
ANTI STAGNATION OPTION

Legionella is a known issue where water stagnates and shower heads can atomise the water droplets. SOLO has the ability to run the shower for 10 seconds, 24 hours after the last shower activation. This provides a method of "flushing" the shower pipe in an effort to limit the potential bacteria build up in the pipe work. Switch 8 gives the option of choosing the 24 hour anti stagnation if required.

POWER SUPPLY

Each SL-SH1 controller must be supplied with 6Vdc power. Each power pack is supplied with a 1.8m lead and can connect directly with the power input lead described on Page 3. Alternatively 1 x power pack can supply power for up to 4x SL-SH1 controllers when supplied in conjunction with a SL-PP4 splitter box and the required number of either 4m or 8m extension leads. We recommend all extension leads be installed in conduit to allow for future maintenance.

If the SL-SH1 controller or splitter box is not within 1.2m of the GPO, then a power pack extension cable must also be ordered separately (SL-PP-E5-MF).

The 230Vac GPO should be installed according to relevant wiring regulations by a registered electrician.

PLUMBING

All plumbing must be completed by competent plumbing tradesman according to relevant laws and trade practices in country of installation.

1. Water to each solenoid valve should be tempered to an appropriate bathing temperature (38 - 43°C) using a quality thermostatic mixing valve - DV-TMV20 or similar.
2. Pressure should be in the 200 - 500kPa range - fit a Wilkins NR3 pressure reducing valve if necessary.
3. Ensure sufficient pipe sizing to allow necessary flow rate without water hammer. Fit a Wilkins Model 1260XL water hammer arrestor if necessary.
4. SOLO SL-SH1 does not control shower flow rate, this is the responsibility of the shower head used.
5. The solenoid valve supplied must be installed with the arrow on the body facing in the direction of water flow.
6. The solenoid lead supplied with SOLO controller is colour specific, ensure correct colour is fitted to the appropriate Faston quick connect terminal on the solenoid valve. The blue wire must connect to the + terminal. White wire connects to the - terminal.

DIAGNOSTICS

SOLO has an LED light behind the front cover which gives feed back depending on SOLO's status.

1. Under static conditions the LED will blink every 3 seconds indicating it has power.
2. When the solenoid has been activated the LED is fully lit for the duration of the ON time.
3. During a lock-out time phase, the LED will blink quickly.

SL-SH1 SOLO PIEZO ACTIVATED SHOWER CONTROL

SOLO



CONTENTS OF STANDARD PACK

1. 1 x 120 x 120 stainless steel face plate with piezo switch 4 x 1 1/2" Torx screws
2. 1 x 2 gang metal inwall flush box with SOLO SL-CM-SH Control Module fitted inside.
3. 1 x RP51 15-6-LC 1/2" M/M 6Vdc solenoid valve
4. 1 x SL-PP-E4 solenoid cable 4m
5. 1 x 0.15m piezo switch lead
6. 1x SL-PP6 6Vdc power pack with 1.8m lead

VALVE DESCRIPTION

SL-SH1 shower controller is designed to offer building owners an economical way of controller shower use in commercial buildings. SL-SH1 is piezo switch activated, controlling shower RUN times and delays after use (HOLD times), thus limiting use of shower to within preset boundaries.

SL-SH1 may be combined with MacDonald Security products that provide methods of mixing water - see separate information.

INSTALLATION

All components for SL-SH1 are extra low voltage and can be installed by plumber.

The SOLO control module is located on the inside of the flush box supplied and is secured to the box by velcro type fastening tape. SL-SH1 in its standard format is designed to be installed on a timber framed wall with an accessible duct directly behind. Additional optional extension leads are available for purchase to suit remote installations of solenoid and power pack.

1st Fix

Metal flush box supplied must be installed prior to wall lining, with face plate fixing holes at top and bottom of box. Box should be set no further than 19mm from finished face wall. Check for square. **We recommend the switch box be mounted outside the shower cubicle.**

Fit 3/4" conduit in wall to allow power pack lead and extension leads (if required) to be maintained.

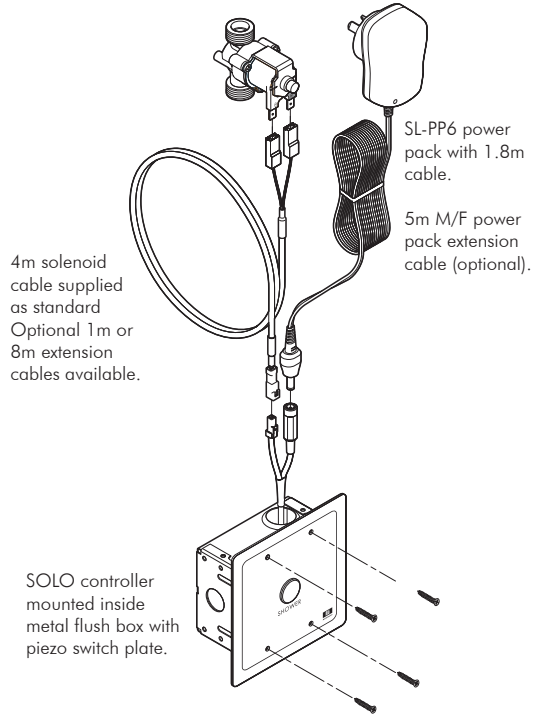
Complete plumbing installation and test for leaks. Do not subject solenoid valve to pressures exceeding rated values - 500kPa.

2nd Fix

Once all plumbing has been completed connect cables from control module to solenoid/piezo switch and connect power cable to control module.

There are two wiring looms on the control module;

1. Power loom has
 - a) power input connector for connection to the 6Vdc power pack lead.
 - b) power output lead for connection to the solenoid valve. This connects to the 4m solenoid extension lead that allows the face plate to be safely removed. The lead is terminated with 2 x large Faston quick connect terminals that are colour matched to the terminals on the solenoid valve. **Blue** connector fixes to **+** terminal, **White** connector fixes to **-** terminal.
2. Switch lead 300mm long with 2 x small Faston terminals for connection to the piezo switch. Faston connectors can connect to either terminal on the piezo switch.



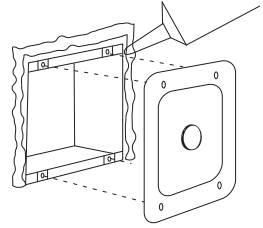
MACDONALD INDUSTRIES LIMITED INSTALLATION INSTRUCTIONS

Each SL-SH1 controller requires a 6Vdc plug pack. **The SL-PP6 is multi voltage output - check it is set to 6Vdc.** Each power pack is supplied with a 1.8m lead and can connect directly with the power input lead described above or via the optional 5m M/F power pack extension lead (order separately). We recommend all extension leads be installed in conduit to allow for future maintenance. 4-way power distribution is possible using the SL-PP-S4 splitter box. Where SL-SH2, SL-SH3, SL-SH4 models are to be installed the SOLO control modules will be powered via this box and 1x SL-PP6 power pack.

Switch power ON to control module and test shower for correct operation. Set program according to options shown below.

Once all functions have been thoroughly checked and proven to work correctly, screw face plate to flush box in shower enclosure.

NOTE: Although the piezo switches are fully water proof, it is necessary to seal behind face plate with a suitable silicon sealer to ensure water does not run into cavity behind.

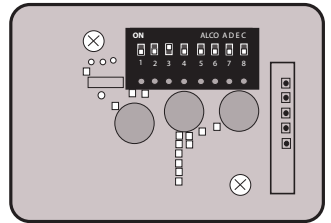


ALTERING RUN TIMES AND HOLD TIMES

SL-SH1 has a range of RUN time / HOLD time options. Remove cover on SOLO control module to reveal 8 way switch block as shown right.

Switches may be adjusted as per the chart below.
NOTE: Longer RUN times with lockouts (HOLD times) are available with a pulse (brief OFF and ON again) to warn users of imminent termination of shower. The pulse will occur 30 seconds and then again at 15 seconds from end of shower run time.

Pulse showers would normally be used for residential applications where longer RUN times are required. No pulse showers would normally be considered as "rinse" showers so would be suitable for use in swimming pools, beach ablutions etc.



PULSE SHOWER	HOLD TIME	NO PULSE SHOWER	HOLD TIME
Switches 1 2 3	Switches 4 5 6 7	Switches 1 2 3	Switches 4 5 6 7
▲▲▲▼ = 4 min*	▲▲▲▼▲ = 10 sec*	▼▼▼ = 15 sec	▼▼▼▼ = 0.25 sec
▲▼▲ = 6 min	▼▼▲▲ = 30 sec	▲▼▼ = 30 sec	▲▲▼▼▼ = 2 sec
▲▼▼ = 8 min	▼▲▲▲ = 2 min	▼▲▼ = 1 min	▼▲▼▼▼ = 10 sec
▲▲▲▲ = 10 min	▲▲▲▲▲ = 5 min		

▼ 0 = OFF
▲ 1 = ON

* default settings

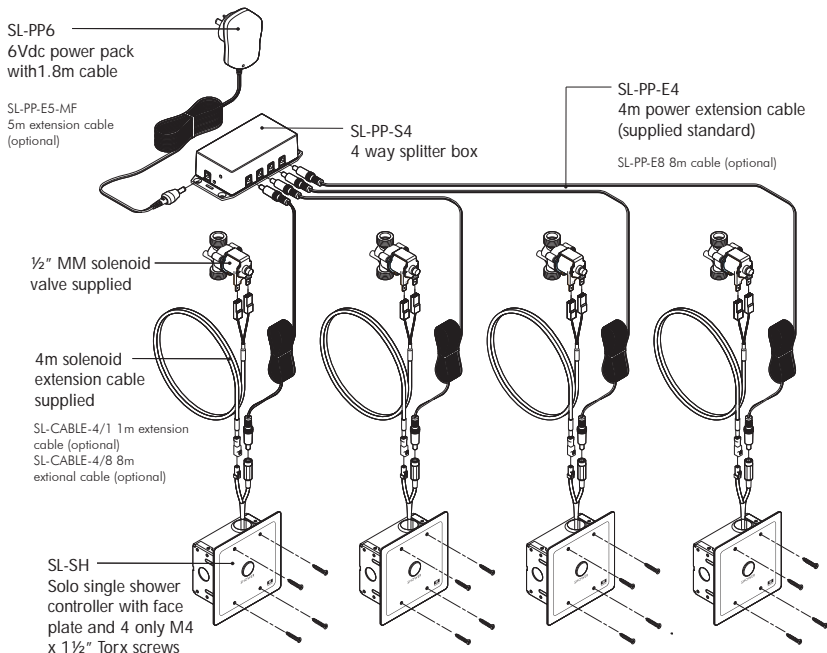
Switch 8

▲	ON
▼	OFF *

**24hr ANTI
STAGNATION**

SL-SH2, SL-SH3, SL-SH4 SOLO MULTI-SHOWER WITH SPLITTER BOX

SOLO SH1 is a standalone shower controller powered from 1 x power pack, however up to 4 x shower controllers can be powered from 1 x power pack with the use of the SL-PP-S4 splitter box and extension cables. Some careful measuring is required to ensure the correct size and number of extension cables are chosen. 4m power extension cables and 4m solenoid cables are supplied as standard however 8m power and solenoid cables are available at additional cost.



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