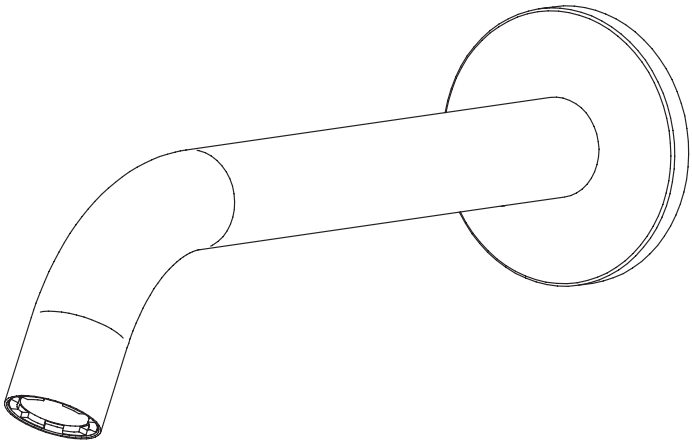
TSL.881
TSL.883

capacitive sensor tap



installation + maintenance

THE SPLASH LAB

contents

TSL.881 220mm sensor tap
TSL.883 150mm sensor tap

Read and save these instructions

WARNING ⚠

To reduce the risk of fire, electric shock or injury to persons, observe the following:

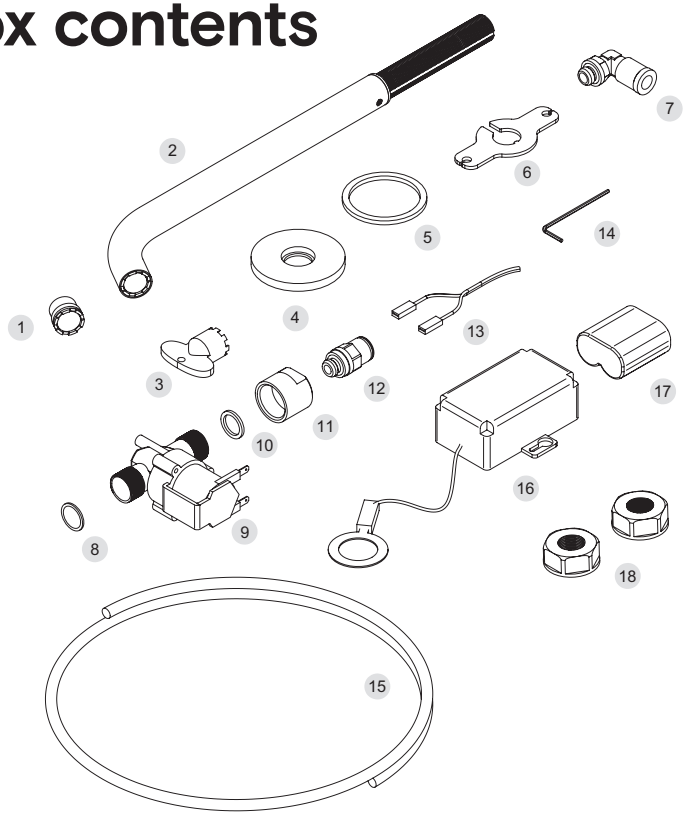
+ Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer (see back page for more details).
+ Replace batteries only with the same type and rating of batteries.
+ Disconnect power supply before performing any maintenance on product.
+ Ensure wiring is installed correctly before connecting to power supply (see installation instructions, page 12, for details).
+ Keep plugs and receptacles dry.
+ All plumbing is to be installed in accordance with applicable codes and regulations.

For more information contact:

Tel: +44 (0)161 482 7000

Email: technical@thesplashlab.com

box contents



		TSL.881	TSL.883
1	Aerator – 1.89lpm – Spray pattern	TSLP.260063	TSLP.260063
2	Tap spout	TSLP.009	TSLP.010
3	Aerator key	TSLP.260050	TSLP.260050
4	Wall bezel	TSLP.021	TSLP.021
5	Wall seal gasket	TSLP.111	TSLP.111
6	Anti rotation plate	TSLP.110	TSLP.110
7	Elbow coupling	TSLP.033	TSLP.033
8	Inline filter / strainer	TSLP.08530015	TSLP.08530015
9	Solenoid valve	TSLP.120030	TSLP.120030
10	Sealing washer	TSLP.034	TSLP.034
11	Solenoid valve adapter coupling	TSLP.115	TSLP.115
12	Straight coupling	TSLP.032	TSLP.032
13	Solenoid connector cable	TSLP.120032	TSLP.120032
14	Hex wrench	TSLP.030	TSLP.030
15	Inlet tubing	TSLP.260064	TSLP.260064
16	Capacitive sensor kit	TSL.260020	TSL.260020
17	Battery	TSLP.270030	TSLP.270030
18	Locking nut	TSLP.109	TSLP.109

technical data

Finishes	TSL.881 / 883.CS Brushed Stainless Steel TSL.881 / 883.CP Brushed Copper TSL.881 / 883.BK Brushed Black TSL.881 / 883.BR Brushed Brass TSL.881 / 883.BZ Brushed Bronze

PRODUCT OVERVIEW

The capacitive sensor tap works by detecting any increase in capacitance within a close proximity. Capacitance is a physical property of the human body (or conductive element) which enables it to store electrical energy and act as a natural capacitor.

When the user comes into close proximity to the tap, an increase in capacitance is detected and water will flow. When the user leaves, a decrease is detected and the sensor will return to its normal standby mode.

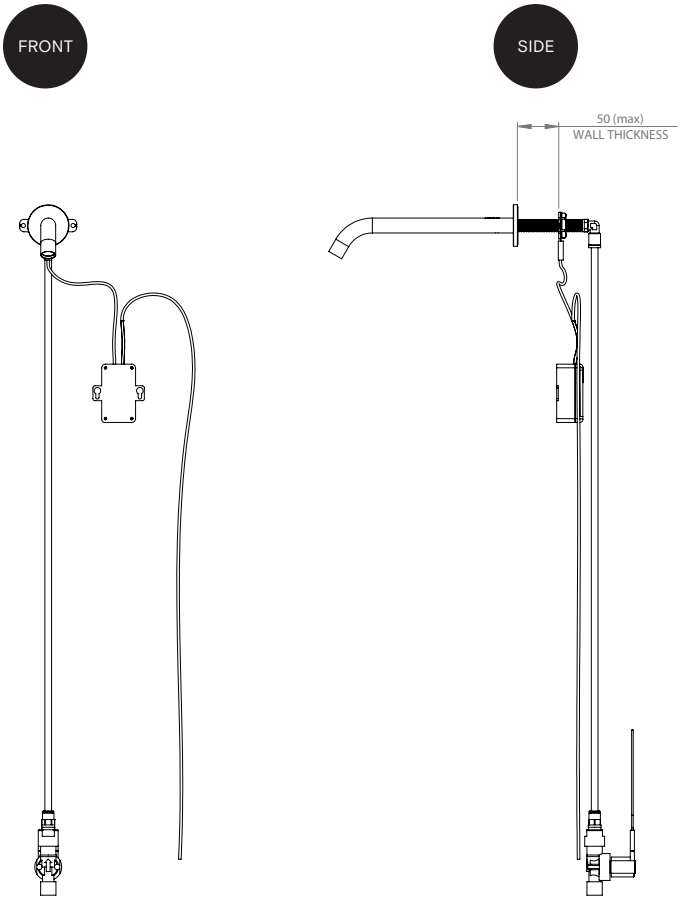
MECHANICAL	
Body Material	AISI 304 Stainless Steel
Coating Type	PVD (colours only)
Aerator	Cascade
Water Pressure	0.5 to 7.5 Bar [0.05 to 0.75MPa]
Water Temperature (max)	60°C
Flow Rates	3.8l/min [0.5gpm]
	Also available as optional extras: 1.35l/min [0.35gpm] 1.89l/min [0.5gpm]

technical data

ELECTRICAL	
Power supply	6V CR-P2 Lithium Battery
Output (max)	800mA
Power consumption	< 80µA
Solenoid valve type	6V Latching
Water Ingress	IP55
Cable lengths	400mm – Tap (metallic mass) connection 800mm – Solenoid valve connection

SENSOR FUNCTION	
Sensor Type	Capacitive
Default Mode	Proximity
Sensitivity (Proximity mode only)	5 pre-settings (adjustable using AQUASTOP button)
Comfort Delay	1 sec
Security Time-out	60 sec
AQUASTOP Function	30 sec
Operating Temperature	0 to 40°C
Response Time (max)	< 300ms
Tolerance on times	± 20%

technical drawing



before you install

Caution

To benefit from the reliable and stable detection of the capacitive sensor, the following criteria MUST be checked and considered before installing the tap.

+ Do not mount the tap on metallic surfaces
+ Do not use with any metallic basins or sinks
+ Ensure any copper pipes (building services) are installed as far away from the tap as possible.
+ All waste water piping must be plastic (non-conductive).
+ Do not use any conductive or metallic drains, drainage funnels/siphons, U-bends or Bottle/P-Traps for the waste water.
+ Ensure the sensor cable is installed as far away as possible from piping (incl. inlet tubing) or any metal studwork behind the wall.
+ Ensure the sensor cable is securely fixed to a non-conductive surface to avoid making contact with any conductive surfaces during operation or maintenance.
+ To only be used with the supplied latching solenoid valve.
+ All parts must be installed correctly before powering up the system.

Power

The TSL.881 / 883 Capacitive Sensor Tap system is provided with a 6V CR-P2 Lithium battery for the power supply.

Water Supply

Flush water supply lines thoroughly before installing the tap. Do not allow dirt, Teflon tape or metal particles to enter the tap. Shut off the water supply before installation. Gravity-fed systems may require a booster pump to achieve the optimal operating pressure.

Flow Rates

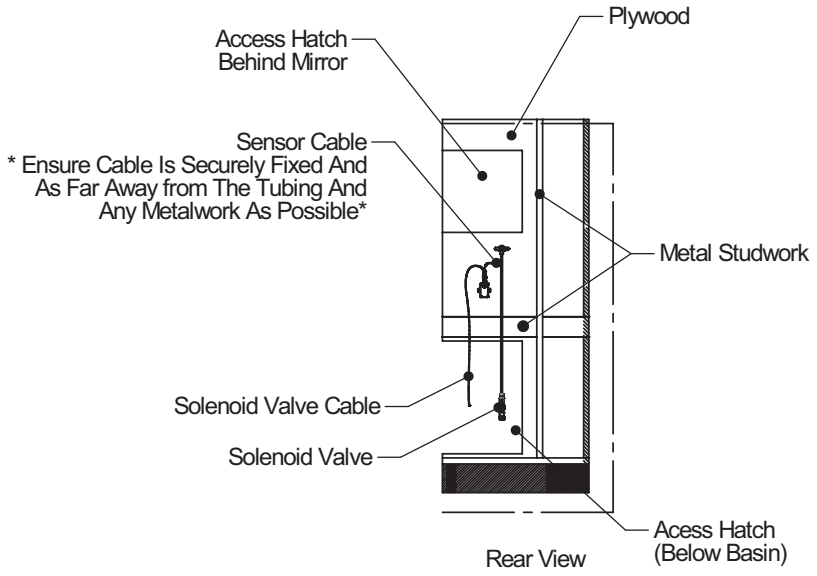
The aerator supplied as standard has a flow rate of 3.8l/min [1.0gpm]. However, different flow rates may need to be achieved and The Splash Lab offer alternatives with flow rates of 1.35l/min [0.35gpm] and 1.89l/min [0.5gpm] respectively. Refer to Spare Parts & Accessories (page 30) for more information.

before you install

Access Requirements

It is critical all components which require fixing behind the wall are easily accessible at all times during installation and routine maintenance.

Wall Cavity: a minimum cavity depth of 100mm is recommended to ensure enough clearance for installing and commissioning tap components, connecting to mains water supply and safe installation of battery power supply.

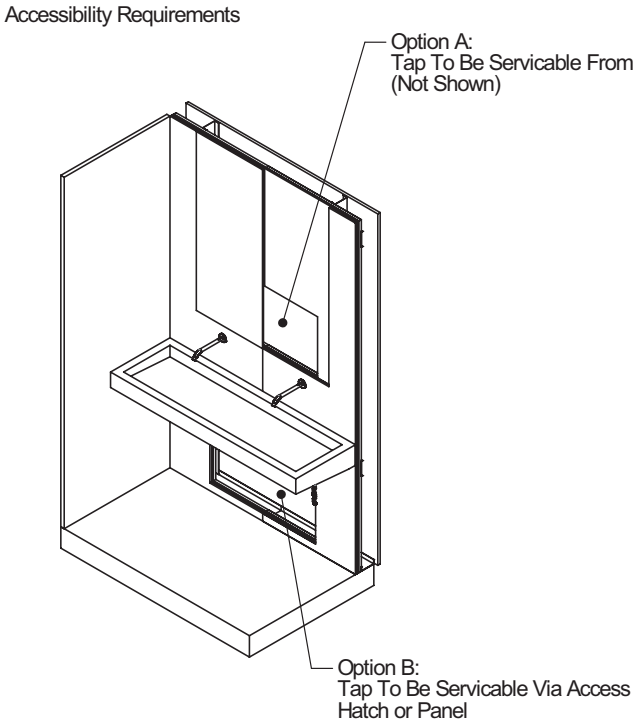


Ensure any metal studwork in the wall cavity is as far away from the mounting location way as possible

before you install

Access Requirements

Front access: a hatch or panel(s) must be constructed either below the washbasin or behind the mirror to ensure the tap, solenoid valve, isolation valves and power supply are accessible.

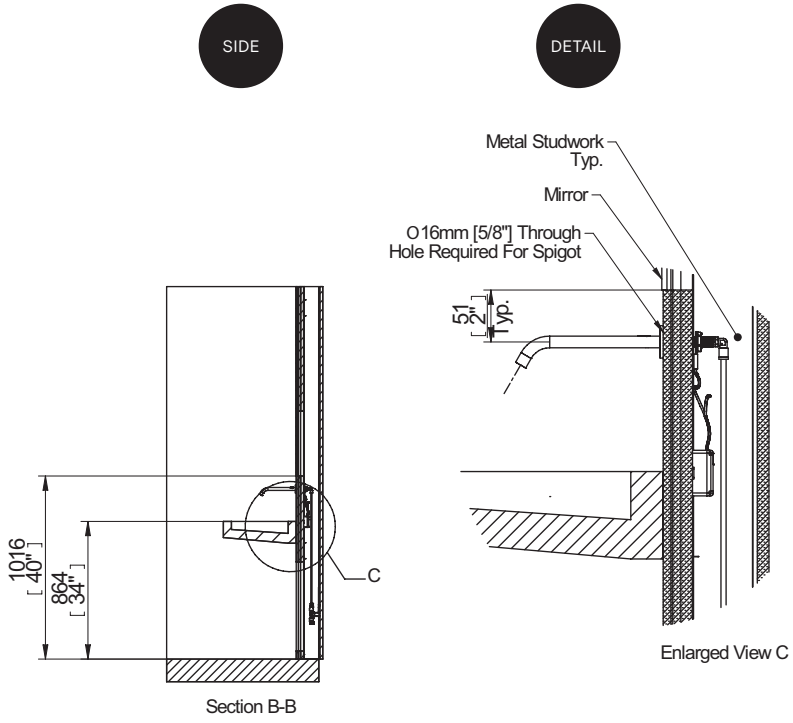


Ensure an access hatch/panel below the washbasin and if possible behind the mirror is accounted for to ensure easy access of components during installation and for routine maintenance.

before you install

Mounting Location

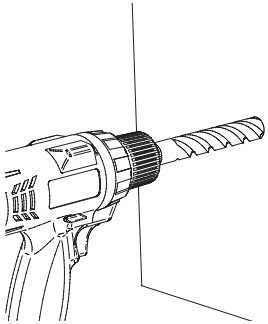
+ All mounting surfaces must be non-metallic and non-conductive
+ The maximum wall thickness the tap can be mounted to is 50mm (incl. all finishes).
+ The recommended distance from the centre of the spout to the countertop of the washbasin is 200mm.
+ Refer to the installation guide on page 9 for more information.



All metal materials surrounding the capacitance ring must be outside of a 150mm radius to prevent signal interference.

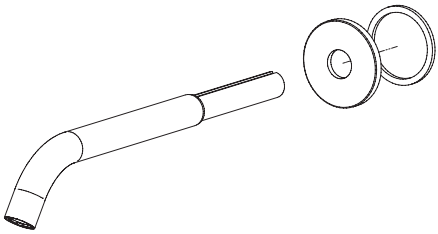
how to install

Tap Installation



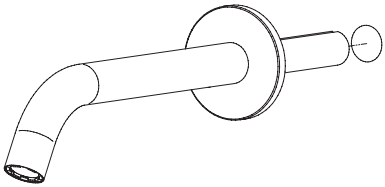
1

Drill a Ø16mm hole through the mounting surface and into the wall cavity.



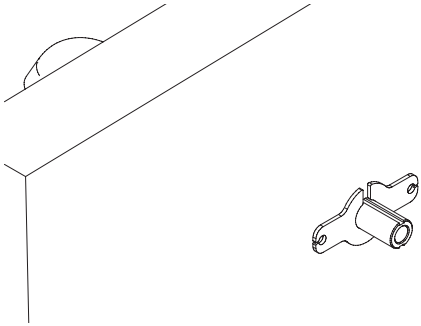
2

Slide the collar and gasket over the spigot



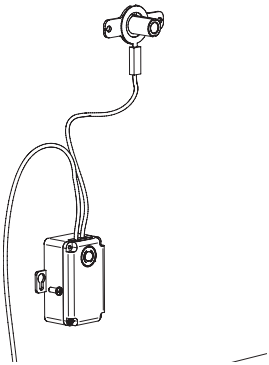
3

Slot the spigot end of the tap through the pre-drilled hole



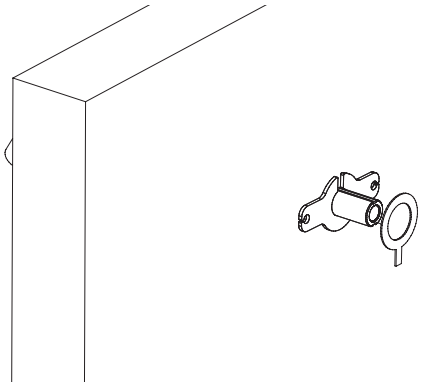
4

Fit the anti-rotational washer over the spigot.



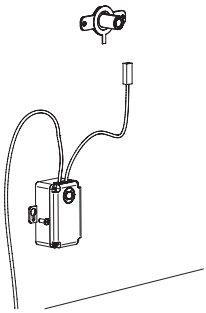
5

Fix the battery power supply to the non-conductive wall or support ensuring the cables are long enough to connect to both the back of the tap and solenoid valve.



6

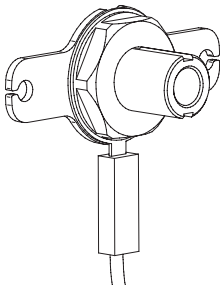
Place the brass contact washer behind the anti-rotational washer.



7

Connect the sensor electrode to the lug of the contact washer (if not already assembled).

WARNING: Locking nut supplied by The Splash Lab must be used. Do not use a plastic replacement.



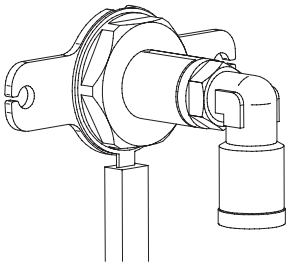
8

Thread the locking nut onto the spigot until hand tight ensuring the brass contact washer is located firmly between the anti-rotational washer and the nut.

WARNING: Before tightening the locking nut, ensure the cables are not in contact with water inlet pipe, waste water pipe, or any metallic materials.

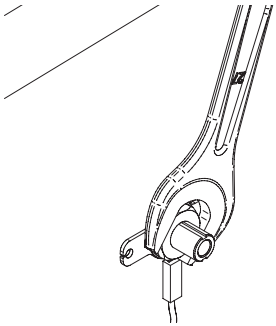
how to install

Tap Installation



9

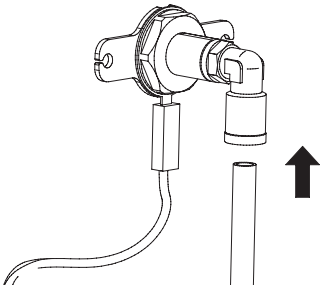
Tighten elbow fitting into the spigot and tighten with a spanner.



10

Tighten locking nut with a spanner and check spout of tap is aligned squarely and not on an angle.

WARNING: Do not replace the plastic tubing supplied

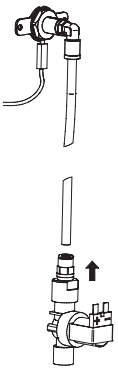


11

Push plastic inlet tubing all the way into the elbow fitting.

how to install

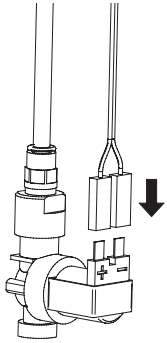
Solenoid Valve Installation



12

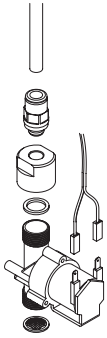
Trim any excess tubing not required and fit solenoid valve and reducing coupler assembly to plastic inlet tubing.

WARNING: Ensure both plastic push-fit connections are securely sealed with the plastic inlet tubing.



13

Connect the solenoid valve cable to the capacitive sensor ensuring the correct polarity is observed.



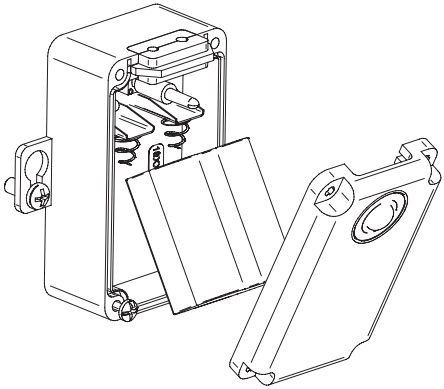
14

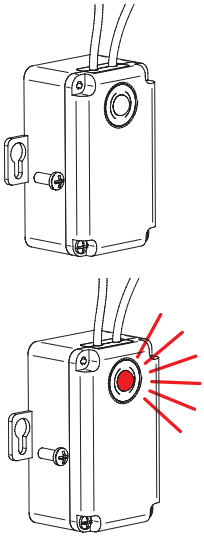
Insert conic filter into inlet side of valve and connect to water supply using appropriate connector.

The filter must be fitted, otherwise the warranty may be invalid.

how to install

Launch





15

Place the battery in the capacitive sensor making sure that the correct polarity is observed..

16

Ensure the red LED lights up confirming the calibration sequence has begun and water flows from the tap for approximately five seconds.

WARNING: Do not make contact with the tap or sensor (incl. cables) during the calibration sequence. The sequence is only complete once the red LED goes out

17

The installation is now ready to commission.

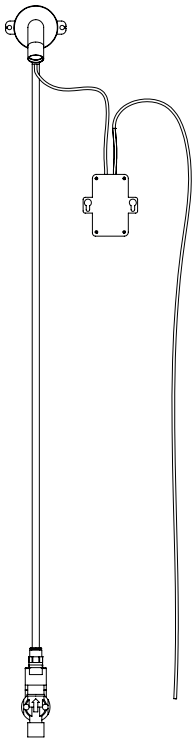
commissioning

+ The system may appear to be less reactive during the initial commissioning phase as the sensor uses the first few activations to self-calibrate and improve its sensitivity level.
+ After 4 to 8 activations the sensor will start to function in its normal operational mode.
+ Throughout the product's lifetime the sensor will self-adjust to ensure that the system maintains a stable performance.

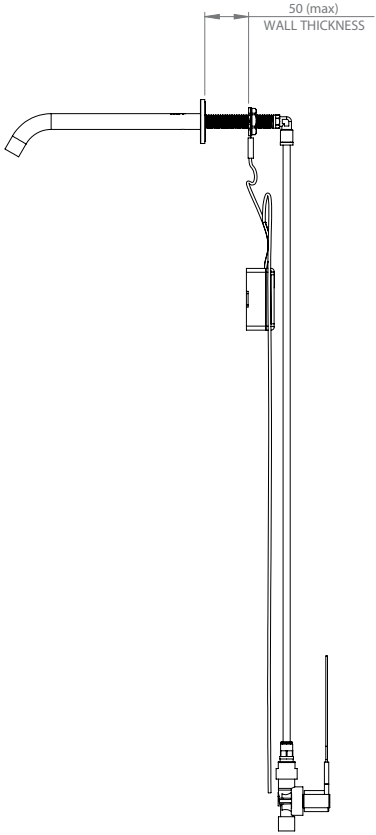
WARNING: always remove the battery before adjusting any cables, and repeat LAUNCH steps after re-inserting battery.

the complete system

FRONT



SIDE



settings adjustment: aquastop button

There are five pre-settings for the sensitivity of the sensor (Level 1 = low, Level 5 = high) and can be adjusted by using the AQUASTOP button.

+ To enter the settings mode, press the AQUASTOP button for 10 seconds until the red LED is permanently lit.
+ Release the button.
+ The sensitivity level is indicated by a series of LED flashes which is repeated 3 times so the installer can clearly see the selected level.
+ The series of LED flashes ranges from a total of 1 to 5 flashes depending on the selected sensitivity level.
  E.g. Level 2 is indicated by a series of 2 flashes.
+ Each time the button is pressed the sensitivity level changes.
+ In order to select a sensitivity level, wait until the LED stops flashing. The LED will stop flashing after three uninterrupted series on the selected sensitivity level.
  E.g. to select Level 2, wait for the series of 3x2 LED flashes to repeat three times (2+2+2…2+2+2…2+2+2).
+ After the sequence is complete, the sensor returns into its normal operational mode.

settings adjustment: wired controller

Disconnect the plug from the solenoid valve cable and connect to the wired controller to access information such as diagnostics, function and programmable settings (see table below).

Definitions

Proximity Mode (pre-set): the user approaches the capacitive tap to activate the water flow

Touch Mode (programmable): the user must touch the capacitive tap to activate the water flow.

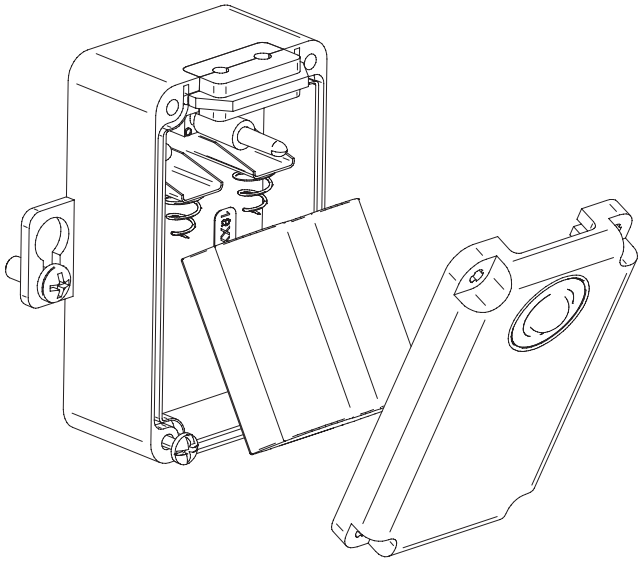
Comfort Delay: a comfort delay keeps the water running for 1 second after there is no-longer detection.

Security time-out after 60 seconds of continuous water flow the solenoid valve will close and the sensor will be blocked for 10 seconds. During this period the red LED will start flashing two times on repeat.

AQUASTOP Button To enable the tap and collar to be cleaned without the sensor activating, the AQUASTOP button can be pressed once. This will block the sensor and water flow for 30 seconds and during this period the red LED will start flashing two times on repeat.

	Mode	**Comfort delay**	**Security time-out**	**AQUA STOP**	**Auto-rinse cycle** (after last activation)
Pre-set	Proximity	1 second	60 seconds	30 seconds	Inactive
Programmable	Touch	0 -100 seconds [1 sec intervals]	1 -240 seconds [1 sec intervals]	2 -240 seconds [1 sec intervals]	Inactive or Active Active: 1 - 72 hours Rinse Duration: 1 - 240 seconds

maintenance



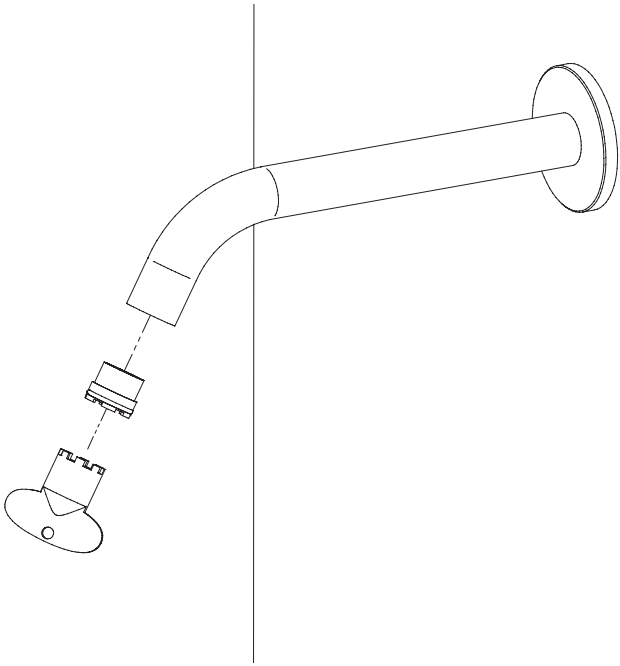
Changing the Battery

The system utilises a CR-P2 6V Lithium battery.

+ Unscrew and remove the enclosure cover and replace the battery (ensuring the correct polarity).
+ Affix the cover and tighten the screws making sure the cables are safely fed through the grooves in the enclosure cover.
+ Ensure the red LED lights up confirming the calibration sequence has begun and water flows from the tap for approximately five seconds.

WARNING: Do not make contact with the tap or sensor (incl. cables) during the calibration sequence. The sequence is only complete once the red LED goes out

maintenance



Changing the Aerator

+ Shut off the water supply to the tap.
+ Carefully unscrew the aerator using the supplied Aerator Key
+ Thread the new aerator taking care not to over tighten and damage the o-ring.
+ Reconnect water supply

Refer to Spare Parts & Accessories (page 30) for alternative aerators available.

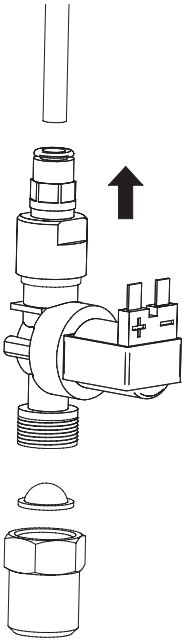
maintenance

Changing the Solenoid Valve

+ Shut off the water supply to the tap.
+ Disconnect the solenoid cable from the power supply.
+ Disconnect the solenoid valve from the brass reducing adaptor and the brass fitting attached to the mains water supply.
+ Remove the filter from the faulty solenoid valve.
+ Re-fit new filter to replacement solenoid valve.
+ Reassemble the parts as shown.
+ Restore the incoming water supply checking there are no water leaks.
+ Reconnect the solenoid cable to the power supply.

Note: the directional flow of water is shown on the solenoid housing with an arrow.

maintenance



Cleaning the Solenoid Valve Filter

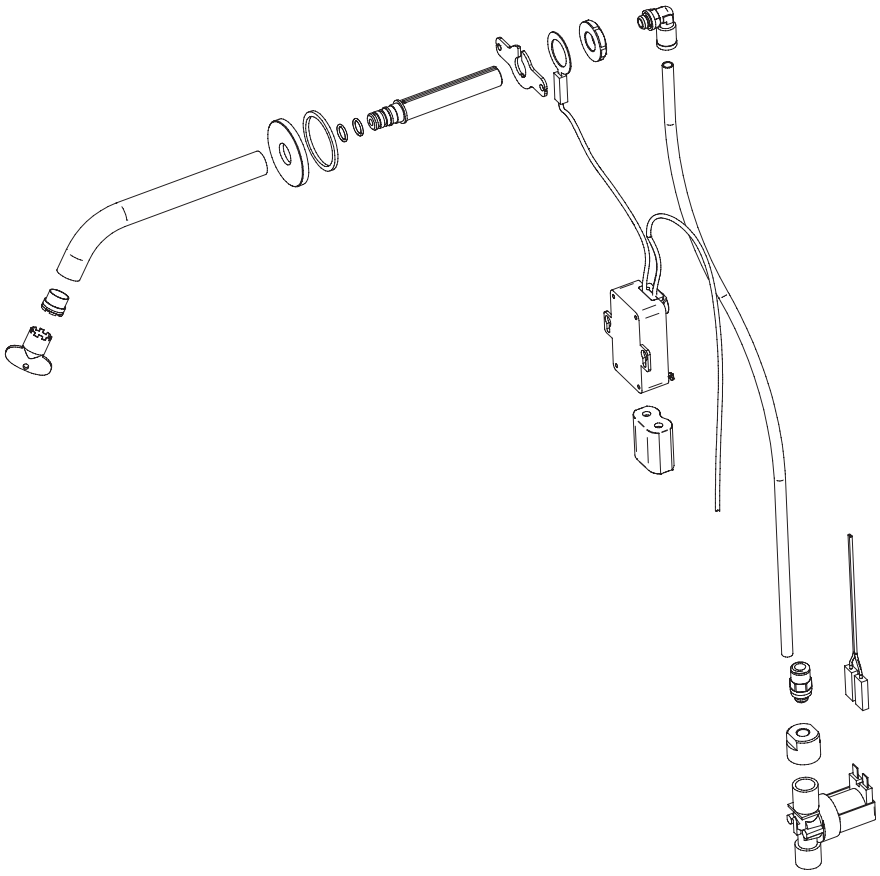
The tap is provided with a stainless steel filter preventing foreign particles to enter the lines. If the water flow has decreased, this may be because the filter is blocked.

+ Shut off the water supply to the tap.
+ Disconnect the solenoid cable from the power supply.
+ Disconnect the solenoid valve from the brass fitting attached to the mains water supply and locate the filter.
+ Wash the filter under running water to remove any debris.
+ Reassemble the parts as shown.
+ Restore the incoming water supply and check there are no water leaks.
+ Reconnect the solenoid cable to the power supply.

cleaning

+ Take extra care when cleaning decorative surfaces.
+ For surface cleaning of the tap use ONLY soap and water, then wipe dry with a clean cloth or towel.
+ DO NOT use steel wool or cleaning agents containing alcohol, acid, abrasives or the like.
+ Use of any prohibited cleaning or maintenance products or substances could damage the surface of the tap.
+ When cleaning bathroom tiles, the taps should be protected from any splattering of harsh cleansers.
+ For solenoid filter cleaning instructions see page 24.

diagram



troubleshooting

Corrective Actions for Initial Installation Failures

No water flow out of the tap when user's hands are within sensor range:

+ Low/empty battery
+ Range is too short
+ Range is too long
+ Debris or scale in the solenoid.
+ Unit is in "Security time-out" mode
+ Check polarity of solenoid valve cable connection is correct
+ Increase the sensitivity level using the AQUASTOP button.

Water flow does not stop when user's hands are within sensor range:

+ Debris or scale in solenoid diaphragm.
+ Cables between the power supply and solenoid valve are disconnected.
+ Check polarity of solenoid valve cable connection is correct
+ The water supply pressure is higher than 7.5 Bar.
+ Reduce the sensitivity level using the AQUASTOP button.

We are always looking to improve. If these steps did not solve your problem please contact us and we will endeavour to help.

Tel: +44 (0)161 482 7000

Email: technical@thesplashlab.com

troubleshooting

Corrective Actions for Initial Installation Failures

Slow response time when opening or closing solenoid valve:

+ Check the tap is well isolated from the ground or the water.
+ Check power supply and cables are not in contact with the inlet tubing or the any metallic components (e.g. metal studwork in the wall)
+ Check if any waste water pipes or components are metallic and replace with plastic equivalent.
+ Adjust the sensitivity settings using the AQUASTOP button

Water flow rate reduced:

+ Aerator or solenoid valve filter is clogged. Inspect inline strainer and clean if necessary.
+ Replace battery (see page 21).
+ Increase the sensor range (see page 20).
+ Decrease the sensor range (see page 20).
+ Reduce the water supply pressure.

Diagnostic LED (on power supply)

+	1 x flash	The battery level is too low and must be replaced
+	2 x flashes	The system is in Security time-out, or The system is in AQUASTOP mode
+	3 x flashes	The system cannot function correctly due to poor connection - check the installation

warranty

We believe the future is personal. With a global mindset, we challenge conventional restroom norms via product innovation to create considered washroom solutions for corporate and educational spaces. We use rich raw materials, cutting-edge automation and considered washroom design to powerfully and positively influence the lives of people. We are The Splash Lab.

Demonstrating our commitment to quality and our belief in the strength of our designs, we can offer the following warranties.

The Splash Lab will warrant that its products will be free of manufacturing and material defects during normal use and environmental conditions as detailed below:

Sensor taps 2 years' parts & labour

If a defect is found in normal use, The Splash Lab will, at their 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.

Non-operation of the product due to environmental conditions beyond our control, installation error, incorrect maintenance, water quality, fair wear and tear, incorrect or inappropriate installation, misuse and abuse is not covered by the warranty.

Proof of purchase (original sales receipt) must be provided to The Splash Lab with all warranty claims.

The above warranty is valid for goods supplied within the United Kingdom.

For goods supplied outside of the United Kingdom, The Splash Lab will honour the above stated warranty periods for the parts only.

THE SPLASH LAB DISCLAIM ANY LIABILITY FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

spare parts & accessories

Spare Parts

TSLP.120030	Solenoid valve assembly
TSLP.120032	Solenoid valve connector cable
TSLP.260020	Capacitive Sensor Kit
TSLP.270030	6V CR-P2 Lithium Battery
TSLP.260050	CACHE-TT Aerator Key
TSLP.260062	CACHE-TT Aerator PCA AERATED 3.8l/min [1.0gpm]

Accessories

TSLP.260051	CACHE-TT Aerator PCA Spray 1.35l/min [0.35gpm]
TSLP.260063	CACHE-TT Aerator PCA SPRAY 1.89l/min [0.5gpm]
TSLP.230099	Wired Controller

If further information is required, contact The Splash Lab technical team for more detailed guidelines

contact

General information

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+44 (0) 161 482 7000

Technical support

technical@thesplashlab.com

For further contact information visit:

www.thesplashlab.com