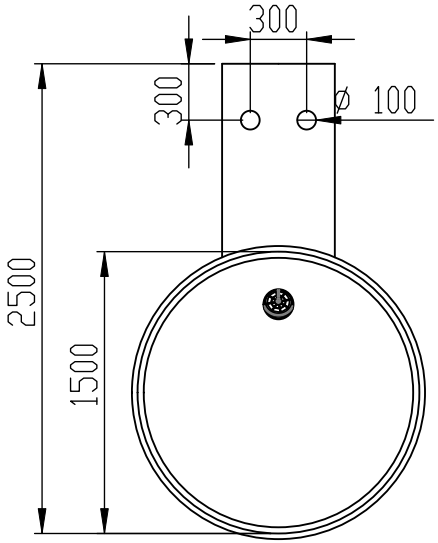
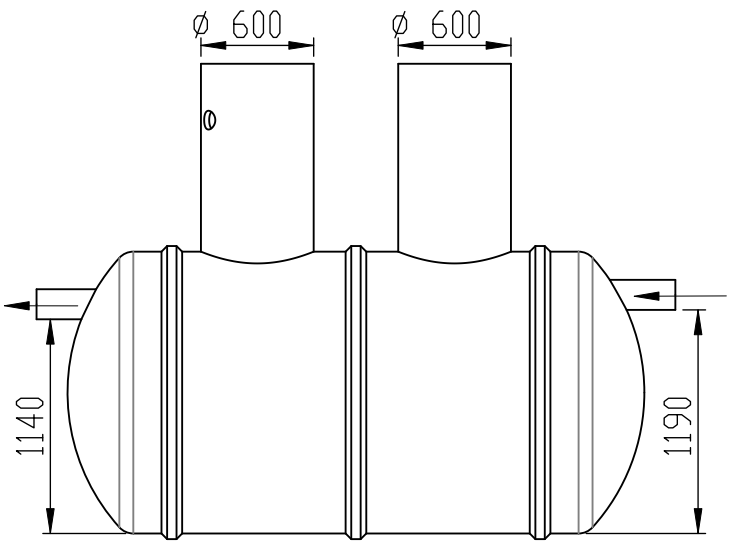
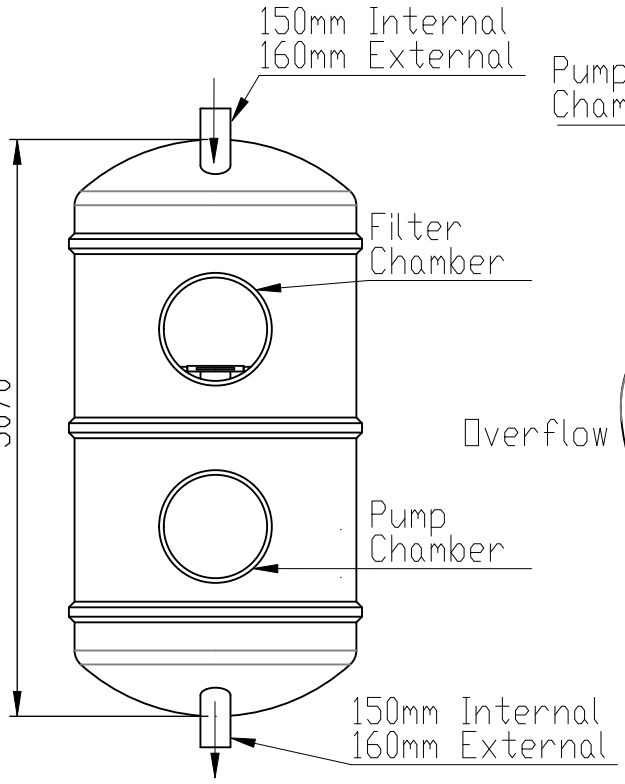
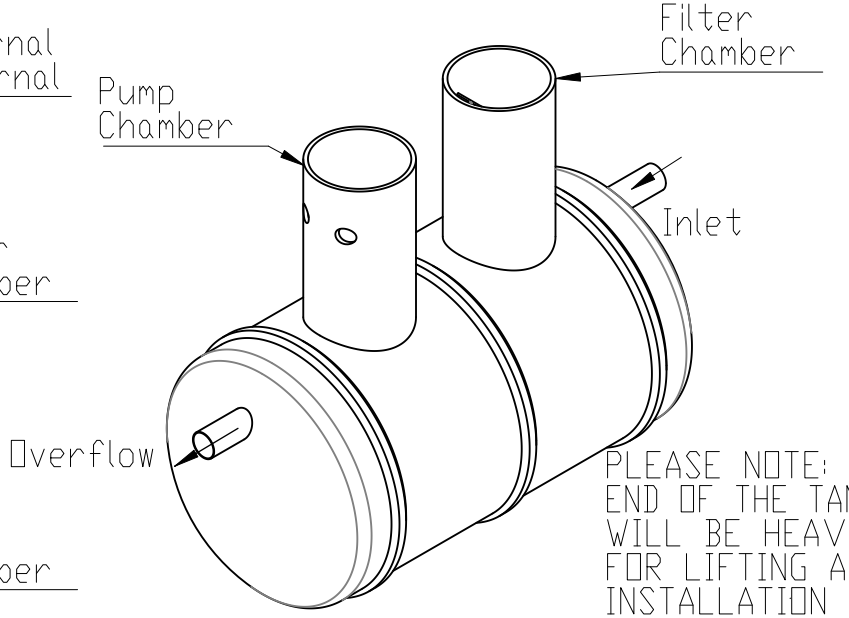








PLEASE NOTE: FILTER END OF THE TANK WILL BE HEAVIER FOR LIFTING AND INSTALLATION PURPOSES.

NOTES:
2 X 1000mm LENGTH SECTIONS OF ACCESS TURRET SUPPLIED AS STANDARD. TURRET CAN BE CUT TO LENGTH TO SUIT FINSHED GROUND LEVEL. TURRET SECTION INCLUDING ACCESS DUCTS SHOULD BE FITTED NEAR GROUND LEVEL.

THE TOP OF THIS TANK SHOULD NOT BE INSTALLED MORE THAN 2000mm FROM FINISHED GROUND LEVEL.

IT IS CRITICAL TO ENSURE THAT ANY LOADINGS PLACED UPON THE MANHOLE ARE NOT TRANSFERRED ONTO THE TANK.

IT IS THE CUSTOMERS RESPONSIBILITY TO REMOVE ANY EQUIPMENT FROM THE DELIVERY VEHICLE. PLEASE NOTE THAT THE FILTER END OF TANK WILL BE HEAVIER THAN THE PUMP END.

ALWAYS ENSURE THE VORTEX FILTER IS FITTED ON THE UPSTREAM FLOW FOR INCOMING WATER!

DO NOT FIT PUMPS IN THE VORTEX CHAMBER

ALL DIMS ARE IN MM TO A TOLERANCE 0 +/- 5%.

TITLE:	DWG. NO.
5000 LITRE CAPACITY 160mm INLETS	1
CODE REF. 5/UC/M/5.0X1.5	APPROX. WEIGHT 540kg
SHEET 1 OF 2	SCALE: 1:40

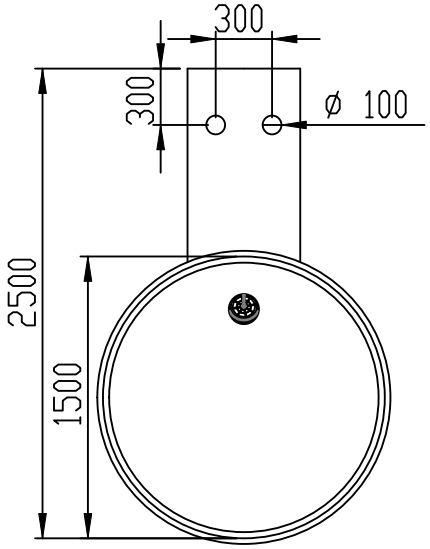
Site Name: Segro Logistics Park
Ref: 1014837 East Midlands Gateway Plot 9

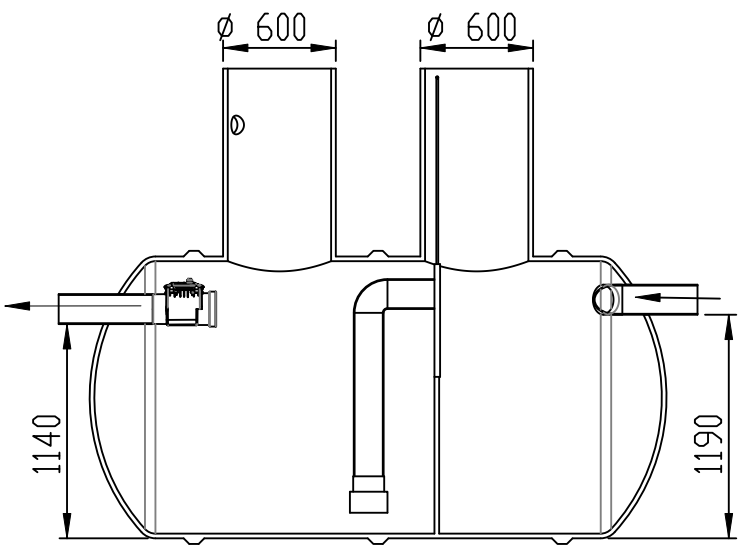
Signature Print

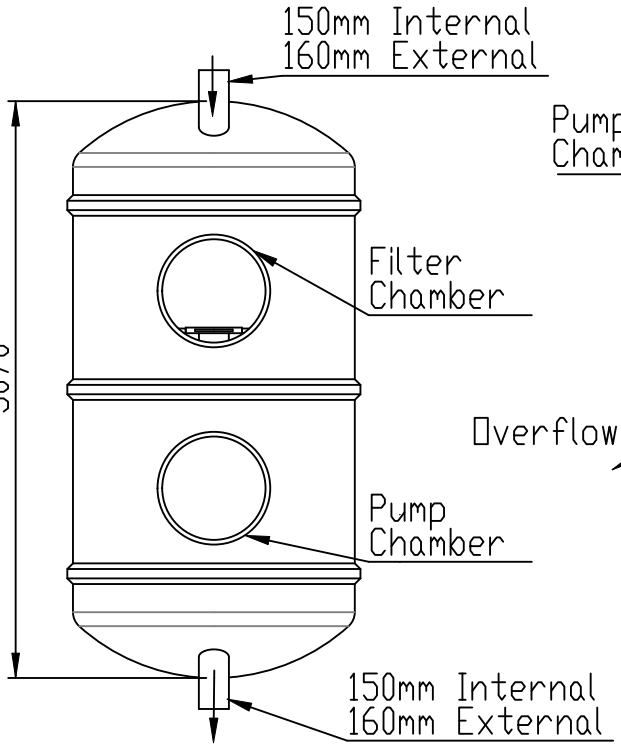
Date

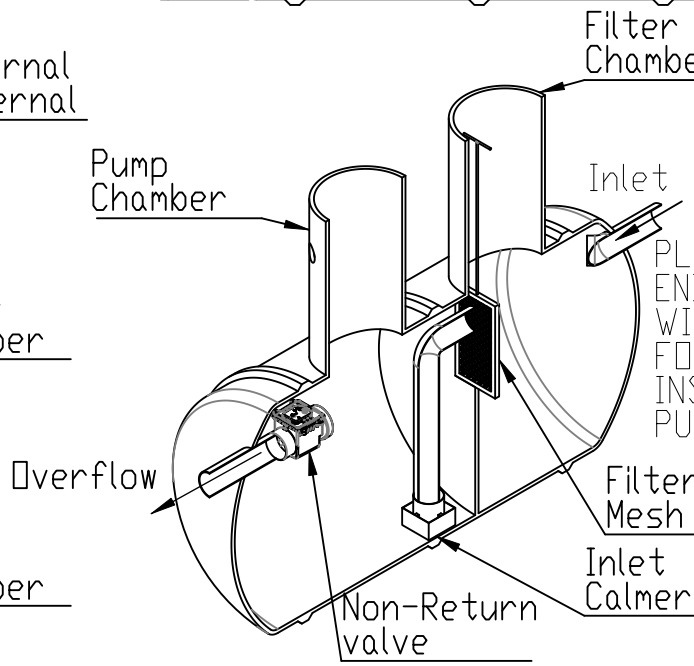
STORMSAVER
HOCKERTON MOOR
ENTERPRISE PARK
NEWARK
NOTTINGHAMSHIRE
NG22 8FL
01636 815254
WWW.STORMSAVER.COM

	NAME	DATE
DRAWN	GR	10/02/2020
APPROVED		









PLEASE NOTE: FILTER END OF THE TANK WILL BE HEAVIER FOR LIFTING AND INSTALLATION PURPOSES.

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ALWAYS ENSURE THE VORTEX FILTER IS FITTED ON THE UPSTREAM FLOW FOR INCOMING WATER!

DO NOT FIT PUMPS IN THE VORTEX CHAMBER

ALL DIMS ARE IN MM TO A TOLERANCE 0 +/- 5%.

TITLE: 5000 LITRE CAPACITY 160mm INLETS	DWG. NO. 1
CODE REF. 5/UC/M/5.0X1.5	APPROX. WEIGHT 540kg
SHEET 2 OF 2	SCALE: 1:40

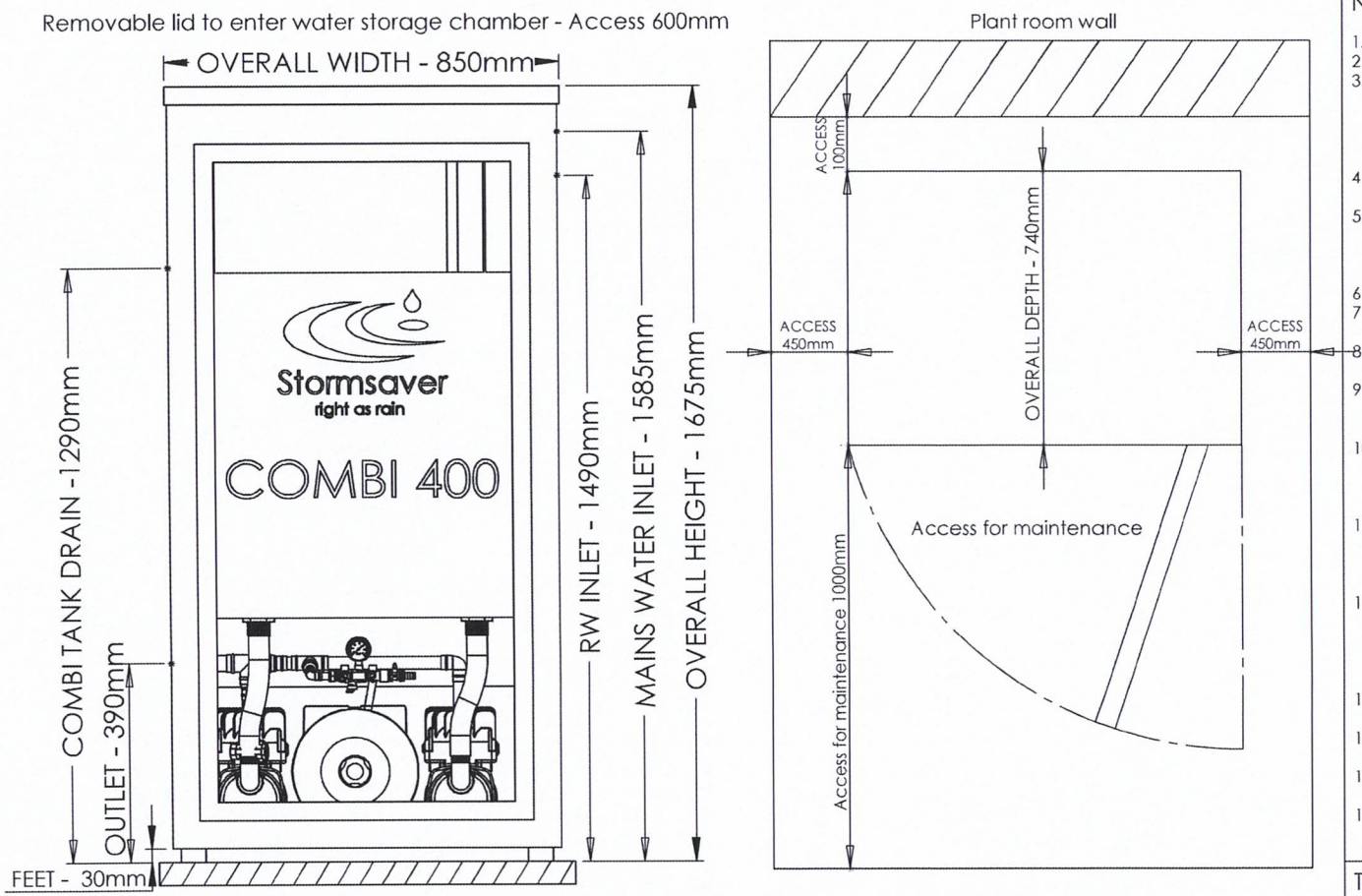
Site Name: Segro Logistics Park
Ref: 1014837 East Midlands Gateway Plot 9

Signature Print

Date

STORMSAVER
HOCKERTON MOOR
ENTERPRISE PARK
NEWARK
NOTTINGHAMSHIRE
NG22 8FL
01636 815254
WWW.STORMSAVER.COM

	NAME	DATE
DRAWN	GR	10/02/2020
APPROVED		



SOLID AND STABLE BASE TO SUPPORT WEIGHT OF UNIT: MAX 887KG
OVERALL UNIT DIMS: 850L x 740W x 1675H

Site Name: Segro Logistics Park East Midlands Gateway Plot 9
Ref: 1014837

Please check the Express Combi unit can fit into your plant space and confirm your approval

Signature

Print M. Cerrell

Date 10/06/21

Unit supplied with 1 x 1/4 Mainswater solenoid valve to be fitted to the MW inlet (Fitted by others)

If we do not receive drawing approval by the time equipment is delivered we will assume that you have checked site conditions and that the unit will fit into the plant room.

NOTES:

1. OVERALL DIMS: H1650 X W850 X D740.
2. MINIMUM DRY WEIGHT: 250KG.
3. UNIT IS NOT WEATHER PROOF AMD SHOULD NOT BE EXPOSED TO THE ELEMENT, SUBJECT TO FREEZING CONDITIONS, EXTREME HEAT OR SUBMERGED.
4. UNIT TO BE FLOOR MOUNTED INSIDE BUILDING.
5. SITE THE PROCESSOR UNIT TO ALLOW A MINIMUM OF 1M ACCESS TO THE FRONT OF THE UNIT. REFER TO MANUAL ILLUSTRATING ACCESS REQUIREMENTS.
6. ALLOW FOR OPENING HINGED DOOR.
7. ELECTRICAL SUPPLIES MUST ENTER SIDE OF UNIT.
8. ALLOW SPACE TO CONNECT PIPEWORK TO UNIT.
9. ALWAYS ENSURE THAT PIPEWORK BY OTHERS IS ISOLATED EXTERNALLY TO THE UNIT.
10. ENSURE THAT PIPEWORK IS ISOLATED AND THAT IT IS MARKED AND IDENTIFIED WITH CORRECT IDENTIFICATION LABELS AND TAPE.
11. PRESSURISED RAINWATER SUPPLY MAY EXCEED 6 BAR! ENSURE THAT PIPEWORK CAN WITHSTAND PRESSURE.
12. THE UNIT REQUIRES A SINGLE PHASE 230V - 20A POWER SUPPLY, LOCALLY ISOLATED BY A DOUBLE POLE SWITCHING ISOLATOR AND POWER FROM A 'D TYPE' BREAKER AT THE MCB.
13. PUMPED RAINWATER SUPPLY FROM A STORMSAVER STORAGE TANK.
14. BOOSTED PRESSURISED RAINWATER SUPPLY TO POINTS OF USE.
15. ACCESS TO DRAIN - FOR FILTER AND EMERGENCY OVERFLOW.
16. COLD MAINSWATER SUPPLY.

TITLE:	DWG. NO.
400L COMBI	1
SHEET 1 OF 1	SCALE: 1:15

	NAME	DATE
DRAWN	G ROLLESTON	30/04/2019
APPROVED		

STORMSAVER
HOCKERTON MOOR
ENTERPRISE PARK
NEWARK
NOTTINGHAMSHIRE
NG22 8FL
0844 884 0015
WWW.STORMSAVER.COM

Stormsaver
right as rain

Stormsaver Rainwater Harvesting

1014837

Segro Logistics Park East Midlands Gateway Plot 9

Technical Installation Manual

Stormsaver Ltd
Hockerton Moor Enterprise Park,
Winkburn Lane,
Kirklington,
Newark,
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NG22 8FL

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Like us on Facebook
@Stormsaver
Follow us on LinkedIn
Stormsaver Ltd
www.stormsaver.com

Section 1- INDEX Technical Manual

The Stormsaver™ technical manual is colour coded, making it easy to identify sections and find relevent infomation.

Please see below the following sections that the manual contains - You must ensure you have read all sections thoroughly before installing any Stormsaver™ system.

System Summary - Stormsaver™ Combi

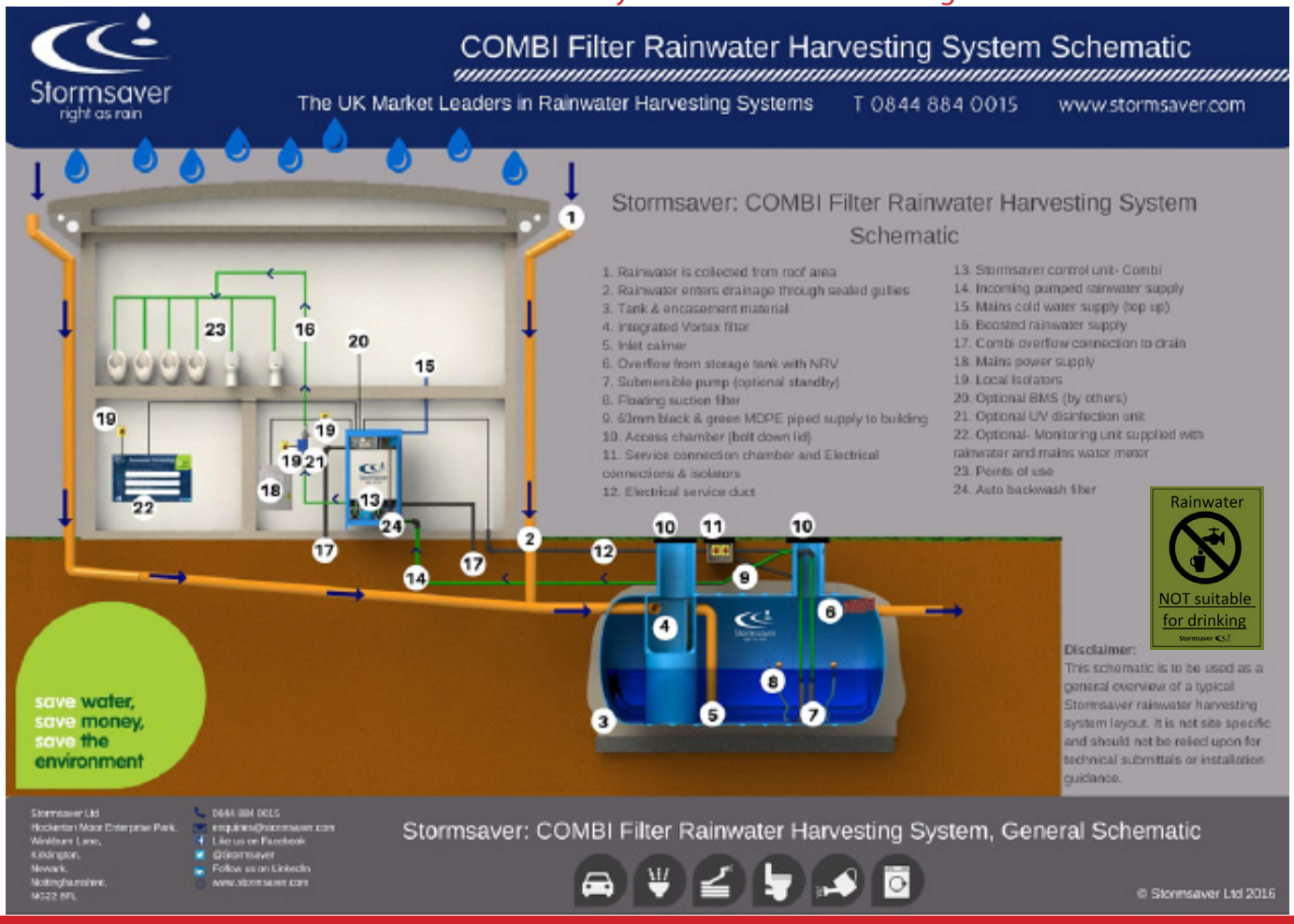
The Stormsaver™ rainwater harvesting system will make the most economic use of the local rainfall with predicted water consumption. Stormsaver recommend, that low water consuming products are used to complement the system, furthering a reduction in overall consumption.

Rainwater is collected from the roof area of the building. This is channelled through a pre-tank filter to remove large debris, leaves etc. Rainwater then enters the Stormsaver™ storage tank through a calmed inlet, which prevents the rainwater from disturbing sediment that settles on the base of the tank. If there is an excess of rainwater, this can flow out of an overflow to the storm drain, soak away or attenuation system. Inside the Combi are a number of control sensors and submersible pumps, which take water via a floating suction filter to the Stormsaver™ Combi control panel. On demand the Stormsaver™ Combi unit activates the pump and rainwater supplied, to the points of use via a twin pump booster set inside the Combi. In periods of low rainfall the mains water back up activates, providing a water supply to the Combi unit, ensuring the site has a continuous supply of water to meet the demand of the building.

Note:
The Stormsaver™ rainwater harvesting system is designed for storing and filtering rainwater collected from the roof of the building only and is not designed to recover surface ground water. It should not be integrated with any type of grey water system and is not designed for processing any other types of water.

Warning!

Rainwater from this system is not fit for drinking!



Introduction: Stormsaver™ Rainwater Harvesting System Summary

Thank you for purchasing the Stormsaver™ system. This manual contains instructions for installing the Stormsaver™ rainwater harvesting system.

Please read these instructions carefully, before installing the system.

The Stormsaver™ rainwater harvesting system, requires specialist installation. If you do not have relevant experience, please contact a contractor to assist, or call Stormsaver™ Ltd for further advice.

WARNING!
Failure to correctly install, operate or maintain the Stormsaver™ rainwater harvesting system can invalidate the manufacturers warranty!

DESIGNED & MANUFACTURED IN GREAT BRITAIN

Delivery

The Stormsaver™ system components will be delivered to site using a carrier service. Large equipment will be delivered by haulage distributors (such as the Stormsaver™ storage tank and header tanks).

Stormsaver™ will endeavour, where possible to deliver components to site at suitable times. However, THIS MAY NOT ALWAYS BE POSSIBLE. Should equipment arrive either early or late due to carriers, Stormsaver™ cannot be responsible for delays.

Due to the nature of the product, the Stormsaver™ storage tank and Stormsaver™ system components may not necessarily arrive together. The customer or appointed contractor is responsible for unloading and storing the tank and equipment on site. The Stormsaver™ storage tank should be offloaded to the nearest hardstanding by the site contractor.

A fee will be chargeable if goods are not accepted by site. If there is a delay in offloading, standing charges will apply after 2 hours. For goods returned without prior acceptance in writing from Stormsaver™ additional delivery charges may be levied.

Damage in transit

Stormsaver™ products are carefully checked and tested before dispatch, however the risk of damage during transit cannot be avoided.

- Check goods upon receipt for complete content and damage.
- Any damage is the responsibility of the carrier. Register any claim with them immediately
- A report must be made WITHIN THREE WORKING DAYS from date of delivery of any missing or damaged items. Stormsaver™ cannot accept responsability for missing or damaged items if not reported IN WRITING IMMEDIATELY

Please contact Stormsaver™ before returning any goods.

Introduction: Stormsaver™ Rainwater Harvesting System Summary

Those installing the Stormsaver™ system should be conversant and compliant with all current legislation and all relevant documentation pertinent to the rainwater harvesting installation. The following list can be used for guidance and is not a definitive list to those installing the Stormsaver™ rainwater harvesting system.

Health and Safety at Work Act
Construction (Design Management) Regulations
The Building Regulations
Water Supply (Water Fittings) Regulations
The IEE Wiring Regulations for Electrical Installations 17th Edition
Regulations under the Electricity Act
Control of Substances Hazardous to Health Regulations
BSI British Standards- Rainwater harvesting systems Code of practice: BS 8515:2009
The Chartered Institution of British Services Engineers Guides, codes of practice and commissioning codes.
Water Regulations Advisory Scheme Information and guidance Note No- 9-02-05 Marking and identification of pipe work
CHAS - Accredited Contractor
WRAS Compliant

BS8515-2009+A1:2013

WRAS COMPLIANT PRODUCT

smas

CSCS CONSTRUCTION SKILLS CERTIFICATION SCHEME

safecontractor APPROVED

CHAS CONTRACTORS HEALTH & SAFETY ASSESSMENT SCHEME Accredited Contractor www.chas.gov.uk

Constructionline A UK GOVERNMENT CERTIFICATION SERVICE

UK Rainwater Management Association

QUALIFIED WATER TECHNOLOGY LIST WWW.ECA-WATER.GOV.UK

bsi.

Tank Handling

Tank offloading is the customers responsibility

Stormsaver will arrange the tank delivery to the nearest hard standing at site.
The customer or his appointed contractor is responsible for;
- providing access and off loading to a safe hard standing area and securing the tank and equipment on site.
- ensuring that the site has appropriate equipment for off loading including mechanical offloading equipment.

Further details on the offloading procedure are available on a separate document and are sent out prior to the tank delivery.

Additional charges will be applied for the following;
- If site are unable to remove the tank from the delivery vehicle or the delivery vehicle is held waiting on site
- If a delivery is not accepted for any reason and has to be redelivered at a later date.
- If a delivery date is changed within 3 working days of the agreed date of delivery.
- If a tank is not accepted by site and the tank is taken away for storage a daily storage charge may be made by the carrier and this will be passed on to the customer.

ALWAYS	NEVER
- Check the tank for damage prior to off-loading - Use lifting equipment to move tanks. - Check capacity of lifting equipment before hoisting or moving tanks. - Use webbing slings to lift the tank - Guide the tank with guidelines. - Ensure you are aware of the actual tank dimensions - Tank must be stored on sand and chocked with tyres	- Never roll or drop the tank. - Never use chains or cables around the tank. - Never stand on the tank whilst it is being lifted - Never stand under the tank whilst offloading. - Never lower the tank onto rubble, rocks or sharp objects that could puncture the tank.

Tank Excavation

1. Excavate hole at least 600mm wider and 600mm longer and 450mm deeper than the tanks overall external dimensions. Make additional allowances for supporting structures which may be in place to prevent the side walls of the excavation collapsing. An example of this would be shuttering

2. Ensure excavation is fully drained / emptied of all water.

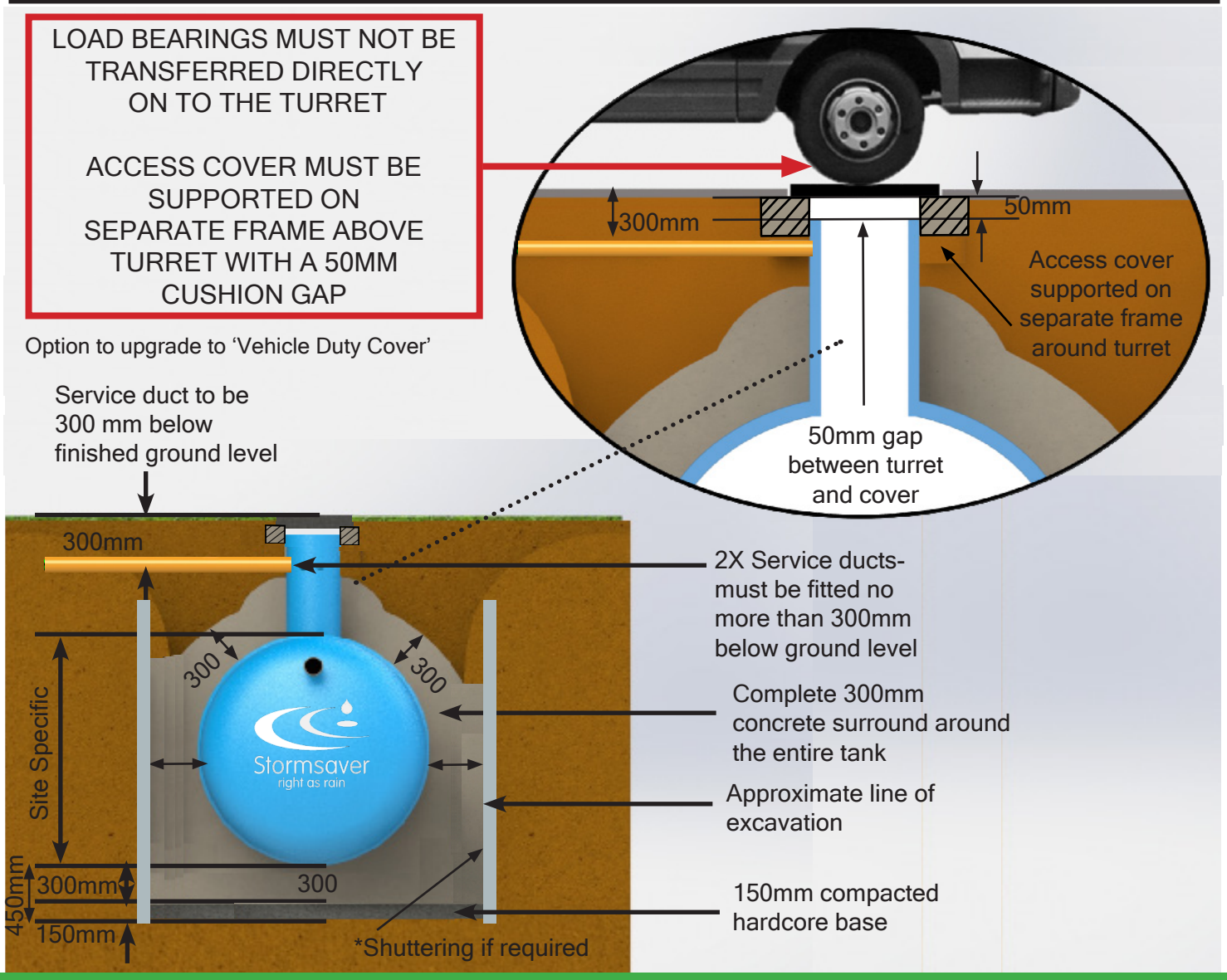
3. Wet Ground, (where water level is higher than the base of the tank).
Dig a well pit for pumping ground water away. Ensure the pump outlet is well away from the tank and is downhill from the excavation. Pump continuously to ensure that the ground water is below the base of the excavation at all times during the installation. Failure to keep the excavation free from ground water may result in voids underneath the tank. This can cause buckling and consequent failure of the tank structure. Continue to pump ground water from the excavation until concrete surround is set.
FAILURE TO DO THIS CAN VOID YOUR WARRANTY!

Concrete: All references to concrete are for 15 N/mm^2 aggregate – 25mm slump mix in accordance with BS 5238 Parts 1, 2, 3 & 4.

LOAD BEARINGS MUST NOT BE TRANSFERRED DIRECTLY ON TO THE TURRET

ACCESS COVER MUST BE SUPPORTED ON SEPARATE FRAME ABOVE TURRET WITH A 50MM CUSHION GAP

Option to upgrade to 'Vehicle Duty Cover'



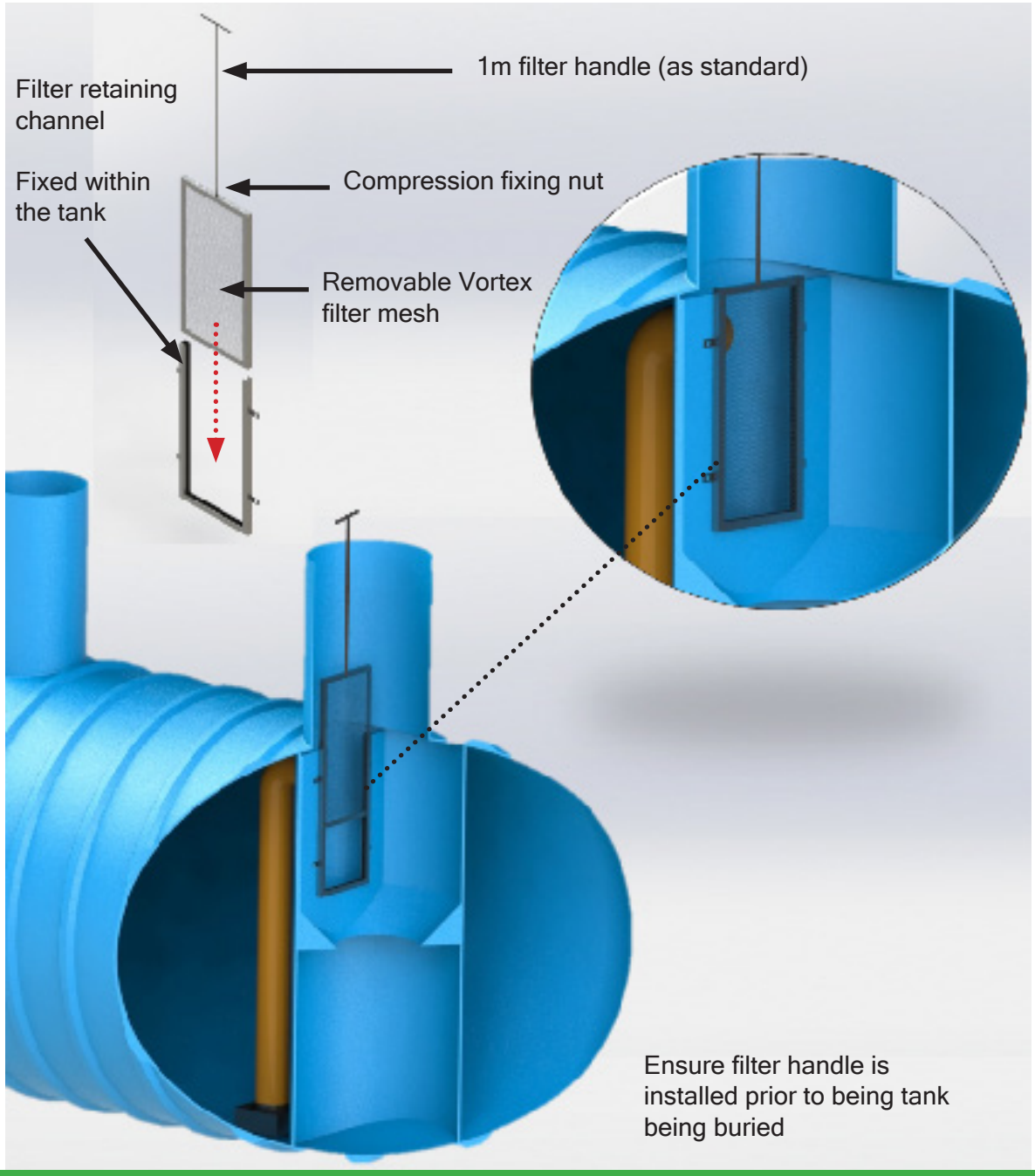
Pre - Tank Filter Handle Installation (before tank is installed)

Prior to the tank being installed it is imperative that the pre tank filter handle is installed onto the removable Vortex filter. Failure to do this at this stage will result in confined space entry into the tank at a later stage. This can be costly and in some cases very difficult to gain permission from the relevant site Health and Safety officer.

The pre -tank filter handle is fixed to the Vortex filter by pushing the handle into the compression fixing nut and then tightening, until it is secure.

Please ensure the filter is then re-installed into the runners within the pre-tank filter chamber.

The handle for the filter is located within the pump turret with the service ducts, for transit. A 1x 1m handle is supplied as standard, but this can be cut down to size. As an option, bespoke sizes are available to order from Stormsaver to suit depth from finished ground level, for deeper excavations.



Tank Installation

1. Lay a hardcore base in the excavation at a minimum depth of 150mm.

2. Cover the hardcore base with a 300mm layer of WET concrete and bed the tank onto the concrete ensuring there is a minimum of 300mm of concrete between hardcore and the base of the tank. Ensure there are no air pockets as voids can cause weak points. - DO NOT PUT THE TANK ON CONCRETE THAT IS DRY OR HAS SET.

3. Level the tank, ensure the correct orientation making it the right way round. (Please note that the inlet is the same side as the pre-tank filter and enters the tank higher than the overflow).

4. Connect turret extensions. Please note the turret extension with the pre formed pipe entries is for the outlet chamber (pump chamber), and the turret extension without any entry holes is for the inlet chamber (pre-tank filter chamber). Turrets may be connected to tank prior to back filling. Turret extensions should be sealed to the tank with a suitable sealant. This is to prevent ground water leaking into the tank at a later date, to prevent any water quality issues. Take care not to distort the turret shape when back filling.

5. Fill the inside of the tank with clean water to a depth of 300mm and then back fill around the outside of the tank with concrete to the same depth. Continue to fill the inside of the tank with water and backfill around the outside of the tank with concrete. Ensure the water and the concrete levels are filled equally during this process. Ensure the levels are within 300mm of each other at all times and that all compartments within the tank are filled at equal rates to maintain constant levels. Failure to do this will result in damage to the internal baffles and delaminating of the tank walls.

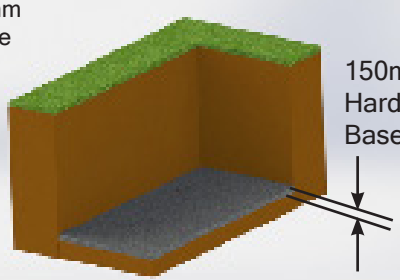
6. Work evenly around the tank using the tampering technique, taking care to work concrete under the tank to prevent voids. Continue until the tank is back filled. (Encased in at least 300mm of concrete around the whole tank).

7. Install 100mm ducting for electrical cables via a separate service chamber to house the pump isolators and 10% low level float connections. These should never be mounted within the tank turrets. This duct should be run from the building at the control panel location, to a separate service chamber (manhole) then from the service chamber into one of the 100mm pre formed duct entry points in the turret. The service chamber should be within 1m of the tank and in bird's eyes view of the pump turret.

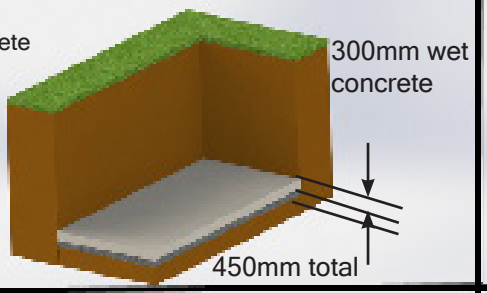
8. Install 63mm black and green MDPE in a trench from the building, laid in sand blinding at a depth of between 750mm and 1350mm to avoid freezing. This should be clearly marked as rain water pipework. The pipework should then be raised up to enter the one of the pre-formed 100mm entry points in the pump chamber. This should be NO MORE THAN 300MM BELOW FINISHED GROUND LEVEL. Where the pipework rises above 750mm from finished ground level it will need insulating to avoid freezing problems.
It is very important at this point to ensure that the pipework rises up to 300mm early enough so that it enters the turret level straight, otherwise the connections to the pumps will be impossible later in the installation process. It is important that the pumped pipework and electrical services are run in separate ducts.

9. Tank access turrets should be trimmed to suit ground level. If additional lengths of turret are required please ensure that the section with the pre-formed 2 x 100mm duct entry points is at the top making sure the duct entry points are no lower than 300mm from finished ground level. Stormsaver™ can provide extra turrets if required please call 0844 884 0015

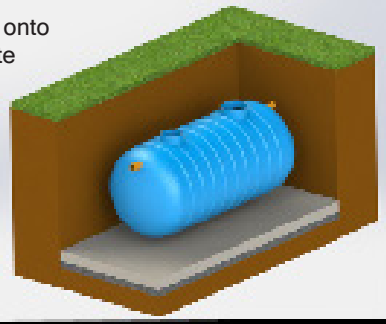
1 Lay flat 150mm hardcore base



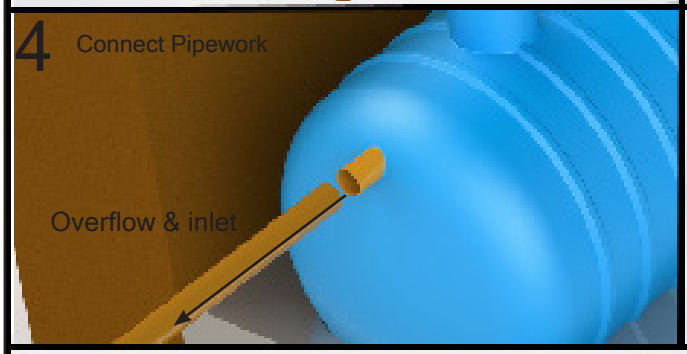
2 Pour 300mm of wet concrete



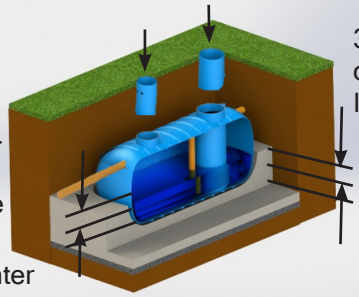
3 Lower tank onto wet concrete base



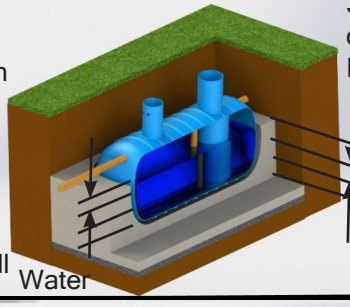
4 Connect Pipework



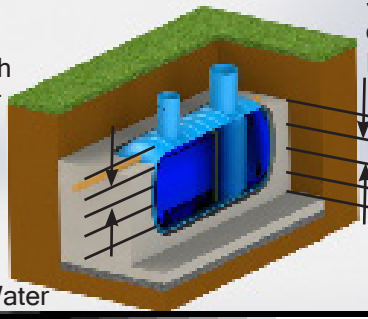
5 Fill tank with clean water in 300mm increments at an equal rate to concrete backfill



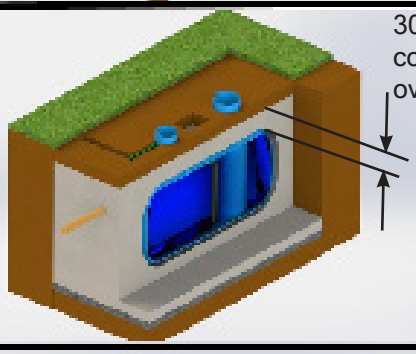
6 Fill tank with clean water in 300mm increments at an equal rate to concrete backfill



7 Fill tank with clean water in 300mm increments at an equal rate to concrete backfill



8 Tank 100% full with clean water



9

Install manhole covers.

* See drawing on tank excavation

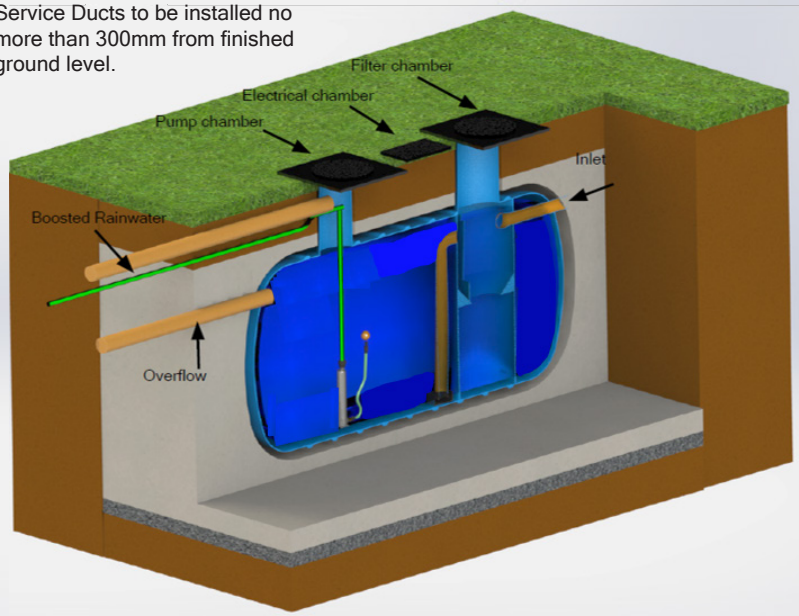
Take care to ensure the tank is kept clean, and that no debris contaminates the tank.

If the tank becomes contaminated, this will require professional cleaning prior to commissioning- contact Stormsaver Ltd for a quotation.

Dirty water and debris in the tank will lead to an aborted commissioning if not professionally cleaned.

GRP debris covers can be provided to keep the tank clean during installation.
Contact Stormsaver for more info- 0844 884 0015

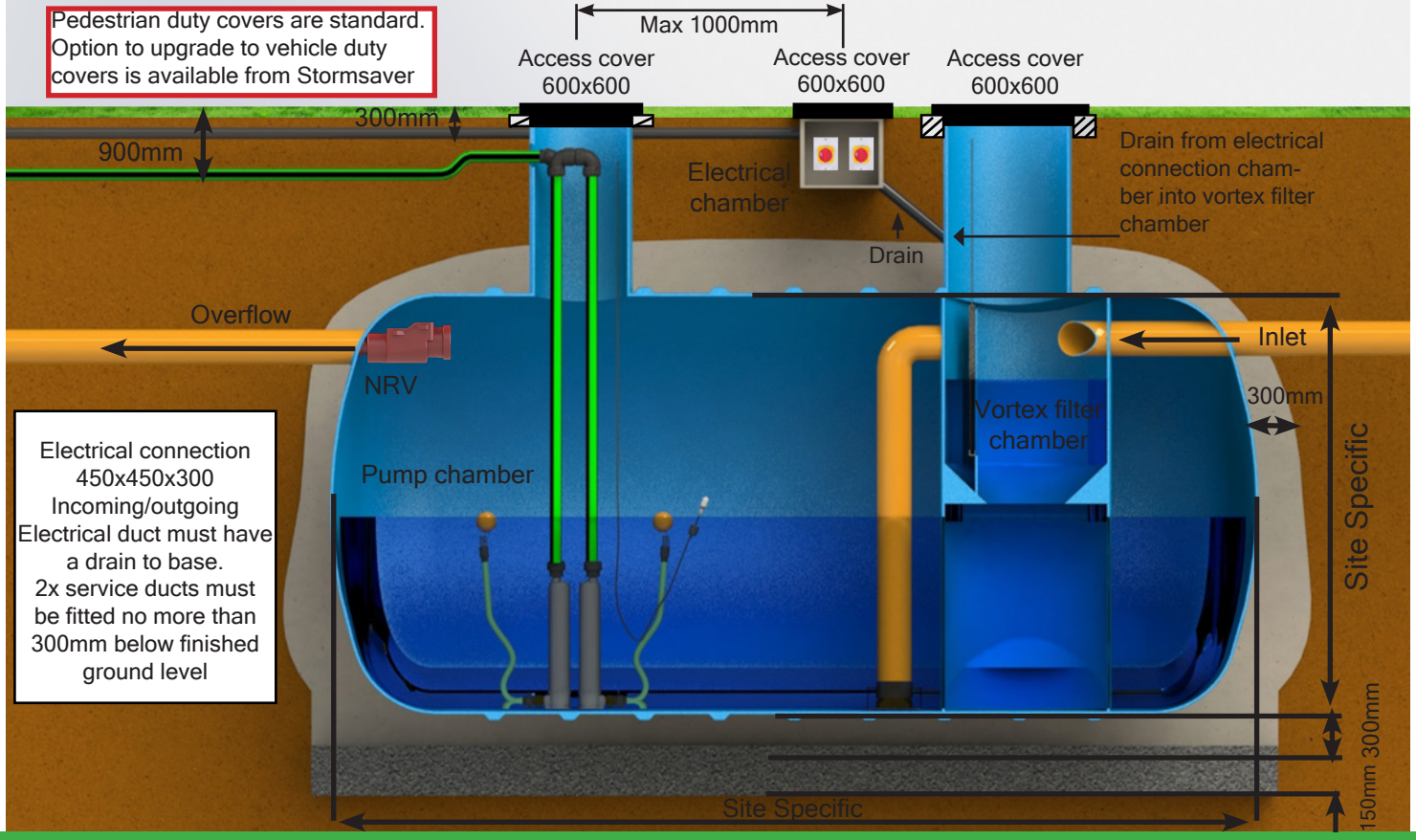
Service Ducts to be installed no more than 300mm from finished ground level.



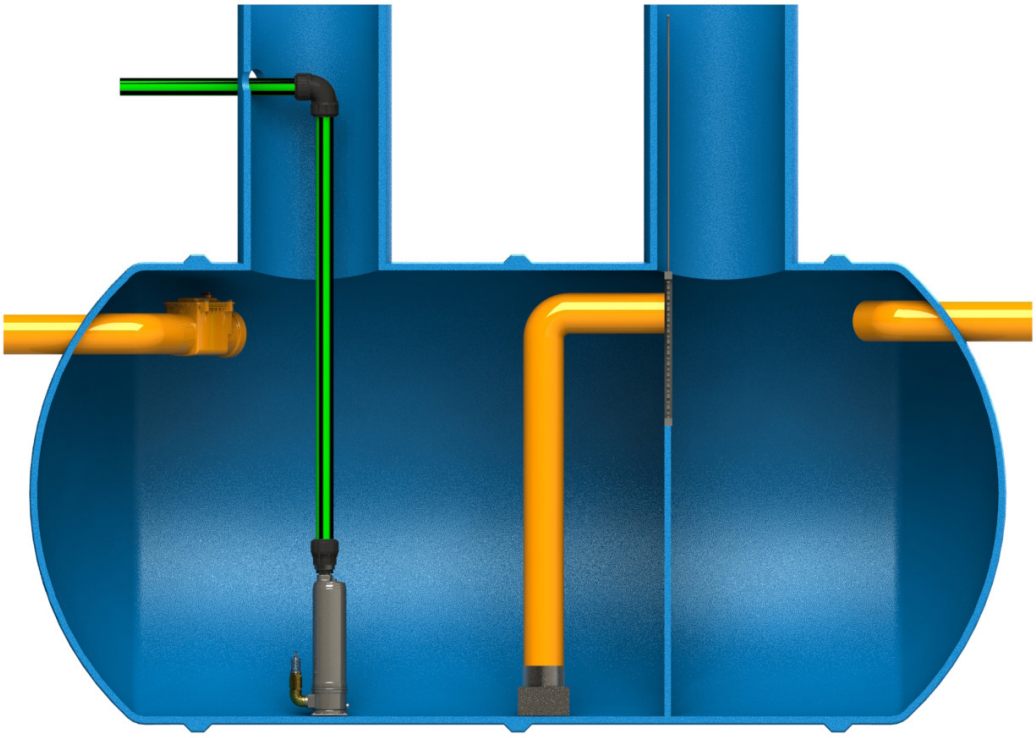
10. Install manhole frames. The 2 x 100mm service ducts must be no more than 300mm below finished ground level. Ensure road loadings are not transferred directly onto the turret and in turn the tank . Install vehicle duty covers if required.

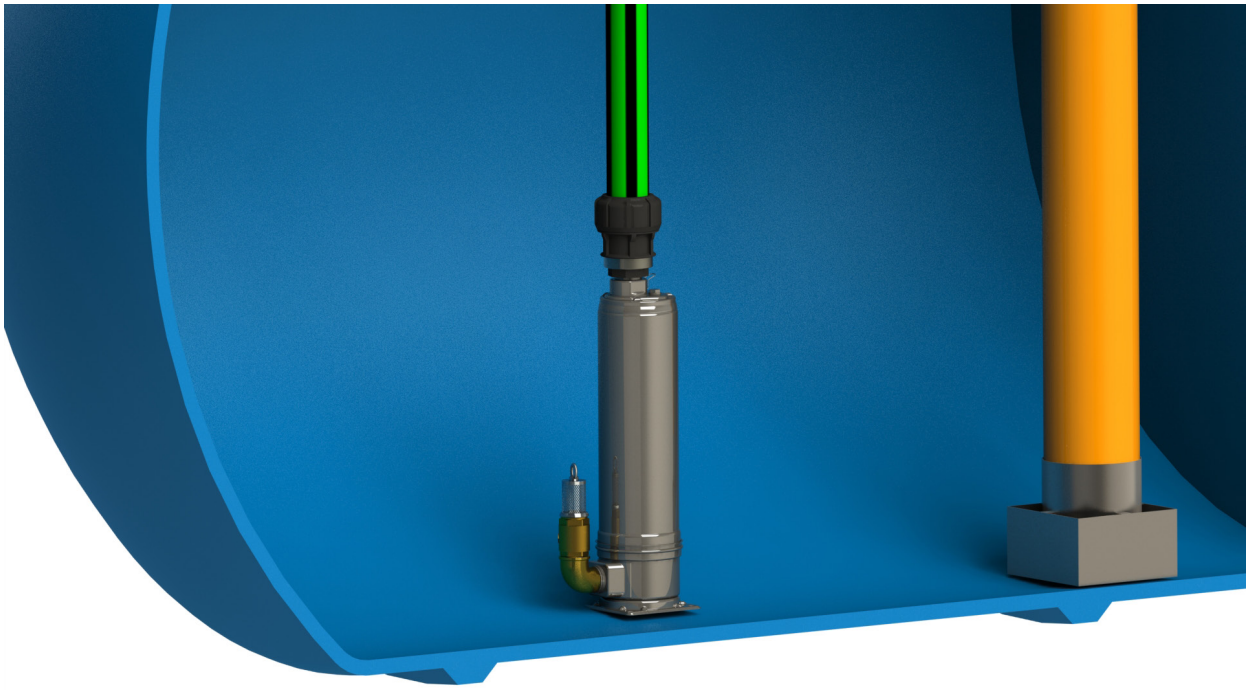
11. Lay a hard surround to the manhole covers ensuring that the surrounding surface water can freely drain away from the tank and is not able to create puddles over the tank covers. Surface water sitting over the tank covers could seep into the tank, causing water quality issues.

Installation Do's	Installation Don'ts
1.Install the pre-tank filter handle onto the pre-tank filter before you start work otherwise confined space access equipment will be required to do this, after the tank has been installed. 2. Check inlet and outlet pipe orientations. 3. Check turret duct entry points are no lower than 300mm from finished ground level.(This is to ensure the 90° pump pipework elbows are accessible for commissioning and servicing, and that the turrets are on the correct chambers) 4. Only use Stormsaver™ GRP turret extension pieces. 5. Check location of tank will not cause any structural problems to the building. 6. Check tank has not suffered any damage prior to offloading or installation. 7.Install the tank and level horizontal	1. DO NOT use mechanical compactors or vibrators. 2. DO NOT Let any building debris or other contaminants such as concrete, soil, gravel, sand, or dirty water get into the tank during, or after installation. Otherwise the tank will have to be emptied and thoroughly cleaned out and refilled before commissioning can take place. (Tank cleaning is available from Stormsaver at an additional cost) 0844 884 0015 DO NOT connect inlets to foul drains ACCESS COVER AND ANY LOADINGS TO BE SUPPORTED ON SEPARATE FRAME AROUND TURRET AND MUST NOT BE TRANSFERRED DIRECTLY ONTO TANK



Fixed foot filter - Underground tank





Sizing

The Stormsaver™ submersible pump is usually supplied with a floating suction filter kit. However if your underground tank is 9000L or less we will supply you with a fixed foot filter kit.

This is because at these tank sizes floating suction filters would not operate as designed. When space is a premium inside a tank a fixed foot filter kit is the perfect solution.

Fixed foot filter assembly

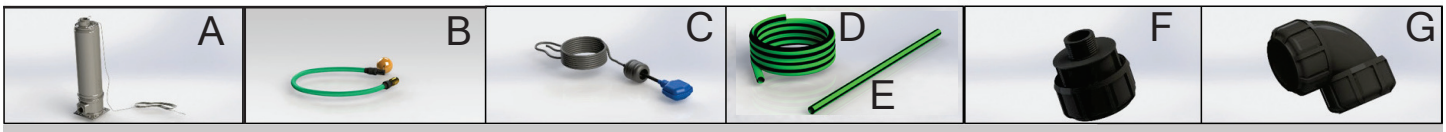
When assembling the filter kit ensure all the fittings are facing upwards parallel to the main body of the submersible pump. This is done to ensure the filter draws in clean water and the filter does not get blocked by possible sediment in the bottom of the tank.
A fixed foot filter kit is comprised of the following components:
- 1 x Foot filter
- 1 x NRV 1 1/4" Female to male
- 1 x 90˚ Brass elbow 1 1/4" Male to female

Ensure all fittings are tightened up correctly before pump installation.

Exploded view

Built up view

Equipment List for Single Pump Set



A. Submersible Pump x1

B. Floating Suction Filter, with Non Return Valve x1

C. Low Level Float Switch & 5m cable x1 (Please ensure this is installed to reach the bottom of the tank)

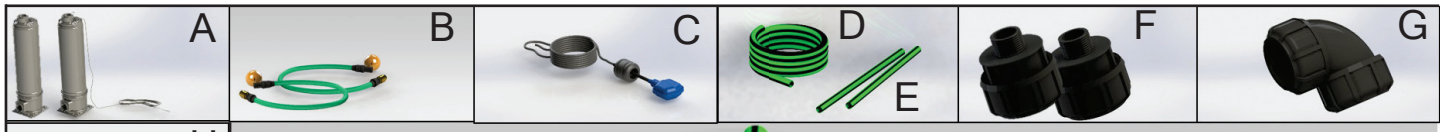
D. Coil for underground pipework- black and green MDPE Pipework 63mm- (supplied as optional)

E. Straight length black and green MDPE for pump pipework 63mm (supplied as optional)

F. MDPE compression Philmac fitting x1 with a 2"-1 ¼" male nipple (supplied as optional)

G. MDPE compression Philmac elbow x1 (supplied as optional)

Equipment List for Duty Standby Pump Set



A. Submersible Pump x2

B. Floating Suction Filter, with Non Return Valve x2

C. Low Level Float Switch & 5m cable x1 (Please ensure this is installed to reach the bottom of the tank)

D. Coil for underground pipework- black and green MDPE Pipework 63mm- (supplied as optional)

E. 2x Straight length black and green MDPE for pump pipework 63mm (Supplied as optional)

F. 2x MDPE compression Philmac fitting x2 with a 2"-1 ¼" male nipple (supplied as optional)

G. MDPE compression 63mm Philmac elbow x1 (supplied as optional)

H. MDPE compression 63mm Philmac Tee connector x 1 (supplied as optional)

Installation of pump and pipework within pump chamber

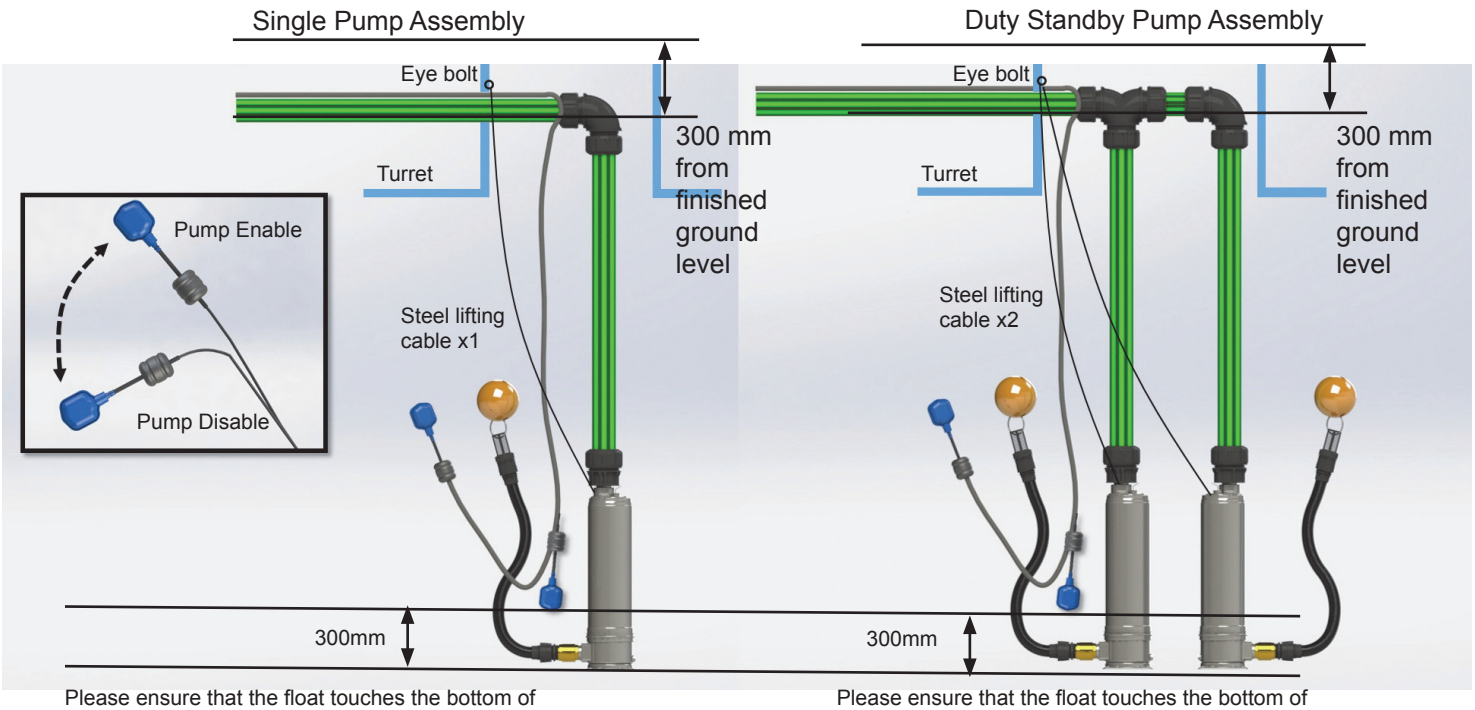
All pipework from the pump's to the building MUST be installed in 63MM BLACK AND GREEN MDPE.

Install the 63mm MDPE so it enters the turret no more than 300mm below finished ground level. It must be level and in the centre of the turret. Failure to do this will mean there will not be enough room to accommodate the bends required to connect the pumps. This is to ensure that the pumps can be safely removed during the commissioning process and during service maintenance visits. THIS IS THE MOST COMMON REASON FOR ABORTED COMMISSIONING VISITS.
Stormsaver will not be able to complete the commissioning if pipework enters the tank below 300mm from finished ground level. Please be aware this will incur additional costs.

Stormsaver recommend Philmac fittings. Complete pipe fitting kits, rolls and straight sticks of 63mm black and green MDPE can be ordered directly from Stormsaver if required as an option 0844 884 0015.

The pump, floating suction hose and pipework is to be assembled as per the diagram below.
The vertical pipework drops must be straight lengths of 63mm black and green MDPE and not from a coil.
Flexible pipework is NOT suitable as it is imperative the pump's do not move around during start up, as this causes damage to the tank, cables and/or float switches within the tank.
All connections should be 63mm MDPE compression tees and elbows to enable the pumps to be disconnected for commissioning, service and maintenance.

Gently lower the pump back into the pump chamber using the steel lifting rope provided. Fix the steel rope to the turret wall.

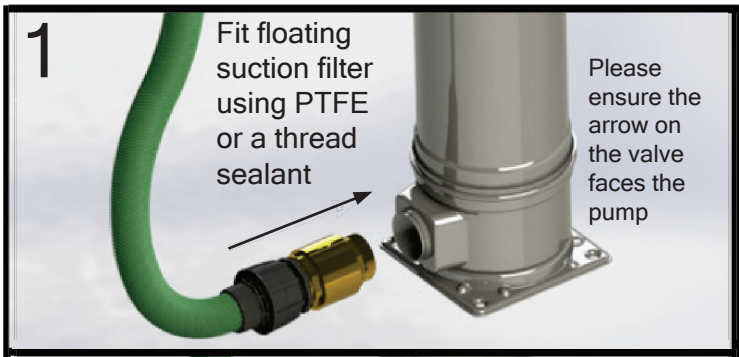


DO NOT
USE POWER CABLE TO LIFT PUMP

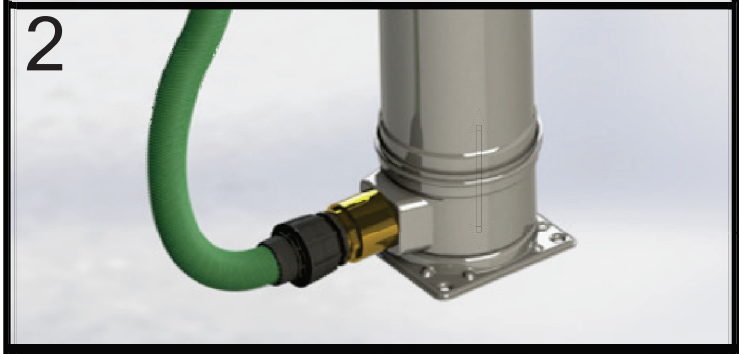
Assembly of M range Submersible Pump (Example shows both Single & Duty Standby assembly)

1 Fit floating suction filter using PTFE or a thread sealant

Please ensure the arrow on the valve faces the pump

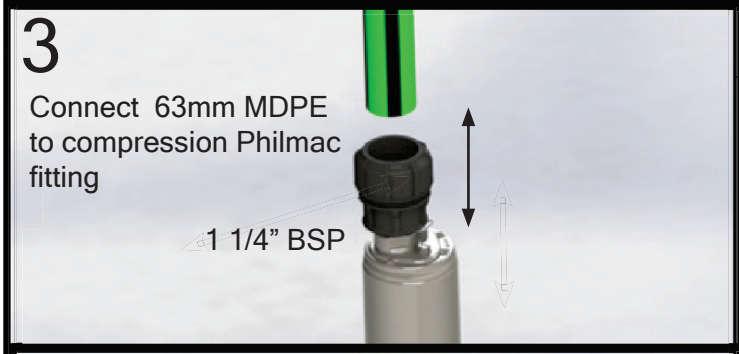


2



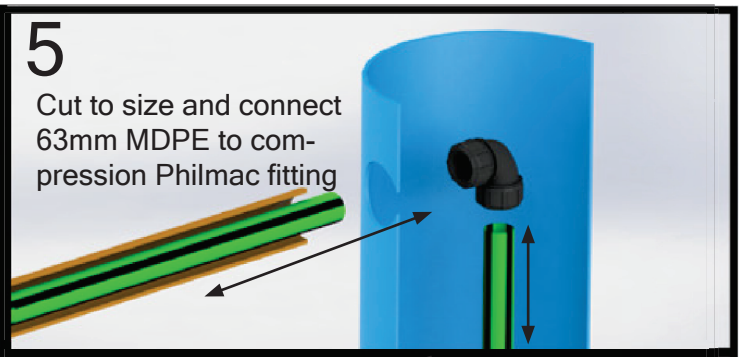
3 Connect 63mm MDPE to compression Philmac fitting

1 1/4" BSP

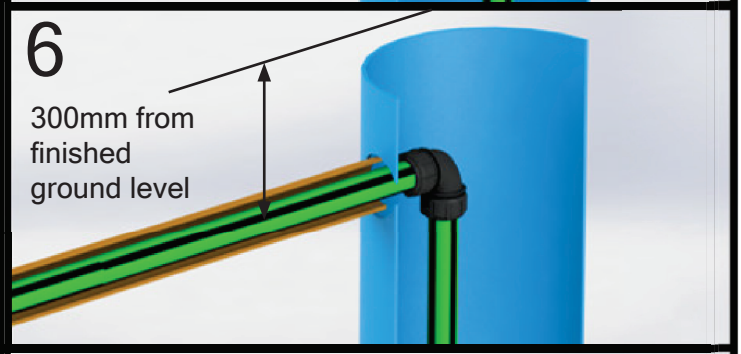


4 Lower pump and pipework into pump chamber- make sure to use steel lifting cable

5 Cut to size and connect 63mm MDPE to compression Philmac fitting

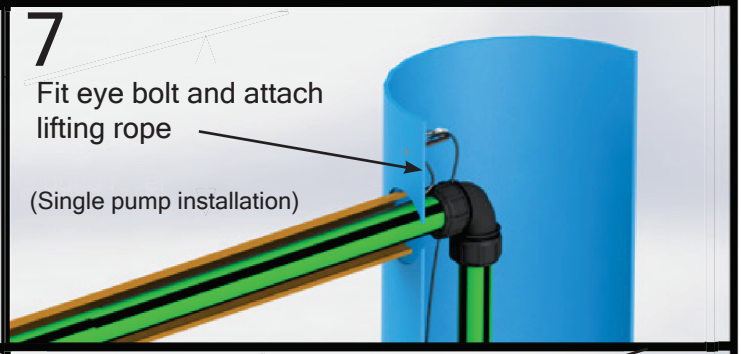


6 300mm from finished ground level



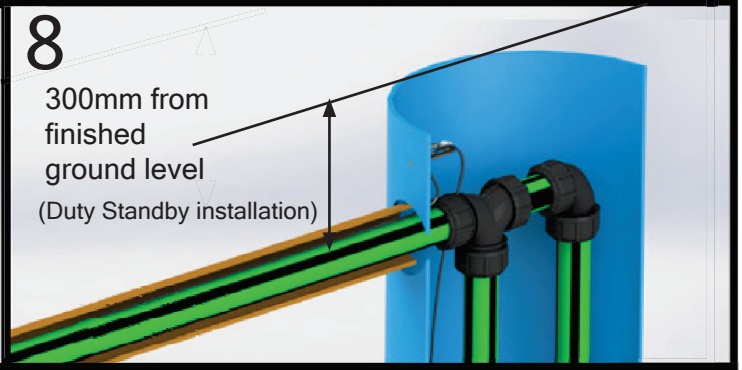
7 Fit eye bolt and attach lifting rope

(Single pump installation)



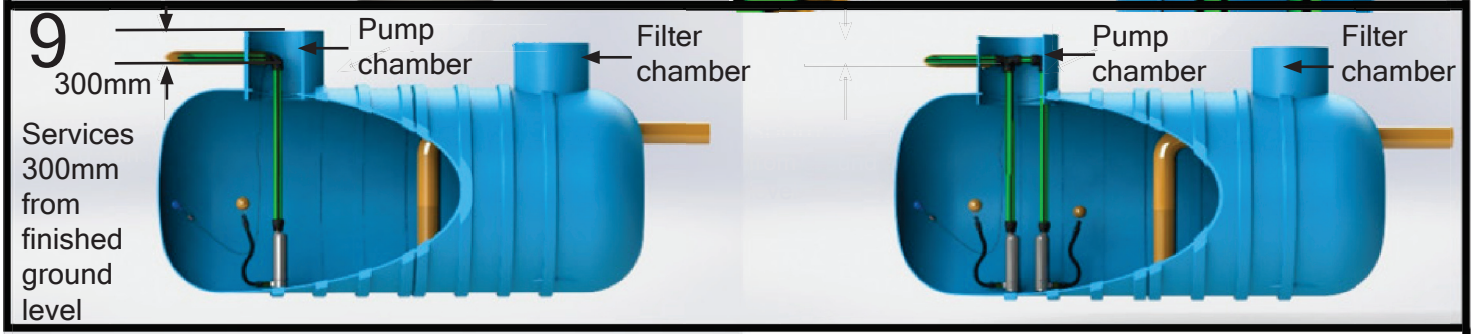
8 300mm from finished ground level

(Duty Standby installation)



9 300mm

Services 300mm from finished ground level



Single Pump Installation

Duty Standby Installation

Positioning of Combi unit

1. The Combi unit should be located within an appropriate area of the building, such as a plant room. The Combi unit is NOT weather proof and therefore should be positioned inside so it is kept dry, frost free and protected from the elements.

2. The Combi unit must be located higher than the storage tank. If the Combi unit is to be installed below the storage tank- please contact Stormsaver™ for technical advice

3. The Combi unit can only be floor mounted. Wall mounting is not possible. It is critical to ensure the floor is flat and level and the area of the building is designed to carry the weight of the unit and associated pipework when full of water, due to the weight of the unit.

4. The Combi unit must be located close to a mains water supply and will require a sealed floor drain. There must be adequate ventilation and lighting for commissioning and for future maintenance.

5. The Combi requires access to each side of the unit for service and maintenance purposes. Failure to adhere to these parameters can result in maintenance not being able to be carried out.

- minimum 600mm above
- minimum 400mm to each side
- minimum 1000mm to the front to allow the door to fully open.
- minimum 100mm to the rear, so that it conforms to the WRAS water regulations

6. Plant room must be able to accommodate the units dimensions and clearance requirements for maintenance and access.

7. All inlets must be isolated with lever or gate valves before connecting the Combi unit to ensure that each supply can be independently isolated (by others).

WRAS COMPLIANT PRODUCT

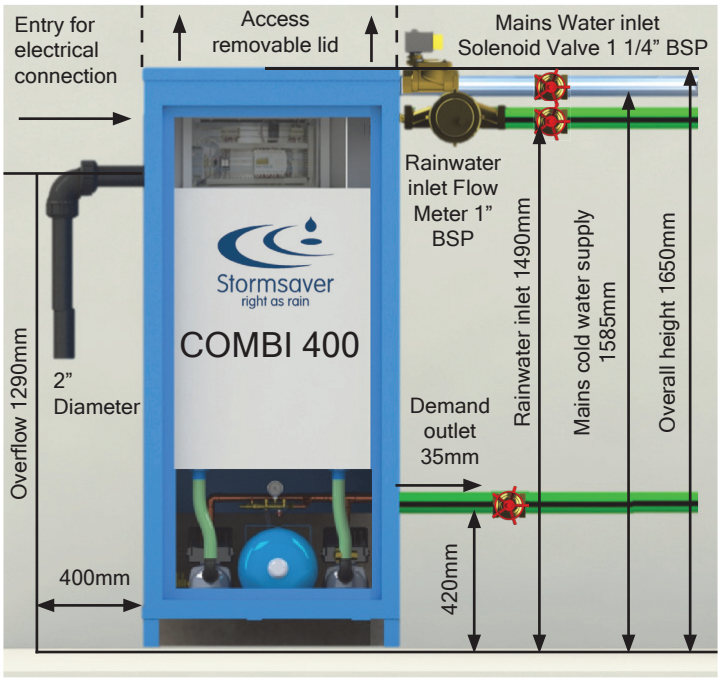
Unit	Dimensions L x W x H	Dry Weight	Wet Weight
Combi 400	840 x 740 x 1675	Min .250kg	Max .887kg
Combi 620	1000 x 750 x 1950	Min .350kg	Max .950kg
Combi 620 Filter	1000 x 750 x 1950	Min .400	Min .1000kg

Pipework connections to Combi unit: Connnect pipework to Combi as shown

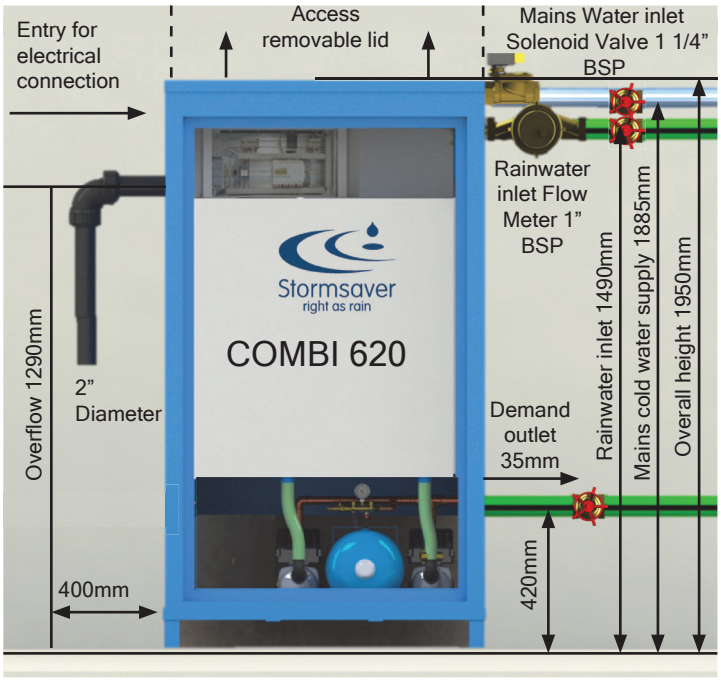
PLEASE NOTE: Check which model Combi you have. Each type of Combi has different pipework connection locations.

Units supplied loose with:
1x1" BSP Water Meter- (Combi 620 Filter has this built in)
1x1-1-1/4 Mains water Solenoid Valve

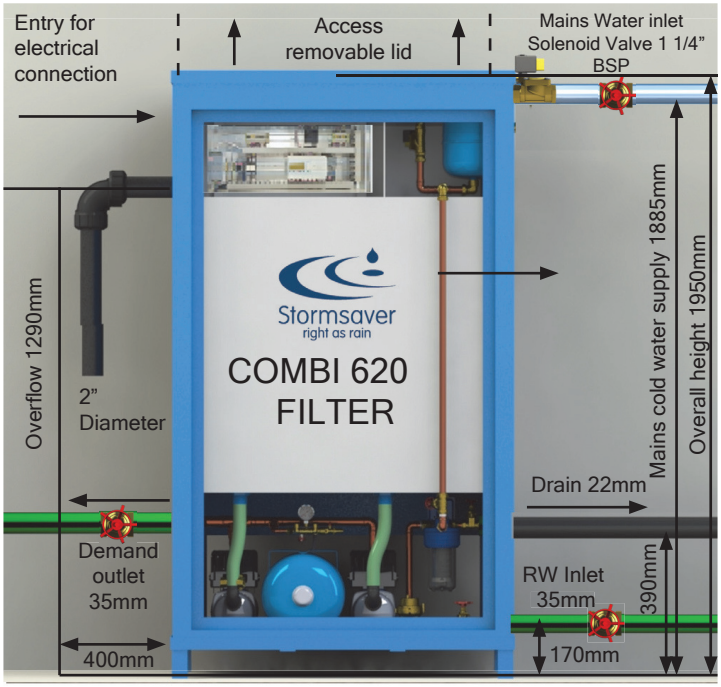
1. COMBI 400



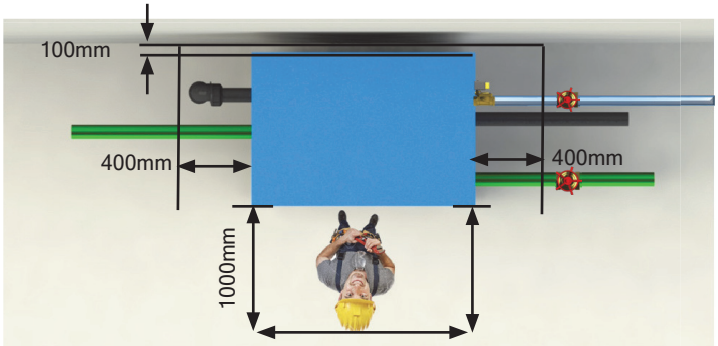
2. COMBI 620

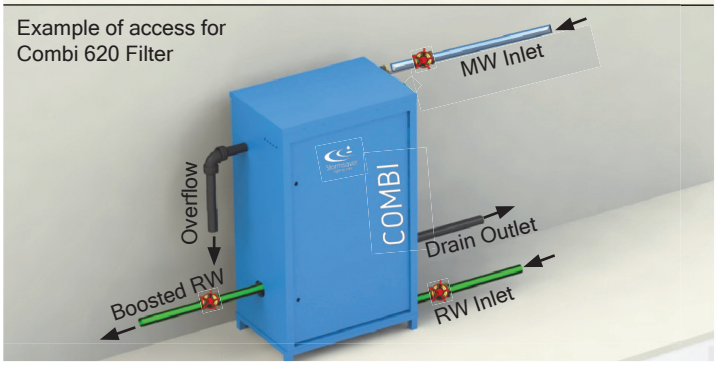


3. COMBI 620 FILTER



4. Access required: Applies to ALL MODELS

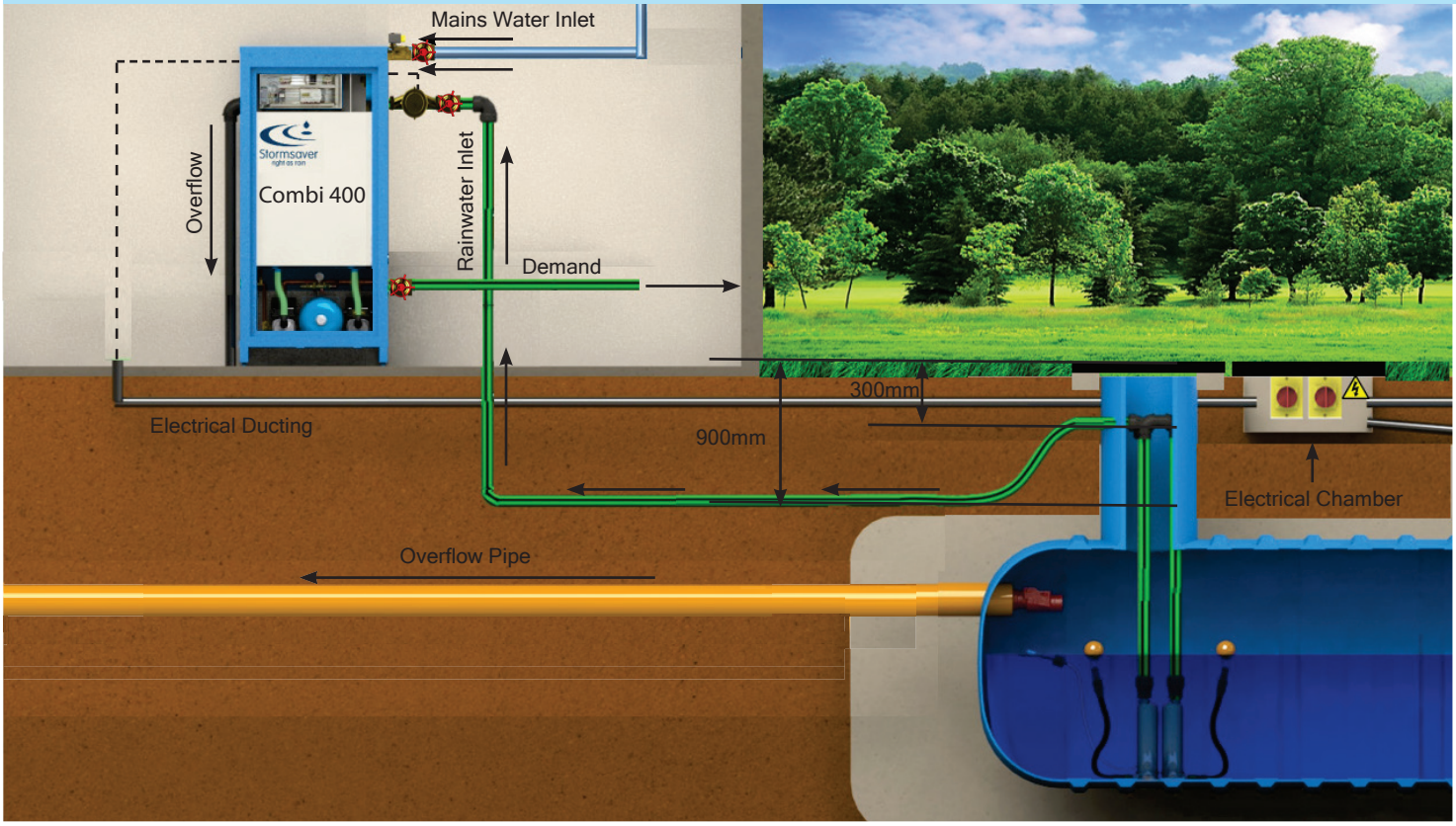




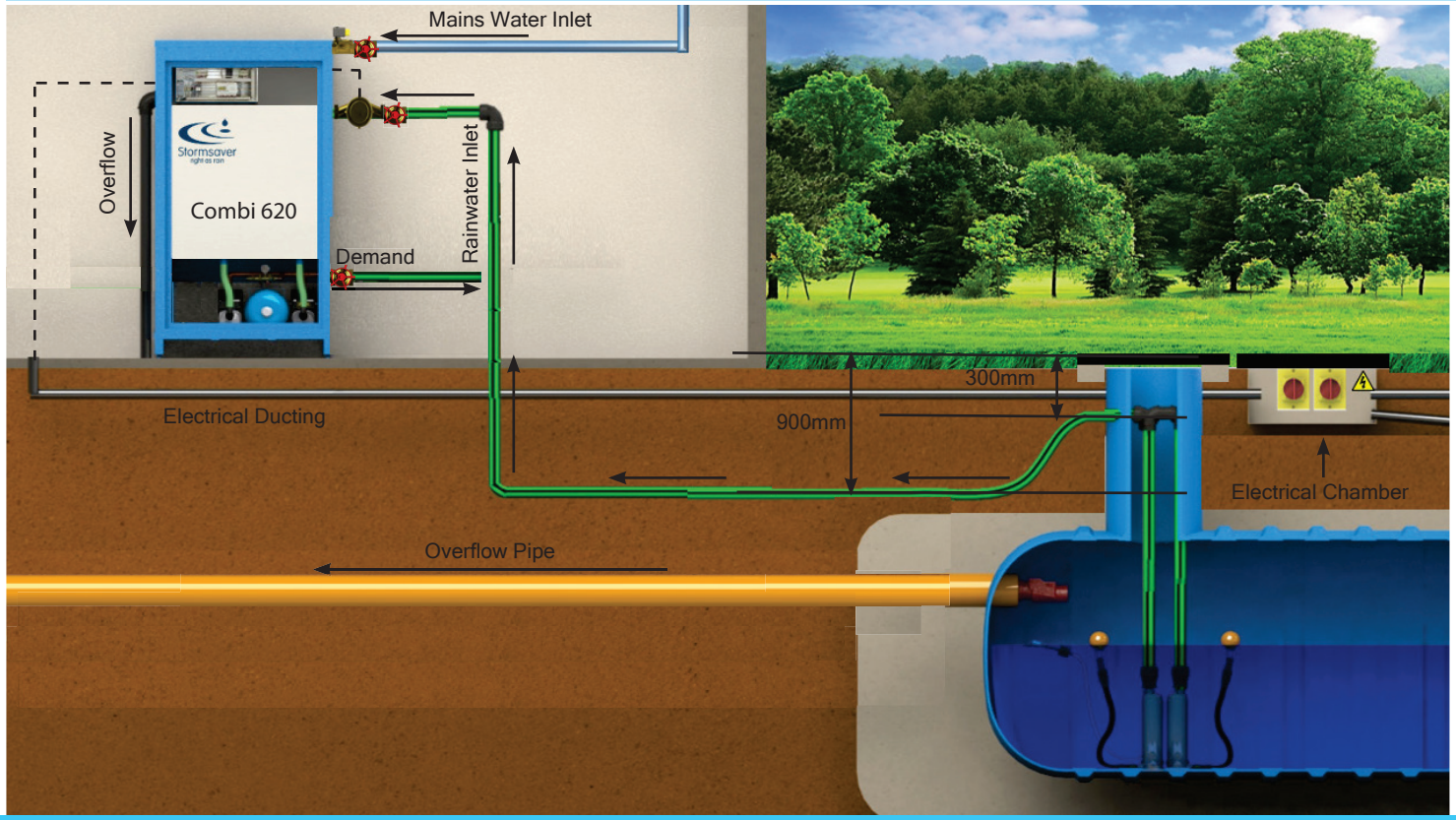
Pipework connections to Combi unit

Connect the mains water, rainwater, drain and outlet pipework to the Combi as per the below.
NOTE- that each drawing refers to a different Combi model. Please check which model you have prior to connecting the pipework, as stated previously.

1. Combi 400



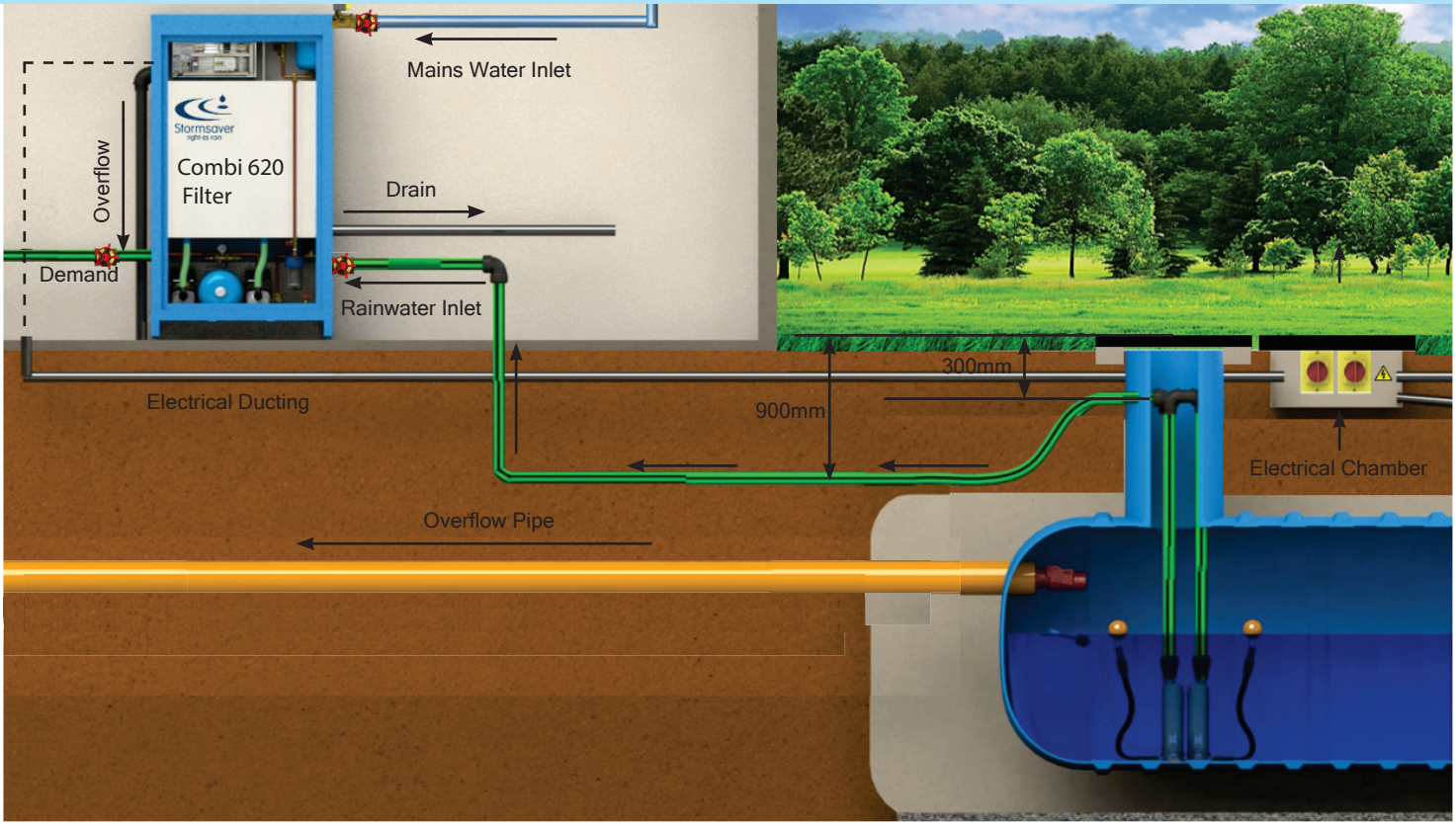
2. Combi 620



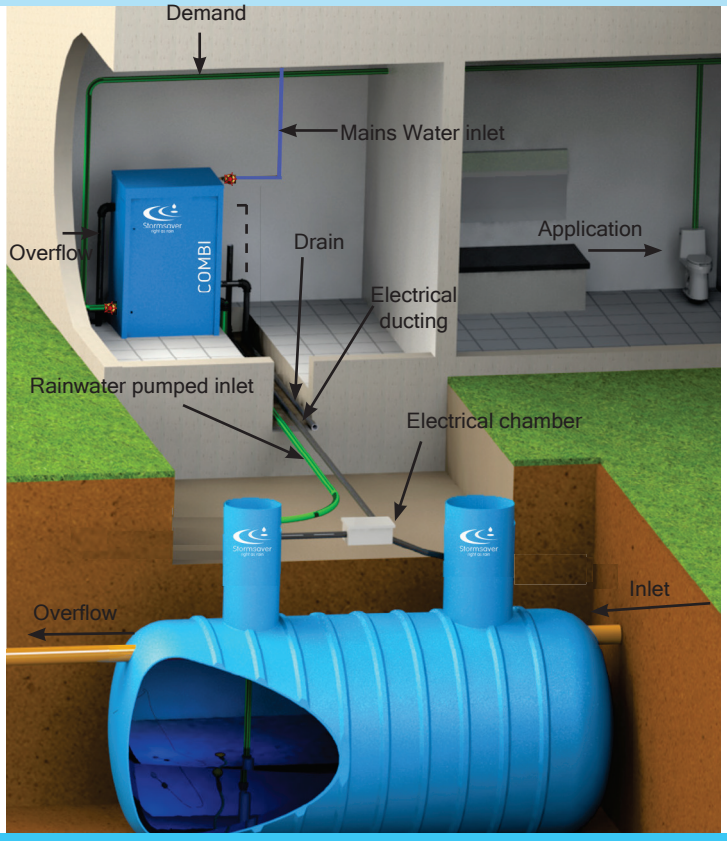
Pipework connections to Combi unit

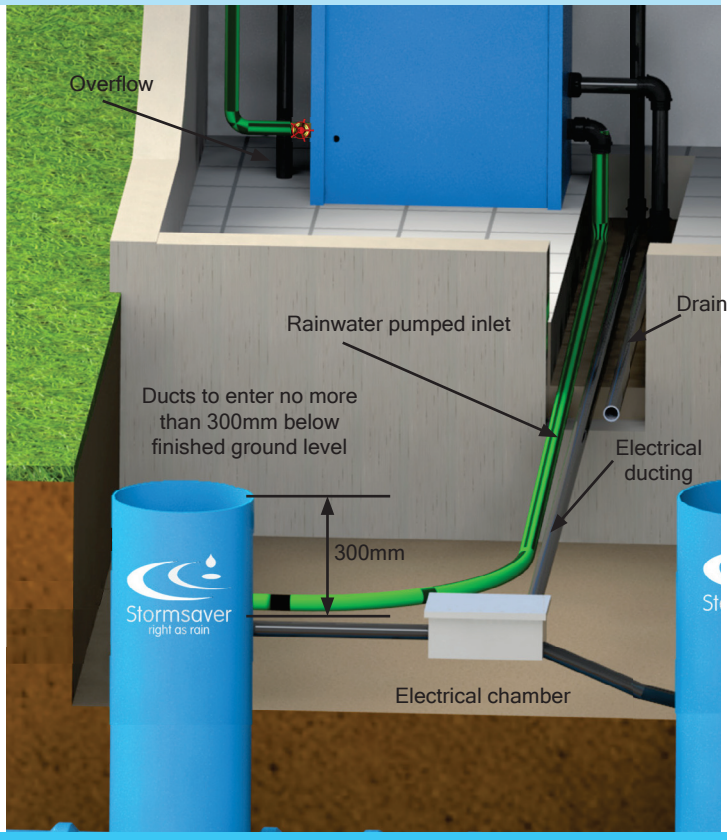
Connect the mains water, rainwater, drain and outlet pipework to the Combi as per the below.-
NOTE- that each drawing refers to a different Combi Model. Please check which model you have prior to connecting the pipework, as stated previously.

3. Combi 620 Filter



4. How pipework connects to Tank- For all Combi models (620 Filter pictured)





Positioning of Cartridge Filter (Example shows Combi 620L)

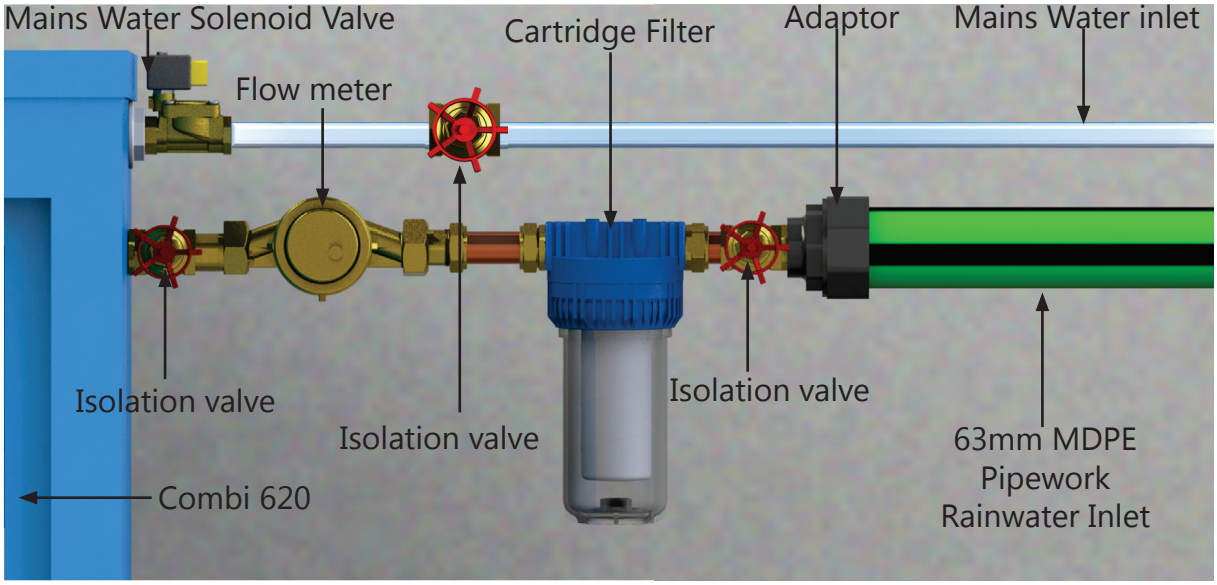
If a separate Cartridge Filter (optional) has been purchased as part of your package then this should be installed as below:

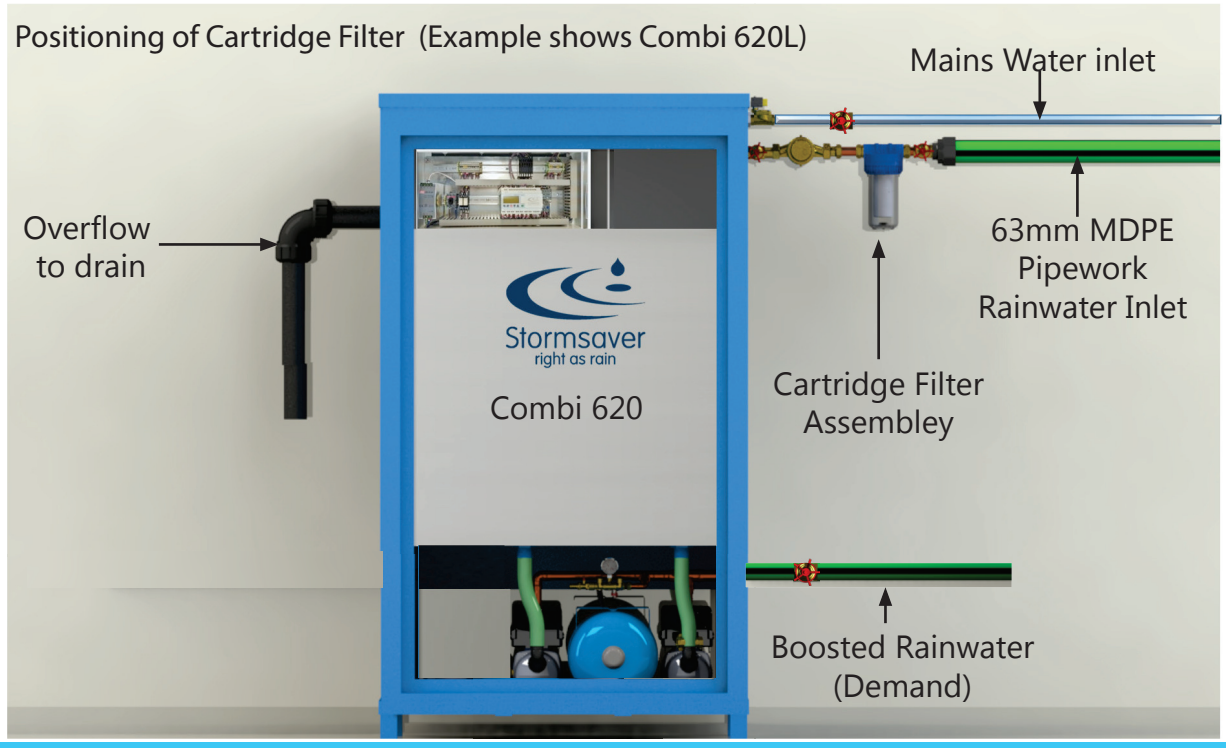
1. The Cartridge Filter should be fitted on the rainwater inlet pipework to the Combi unit, BEFORE the flow meter.

2. For maintenance an isolation valve should be fitted in the pipework before the filter and after the flow meter.

3. The Cartridge Filter arrangement is only applicable to Combi 400 and 620 models. If you have a Combi 620 Filter you will not need to install a separate Cartridge Fiter as an Auto Backwash Filter will have already been pre-assembled and installed inside the Combi by Stormsaver ™.

4. Install isolators on both RW and MW inlets



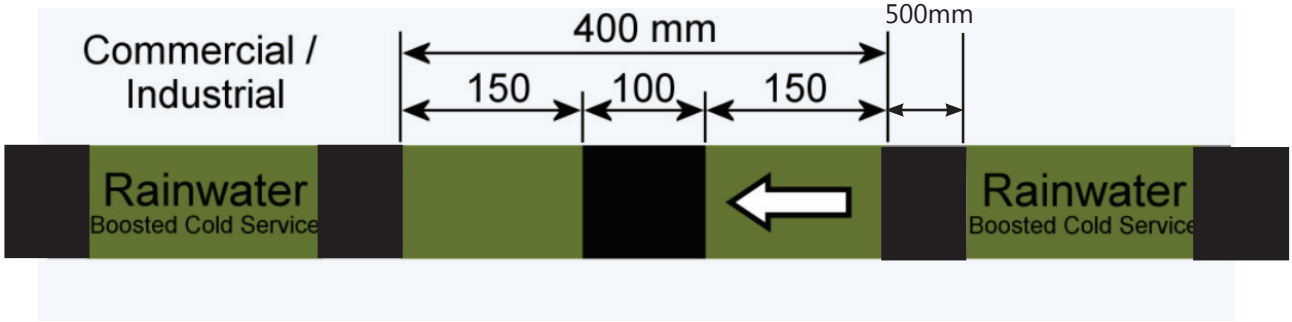


Labelling of pipework and points of use

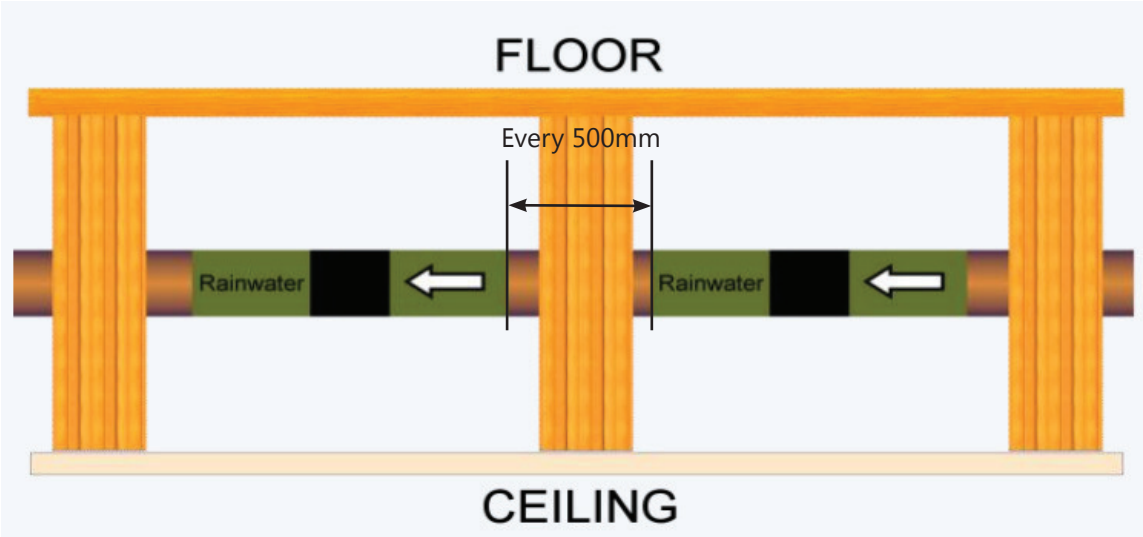
To reduce the risk of cross-connection and contamination of the wholesome water supply, it is essential that all reused water pipework is both readily distinguishable from other pipework and instantly recognisable wherever it is located, for example inside a property, beneath the street, or on private land.

So that accidental or deliberate operation, that could put the wholesome supply at risk, can be avoided, all apparatus such as valves and washouts on systems distributing reused water should be suitably marked and significantly different from those normally used on wholesome water distribution networks.

Please use the following instructions in connection with the Stormsaver™ warning labels (available as an option) to ensure your system is correctly labelled and meets WRAS regulation standards IGN: No 9.02.05.

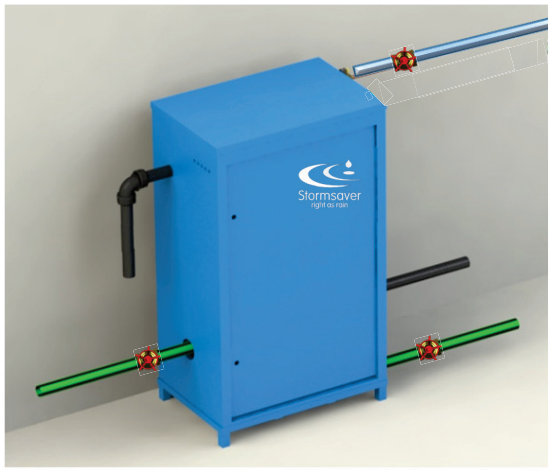


Examples of recommended labelling for pipework inside buildings. All pipework inside buildings should be labelled as shown above to ensure it is easily identifiable as a rainwater supply.



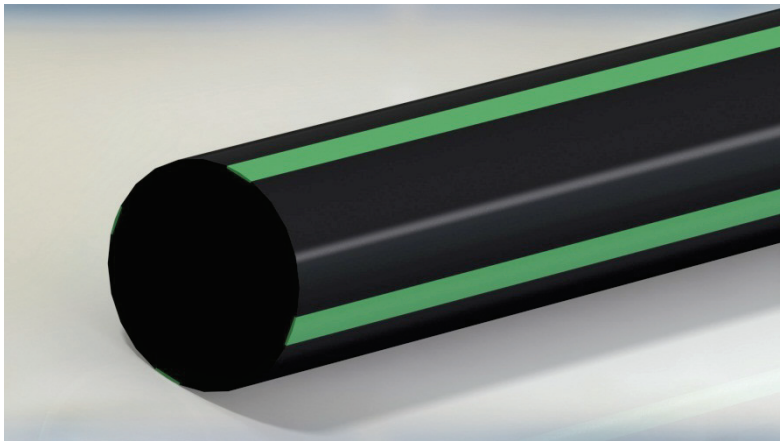
Marking of pipework in areas not easily exposed. When only small sections of pipework are visible for example between floor joists, a label should be applied at least once in every void as demonstrated.

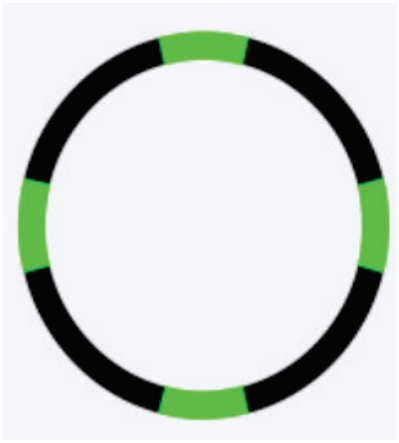
(Example shows Combi 620L)



All rainwater storage facilities and points of use should be clearly labelled using the above signage as shown.
All labels kit can be purchased from Stormsaver™0844 884 0015

Example of labels that should be used at key connection points.





Any pipework carrying rainwater, to other points of use, that is located outside the building should be black plastic pipe marked with green horizontal stripes at the four quadrants as illustrated above.

All pipework and labels are available to purchase from Stormsaver™ but are not supplied as part of the standard package.

Mains Supply

1. The mains electrical supply to the unit requires 230v 50Hz 20A, type C MCB.

2. A separate rotary isolator mounted locally must be fitted by others to provide a means of safe isolation. This is in addition to the isolator provided within the control unit.

Pumps & float switch within the storage tank

1. Connect each pump into the appropriate IP rated local rotary isolators in the separate service chamber located next to the tank pump chamber

2. Each pump requires wiring back to the Combi unit control panel separately.
- Terminals 4A & 5A for pump one
- Terminals 6A & 7A for pump two (if supplied)

3. Fit the 10% low level switch with weight in the tank and terminate at the service chamber into a junction box. Wire back to the Combi unit
- Float switch core colour Brown - Terminal 11
- Float switch core colour Black - Terminal 12
- Float switch core colour Grey - Terminal unused. Leave in connector. DO NOT CONNECT TO EARTH.

Control Panel

1. Wire the mains water solenoid valve back to the Combi unit control panel - Terminals 19 & 20 + Earth

2. Wire the rainwater meter read cable back to the Combi unit control panel - Terminals RW1 & RW2 (do not connect any other BMS to these terminals). Only valid for Combi 400 and 620 units. (Not Combi 620 Filter).

Cable sizing will need to be calculated on-site and verified by others before installation. To suit individual site requirements.

Additional connections

The following items may be included. Please check Stormsaver specification of equipment ordered.

1) Monitoring Panel

Fit panel and supply with local fused 3A power supply. Connect back to control panel for metering

2) BMS

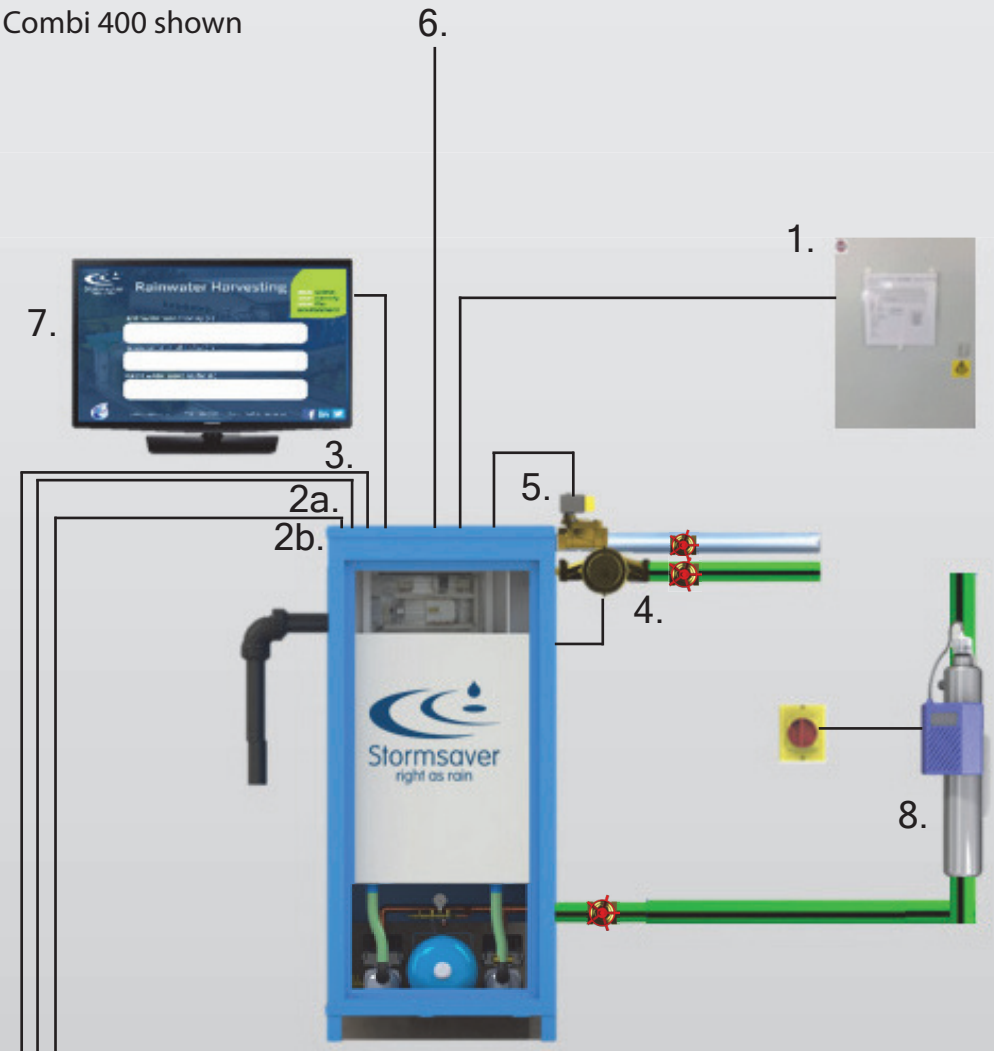
Connect BMS to control panel.

3) UV Disinfection Unit

The UV requires installing in the outlet pipework from the Combi unit. Connect local power supply to the UV disinfection unit. This does NOT need to be connected back to the control panel as this is a stand alone item

Electrical Diagram

Combi 400 shown



1. Mains Power Supply 230V 50Hz 20A Type C MCB

2a. Submersible pump 3 core, SWA 230v

2b. Submersible pump 2-3 core, SWA 230v

3. Tank 10% Low Level dry run protection switch 2 core 24v

4. Rainwater Flow Meter (400 and 620 non filter)

5. Mains Water Top- Up Solenoid Valve 3 core 24v

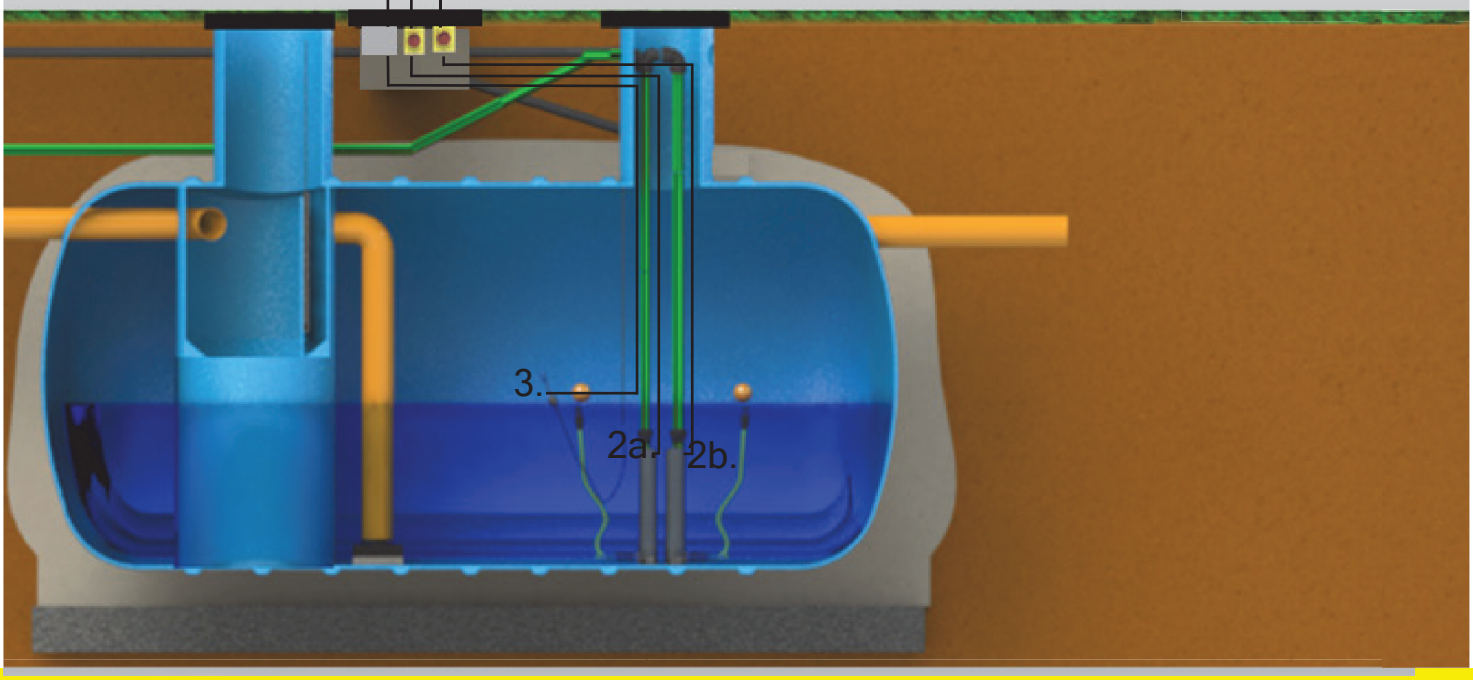
6. Common Alarm for BMS

7. Monitor unit (optional)

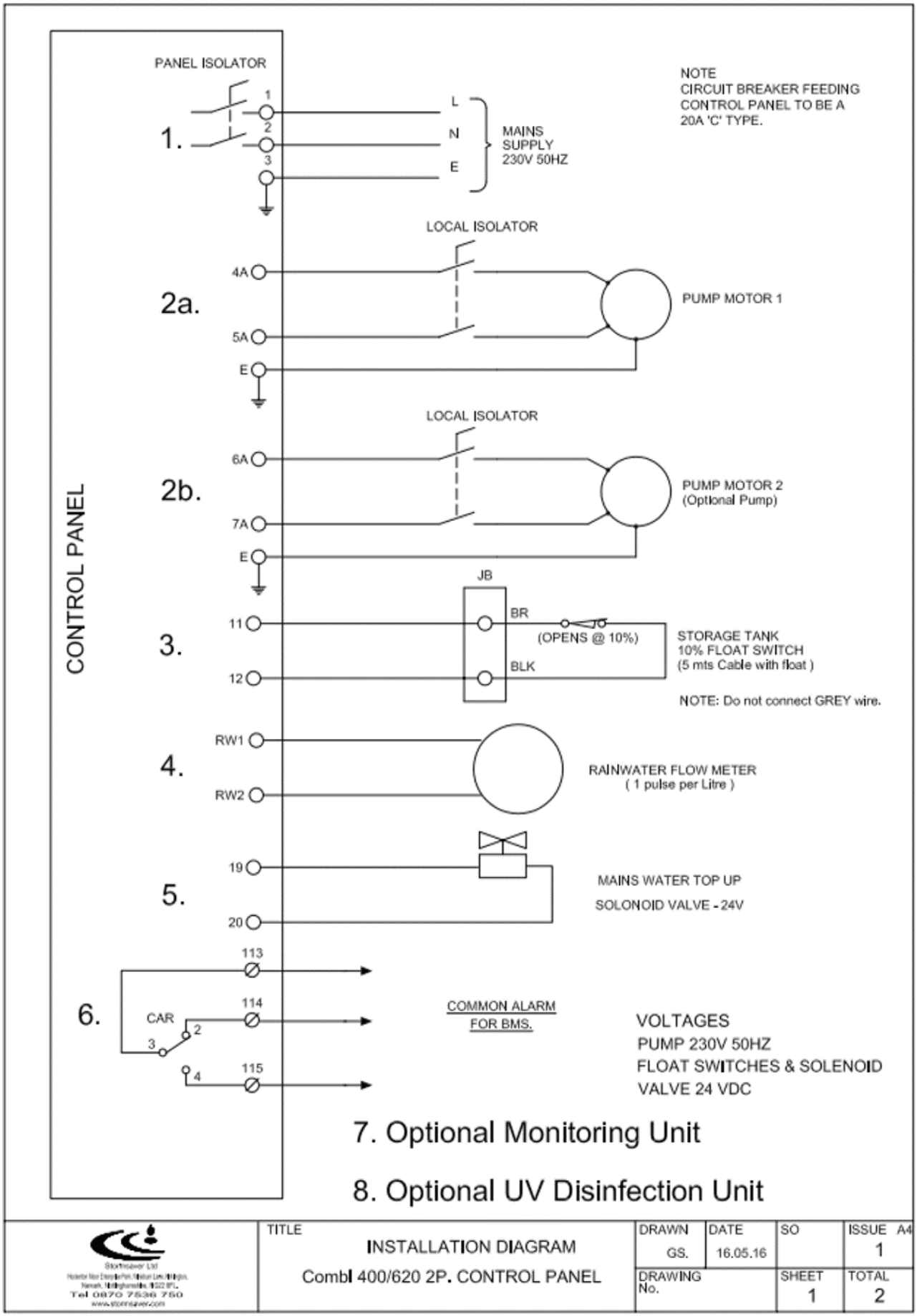
8. UV Disinfection Unit (optional)

Isolators and junction box in separate chamber

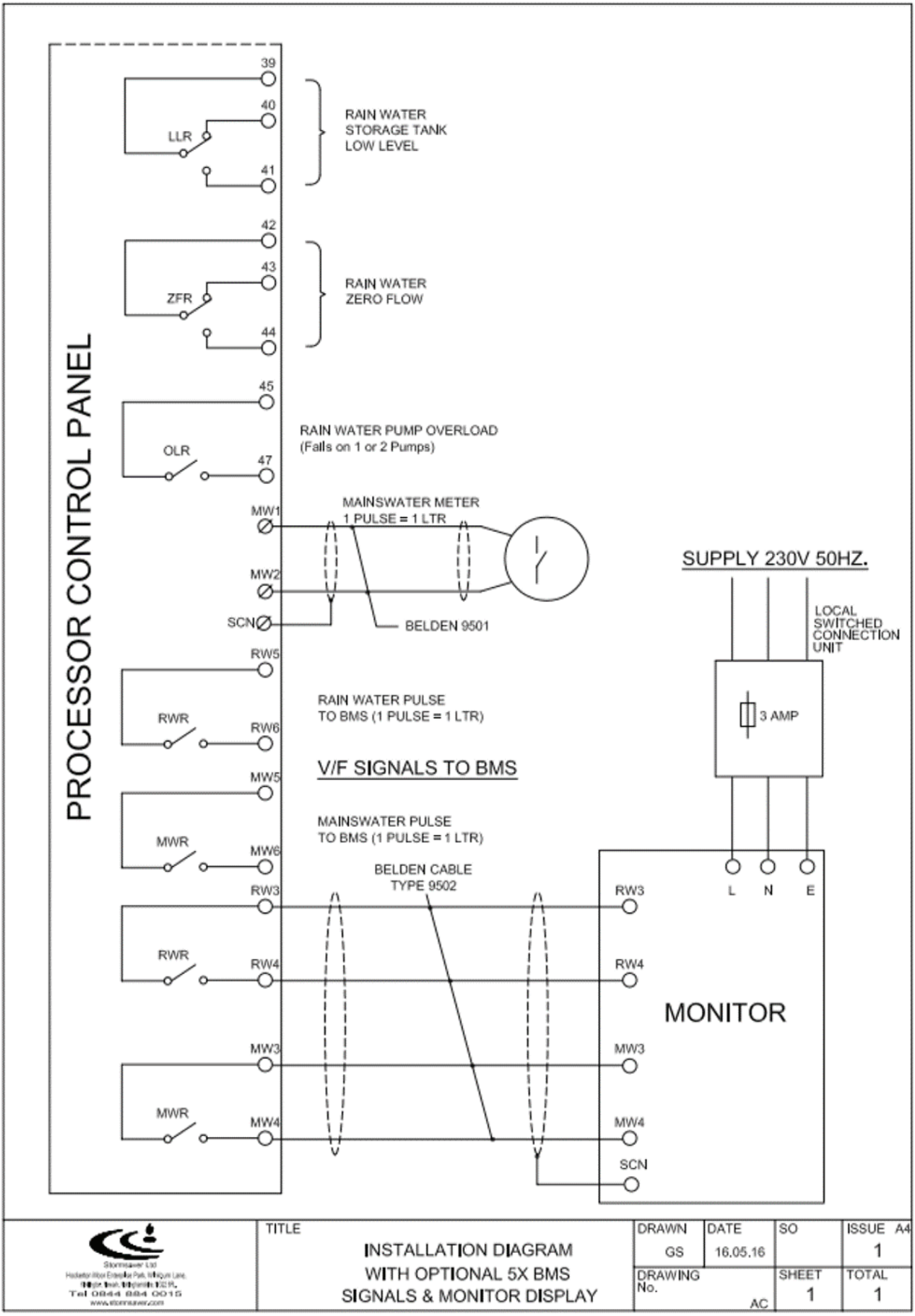
Cable sizing will need to be calculated on site and verified by others before installation to suit individual site requirements.



Wiring Diagram



Wiring Diagram



save water,
save money,
save the
environment

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