

**卡丽 KARAT®**

Product installation and operation manual

KARAT  
URINAL SENSOR

Before using please read the instruction caerfully, and keep it well.

Thank you for your insight in choosing our urinal flushing sensor. I believe you will be immensely pleased after choosing it. From now on, you become a guest of our company. We are ready to provide you with high-quality services. In order to ensure that this product can give full play to its unique performance and prolong its service life, We advise you to read the following content before use to ensure that you can use this product normally.

### I Product functions and characteristics

The urinal flush sensor is carefully designed based on the principle of infrared induction. It integrates the quality of bureau technology. It has the following advantages:

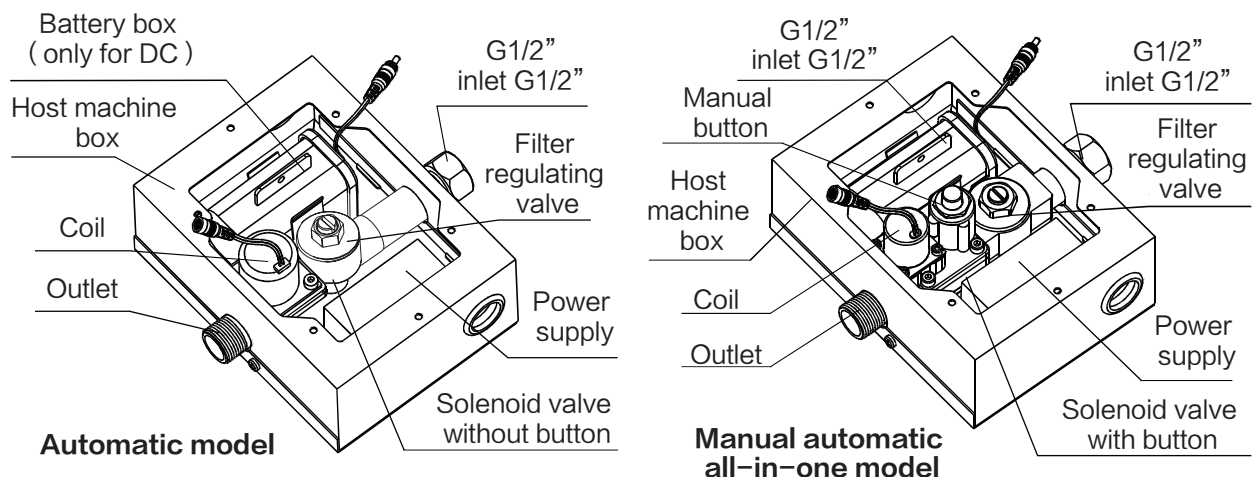
- 1. Intelligence:** automatic sensing, which can distinguish whether the user is using the urinal and make a judgment to flush.
- 2. Automaticity:** the user does not need to take any action within the sensing range of the urination sensor to realize flush automatically.
- 3. Hygiene:** the function of flushing urinal can be achieved without getting close to the appliance, which is convenient and hygienic and Effectively eliminate cross infection of bacteria.
- 4. Applicability:** the product has beautiful appearance, simple and convenient installation, and is suitable for all kinds of new construction sites and refitting of old projects.

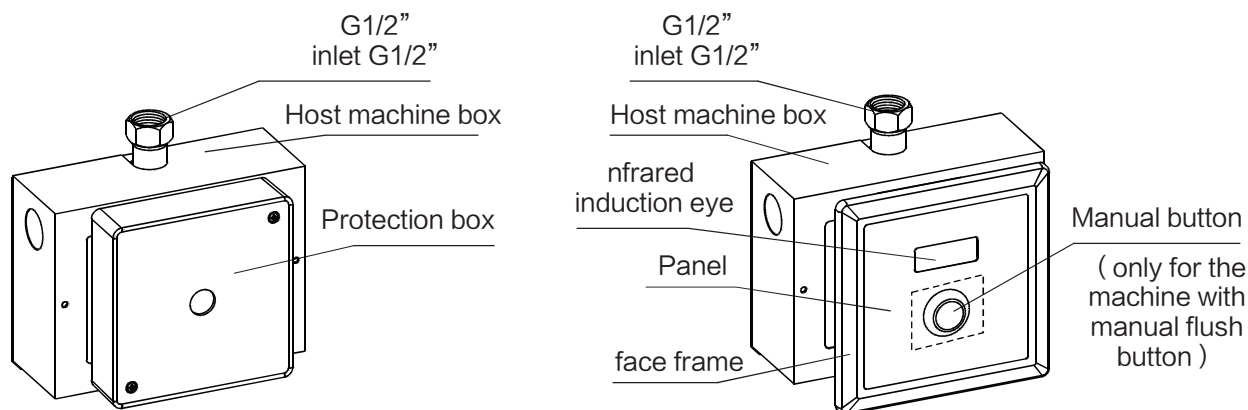
### II Product performance parameters

Model	AC	DC	AC/DC
Power	Working: $\leq 4W$ Standby: $\leq 2W$	Standby: $\leq 0.2mW$	Working: $\leq 4W$ Standby: $\leq 2W$
Power supply	AC220V/50HZ	DC6V	AC220V/50Hz DC6V
Nominal diameter	G1/2" (DN15)		
Applicable water pressure	0.05~0.6MPa		
Ambient temperature	1~55℃		
Induction time	Start the device after induction for more than 3 seconds, two-stage flushing		
Flushing volume	Under static water pressure 0.17 $\pm$ 0.01Mpa: flushing volume $\leq 3L$ per cycle		
Induction distance	55cm, subject to the test of 297mmx297mm wood pulp copy paper		

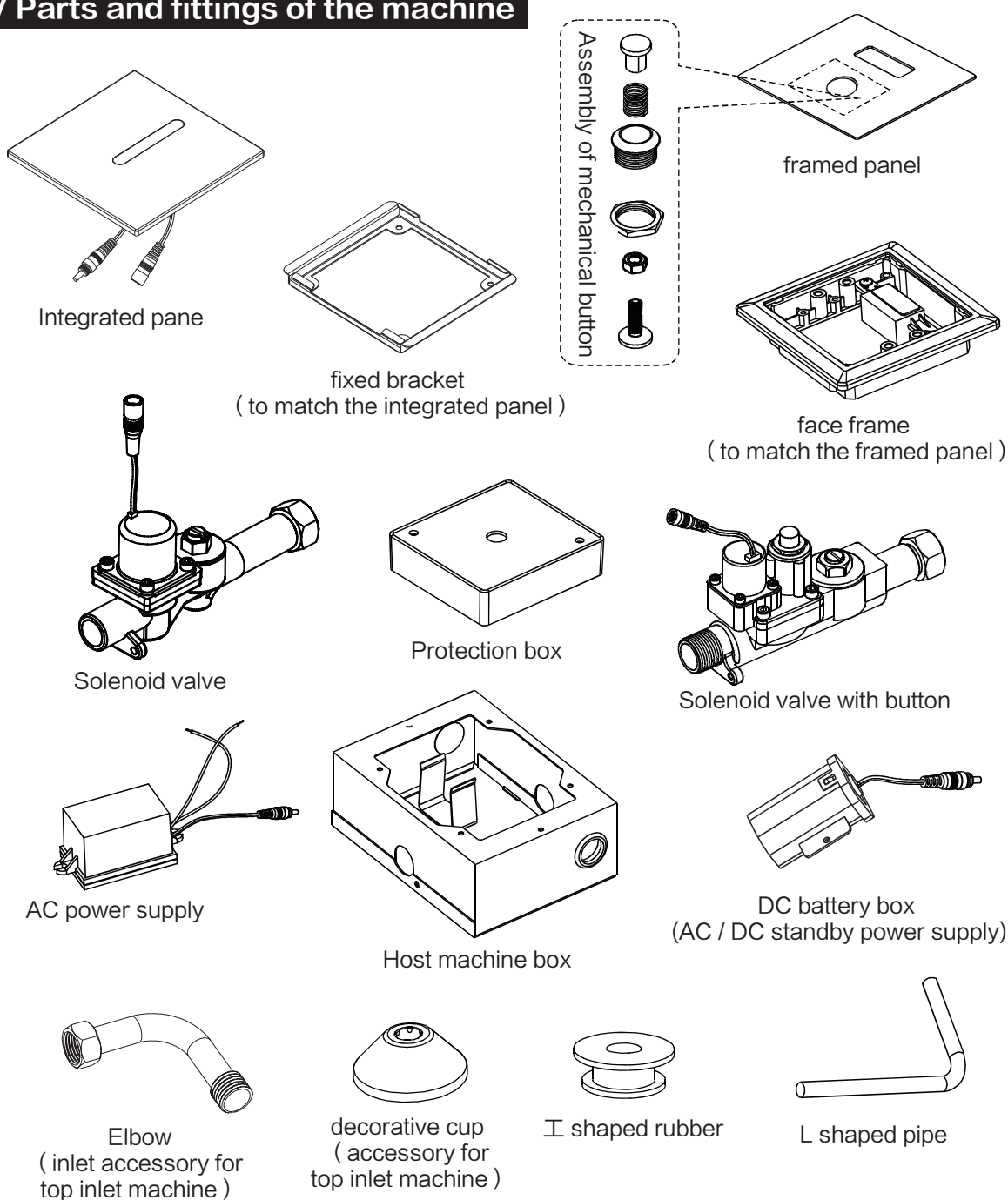
### III Product structure diagram

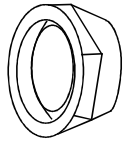
( The picture is for reference only, and the real object shall prevail )



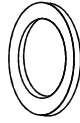


### IV Parts and fittings of the machine

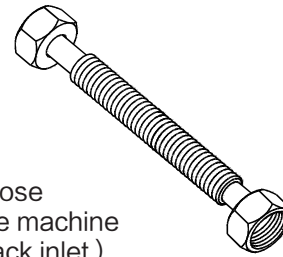




Quarter nut



Flat rubber pad

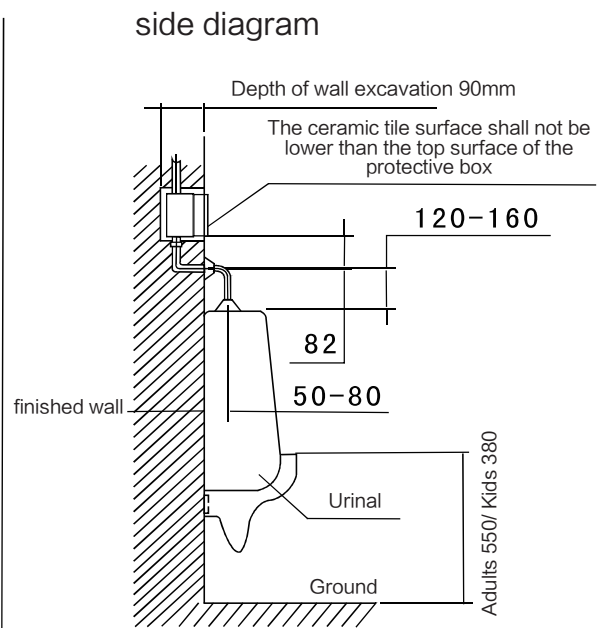
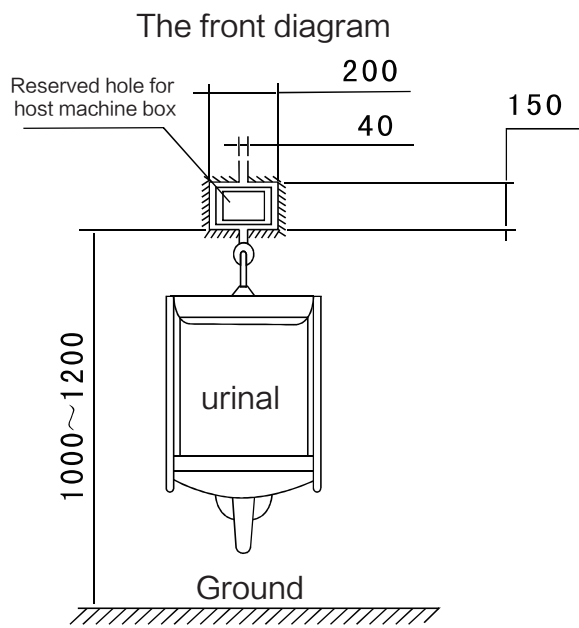


hose  
( for the machine  
with back inlet )

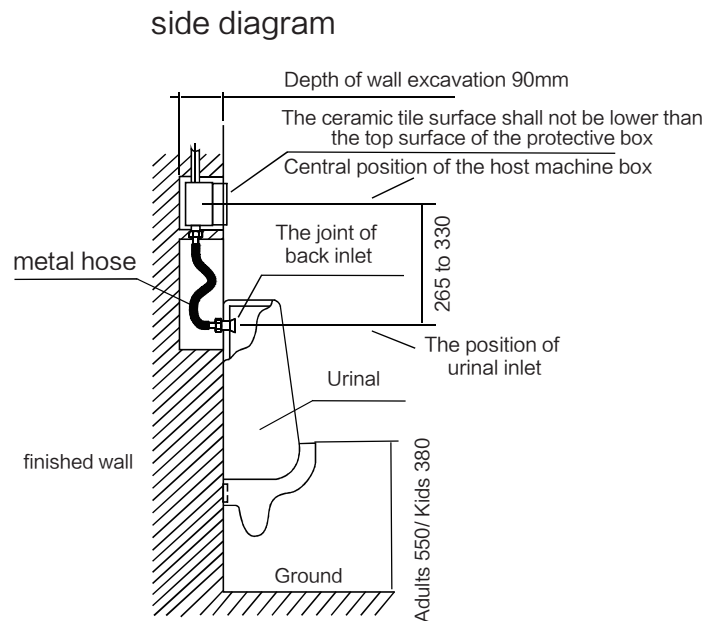
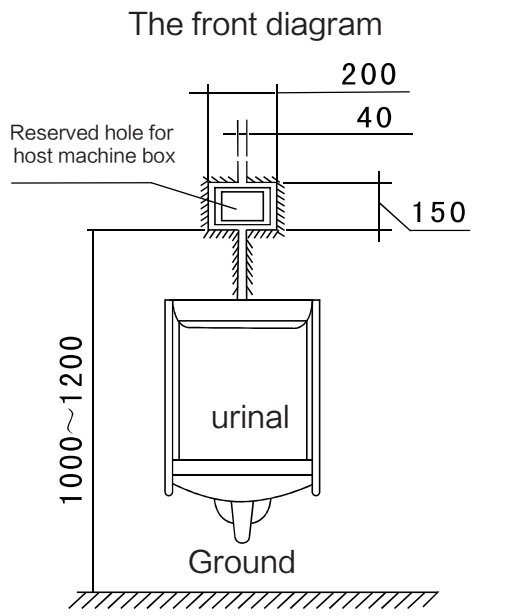
### V Description of installation steps

#### 1 Installation diagram of machine with top inlet

Unit: mm

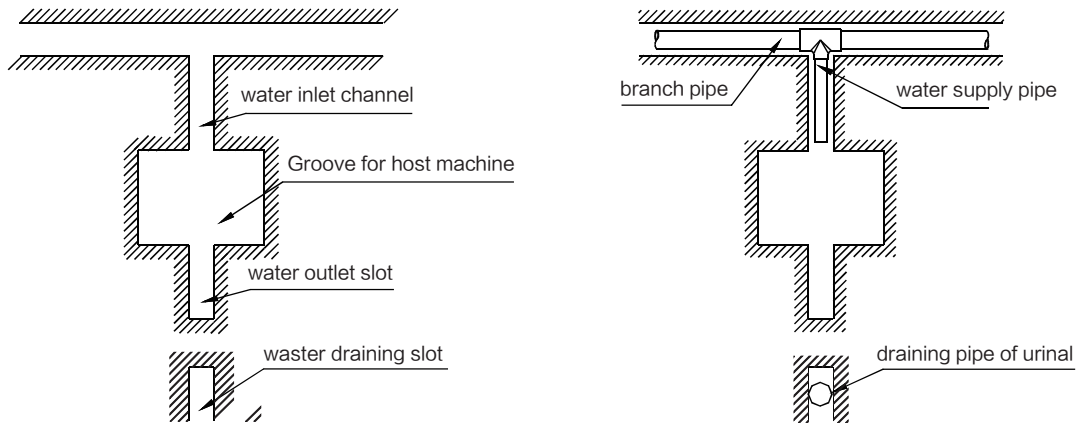


#### 2 Installation diagram of machine with back inlet



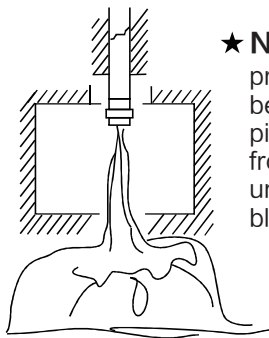
### 3 installation steps

#### 1. Wall excavation and water pipe laying



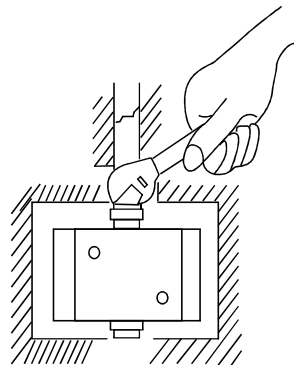
Reserve the slots of the host machine box of the sensor, the water inlet and outlet pipes, and the drainage pipe of the urinal according to the size of the installation diagram. and reserve the position of installing the urinal; Open the groove and slots and lay the pipes after positioning the installation.

#### 2. Flushing pipeline



★ **Note:**  
protect the urinal before flushing the pipe to prevent debris from flushing into the urinal and causing blockage

#### 3. installation of the host machine



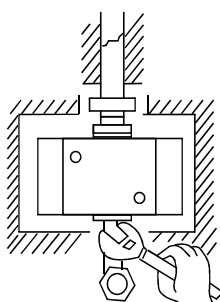
Screw the union at the end of the host machine marked with water inlet onto the prepared water inlet pipe

★ **Note:**  
the sealing ring must be placed in the union. After installation, open the water source to confirm that there is no water leakage, and then proceed to the next installation work.

( The product has been equipped with sealing rings when leaving the factory )

#### 4. Install elbow or water outlet connector

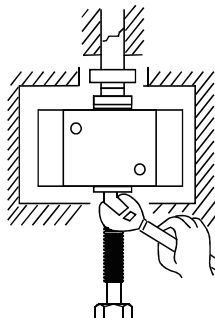
1) Top water inlet method: install elbow



Screw the elbow with union ( G1/2" ) to the water outlet of the host machine

★ **Note:**  
the sealing ring needs to be put into the union

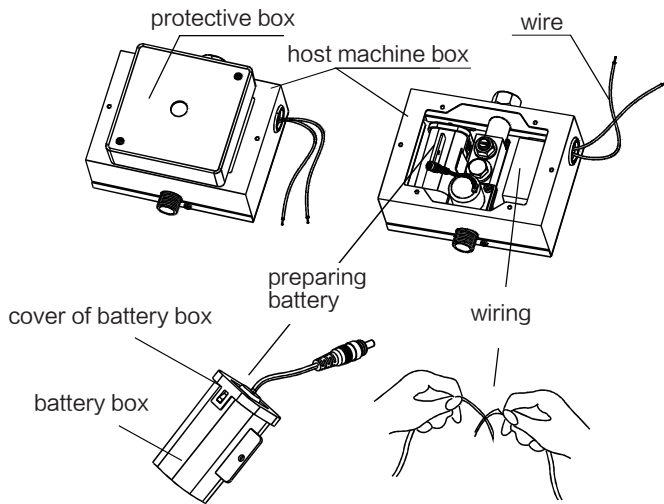
2) Back water inlet mode: install metal hose



Screw the metal hose onto the water outlet connector of the host machine

★ **Note:**  
the sealing ring needs to be put into the union

### 5. Power line connection



1. Remove the protective box

2. AC type: connect the reserved wire on the host power box with 220V power supply, and tie the wire head with electrical tape

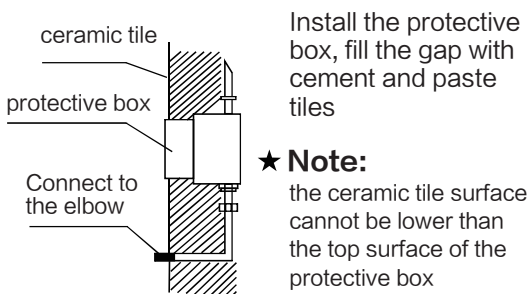
3. Direct waste type: take out the DC battery box, remove the cover, install four No. 5 dry batteries in the direction, and install the battery box cover into the host machine after tightening it

4. AC / DC type: install the AC power supply and DC power supply at the same time according to the above method.

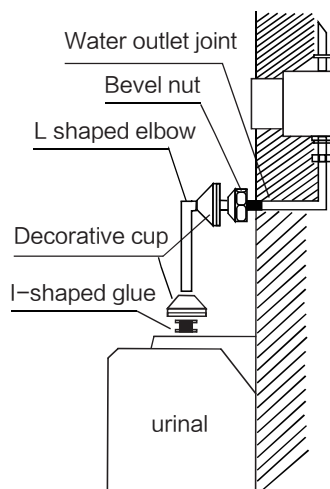
5. Connect all butt joints  
(As shown in the left figure)

### 6. Gap filling, tiling, urinal installation

1. Installation method of top water inlet



★ **Note:**  
the ceramic tile surface cannot be lower than the top surface of the protective box



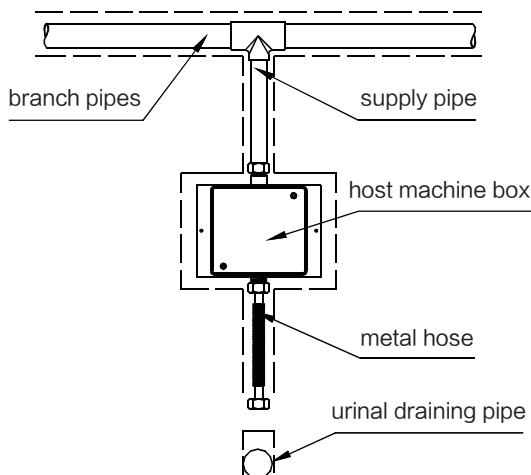
#### Installation steps

- Insert the I-shaped glue into the lower nozzle of the urinal
- Put the decorative cup on the elbow
- Insert the L shaped elbow into the I-glue
- Fix the splay elbow on the water outlet joint with a beveled nut
- Cover the decorative cups respectively

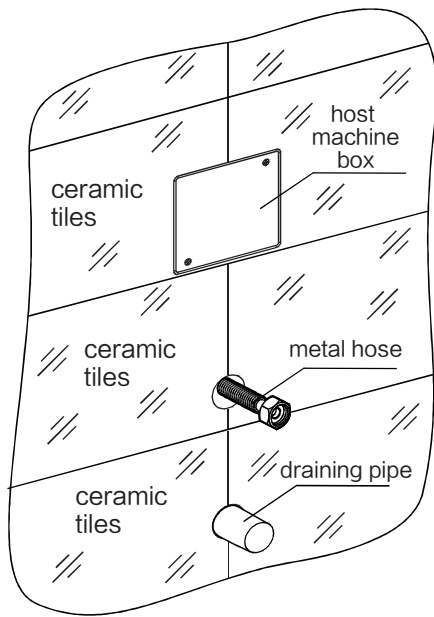
★ **Note:**

Bevel sealing ring should be put into bevel nut

2. Back water inlet installation mode



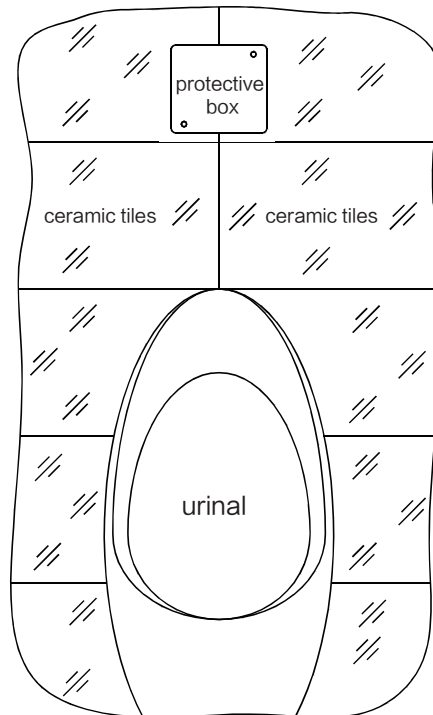
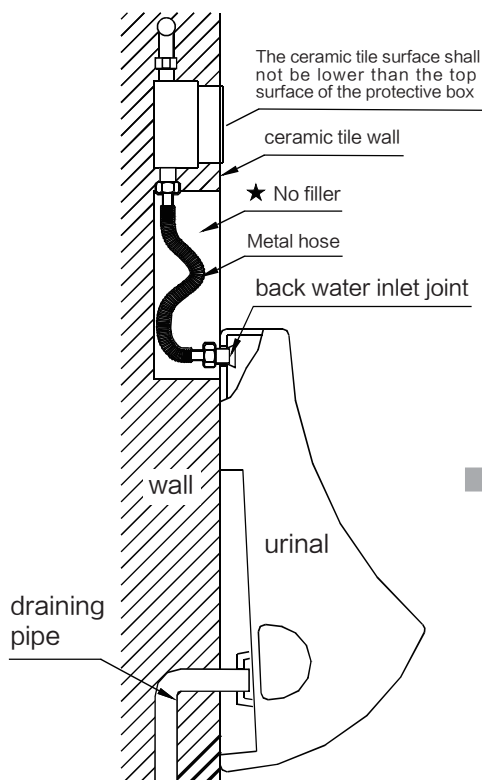
Install the protection box after connecting the wires and circuits. Fill the gap with cement. The channel containing the metal hose cannot be filled with cement, as the metal hose should be able to stretch freely.



2. Wall tiles: Only metal hose joints and drain pipe joints that can be freely retracted are reserved

**★ Note:**

The slot of metal hoses cannot be filled with cement. The ceramic tile surface shall not be lower than the top surface of the protective box.



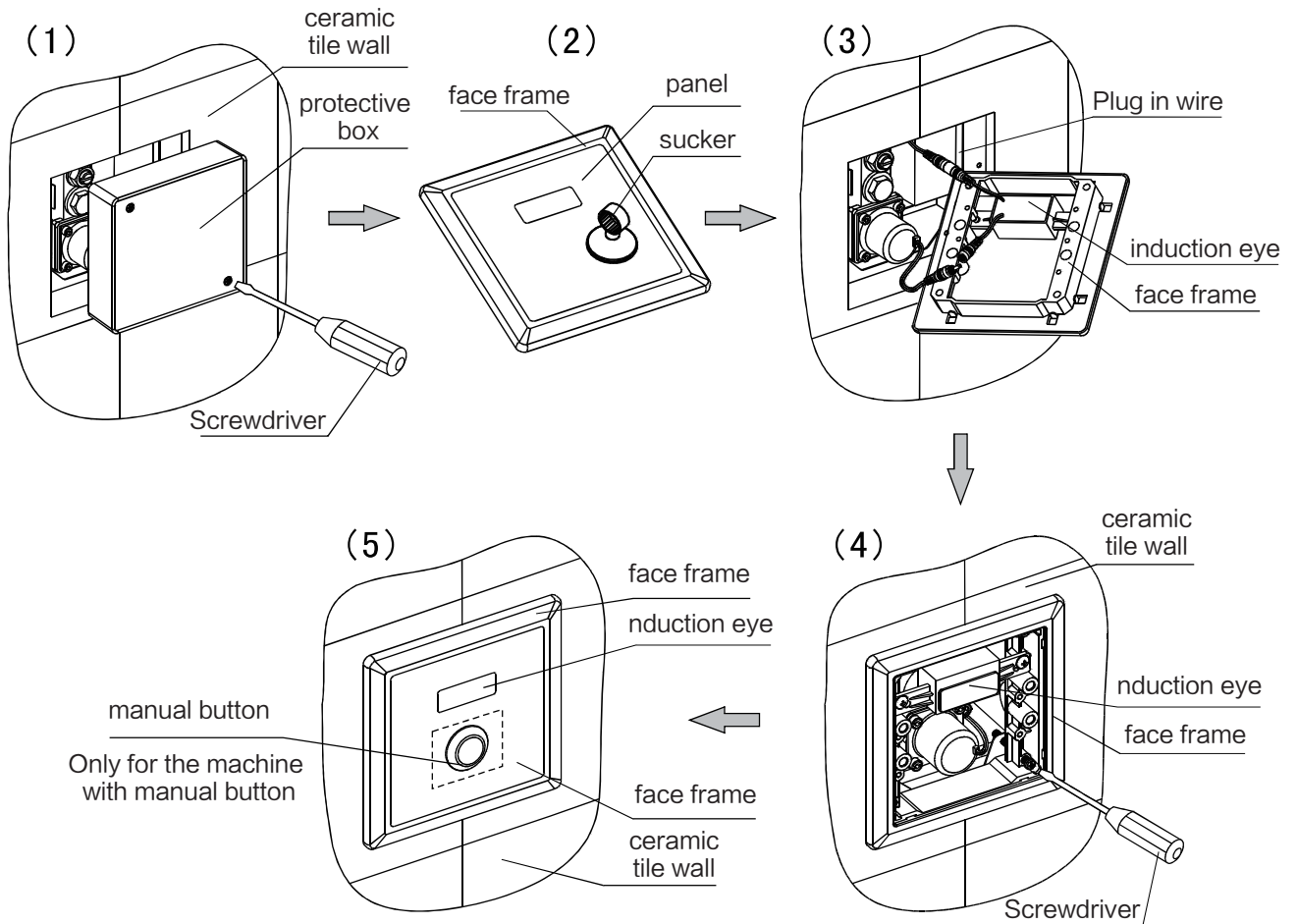
3. Connect the metal hose firmly with the water inlet connector behind the urinal.
4. Hang and secure the urinal, and insert the drain into the reserved groove.

**★ Note:**

1. Before installing and connecting the sensor host, be sure to wash the sundries in the water pipe to prevent blocking the solenoid valve filter screen;
2. A sealing ring shall be placed in each connector to prevent water leakage.

### 7. Installation of main control panel

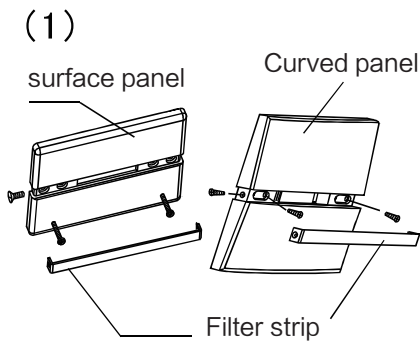
#### 1. Installation method of framed panel



1. Unscrew the two screws on the protection box with a screwdriver and take out the protective box after the main machine is put into the wall according to the installation requirements and the wall is tiled.
2. Suck it with a sucker or gently push it straight from the back with your hand to remove the stainless steel panel sucked on the face frame.
3. Connect the black male plug of the electric eye with the black female plug of the solenoid valve. Connect the red male plug of the power supply or battery box with the red female plug of the electric eye. (for AC and DC products, the red male plug of the battery box is connected with the red female plug of the power supply).
4. Put the face frame on the installation position of the wall, then put four M4\*40 machine screws through the mounting holes on the four corners of the face frame and face the screw holes on the main box. Tighten the screws with a screwdriver to make the face frame firmly installed without loosening.
5. After fixing the face frame, place the stainless steel panel on the corresponding position of the face frame. Let the magnet on the face frame tightly attract it, so that it cannot loose and fall.



### 2. Other panel installation methods

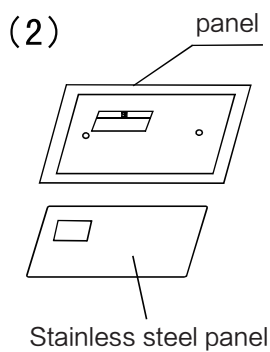


1. Unscrew the fixing screws on the filter strip and remove the filter strip.

2. Connect the induction eye and the power pair wiring in the main box.

3. Align the two mounting holes on the panel with the two mounting holes in the middle of the host bottom box, and then fix the panel on the host bottom box with m4x40mm round head screws.

4. Install the filter strip back on the panel and fix it with m2.5x6mm screws

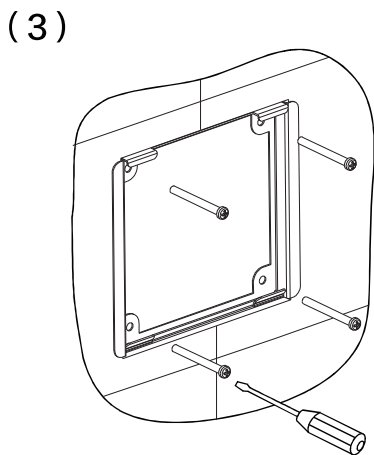


1) Suck out the stainless steel panel on the face frame with a suction cup.

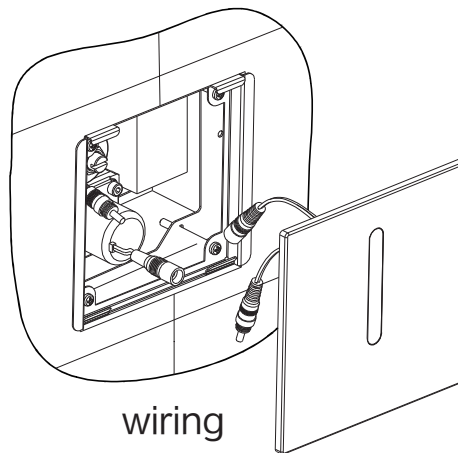
2) Connect the electric eye and the power pair wiring in the main box

3) Align the two mounting holes on the face frame with the two mounting holes in the middle of the host bottom box, and then fix the face frame on the host bottom box with m4x40mm round head screws.

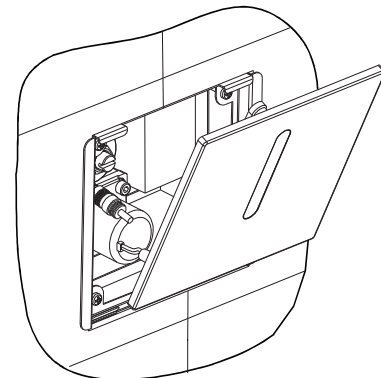
4) Install the stainless steel panel



Mounting bracket



wiring



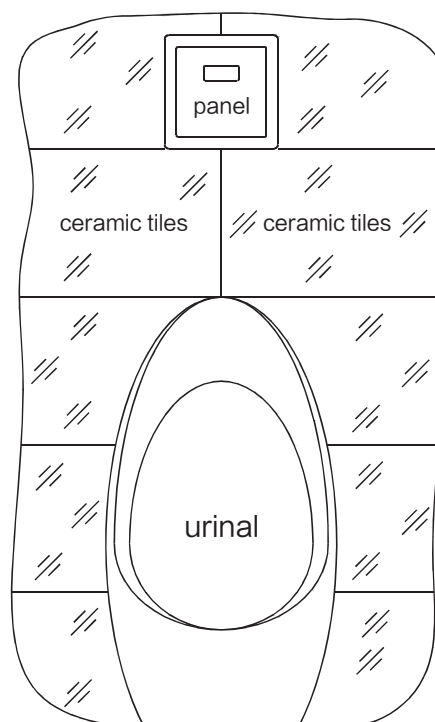
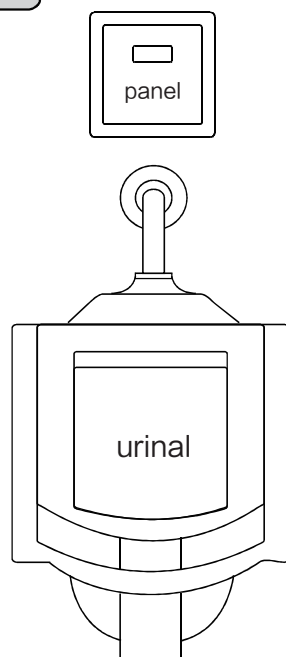
panel installation

1. Put the fixing bracket into the wall hole and lock it with the main box with m4\*40 machine thread

2. Plug the red and black plugs of the electric eye on the panel into the corresponding plugs of the host respectively (for AC and DC products, the red plug of the battery box in the host box is connected with the red plug of the power supply)

3. Insert the spring at the bottom of the panel into the hook of the fixed support, and then press and push the panel into the upper slot of the support

8.Installation completed



★ **Note:** after installation, check the connection of the power line, and then have several times try to flush water.

## VI Instructions

### 1.Operation method

1) When the user enters the sensing area, the sensor will conduct the first stage of pre flushing after sensing for 3 seconds, and then the sensor will be effective after sensing for 3 seconds. When the user leaves the sensing area for 3 seconds, the second stage of cleaning and flushing will be carried out (this flushing time can be set by the remote control within 2 seconds to 15 seconds); If users use it continuously within one minute, the first stage of pre flushing will not be carried out, and only the second stage of cleaning and flushing will be carried out after the user leaves (environmental protection and water-saving design). The sensor will be automatically cleaned and flushed once without being used for 24 hours. The sensing distance of the sensor can be adjusted within the range of 30cm to 80cm; The factory default sensing distance is set to 55cm.

2) For products with manual pressing function, the users can push the manual button to flush the urinal when the AC power supply is cut off or the DC battery is exhausted, or other abnormalities occur leading to the automatic induction failure.

### 2.Precautions for operation

1) In order to avoid the possibility of failure, do not install the product in front of stainless steel walls and other high-strength reflective surfaces or other infrared sensors.

2) If you need to use it in special environments such as dark black clothes with high intensity reflection or easy absorption of infrared rays, please consult the supplier to choose anti color difference sensor products to achieve the best effect

3) If there is dirt in the induction eye window, please clean it in time to avoid affecting the use effect.

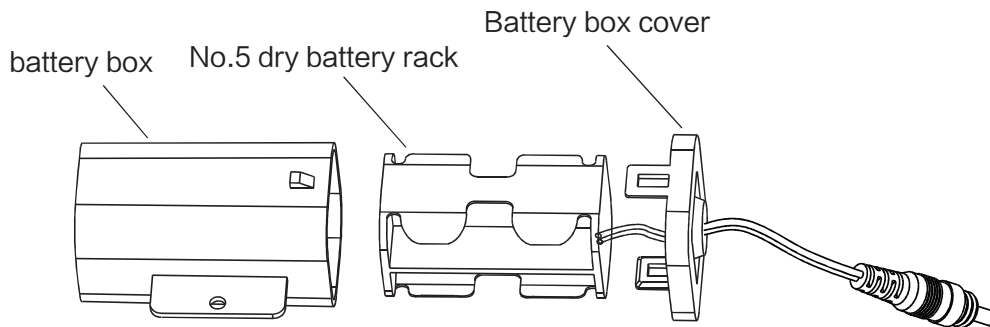
4) If you find that the use effect is not good during use, please operate according to "VII: function adjustment"

5) If you find that the flushing water is insufficient during use, please clean the filter.

6) For DC type (dry battery) products, when the dry battery voltage is lower than about 4.5V, the indicator light will be red when the sensor eye has induction, indicating that the dry battery voltage is insufficient and the battery needs to be replaced.

7) If you find that the AC type urinal flushing sensor is not inductive or the power supply is in poor contact, please turn off the power immediately and find relevant professionals for maintenance to avoid electric shock or other accidents.

**3. The standby power supply of DC products and AC / DC products must be replaced with a new dry battery after the power is exhausted (as shown in the figure below)**



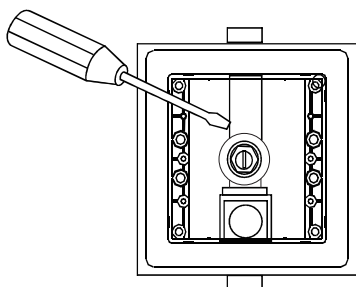
**★ Note:** when replacing dry batteries, correctly install four 1.5V alkaline No. 5 dry batteries into the battery rack according to the "+" "-" mark on the battery rack, then put the battery rack into the battery box and fasten the cover of the battery box. Old and new batteries cannot be mixed.

**VII Function adjustment**

Remove the panel and adjust the function according to the installation method of the panel.

1. Water volume adjustment

**★ Note:** Adjust water consumption .Firstly remove the panel and adjust the regulating valve with a "straight" screwdriver (as shown in the figure). Turn left to increase the water volume and right to decrease water volume. (some types of panels need to remove the lower frame before using the screwdriver to adjust the regulating valve, and the adjustment method is the same)



### 2. Adjustment of sensing distance and flushing time

The sensing distance and flushing time of urinal flushing sensor have been set to the best use state when leaving the factory. If you need to change it, you can use a special remote control to adjust it. For details, please consult the customer service center or dealer of the company

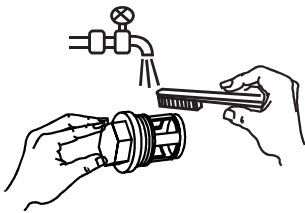
## VIII Maintenance and precautions

### 1. Cleaning



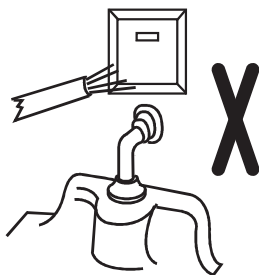
If there are obstacles or dirt in front of the induction window that will affect the normal induction, the obstacles must be cleared and the induction window must be cleaned in time

### 2. Clean the filter



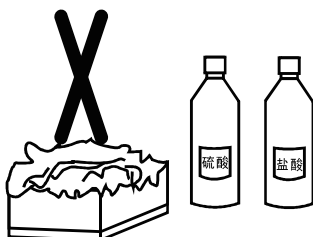
Adjust the regulating valve to turn off the water source with a "-" screwdriver, unscrew the filter, clean it with a toothbrush, and then re-install it.

### 3. It is strictly forbidden to wash with water directly



Since the host machine contains electronic control circuits, it is strictly forbidden to wash the surface directly with water to prevent accidents

### 4. Do not use corrosive cleaners



Do not use corrosive cleaners so as not to damage and affect the appearance when cleaning appliances, because plastic or stainless steel products are used for panels and induction windows.

**IX Simple fault analysis and elimination**

When the sensor has the following appearance, it may not be caused by appliance failure. Please analyze and eliminate them according to the following table.

Appearance	Cause	Inspection and analysis	Elimination
No water	Abnormal power supply	Check whether there is normal power supply to the sensor	AC type: connect the power supply DC type: replace the battery
	Abnormal water supply	Check the water source	Turn on the water supply
	Abnormal sensing distance	Whether to adjust	Adjust with remote control
	Poor connector contact	Whether it is loose or not connected	Tighten all connectors
	Filter clogged		Clean the filter
No stop of water	Impurities in the solenoid valve		Cleaning solenoid valve
Small amount of water	Filter clogged		Clean the filter
	The opening of regulating valve is too small		Adjust the regulating valve counterclockwise

**Matters needing attention**

In case of failure in operation, please refer to "simple fault analysis and elimination" for inspection and maintenance. When the fault cannot be eliminated, it is not recommended that the customer dismantle the components and parts for maintenance without authorization. Contact the customer service center or dealer to arrange professionals for maintenance.

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