THE DPT AQUACUBE INSTALLATION GUIDE

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DIRECTPUMPSANDTANKS.CO.UK

THE DPT AQUACUBE

PRODUCT OVERVIEW

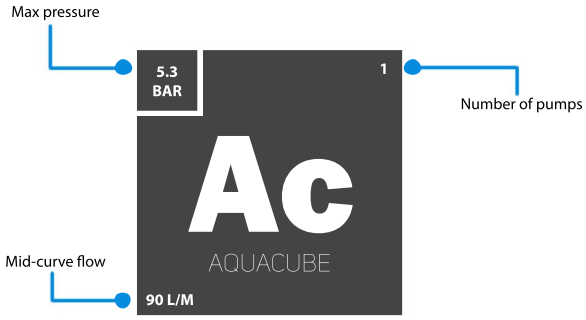
The AquaCube has been designed to provide a self-contained, pre-assembled, rainwater harvesting system that comes in a large range of sizes to suit specific applications.

The AquaCube comprises of two separate internal compartments, one for water storage and one for housing the pump controls.

The system comes with two pump options, all internal filters, and internal pipework. This allows for a true "plug-and-play" installation.

AQUACUBE PRODUCT FEATURES

- Equipped with anti-odour siphon
- Auto checking of valves every 24 hours
- Auto changing of water every week
- Wall mount bracket
- Water level sensor with 20m cable
- Rainwater is used as priority over mains
- Pressure and flow control
- designated terminal area
- Full "start-stop" system
- LCD panel with fault reporting



IDEAL INSTALLATION

The AquaCube should be installed externally and within close proximity to your chosen building. Ideally, the AquaCube should be close to all down pipes so that water from the roof area can be easily collected.

The AquaCube should be installed on a level concrete foundation which is capable of holding the full weight of the system when full with water.

AQUACUBE INSTALLATION

HEALTH AND SAFETY

THE WARNINGS IN THIS DOCUMENT ARE PROVIDED IN THE INTEREST OF SAFETY FOR YOURSELF AND THOSE AROUND YOU. YOU MUST READ THEM CAREFULLY BEFORE INSTALLING OR USING ANY DIRECT PUMPS AND TANKS (DPT) EQUIPMENT.

DPT recommend that this document is retained with the equipment for future reference. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied in order that the new owner can be acquainted with the equipment functionality and all relevant warnings.

INSTALLATION SHOULD ONLY BE CARRIED OUT BY A SUITABLY EXPERIENCED CONTRACTOR, FOLLOWING THESE GUIDELINES. ELECTRICAL WORK SHOULD BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

Rainwater can contain substances harmful to human health. Any person carrying out maintenance on the equipment should wear suitable protective clothing and take all reasonable steps to ensure safety on-site. Good hygiene practice should always be observed.

When covers are removed precautions must be taken against personnel falling into the unit. It is also recommended that you mark the working area as off-limits for the general public, land or property owner, while work id being carried out.

Should you wish to inspect the operation of the equipment, please observe all necessary precautions, including those listed below, which apply to maintenance procedures. Ensure that you are familiar with the safe working areas and accesses & that the working area is adequately lit.

Take care to maintain the correct posture, particularly when lifting. Use appropriate lifting equipment when necessary. Always keep proper footing and balance. Avoid any sharp edges.

The removal of sediment should be carried out by a contractor holding the relevant permits to transport and dispose of such waste. The contractor must refer to the guidelines in this document

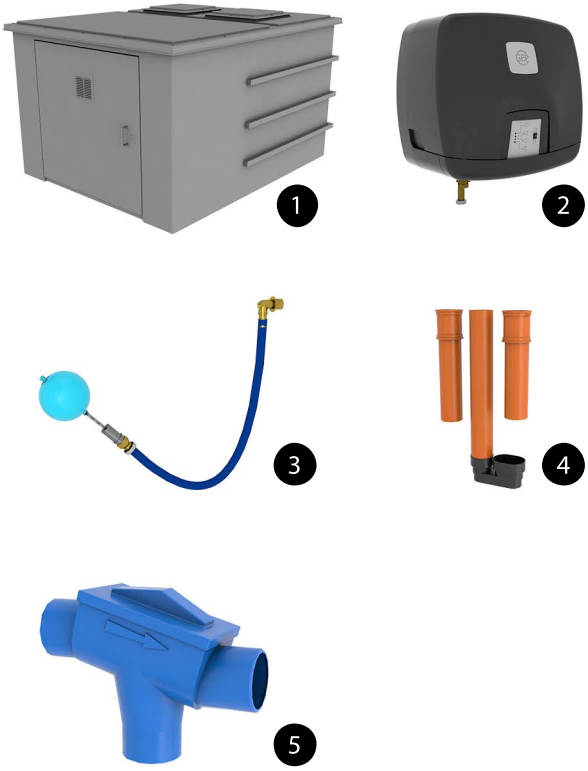
AQUACUBE INSTALLATION

AQUACUBE COMPONENTS

The below is list of all the components that come with your AquaCube system, please familiarise yourself with theses prior to installation.

Item Number	Quantity	Description
1	1	GRP AquaCube Chamber
2	1	IRM Control Unit *
3	1	Floating Suction Kit
4	1	Internal Pipework
5	1	Internal Filter

*The IRM control Unit has a further breakdown of included components listed opposite.



2. CONTROL UNIT COMPONENTS

The below is list of all the components that come with the IRM Control Unit, please familiarise yourself with theses prior to installation.

Item Number	Quantity	Description
1	1	IRM Control Unit
2	1	Float Switch Bracket
3	3	M6 Ring
4	2	Ball Valve
5	3	Nylon Plug
6	3	Bolts
7	1	Float
8	1	Mounting Bracket
9	1	Three Piece Coupling
10	2	3/4" Flexible Hose

Note: The control unit will come assembled and mounted so these components will already be installed.

AQUACUBE INSTALLATION

3.APPLICATION

The AquaCube system is designed to collect rainwater from a raised surface area (such as roofing) and supply this at pressure to the property. The system is ideally suited to commercial and industrial applications due to the size of the system.

4.MAINTENANCE AND CARE

The AquaCube is manufactured using high quality components designed to give a long trouble-free life. With any type of mechanical equipment regular preventative maintenance is required to keep the product working efficiently on a day-to-day basis.

We recommend this system is serviced yearly by specialist pump engineers.

Contact us on 0115 9444474 or contact our support team on: office@dptservices.co.uk

5.CONTROL UNIT CONNECTIONS

Item Number	Description
1	Rainwater Inlet
2	Warranty Sticker
3	Harvested Rainwater
4	Mains Water Connection
5	Voltage 230v 50Hz
6	Float Sensor
7	Overflow

Fig 1.

Item Number	Description
1	Rainwater Inlet
2	Harvested Rainwater
3	Mains Water In
4	Voltage 230v 50Hz
5	Float Sensor
6	Overflow

Fig 2.

Fig 1.

Fig 2.

Note: Item number 1 and item number 5 are pre-fitted.

AQUACUBE INSTALLATION

6. CONTROL UNIT INSTALLATION OVERVIEW

The control unit will be pre-mounted to the AquaCube upon delivery. However, the below is a guide in case removal of the unit has occurred and needs to be reinstalled.

7. CONTROL UNIT INSTALLATION

Mount the bracket level on a flat wall with plenty of working space. (this prevents constructive tension in the device, malfunctions and resonances).

Install the unit in a room which is dry and frost free, with a drainage point in the ground and with at least 40 cm of space above the device. (required for inspections and maintenance.) This is standard in the AquaCube.

Fill the suction pipe 100% with water. Wait approx 1 min and check if the water column remains the same, if it drops it means that there is a leak. if it remains, then connect the suction pipe by twisting it onto the 3-part connection by hand.

Dirt can enter the pipe when constructing the suction pipe. Make sure to first flush the entire pipe before connecting the device.

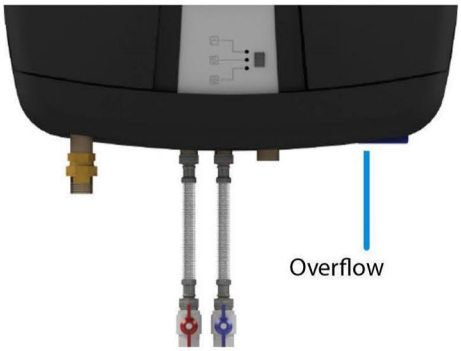
Harvested water from tank

Connect the pressure pipe on the supplied tap. Then, connect the tap on the 3-piece flexible hose connector. Use the fibre ring from the connection set. Mount the pressure pipe with a bracket with rubber casing on the wall. This prevents resonances in the water network.

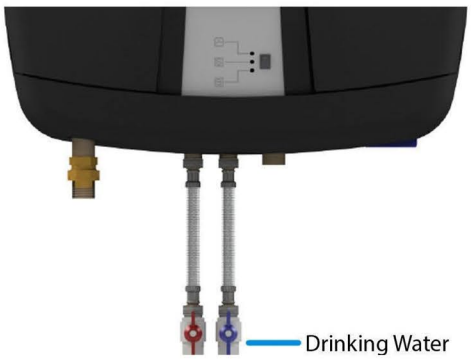
Harvested water to WC's etc

CONTROL UNIT INSTALLATION CONTINUED

The device has to be connected to the sewer, tank or pump installation with the use of a plug socket. Note that this pipe is minimally 75 mm and can not be reduced in diameter. Use the minimum pump capacity when using a pump installation towards the sewerage system. This has to be a minimum of 3.000 L/h.

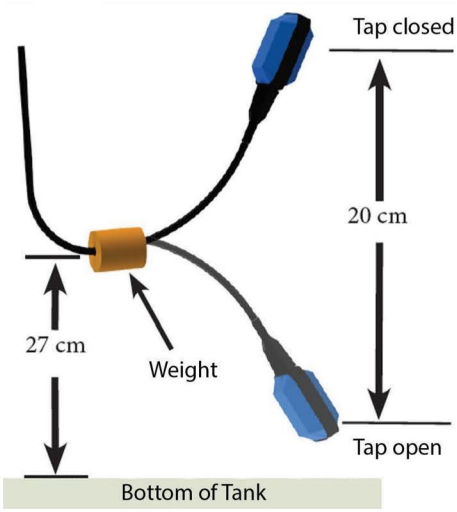


Connect the drinking water network to the supplied tap. Then, connect the tap on the 3-piece flexible hose connector. The drinking water pipe can contain dirt and small copper debris after constructing the water network. Therefore, make sure the drinking water pipe is properly flushed in order to minimize the chance of damaging the valve. Then, mount the floater switch in the rainwater tank.



The cable of the floater to the control can be extended. Make sure this cable is water proof, the cable cant be placed underground without protection tube. We advice to apply a casing tube DN 1 10 which can hold the suction pipe and optionally the filter cleaning pipe.

The floater in the tank has to be able to move freely and has to be clear from the bottom and above the suction head of the floating extraction.



Connect the cable from the float switch to the unit. To do this, use the Wago connection terminal at the bottom of the unit. It does not matter which colour is connected to which port. Press the uninsulated wires deep into the clamp and close it. The yellow/green cable (earth) does not need to be connected.

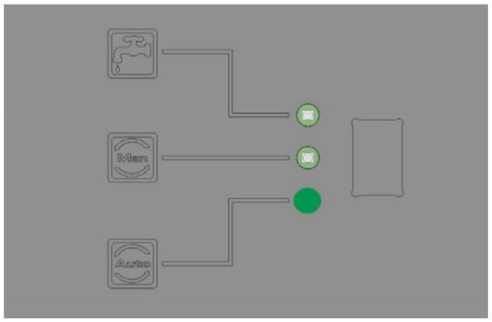
8. COMMISSIONING THE AQUACUBE

Vent out and refill the device. Twist off the refill cap and fill the pump entirely with clean water. Then, twist the cap back on by hand an open the drinking water supply.

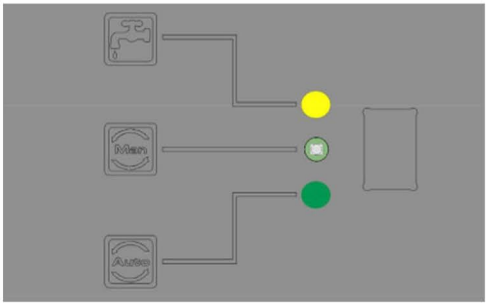
Then, open a disconnection point in the pressure pipe and then insert the plug (230V outlet). The pump now starts. Close the disconnection point.
The pump now brings it maximum pressure and turns off.

Now switch to automatic operation. The lower green LED lights up on the control panel. The 2nd green or yellow LED lights up depending on the level in the rainwater tank

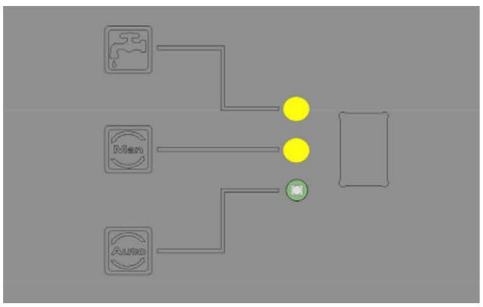
Switch: AUTO
Rainwater use, This is the operating state in which the appliance must stand. The pump automatically picks up rain water



Switch: AUTO / DRINK WATER
Rainwater use (rainwater tank is empty)
In operation



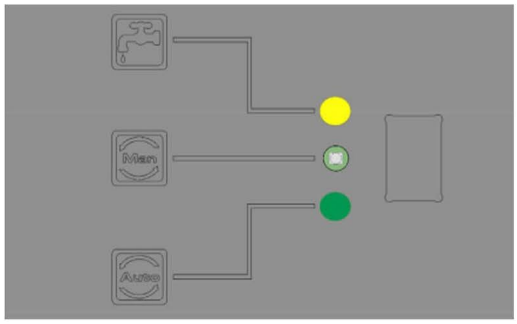
Yellow LEDs are lit continuously, so do NOT blink!



AQUACUBE INSTALLATION

COMMISSIONING CONTINUED

Alarm - Overflow alarm: yellow LED flashes, check the operation of the drinking water replenishment float. RESET: convert switch. - In operation.



9. MAINTENANCE

The device contains parts where inspection or maintenance is required. The time intervals with which this is done must, in the interest of the user, be respected.

- Inspections can be carried out by the user!
- Maintenance must be carried out by an installer

HOUSING INSPECTION

Check the housing for contamination and correct confirmation.

Cleaning: Remove dirt on the outside of the device with a damp cloth and a household cleaner. Make sure that there is no moisture in the plug, switch or behind the control panel.

Time interval: Annually
Execution: User

SUPPLEMENTATION UNIT

Inspection: Checking correct opening and closing and the free movement of the float arm.

Time interval: Every 6 months, depending on "hardness" (PH value) of local drinking water.

Execution: User

Maintenance: Adjust the float arm.

Time interval: Only necessary for alarm message "emergency overflow"

Execution: Skilled user or installer

CONTROL PANEL

Inspection: Check the functions of the control panel, see chapter on control panel.

Time interval: Every 6 months

DRINKING WATER SEAL

(Rubber gasket between drinking water tank and float).

Inspection: Check correct assembly and sealing.

Time interval: Every 6 months

Execution: User

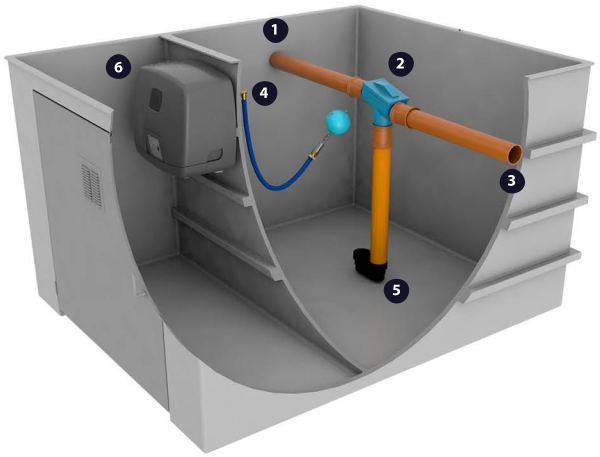
FLOAT SWITCH / PRESSURE SENSOR IN RAINWATER TANK

Inspection: Test correct installation and function of float switch / pressure sensor. Check cable for kinks, cracks and other signs of age.

FLOAT SWITCH / PRESSURE SENSOR IN RAINWATER TANK

The below is a visual representation of the DPT AquaCube chamber and associated components. Please take time to review prior to connection and installation.

1. Rainwater inlet
2. PF filter
3. Overflow
4. Suction Intake
5. Calmed inlet
6. Control unit.



10. INSTALLATION CONSIDERATIONS

These Guidelines represent Best Practice for the installation of the AquaCube system. It must be noted, however, that these Guidelines are of a general nature. It is the responsibility of others to verify that they are appropriate for the specific ground conditions and in-service loads of each installation.

Similarly, any information or advice given by employees or agents of the company regarding the design of an installation must be verified by a qualified specialist (e.g. Civil engineering consultant).

11. DELIVERY, HANDLING, AND STORAGE

Care must be taken to ensure that the Homestream is not damaged during delivery and handling on site. Please take care and locate the system somewhere it cannot fall and become damaged.

If damage, loss, or shortage is found at the point of delivery this must be reported within 48 hours of receipt along with photographic evidence.

The design requirements of the product will frequently mean that the centre of gravity of the unit is "offset". Care must therefore be taken to ensure that the unit is stable when lifting and that loads are evenly distributed during lifting.

Lifting equipment should be selected by considering the unit weight, length and the distance of lift required on site.

We accept no responsibility for incorrect storage, lifting, or damage to equipment while stored on location.

12. INSTALLATION

Select a suitable location for the chamber. This will normally be at the closest point to the inlet from the roof area so that the facilities can drain into the chamber.

Check that no other structure - or special access - is required over the selected position.

Check that no underground cable, pipe, or service duct lies beneath the selected position.

For the successful installation of DPT AquaCube enclosures, please ensure the following requirements are met:

The foundation area must be no less in length and width than the external dimensions of the enclosure.

The foundation must be constructed so as to be capable of supporting the weight of the enclosure and equipment contained within it.

The foundation must be continuous and be no more than ±2mm over any given metre.

The foundation must be free of any local protrusions and debris of any kind.

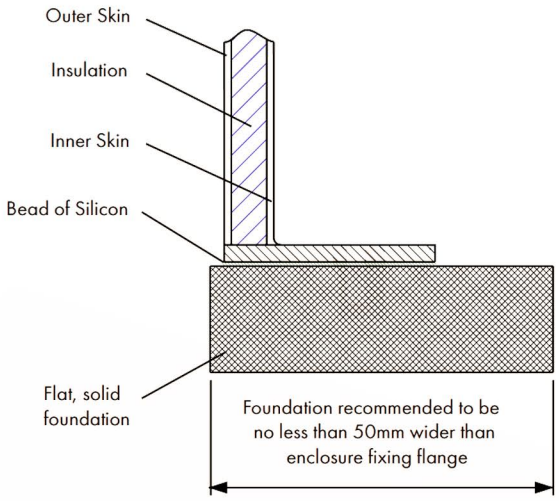
For enclosures to be mounted on a raised kerb or up-stand must be constructed from timber, concrete or brick.

Recommended to be a minimum of 50mm wider than the enclosures fixing flange.

Be sufficiently high enough to prevent ingress of water (minimum 50mm recommended).

Have an external dimension no less than the external dimension of the housing.

Note: If the enclosure is being fixed down to a flat foundation rather than a raised kerbing or where the foundation does not meet the required tolerances, we cannot guarantee a 100% seal against ingress of water.



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