

Commercial Shower Panel

Installation Manual and User Guide

Fixed Head – AV Commercial Shower Panel Timed Flow	93011100
Flex Head – AV Commercial Shower Panel Timed Flow	93013100
Fixed Head – AV Commercial Shower Panel Timed Flow TMV2	93014100
Flex Head – AV Commercial Shower Panel Timed Flow TMV2	93015100

Important:

This product manual is the property of the customer and must be retained for maintenance and operational purposes



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FLOW VOLUME REGULATION

Flow volume (l/min) is controlled via a flow regulator (see page 15).

The last digit of the product code will designate the flow regulator pre-fitted, for example:

93014104:

Fixed Head – Stainless Steel – TMV2 Thermostatic – 4 l/m

93014105:

Fixed Head – Stainless Steel – TMV2 Thermostatic – 5 l/m

93014106:

Fixed Head – Stainless Steel – TMV2 Thermostatic – 6 l/m

SYSTEM DESCRIPTION

Fixed Head – Stainless Steel – Timed Flow – 93011100

Surface mounted stainless steel panel shower with a chrome plated fixed shower head and Kelda's patented water-saving technology within. Runs from a blended water supply (mixer not included) and adjustable timed flow is activated by a digital push button.

Fixed Head – Stainless Steel – Timed Flow TMV2 Thermostatic – 93013100

Surface mounted stainless steel panel shower with a chrome plated fixed shower head and Kelda's patented water-saving technology within. Includes TMV2 thermostatic temperature control and adjustable timed flow is activated by a digital push button.

Flex Head – Stainless Steel – Timed Flow – 93014100

Surface mounted stainless steel panel shower with a chrome plated adjustable shower head and Kelda's patented water-saving technology within. Runs from a blended water supply (mixer not included) and adjustable timed flow is activated by a digital push button.

Flex Head – Stainless Steel – Timed Flow TMV2 Thermostatic – 93015100

Surface mounted stainless steel panel shower with a chrome plated adjustable shower head and Kelda's patented water-saving technology within. Includes TMV2 thermostatic temperature control and adjustable timed flow is activated by a digital push button.

Important Safety Information

This product is not a substitute for a shower control (mixer/valve) unless "TMV2 Mixer" model is specified. This product is not an electric shower.

Products manufactured by Kelda Showers are safe and without risk provided they are installed, used and maintained in good working order in accordance with instructions and recommendations.

IMPORTANT! DO NOT operate the unit if the shower head becomes damaged.

IMPORTANT! DO NOT restrict flow out of shower by placing an obstruction in front of the shower head nozzles.

GENERAL

1. Read all of these instructions and retain them for later use.
2. DO NOT take risks with plumbing or electrical equipment.
3. Isolate electrical and water supplies before proceeding with the installation.
4. The shower panel unit must be mounted onto the finished wall surface (on top of the tiles). DO NOT tile up to or seal around ANY PART of the shower panel after installation.
5. The shower head must be cleaned regularly with descalent to remove scale and debris. The air hoses must be cleaned periodically to maintain performance and hygiene. PLEASE SEE MAINTENANCE SECTION (page 14).
6. This product is not suitable for mounting into steam rooms or steam cubicles.
7. The shower panel should not be installed in an outdoor environment, including sheltered areas.

PLUMBING

1. The plumbing installation must comply with water regulations, building regulations or any particular regulations as specified by local water company or water undertakers and should be in accordance with BS EN 806 (Specifications for installations inside buildings conveying water for human consumption. Operation and maintenance).
2. **IMPORTANT! The supply pipes must be flushed to clear debris before connecting to the shower head water inlet.**

3. DO NOT solder pipes or fittings within 300mm of the supplied hoses, as heat can transfer along the pipework and damage components.
4. DO NOT use excessive force when making connections to the flexible hose, solenoid or mixer.
5. All plumbing connections must be completed before making the electrical connections.
6. Kelda products are designed to operate between 1 bar (0.1 MPa) and 5 bar (0.5 MPa). If you wish to operate outside of this please discuss with a Kelda Engineer.

ELECTRICAL

1. The installation must comply with BS 7671 'Requirements for electrical installations' (IET wiring regulations), building regulations or any particular regulations as specified by the local electrical supply company.
2. In accordance with 'The Plugs and Sockets etc. (Safety) Regulations 1994', this appliance is intended to be permanently connected to the fixed wiring of the electrical mains system.
3. Make sure all electrical connections are tight to prevent overheating.
4. A 32A 30 mA Residual Current Circuit Breaker with over current protection (RCBO) MUST be installed in all UK electric and pumped shower circuits. This may be part of the consumer unit or a separate unit (see page 11).
5. Other electrical equipment i.e. extractor fans and pumps must not be connected to the circuits within the unit.
6. Each shower must be connected to a 3A switched fused spur which is easily accessible by maintenance staff. Switch off at fused spur for maintenance or if not in use for extended periods. This is a safety procedure recommended with all electrical appliances.
7. As with all electrical appliances it is recommended to have the shower and installation checked at least every two years by a competent electrician to ensure there is no deterioration due to age and usage.

Contact Customer Service (see page 21), if any of the following occur:

- a) If it is intended to operate the shower at pressures above the maximum or below the minimum stated.
- b) If the unit shows a distinct change in performance.

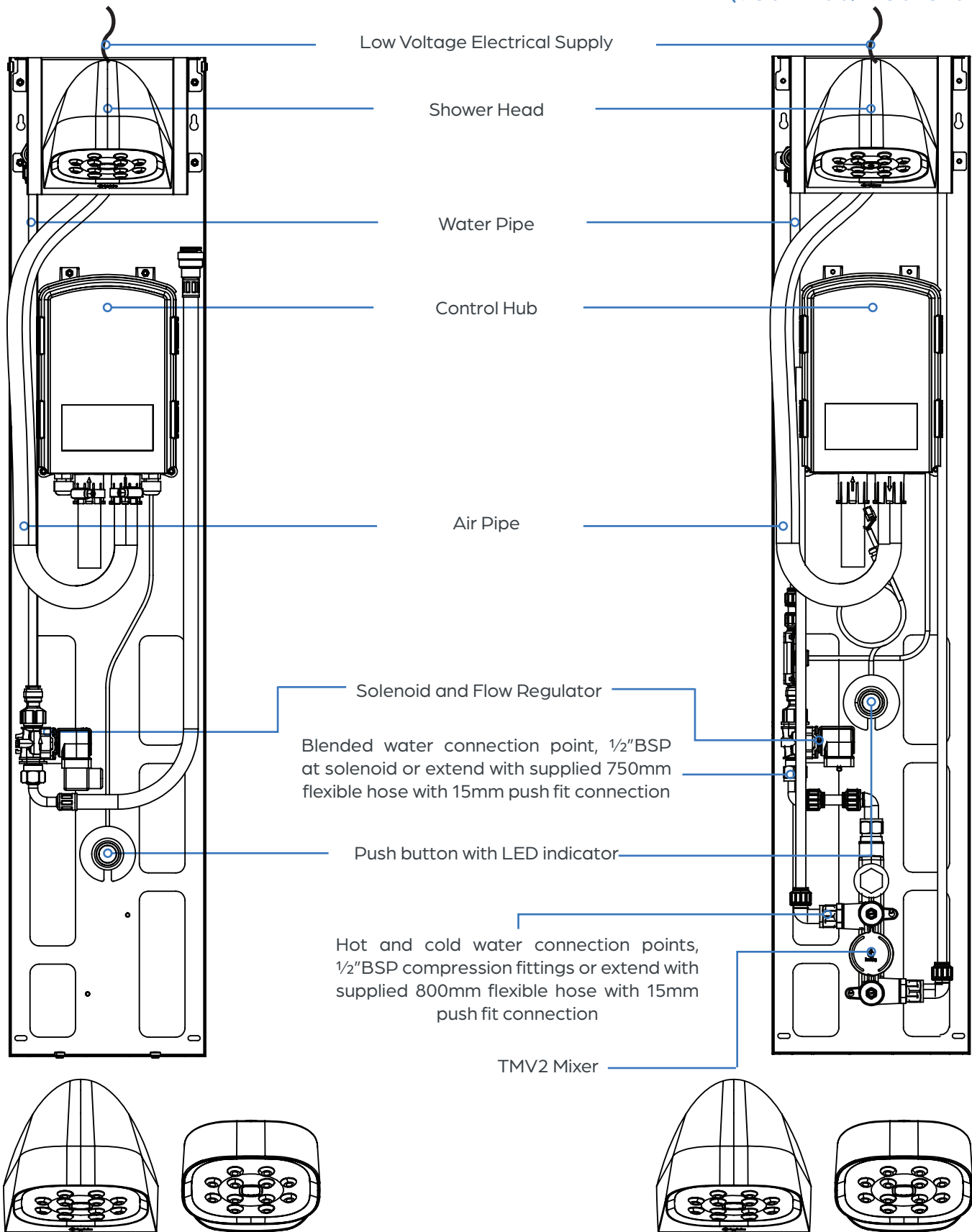
Description

Timed Flow

(93011100 / 93013100)

Timed Flow TMV2

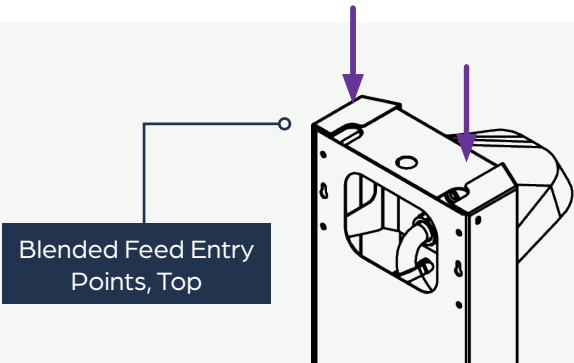
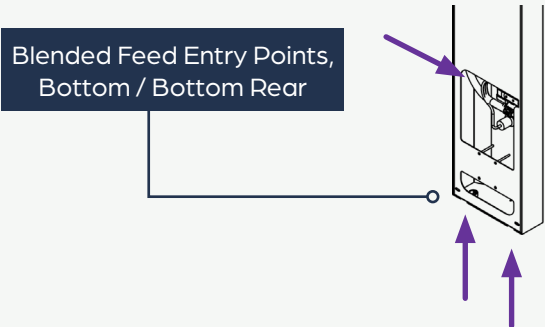
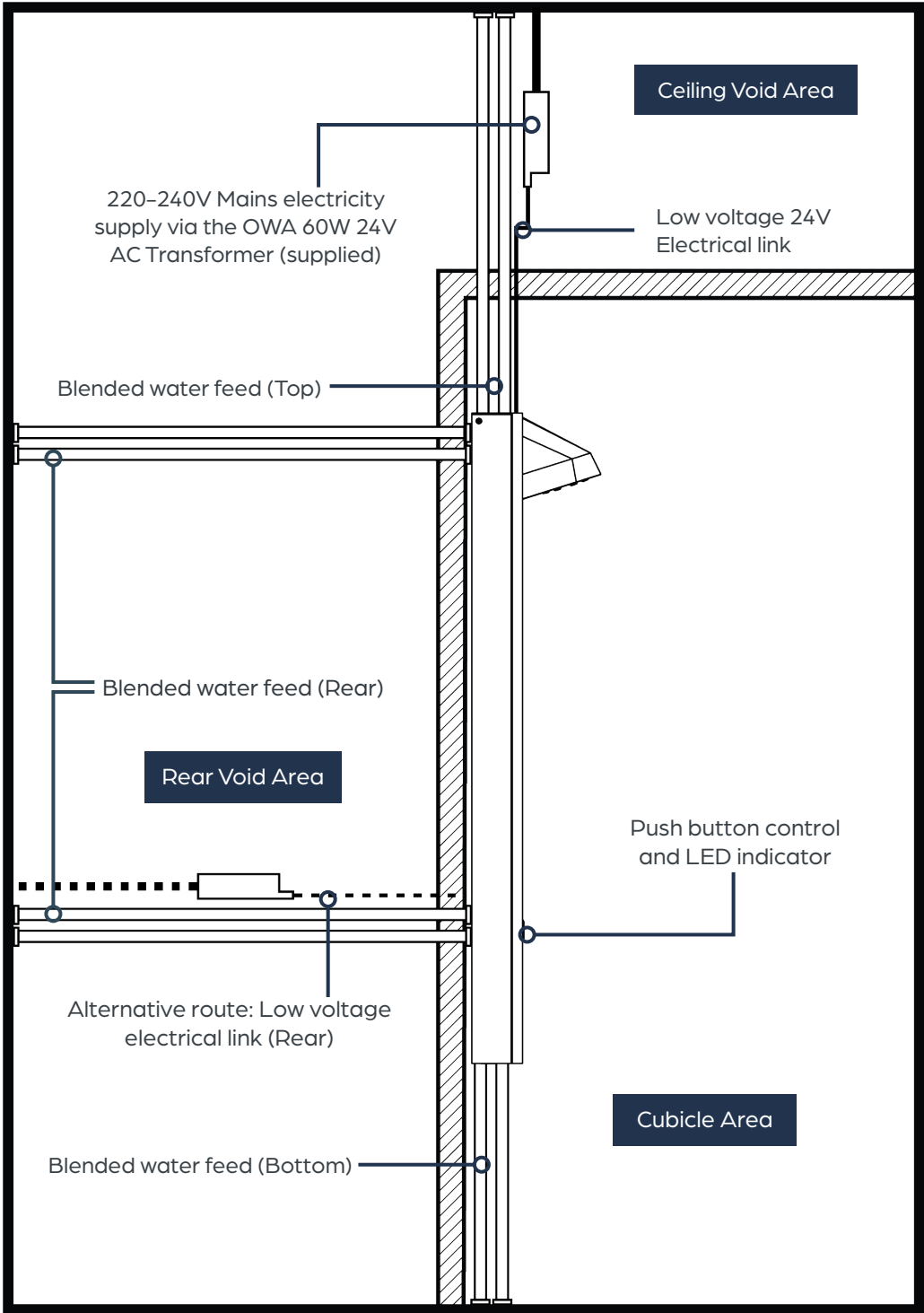
(93014100/ 93015100)



This instruction manual uses the Fixed AV Head Commercial Panel (93011100/93014100) by default for all installation figures, however the Kelda 12 Nozzle Flex Head (93013100/93015100) is also available for both Timed Flow and TMV2 versions of the shower panel.

System Diagram

Timed Flow (93011100 / 93013100)

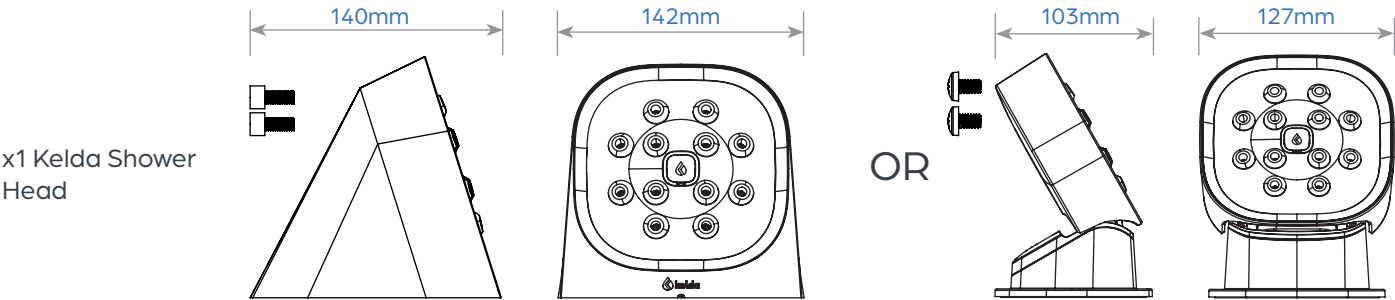


Specification

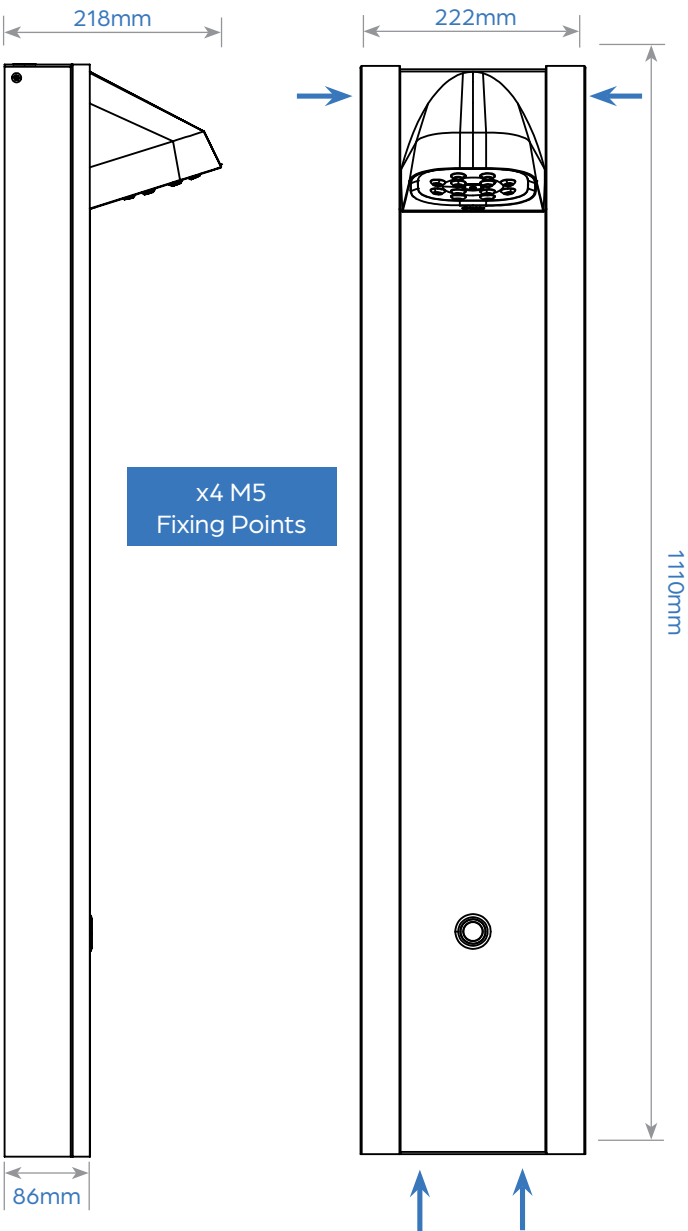
Timed Flow (93011100 / 93013100)

You should have the following assemblies within your high-efficiency Commercial Panel order:

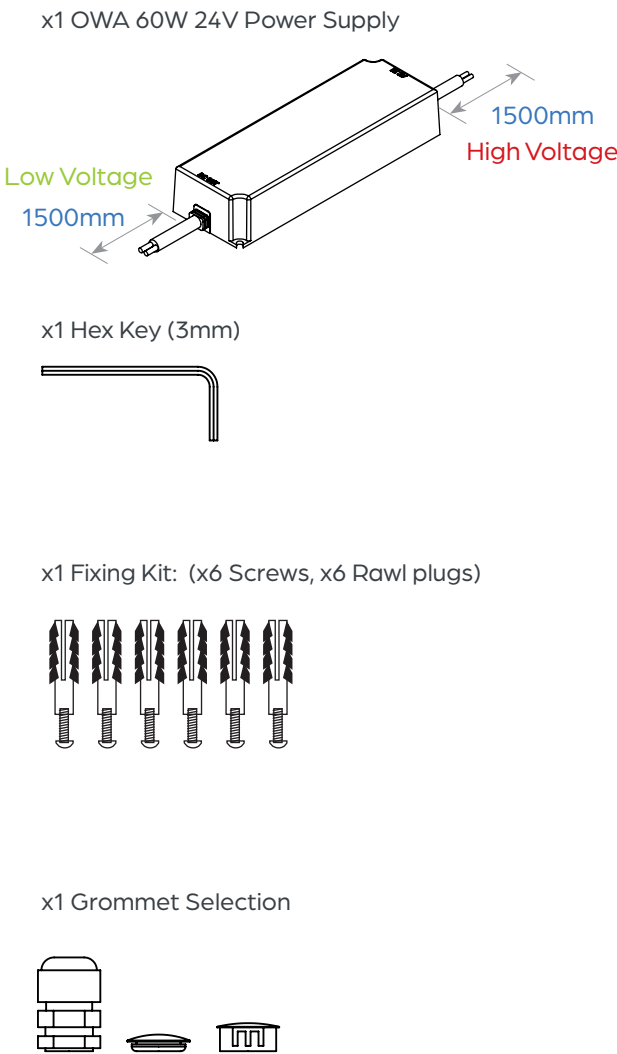
1 Shower Head



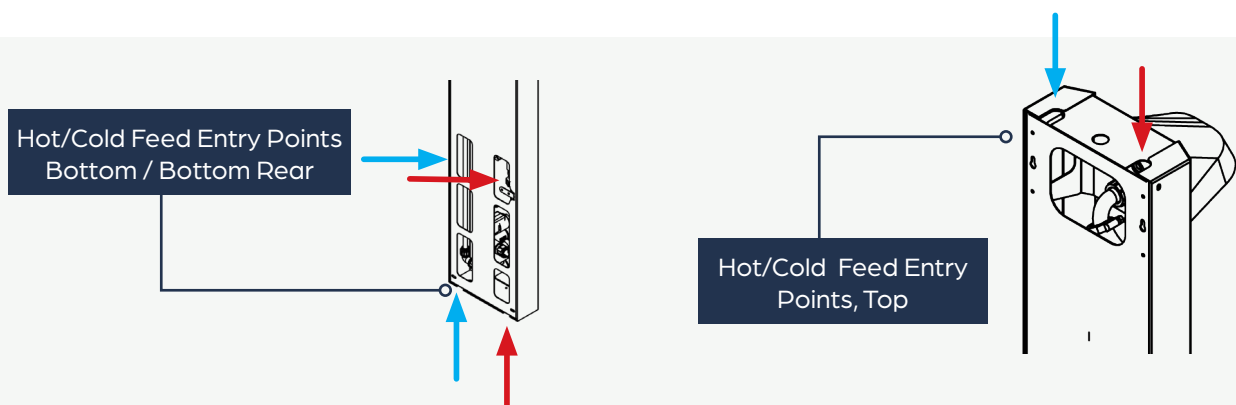
2 Panel



3 Installation



Timed Flow TMV2 (93014100 / 93015100)

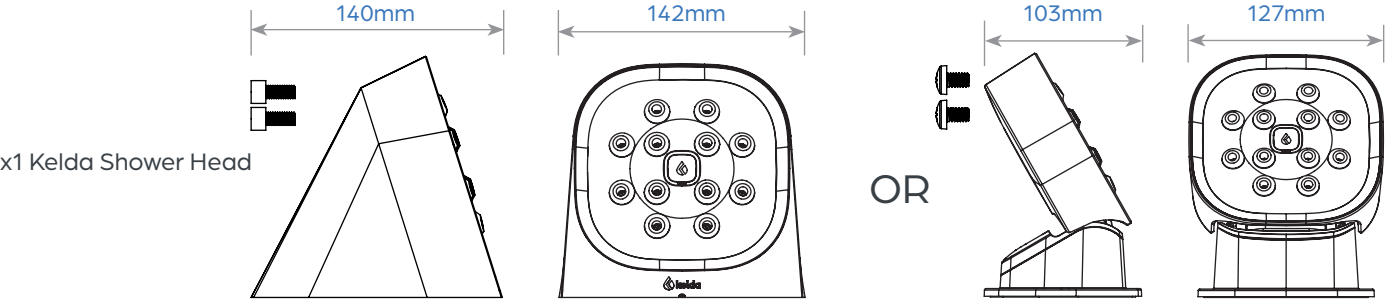


Specification

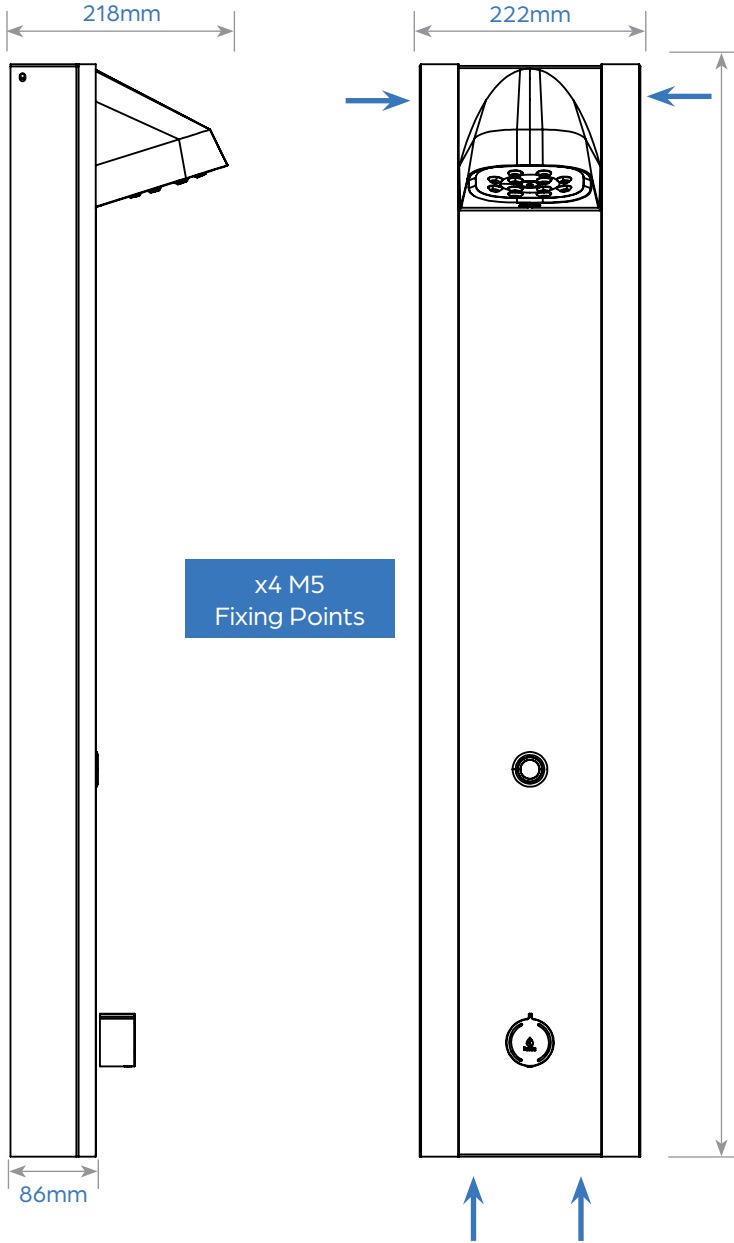
Timed Flow TMV2 (93014100 / 93015100)

You should have the following assemblies within your high-efficiency Commercial Panel order:

1 Shower Head

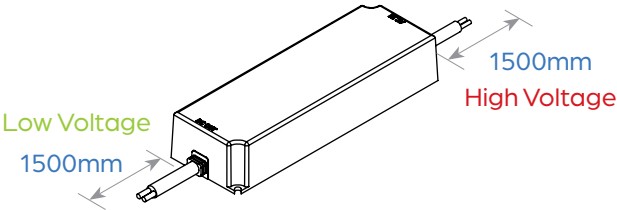


2 Panel



3 Installation

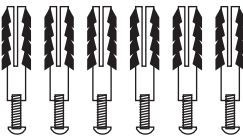
x1 OWA 60W 24V Power Supply



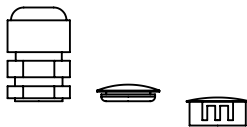
x1 Hex Key (3mm)



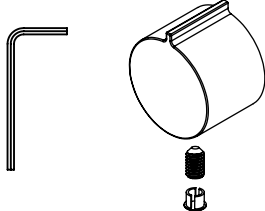
x1 Fixing Kit: (x6 Screws, x6 Rawl plugs)



x1 Grommet Selection

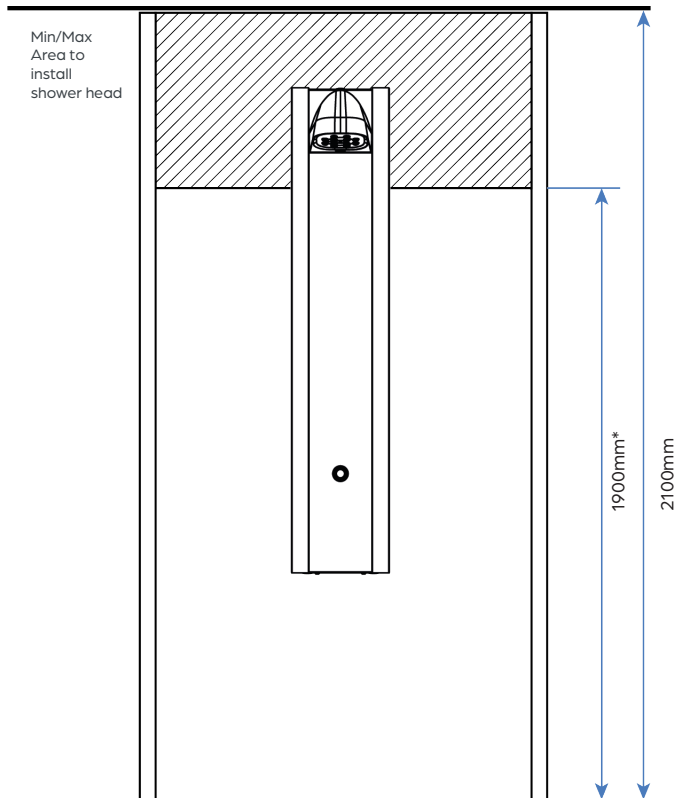


x1 Temperature Knob Assembly with 2.5mm Hex Key



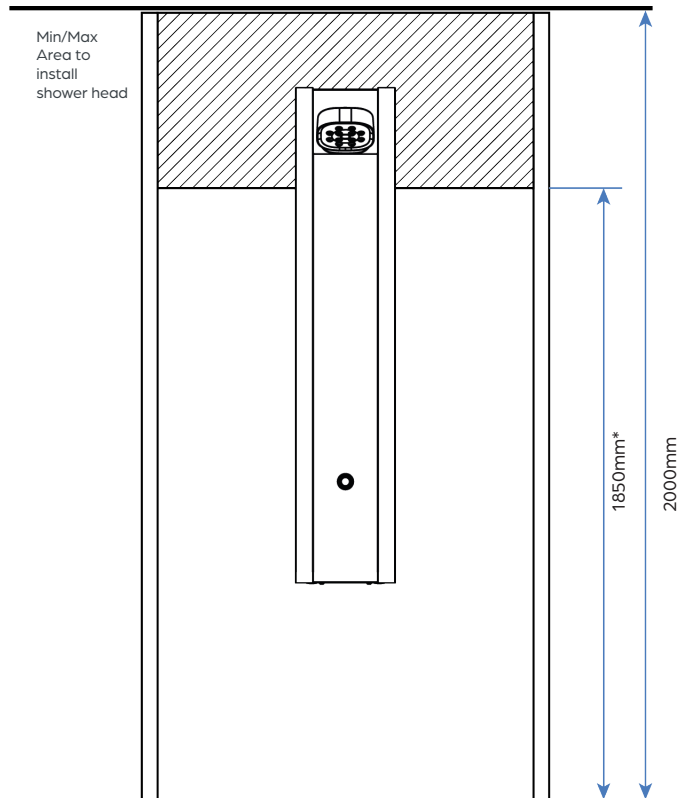
Typical Siting of the Commercial Panel

Fixed Head 93011100/93014100



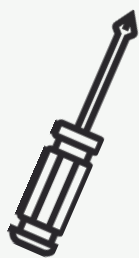
*Installation should be completed to suit the user's requirements.

Flex Head 93013100/93015100



*Installation should be completed to suit the user's requirements.

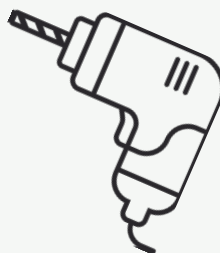
Tools needed for installation



Pozi screwdrivers to fit PZ1 and PZ2



Pencil to mark drill holes



Drill with 6mm drill bit for rawl plugs



Spirit level

Warning!



- When the Control Hub is installed, the 3A fused spur switch must be within easy reach
- Do not use extensions or multiple sockets
- The power supply cable must never be bent or dangerously compressed

Valve Temperature Setting/Resetting

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

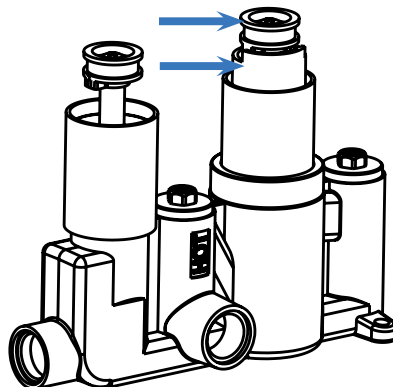
- 44°C for bath fill (but see notes below)
- 41°C for showers
- 41°C for washbasins
- 38°C for bidets

The mixed water temperatures must never exceed 46°C. The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures. Note! 46°C is the maximum mixed water temperature from the bath tap.

The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths. It is not a safe bathing temperature for adults or children. Please note that 37°C – 37.5°C is a comfortable temperature for children to bath in according to the British Burns Association.

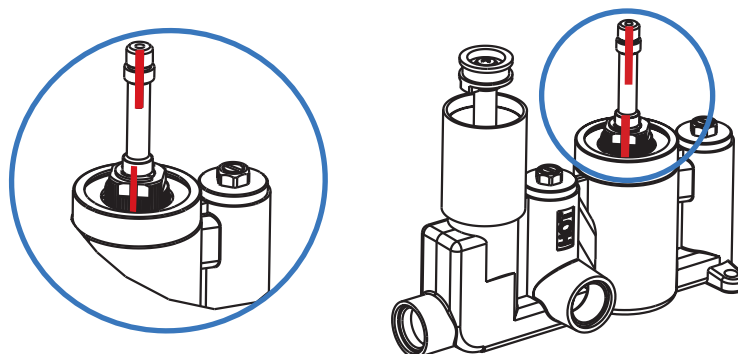
Supply water temperature may differ from setting to setting. If the difference is significant then we recommend you calibrate the valve to suit the requirements of your installation as follows:

1



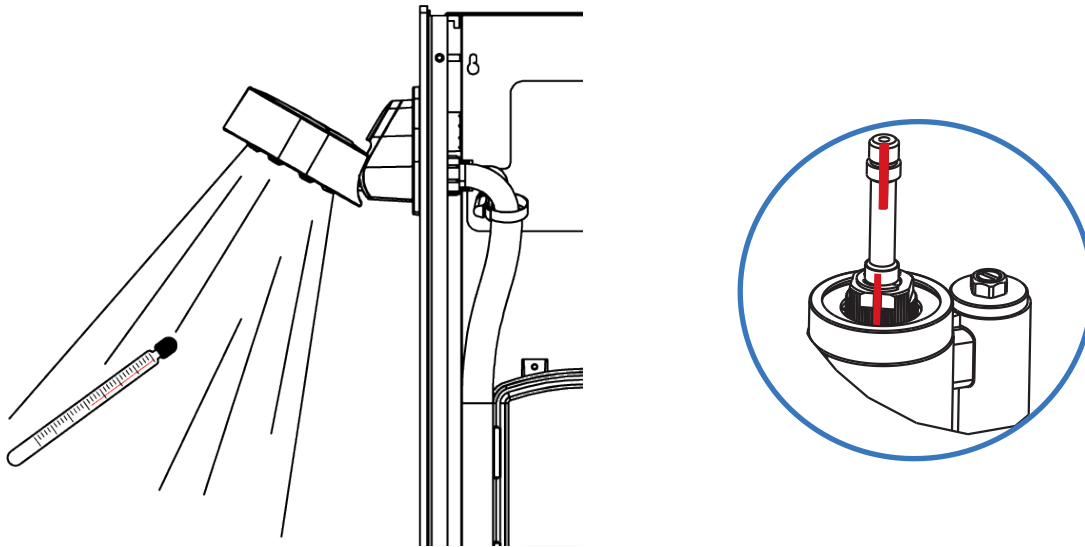
Remove the screw, handle adaptor and temperature control ring from thermostatic cartridge.

2



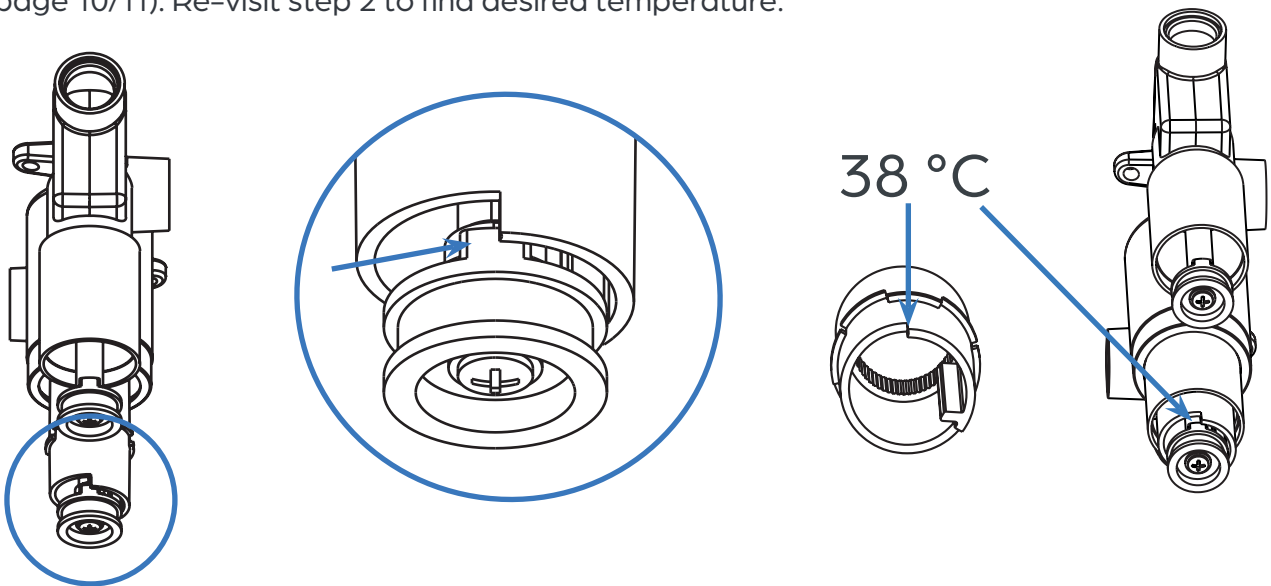
There are two painted lines on the thermostatic cartridge. Keep them in one line, and then turn the spindle anti-clockwise when the water tests colder/clockwise when the water tests hotter. Measure the water temperature on the outlet by thermometer and adjust to the required temperature.

3



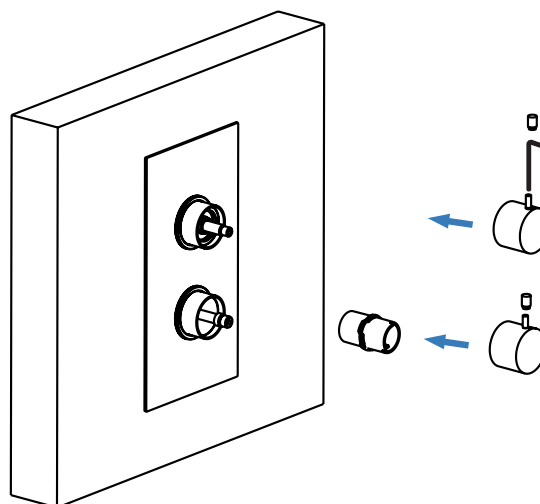
Test temperature of water using thermometer once water supply has been attached to shower head (see page 10/11). Re-visit step 2 to find desired temperature.

4



Re-fit the handle adaptor and make sure the protrusion at the bottom points to the 12 o'clock position. Secure the screw.

5



Re-fit the temperature control ring back to point to 12 o'clock position as well as handles.

Installation

Panel



Remember!

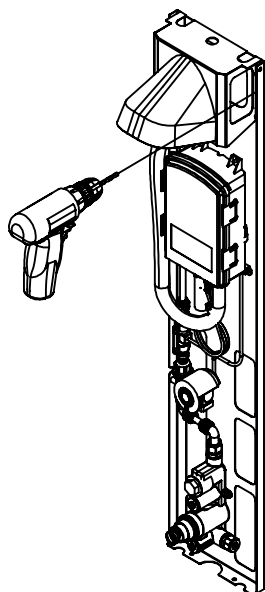
Always check for hidden pipes + cables before drilling.

Read through to the end prior to commencing installation.

Run water through plumbing to clear debris from pipework before connecting to Kelda panel.

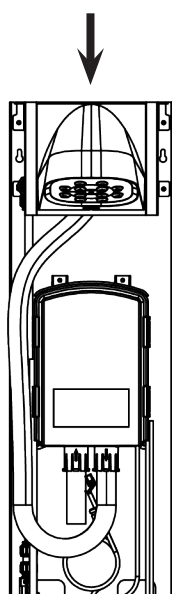
Take caution when removing the front cover as the Digital push button is attached to the Control Hub with a cable.

1



Remove the front cover by unscrewing the four M5 Hex screws. Using the shower fixing bracket, mark and drill holes for shower fixing bracket on the wall of the shower cubicle and secure bracket using the rawl plugs and screws supplied.

3

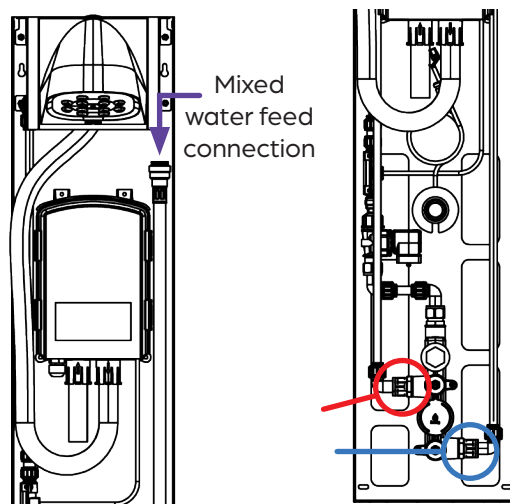


Run the low electrical power cable from the power supply, protected by 32A 30mA RCBO and 3A switched fused spur in compliance with all IEEE standards and local building standards and regulations, to the control hub. See page 11 for connecting power supply cable to hub.

2

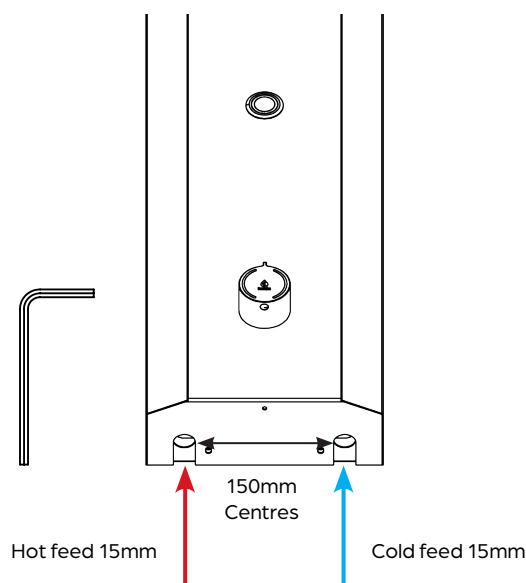
Timed Flow
(93001000 / 93003000)

Timed Flow TMV2
(93002000/ 93004000)



Connect blended water feed either directly to 1/2" BSP Solenoid connection, or use flex hose provided with 15mm push fit connection. For TMV2 panel, connect hot and cold feeds to TMV2 mixer 1/2" BSP compression fittings. Flex hose extensions are supplied with 15mm push fit connections. See TMV2 mixer instructions for commissioning and servicing details.

4



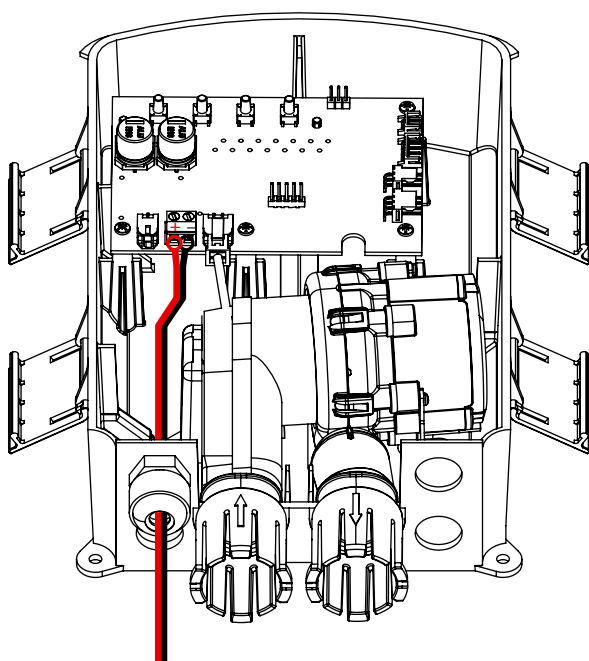
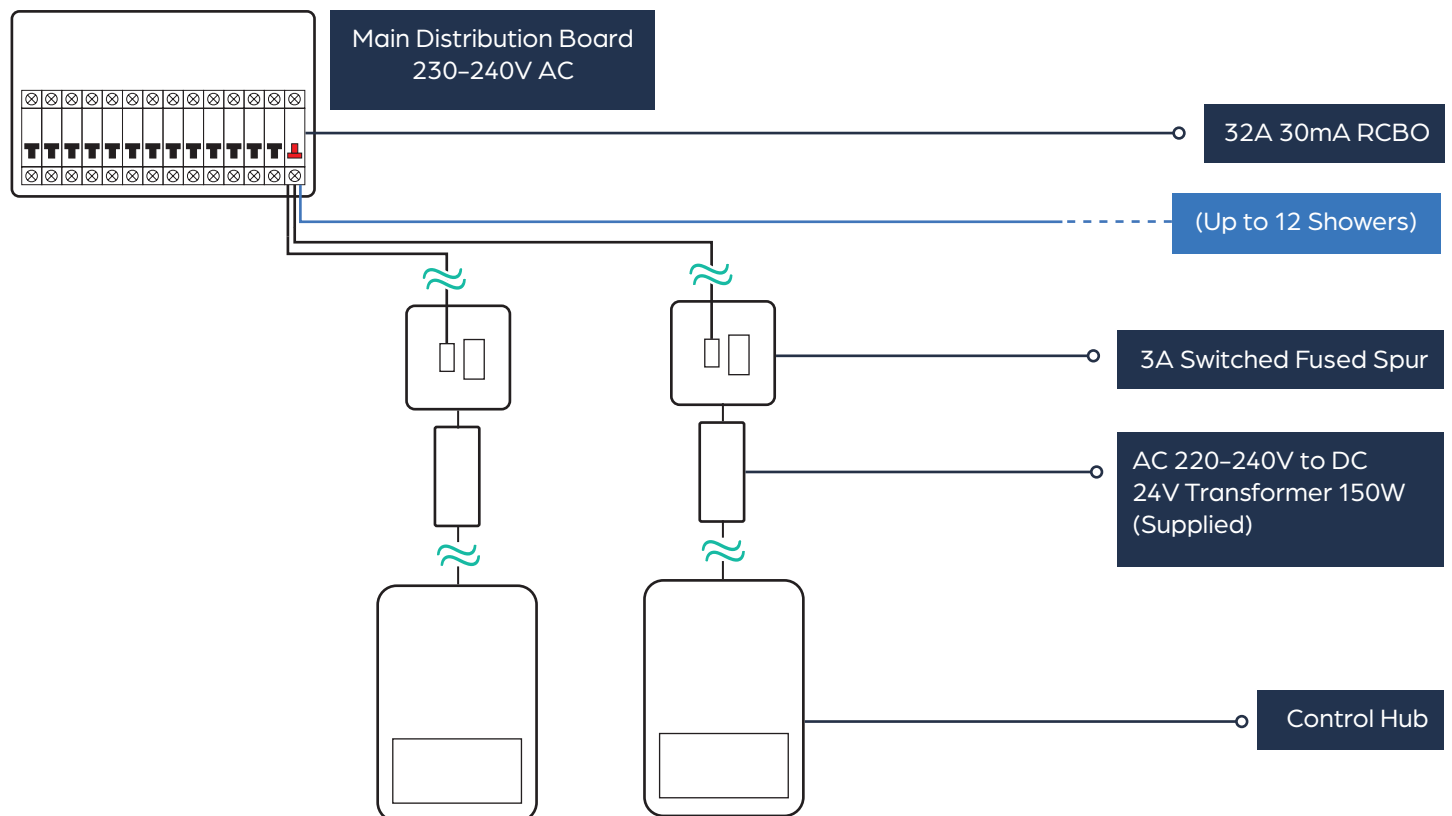
Take care to ensure cables and pipes are not bent and/or pinched when front panel is fitted. Secure front panel with M5 Hex screws using supplied Hex key. For TMV2 panel, fit control handle with Hex key provided.

Electrical Installation

This shower requires a 230–240 VAC, 47 ~ 63Hz single phase supply. A single 3 Amp switched fused spur should be used for each Panel. Up to 12 Kelda showers can run from a single 32A 30mA RCBO.

Before connecting to power supply, make sure that the mains terminal is able to sustain 240V and 3A. All electrical installation to be carried out by an approved electrician in accordance with Part "P" U.K. Building Regulations and to the latest IEEE standards, or the appropriate regulations in the country of installation.

Only the power supply and cables provided by Kelda Showers can be used. Damaged power supplies and cables should be scrapped, other power supplies or cables cannot be used. Contact Kelda Showers for a replacement.



Electrical Connection

1. Thread the power supply cable through the 16mm cable gland in the front left of the Control Hub
2. Connect the cable to the 24V power terminal shown. (Red must be connected to positive pole and black must be connected to negative pole)
3. Using a 3mm flat screwdriver, tighten the connections down and tighten gland nut onto cable

Factory Settings

Air Volume

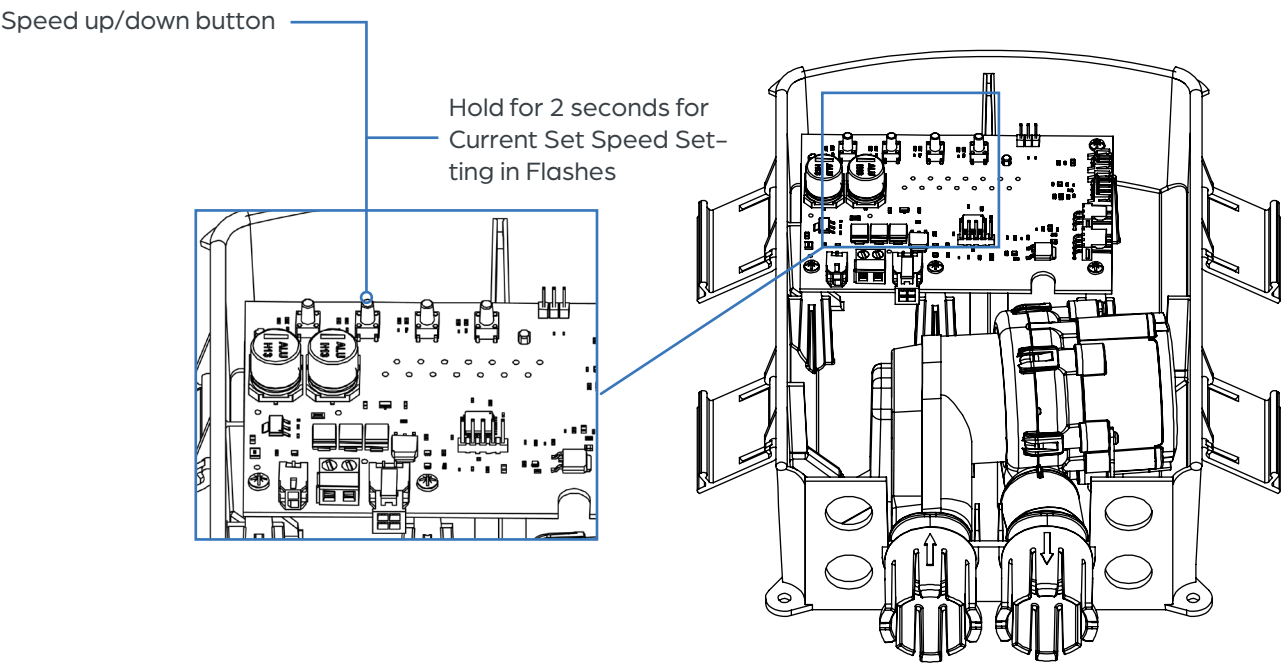
Your Kelda panel shower will have a different fan speed setting depending on what shower head and water flow rate your product has. This will be set at the factory.

The control hub will automatically adjust fan speed to match minor changes in flow rate which may result from changes in water pressure.

However the fan speed can be manually changed if, for example, the flow regulator is changed to a different value or for other site-specific reasons.

Changing the Fan Speed (6 settings)

- 1. The panel fan settings are pre-set by the factory.
- 2. To change the fan speed settings, press 'FAN' button once. (There are 6 speed settings: 1-6)
- 3. To display current fan speed set, press and hold 'FAN' button for 2 seconds. The number of LED flashes corresponds to the speed setting selected.



Control Hub with Lid Removed

Fan Mode Settings

	Fan Mode	LPM
Dynamic	1	4-6
Dynamic	2	4-6
Dynamic	3	4-6
Static	4	4
Static	5	5
Static	6	6

Dynamic = Flow Sensor Present (Non-Timed Flow)

Static = Time Flow variants (Solenoid Operated)
(93011100, 93013100, 93014100, 93015100)

- 1. Factory setting is Fan Mode 3 for all TMV Variants
- 2. Fan Modes 1 and 2 can be used to fine tune performance if necessary
- 3. If changed, the new Fan Mode remains as default, even after the power has been cycled.

Factory Settings

Time Delay Feature

- The factory setting is set at **30 seconds (3 LED Flashes)**
- Press TMR button once, the number of LED flashes next to the button indicate what timer setting the Control Hub is currently set at. (There are 7 timer settings: 10s, 20s, 30s, 45s, 60s, 90s & 120s)

Air Overrun Function

The system has an air overrun function which allows the air to continue to operate for approximately 1 second after the water flow stops. This function purges the water from the shower head, reducing the build up of limescale.

Fan Test Function

Hold down the FAN button for 5 seconds to check the fan runs correctly. Holding the TMR button will run both the fan and the water supply. The water supply should be isolated for this function to prevent unwanted water spray.

Fan Overheat Protection

In the unlikely event of the fan overheating from being obstructed with debris or being continuously run in a hot environment, then a protection mode will be triggered with reduced fan speed and fast LED flash on Hub. The fan will return to normal operation once debris is cleared or the temperature returns to operational level.

Operation

1. Turn on the water isolation valve.
2. Turn on the electricity supply.
3. Check the shower panel is powered.
4. To operate, press the timed flow sensor button. Both air and water should flow from the showerhead.
5. If a mixer is present, the temperature can be increased by rotating the control knob clockwise. The temperature can be decreased by rotating the control knob anti-clockwise.

Congratulations, you're now ready to experience the greenest shower in the world and start saving water and energy costs!

Purge Operation

This shower panel has a purge feature used to prevent long periods of stagnant water. The water and air will run intermittently without actuation. To activate this, follow the instructions below:

1. There are three settings of purge frequency, designated by the P.FREQ button, and three settings of purge length, designated by the P.LEN button
2. Pressing the P.FREQ button will increase the purge frequency level. Each level is indicated by the number of LED flashes produced after holding the button down for 5 seconds: Level 1 = 0 days (deactivated), level 2 = 7 days and level 3 = 14 days
3. The setup for the P.LEN button is the same: Level 1 = 30 seconds, level 2 = 60 seconds and level 3 = 120 seconds
4. This automatic purge feature will allow running of the shower after a period of time (set by P.FREQ button) of not being used for a set amount of time (set by P.LEN button) for each purge

Troubleshooting

Symptom	Likely cause	Action/Remedy
System does not operate fully (reduced or no water flow):	Hot or cold water supply isolation valve closed	Check and open valve
	Debris has caused blockage in thermostatic mixer, or group mixer	Isolate mixer and service strainers and cartridge see mixer instructions to service
	Pressure difference between hot and cold supplies is too high	Adjust screws on mixer to balance. Or fit pressure reducer on high pressure supply
Water flows from shower head but no air:	Fan is not running	if so check seal of air hose connections and that hose is kink free
	Power is not being supplied	If no check electricity supply
		Conduct hard reset by switching off electrical supply and waiting 10 seconds before turning on
	Debris in fan	Clear any debris from fan and follow Fan Test Function p.15
		If fan runs then check flow sensor is not jammed or faulty
Temperature fluctuating:	Thermostatic control/Boiler issue	Check thermostatic mixer valve/boiler for an issue, call a specialist if necessary
Poor/no water flow:	Blocked water filter/strainer	Isolate water supply and service strainers in mixer or group mixer
Water flow too strong:	Flow restrictor not installed	Check if the flow restrictor is properly installed (in Solenoid flow)
Water flow continuing after fan has stopped:	Debris or limescale build up in Solenoid valve	Check Solenoid and replace if necessary
Inconsistent water flow:	Debris or limescale build up in Solenoid valve	Check Solenoid and replace if necessary

Maintenance

Kelda Showers products are designed for easy maintenance and should give continued superior and safe performance, provided:

1. Kelda Showers products are installed, commissioned, operated and maintained in accordance with this installation guide.
2. Periodic attention is given as necessary to maintain the product in good functional order.

Guidelines for frequency are given below. Maintenance must be carried out in accordance with these instructions, and must be conducted by designated, qualified and competent personnel. Children are not to perform maintenance. Kelda showers are built with the highest quality components which are designed for a long life, but due care must be taken during maintenance to avoid damage.

Daily/Weekly Hygiene

External surfaces of the chrome plated showerhead wiped clean with soft cloth and a mild detergent. Take care not to get detergents on to stainless steel. Stainless steel should be regularly cleaned with warm water and soft cloth, taking care to remove any dirt and remnants of shampoo or soap. See "Stainless Steel Care" for more details.

Quarterly Hygiene*

Shower heads to be dismantled to clean, de-scale and sanitise main shower head components. Please see instructions for dismantling and reassembling head for cleaning. Unlike a conventional showerhead a Kelda showerhead is highly unlikely to block due to limescale and so service timings can set purely for hygiene.

*This service point can be adjusted to suit site specific maintenance regime and shower usage levels.

Bi-Annual Visual & Hygiene

Check internal component condition of the shower head and hoses. Inspect for debris, scale deposition, deformation, damage, etc. Maintain or renew if necessary. Instructions for cleaning and disinfecting air hoses are given in this booklet.

Shut off water supply, check stop valves then remove and clear filters of debris. These may be located in thermostatic mixer if an one is fitted.

If a mixer is fitted into panel then please follow maintenance guide which is specific to that model of mixer.

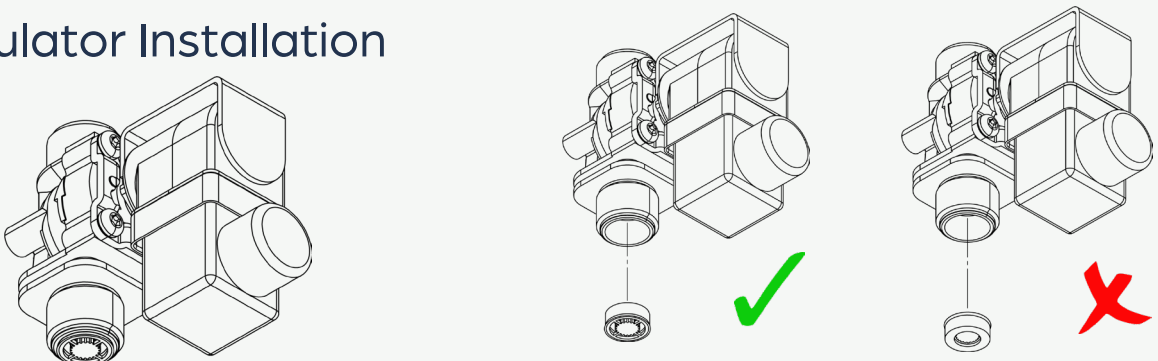
Stainless Steel Care

Stainless steel requires regular cleaning for to keep its anti-corrosion properties, this can be done just with a soft cloth and warm water. Glass cleaner can be used to remove fingerprints (we advise you spot test the use of any cleaner first).

Chlorine, bleach, detergents, shampoos and soaps can all strip stainless steel of its anti-corrosion properties and if left uncleaned this can result in rust spotting. If you believe any of these substances have been in contact with the stainless steel or if the panels need cleaning following a period of neglect, then use a stainless-steel cleaner – these are widely available but stop test any cleaner first.

If cleaning has been missed and rust spotting has occurred, then vigorous cleaning with stainless-steel cleaner can bring back original anti-corrosion properties.

Flow Regulator Installation

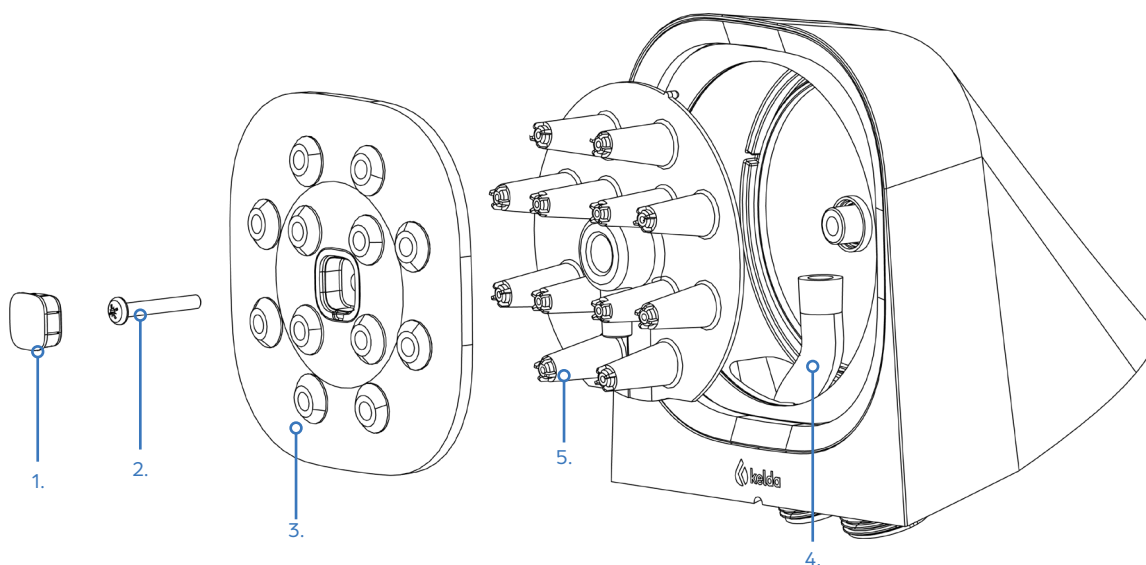


Instructions for Disassembling and Reassembling Shower Head for Cleaning

1. Remove the fascia plate screw cap with a small flat head screwdriver (1).
2. Remove centre screw using a Pozidriv PZ2 screwdriver ensuring the fascia plate (2) and atomisation engine (3) are held until screw removed.
3. Slowly lower fascia plate and atomisation engine.
4. Carefully detach the rubber hose from the water chamber (4) ensuring not to remove the hose from the other end.
5. Carry out clean, de-scale and sanitisation of shower head components using industry standard cleaning products.
6. To reassemble, follow steps in reverse. Take care to correctly align nozzles (5).

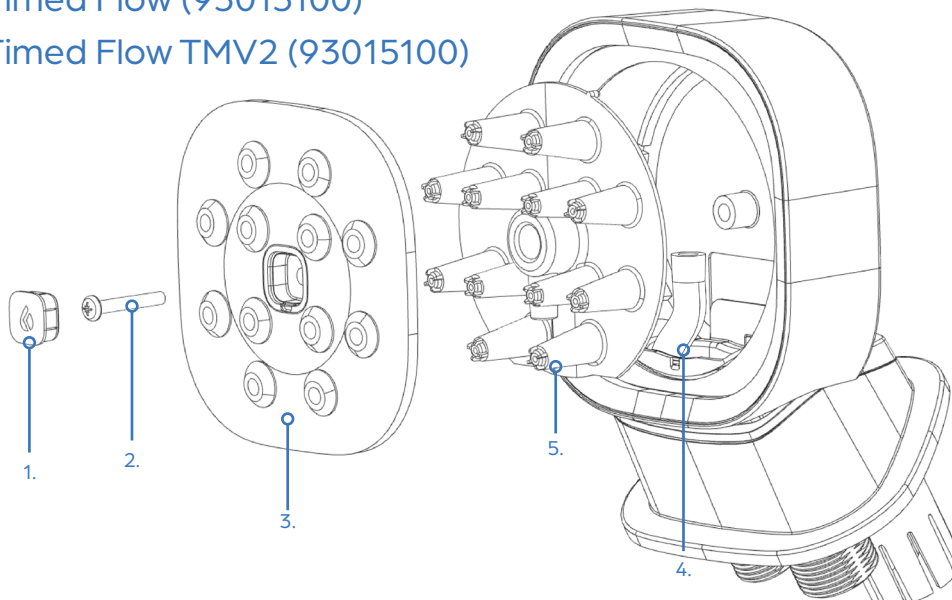
Fixed Head for Timed Flow (93011100)

Fixed Head for Timed Flow TMV2 (93014100)



Flex Head for Timed Flow (93013100)

Flex Head for Timed Flow TMV2 (93015100)



Maintenance

Cleaning and Disinfection of Air Hoses

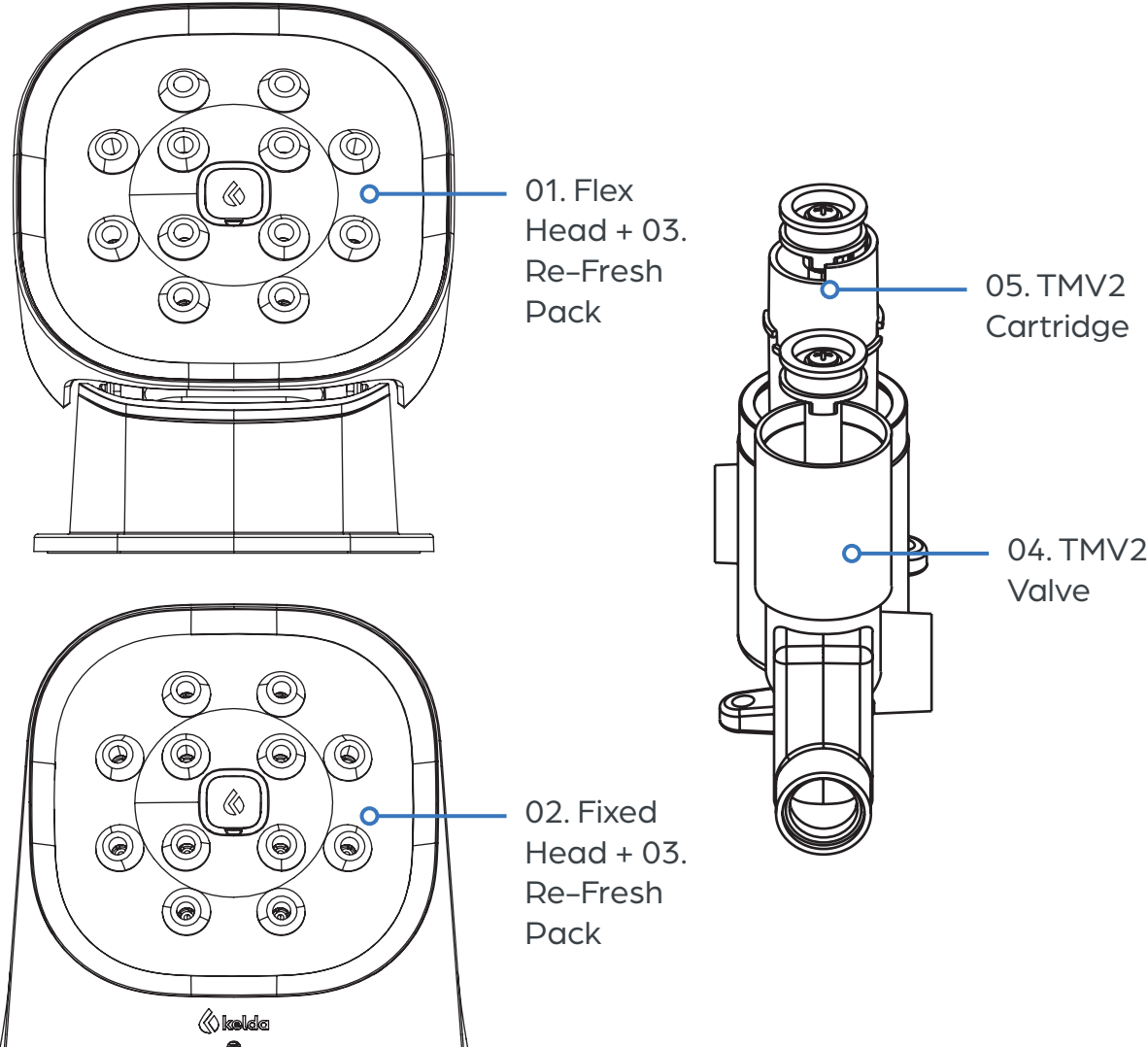
- Isolate power supply to panel shower.
- Remove the shroud covering the internal parts of the panel.
- Remove Hub lid and pull adapter out of fan and hub openings. Clean the hose with the adapter still attached.
- Remove 90° elbow connector by unscrewing $\frac{3}{4}$ " Air nut and gently pulling apart. Put aside all hose clips in a safe place.
- Put aside all hose clips in a safe place.
- Whilst wearing the correct safety equipment, dip hoses into a disinfectant solution so all the hoses are submerged.
- Remove from solution and clean out hoses using a pipe cleaning brush.
- Dip hoses into disinfectant solution and flush through, continue this until hoses are clean.
- Once hoses are clean, flush hoses through with fresh water.
- Shake out any excess water and wipe dry.
- Replace air supply hose by gently inserting into air outlet adapter.
- Replace 90 degrees elbow connector by gently inserting into hose, screwing $\frac{3}{4}$ " Air nut onto shower head hose pipes.
- Reinstall power supply to Control Hub and reinstall shroud cover onto panel.
- Run shower for 2-3 minutes to dry any moisture in the hoses.
- Check for air leaks from hose connections and adjust accordingly.



Warning!

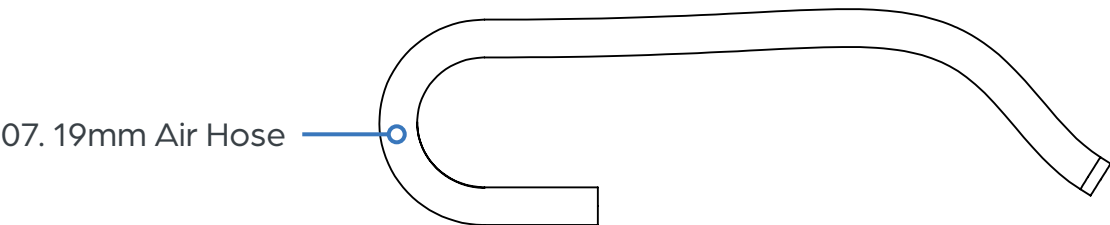
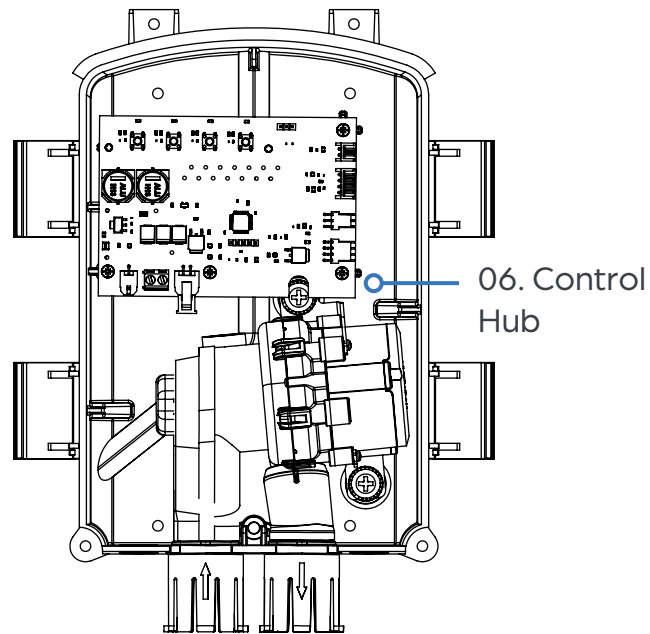
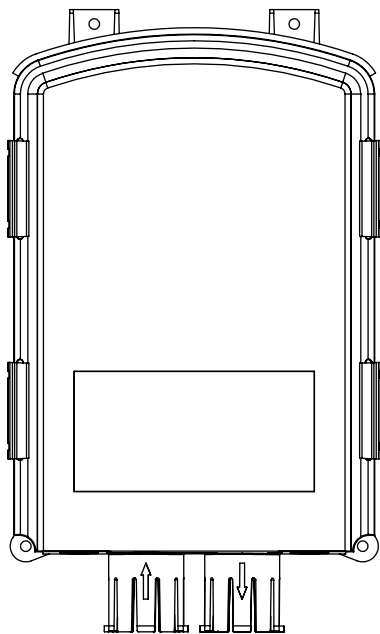
During regular cleaning of the shower area, do not direct a water hose at the shower head while it is functioning. Many household and industrial cleaning products contain mild abrasives and chemical concentrates and should not be used on this product.

Spare Parts



No.	Part No.	Description	Parts List
01	81004100	Flex Head 12 Nozzle Mounted	Body, Body trim, Head chassis, Head top cover, Water connector, Air connector
02	81006100	AV Head 12 Nozzle Mounted	Backplate vent, Shower head chassis, Water connector, Air connector, Water chamber, (E3 Fixed) Atomiser engine, (E3 Fixed) Fascia plate, (E3 Fixed) Screw cap
03	80047	E3 Flex Re-fresh replacement pack	Water chamber,(E3 Flex) Atomiser engine, (E3 Flex) Fascia plate, (E3 Flex) Screw cap
04	32008	TMV2 Single Outlet Guoren Mixer Valve	Guoren Mixer Valve with water inlets and single mixed water outlet
05	32023	GR-FX-01 ST1 Replacement Mixer Cartridge	Guoren TMV2 Mixer Cartridge with Short Spindle for Panel Showers

Spare Parts



No.	Part No.	Description	Parts List
06	82004000	P23 Kelda Hub	P23 Kelda Hub Base, P23 Kelda Hub Lid, P23 Kelda Hub Lid Clips, P23 PCBA, RVE45 Fan Blower, Air Adapters
07	35017	19mm 800mm Air hose	19mm 800mm Flexible Air Hose

Customer Care

Guarantee

Kelda Showers guarantees this product against any defect in materials or workmanship for the period of two years from the date of purchase. To be covered by this guarantee, service work must only be undertaken by approved agents.

Not Covered by this Guarantee

Damage or defects arising from incorrect installation, improper use or failure to maintain in accordance with the instructions in this product manual, including the build-up of lime-scale. Defects or damage if the product is taken apart, repaired or modified by a person not authorised by approved agents.

After-Sales Service

Our fully trained staff are ready to provide assistance, should you experience any difficulty operating your Kelda Showers equipment.

Spare Parts

All functional parts of Kelda Showers products are available.
All spares are guaranteed for 12 months from date of purchase.
Spares that have been supplied directly from us can be returned within one month from date of purchase, providing that they are in good order and the packaging is unopened.
Note: returned spares will be subject to a 15% restocking charge and authorisation must be obtained from Kelda Showers before return.

Customer Care Policy

If within a short space of time of installation the product does not function correctly, first check with the operation and maintenance advice provided in this installation guide to see if the difficulty can be overcome. Failing this, contact your installer to make sure that the product has been installed and commissioned in full accord with our detailed installation instructions. If this does not resolve the difficulty, please contact Kelda Showers, who will give you every assistance.

Patents:	1692638PP/CN	2612790
Patents granted and pending:	1692638PP/US	1850858P/PCT
2454228	1692638P/HK	1850858P/HK
9173809	4135905	
2675568	1714634P/HK	
ZL201280009000.7	1714634PP/CN	
4146403	1714634PP/US	

Notes



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DISPOSAL

Do not dispose of with household waste. Please recycle where facilities exist.
Check with your local authority for recycling advice.