

stern

STERN ENGINEERING LTD.



D28 SERIES

**D28 | D28E | D28 DUAL POWER B
D28 DUAL POWER E | D28 BOX | D28 E BOX**

**WALL MOUNTED ELECTRONIC FAUCET
FOR COLD OR PREMIXED WATER**

INSTALLATION AND MAINTENANCE GUIDE

INDEX

| | |
|-------|--|
| 1 | TECHNICAL DATA |
| 2-4 | PACK CONTENTS |
| 5 | PRE-INSTALLATION INFO |
| 6-11 | FAUCET INSTALLATION |
| 12-14 | SETTINGS ADJUSTMENT |
| 15 | MAINTENANCE Filters cleaning instructions Care and cleaning of chrome and special finishes |
| 16 | BATTERY REPLACEMENT |
| 17-19 | SPARE PARTS LIST |
| 20 | TROUBLESHOOTING |
| 21 | LIMITED WARRANTY |

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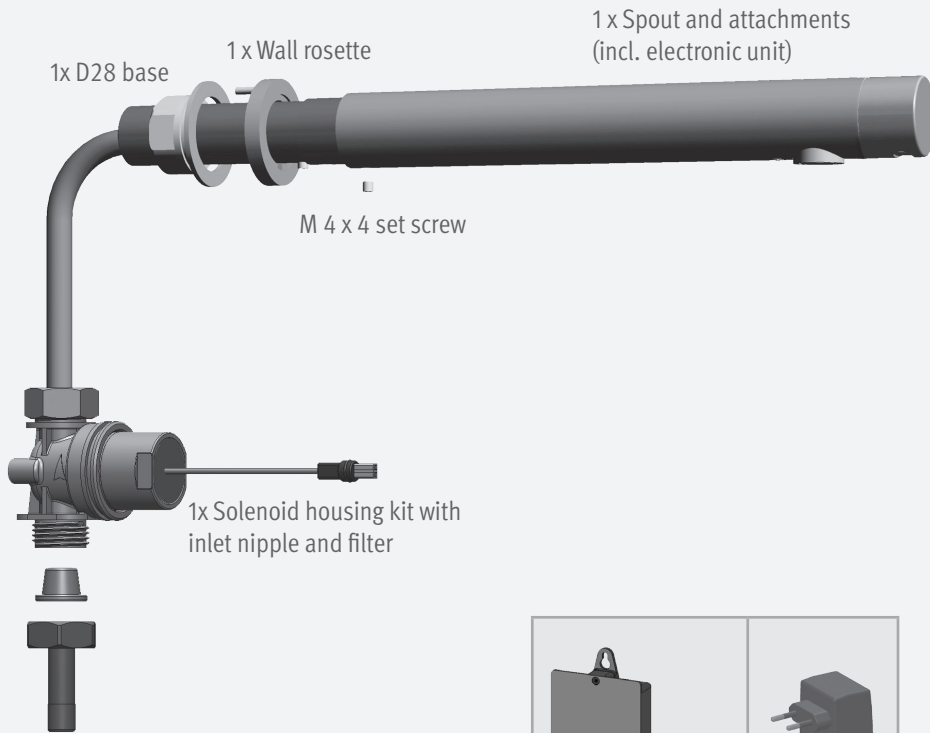
TECHNICAL DATA

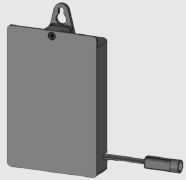
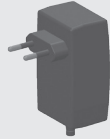
| | | | | | |
|------|--------|------------------|--------|-----------|--------|
| D28 | 352000 | D28 DUAL POWER B | 352300 | D28 BOX B | 352200 |
| D28E | 352100 | D28 DUAL POWER E | 352400 | D28 BOX E | 352500 |

| | |
|-----------------------------------|---|
| Power supply | D28 model - 6X1.5V batteries D28 Box B model - 9V Lithium battery D28 Dual Power B model -9V Alkaline battery D28E models - 9V transformer |
| Recommended water pressure | 0.5-8.0 bar (7-116 PSI) With water pressure of more than 8 bars, use a pressure reducing valve for reduction. |
| Preset sensor range | Self-adjusting sensor |
| Minimum sensor range | 35mm / 1.38" |
| Maximum sensor range | 300mm / 11.81" |
| Security time | 90 seconds. Can be reduced with optional remote control. |
| Hot water temperature | Max 70°C |

PACK CONTENTS

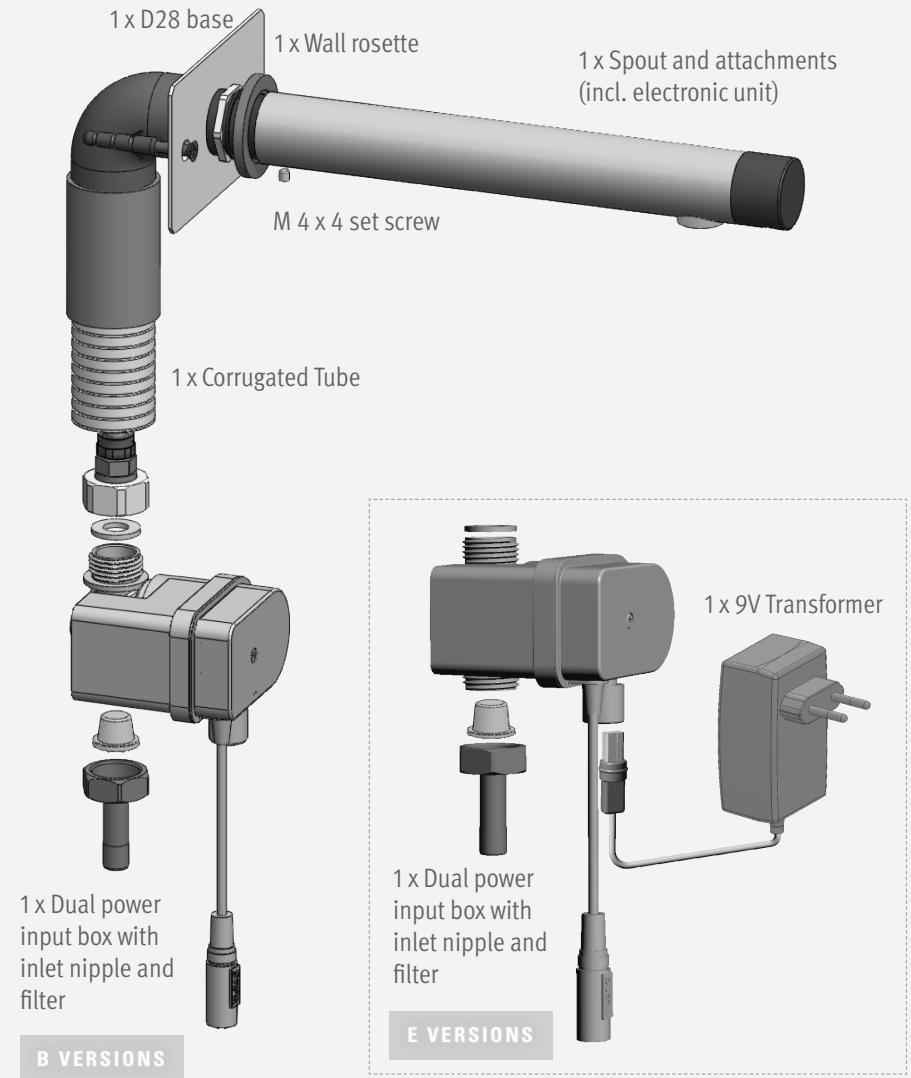
D28 | D28 E



| | |
|---|---|
|  |  |
| B VERSIONS | E VERSIONS |
| Battery box for 6 x 1.5V batteries | 9V transformer |

PACK CONTENTS

D28 DUAL POWER B D28 DUAL POWER E

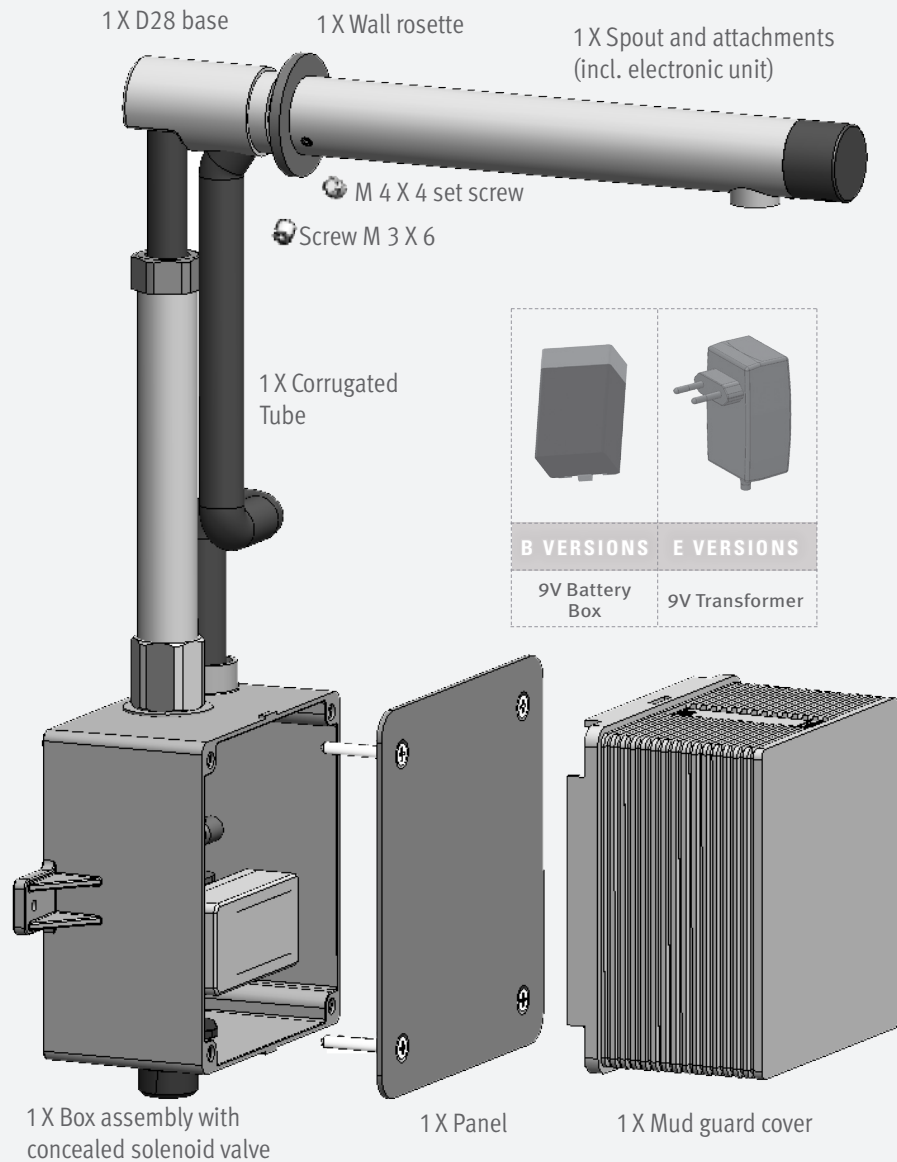


B VERSIONS

E VERSIONS

PACK CONTENTS

D28 BOX



PRE-INSTALLATION INFO

Check contents

Separate all parts from the packaging and check each part with the pack contents section. Pay attention to the variations of the different models.

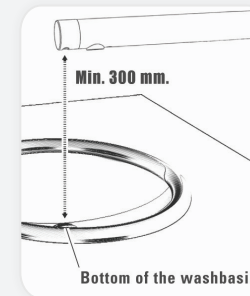
Make sure all parts are accounted for before discarding any packaging material.

If any parts are missing, do not attempt to install your electronic faucet until you obtain the missing parts.

To avoid reflection problems

1. Keep a distance of more than 300 mm. between the sink and the spout.

2. Do not place a shiny pop up in front of the sensor.



Preparation for installation

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

Important

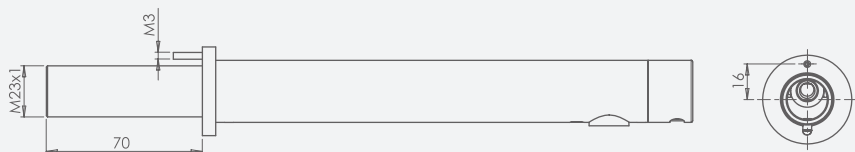
All plumbing is to be installed in accordance with applicable codes and regulations.

Warning

To avoid reflection problems keep a distance of more than 300 mm. between the sink and the spout.

STEP 1 - INSTALLING THE FAUCET

1. Shut off the water supply
2. Drill a hole (26 to 27 mm) at the place where you want to install the faucet spout.
3. Your model includes an optional anti-rotation pin. Drill a small hole just above the previous one for the anti-rotation pin.



4. Insert the faucet and its attachments through the wall. The aerator in the faucet spout must face the washbasin.
5. Insert the anti-rotation pin into the small hole (if needed)
6. Fix the base behind the wall with the hexagonal nut and the disk.

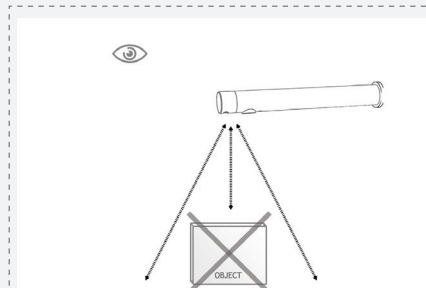
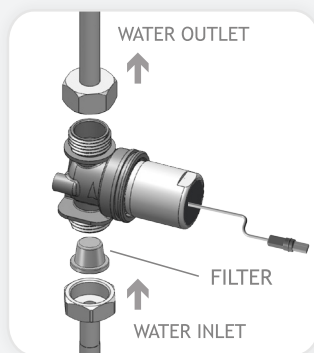
STEP 2 - CONNECTING THE WATER SUPPLY

1. Fit the flexible pipe coming from the faucet base to the solenoid valve housing.
2. Fit the water supply inlet to the inlet nipple at the solenoid valve housing.

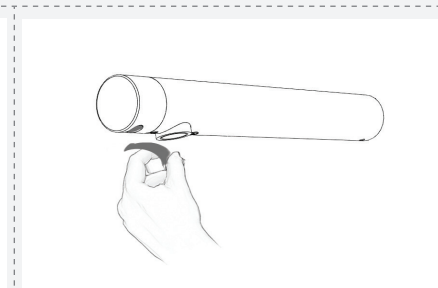
Note: Make sure the filter is located at the solenoid inlet.

3. Connect the cable coming from the electronic unit to the solenoid valve.

Important: The faucet was supplied with a self adjusting sensor. The ideal sensor range for the specific location will be set automatically.



Before proceeding to step 3 check that no objects are in front of the sensor besides the washbasin.

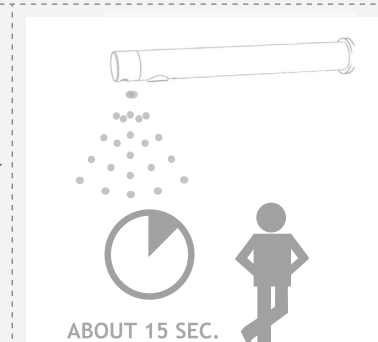


Now, remove the protecting sticker that covers the sensor.

STEP 3 - CONNECTING THE POWER SOURCE

1. For D28: Connect the other cable coming from the electronic unit at the D28 base to the battery box.
2. For D28 E: Connect the other cable coming from the electronic unit at the D28 base to the transformer. Plug the transformer into the electricity socket.

3. After you have connected the power source (battery or transformer) wait 15 seconds in order to allow the system to set the ideal sensor range. As an indication that the self adjusting is taking place, a LED 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.**



4. Turn on the central water supply. Check for leaks.
5. If the automatically adjusted sensor range is not satisfactory, please refer to the section entitled "Settings adjustment".

INSTALLATION

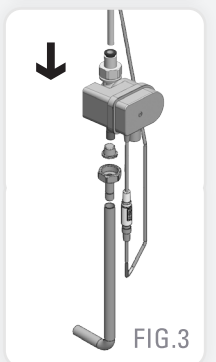
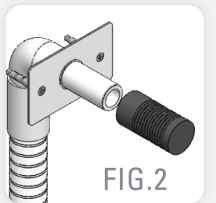
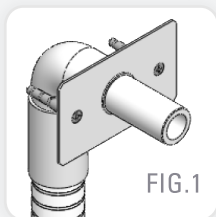
D28 DUAL POWER B D28 DUAL POWER E

OPERATION:

This faucet features an IP67 dual power input box. The product can be operated with a 9V battery or a 9V transformer. In addition, when used with a transformer, the product contains an integrated battery back up, for normal use during power supply failures.

STEP 1 - INSTALLING THE FAUCET

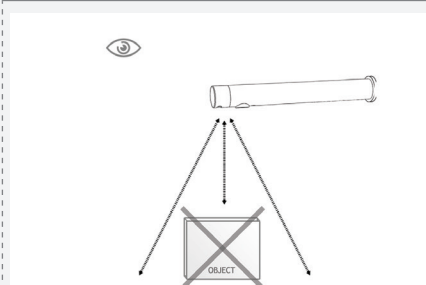
1. Shut off the water supply
2. Cut an adequate opening in the wall for the dimensions of the faucet base (where you want to install the spout), and the corrugated tube.
3. Install the D28 dual power base and its attachments through the opening that was cut in the wall.
4. After you have connected the power source (battery or transformer) wait 15 seconds in order to allow the system to set the ideal sensor range. As an indication that the self adjusting is taking place, a LED 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.
5. Assemble the temporary protective faucet base cover. (See FIG.2)
6. Make sure the corrugated tube stays outside the wall when tiling.
7. Once the works on electricity, plumbing and tiles is finished, insert the wall rosette through the faucet base.
8. Cut the temporary faucet base cover.
9. Pull the four way connector out of the faucet base, and lead it along with the flexible tube, through the corrugated tube.
10. Connect the flexible tube to the solenoid valve body integrated in the dual power input box. (See FIG.3)
11. Connect the water tube coming from the faucet body to the nut at the top of the dual power input box, by snapping it in.
12. Fix the faucet spout by inserting the nipple into the faucet base and tighten the screw.



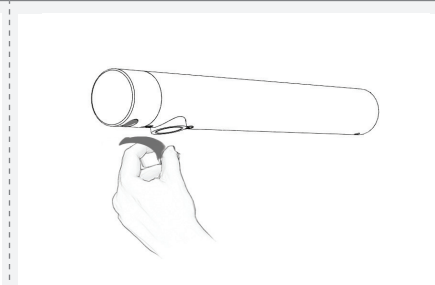
INSTALLATION

D28 DUAL POWER B D28 DUAL POWER E

STEP 2 - CONNECTING THE POWER SOURCE



Check that no objects are in front of the sensor besides the washbasin.



Now, remove the protective sticker that covers the sensor.

1. If your model is D28 Dual Power B open the dual power box using the Allen key provided and install the 9V Alkaline battery.
2. Connect the four contacts connector to the dual power input box.

Important: Make sure that the 4 contacts connector is connected all the way through.

3. After you have connected the four contacts connector to the dual power input box, wait 15 seconds in order to allow the system to set the ideal sensor range. As an indication that the self adjusting has taken place, a LED in the sensor eye will flash continuously. The solenoid valve will open and close for 1 second as an indication that the ideal sensor range was set and the product is ready for use.

STEP 3 - CONNECTING THE WATER SUPPLY

1. Turn on the central water supply.
2. Check for leaks.
3. If the automatically adjusted sensor range is not satisfactory, please refer to the section entitled "Settings adjustment".

STEP 1 - INSTALLING THE FAUCET

1. Shut off the water supply
2. Cut an adequate opening in the wall for the dimensions of the D28 box, the corrugated tube, the rigid pipe and the D28 base (where you want to install the spout).
3. Insert the D28 box to the opening that was cut in the wall. Connect the water supply pipe to the nipple at the bottom of the D28 box.
4. Mount the D28 base to the opening cut in the wall and make sure that the spout is at a 90 degree angle with the wall. Important: The D28 base should be installed so that the outside surface of the finished wall falls between the minimum and maximum lines marked at the base.
5. Assemble the rigid pipe (not supplied) from the nipple at the box to the inlet at the D28 base.
6. Assemble the corrugated tube between the D28 base and the box, and lead the connectors through the D28 base and through the D28 box. Assemble the mud guard cover to protect the D28 box.
7. Assemble the temporary protective D28 base cover. (See FIG.4)
8. Once the works on electricity, plumbing and tiles have been finished, insert the wall rosette through the D28 base.
9. Cut the temporary D28 base cover and the mud guard cover wherever required by the installation.
10. Connect the electronic unit connector coming from the corrugated tube to the solenoid valve connector at the D28 box.
11. If your model is D28 Box E, connect the power supply connector coming from the corrugated tube at the D28 base to the transformer. (See FIG.5)
12. Connect the solenoid valve cable and the power supply cable from the spout to those at the D28 base.
13. Fix the D28 spout by inserting the nipple into the D28 base. Make sure that this area is clean before proceeding. Secure the screw with the Allen key.

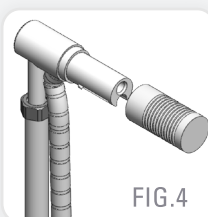
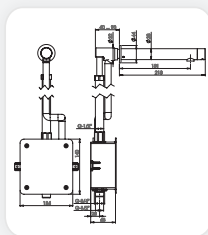


FIG.4

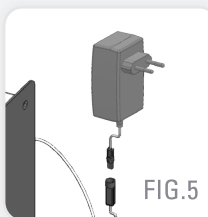
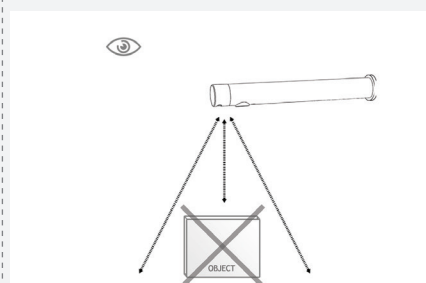


FIG.5

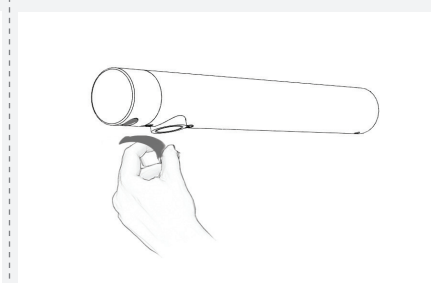
STEP 2 - CONNECTING THE POWER SOURCE

1. Remove the temporary protective cover panel.

Important: D28 is supplied with a self adjusting sensor. The ideal sensor range for the specific location will be set automatically.



Check that no objects are in front of the sensor besides the washbasin.



Now, remove the protective sticker that covers the sensor.

2. If your model is D28 B Box the battery box is attached to the cover panel. Connect the other electronic unit connector coming from the corrugated tube to the battery box
3. If your model is D28 E Box, plug the transformer into the electricity socket.
4. After you have connected the power source (battery or transformer) wait 15 seconds in order to allow the system to set the ideal sensor range. As an indication that the self adjusting is taking place, a LED 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.

STEP 3 - CONNECTING THE WATER SUPPLY

1. Turn on the central water supply.
2. Check for leaks.
3. Assemble the wall cover panel by screwing the four screws.
4. If the automatically adjusted sensor range is not satisfactory, please refer to the section entitled "Settings adjustment".

SETTINGS ADJUSTMENT



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 at 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.

SETTINGS ADJUSTMENT



DETECTION RANGE: This faucet was supplied with a self adjusting sensor. The ideal detection range for the specific location will be set automatically.

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 LED in the sensor eye is perceived. Then, press + to increase the range and - to reduce it. Every push will increase or decrease one level.

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.



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 LED 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.



SECURITY TIME: The Security time, prevents continuous running of water due to reflections or vandalism. By default, if the sensor is covered for more than 90 seconds the water flow will shut automatically. To resume regular operation any obstruction must be removed.

Press the SEC button. Wait until a quick flashing of the LED in the sensor eye is perceived. Then, press + to increase the security time and - to reduce it.

SETTINGS ADJUSTMENT



DELAY IN TIME: It is recommended to change the delay in time for flush valves for urinals or toilets only.

If required, the delay in time can also be modified in faucets as follows:

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



DELAY OUT TIME: This button allows modifying the water flow time after the user removes his hands from the faucet. A delay out time close to 0 will save more water. An increased delay out time will make the user experience more comfortable.

If required, the delay out time can be modified as follows:

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



24 HOUR HYGIENE FLUSH: This model includes a 24 hours hygiene flush which is disabled. To activate the hygiene flush, press the clock button. Wait until a quick flashing of the LED in the sensor eye is perceived. Then press + to activate the hygiene flush. To disable it again, press – to deactivate it.



COMFORT FLUSH: If your model includes a Comfort flush setting, it can be activated by pressing the flush button.

When the button is pressed, one blink of the LED in the sensor eye is perceived. The pre-programmed flush cycle will take place then.

The Comfort flush cannot be interrupted or deactivated by pressing any button until it is over.



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 faucet 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, and alike. Use of any prohibited cleaning or maintenance products or substances could damage the surface of the soap dispenser or faucet.

For surface cleaning use **ONLY** soap and water, then wipe dry with a clean cloth or towel.

When cleaning bathroom tiles, the soap dispenser should be protected from any splattering of harsh cleansers.

Filter cleaning instructions

This faucet is provided with a stainless steel filter preventing foreign particles to enter the lines. If the water flow has decreased, this may be because the filter is clogged. The filter can be cleaned as follows:

- For D28, D28E, D28 DPB and D28 DPE:
 - Shut-off the water shut off valve.
 - Disconnect the water supply pipe from the adaptor and disassemble the filter from it.
 - Wash the filter under running water.
 - Reassemble the parts and restore the incoming water supply.
 - Make sure that there is no water leakage.
- For D28 Box, D28 Box E:
 - Release the screws at the panel and remove it. Turn off the regulating valve.
 - Disassemble the solenoid valve by opening the nuts.
 - Remove the filter and wash it under running water.
 - Reassemble the filter and the solenoid valve.
 - Turn on the regulating valve and adjust the flow capacity.
 - Make sure that there is no water leakage. Re-assemble the wall cover panel.

Solenoid valve servicing

The solenoid valve diaphragm requires periodical cleaning every six (6) month.

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.

BATTERY REPLACEMENT

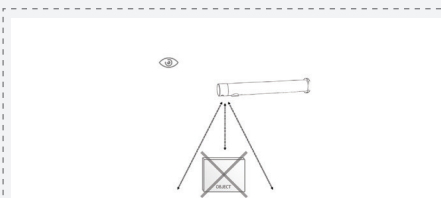
Battery models only

When the battery weakens, the LED indicator light will blink at a constant rate when the user hands are within the sensor range. The battery must be replaced within two weeks.

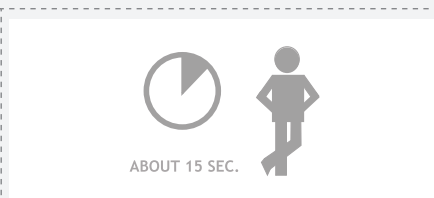
To replace the battery (battery models only):

1. For D28: Unscrew and remove the battery box lid screw.
Carefully open the battery box and remove the old batteries. Replace the used batteries with six new 1.5V AA batteries. Do not install both used and new batteries in the same box. Close the box.
2. For D28 Dual Power B: Carefully open the dual power input box using the Allen key provided. Remove the old battery and replace it with a new 9V battery (Lithium battery is recommended). Close the box lid and tighten it with the screw.
3. For D28B Box: Release the screws at the panel and remove it. The battery box is located behind the panel. Carefully open the battery box and remove the old battery. Replace the used battery with a new 9V battery (Lithium battery is recommended). Close the box and re-assemble the wall cover panel.

Important: D28 is supplied with a self adjusting sensor. The ideal sensor range for the specific location will be set automatically again after changing the battery.



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 15 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.



SPARE PARTS

D28 | D28 E

SPARE PARTS - D28

| | |
|---|----------|
| Screws Kit | 07210101 |
| 10-Pack Sensor Kit | 08004502 |
| 8-Pack Solenoid and Housing Kit | 07221119 |
| 10-Pack Solenoid Valve Kit | 07232000 |
| 10-Pack Diaphragm Kit | 04500048 |
| Battery box for 6 X 1.5V batteries (batteries excluded) | 06530096 |
| 9V Transformer (EU plug) | 06522091 |

SPARE PARTS**D28 DUAL POWER B
D28 DUAL POWER E****SPARE PARTS - D28 DUAL POWER**

| | |
|----------------------------|----------|
| Seals & Screws Kit | 07210102 |
| 10-Pack Sensor Kit | 08004503 |
| Dual Power Input Box | 06530042 |
| 10-Pack Solenoid Valve Kit | 07232005 |
| 10-Pack Diaphragm Kit | 04500048 |
| 9V Transformer (EU plug) | 06522094 |

SPARE PARTS**D28 BOX / D28 E BOX****SPARE PARTS - D28 BOX**

| | |
|--|----------|
| Screws Kit | 07210107 |
| 10-Pack Sensor Kit | 08004504 |
| 8-Pack Solenoid and Housing Kit | 07221103 |
| 10-Pack Solenoid Valve Kit | 07232000 |
| 10-Pack Diaphragm Kit | 04500048 |
| Battery box for 9V battery | 06530080 |
| 9V Transformer (EU plug) | 06522091 |
| Remote Control 13B (Optional) | 07100005 |
| Soap & Water Remote Control (Optional) | 07100014 |

TROUBLESHOOTING

| PROBLEM | INDICATOR | CAUSE | SOLUTION |
|---------------------------------------|---|--|---|
| No water is coming out of the faucet: | 1. LED in the sensor does not flash once when user's hands are within the sensor's range. | 1. Range is too short. | Increase the range |
| | | 2. Range is too long. | Decrease the range |
| | | 3. Unit is in "Security Mode" | |
| | | 4. Sensor is picking up reflections from the washbasin or another object. | Eliminate the cause of reflection. |
| | 2. LED in the sensor flashes once when user's hands are within the sensor's range. | 1. Debris or scale in solenoid. | Unscrew solenoid, pull out the plunger and the spring from the solenoid and clean them. Use scale remover material if needed. When replacing the plunger, please make sure that the spring is in vertical position. |
| | | 2. The central orifice in the diaphragm is plugged or the diaphragm is torn | Clean the orifice or replace the diaphragm. |
| | | 3. The water supply pressure is higher than 8 bar. | Reduce the supply water pressure. |
| | | 4. 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 the water supply and unscrew one of the flexible pipes in order to reduce the pressure that blocks the product. |
| Water flow from spout does not stop: | 1. Sensor flashes once when user's hands are within the sensor's range. | 1. Debris or scale in diaphragm | Clean the orifice or replace the diaphragm. |
| | | 2. Connectors between the electronic unit and the Dual power input box are disconnected or not connected properly | Connect the connectors properly. <i>Refer to page 11.</i> |
| | 2. LED in the sensor does not flash once when user's hands are within the sensor's range. | 1. Sensor is dirty or covered. | Clean or eliminate the cause of interference. |
| | | 2. Sensor is picking up reflections from the washbasin or another object. | Decrease the range or eliminate the cause of reflection. |
| Water flow diminished | | Filter or aerator is clogged | Remove, clean, re-install the filter or aerator |

* "Security Mode": If the sensor is covered for more than 90 sec. the faucet will automatically shut off water flow. To return to normal operation remove any blockage to re-establish operation.

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).

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