STERN

STERN ENGINEERING LTD.

SOAP WATER AIR
REVOLUTION

INSTALLATION AND MAINTENANCE GUIDE

INDEX

ABOUT THE SWAR SYSTEM

The Soap, Water and Air Revolution (SWAR) is a modular, wall mounted, All-in-One system, that combines all three hand washing activities – Soaping, Rinsing and Drying – into a single integrated unit.

Available with or without the hand dryer.

Available for cold or premixed water options.

Each function has an independent touch free infrared sensor for activation.

Can be installed on brick walls, drywalls, and wood frame construction.

The SWAR is available in 4 different configurations, as follows:

Air	Water	Soap
No	Cold	Yes
Yes	Cold	Yes
No	Premixed	Yes
Yes	Premixed	Yes

PRE-INSTALLATION

Notes & Cautions
- Before installing the system, please fully read and understand this document, and verify the package content.
- It is the installer's responsibility to comply with relevant local codes and regulations.
- Flush thoroughly the water supply lines before installing the SWAR. Do not allow dirt, Teflon tape or metal particles to enter the faucet. Shut off water supply when done.
- Water and electrical supplies should be kept OFF throughout the entire installation.

Warning

Electrical voltage - Electric shock

Work on electrical installations may only be carried out by certified electricians or by instructed persons working under the guidance and supervision of a certified electrician, in accordance with local regulations.

Cautions
- To avoid reflection problems, keep a distance of more than 300mm between sensors and the surface below them.
- This SWAR model, with its infrared sensor pointing down, is not intended to be used together with a sink of a reflective material such as stainless steel.
- If a sink strainer is straight below the faucet sensor, use a strainer with a non-reflective finish (do not use a chrome plated one).

PACK CONTENTS

SWAR SYSTEM
(Transformer included)

HAND DRYER

FAUCET

SOAP DISPENSER
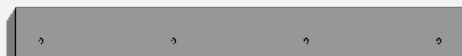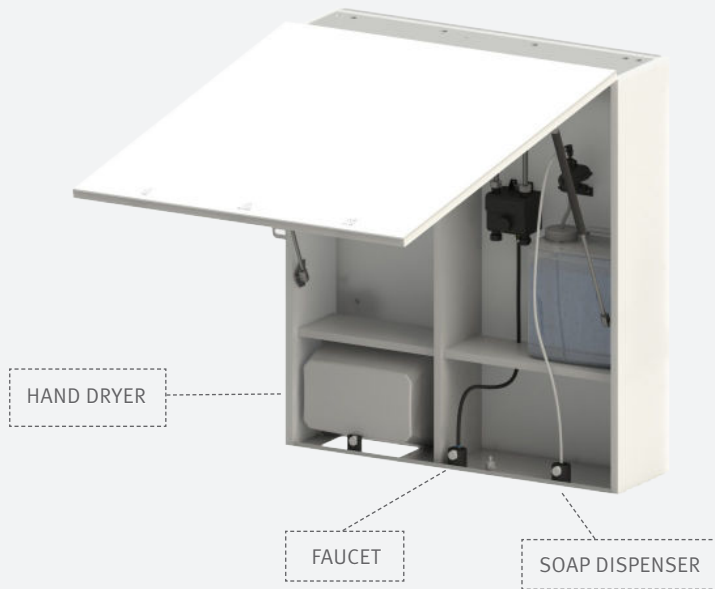
WALL SUPPORT/ANCHOR
(COMES ATTACHED TO SWAR)

MASONRY ANCHORS
(QTY: 2)

ALLEN KEY FOR HAND
DRYER COVER.
(QTY: 1)

The SWAR System can be ordered with or without the Hand Dryer

TECHNICAL DATA
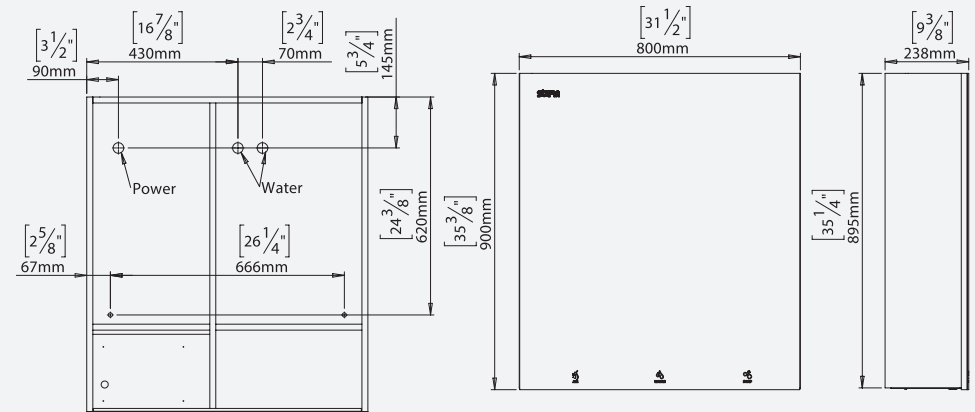
SPECIFICATIONS	
Power supply	12V Transformer for faucet and soap dispenser 220/110Vac for dryer
Recommended water pressure	0.5-8.0 bar (7-116 PSI) With water pressure of more than 8 bars, use a pressure reducing valve
Sensor range faucet	Self adjusting sensor. Adjustable with remote control Min: 80mm; Max: 300mm
Sensor range soap dispenser	Factory Set: 150mm (adjustable by remote control 30-100mm)
Soap capacity	6 Liter / 1.6 Gallon
Soap viscosity	100 - 3800 CPS
Standard soap discharge	0.8cc, Adjustable
Security time (faucet)	90 seconds. Adjustable.
Hot water temperature	Max. 70ºC
Code Number	280400

Note: Before installing the SWAR, flush water lines and shut off all valves.

STEP 1 – WALL MOUNTING

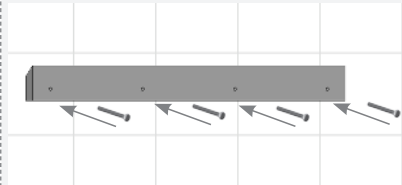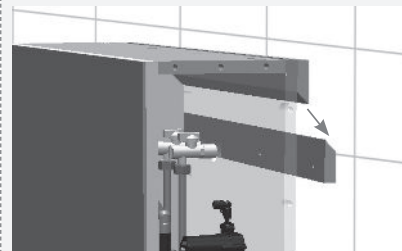|		
1	Firmly attach the wall support to the wall. Note: Ensure the wall support is installed leveled. Screws not uncluded.	
2	Place the SWAR unit on the support. Make sure to pass the electrical wire(s) and valves through the holes in the SWAR.	
3	Secure the SWAR cabinet to the wall by installing the masonry anchors and screws provided.	
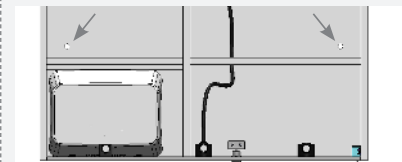
STEP 2 –CONNECT THE WATER SYSTEM

For SWAR with cold water option: connect the water system to inlet B1	B2 B1
For SWAR with premixed water option: connect hot water system to B1 and cold water system to B2	
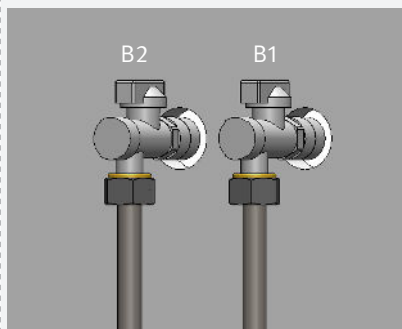
Notes:
Thoroughly flush the water supply lines before connecting them to the SWAR.
Do not allow dirt, Teflon tape or metal particles to enter the faucet.
Shut off water supply when done.

IMPORTANT: Water and electrical supplies should be kept OFF throughout the entire installation.

For installation of the SWAR hand dryer system, follow the directions below.

STEP 3 – POWERING THE HAND DRYER

Warning

Warning: Work on electrical installations may only be carried out by certified electricians or by instructed persons working under the guidance and supervision of a certified electrician, in accordance with local regulations.

Important Note: SWAR is available only as a 110 volt model or a 220 volt model.

To power the hand dryer, a certified electrician must remove the dryer unit cover and hardwire it to the main power line.

To remove the dryer unit cover, remove the two Allen screws with the included Allen key.
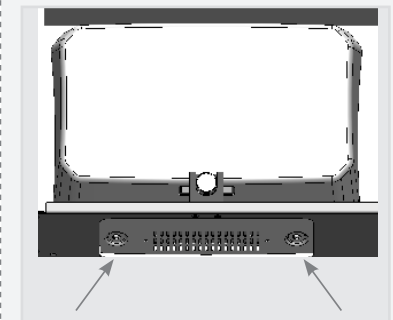
INSTALLATION

STEP 4 – POWERING THE SYSTEM

⚠️ *Important Note: The SWAR's sensors are self-adjusting; therefore, the ideal sensor range for a given location will be set automatically.*

Before proceeding, check that there are no foreign objects in front of the sensors withing 300 mm.
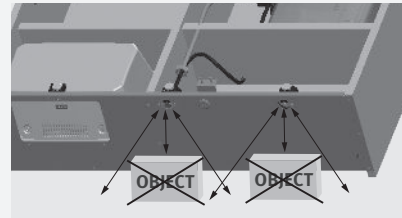
1	Remove the protective stickers that cover the sensors, both on the Faucet and on the Soap Dispenser. Re-open the water shut-off valves.
2	To power the faucet and the soap dispenser, run the end of the transformer cord through hole B3 then connect it to the power splitter. Plug the transformer into the main power line.
3	Wait about 10 seconds for the Faucet and the Soap Dispenser sensors to complete their self-adjustment.
4	Put your hands under the Faucet and the Soap Dispenser and verify their functionality.
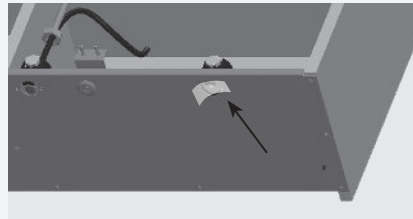
ABOUT **10** SECONDS

FILLING THE SOAP TANK

STEP 5– FILLING THE SOAP TANK

1	Unscrew the cover of the soap bottle and fill with liquid soap.
2	Place the cover back and screw it closed, making sure the hose extends to the bottom of the soap bottle.
3	Press the refill button located on the top of the pump assembly until soap starts coming out of the soap dispenser spout. This operation can also be done using the soap dispenser remote control Refill function.
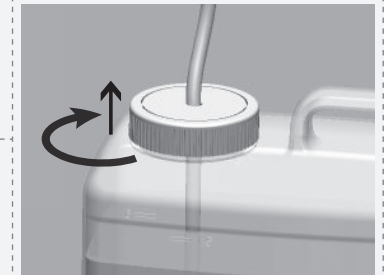
MAINTENANCE

FAUCET MAINTENANCE

Filter Cleaning Instructions

This faucet is provided with a stainless steel filter preventing foreign particles from entering the lines. It is recommended to clean the filters every six (6) months. If the water flow has decreased, this may be because the filter is clogged. The filter can be cleaned as follows:

1. Shut off the water shut-off valve.
2. Disassemble the faucet and remove the filter located between the solenoid housing and the flexible pipe.
3. Wash the filter under running water.
4. Reassemble the parts.
5. Make sure that there is no water leakage.

Solenoid Valve Servicing

The solenoid valve diaphragm requires periodic cleaning every six (6) months. Remove the diaphragm from the solenoid valve and examine it for dirt. In case it is dirty or clogged, wash it under running water and reassemble it.

Do not attempt to dismantle the solenoid valve if you are unfamiliar with electronic solenoid valves.

SOAP DISPENSER MAINTENANCE

Disassembly of the soap pipe from the pump

The soap pipe can be disconnected from the soap pump by a simple slide & pull action. The sliding ring of the quick connection fixation nipple on the pump should be pulled down. It releases the open end of the soap pipe which can then be easily pulled out.

SPARE PARTS LIST

12V TRANSFORMER	06522081
FAUCET	
SEALS AND SCREWS KIT	07210171
10-PACK SENSOR KIT	07220341
8-PACK SOLENOID AND HOUSING KIT	07221103
10-PACK SOLENOID KIT	07232000
DIAPHRAGM	04500001
SOAP DISPENSER	
10-PACK SENSOR KIT	07220317
6L SOAP TANK	07100023
SOAP DISPENSER PUMP ASSEMBLY	07222012
SOAP DISPENSER SPOUT ASSEMBLY	07271023

DETECTION RANGE

SOAP QUANTITY

FILL THE TANK

ENTRANCE TO THE SELF ADJUSTMENT MODE

RANGE

SOAP   AIR

-      +

FILL   ADJ   RES

TEMPORARY OFF FUNCTION

AIR QUANTITY

RESET

1-4 DROP KEYS

Max 7.8"
Max 20cm

Adjusting the settings with the remote control

If necessary, the sensor settings can be adjusted as following:

Shut off the water supply. In order to adjust the sensor with the remote control, 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 LED in the front of the sensor will occur. At this stage, you can change the setting by pressing the (+) or the (-) buttons, every push will increase or decrease one level. After finishing the adjustment, turn the water supply back on.

Stern's advanced 13 keys remote control enables adjustments of products including a self-adjusting or dual flush sensor. The following settings can be adjusted and the following functions can be performed:

RANGE

DETECTION RANGE:

The detection range refers to the greatest distance an object can be located to activate the system.

The sensor range can be changed using this button on the remote control.

Press the Range button. Wait until a quick flashing of the LED in the sensor eye is perceived. Then, press + to increase the detection range and – to reduce it.

Note: Once you have changed the detection range with the remote control, the 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.

ADJ
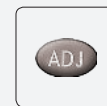
ENTRANCE TO THE SELF ADJUSTMENT MODE:

This button operates faucets including a self adjusting sensor only.

Check that no objects are in front of the sensor. Press the ADJ button. Once a quick flashing of the LED in the sensor eye is perceived, remove your hand holding the remote control 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.

RES
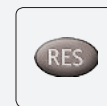
RESET BUTTON:

This function allows the sensor to return to the original factory preset settings.

If your product includes a self adjusting sensor, the RESET button restores all the factory settings except for the sensor range. To enter the self adjusting mode, use the ADJ button. To change the sensor range, use the RANGE button. If required, press the Reset button and the + button together.

1-4 DROP KEY: The 1-4 drop keys allow the user to choose the desired soap quantity at liquid soap dispensers.*

💧 0.7 to 0.9 💧 1.2 to 1.6 💧 1.6 to 1.9 💧 2.1 to 2.3

Indication: continuous blinking of the LED in the sensor eye.

*The exact dosage depends on soap viscosity.

SOAP QUANTITY: Press the Soap button. Wait until a quick flashing of the LED in the sensor eye is perceived. Then, press + to increase the soap quantity and – to decrease it.

Indication: Continuous blinking of the LED in the sensor eye.

AIR RATIO: Press the Air button. Wait until a quick flashing of the LED in the sensor eye is perceived. Then, press + to increase the air ratio and – to decrease it.

Indication: Continuous blinking of the LED in the sensor eye.

FILL BUTTON: To prime the soap: once the soap tank has been filled / re-filled, press the FILL button. The pump will run for one minute for priming the soap to the soap dispenser spout.

To stop this activity press the FILL button again. If the soap has not started coming out of the spout, press the Fill button again.
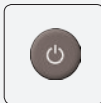
TEMPORARY OFF FUNCTION: This function is ideal to perform any kind of activity in front of the sensor without operating the system (for example, cleaning).

Faucets and or soap dispensers 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 minutes.

NOTE: To enter the self adjusting mode, use the ADJ button. To change the sensor range, use the RANGE button.

Description:

The LED color selector kit is used to control the color of the LED lighting. This selector kit has several functions such as gradually changing lighting, flash and fade.

1-ON / OFF

The lighting can be turned on / off using the two top right buttons.

2-COLOR BUTTONS

The color of the lighting can be changed to one of sixteen optional colors.

3-BRIGHTNESS

The brightness of the LEDs can be adjusted using the two top left buttons.

4-FUNCTIONS

There are four functions of active lighting: flash, strobe, fade and smooth. These can be selected using four selector keys. The 'velocity' of these functions can be adjusted using the Brightness buttons.
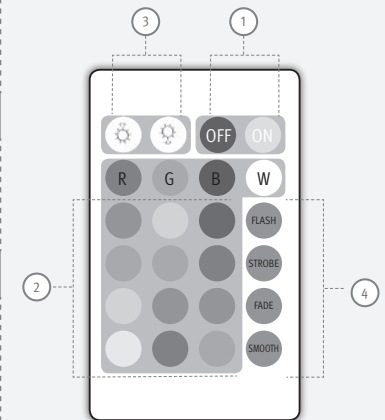
LIMITED WARRANTY

Y. Stern Engineering Ltd. warrants that its electronic products 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 product.

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, 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 or soap tank.
- Use of the soap outside of viscosity specifications.
- Alteration of the original soap/foam dispenser components (including pipes).

TROUBLESHOOTING - FAUCET

PROBLEM	INDICATOR	CAUSE	SOLUTION
No water coming out of the faucet.	LED in the sensor does not flash (once) when user's hands are within the sensor's range.	Range is too short.	Increase the range.
		Range is too long.	Decrease the range.
		Unit is in "Security Mode": If the sensor is covered for more than 90 sec. the faucet will automatically shut off water flow.	To return to normal operating mode remove any blockage.
		Sensor is picking up reflections from the washbasin or another object.	Eliminate cause of reflection.
	LED in the sensor flashes once when user's hands are within the sensor's range.	Debris or scale in solenoid.	Unscrew the solenoid, pull out the plunger and the spring from the solenoid and clean them. Use a scale remover material if needed. When replacing the plunger, please make sure that the spring is in vertical position.
		The central orifice in the diaphragm is plugged or the diaphragm is torn.	Clean the orifice or replace diaphragm.
		The water supply pressure is higher than 8 bar (116 PSI).	Reduce the supply water pressure or install a pressure reducer valve.
		The water supply pressure is under 8 bars and yet the pressure in the faucet's body is higher. This situation could be caused by a sudden increase in the water supply pressure that the backcheck prevents from dropping, even after water supply pressure drops under 8 bars.	Shut off water supply and unscrew one of the flexible pipes in order to reduce the pressure that is blocking the product.
Water flow from spout does not stop.	Sensor flashes once when user's hands are within the sensor's range.	Debris or scale in diaphragm.	Clean the orifice or replace diaphragm.
	LED in the sensor does not flash once when user's hands are within the sensor's range.	Sensor is dirty or covered. (In this case, the water flow will stop anyway after 90 seconds due to the security time out).	Clean or eliminate cause of interference.
		Sensor is picking up reflections from the washbasin or another object.	Decrease the range or eliminate cause of reflection.
Water flow diminished.		Filter or aerator is clogged.	Remove, clean re-install.

TROUBLESHOOTING - SOAP DISPENSER

PROBLEM	INDICATOR	CAUSE	SOLUTION
No soap coming out of the spout	LED in the sensor flashes (once) and the motor is operating.	Soap has run low or completely out.	Refer to page 8 and refill the soap tank.
		The soap tank has been filled but soap has not reached the spout.	Press the refill button located at the bottom of the pump until soap starts to come out of the spout again.
		The connectors between the motor and the power source are not connected properly.	Connect the connectors properly so that the white o-ring is not visible.
	LED in the sensor does not flash (once) when user's hands are within the sensor's range.	Sensor is picking up reflections from the washbasin or another object.	Eliminate cause of reflection.
		Connectors between the electronic unit and the pump assembly\transformer are disconnected or not properly connected.	Connect the electronic unit connectors to the pump assembly and transformer.
	LED flashes (once) and the motor operates.	Soap solidification at the pipe.	Fill the bottle with hot water at 50/60C and run the pump constantly.
Soap coming out of the spout does not stop	-	The black connectors between the pump assembly and soap dispenser are not connected properly.	Connect the connectors properly so that the white o-ring is not visible.

TROUBLESHOOTING - HAND DRYER

PROBLEM	CORRECTIVE ACTIONS
If the dryer will not run	HAZARD: BE SURE TO TAKE SUITABLE PRECAUTIONS TO AVOID SHOCK. First ensure that the breaker supplying the power to the dryer is operational. If it is, disconnect the power and remove the dryer cover. Reconnect the power and check for voltage at the terminal block. Verify that the connections are made properly.
The dryer cycles be itself or runs constantly	Ensure that there is no obstruction on or infront of the IR sensor. Clean any dirt or debris off the sensor lens.
The dryer makes a loud noise and does not run for a complete cycle	Ensure that the supply Voltage is correct. The dryer will make a loud humming noise if the input Voltage is too high. Check that the voltage requirement on unit rating label and correct the supply if required.
The dryer runs but air stream is low pressure and/or low velocity	Ensure that the supply Voltage is correct. Dryer will run weakly if the input Voltage is to low. Check that the voltage requirement on unit rating label and correct the supply if required.
The IR sensor only "sees" close range object	Ensure that there is no obstruction on or infront of the IR sensor. Clean any dirt or debris off the sensor lens.
The air stream is low pressure and velocity	Check the output nozzle for obstructions. If none are present, disconnect the power. Remove the dryer cover. Remove any dust/lint buildup from intake vent slots.

STERN

STERN ENGINEERING LTD.

CE ⊠ ✓RoHS