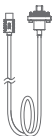
Barb Fitting
×4



External Wi-Fi Antenna
×1



Charging Adapter
×1

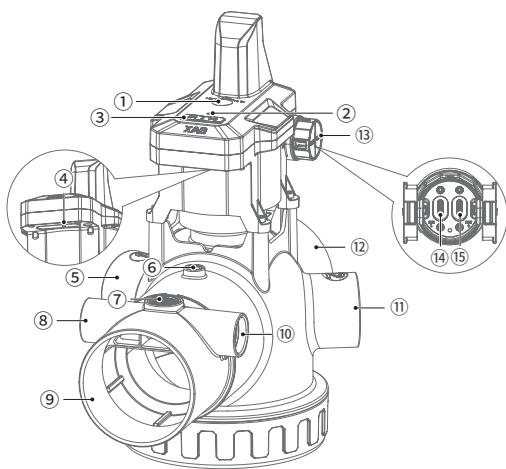


Type-C Cable
×1



Clamp
×5

Main Components



- ① Controller Direction Indicator

② Status Indicator

③ Control Button

④ Water Pressure Sensor

⑤ Water Outlet 1
- ⑥ Water Pressure Sensor Port

⑦ EC/pH Sensor Probe Port

⑧ Fertilizer Inlet 1

⑨ Main Pipe Outlet

⑩ Fertilizer Inlet 2
- ⑪ Water Outlet 2

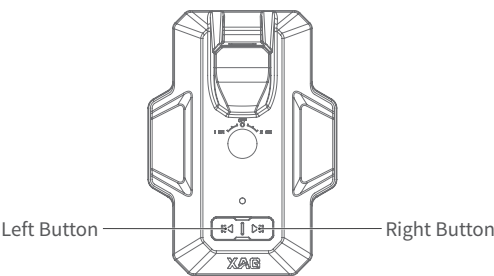
⑫ Main Pipe Inlet

⑬ XEA External Adapter

⑭ EC/pH Sensor Wiring Port

⑮ Power Port

Button



Action	Description
Short press Left Button	Valve body rotates counterclockwise/stops
Short press Right Button	Valve body rotates clockwise/stops
Long press both buttons for 5s	Enable network configuration mode

Indicator

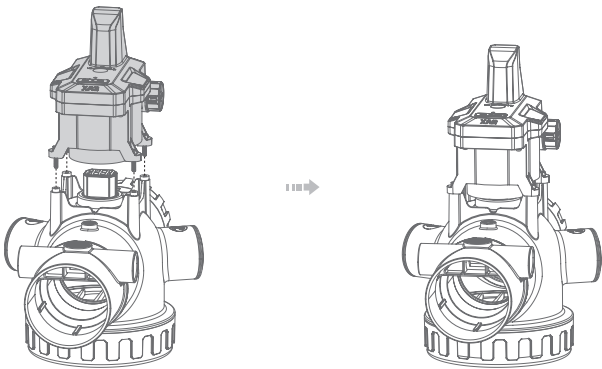
The indicators show the device's current status. Their meanings are defined below.

Indicator		Description
Solid Green		Normal network connection
Solid Yellow		Device awaiting connection
Solid Blue		Bluetooth pairing complete
Solid Red		Network failure/disconnected/device error
Slow Blinking Yellow		Network connecting/reconnecting
Slow Blinking Blue		Enable network configuration mode
Fast Blinking Green		Command execution in progress
Fast Blinking Yellow		Firmware update in progress

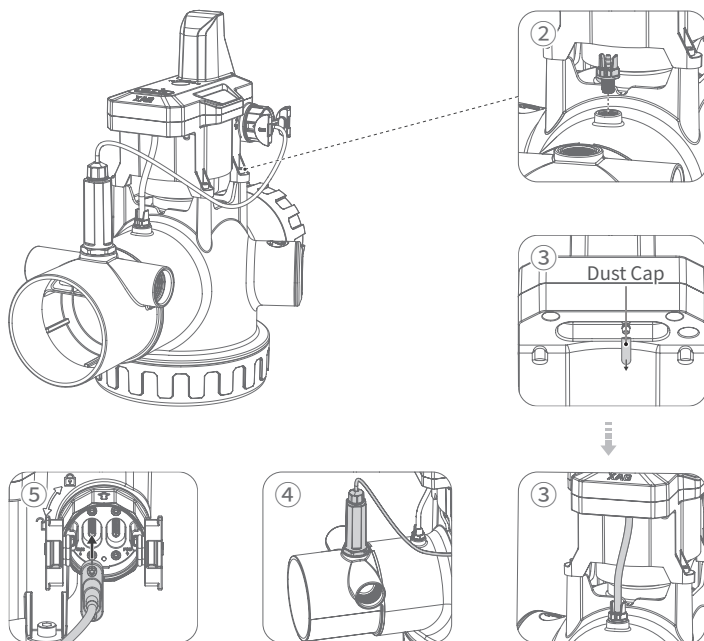
Installation

Assemble Injector

- ① Secure the controller to the valve body using four M5 screws.



- ② Connect the sensor quick-connect fitting to the water pressure sensor port and tighten it.
- ③ Remove the dust cap from the barb fitting of the controller's water pressure sensor and connect the air tube between the water pressure sensor and the sensor quick-connect fitting.
- ④ Connect the EC/pH sensor to the EC/pH sensor probe port and tighten it.
- ⑤ Open the side cover of the controller, connect the other end of the EC/pH sensor to the EC/pH sensor port, and secure it with screws.

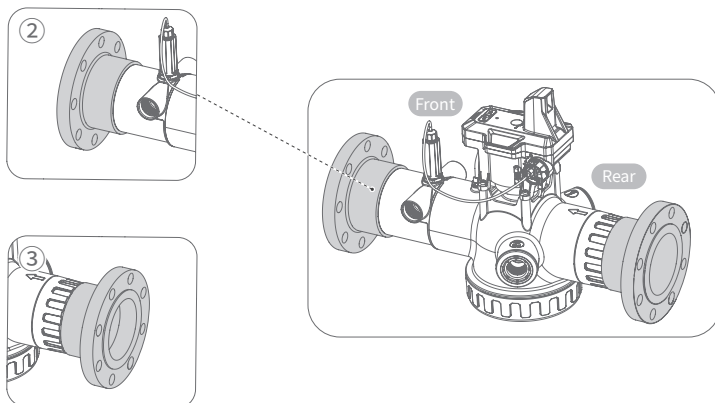


Install Injector

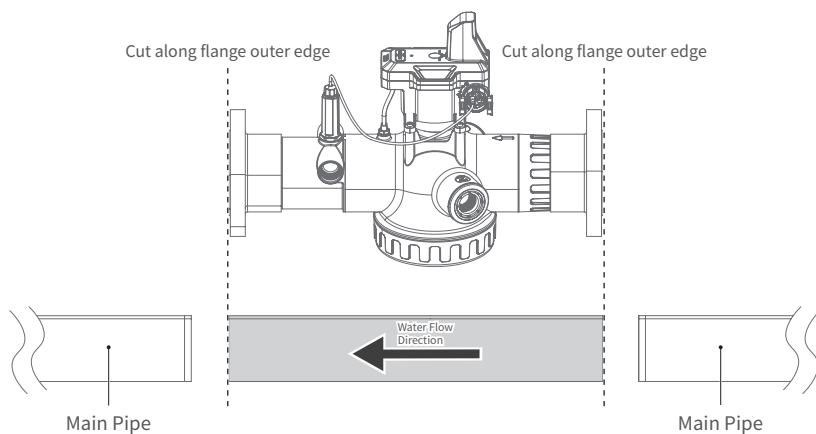
- ① Prepare a 150 mm PVC pipe (110 mm OD) and a flange (110 mm ID). Bond the flange's inner wall to the pipe's outer end using PVC cement to get a flange assembly.



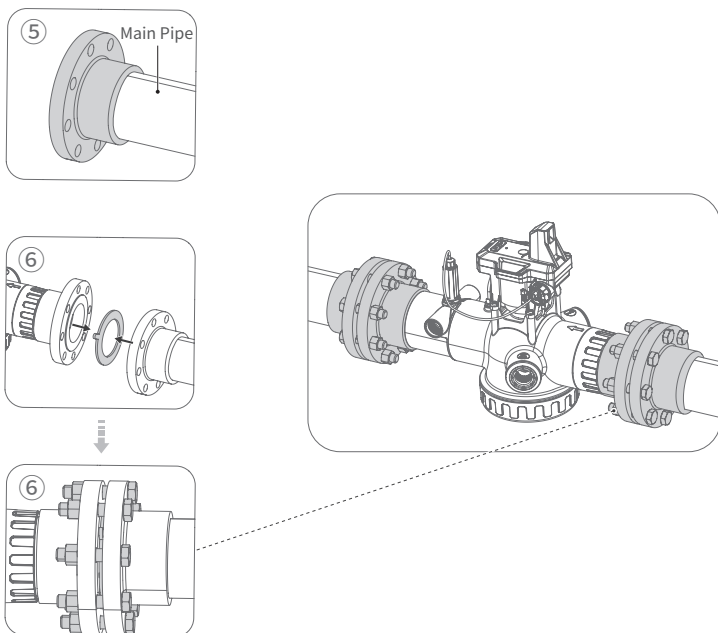
- ② Apply PVC cement to bond the flange assembly to the front interior wall of the injector.
- ③ Repeat the above steps to install the rear flange assembly, completing the injector assembly.



- ④ Position the injector assembly parallel to the main pipe. Cut the pipe at both outermost edges of the injector assembly and remove excess pipe.



- ⑤ Take another 110 mm-ID flange, align its bolt holes with those on the injector assembly's flange, and bond it to the main pipe with PVC cement.
- ⑥ Insert a rubber gasket between the injector assembly's flange and main pipeline flange. Secure with the flange's matching bolts.
- ⑦ Repeat Steps ⑤ and ⑥ to complete the injector installation.



Note

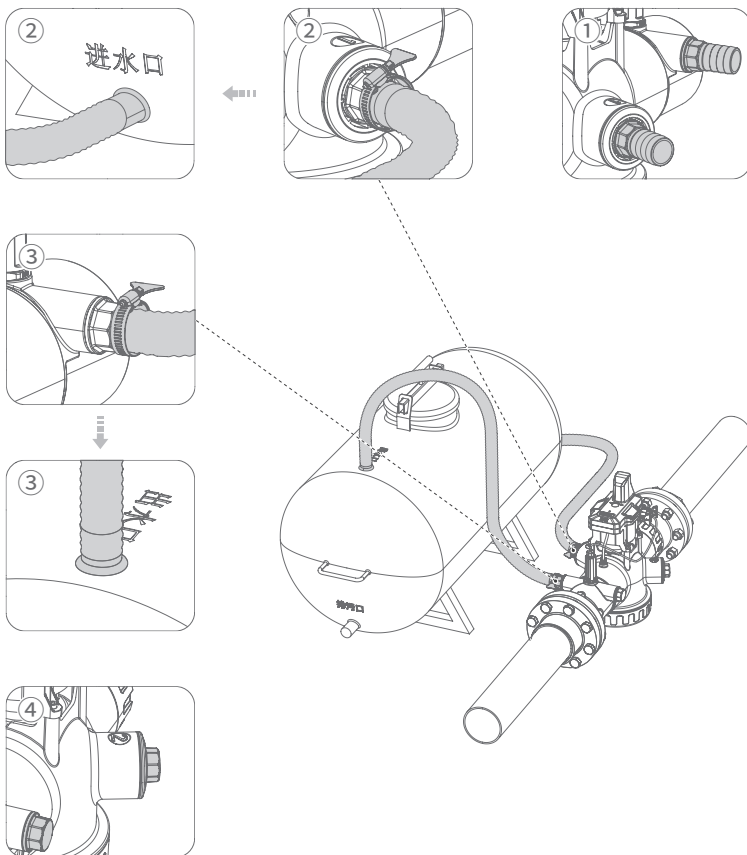
- ⚠ The flanges and piping compatible with the injector should be purchased separately. The PVC pipe models shown in this manual are for reference only. Please adjust as needed according to your actual piping setup. Refer to the actual components during installation.
- ⚠ Ensure sufficient space is reserved for installation based on the injector's overall dimensions (382 × 368 × 417 mm) and the layout of your piping system. Do not mix them.

Install Fertilizer Tank

Installation varies depending on the number of fertilizer tanks connected – single-tank or dual-tank setup.

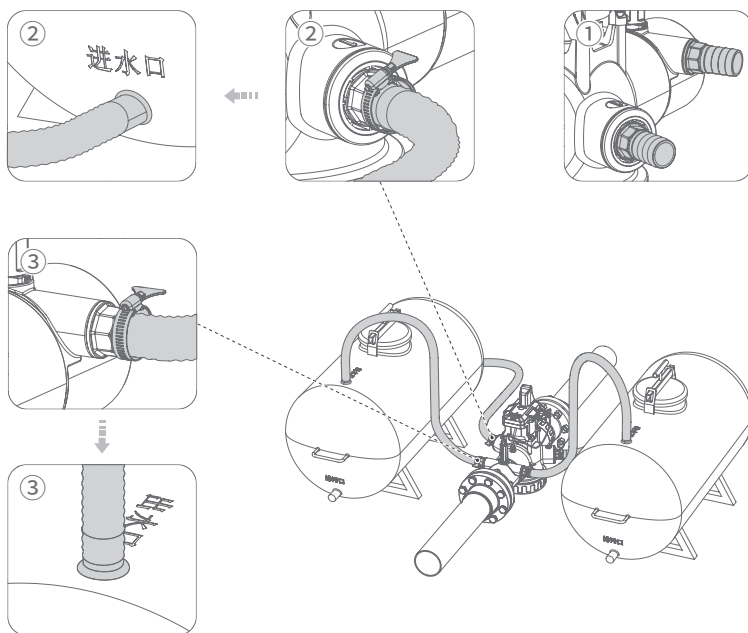
Single-Tank Installation

- ① Connect one barb fitting to Water Outlet 1 and another to Fertilizer Inlet 1 on the injector. Tighten both fittings securely.
- ② Prepare a section of 32 mm-ID steel-wire hose. Connect it between the barb fitting on Water Outlet 1 of the injector and the tank's water inlet. Secure the connections at the barb fitting using clamps.
- ③ Prepare another section of 32 mm-ID steel-wire hose. Connect it between the barb fitting on the Fertilizer Inlet 1 of the injector and the tank's water outlet. Again, secure the connections at the barb fitting with clamps.
- ④ Attach end caps onto the Water Outlet 2 and Fertilizer Inlet 2 on the injector. Tighten them to complete the single-tank installation.



Dual-Tank Installation

- ① Connect one barb fitting to Water Outlet 1 and another to Fertilizer Inlet 1 on the injector. Tighten both fittings securely.
- ② Prepare a section of 32 mm-ID steel-wire hose. Connect it between the barb fitting on Water Outlet 1 of the injector and the tank's water inlet. Secure the connections at the barb fitting using clamps.
- ③ Prepare another section of 32 mm-ID steel-wire hose. Connect it between the barb fitting on the Fertilizer Inlet 1 of the injector and the tank's water outlet. Again, secure the connections at the barb fitting with clamps.
- ④ Repeat the above steps to install the barb fittings and steel-wire hoses on Water Outlet 2 and Fertilizer Inlet 2 of the injector. Connect the hoses to the second fertilizer tank to complete the dual-tank installation.

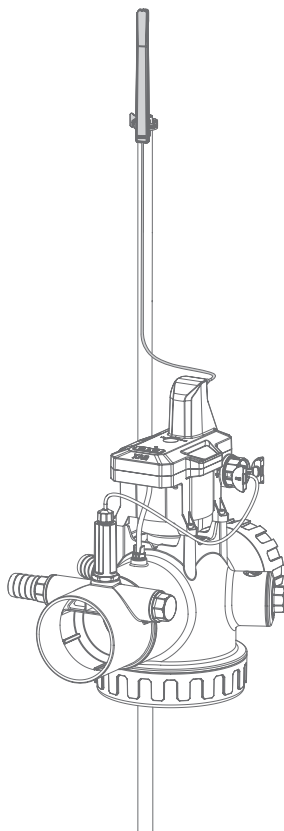
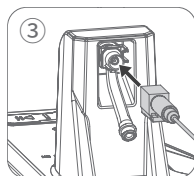
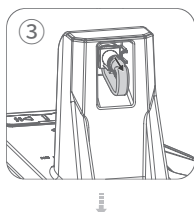
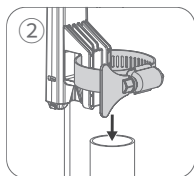
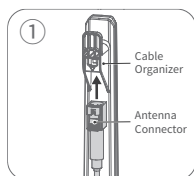


Note

- ⚠ The steel-wire hose compatible with the injector should be purchased separately. The hose models shown in this manual are for reference only. Refer to the actual components during installation.

Install External Wi-Fi Antenna

- ① Press out the antenna connector from the cable organizer on the back of the external Wi-Fi antenna.
- ② Pass the clamp through the hole on the back of the external Wi-Fi antenna, and then securely attach the antenna vertically to the stand pole.
- ③ Remove the dust cover from the antenna port on the back of the controller, and connect the antenna connector to the controller to complete the installation of the antenna.

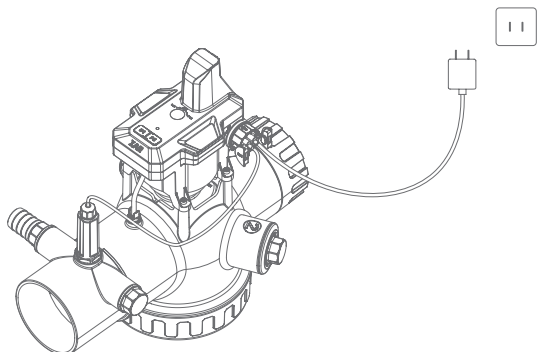


Note

- ⚠ The stand pole matching the antenna needs to be purchased separately. It is recommended to choose a round stand pole with a diameter of 33-50 mm. The stand pole model in the user manual is for reference only. Please refer to the actual product during installation.
- ⚠ When the device is not in use or idle, it is recommended to clean the cable organizer and fit back the antenna connector with the latch facing upward.

Connect to Power

Insert the Type-C cable into the power port of the controller and the charging adapter, then connect to the power supply.



How to Use

Download "XAG Farm" App



Android Users: Scan the QR code above to download and install the "XAG Farm" App

iOS Users: Search for "XAG Farm" in the App Store to download and install

Add Device

When using the injector for the first time, please add the device in the "XAG Farm" App. Users can follow these steps to add the injector.

1. Open the "XAG Farm" App, enter your phone number to register, and log in to your account.
2. Press and hold both the left and right buttons of the injector controller for more than 5 seconds, and release when the indicator light starts flashing blue. The injector will enter networking mode.
3. On the "Farm" screen, tap  in the top-right corner, and select "Add Device" . The App will automatically scan for devices.
4. After the device is successfully scanned, tap "Add".
5. It will prompt "Added", indicating that the injector has been added.

Note

- ⚠ Before adding the device, please ensure that the farm network has been set up and that the local server has been added in the "XAG Farm" App. For installation and usage of the local server, please refer to the "XAG FS1 Local Server User Manual" or "XAG FS2 Local Server User Manual".
- ⚠ Before adding the device, please make sure the "XAG Farm" App is updated to the latest version.
- ⚠ Before adding the device, ensure there are no obstacles between the injector and the local server or wireless relay. Also, make sure that the phone positioning is enabled, and that the "XAG Farm" App has permission for positioning and Bluetooth access.
- ⚠ When adding the device, keep the phone close to the device and ensure Bluetooth is enabled to scan nearby devices.

Firmware Update

Before using the device, you must check if the firmware is up to date. If the current firmware is not the latest version, make sure to update it accordingly.

1. On the "Farm  " screen, tap "Device", then tap  on the right and select "Device Settings  ". Tap "Firmware Update", select the injector related to the operation, and tap "Online Update" to perform the firmware update. If the injector does not appear on the "Firmware Update" screen, it means that no update is required for that device.
2. When a firmware update notification appears, tap "View Details", select the injector related to the operation, and tap "Online Update" to begin updating. Once the update is complete, tap "Complete" to return to the Device List screen. Check if the firmware for the injectors related to the operation has been updated to the latest version. If not, please update it again until the update is completed.

Set Device Location

After successfully adding the injector, follow the instructions on the screen to set the device location. If you need to manage the device's location, tap  in the top-right corner on the injector details screen to edit the device's location. Users can follow these steps to adjust the injector's location.

1. Open the "XAG Farm" App, tap the Device List on the "Farm  " screen, select the injector valve to operate, and enter the Operation Details screen for that injector.
2. Tap  in the top-right corner, select "Device Info" and then "Device Location" to enter the edit location screen.
3. Drag the map to select the location to place.
4. Once the injector icon is aligned with the location on the map, tap "Save" to complete the device location setup.

Set Outlet

Before using the injector, you need to set the outlet. Users can follow these steps to set the injector's outlet.

1. Open the "XAG Farm" App. On the "Overview  " screen, tap the injector on the map to enter its Details screen (or go to the "Farm  " screen, tap the Device List, and select the injector to enter its Details screen).
2. Tap "Select", check the outlet of the valve connected to the fertilizer tank, and tap "Confirm".
3. When it shows "Setting successful", the injector outlet has been set.
4. On the injector's Operation Details screen, tap  on the right, and select "Fertilizer Tank Info" to edit the injector's outlet.

Start Fertilization

Once the injector outlet is set, you can start fertilization. Users can follow these steps to begin.

1. Open the "XAG Farm" App. On the "Overview  " screen, tap the injector on the map that you want to operate to enter its Operation screen (or go to the "Farm  " screen, tap Device List, and select the injector to enter its Operation Details screen).
2. Select the fertilizer tank you want to operate, and tap "Set" to set the planned fertilization duration for the tank.
3. Tap "Start Fertilization", and the fertilizer tank will start fertilization.
4. On the injector's Operation Details screen, tap "Details" and then "Adjust" to edit the planned fertilization duration.

Maintenance

- Regularly check the EC/pH sensor for cleanliness to prevent data reading failure caused by blockages.
- Regularly check the air tube connected to the water pressure sensor to ensure it is not loose or damaged.
- Regularly check and clean debris such as silt accumulated inside the valve to prevent tube blockages.
- If pesticides, fertilizers, or other corrosive substances are present around the injector, promptly clean the device with detergent.
- In outdoor environments with rapidly changing weather, shorten the maintenance interval accordingly.
- When the injector is idle, remove the EC/pH sensor and store it in a humid environment at 5 ° C to 45° C. Use waterproof covers to protect the device from exposure.

Precautions

- This product is exclusively compatible with XAG Smart Farm series and is intended solely for agricultural purposes. Never use it with other products or for any non-agricultural purposes.
- Before transporting the injector, ensure it is securely wrapped with shock-absorbing materials to prevent collisions or accidental damage during transportation.
- During installation, take appropriate safety precautions to avoid personal injury or accidents caused by a falling device.
- Before use, ensure that the firmware and the "XAG Farm" app are up to date.
- Occasional vibration may occur during the operation of the injector. Please ensure that it is properly mounted. If excessive vibration occurs, check whether the pipes are securely fastened.
- When using the injector, ensure that the fertilizer solution is free from impurities such as sand or plant debris to avoid shortened service life of the device.
- As the injector may be damaged by animals in the farmland, carefully inspect the pipes and injector for any damage before operation.
- Always power off the injector before conducting any troubleshooting or maintenance procedures.
- Never modify, disassemble, or reassemble the injector. Any accidents resulting from modifications to the injector for other purposes will be the user's responsibility.
- Keep the product away from heat sources to prevent damage to its components or to avoid hazards like fire.
- Any human-caused malfunctions or damage, including those resulting from the user's failure to use, store, transport, or maintain the product in accordance with the user manual, are not covered by the warranty.
- To protect the rights of users outside the Chinese mainland, distributors/dealers, and XAG, products not purchased through officially authorized channels may experience network connectivity issues or usage restrictions outside the Chinese mainland. Please ensure that you purchase XAG products through official channels in your region.

Specifications

Model	8SFC2-3A
Dimensions	382×368×417 mm
Weight	5.67 kg
Power Supply Voltage	5 V
IP Rating	IP65
Operating Pressure	50 ~ 300 kPa
Overload Pressure	600 kPa
Water Pressure Sensor Accuracy	1.5% FS
EC/pH Sensor Accuracy	EC 5% FS; pH relative accuracy 0.1
Rated Load Torque	40 N·m
Max. Load Torque	80 N·m
Communication Mode	Bluetooth / Wi-Fi
Operating Ambient Temperature	5 °C ~ 45 °C

FCC Compliance Notice

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment complies with FCC and Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

EU Compliance Statement:Guangzhou Xaircraft Technology CO.,LTD.All Rights Reserved.hereby declares that this device is in compliance with the essential requirements and other relevant provisions of the RED Directive. This equipment must be installed and operated in accordance with provide instructions and the antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operation in conjunction with any other antenna or transmitter.End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.



Warning: Operation of this equipment in a residential environment could cause radio interference.

“Hereby, [Guangzhou Xaircraft Technology CO.,LTD.], declares that this [FPI Pressurized Injector] is in compliance with the essential requirements and other relevant provisions of 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.xa.com/en/service/downloads”

Suppliers Name(EU): NIK ELECTRONICS LTD

Suppliers Address (EU) : Sofia, 11B Brussels Blvd., fl.13

Suppliers phone number and / or internet contact information: 00359899952228

KCC Warning Message

이 기기는 업무용 환경에서 사용할 목적으로 적합성 평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파 간섭의 우려가 있습니다 .

FCC Supplier's Declaration of Conformity

Brand name / model number: 8SFC2-3A

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Suppliers Name(FCC): Pegasus Spray Inc

Suppliers Address (FCC): 18571 State Hwy 6 Lewistown, MO 63452, United State

Suppliers phone number and / or internet contact information: +1 (503) 866-1228

NCC statement

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to a approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Management Act. The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

減少電磁波影響，請妥適使用。

電波功率密度 MPE 標準值：0.9mW/cm²，送測產品實測值：0.088 mW/cm²，建議使用時設備天線至少距離人體 20 公分。

警告使用者：此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻騷動，在此種情況下，使用者會被要求採取某些適當的對策。

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用，前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Disclaimer

1. Please read this Disclaimer carefully before using this product, as it has much to do with both operational safety and your legitimate rights and interests. You shall be deemed to have read, known, understood, agreed to, and accepted all the terms and conditions as well as information stated herein upon the use of this product.
2. Not being a toy and with certain safety risks, this product is not suitable for those who are under 18 years old, those who have limited or no capacity for civil conduct, or those with mobility impairments.
3. This product is in the XAG Smart Farm series solely designed for agricultural use. Be sure to read the User Manual carefully before using this product to understand your legitimate rights and interests, responsibilities as well as safety guidelines. Otherwise, property damage and accidents could be caused; personal safety could be at risk.
4. You undertake to use the product within the bounds of the law for legitimate purposes only and agree to the terms and conditions stated herein as well as potential related policies and norms formulated by XAG. You understand and accept that records created during use may be saved to a server. XAG shall resume no responsibility for the failure to save records for any reason attributable to the user.
5. To the maximum extent permitted by law, under no circumstances shall XAG offer an implicit or explicit guarantee for this product, including but not limited to implicit guarantees pertaining to vendibility, fitness for a particular use, or non-infringement.
6. Please install, use, transport, and maintain the product under the instructions in this User Manual. Do NOT modify, convert, or disassemble this product on your own as any malfunction or damage arising therefrom or resulting from your improper use will not be covered by the warranty, and you shall solely assume the liability arising therefrom, both financially and legally.
7. To the maximum extent permitted by law, XAG shall not be liable for any loss caused by your use of this product outside the instructions in this User Manual. Furthermore, XAG shall not be liable for any indirect, consequential, punitive, accidental, special or exemplary damage, including any loss incurred as a result of your purchase, use, or inability to use the product, even if you have been advised of the possibility of such loss.
8. You understand that in the use of any products, accidents may occur as a result of a single or combined factors, including but not limited to improper operation, surroundings and communication networks. You understand that the aforesaid accidents are reasonable and acceptable in the use of the product, and that XAG shall not be held accountable for such accidents.
9. On any account, purchasers or users shall comply with the laws and regulations of the country and region where the product is used. XAG shall assume no liability arising from the violation of the laws and regulations of the location where the product is used by the purchaser or user.
10. As exclusion clauses may be prohibited by certain laws and regulations, your rights may vary. However, this does not imply that certain or all terms contained in this Disclaimer are necessarily invalid. For any reason that partial terms stated herein are deemed void, other terms shall remain in effect.
11. To the extent permitted by law, XAG reserves the right for final explanation and revision of the terms and conditions stated hereinabove. XAG also has the right to update, modify or terminate these terms and conditions via its official website, User Manual, online App, etc., without prior notice.

Warning

Before using this product, user is required to read through the User Manual. Improper operation may cause injury to user or others, or cause damage to the product and property loss, and any financial or legal accountability arising therefrom shall be borne by the user. Safety awareness is of great importance during operation. Please install, maintain, and legally use the product by strictly following the instructions in the User Manual.



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