

INSTALLATION AND MAINTENANCE GUIDE

# NARA 2022 / 2022 E

ELECTRONIC FLUSH VALVE FOR WC  
CONCEALED DUCT INSTALLATION



# STERN

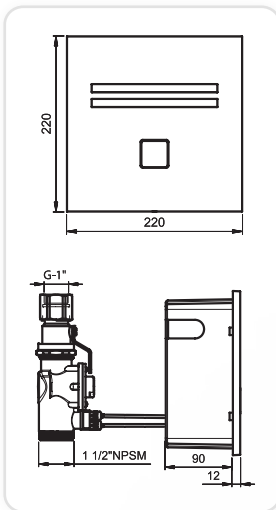
STERN ENGINEERING LTD.

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## TECHNICAL DATA



**Power specification:** 9V low voltage system

### Power Supply

**Nara 2022:** 9V Battery box

**Nara 2022 E:** 9 V Transformer

**Operating water pressure:** 1.0-8.0 bar

(14.5 – 116.0 PSI). With water pressure of more than 8 Bars, use a pressure reducing valve for reduction.

**Sensor range:** 700 mm Factory set.

Adjustable.

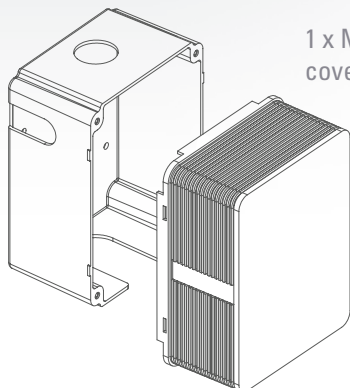
**Minimum sensor range:** 300 mm

**Maximum sensor range:** 800 mm

# PACK CONTENT

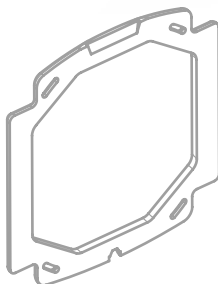
Familiarize yourself with the part names and confirm that the parts are included:

1 x Plastic box



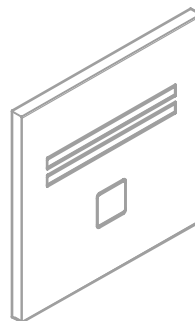
1 x Mud guard cover

1 x Plastic seat for the cover plate

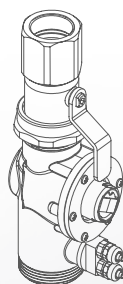
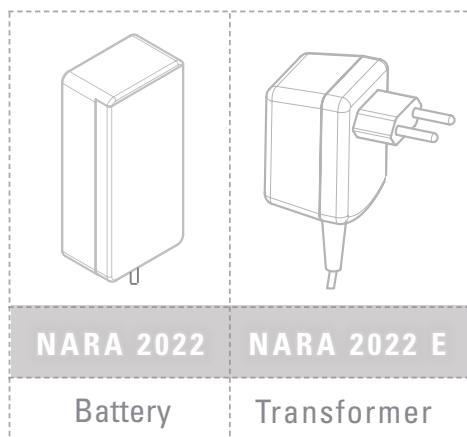


4 x Screws

1 x Wall cover plate with the electronic unit



2 x Flex hoses



Electronic concealed flush valve box

1 x Screw M4x10



1 x Allen key

# PRE-INSTALLATION INFO

## Check contents

Separate all parts from packaging and check each part with the pack contents section.

Make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not attempt to install the electronic flush valve until you obtain the missing parts.

## Warnings

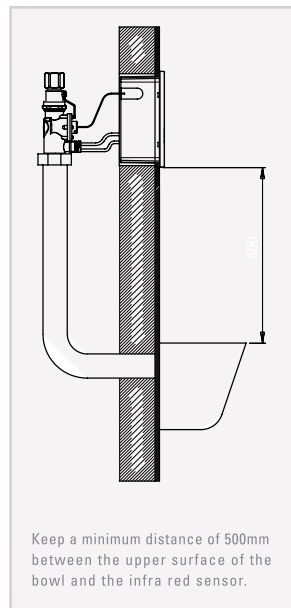
Do not install the system facing a mirror or any other electronic system operated by an infra-red sensor.

To prevent reflection problems, it is recommended to keep a minimum distance of 1.50 meters between the flush valve and other objects.

## Preparation for installation

Flush water supply lines thoroughly before installing the flush valve. Do not allow dirt, Teflon tape or metal particles to enter the flush valve.

All plumbing is to be installed in accordance with applicable codes and regulations.



**Important:** For the optimal performance of this flush valve, the entire piping infrastructure from the main big water-supply pipe down to the W.C. would have 1" diameter.

# INSTALLATION

## Step 1 – Installing the flush valve and connecting the water supply

- 1) Shut off the water supply.
- 2) Cut an adequate opening in the wall for the dimensions of the box.
- 3) Insert the electronic flush valve inlet to the water supply.
- 4) Connect the flush valve inlet to the water supply.
- 5) Turn on the water supply. Make sure there is no water leakage.
- 6) Place the flexible hoses coming from the flush valve inside the box. Later, they will need to be assembled to the permanent cover plate as shown at Figure 2.
- 7) Place the cables with connectors coming from the flush valve body and from the power source inside the box. Later, they will need to be assembled to the permanent cover plate as shown at Figure 2.
- 8) Insert the box together with the mud guard cover through the wall opening.

Note the MIN and MAX marks on the box.

- 9) Once the cementing and the tile works are completed, cut the mud guard cover wherever required by the installation.

cutting.

- 10) Assemble the plastic seat for the permanent cover plate using the four screws provided. Figure 3.

- 11) Connect the flexible hoses coming from the flush valve body to the rear side of the panel as shown in Figure 2.

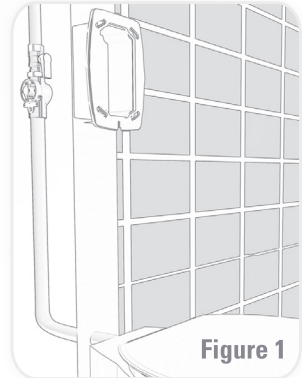


Figure 1

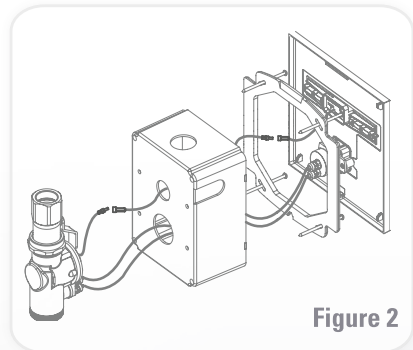


Figure 2

# INSTALLATION

## Step 2 – Connecting the power source

- 1) Connect the electronic unit connector that leads to the solenoid valve to the solenoid connector. Figure 4.
- 2) Connect the electronic unit connector that leads to the power source to the battery box connector. Figure 4.
- 3) If your model is operated by battery, insert the battery into the battery box.
- 4) If your model is operated by transformer, plug the transformer to the main electricity supply.
- 5) Remove the protective sticker covering the sensor and move away from the sensor range.

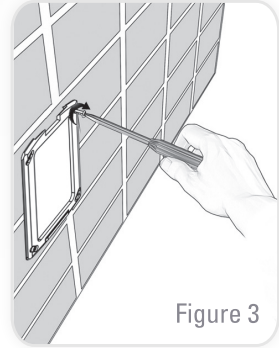


Figure 3

**Important:** to prevent the sensor from entering the adjusting mode, do not step within the sensor range for 5 seconds after the connection of the power supply.

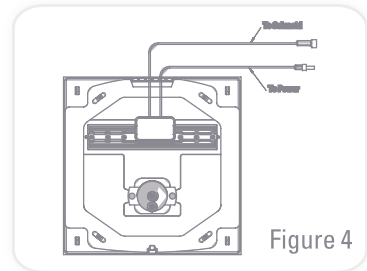


Figure 4

- 6) To operate, step within the sensor range for a minimum of 8 seconds. Move away and the flush valve will flush a few seconds after your departure.
- 7) If needed adjust the flow rate by turning the regulating valve. In order to avoid entering into the adjusting mode, do not disconnect the cables between the electronic unit and battery box.

8) If the range is unsatisfactory, refer to the section entitled "Settings Adjustment".

9) Tighten the panel to the cover seat with the bottom screw.

Figure 5.

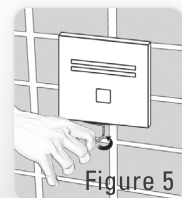


Figure 5

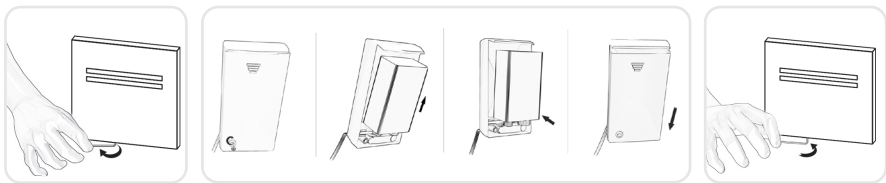
# BATTERY REPLACEMENT

## Battery replacement instructions – Nara 2022

When the battery weakens, the red indicator light will blink at a constant rate. The battery must be replaced within two weeks. Always use batteries from a reputable source. Poor quality batteries may affect the performance of the product.

To replace the battery:

1. Release the screw at the bottom of the cover plate and remove the cover plate.
2. Carefully open the battery box.
3. Replace the used battery with a new 9V battery (Lithium battery is recommended).
4. Close the battery box.
5. Refit the wall cover plate.



**Important:** Spent batteries should not be disposed of with normal household waste. Contact your local authority for information on waste disposal and recycling.



# SETTINGS ADJUSTMENT



## Adjusting the sensor range with the remote control

In order to adjust the sensor with a Remote Control you should hold the Remote Control straight in front of the sensor in a distance of about 6-8" (15-20cm).

Choose the function you want to adjust by pressing once on one of the function buttons. After pressing once on a specific function button, a quick flashing of the red light in front of the sensor will occur.

At this stage, you can change the adjustment by pressing the (-) or (+) buttons, every push will increase or decrease one level. After finishing the adjustment, turn on the water supply.



# SETTINGS ADJUSTMENT

## Adjusting other settings with the remote control



**DETECTION RANGE: ONLY IF NECESSARY**, use the remote control to adjust the sensor range as follows:

Press the RANGE button. Wait until a quick flashing of the red light of the sensor eye is perceived. At this stage, you can increase or decrease the sensor range by pressing the (+) or the (-) buttons, every push will increase or decrease one level.



**FULL FLOW TIME:** This function determines the water flushing time once the user leaves the W.C. Press the two waves button. Wait until a quick flashing of the red light of the sensor eye is perceived. Then, press + to increase the flow time and – to reduce it.



**DELAY IN TIME: This function** changes the time interval in which the sensor will activate the system if the user is detected for the preset amount of seconds. If required, the delay in time can be modified as follows:

Press the IN button. Wait until a quick flashing of the red light of the sensor eye is perceived. Then, press + to increase the delay in time and – to reduce it.



**DELAY OUT TIME:** This function allows modifying the time the flush valve will deliver water after the user leaves the W.C. In this case, a delay out time close to 0 will not give the user the possibility to be away from the sanitary. An increased delay out time will make the user experience more comfortable, but high traffic of users should be taken into consideration. If required, the delay out time can be modified as follows:

Press the OUT button. Wait until a quick flashing of the red light at the sensor eye is perceived. Then, press + to increase the delay out time and – to reduce it.

# SETTINGS ADJUSTMENT



**TEMPORARY OFF FUNCTION:** This function is ideal to perform any kind of activity in front of the sensor without operating the system (for example, cleaning). The flush valve will remain shut for 1 minute when this button is pressed once. To cancel this function and to return to normal operation press the On/Off button again or wait 1 minute.



**RESET BUTTON:** This function restores all the factory settings except for the sensor range. If required, press the Reset button and without releasing it, press the + button once.

**Note:** To change the sensor range, use the RANGE button.

# MAINTENANCE

## Care and cleaning of chrome and special finishes

DO NOT use steel wool or cleansing agents containing alcohol, acid, abrasives, or the like. Use of any prohibited cleaning or maintenance products or substances could damage the surface of the flush valve. For surface cleaning use ONLY soap and water, then wipe dry with clean cloth or towel. When cleaning bathroom tile, the flush valve should be protected from any splattering of harsh cleansers.

If system chemical disinfection is practiced, chlorine can be used (calculated chlorine concentration of 50mg/l maximum in water per one hour) at service interval frequency.

# WARRANTY

Y. Stern Engineering Ltd. warrants that its electronic faucets, flush valves and controls will be free of defects in material and workmanship during normal use for two years from the date the product is purchased.

If a defect is found in normal use, Y. Stern Engineering Ltd. will, at its discretion, repair, provide a replacement part or product, or make appropriate adjustments. Damage caused by accident, misuse, or abuse is not covered by this warranty. Improper care and cleaning will void the warranty. Proof of purchase (original sales receipt) must be provided to Stern Engineering Ltd. with all warranty claims.

Stern Engineering Ltd is not responsible for labor charges, installation, or other incidental or consequential costs other than those noted above. In no event shall the liability of Stern Engineering Ltd. exceed the purchase price of the faucet, valve or control.

If you believe that you have a warranty claim, contact your Stern Distributor, Dealer or Plumbing Contractor. Please be sure to provide all pertinent information regarding your claim, including a complete description of the problem, the product, model number, the date the product was purchased, from whom the product was purchased and the installation date. Also include your original invoice.

Y. STERN ENGINEERING AND/OR SELLER DISCLAIM ANY LIABILITY FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. This warranty excludes product damage due to installation error, incorrect maintenance, wear and tear, battery, water composition, product abuse, or product misuse, whether performed by a contractor, service company, or the consumer. This warranty does not cover product damage caused by the following:

- Incorrect installation, inversions of supply pipes.
- Pressures or temperatures exceeding recommended limits.
- Improper manipulation, tampering, bad or lapsed maintenance.
- Foreign bodies, dirt or scale introduced by the water supply.

# SPARE PARTS LIST

Panel Kit .....	08002121
Sensor Kit .....	07220210
Solenoid Valve Kit with Acetal Body.....	07230015
Piston Kit .....	07290038
Piston + Piston Cover Kit .....	07290049
Push Button Kit for Panel .....	07245015
Hydraulic assy for panel .....	07245023
Hydraulic assy for F.V.....	07245020
Battery Box .....	06530008
Transformer .....	06522042

# TROUBLE – SHOOTING

PROBLEM	INDICATOR	CAUSE	SOLUTION
Valve does not flush	The red LED indicator in the sensor flashes continuously when the user steps within the sensor's range.	Low battery.	Replace battery.
		Inappropriate sensor range.	Increase or decrease the sensor range.
		Battery is completely used up.	Replace battery.
	The red LED indicator in the sensor does not flash (once) when the user steps within the sensor's range.	The sensor is picking up reflections from a mirror or another object.	Eliminate cause of reflections.
		Connectors between the electronic unit and the solenoid valve are disconnected.	Connect the connectors of the electronic unit to the solenoid valve.
		Debris or dirt in the solenoid valve clog up the bleeding hole.	Replace or clean the solenoid valve. Unscrew the solenoid, pull out the plunger and the spring from the solenoid and clean them. When placing the plunger and spring back, please make sure the spring is in vertical position.
The red LED indicator in the sensor flashes (once) when the user steps within the sensor's range.	The water supply pressure is higher than 8 bars or pressure peaks over 8 bars in the water supply causes pressure to be trapped in the flush valve.	Reduce the water supply pressure.	
	Continuous Flow	The red LED indicator in the sensor flashes (once) when the user steps within the sensor's range.	Debris or dirt in the Flush Valve clog up the piston or the orifice. The piston doesn't close.
Debris or dirt in the solenoid valve. The solenoid valve doesn't close.			Replace or clean the solenoid valve. Unscrew the solenoid, pull out the plunger and the spring from the solenoid and clean them. When placing the plunger and spring back, please make sure the spring is in vertical position.

# TROUBLE – SHOOTING

## PROBLEM

## CAUSE

## SOLUTION

**Low Discharge**

The self cleaning needle came out of the piston orifice or is displaced. The orifice delivers more water than usual pushing down the piston, causing the piston to close faster than normal.

Replace the piston.

The U-seal is torn or damaged and doesn't seal well enough.

Replace the U-seal.

Flow time setting is too short.

Increase the flow time.

**High Discharge**

Debris or dirt in the Flush Valve clog up the piston. Friction in the piston movement causes the piston to close slower than normal.

Open the piston cover and clean the piston and body internally.

Dirt in the piston orifice prevents enough water from going through the orifice. The reduced flow causes the piston to close slower than normal.

Open the piston cover and clean the piston and the orifice.

Flow time setting is too long.

Reduce the flow time setting.

**Dripping**

Debris or dirt in the piston seat.

Clean the piston seat.

Piston seal is torn or damaged.

Replace piston seal.

Debris or dirt in the solenoid valve orifice. The solenoid valve doesn't close properly.

Replace or clean the solenoid valve.  
Unscrew the solenoid, pull out the plunger and the spring from the solenoid and clean them. When placing the plunger and spring back, please make sure the spring is in vertical position.

The plunger seal is torn or damaged.

# STERN

STERN ENGINEERING LTD.

15 Gan Rave Blvd., 81222 Gan Rave, Yavne, Israel

Tel: 972-8-9326000, Fax: 972-8-9326025, [export@sternfaucets.com](mailto:export@sternfaucets.com)

[www.sternfaucets.com](http://www.sternfaucets.com)



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