QUARTZ™ SMART VALVE
AND DIVERTER
INSTALLATION GUIDE

AQUALISA

AQUALISA

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IMPORTANT INFORMATION

Safety information

This product must be installed by a competent person in accordance with all relevant current Water Supply Regulations.

⚠ ALL PRODUCTS REQUIRING AN ELECTRICAL CONNECTI0N MUST BE INSTALLED BY A QUALIFIED PERSON FOLLOWING THE LATEST REVISION OF BS 7671 (WIRING REGULATIONS) AND CERTIFIED TO CURRENT BUILDING REGULATIONS.

This system should be installed so that other taps or appliances operated elsewhere within the premises do not significantly affect the flow.

The Quartz™ smart valve must not be used with a hot water supply temperature of over 65°C.

The Quartz™ smart valve is supplied factory pre-set at maximum temperature of 45°C. The maximum temperature is fully adjustable to suit site conditions. If adjusted, we recommend the outlet temperature is set to a MAXIMUM of 46°C.

The Quartz™ smart valve must be installed in an accessible location for servicing and maintenance.

The Quartz™ smart valve must not be installed in situations where either the ambient temperature is likely to exceed 40°C or where freezing may occur.

The Q™ controller must not be installed in situations where the ambient temperature is likely to fall below 5°C or rise above 40°C.

We do not recommend the use of smart controls in steam therapy facilities.

This appliance must be earthed.

Cables which are chased into the wall must be protected by a suitably sized conduit or sheathing to allow for removal in the event of service and maintenance purposes.

Ensure that the conduit is run to avoid the controller fixing holes.

Surface mounted cables must also be protected by a suitable approved conduit, even in a loft, where there may be a risk of damage from vermin.

The power lead must only be replaced by the manufacturer or his accredited agent.

The Q™ controller is supplied from a safety low voltage source.

This product is suitable for domestic use only.

Aqualisa smart products are supplied complete with a 1 year guarantee that can be upgraded to 5 years by registering the product with Aqualisa.

This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given initial supervision or instruction concerning the use of the product by a person responsible for their safety.

Children should be supervised to ensure they do not play with the product.

Installation of Quartz™ smart valve (for gravity stored systems)

The Quartz™ smart valve is designed to operate up to maximum static pressure of 100kPa ((1 bar)(10 metres head)(14.5psi)). Under no circumstances must the Quartz™ smart valve be connected directly to the water main or in line with another booster pump. The minimum actual capacity of the cold water storage cistern should be not less than 225 litres (50 gallons). The capacity of the hot water cylinder must be capable of meeting anticipated demand.

Installation of the Quartz™ smart valve (for balanced high pressure and unvented systems, combination boiler systems and separately pumped gravity systems)

Pressures: The Quartz™ smart valve is designed to operate up to a maximum static pressure of 700kPa ((7 bar)(100psi)). Where pressures are likely to exceed 700kPa ((7 bar)(100psi)), a pressure reducing valve must be fitted to the incoming mains supply. A setting of 400kPa ((4 bar)(60psi)) is recommended. It should be noted that daytime pressures approaching 600kPa ((6 bar)(80psi)) can rise above the stated maximum overnight.

Special notes for combination boiler systems

The appliance must have a minimum domestic hot water rating of 24kW (80,000BTU) and be of the type fitted with a fully modulating gas valve.
If in any doubt, please contact the appliance manufacturer before installation commences.

PLEASE NOTE: DUE TO PERFORMANCE CHARACTERISTICS OF COMBINATION BOILERS, SEASONAL INLET TEMPERATURE CHANGE WILL AFFECT THE QUARTZ™ SMART VALVE OUTLET FLOW RATE RESULTING IN VARYING SHOWER FLOW RATE AND FLOW CONTROL RANGE. INLET TEMPERATURE CHANGE MAY ALSO CAUSE THE TEMPERATURE DISPLAY TO FLASH; THIS IS NOT NECESSARILY CHANGING THE OUTLET TEMPERATURE.

Special notes for separately pumped gravity systems, Universal pumps/divert

We recommend a twin ended pump with a MINIMUM pump rating of 1.5 bar (recommended 2.5 bar) which should be used for all separately pumped installations.
A twin ended pump is required for use with single outlet smart products, with the exception of divert models.

⚠ **PLEASE NOTE: A Universal type twin ended pump (works on both positive and negitive head conditions) is required for use with divert products.**

The minimum actual capacity of the cold water storage cistern should be not less than 225 litres (50 gallons). The capacity of the hot water cylinder must be capable of meeting the anticipated demand.

THIS PRODUCT IS NOT SUITABLE FOR USE WITH A SINGLE ENDED PUMP.

Connections

This product incorporates 'push-fit' type connections. Tube should be cut using a rotary type cutter and lubricated using a silicone-based lubricant or petroleum jelly (Vaseline or similar) prior to insertion into the fitting.

If plastic pipe is used, the tube insert must not increase the tube diameter or extend the cut-off length by more than 2mm.

THESE FITTINGS ARE NOT SUITABLE FOR STAINLESS STEEL TUBE. COMPRESSION FITTINGS MUST NOT BE USED.

Pipe sizing

Long pipe runs, on both inlet and outlet, will reduce the flow rate at the outlet, for gravity or gravity pumped systems 22mm pipe work should be used on inlets and reduce down to 15mm as close to the Q™ smart valve as possible to reduce pressure losses and help maintain flow rate. If using 15mm pipe, copper pipe is preferred, to optimise performance minimise the number of elbows used. If long pipe runs are unavoidable on the outlet, use copper pipe rather than plastic, particularly if a diverter is used, and minimise the number of elbows as the pipe inserts are very restrictive.

Flushing

Some modern fluxes can be very corrosive and, if left in contact, will attack the working parts of this unit. All soldering must be completed and the pipe work thoroughly flushed out in accordance with current Water Supply Regulations prior to connection of the product.

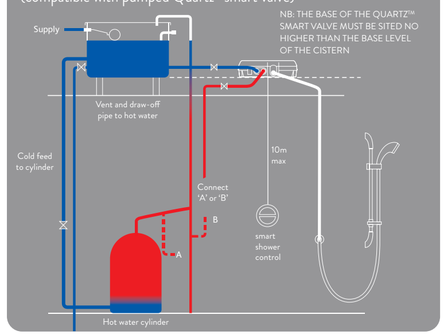
Declaration of Conformity

Aqualisa Products Limited declares that the Quartz™ smart valve, in conjunction with the diverter and smart controllers, complies with the essential requirements and other relevant provisions of the Low Voltage Directive (2014/35/EU) and the EMC Directive (2014/30/EU) and the RE Directive (2014/53/EU.

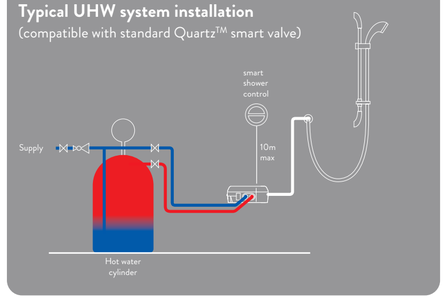
After installation

Familiarise the end user with the smart operation and hand them this guide. Complete and post the guarantee card or register online at www.aqualisa.co.uk

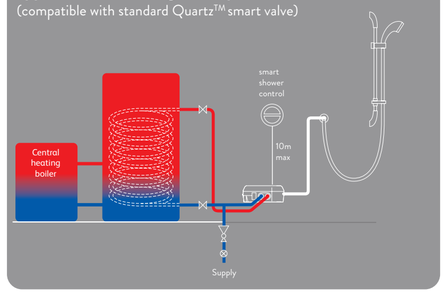
Typical gravity system installation
(compatible with pumped Quartz™ smart valve)



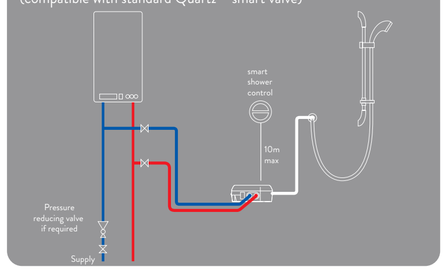
Typical UHW system installation
(compatible with standard Quartz™ smart valve)



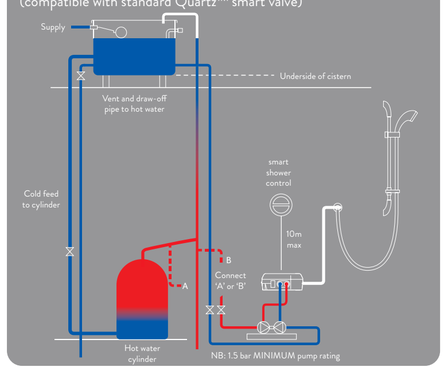
Typical thermal storage unit system installation
(compatible with standard Quartz™ smart valve)



Typical combination boiler installation
(compatible with standard Quartz™ smart valve)



Typical pumped system installation
(compatible with standard Quartz™ smart valve)



QUARTZ™ SMART VALVE AND DIVERTER

INSTALLATION

This product must be installed by a competent person in accordance with the relevant current Water Supply Regulations.

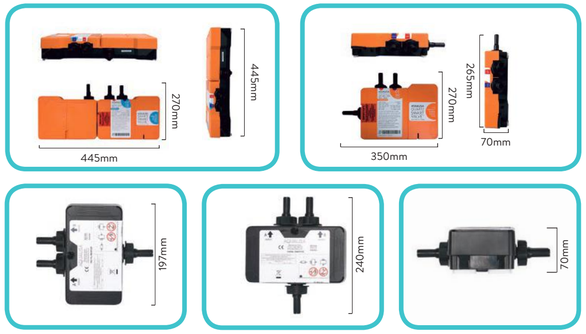
In addition to the guide below it is essential that the written instructions overleaf are read and understood and that you have all the necessary components (shown bottom right) before commencing installation.

The Quartz™ smart valves are supplied with universal fixings intended to secure it to a solid mounting surface.

PLEASE NOTE: If installing a diverter please also note all areas marked with this symbol.

1

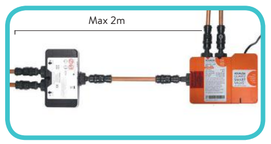
To ensure safe operation and installation of this product, the Quartz™ smart valve and diverter MUST be installed in one of the orientations shown.



For installation with the diverter.

HP/Combi Quartz™ smart valve

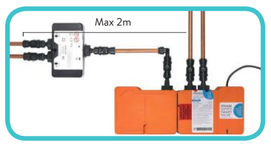
Quartz™ smart valve connected directly to diverter valve



Quartz™ smart valve connected to diverter with additional pipe

Gravity pumped Quartz™ smart valve

Quartz™ smart valve connected directly to diverter valve



Quartz™ smart valve connected to diverter with additional pipe

2

Isolation valves are supplied with the Quartz™ smart valve and diverter valve and must be fitted on both inlets and the blended water outlet/ outlets. For optimum performance on gravity fed systems 22mm pipe work should be run as close to the Quartz™ smart valve as possible before reducing down to 15mm. All pipe work should be supported.

The inlet supply centres are 48mm.
Please note arrow on isolation valve to indicate direction of flow.
DO NOT use compression fittings on the inlet and outlet spigots this will affect the warranty if fitted.

3

Choose the position for your Quartz™ smart valve as close to the shower control as possible. The Quartz™ smart valve may be sited in the roof space above the proposed shower site, in the airing cupboard or behind a screwed bath panel if more convenient. If siting in the roof space, ensure that freezing cannot occur and that no insulation material is placed under or over the Q™ smart valve or diverter. Please refer to the system layout.

If installing a diverter, choose the position for the Quartz™ smart valve as close to the diverter as possible, within the range of the 2m connecting data cable provided.

The Quartz™ smart valve and diverter must be sited in a position that is safely accesible for servicing and commissioning purposes. When fitted in the loft space, the route to and the area around the Quartz™ smart valve must be boarded to ensure a safe working environment.

The optimum position for the Quartz™ smart valve and diverter is in the roof space above the Q™ controller site to take full advantage of the ease and speed of installation.

The distance between the Quartz™ smart valve and main Q™ controller must be within the range of the 10m data cable supplied.

The diverter inlet has been designed to enable connection directly inline with the HP/ Combi Quartz™ smart valve outlet isolation valve connection or off the Gravity Pumped Quartz™ smart valve outlet using the cranked M/F elbow connection fitting.

4

Place the Quartz™ smart valve on a solid mounting surface, and place the fixing feet into suitable positions. Mark then drill and prepare suitable fixings before securing the Quartz™ smart valve to the mounting surface using the screws provided, (if suitable).

If installing the diverter this also needs to be installed as per the above instructions in step 4

5

Flush through both hot and cold supply pipes.

The maximum hot water inlet temperature must be no more than 65°C.

6

Attach the supply pipes to the Quartz™ smart valve, ensuring that the cold and hot feeds are fitted into the appropriately marked inlets.

Do not solder near to plastic components.

7

Prepare and connect a pipe from the mixed water outlet on the Quartz™ smart valve through the wall to the proposed siting for the shower outlet.
Using pipe clips as appropriate, ensure that all pipe work is perpendicular to the Quartz™ smart valve, i.e. not putting any strain on the fittings.

If installing a diverter prepare and connect the pipe from the mixed water outlet on the Q™ smart valve through to the diverter inlet. The diverter can be fitted directly onto to the Q™ smart valve outlet if required on the HP/Combi system installation. A cranked M/F elbow is supplied for the Gravity Pumped system for ease of installation. Refer to images in point 1.

Ensure the isolation valves are connected to the diverter outlets with the arrows correctly aligned according to the direction of flow. Using pipe clips as appropriate, ensure that all pipe work is perpendicular to the Quartz™ smart valve and diverter, i.e. not putting any str ain on the fittings.

Prepare and connect the pipes from the diverter outlets to the proposed siting for the outlets.

To maximise flow rates we recommend using copper pipe with the minimum amount of elbows on all pipes leading to and from the Quartz™ smart valve.

Ensure the pipe work connections have been flushed through.

If fitting a bath outlet, a suitable non restrictive double check valve (not supplied) MUST be fitted to the blended outlet pipe in line with the current water regulations.

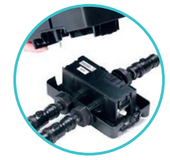
BEFORE ANY ELECTRICAL ADJUSTMENT IS ATTEMPTED, THE ELECTRICITY SUPPLY MUST BE TURNED OFF AT THE MAINS SWITCH.

ELECTRICAL INSTALLATION MAY ONLY BE CARRIED OUT BY A QUALIFIED PERSON.

8

Unscrew the single fixing on top of the Quartz™ smart valve and carefully tilt the lid up and off the location lugs and pull the lid clear.

If installing the diverter also remove the lid following the instructions above in step 8.



9

As installation differs for different controls please refer to the relevant smart controller installation guide for the Quartz™ smart valve and diverter wiring.

10

Connect the Quartz™ smart valve power lead to a double pole 3 amp fuse switched spur incorporated in the fixed wiring circuit, in accordance with current wiring rules. Ensure that this is located in an accessible, dry location and not in the bathroom.

THIS APPLIANCE MUST BE EARTHED
We recommend protecting surface mounted cables in suitable approved conduit to avoid the risk of damage from vermin.
The power lead should also be clipped in place with 'P' clips or similar to avoid accidents.

11

The Q™ smart valves are supplied factory set with the flow rate at either **'NORMAL HP'** or **'NORMAL GRAVITY'** mode depending on which system has been ordered.

BALANCED HP SYSTEMS:
Standard Q™ smart valves fitted to balanced high pressure systems may be set to 'NORMAL HP' or for water economy 'ECO' modes.

STANDARD COMBINATION BOILER SYSTEMS:
For Standard Quartz™ smart valves installed on combi boiler systems, for optimum performance we recommend setting to the 'COMBI' mode.

The 'ECO' flow rate mode should NOT be selected for shower or bath systems fitted to combination boilers.

PUMPED QUARTZ™ SMART VALVE:
Pumped Quartz™ smart valves are fitted to gravity systems may be set to 'NORMAL GRAVITY' or for water economy 'ECO' modes.

When making any adjustment to the Quartz™ smart valve settings the power must be isolated.

12

Run the shower at maximum temperature (factory pre set to 45°C). If required, maximum temperature adjustment can be made with a flat bladed screwdriver using the **'MAX TEMP ADJUSTMENT'** control as indicated. When the temperature has been set to the desired position, carefully replace the Quartz™ smart valve lid and secure the fixing screw, hand tight only.

Site conditions can affect temperature settings, installer to adjust as required.
All copper pipe work must be cross-bonded and connected to a reliable earthing point.

13

Please refer to the separate Q™ controller installation guide to complete installation.

Components (Gravity pumped)

Single outlet

Components (HP/Combi)

Single outlet

Components (Gravity pumped)

With diverter

Components (HP/Combi)

With diverter