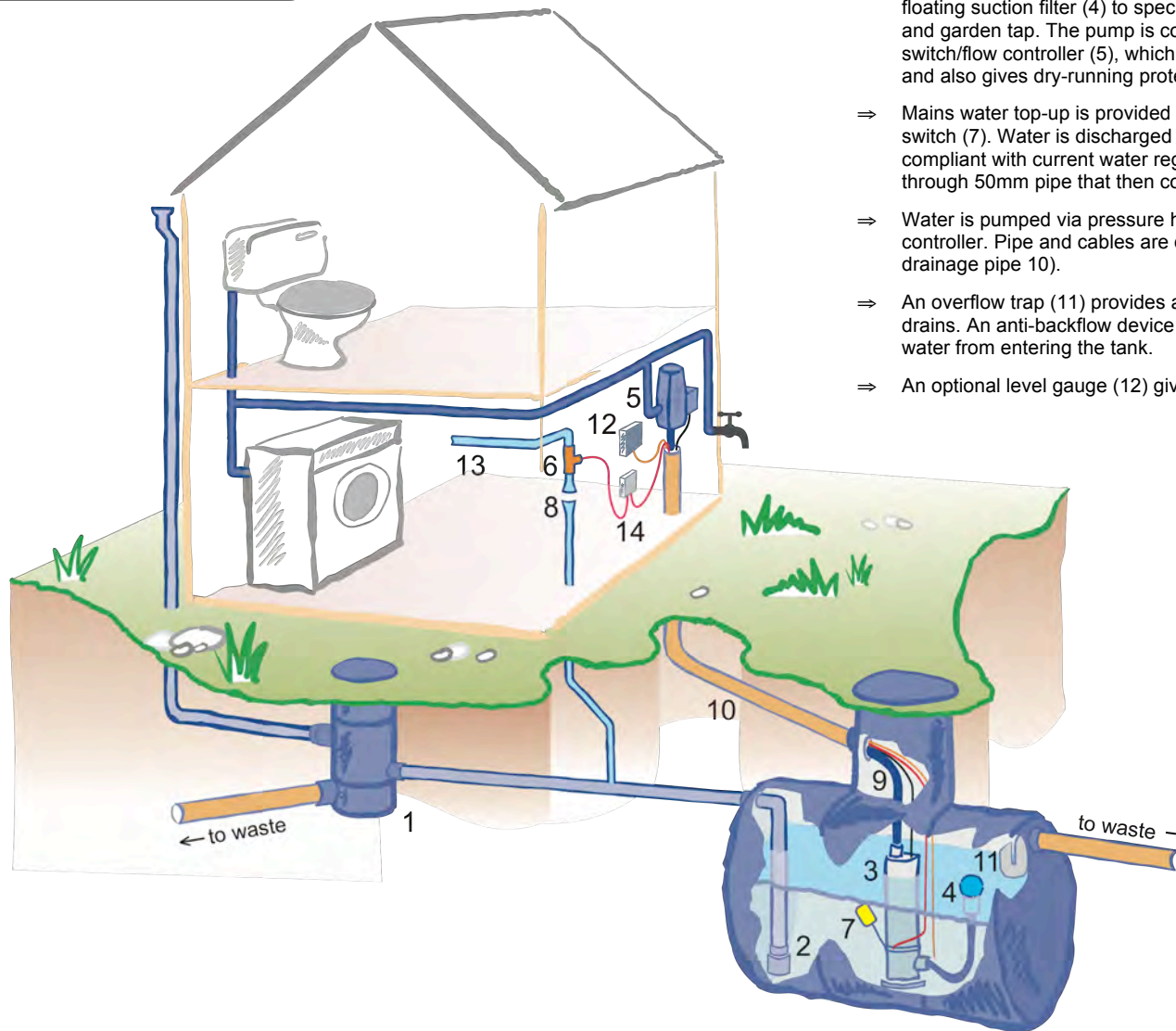


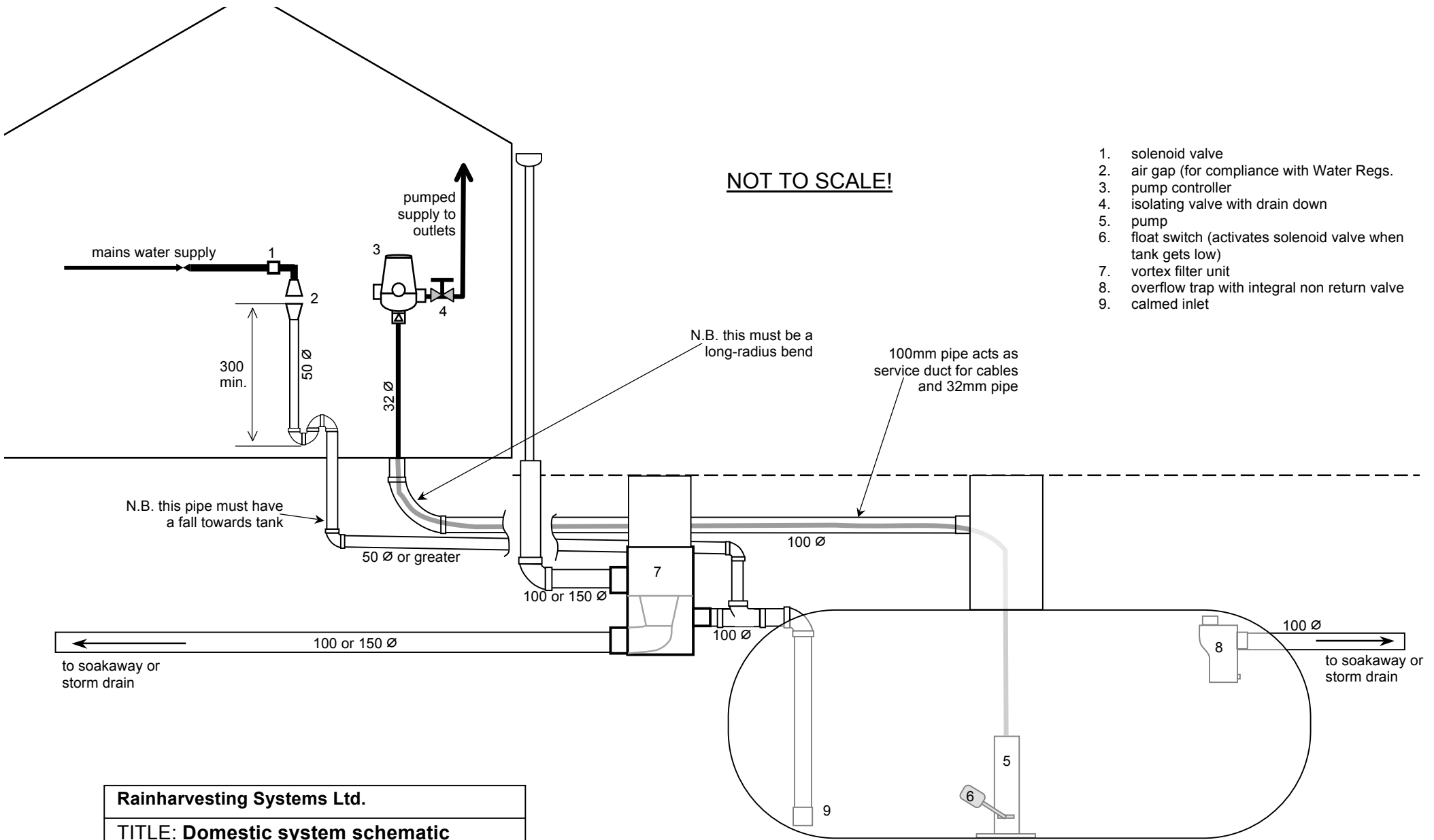


RAINHARVESTING SYSTEMS

Typical direct (pressurised) rainwater harvesting system with GRP tank for domestic applications

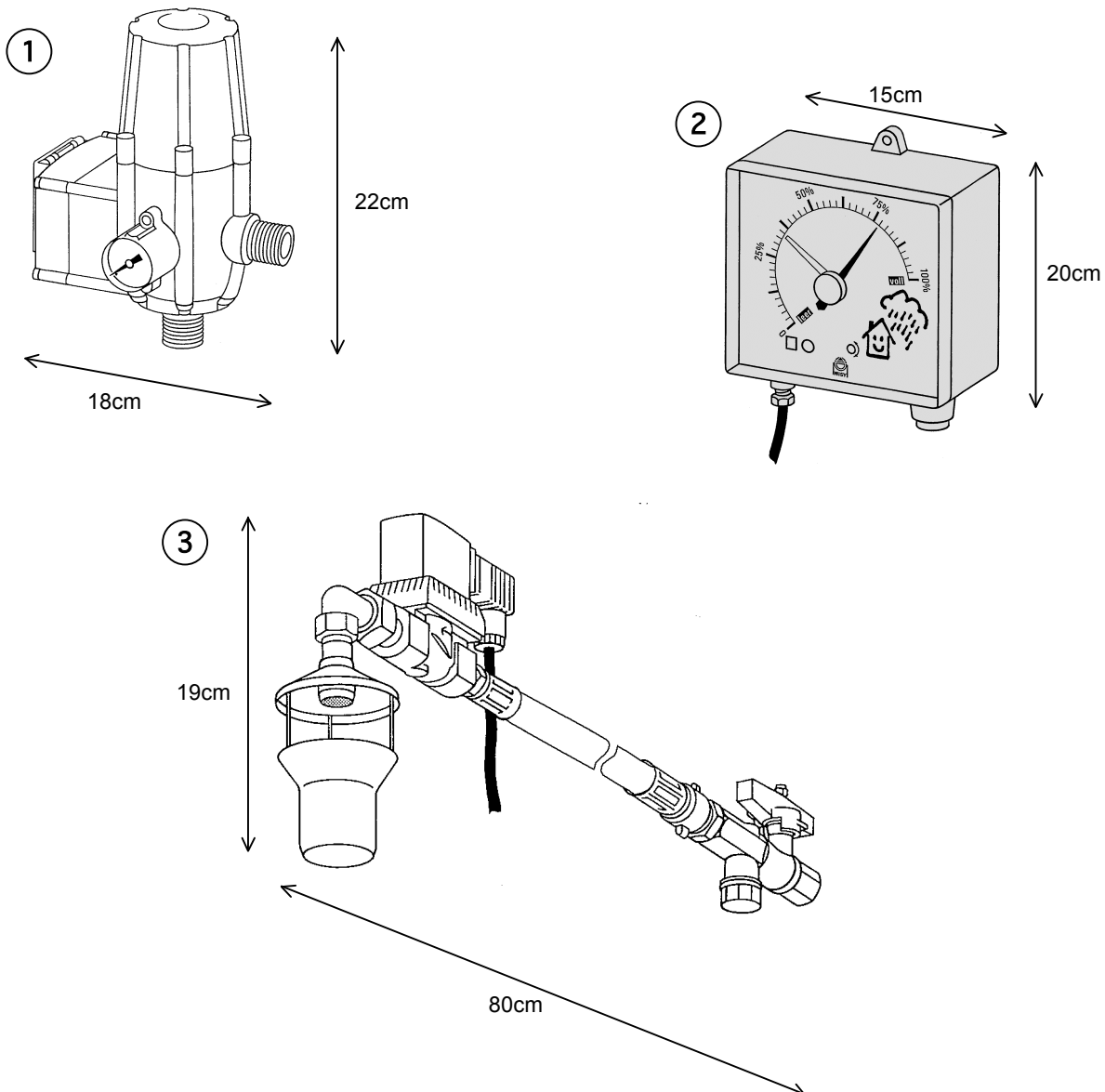


- ⇒ Rainwater is collected from the roof drainage system by the underground Wisy WFF vortex filter (1). This filters out the debris from the water and diverts about 95% of it into the storage tank. The remaining water goes to soakaway or storm drain in the usual manner, as does the excess water from the tank. As water enters the tank it passes through a calmed inlet (2) which calms the flow of water and prevents disturbance of the float switch and any sediments.
- ⇒ Water is then supplied on demand by the submersible pump (3) through a floating suction filter (4) to specific outlets, usually WCs, washing machine and garden tap. The pump is controlled by a combined pressure switch/flow controller (5), which turns the pump on and off when required and also gives dry-running protection to the pump if it should be necessary.
- ⇒ Mains water top-up is provided by a solenoid valve (6) controlled by a float switch (7). Water is discharged to the tank via a type AA air gap tundish (8) compliant with current water regulations. This gravity-feeds to the tank through 50mm pipe that then connects to the outlet pipe from the filter.
- ⇒ Water is pumped via pressure hose and 32mm MDPE (9) up to the flow controller. Pipe and cables are ducted to the house through a 110mm drainage pipe (10).
- ⇒ An overflow trap (11) provides a water seal against any foul odours from drains. An anti-backflow device is built in to prevent any contaminated water from entering the tank.
- ⇒ An optional level gauge (12) gives a visual indication of tank water level.



Rainharvesting Systems Ltd.	
TITLE: Domestic system schematic	
FILE NAME: RH152	
DRAWN BY: DH	
DATE: August 10	
SIZE: A4	

DOMESTIC RAINWATER HARVESTING SYSTEM CONTROLS



Three components are fitted located within the building. In a house this would normally be the utility room or similar, or if necessary, the kitchen or ground floor cloakroom.

These are the systems controls and as they are separate components they can be arranged to best fit the space available. The dimensions shown are of the units themselves, additional space must also be allowed for connecting pipework. It is possible to fit these controls into a limited space but we would recommend allowing about one square metre of wall space.

1. *Controlmatic* pump controller. This switches the pump on and off and also provides it with protection against dry-running. Requires 10amp 230v supply (also supplies pump).
2. Tank level gauge (optional). This gives a visual read-out of available water in the storage tank, in percentage terms. Available in manual or electric versions. The latter requires 1amp 230v supply.
3. Mains water top-up assembly. This delivers mains water back to the storage tank as and when required. The assembly consists of a solenoid valve attached to a tundish, connected to a 50cm length of $\frac{1}{2}$ " pipe with a manual isolating valve and dirt strainer at the other end. The pipe is flexible so can be adjusted to fit the space. Connection is $\frac{1}{2}$ " bsp. Requires 1amp 230v supply.

VORTEX FILTER - type WFF100

- Suitable for roof areas up to 200m²
- Connects to standard storm water pipes below ground
- Virtually all debris, moss, leaves, insects, etc. is washed through the uniquely constructed vertical filter by self-cleaning action
- Unique oxygen-enriching function
- No restriction or obstruction of water flow through the appliance (conforms to DIN1986)
- More than 95% efficient
- Minimum maintenance
- Tough polyethylene housing
- High quality stainless steel filter mesh
- 50cm extension tube can be trimmed to length to suit invert level
- Can also be wall-mounted

WFF filters can be used where rainwater from the roof is channelled through a horizontal underground pipe. The unit filters and diverts rainwater to a storage tank or cistern. Leaves, moss and other debris are washed through to drain or soakaway.



Rainwater enters the inlet connection in the side of the WFF unit. The inlet is designed to swirl the water in a vortex-like action around the surface of the stainless steel filter below. The rainwater is drawn through the vertical mesh walls of the fine filter by adhesion, then collected and fed through the outlet to the storage tank. Debris and particles too large for the filter are flushed through to the drain outlet by the action of water flowing down the surface of the filter. More than 95% of the rainwater entering the WFF is filtered and collected by this principle, .

UNIQUE FEATURES OF THE VORTEX FILTER

- Vortex filters have a vertical filter mesh. This makes the filter insert virtually self-cleaning by the action of water flowing over the it. As debris enters the chamber, it simply drops or gets washed off by the incoming water.
- The action of water passing through the vertical mesh oxygenates as it flows. This has the effect of saturating the water with air as it passes to the tank, thus enhancing the quality of the water.
- There are no restrictions or obstructions on which debris can collect. The full cross-section of the rainwater drainage system is maintained right through the filter, so that excess rainwater is led directly to the storm drains or soakaway. This is especially important in hail storms and torrential rainfall. Even in such extreme cases much of the filtered water is transferred to the storage tank.

Pitched roofs of slate, clay or concrete are the most suitable for collecting rainwater. Flat roofs can also be utilised but the volume of water collected is reduced. Planted roof areas or thatch are less suitable due to the low collection efficiency and discolouration of the collected water.



larger units are available to suit commercial and industrial applications



We are the UK's sole supplier of Wisy products for rainwater utilisation



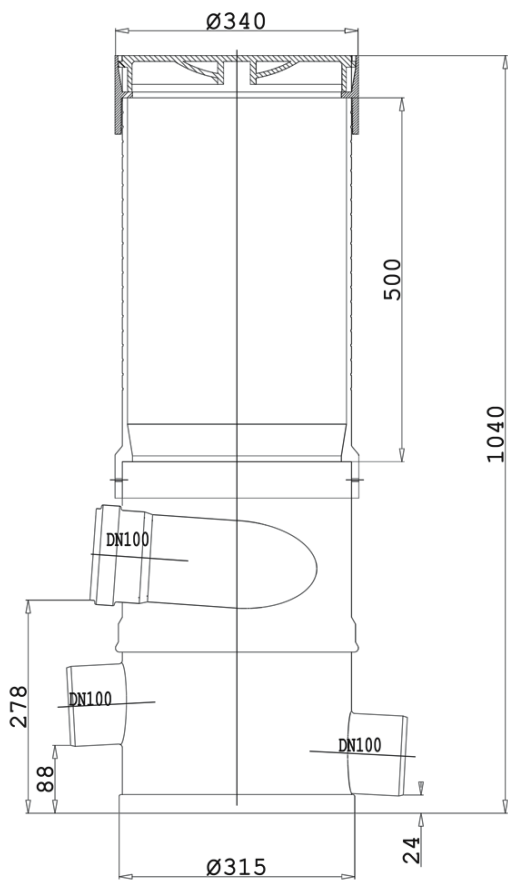
Products shown with this logo are included on the Water Technologies List making them eligible for Enhanced Capital Allowance.

Data Sheet WF/14/01

VORTEX FILTER - type WFF 100

The WFF-100 Vortex filter:

- Polypropylene housing
- Stainless steel filter insert
- Rainwater inlet DN 100 (110mm pipe)
- Storage tank outlet DN 100 (110mm pipe)
- Drain outlet DN 100 (110mm pipe)
- Storage and drain outlets fixed at 180° to each other
- Rainwater inlet rotates through 360°
- 0.44mm or 0.28 mm mesh versions
- Supplied with 50cm extension tube and 30cm lifting handle

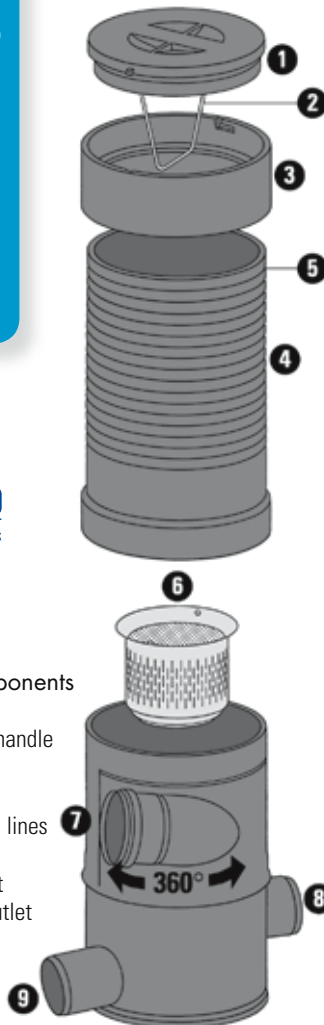


Dimensions of the Vortex filter unit with 500mm extension tube fitted. Note the tube can easily be cut to length to suit invert depth.



WFF filter components

- 1 - Lid
- 2 - Filter removal handle
- 3 - Upper ring
- 4 - Extension tube
- 5 - Parallel cutting lines
- 6 - Filter insert
- 7 - Rainwater inlet
- 8 - Clean water outlet
- 9 - drain outlet



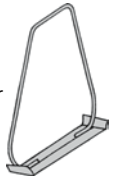
WFF FILTER Accessories

50cm extension tube

For installations where the filter connects to a deep storm drain additional extension tubes are available. Easily cut to length due to the moulded-in parallel lines.

Extended filter handles

For use where one or more full length extension tubes are used. The longer handles enable easy removal of the filter insert for cleaning purposes. Available in 63cm and 100cm lengths.



Stainless-steel wall bracket

For mounting the unit to a wall, where the filter is used internally or is supplying an above-ground tank



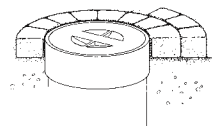
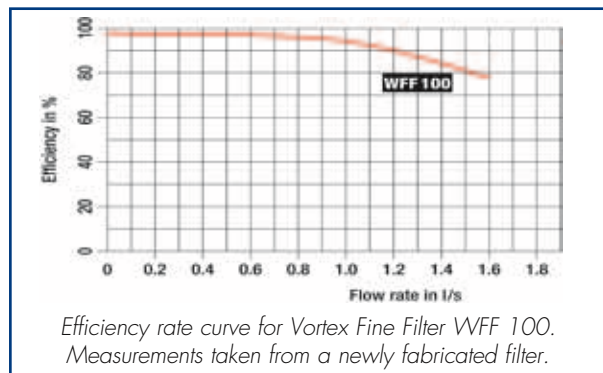
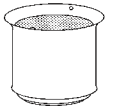
Stainless-steel strainer basket

Fits inside the WFF filter to prevent debris from passing to waste. Requires regular inspection to empty the contents.



Blind Insert

For maintenance purposes, a blind insert is available. This can be used in place of the filter insert to divert all flow to the soakaway.



Paving can be laid around the end ring. The lid simply twists to remove.



Distributor:

Rainharvesting Systems Ltd.

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Gloucestershire GL6 7BX
Tel: 01452 772000
Fax: 01452 772008
E-mail: sales@rainharvesting.co.uk
Website: www.rainharvesting.co.uk

RAINWATER STORAGE TANKS

- Designed specifically for use in rainwater harvesting systems
- UK manufactured to BS 4994
- One-piece GRP underground tanks in a wide range of sizes
- Calmed inlet, pump platform and overflow trap pre-fitted
- Complete with secure access cover and frame
- Lightweight and easy to handle
- Bespoke options available
- Delivery anywhere mainland UK

RainSava GRP 'submarine' tanks for underground installation are manufactured in the UK to BS 4994 and are available in a variety of sizes to suit most domestic and commercial needs.

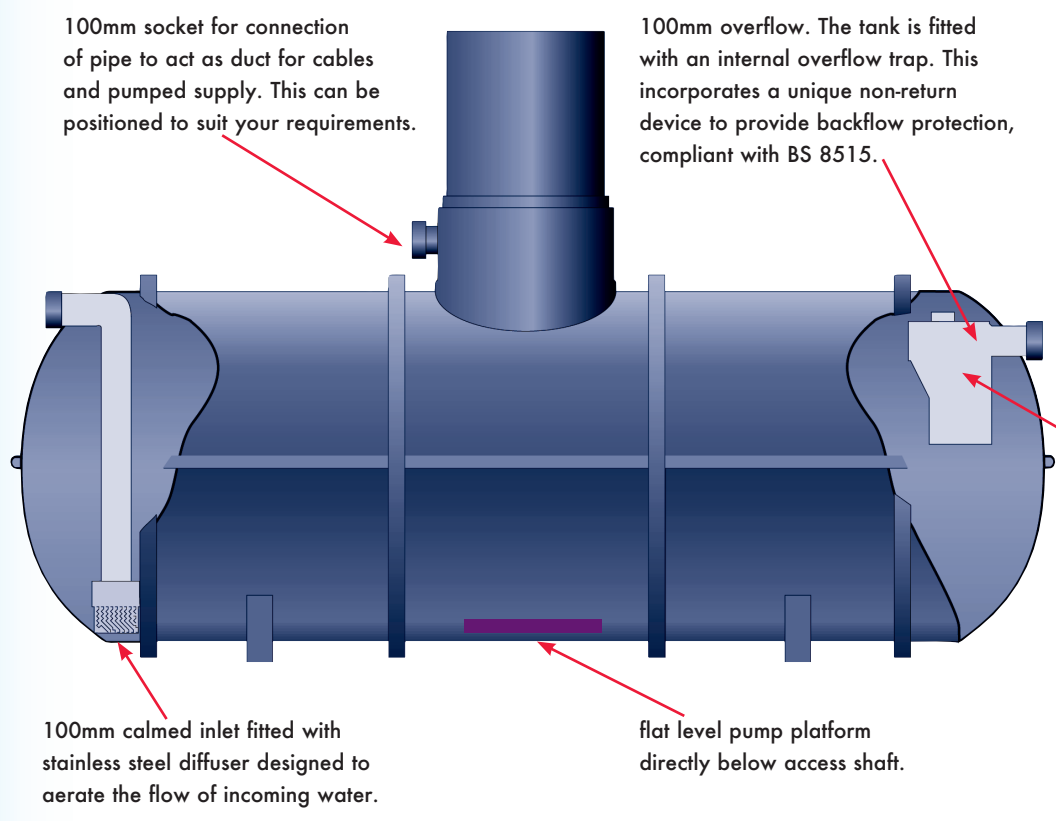


RainSava tanks are designed specifically for use in rainwater harvesting systems, with in-built flow calmer, pump platform and overflow unit.

Our tanks are supplied pre-fitted with a unique anti-surge device which provides secure and effective protection.

The British Standard for Rainwater Harvesting BS 8515:2009 states that all rainwater tanks must be protected against back-flow from the storm drain.

The vertical shaft can be trimmed on site to suit invert levels. Tanks are supplied complete with a pump platform directly below the shaft and a pedestrian-duty inspection cover.



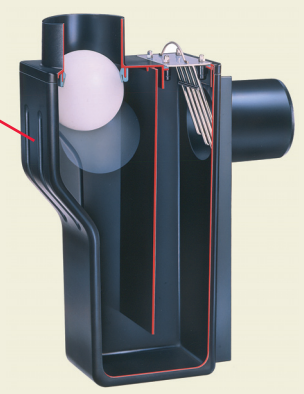
Flexible System Design

Our comprehensive range of specialist items has been developed specifically for Rainwater Harvesting Systems. Because the range consists of separate components, it has exceptional flexibility.

We supply equipment suitable for almost any system design, whether you're planning a system for a small house, school or large industrial or commercial premises.

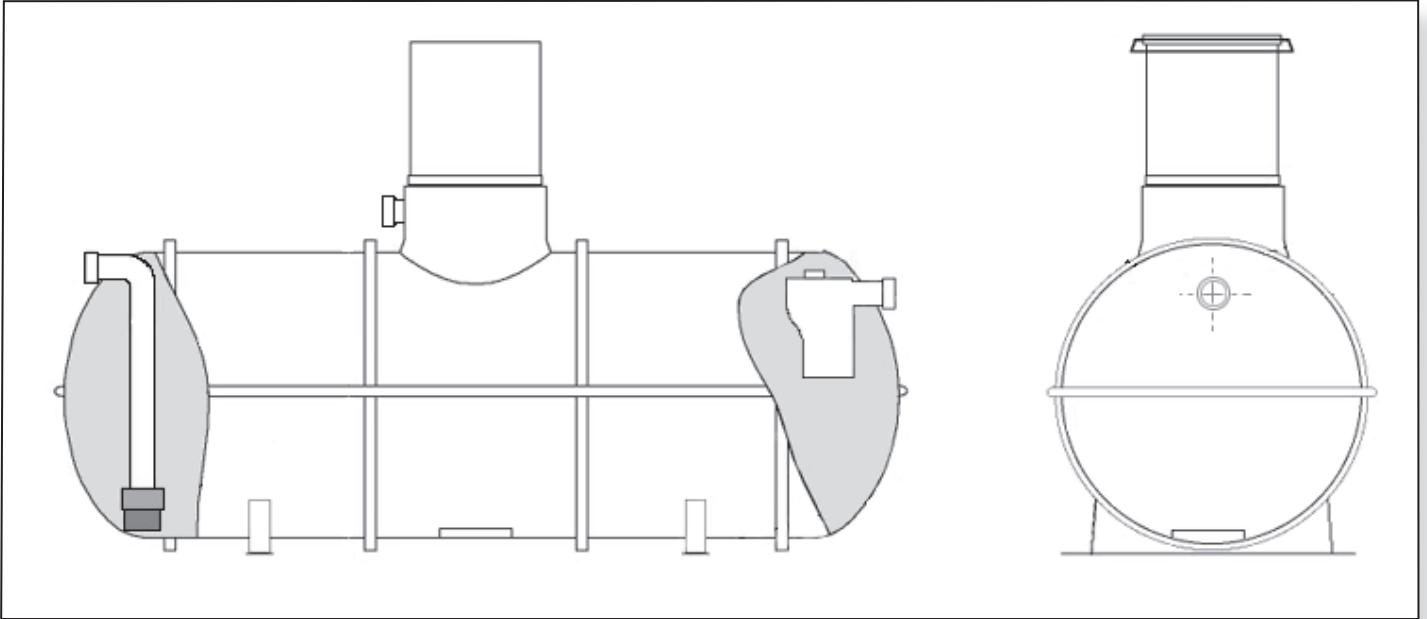


We are the UK distributor and main stockist of Wisy products for rainwater utilisation



Unique overflow unit with anti-backflow device and optional vermin barrier

RAINSAVA TANKS FOR DOMESTIC & LIGHT COMMERCIAL USE



NOMINAL VOLUME (litres)	1500	2000	2400	3000	3500	4000	4500	5000	6000	7500
DIAMETER (mm)	1200	1200	1200	1500	1500	1500	1500	1650	1800	1800
LENGTH (mm)	1600	2100	2450	2000	2300	2600	2750	3080	3250	2650

The tank is illustrated in its standard layout, with inlet and overflow pipes at opposite ends and the duct connection in the shaft facing the same direction as the inlet.

Different layouts can be arranged when ordering to suit individual requirements. Other sizes can also be accommodated and additional connections and access shafts can also be fitted at time of manufacture if required.

Please call us if you need further information or if you wish to discuss particular requirements.

Tanks can be supplied suitable for either concrete or granular backfill, ground conditions permitting. All tanks must be installed on a 300mm concrete base.

If subject to vehicular traffic a heavy duty inspection cover should be used in place of the standard pedestrian duty one supplied and a reinforced slab should be cast over the tank.

All tanks are built to order and as such are subject to a lead time of approximately 3 weeks.

Please note that tanks are delivered on a flat-bed vehicle unless otherwise arranged and off-loading is the responsibility of the customer.



Distributor:

Rainharvesting Systems Ltd.

The Green Shop, Calf Way,
Bisley, Stroud,
Gloucestershire GL6 7BX

Tel: 0845 223 5430

Fax: 01452 772008

E-mail: sales@rainharvesting.co.uk

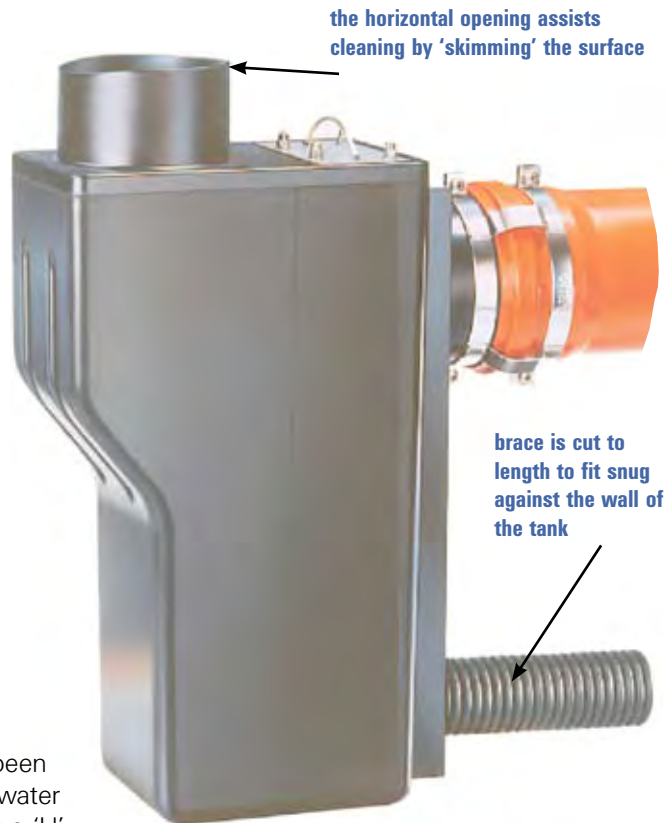
Website: www.rainharvesting.co.uk



RAINWATER HARVESTING

MULTISIPHON OVERFLOW UNITS

- Fits standard 110mm pipe
- Horizontal opening maximises skimming effect
- Seals against unpleasant odours
- Polyethylene and stainless steel construction
- Manufactured by WISY
- Low maintenance
- Corrosion proof
- Optional anti-backflow device
- Optional anti-vermin device

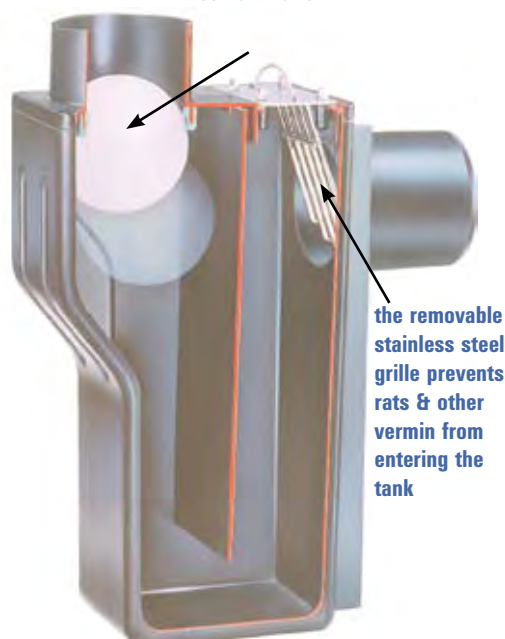


The Multisiphon overflow unit has been designed specifically for use in rainwater storage tanks. The unit is effectively a 'U' bend, providing a water seal. This acts as a barrier to unpleasant smells from the drain that the connects to the overflow, which could otherwise taint the water.

The unit also performs the important function within the tank of removing the floating debris from the surface of the water. This is achieved by the design of the units' inlet, which is so shaped that when overflow conditions occur the water is 'skimmed' rapidly into the horizontal opening. This is important in keeping the tank clean and maintaining the quality of stored water.

The unit is supplied with an adjustable brace to stabilise the unit against the inside of the tank.

If water from the sewer flows back into the unit, the polyethylene ball float is forced against an O-ring, effectively sealing the tank against contamination



Article nos.

US1005
US1004
US1003
US1002

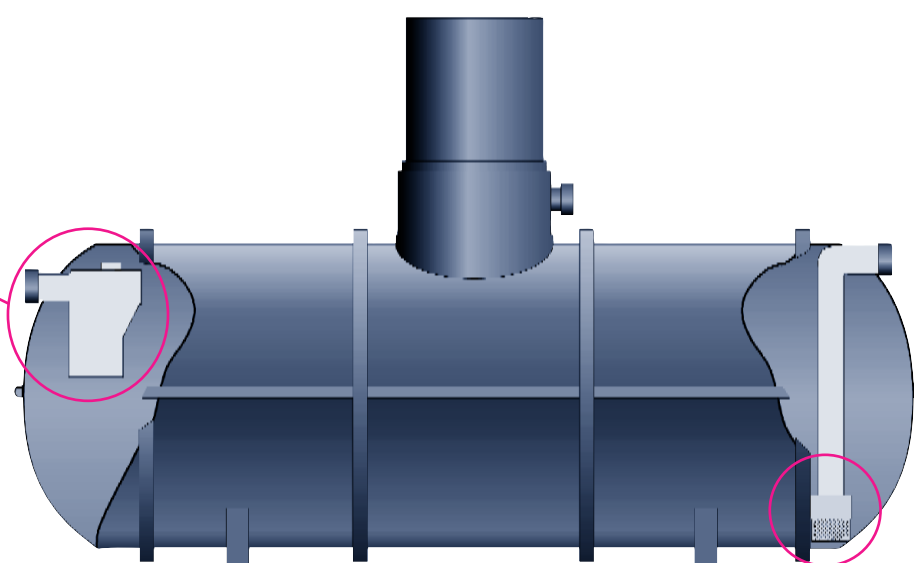
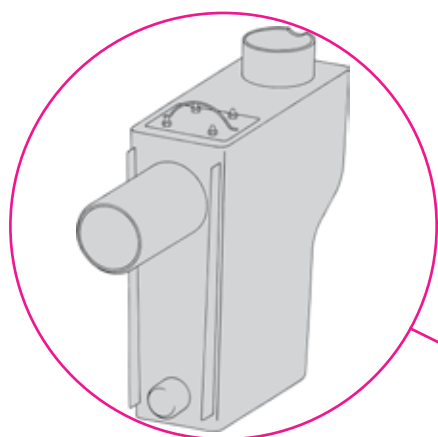
Mutisiphon trap
with backflow prevention
with vermin prevention
with vermin & backflow prevention



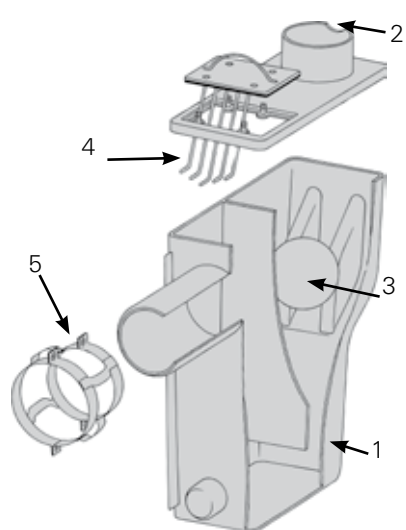
Model US1002 - for use where the tank must overflow to a sewer

TYPICAL TANK OVERFLOW INSTALLATION

(pump and pipework from tank to building omitted for clarity)



Rainsava water storage tanks can be supplied by us with Multisiphon overflow trap & smoothing inlet pre-fitted, thus saving on valuable installation time on site.



Model US1002 Component parts

- 1 - Main housing
- 2 - Shaped opening for skimming
- 3 - Ball float
- 4 - Vermin barrier, stainless steel
- 5 - Pipe clamp, stainless steel

The attention to detail in the design of any rainwater system is an important factor in its' performance and in the quality of the water produced.

Wisys 'Multisiphon' overflow traps and the 'smoothing inlet' have been designed to ensure water is stored under the best possible conditions. Like all Wisys products, these units have been developed specifically for use in rainwater harvesting systems.

SMOOTHING INLET

For installation in rainwater storage tanks

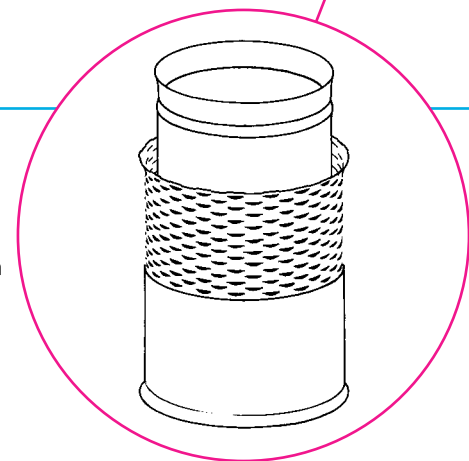
A stainless steel 'flow-calming' device to fit on to standard 110mm drainage pipe.

The unit is designed to eliminate turbulence of the incoming water as it enters the tank.

It is fitted to the open end of the inlet pipe at the base of the tank, which means that the fresh water enters from below the current water level.

The water thus gently percolates up from the base, causing no disturbance of the beneficial sediment layer in the base of the tank. Disturbance to any float switches or other controls are also minimised.

Article no. EB0300



NB continuous development may necessitate change in these details without notice E&OE



Rainharvesting Systems Ltd.

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 Website: www.rainharvesting.co.uk

Distributor:



Rainwater harvesting
The complete system

NEW PRODUCT!
Reduces CO₂ emissions!

ZETA 02 PUMP controller

- Suitable for use with all standard pumps
- Reduces CO₂ emissions by up to 97%
- Reduces energy consumption by up to 132 kWh/year
- Cuts energy costs
- Electronic control circuit can be retrofitted to all series SA06 pump controllers
- The pump controller starts the pump automatically to meet water demand
- German utility model 2020 13011 190.9



**... use WISY technology
to cut CO₂ emissions"**

WISY AG develops energy-efficient pump controller.

WISY AG based in Kefenrod Germany has developed a new pump controller for controlling pumps, pressure booster systems, domestic pressure boosting and rainwater units. This innovative product consumes much less power in standby mode than conventional pump controllers. Its high energy-saving potential also helps to reduce CO₂ emissions.

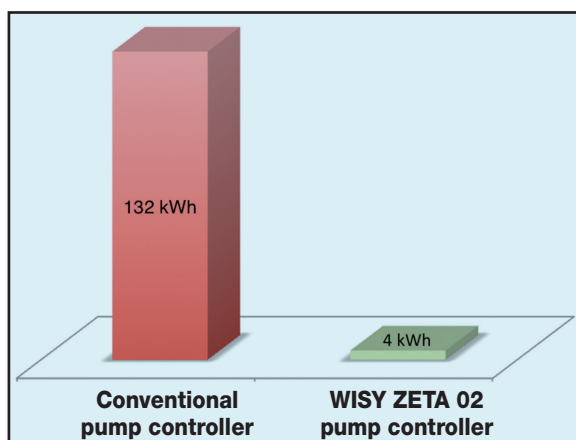
WISY ZETA 02 pump controller

Working in partnership with the Centre for Research and Transfer at the Mittelhessen University of Applied Sciences, WISY AG has succeeded in developing a pump controller for rainwater units which operates much more efficiently than conventional pump controllers. Thanks to its innovative electronic circuitry, the controller consumes only 0.2 watts in standby mode, a significant reduction when compared to other commercially available controllers which draw between 6 and 15 watts from the grid. Products currently available on the market consume power continuously, using as much as 132 kilowatt-hours (kWh) per year in standby mode. The WISY product uses no more than 4 kWh over the same period.

Great for the environment and great for the user – lower CO₂ emissions and lower energy bills!

With this new product, WISY has opted to satisfy the strict new requirements of the Ecodesign Directive drawn up by the European Union which states that the standby power usage of many products used in domestic or office environments must not exceed 0.5 watts. While the exacting standards laid down in this directive do not yet apply to pump controllers, WISY has developed a product which is already compliant!

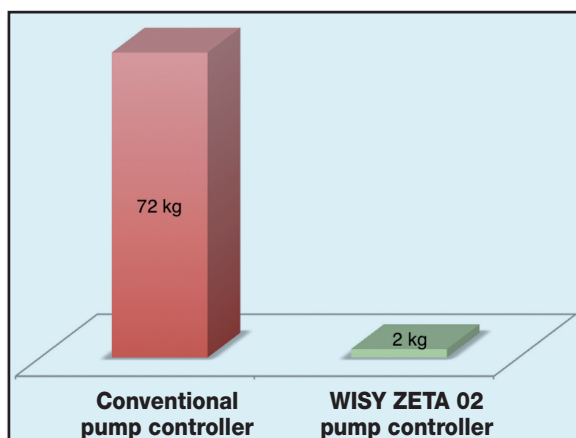
POWER CONSUMPTION per year



The high power usage of conventional pump controllers in standby mode is best illustrated by comparing them to other electrical devices: For example, a modern standard pump controller consumes even more power per year than a large flat-screen television. The financial advantage to users of the new WISY pump controller is obvious - a reduction in power consumption means much cheaper energy bills.

CO₂ EMISSIONS per year

(CO₂ emissions based on mix of fuels used to generate electricity in Germany)



By developing such an energy-efficient product, WISY is also helping to reduce CO₂ emissions by up to 97% compared to those of conventional pump controllers. To express this as a number, WISY's new ZETA 02 pump controller reduces CO₂ emissions by 70 kg per year. Assuming that around 1,000,000 pumps currently in use can be converted to operate on the new pump controller, a potential reduction in CO₂ emissions of 70,000 tonnes per year could be achieved.

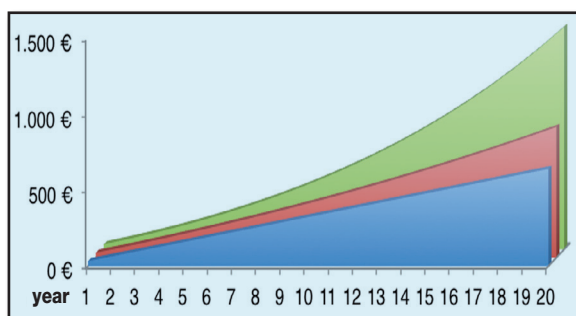
Out of love for the environment – choose WISY!



COST SAVINGS over 20 years

(at 0.25 euro cents per kWh)

- Saving with annual price increase of 0%
- Saving with annual price increase of 3%
- Saving with annual price increase of 8%



Technical data:

Voltage:	110 - 240 V
Frequency:	50/60 Hz; single-phase
Power consumption	
Standby mode:	0,2 W
Cut-in pressure:	1,5 bar
Maximum pressure:	10 bar
Flow rate:	160 l/min
Connections:	1" outside thread



WISY AG
D-63699 Kefenrod, Oberdorfstraße 26
Telefon +49 (0) 60 54-91 21-0

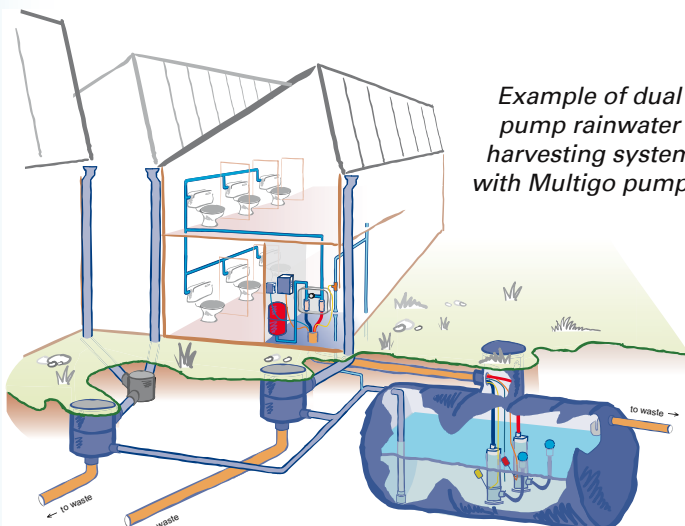
Fax +49 (0) 60 54-91 21-29
Internet: www.wisy.de
E-Mail: info@wisy.de

MULTIGO PRESSURE PUMPS

- ◆ Normal suction, multi-stage
- ◆ Submersible to 20m depth
- ◆ Water-cooled motor
- ◆ Stainless steel housing in AISI 304
- ◆ 1 1/4" bsp inlet and outlet
- ◆ 20m pre-fitted cable
- ◆ IP58 protection class
- ◆ Virtually silent
- ◆ Wide range of models available, both 1 & 3-ph.
- ◆ Rubber mounts for stability & anti-vibration
- ◆ Rot-proof lifting rope with stainless steel spring clip
- ◆ Can be fitted with fixed or floating suction filters



Multigo Series pumps can be used in a wide range of applications. Vertical multi-stage centrifugal units, they can be used as either submersible or surface pumps. The asynchronous 2-pole motor is cooled by the water being pumped, and double mechanical seals ensure long working life. Their excellent output characteristics makes the range particularly suitable for rainwater harvesting, and also for irrigation work, water features, and for pressure boosting in domestic and commercial situations. They are also excellent well pumps.



Example of dual pump rainwater harvesting system with Multigo pumps.

Suction filters

The use of fixed or floating suction filters are recommended with Multigo pumps for most applications. The suction filter fits to the 1 1/4" inlet; it protects the pump from drawing in any particles and improves the reliability of the installation. Standard models with or without non-return valves are designed for use with 1" suction hose. Larger models are also available for use with higher flow pumps. For further details please see separate data sheet.



Flexible System Design

Our comprehensive range of specialist items has been developed specifically for rainwater harvesting systems. Because our range consists of separate components, it has exceptional flexibility.

We stock equipment suitable for almost any system design, whether you're planning a system for a small house or a large housing development.

A wealth of experience

We have been supplying rainwater harvesting systems throughout the UK since 1995 and have accumulated vast experience in this specialist field. With our large stocks of equipment and our excellent technical expertise, we offer an unrivalled level of service to our clients.

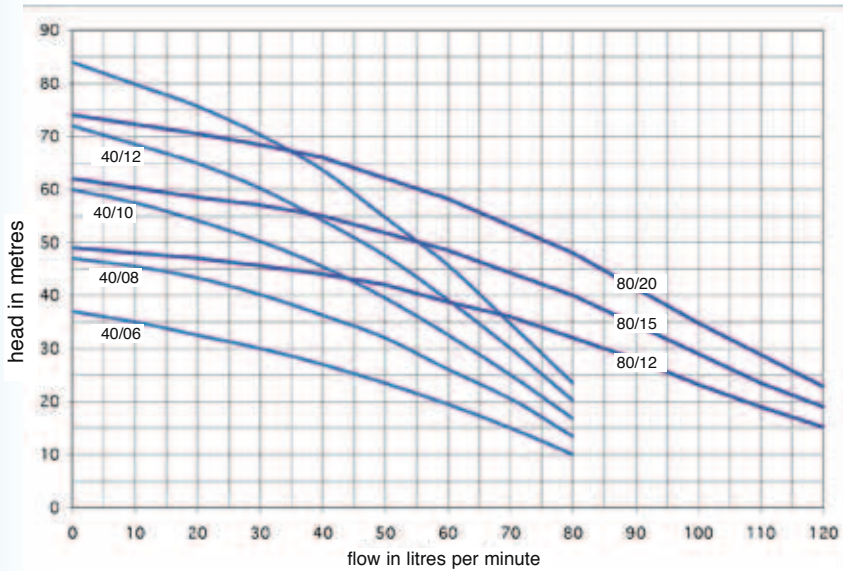


We are founder members of the UK Rainwater Harvesting Association.



We are the UK's sole agent and distributor of Wisy products for rainwater utilisation.

Data sheet UP/14/01



Multigo pump data

Output curves at: 2800 rpm
 Water Temp: 20 deg. C
 Output: ISO 2548

DIMENSIONS & WEIGHTS

Data for all models is given without pump connections.

Width: 150mm
 Height: from 565 to 650mm
 Depth: 170 mm
 Weights: from 13.4 to 17.1kg

IMPORTANT

The pump should be protected with a 16 A fuse and isolating switch.

Model no.	P1 kW	P2 kW	Absorbed current (A)		Max head (m)	Pumping output in;							
			1-Ph	3-Ph		l/min	20	30	40	60	80	100	120
						cu.m/Hr.	1.4	1.8	2.4	3.6	4.8	6.0	7.2
40/06	0.80	0.45	3.4	n/a	37	With a pumping height of (m)	32.5	30.0	27.0	19.5	10.0		
40/08	1.00	0.60	4.3	1.9	47		43.3	40.2	36.3	26.1	13.4		
40/10	1.25	0.75	5.7	2.2	60		54.1	50.2	45.4	32.6	16.8		
40/12	1.42	0.90	6.8	2.4	72		64.9	60.2	54.5	39.2	20.2		
40/15	1.80	1.10	7.3	3.0	84		75.7	70.3	63.6	45.7	23.5		
80/12	1.33	0.90	6.4	2.3	49		47.0	45.6	44.0	38.8	32.0	23.2	15.2
80/15	1.80	1.10	7.5	3.1	62			57.0	55.0	48.5	40.0	28.0	19.0
80/20	2.50	1.50		3.5	74			68.4	66.0	58.2	48.0	34.8	22.8

PUMP CONTROL OPTIONS

Multigo pumps are frequently used with a single or dual pump control panel. These units can accept signals from float switches or pressure switches and have an integral fault indicator as well as volt-free contacts for an external alarm.

Dual pump control panels can provide duty/standby or duty/assist performance and all panels can be integrated into a Building Management System. We can also supply fully assembled pump switch boards with all necessary valves and pressure switches pre-fitted.

Alternatively pumps can be supplied with inverter drive controllers for variable speed operation, reducing energy consumption and providing improved efficiency.



Pump control panel



Dual pump switchboard



Press-O-Matic Inverter



E-Drive Inverter

RAINHARVESTING SYSTEMS Ltd.
 BISLEY, GLOS.
 0845 223 5430
www.rainharvesting.co.uk

MAINS WATER TOP-UP UNITS

- ◆ Designed specifically for use in rainwater harvesting systems.
- ◆ Available in various sizes to suit required flow rates.
- ◆ Reliable hammer-free solenoid valve
- ◆ Isolating valve with built-in dirt strainer
- ◆ Quality stainless steel tundish
- ◆ Built-in laminar flow device for splash-free operation
- ◆ Flexible stainless steel braided hose
- ◆ Operated by signal from float switch
- ◆ Maintenance free



1/2" top-up unit with 50mm tundish, suitable for domestic applications

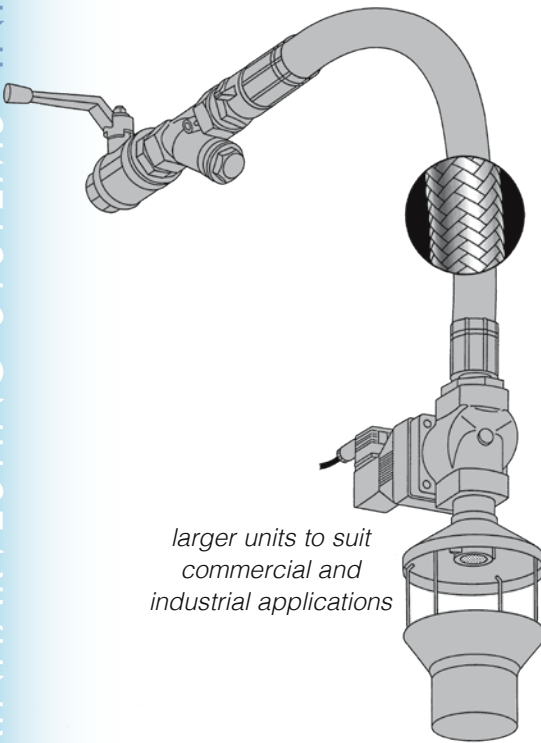
This special assembly is designed to provide an automatic mains water back-up supply to any vessel that is used to hold non-potable or 'unwholesome' water. The unit consists of a length of flexible braided hose with a manual isolating valve at one end and a solenoid valve and tundish at the other. The purpose of the tundish is to comply with the current UK Water Regulations.

The Regulations prohibit any direct connection between the mains water

supply and untreated rainwater, and therefore the mains water connection must be protected against the risk of back-flow.

The air-gap which the tundish provides prevents this back-flow, and is essential in any rainwater harvesting system in the UK where mains water is incorporated.

The tundish is designed to fit into standard 50mm ID pipe and it incorporates a laminar flow device to reduce the risk of splashing. The IP65 solenoid valve is activated normally by a low-level float switch and thus provides mains water when the rainwater storage tank is low. The manual isolating valve incorporates a dirt strainer to prevent any debris from restricting the solenoid valve.



larger units to suit commercial and industrial applications

Several models are available to suit most applications

inlet size	maximum flow rate at 3bar	hose length	tundish size
1/2"	2.64 m ³ /hr	50cm	50mm
3/4"	6.48 m ³ /hr	50cm	50mm
1"	8.64 m ³ /hr	75cm	70mm
1 1/2"	20.52 m ³ /hr	75cm	100mm
2"	34.92 m ³ /hr	100cm	100mm



Flexible System Design

Our comprehensive range of specialist items has been developed specifically for rainwater harvesting systems. Because our range consists of separate components, it has exceptional flexibility.

We stock equipment suitable for almost any system design, whether you're planning a system for a small house or a large housing development.

A wealth of experience

We have been supplying rainwater harvesting systems throughout the UK since 1995 and have accumulated vast experience in this specialist field. With our large stocks of equipment and our excellent technical expertise, we offer an unrivalled level of service to our clients.



We are founder members of the UK Rainwater Harvesting Association.



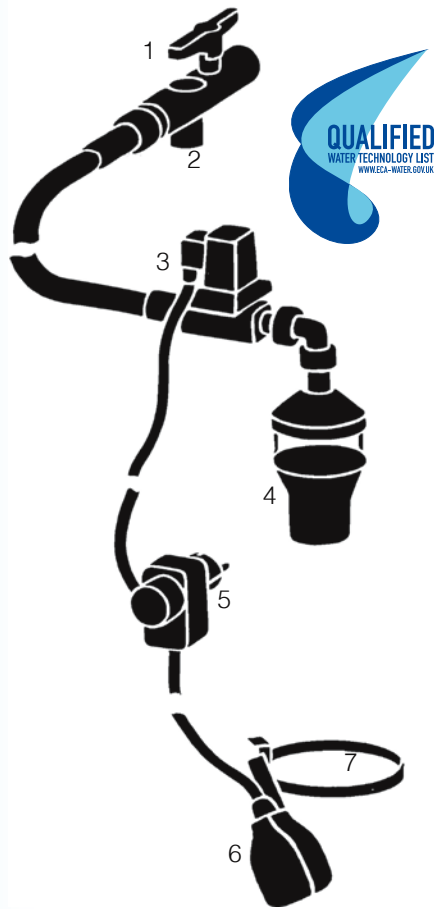
We are the UK's sole agent and distributor of Wisy products for rainwater utilisation.

MAINS WATER TOP-UP KITS

We also supply kits for use as part of a rainwater harvesting system, for controlling the topping-up of tanks with mains water in compliance with the current Water Regulations. All metal parts are of stainless steel.

Each kit comprises of four items:

- the top-up assembly as shown overleaf
- special float switch assembly
- special 'piggy-back' plug
- adapter for UK 3-pin socket



- Components**
- 1 - manual isolating valve
 - 2 - dirt strainer
 - 3 - solenoid valve
 - 4 - tundish - provides type AA air gap
 - 5 - 'piggy-back' switching plug
 - 6 - float switch
 - 7 - worm-drive clamp

OPTIONS:
 3, 10, & 20m boxed kits
For automatic mains water top-up control in domestic rainwater harvesting systems. Available with either 3m, 5m or 20m float switch cables. Float switch on 100-140mm diameter clamp. Tundish fits standard 50mm pipe.



The one-way float switch is attached to a stainless steel worm-drive clamp, which enables it to be securely fixed to a pump body or a vertical inlet pipe. The unit can be used either way up and gives precise switching points at either 4 or 9cms. The clamp will fit diameters from 100 - 140mm

The special 'piggy-back' unit is a two-pin European device that has a cable entry to accept the lead from the float switch and a two-pin socket to accept the plug from the solenoid valve. This provides a very simple 'plug and play' method of connecting the components together, enabling the float switch to activate the mains water solenoid valve.

We supply this with an adapter to fit a standard UK 3-pin socket.

Alternatively the two cables could be 'hard-wired' into a fused outlet.

The device can also be used to connect a float switch and pump.



We also stock a range of header (break) tanks for use in rainwater harvesting systems. These are supplied complete with pre-fitted control float switches and connections for pumped supply & 50mm tundish.



Private housing



Social housing



Gardens



Agriculture



Industrial



Commercial

RAINHARVESTING SYSTEMS Ltd.
BISLEY, GLOS.
0845 223 5430
www.rainharvesting.co.uk



Summary of work requirements in connection with installation for a domestic pressurised system

The work required in installing a typical rainwater harvesting system falls into 3 categories; the groundworks - normally carried out in conjunction with the building drainage, the plumbing connections & electrical connections. The following gives a brief précis of the work involved. All work should be carried out in compliance with *BS 8515 Rainwater Harvesting Systems – Code of Practice*.

Groundwork:

- Excavate hole for rainwater storage tank and vortex filter unit.
- Install tank and filter unit.
- Connect underground drainage; inlet to filter, outlet from filter to tank, overflow connections to storm drain.
- Lay 100mm duct from tank to plant room (utility room etc.) ensuring unbreakable draw-cord is laid in duct.
- Lay 50mm pipe from plant room to join into the pipe that connects the filter unit to the tank. Note this pipe must have a fall from end to end.
- Backfill as appropriate (refer to tank installation document)

Mechanical connections:

a) at tank end:

- Fit float switch and suction filter to submersible pump.
- Fit brass fittings and rubber pressure hose to pump.
- Install services in 100mm duct: MDPE pipe, pump cable, float switch cable and pneumatic tube for tank gauge.
- Lower pump assembly into position and connect hose to MDPE pipe.
- Lower pneumatic tube with sensor into tank.

b) at house end:

- Fit pump controller to wall surface in plant room.
- Fit mcw top-up unit to wall surface and to 50mm pipe laid previously.
- Connect 15mm mains water supply to top-up unit.
- Fit tank contents gauge to wall surface.
- Connect MDPE pipe to pump controller.
- Connect pneumatic tube to tank gauge.

Electrical connections:

- Connect pump cable to pump controller (note plug and socket).
- Connect float switch cable to 'piggy-back' plug.
- Connect solenoid cable to 'piggy-back' plug (plug and socket).
- Connect pump controller and mcw top-up unit to separate fused, switched mains power supplies. Can be hard-wired or plugged into sockets on ring main.



RAIN HARVESTING · SYSTEMS



RAINHARVESTING SYSTEMS LTD. - TERMS & CONDITIONS OF SALE

1. GENERAL

1.1 These terms and conditions apply in preference to and supersede any terms and conditions referred to, offered or relied on by the Buyer whether in negotiation or at any stage in the dealings between the seller and the Buyer. Without prejudice to the generality of the foregoing, the Seller will not be bound by any standard or printed terms furnished by the Buyer in any of its documents, unless the Buyer specifically states in writing separately from such terms that it intends such terms to apply and the Seller acknowledges such notification in writing.

1.2 These terms and conditions shall not be affected by any previous dealings between the Seller and the Buyer. Each particular contract shall be regarded as a separate and new contract having no relation to other contracts between the Buyer and Seller.

1.3 These terms and conditions apply to all goods sold from time to time by the Seller to the Buyer ("the goods").

2. VARIATION

2.1 Neither the Buyer nor the Seller shall be bound by any variation, waiver of, or addition to these terms and conditions except as agreed by both parties in writing and signed on their behalf.

2.2 These terms and conditions cannot be varied by any person acting or purporting to act as an employee or agent of the Seller. They can be varied only by a Director of the Seller in writing.

3. DESCRIPTION

3.1 The description of the goods has been given by way of identification only and the use of such description shall not constitute a sale by description.

4. SAMPLE

4.1 Notwithstanding that a sample of the goods may have been exhibited to and inspected by the Buyer, it is hereby declared that such sample was so exhibited and inspected solely to enable the Buyer to judge for itself the quality of the bulk, and so not as to constitute a sale by sample.

5. EXCLUSIONS

5.1 No liability whatsoever shall be incurred by the Seller in respect of any representation made by the Seller or its agents to the Buyer or the Buyer's agents before the contract was made where such representation related or referred in any way to (i) the correspondence of the goods to any description or (ii) the quality of the goods or (iii) the fitness of the goods for any purpose.

5.2 No liability whatsoever (other than as expressly set out in these terms and conditions) shall be incurred by the Seller to the Buyer in respect of any term in the contract whether a condition, warranty or intermediate stipulation (including any liability arising from the breach of such term) where the said term relates or refers in any way to (i) the correspondence of the goods to any description, (ii) the quality of the goods or (iii) the fitness of the goods for any purpose.

5.3 All implied terms conditions or warranties whether statutory or otherwise as to be (i) the correspondence of the goods to any description or (ii) the merchantable quality of the goods or (iii) the fitness of the goods for any purpose (whether made known to the Seller or not) are hereby excluded from the contract (other than as maybe expressly set out in these terms and conditions).

5.4 Any design performed by the Seller is for the use of the Seller only. It is the responsibility of the Buyer or the Buyers consultant to ensure that equipment supplied is suitable for its' proposed use.

5.5 The Seller does not seek to exclude liability for death or personal injury caused by the Sellers negligence.

6. PRICE

6.1 All quotations and estimates issued by the Seller are, unless otherwise stated, valid only for the period stated on the quotation (typically 90 days).

6.2 The seller reserves the right to impose a surcharge in the event of any significant and unexpected fluctuations in the exchange rate between Sterling and the Euro.

6.3 Any variation to prices quoted as a result of government taxes or levies will be for the Buyer's account.

6.4 The price is exclusive of any applicable value added tax, which the Buyer shall be additionally liable to pay the Seller

7. PAYMENT

7.1 Payment for goods supplied to account holding customers is due **30 days** from the date of invoice (unless otherwise agreed in writing by a director of the Seller).

7.2 Payment for goods supplied to non account customers will be on pro forma invoice. No goods will be despatched until full payment has been received.

7.3 The Buyer agrees that the Buyer will not be entitled for any reason to make any deduction from or withhold payment due to the Seller.

7.4 Time for payment of all sums payable to the Seller shall be of the essence of the contract.

7.5 If payment of the price is not made in full by the due date for payment whether the same be demanded or not the Seller shall be entitled (without prejudice to any other rights it may have):

7.5.1 to charge interest on the outstanding amount at the rate of 3% per annum above the base rate of HSBC Bank Plc from time to time in force and accruing daily; and

7.5.2 to require payment in advance of delivery of undelivered goods; and

7.5.3 to refuse to make delivery of any undelivered goods whether ordered under the contract or not and without incurring and liability whatsoever to the Buyer for non delivery or any delay in delivery; and

7.5.4 to terminate the contract.

8. DELIVERY

8.1 The goods are delivered to the Buyer when the Seller makes the goods available to the Buyer or any carrier (who will be the Buyer's agent whoever pays his charges) at the Sellers premises or other delivery point if agreed by the Seller in writing.

8.2 The Seller has the right to deliver the goods by instalments in any sequence.

8.3 If the goods are delivered by instalments;

8.3.1 each instalment will be deemed to be the subject of a separate contract; and

8.3.2 any default or failure by the Seller in respect of one or more instalments will not vitiate the contract in respect of the goods previously delivered or undelivered goods.

8.4 The seller may deliver to the buyer and the Buyer must accept in satisfaction of the contract a lesser sum than the number of the goods ordered. The Seller will give credit for any undelivered goods.

8.5 Any dates stated by the Seller for the delivery of the goods are approximate only and do not form part of the contract and the Buyer agrees that the Buyer will have no regard to quoted delivery dates. Time of delivery shall not be in the essence of the contract, the goods may be delivered by the Seller in advance of any quoted delivery date upon giving reasonable notice to the Buyer.

8.6 If the Buyer fails to take delivery of the goods (or any part of them) the Seller will be entitled upon giving written notice to the Buyer to store (or arrange storage of) goods and upon such written notice to render an invoice in respect of the said goods (such invoice to be payable within 28 days of invoice). Risk in the goods will pass to the Buyer at such the time of issue of such invoice and the Buyer will pay to the Seller on demand all costs and expenses (including but not limited to storage and insurance charges) arising from the failure to take delivery.

8.7 The Seller will not be liable for any penalty loss injury damage or expense arising from any delay or failure in delivery performance from any cause at all nor will such delay or failure entitle the Buyer to refuse to accept any delivery or performance of or to repudiate the contract.

9. RISK

9.1 Risk in the goods will pass to the Buyer when they are delivered to the Buyer whether by being made available at the Seller's premises or other delivery point agreed by the Seller.

10. PROPERTY

10.1 The property in the goods will not pass to the Buyer until payment of the price for the goods has been made in full. Until such time;

10.1.1 The Buyer will hold the goods as the Seller's bailee and fiduciary agent; and

10.1.2 the Buyer will store the goods separately from other goods so that they can be identified as the Seller's property and will keep the same protected and insured.

10.2 Until such time as property in the Goods passes to the Buyer the Seller shall be entitled at any time to require the Buyer to deliver up the goods to the Seller and, if the Buyer fails to do so forthwith to enter upon any premises of the Buyer or any third party where the goods are believed to be stored and repossess the goods.

11. DEFECTS IN GOODS/NON-DELIVERY-CLAIMS

11.1 Any claim for non-delivery of any goods must be notified by the Buyer to the Seller within three days from the date on which the Buyer receives an invoice for those goods.

11.2 Any claim that the goods have been delivered in a damaged state or are not of the current quantity or do not comply with their description must be notified to the Seller within three days of delivery.

11.3 Any alleged defects in goods must be notified by the Buyer to the Seller within three days of the delivery of the goods.

11.4 The Buyer shall in each notification as is referred to in sub-clauses 11.1 to 11.3 above give full details of the claim.

11.5 The Buyer must afford the Seller reasonable opportunity and facilities to investigate any claims made by the Buyer and if

requested in writing by the Seller must promptly return any goods which are subject to a claim (together with any packaging) securely packed and carriage paid to the Seller for examination.

11.6 The Seller will have no liability whatsoever in respect of claims made otherwise than in accordance with the provisions of sub-clauses 11.1 to 11.5 above.

12. DEFECTS IN GOODS/NON-DELIVERY-REMEDIES

12.1 Subject to clause 12.3 and provided that clause 11 has been complied with, if the Buyer proves that any goods have not been delivered, or are delivered damaged or are not of the correct quality or do not comply with their description the Seller will at its option replace the same with similar goods or allow the Buyer credit for their invoice value or repair damaged goods.

12.2 Subject to clause 12.3, and provided that clause 11 has been complied with, if the Buyer proves that any goods are defective the Seller shall at its option replace the same with other goods or repair the goods or allow the Buyer credit for their full invoice value, or to the extent that any goods are not of the Seller's manufacture assign to the Buyer (so far as the Seller is able to do so and at the cost of the Buyer) all such rights against the manufacturer in respect of the goods as the Seller may have.

12.3 Under no circumstances will the Seller be liable for:

12.3.1 defects or damage resulting from wear and tear or improper use by the Buyer or failure by the Buyer to comply with the instructions or advice of the Seller of the goods or neglect of any other description;

12.3.2 goods which have been adjusted, altered, adapted or required by any other party other than the Seller;

12.3.3 defects or damage resulting from the Buyer failing to ensure that goods are installed correctly and in strict accordance with the manufacturers instructions;

12.3.4 variations in the quantities or dimensions of any goods or changes in specifications or substitution of any material or components if the variation does not materially affect the characteristics of the goods and the substituted materials or components are of a quality equal or superior to those originally specified;

12.3.5 any defect arising from any design or specification provided or made by the Buyer or if any adjustments, alterations, adaptations or other work has been done to the goods by any person other than the Seller.

13. TERMINATION

13.1 The Seller may (without prejudice to its other rights) in its absolute discretion suspend or terminate the supply of any goods if the Buyer fails to make punctual payment of any sum due or becomes insolvent or if the Seller reasonably believes that any of the said events may occur.

14. CHANGES IN SPECIFICATION

14.1 The Seller reserves the right to make any changes in the specification of the goods which are required to conform with any applicable safety or other statutory requirements or, where the goods are to be supplied to the Seller's specification, which do not materially affect their quality or performance.

15. CANCELLATION

15.1 No order which has been accepted by the Seller may be cancelled by the Buyer except with agreement in writing of the Seller and on terms that the Buyer shall indemnify the Seller in full against all loss (including loss of profit), costs (including the cost of all labour and materials used), damages, charges and expenses incurred by the Seller as a result of cancellation.

16. DRAWINGS, SPECIFICATIONS ETC.

16.1 Any drawings, specifications, plans or designs supplied by the Seller to the Buyer shall remain the property of the Seller and any information derived therefrom or otherwise communicated to the Buyer in connection with the contract shall be kept secret and shall not be published or disclosed to any third party. All drawings, specifications, plans or designs supplied by the Seller must be returned to the Seller on fulfilment of the contract unless otherwise agreed.

17. BUYER'S PREMISES

17.1 The Buyer acknowledges that it is the responsibility of the Buyer to ensure that the part of the Buyer's premises intended to be the location for the goods is suitable for the same, and in particular to ensure (if necessary by consulting professional engineers or other advisors as appropriate) that the intended location is able to support the goods. The Buyer acknowledges that the Seller does not accept any liability of whatever nature caused or contributed to by the said location being unsuitable for the goods.

18. FORCE MAJEURE

18.1 If delivery is delayed by strikes, lockouts, fire, accidents. Defective materials, delay in receipt of raw materials or bought-in goods or components or any other cause beyond the reasonable control time for delivery shall be granted and the Buyer shall pay such reasonable extra charge as shall have been occasioned by the delay.

19. LAW

19.1 These terms and conditions shall be governed by and construed according to English law and the parties to the contract hereby submit to the jurisdiction of English courts.