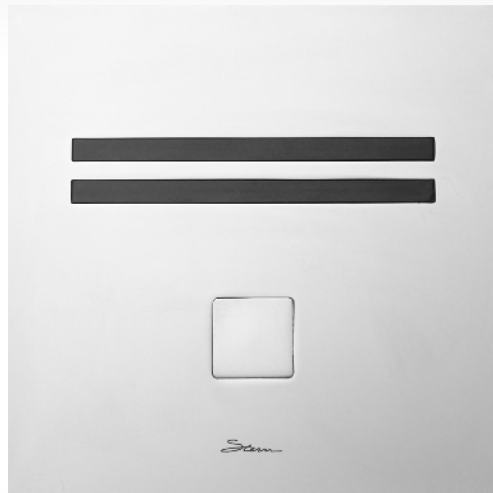


INSTALLATION AND MAINTENANCE GUIDE

NARA 2032 / E / P / PE / K / KE

ELECTRONIC FLUSH VALVE FOR WC
WITH DUAL FLUSH INFRARED SENSOR



stern

STERN ENGINEERING LTD.

INDEX

1	TECHNICAL DATA
2-3	PACK CONTENTS
4	NARA 2032 K / KE (PN: 800271 / 800276)
5	PRE-INSTALLATION INFO
	INSTALLATION
6-7	NARA 2032 (PN: 160310)
8-9	NARA 2032 E (PN: 160410)
10-11	NARA 2032 P (PN: 160610)
12-13	NARA 2032 PE (PN: 160510)
14	BATTERY REPLACEMENT INSTRUCTIONS
15-17	SETTINGS ADJUSTMENT
18	MAINTENANCE AND LIMITED WARRANTY
19	SPARE PARTS LIST
20-21	TROUBLE-SHOOTING



OPERATION

Nara is a touch free electronic flush valve for W.C. operated by a self adjusting infrared sensor. Water will start flushing when the user will walk away from the W.C.

If the user was present in front of the W.C. for less than one minute, a reduced flush will take place to remove liquid waste.

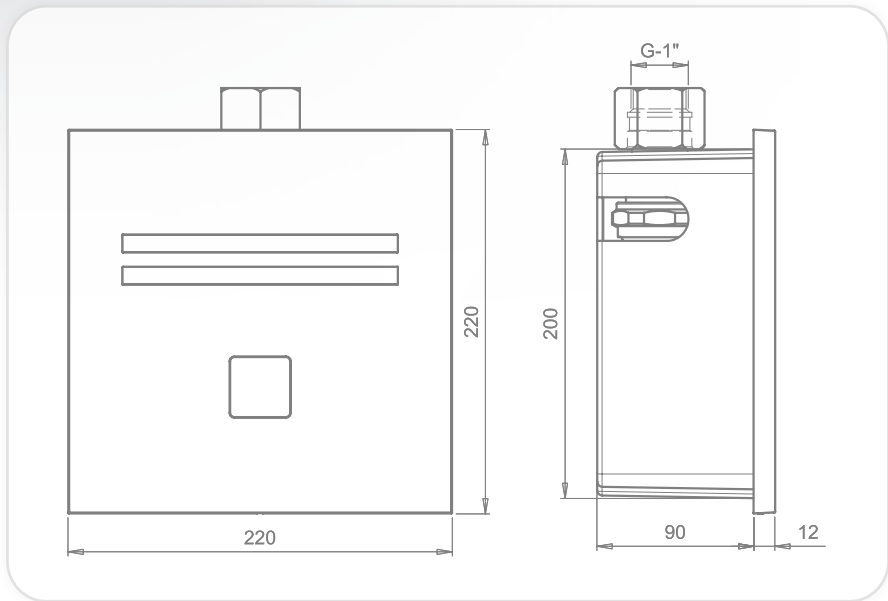
If the user was present in front of the W.C. for one minute or more, a full flush will occur to remove solid waste.

Nara includes a mechanical override push button for alternative manual operation.

Nara P includes a piezo button for alternative touch operation.

Once the manual push button / piezo button has been used, the system will discharge a full flush.

TECHNICAL DATA



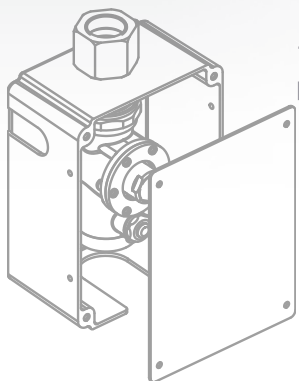
Power specification:	9V low voltage system
Power Supply	
Nara 2032 and Nara 2032 P:	9V Battery
Nara 2032 E:	9 V Transformer
Nara 2032 PE:	9V Transformer with Battery Back Up Device
Operating water pressure:	1.0-8.0 bar (14.5 – 116.0 PSI). With water pressure of more than 8 Bars, use a pressure reducing valve for reduction.
Sensor range:	Self adjusting sensor range. Adjustable with Stern's remote control

PACK CONTENTS

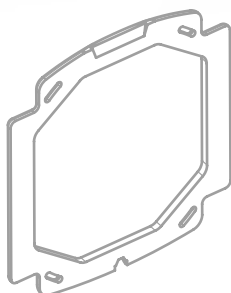
NARA 2032 / 2032 E

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

1 x Plastic box
with concealed flush valve

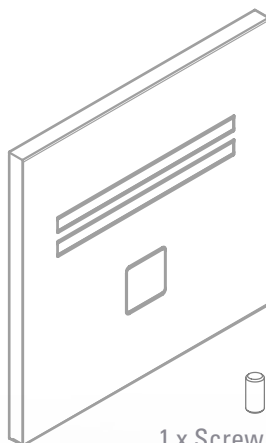


1 x Temporary
protective panel



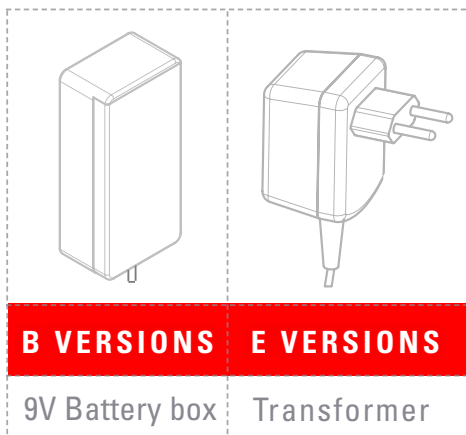
1 x Plastic seat
for the cover plate

1 x Wall cover plate
with the electronic unit



4 x Screws

1 x Screw M4x10



Adjusting screw



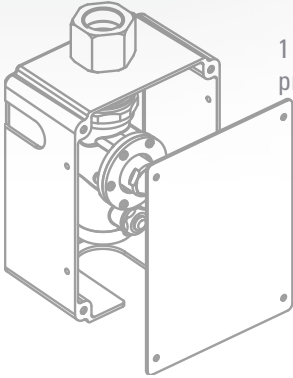
1 x Allen key

PACK CONTENTS

NARA 2032 P / 2032 PE

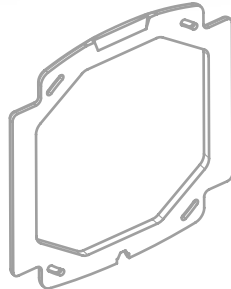
Familiarize yourself with the part names and confirm that the parts are included:

1 x Plastic box
with concealed flush valve

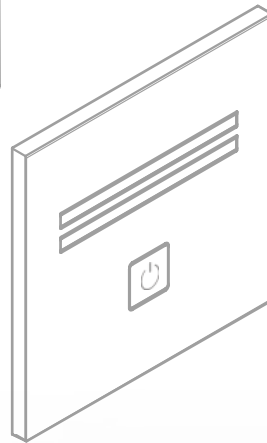


1 x Temporary
protective panel

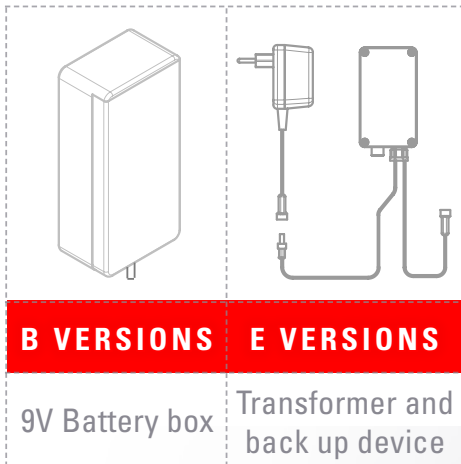
1 x Plastic seat
for the cover plate



1 x Wall cover plate
with the electronic unit



4 x Screws

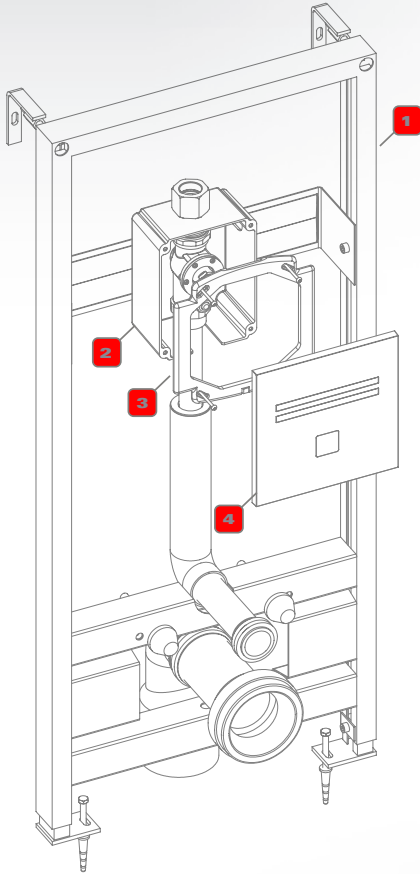


1 x Screw M4x10



1 x Allen key

NARA 2032 K / KE WITH IRON FRAME



- 1** 1 x Iron frame and accessoires
- 2** 1 x Plastic box with concealed flush valve
- 3** 1 x Plastic seat for the cover plate
- 4** 1 x Wall cover plate with the electronic unit

Note:

1. Keep a minimum distance of 500mm between the upper surface of the bowl and the infra red sensor.
2. The maximum thickness of the plaster wall covering the frame should be up to 50mm.

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

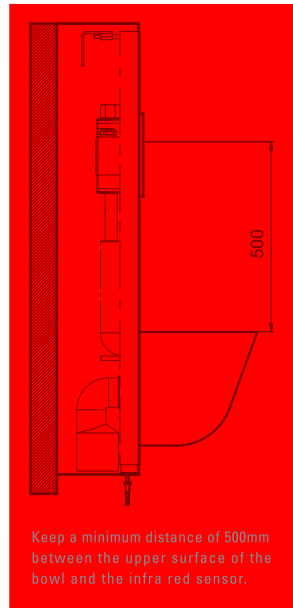
Do not install the system facing a mirror or any other electronic system operated by an infra-red sensor.

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.

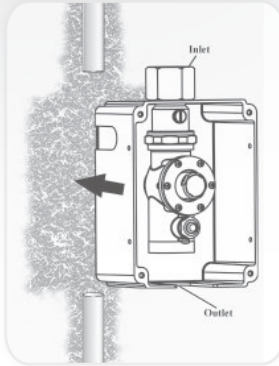


Important: For the optimal performance of this flush valve, the entire piping infrastructure from the main big water-supply pipe down to the W.C. would have 1" diameter.

INSTALLATION

NARA 2032

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



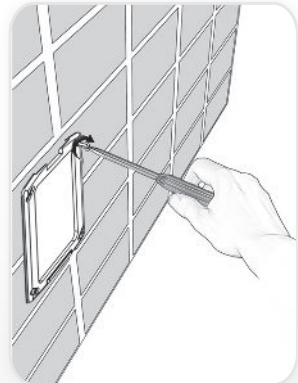
- 1) Shut off the water supply.
- 2) Cut an adequate opening in the wall for the dimensions of the box and the sleeve (not supplied).
- 3) Insert the electronic flush valve's box through the opening.
- 4) Connect the flush valve inlet to the water supply.
- 5) Connect the flush valve outlet nipple to the pipe leading to the W.C.'s inlet.
- 6) Turn on the water supply. Make sure there is no water leakage.
- 7) Assemble the temporary protective cover to protect the flush valve.

Step 2 – Connecting the power source

1) Once the electricity, plumbing and tiles works are finished, replace the temporary protective cover with the plastic seat. Adjust it using the four screws provided.

- 2) a. Connect the electronic unit connector that leads to the solenoid valve to the solenoid connector.
b. Connect the electronic unit connector that leads to the power source to the battery box connector.

3) Before assembling the panel, consider using the provided adjusting screw in order to optimize the operation of the mechanical button. If needed, assemble the adjusting screw to the mechanical button at the internal side of the panel and adjust it to the desired distance.



INSTALLATION

NARA 2032

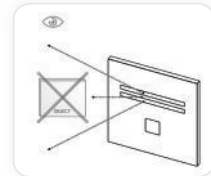
Pay attention, steps 4-7 must be completed within 30 seconds:

30
sec

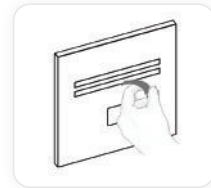
4) Insert the battery into the battery box.

5) Assemble the panel to the cover seat. Do not tighten the bottom screw yet.

6) The ideal sensor range for the specific location will be set automatically. Right now, check that no objects are in front of the sensor.



7) Remove the protective sticker covering the sensor and move away from the sensor range.



8) Wait about 30 seconds before you step or put your hand within the sensor range. As an indication that the self adjusting is taking place, a red light in the sensor eye will flash continuously. The solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

9) 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.

10) If needed adjust the flow rate by turning the regulating valve. In order to avoid entering into the self adjusting mode, do not disconnect the cables between the electronic unit and battery box.

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

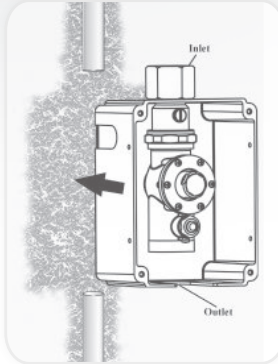
12) Tighten the panel to the cover seat with the bottom screw.



INSTALLATION

NARA 2032 E

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

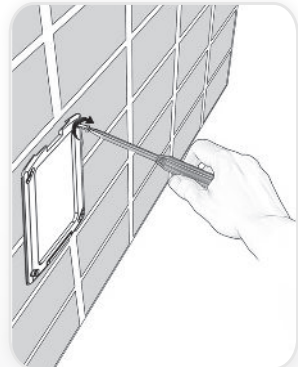


- 1) Shut off the water supply.
- 2) Cut an adequate opening in the wall for the dimensions of the box and the sleeve (not supplied) where you will accommodate the transformer cable.
- 3) Insert the electronic flush valve's box through the opening.
- 4) Connect the flush valve inlet to the water supply.
- 5) Connect the flush valve outlet nipple to the pipe leading to the W.C.'s inlet.
- 6) Turn on the water supply. Make sure there is no water leakage.

7) Assemble the temporary protective cover to protect the flush valve.

Step 2 – Connecting the power source

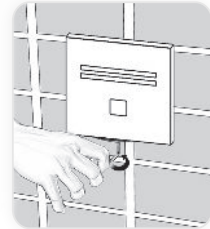
- 1) Place the transformer near the electricity plug, insert the transformer cable wire through the box.
- 2) Once the electricity, plumbing and tiles works are finished, replace the temporary protective cover with the plastic seat. Adjust it using the four screws provided.
- 3) Connect the electronic unit connector that leads to the solenoid valve to the solenoid connector.
- 4) Connect the other electronic unit connector to the transformer cable connector.
- 5) Before assembling the panel, consider using the provided adjusting screw in order to optimize the operation of the mechanical button. If needed, assemble the adjusting screw to the mechanical button at the internal side of the panel and adjust it to the desired distance.



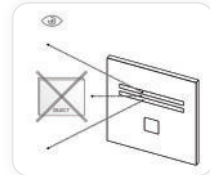
INSTALLATION

NARA 2032 E

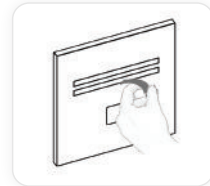
6) Assemble the panel to the cover seat and tighten it with the bottom screw.



7) The ideal sensor range for the specific location will be set automatically. Right now, check that no objects are in front of the sensor.



8) Remove the protective sticker covering the sensor.



9) Plug in the transformer. Keep away from the sensor range.

10) Wait about 30 seconds before you step or put your hand within the sensor range. As an indication that the self adjusting is taking place, a red light in the sensor eye will flash continuously. The solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

11) 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.

12) If needed adjust the flow rate by turning the regulating valve. In order to avoid entering into the self adjusting mode, do not disconnect the cables between the electronic unit and the transformer.

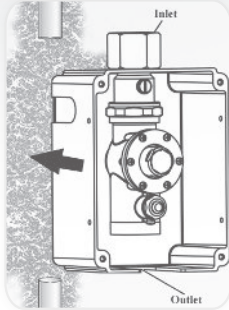
13) If the range is unsatisfactory, refer to the section entitled "Settings Adjustment".

INSTALLATION

NARA 2032 P

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 and the sleeve (not supplied).

3) Insert the electronic flush valve's box through the opening.

4) Connect the flush valve inlet to the water supply.

5) Connect the flush valve outlet nipple to the pipe leading to the W.C.'s inlet.

6) Turn on the water supply. Make sure there is no water leakage.

7) Assemble the temporary protective cover to protect the flush valve.

Step 2 – Connecting the power source

1) Once the electricity, plumbing and tiles works are finished, replace the temporary protective cover with the plastic seat. Adjust it using the four screws provided.

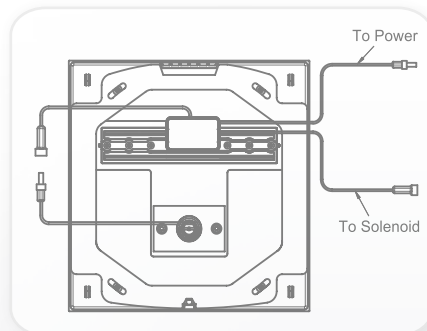


2) Now, connect the connectors going out from the electronic unit:

a. Connect the blue cable connector to the blue cable connector coming out from the piezo button.

b. Connect the electronic unit connector that leads to the solenoid valve to the solenoid valve connector.

c. Connect the electronic unit connector that leads to the power source to the battery box connector.



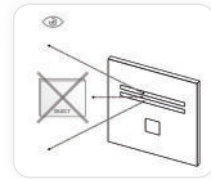
Pay attention, steps 3-6 must be completed within 30 seconds:

30
sec

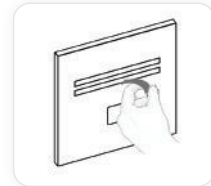
3) Insert the battery into the battery box.

4) Assemble the panel to the cover seat. Do not tighten the bottom screw yet.

5) The ideal sensor range for the specific location will be set automatically. Right now, check that no objects are in front of the sensor.



6) Remove the protective sticker covering the sensor and move away from the sensor range.



7) Wait about 30 seconds before you step or put your hand within the sensor range. As an indication that the self adjusting is taking place, a red light in the sensor eye will flash continuously. The solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

8) 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.

9) If needed adjust the flow rate by turning the regulating valve. In order to avoid entering into the self adjusting mode, do not disconnect the cables between the electronic unit and battery box.

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

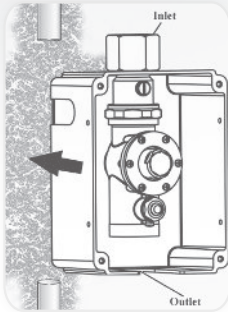
11) Tighten the panel to the cover seat with the bottom screw.



INSTALLATION

NARA 2032 PE

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 and the sleeve (not supplied).
- 3) Insert the electronic flush valve's box through the opening.
- 4) Connect the flush valve inlet to the water supply.
- 5) Connect the flush valve outlet nipple to the pipe leading to the W.C.'s inlet.
- 6) Turn on the water supply. Make sure there is no water leakage.

7) Assemble the temporary protective cover to protect the flush valve.

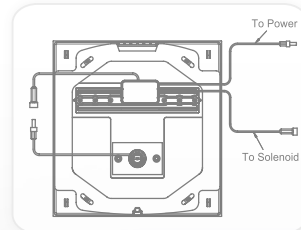
Step 2 – Connecting the power source

- 1) Once the electricity, plumbing and tiles works are finished, replace the temporary protective cover with the plastic seat. Adjust it using the four screws provided.



- 2) Connect the following connectors coming from the electronic unit:

- a. Connect the blue cable connector to the blue cable connector coming out from the piezo button.
- b. Connect the electronic unit connector that leads to the solenoid valve to the solenoid valve connector.



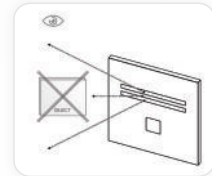
- 3) Assemble the panel to the cover seat and tighten it with the bottom screw.



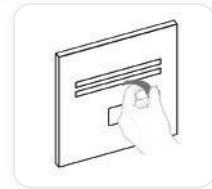
INSTALLATION

NARA 2032 PE

4) The ideal sensor range for the specific location will be set automatically. Right now, check that no objects are in front of the sensor.



5) Remove the protective sticker covering the sensor.



6) Connect the electronic unit connector that leads to the power source to the battery back up device connector.
Connect the other connector coming from the battery back up device to the transformer connector.

7) Before inserting the six 1.5V batteries to the battery back up device, plug in the transformer. Now, insert the batteries into the battery back up device box.
Keep away from the sensor range.

8) Wait about 30 seconds before you step or put your hand within the sensor range. As an indication that the self adjusting is taking place, a red light in the sensor eye will flash continuously. The solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

9) 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.

10) If needed adjust the flow rate by turning the regulating valve. In order to avoid entering into the self adjusting mode, do not disconnect the cables between the electronic unit and battery box.

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

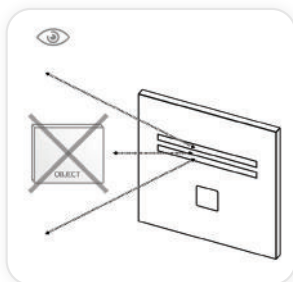
BATTERY REPLACEMENT

Battery replacement instructions – Nara 2032 / 2032 P

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.



Check that there are no objects in front of the sensor after the battery replacement was completed.



After you have replaced the battery, move away from the sensor range. Wait 30 seconds in order to allow the system to set the ideal sensor range. Then after the self adjustment has taken place the solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

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

This flush valve was supplied with Stern's new Self Adjusting Sensor. The ideal detection range for the specific location will be set automatically.

DETECTION RANGE: Only if necessary, use the remote control to adjust the sensor range as follows:



Hold the remote control straight in front of the sensor in a distance of about 8-10" (20-25cm). Choose the function RANGE by pressing once at the range function button. After pressing this function button, a quick flashing of the red light at the front of the sensor will occur. 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.

Note: Once you have changed the detection range with the remote control, this distance will be remembered by the sensor, even if the power source is disconnected. To get back to the self adjustment mode, use the ADJ button only.

SETTINGS ADJUSTMENT

Adjusting other settings with the remote control



ENTRANCE TO THE SELF ADJUSTMENT MODE: Check that no objects are in front of the sensor. Press the ADJ button. Once a quick flashing of the red light of the sensor eye is perceived, remove your hand holding the remote control and move away from the sensor area. The ideal sensor range for the specific location will be set automatically. Once the self adjustment has taken place the solenoid valve will be opened and closed for 1 second as an indication that the ideal sensor range was set and the product is ready for use.



SHORT FLOW TIME: This function determines the water flushing time once the user leaves the W.C. after being present in front of the sensor for less than a minute. If required, the short flow time can be modified as follows:

Press the one wave 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.



FULL FLOW TIME: This function determines the water flushing time once the user leaves the W.C. after being present in front of the sensor for a minute or more.

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: It is recommended to change the delay in time for flush valves for urinals or toilets only. Due to the delay in setting, the sensor will only 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.

SETTINGS ADJUSTMENT



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.



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 enter the self adjusting mode, use the ADJ button. 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 dwell time) 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

NARA 2032 \ NARA 2032 E

Panel Kit	07040133
Self Adjusting Duet Sensor Kit	07220061
Solenoid Valve Kit with Acetal Body	07230015
Piston Kit	07290038
Piston + Piston Cover Kit	07290049
Push Button Kit	07245018
Push Button Kit for Panel	07245015
Battery Box	06530008
Transformer	06522042
Back Up Device	06530033

NARA 2032P \ NARA 2032 PE

Panel Kit	07040141
Self Adjusting Duet Sensor Kit	07220137
Solenoid Valve Kit with Acetal Body	07230015
Piston Kit	07290038
Piston + Piston Cover Kit	07290049
Piezo Button	07225115
Battery Box	06530008
Transformer	06522042
Back Up Device	06530033

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.
	The red LED indicator in the sensor does not flash (once) when the user steps within the sensor's range.	Battery is completely used up.	Replace battery.
		The sensor is picking up reflections from a mirror or another object.	Eliminate cause of reflections.
	The red LED indicator in the sensor flashes (once) when the user steps within the sensor's range.	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 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	
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.	Open the piston cover and clean the piston, the orifice and body internally.
		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	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.	

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