

Installation and Operating Guidelines

SumpFlo™, SumpFloTwin™, SumpFlo BBPS™ & SumpFloTwin BBPS™



SumpFlo



SumpFlo BBPS (Single discharge)



SumpFlo BBPS (Twin discharge)



SumpFlo Twin (Single discharge)



SumpFlo Twin (Twin discharge)



SumpFlo Twin BBPS

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1.0 Product Summary

1.1 SumpFlo™

The SumpFlo™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways) and powerful submersible pump. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level within the tank. The alarm is designed to activate via a separate float switch.

1.2 SumpFloTwin™

The SumpFloTwin™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways) and two powerful submersible pumps. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a High Level Alarm (9V), which acts as a warning system to alert the end user if the water rises above the normal operating level within the tank. The alarm is designed to activate via a separate float switch.

Available in single and twin discharge configuration.

1.3 SumpFlo BBPS™

The SumpFlo BBPS™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways), powerful submersible pump and 24V backup pump. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a battery back-up pump system, which is designed especially for where the possibility of primary pump failure through either a pump fault or loss of mains power would be catastrophic. The system acts as a back-up that will alert the end user if the water rises above the normal operating level within the tank and will activate a 24V back-up pump. The system is designed to activate via three separate float switches. The panel contains two batteries that are trickle charged that will keep the back-up system operational in situations of mains power failure and/or pump fault (please refer to section 3.2 'Battery Back-Up Pump System' for details of battery life).

Available in single and twin discharge configuration.

1.4 SumpFlo Twin BBPS™

The SumpFlo Twin BBPS™ is specially designed for the removal of groundwater from basement cavity drainage membrane systems. The system comprises of a polyethylene tank, locking access cover (pedestrian duty, not suitable for roadways), 2no. powerful submersible pumps and 24V backup pump. The system is very versatile, enabling the installer to locate inlets to their specifications.

The system comes complete with a battery back-up pump system, which is designed especially for where the possibility of primary/secondary pump failure through either a pump fault or loss of mains power would be catastrophic. The system acts as a back-up that will alert the end user if the water rises above the normal operating level within the tank and will activate a 24V back-up pump. The system is designed to activate via three separate float switches. The panel contains two batteries that are trickle charged that will keep the back-up system operational in situations of mains power failure and/or pump fault (please refer to section 3.2 'Battery Back-Up Pump System' for details of battery life).

2.0 Installation Guidelines

It is important to note that these instructions are for guidance only and it is the contractor's responsibility to satisfy themselves that the installation procedure is in accordance with the site conditions and good building practice, to eliminate any potential damage to the system either during or after installation. The installer should also satisfy themselves that the system can be installed in conjunction with these guidelines, prior to work commencing.

The tank is manufactured from polyethylene and as such is extremely robust. However, as with any preformed tank they are susceptible to floatation and hydrostatic pressures exerted in high water table conditions.

Please read these instructions in full prior to commencement of the installation. If you are unsure on any point then please ask for advice before proceeding. Our technical helpdesk is available on 0845 400666 from 8:30am – 5:30pm, Monday to Friday.

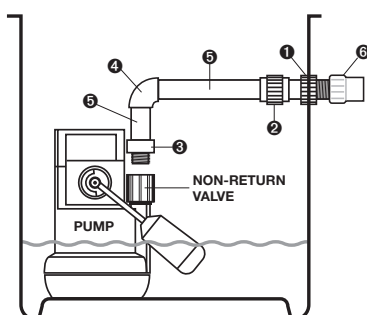
1. Connection of the internal discharge pipe work within the tank is as follows:

SumpFlo™ (Single Pump Configuration, supplied as standard)

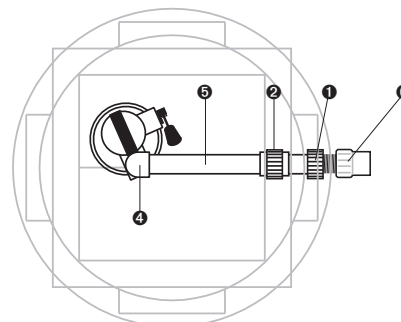
Fittings kit comes with the following as standard:

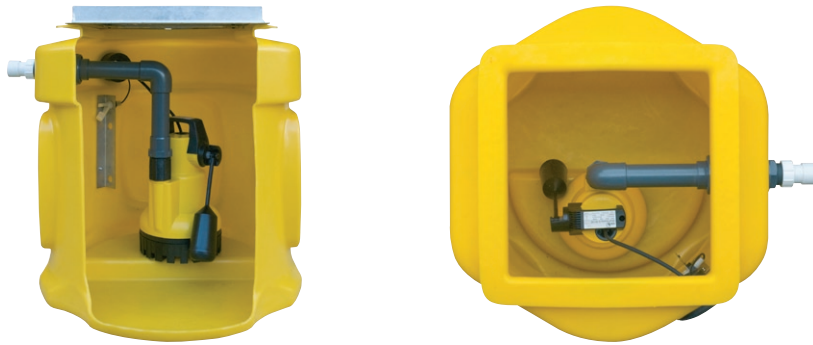
No.	Qty	Description
1	1	PVC 1¼" Tank Connector
2	1	PVC 1¼" Socket Union
3	1	PVC 1¼" Male Threaded Adaptor
4	1	PVC 1¼" Elbow
5	1	PVC 1¼" Class E Pressure Pipe 0.5 metres
6	1	32mm Female Threaded Adaptor

SIDE ELEVATION



PLAN VIEW





First select a suitable location for the pump ensuring that the float arm is not obstructed by for example the tank wall, inlets etc, at its optimum reach. Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valve is securely fixed to the pump outlet and ensure that the flap opens in the direction of the flow.

- a) Screw the Male Threaded Adaptor (3) into the Non-Return Valve located on the pump outlet.
- b) Cut a short length of 1¼" PVC pipe (5) and place into the Male Threaded Adaptor (3) (do not glue into place yet).
- c) Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbow (4) into place yet). Please note that the pump is to be located on the step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Place the Socket Union (2) over the plain end of the Tank Connector (1) (internal within the tank) and position the pump so that there is room for the float switch to activate.
- f) Now measure the length of PVC pipe (5) required between the Elbow (4) and the Socket Union (2) and cut to size.
- g) Check all the pipe work is in place correctly and glue together with plenty of PVC Solvent Cement.

For connection of the external pipe work you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

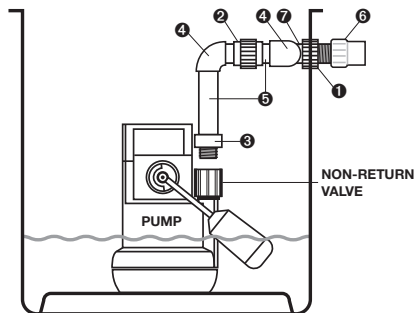
SumpFloTwin™ (Twin Pump Configuration ‘Single Discharge’, not supplied as standard need to purchase additional pipe work kit – pipe work kit B).

Fittings kit comes with the following as standard:

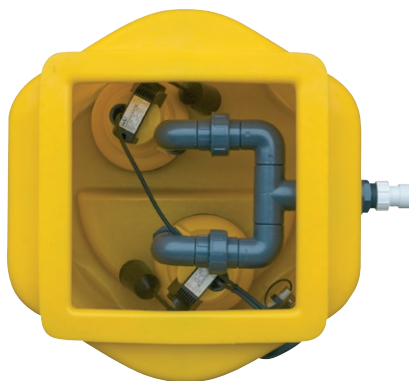
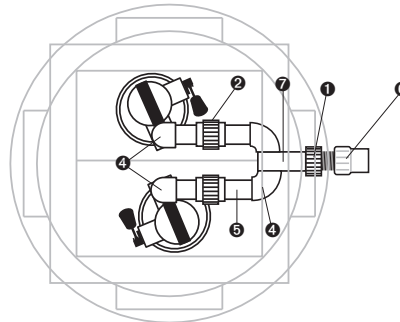
No.	Qty	Description
1	1	PVC 1¼" Tank Connector
2	2	PVC 1¼" Socket Union (*x1)
3	2	PVC 1¼" Male Threaded Adaptor (*x1)
4	4	PVC 1¼" Elbow (*x3)
5	2	PVC 1¼" Class E Pressure Pipe 0.5 metres (*x1)
6	1	32mm Female Threaded Adaptor
7	1	PVC 1¼" Tee-piece (*x1)

*Items listed to be supplied within pipe work kit B.

SIDE ELEVATION



PLAN VIEW



First select a suitable location for the pumps ensuring that 1no. pump is positioned on the base of the tank and 1no. pump is positioned on the raised section. It is also essential to position the pumps so the float arms are not obstructed by for example the tank wall, inlets etc, at their optimum reach (see diagram above). Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valves are securely fixed to the pump outlets and ensure that the flap opens in the direction of the flow.

- a) Screw the Male Threaded Adaptors (3) into the Non-Return Valves located on the pump outlets.
- b) With the pumps roughly in position cut a short length of 1 1/4" PVC pipe (5) and place into the Male Threaded Adaptor (3) of the pump on the raised section. Check the height is approximately at the level of the discharge (do not glue into place yet). With the other pump on the base of the tank, measure from the inner lip of the Male Threaded Adaptor (3) to the top of the 1 1/4" PVC pipe in position on the raised section. Cut a length of 1 1/4" PVC pipe to size and place in to the Male Threaded Adaptor (3) of the pump on the base of the tank ensuring that both lengths of 1 1/4" PVC Pipe (5) are the same height.
- c) Place the Elbows (4) onto the short lengths of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbows (4) into place yet). For ease of installation please ensure to position the discharge in the centre of the flat panel.
- d) Drill 1 no. 1 1/4" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Now check the 1 1/4" PVC Elbows (4) and 1 1/4" PVC Tank Connector (1) are at the same height.
- f) Place the 1 1/4" PVC Tee-Piece (7) onto the plain end of the 1 1/4" PVC Tank Connector (1) ensuring the 1 1/4" PVC Tee-Piece (7) is level and glue into place. Now cut 4no. short lengths of 1 1/4" PVC Pipe (5) (approx. 45mm) and glue 2no. into both ends of the 1 1/4" PVC Tee-Piece (7).
- g) Take the remaining 2no. short lengths of 1 1/4" PVC Pipe (5) and glue into the 2no. 1 1/4" PVC Elbows (4) attached to the pumps. Now glue 2no. 1 1/4" PVC Socket Unions (2) onto these short lengths of 1 1/4" PVC Pipe (5).
- h) Place 2no. 1 1/4" PVC Elbows (4) over the short lengths of 1 1/4" PVC Pipe (5) attached to the 1 1/4" PVC Tee Piece (7) and measure the distance from the between the 1 1/4" PVC Socket Unions (2) on the pump to the 1 1/4" PVC Elbows (4) (ensure to measure from the inner rim of the fittings). Now cut 2no lengths of 1 1/4" PVC Pipe (5) to suit.
- i) Place the lengths of 1 1/4" PVC Pipe into position between the 1 1/4" PVC Elbows (4) then check the position of the pumps and the operation of the float switch. When satisfied glue the lengths of 1 1/4" PVC Pipe (5) into position between the 1 1/4" PVC Socket Unions (2) and the 1 1/4" PVC Elbows (4) and the 1 1/4" PVC Elbows (4) to the short lengths of 1 1/4" PVC Pipe (5) on the 1 1/4" PVC Tee-Piece (7).
- j) Check all the pipe work is in place correctly and glue together with plenty of PVC Solvent Cement.

For connection of the external pipe work you will be left with a 1 1/4" male thread on the outside of the tank, we recommend that you use 1 1/4" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

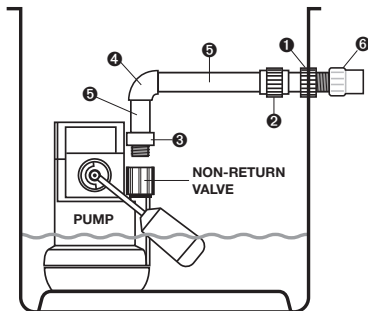
Sumpflo Twin™ (Twin Pump Configuration ‘Twin Discharge’, not supplied as standard need to purchase additional pipe work kit – pipe work kit C)

Fittings kit comes with the following as standard:

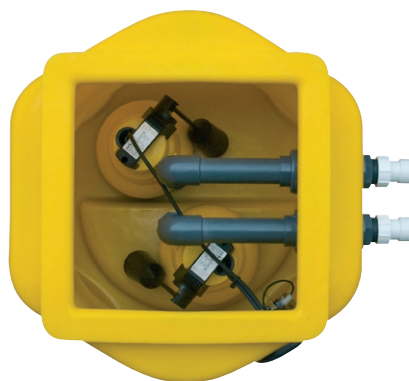
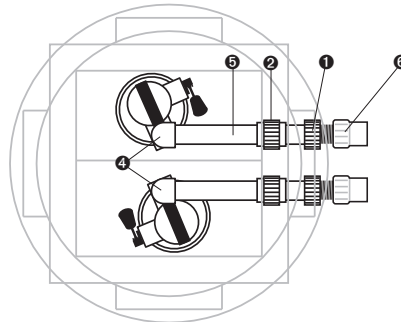
No.	Qty	Description
1	2	PVC 1¼" Tank Connector (*x1)
2	2	PVC 1¼" Socket Union (*x1)
3	2	PVC 1¼" Male Threaded Adaptor (*x1)
4	2	PVC 1¼" Elbow (*x1)
5	2	PVC 1¼" Class E Pressure Pipe 0.5 metres (*x1)
6	2	32mm Female Threaded Adaptor (*x1)

*Items listed to be supplied within pipe work kit C.

SIDE ELEVATION



PLAN VIEW



First select a suitable location for the pumps ensuring that 1no. pump is positioned on the base of the tank and 1no. pump is positioned on the raised section. It is also essential to position the pumps so the float arms are not obstructed by for example the tank wall, inlets etc, at their optimum reach (see diagram above). Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valves are securely fixed to the pump outlets and ensure that the flap opens in the direction of the flow.

- a) Screw 2no. Male Threaded Adaptors (3) into the Non-Return Valves located on the pump outlets.
- b) Cut 2no. short lengths of 1¼" PVC pipe (5) and place into the Male Threaded Adaptors (3) (do not glue into place yet).
- c) Place 2no. Elbows (4) onto the short lengths of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the 2no. Tank Connectors (1) are to be connected (do not glue the Elbows (4) into place yet). Please note that 1no. pump is to be located on the step and 1no. pump to be located on the base of the tank.
- d) Drill 2no. 1¼" (44mm) hole where you have marked the tank and fix the Tank Connectors (1) in place with the threaded part external to the tank.
- e) Place 2no. Socket Unions (2) over the plain end of the Tank Connectors (1) (internal within the tank) and position the pump so that there is room for the float switch to activate.
- f) Now measure the lengths of PVC pipe (5) required between the Elbows (4) and the Socket Unions (2) and cut to size.
- g) Check all the pipe work is in place correctly and glue together with plenty of PVC Solvent Cement.

For connection of the external pipe work you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

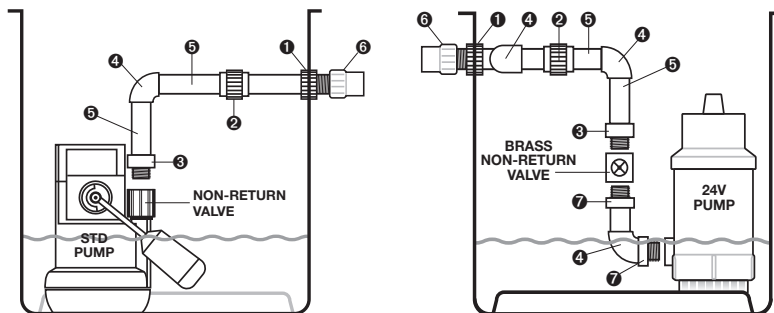
SumpFlo BBPS™ (Twin Pump Configuration ‘Single Discharge’, not supplied as standard need to purchase additional pipe work kit – pipe work kit D).

Fittings kit comes with the following as standard:

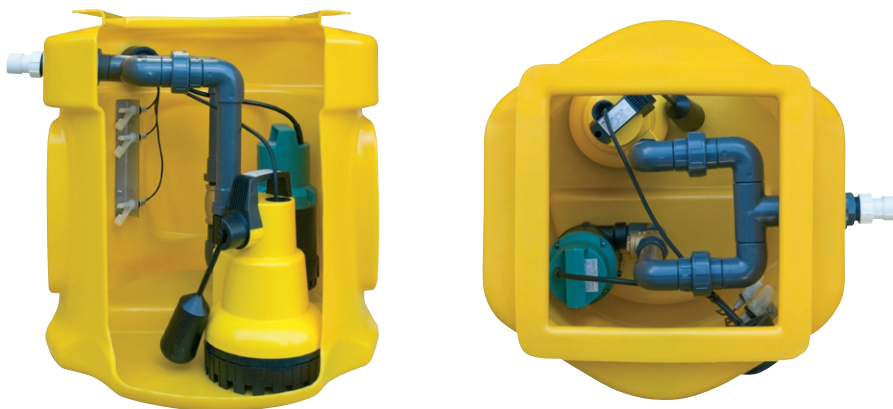
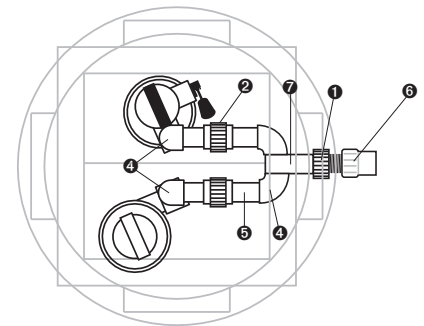
No.	Qty	Description
1	1	PVC 1¼" Tank Connector
2	2	PVC 1¼" Socket Union (*x1)
3	3	PVC 1¼" Male Threaded Adaptor (*x2)
4	5	PVC 1¼" Elbow (*x4)
5	2	PVC 1¼" Class E Pressure Pipe 0.5 metres (*x1)
6	1	32mm Female Threaded Adaptor
7	2	PVC 1¼" Plain/Threaded Barrel Nipple (*x2)
8	1	PVC 1¼" Tee-piece

*Items listed to be supplied within pipe work kit D.

SIDE ELEVATION



PLAN VIEW



First position the Primary pump on the base of the tank ensuring that the float arm is not obstructed by for example the tank wall, inlets etc, at its optimum reach. Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valve is securely fixed to the pump outlet and ensure that the flap opens in the direction of the flow.

- a) Screw the Male Threaded Adaptor (3) into the Non-Return Valve located on the pump outlet.
- b) Cut a short length of 1¼" PVC pipe (5) and place into the Male Threaded Adaptor (3) (do not glue into place yet).
- c) Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbow (4) into place yet). Please note that the pump is to be located on the lower step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Screw the 1¼" PVC PI/Th Barrel Nipple (7) into the 24V Pump and glue the 1¼" PVC Elbow (4) onto the 1¼" PVC PI/Th Barrel Nipple (7) pointing vertically.
- f) Screw 1no. 1 ¼" PI/Th Barrel Nipple (7) into the underside of the Non-return Valve and a 1 ¼" Male Threaded adaptor into the top of the Valve
- g) Glue the 1¼" PVC PI/Th Barrel end of the Non-Return Valve into the 1¼" PVC Elbow (4) fixed to the 24V Pump ensuring the direction of the Non-Return Valve is in the direction of the flow. Measure the height between the 1 ¼" PVC Male Th. Adaptor and the 1 ¼" PVC Tank Connector and cut a length of 1 ¼" PVC Pipe to suit. Place the length of PVC Pipe into the Male Th. Adaptor and place 1no. 1 ¼" PVC Elbow onto it ensuring the PVC Elbow and the 1 ¼" PVC Tank connector are at the same height.
- h) Place the 1 ¼" PVC Tee-Piece (7) onto the plain end of the 1 ¼" PVC Tank Connector (1) ensuring the 1 ¼" PVC Tee-Piece (7) is level and glue into place. Now cut 4no. short lengths of 1 ¼" PVC Pipe (5) (approx. 45mm) and glue 2no. into both ends of the 1 ¼" PVC Tee-Piece (7).
- i) Take the remaining 2no. short lengths of 1 ¼" PVC Pipe (5) and glue into the 2no. 1 ¼" PVC Elbows (4) attached to the pumps. Now glue 2no. 1 ¼" PVC Socket Unions (2) onto these short lengths of 1¼" PVC Pipe (5).
- j) Place 2no. 1 ¼" PVC Elbows (4) over the short lengths of 1 ¼" PVC Pipe (5) attached to the 1 ¼" PVC Tee Piece (7) and measure the distance from the between the 1 ¼" PVC Socket Unions (2) on the pump to the 1 ¼" PVC Elbows (4) (ensure to measure from the inner rim of the fittings). Now cut 2no lengths of 1 ¼" PVC Pipe (5) to suit.
- k) Place the lengths of 1 ¼" PVC Pipe into position between the 1 ¼" PVC Elbows (4) then check the position of the pumps and the operation of the float switch. When satisfied glue the lengths of 1 ¼" PVC Pipe (5) into position between the 1 ¼" PVC Socket Unions (2) and the 1 ¼" PVC Elbows (4) and the 1 ¼" PVC Elbows (4) to the short lengths of 1 ¼" PVC Pipe (5) on the 1 ¼" PVC Tee-Piece (7).
- l) Check all the pipe work is in place correctly and glue together with plenty of PVC Solvent Cement.

For connection of the external pipe work you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

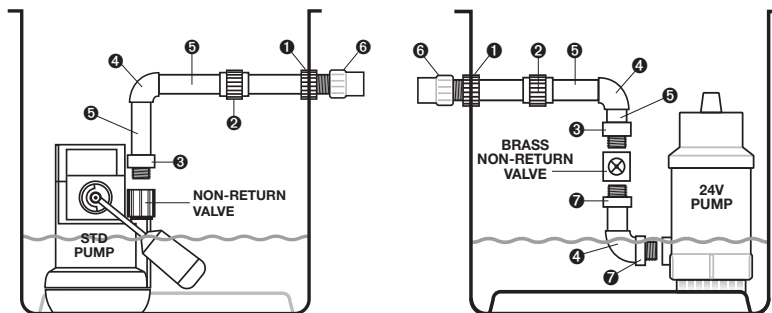
Sumpflo BBPS™ (Twin Pump Configuration ‘Twin Discharge’, not supplied as standard need to purchase additional pipe work kit – pipe work kit E).

Fittings kit comes with the following as standard:

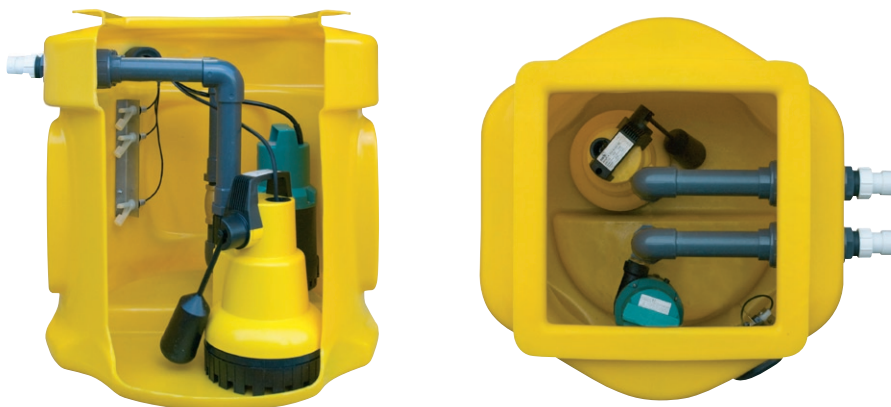
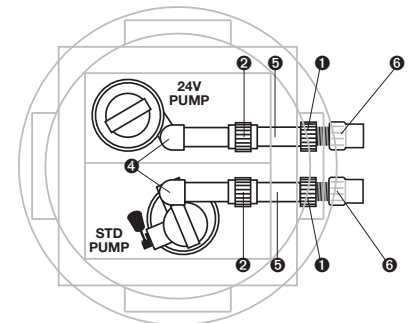
No.	Qty	Description
1	2	PVC 1¼" Tank Connector (*x1)
2	2	PVC 1¼" Socket Union (*x1)
3	2	PVC 1¼" Male Threaded Adaptor (*x1)
4	3	PVC 1¼" Elbow (*x2)
5	2	PVC 1¼" Class E Pressure Pipe 0.5 metres (*x1)
6	2	32mm Female Threaded Adaptor (*x1)
7	2	PVC 1¼" Plain/Threaded Barrel Nipple (*x2)
8	1	PVC 1¼" Tee-piece

*Items listed to be supplied within pipe work kit E.

SIDE ELEVATION



PLAN VIEW



First position the Primary pump on the base of the tank ensuring that the float arm is not obstructed by for example the tank wall, inlets etc, at its optimum reach. Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valve is securely fixed to the pump outlet and ensure that the flap opens in the direction of the flow.

Primary Pump pipe work guidelines

- a) Screw the Male Threaded Adaptor (3) into the Non-Return Valve located on the pump outlet.
- b) Cut a short length of 1¼" PVC pipe (5) and place into the Male Threaded Adaptor (3) (do not glue into place yet).
- c) Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected ensuring to leave enough room for the second 1¼" PVC Tank Connector next to it (do not glue Elbow (4) into place yet). Please note that the pump should be located on the lower step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Place the Socket Union (2) over the plain end of the Tank Connector (1) (internal within the tank) and position the pump so that there is room for the float switch to activate.
- f) Now measure the length of PVC pipe (5) required between the Elbow (4) and the Socket Union (2) and cut to size.

BBPS pipe work Guidelines

- a) Screw 1no. 1¼" PI/Th Barrel Nipple (7) into the 24v Pump and then place the 1¼" PVC Elbow (4) over the Barrel Nipple with the Elbow pointing directly upwards.
- b) Now take the 1¼" Brass Non-return Valve and note the arrow on the side pointing in the direction of the flow. Screw a 1¼" PVC PI/Th Barrel Nipple (7) into the bottom of the Valve and 1no. 1¼" PVC Male Th. Adaptor (3) into the top of the Valve.
- c) Place the Valve into the 1¼" PVC Elbow positioned on the pump and position the 24v Pump on the base of the tank. Measure from the inner lip of the Male Threaded Adaptor (3) to the top of the 1¼" PVC pipe on the Primary pump. Cut a length of 1¼" PVC pipe to size and place in to the Male Threaded Adaptor (3) of the pump on the base of the tank ensuring that both lengths of 1¼" PVC Pipe (5) are the same height. Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbow (4) into place yet). Please note that the pump is to be located on the step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Place the Socket Union (2) over the plain end of the Tank Connector (1) (internal within the tank) and position the pump so that there is room for the float switches to activate.
- f) Now measure the length of PVC pipe (5) required between the Elbow (4) and the Socket Union (2) and cut to size.

For connection of the external pipe work you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use

32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

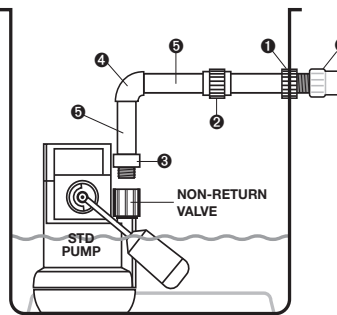
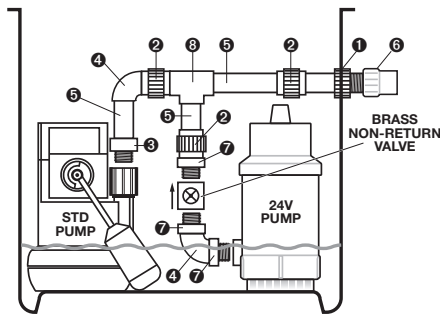
SumpFloTwin BBPS™ (Twin Pump with BBPS Configuration ‘Twin Discharge’, not supplied as standard need to purchase additional pipe work kit – pipe work kit F).

Fittings kit comes with the following as standard:

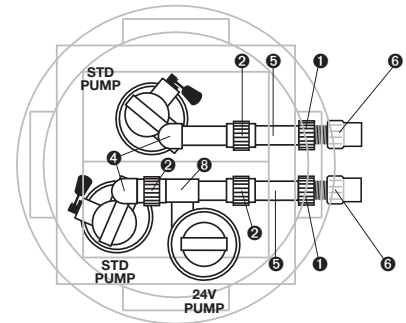
No.	Qty	Description
1	2	PVC 1¼" Tank Connector (*x1)
2	4	PVC 1¼" Socket Union (*x3)
3	2	PVC 1¼" Male Threaded Adaptor (*x1)
4	3	PVC 1¼" Elbow (*x2)
5	2	PVC 1¼" Class E Pressure Pipe 0.5 metres (*x1)
6	2	32mm Female Threaded Adaptor (*x1)
7	3	PVC 1¼" Plain/Threaded Barrel Nipple (*x3)

*Items listed to be supplied within pipe work kit F.

SIDE ELEVATION



PLAN VIEW



First position the Primary pump on the base of the tank ensuring that the float arm is not obstructed by for example the tank wall, inlets etc, at its optimum reach. Remove the nut located in the pump switch and push the float arm into place ensuring that the nut is securely replaced. Prior to installing the internal pipe work please check the Non-Return Valve is securely fixed to the pump outlet and ensure that the flap opens in the direction of the flow.

Primary pump pipe work guidelines

- a) Screw the Male Threaded Adaptor (3) into the Non-Return Valve located on the pump outlet.
- b) Cut a short length of 1¼" PVC pipe (5) and place into the Male Threaded Adaptor (3) (do not glue into place yet).
- c) Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected ensuring to leave enough room for the second 1¼" PVC Tank Connector next to it (do not glue Elbow (4) into place yet). Please note that the pump should be located on the lower step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Place the Socket Union (2) over the plain end of the Tank Connector (1) (internal within the tank) and position the pump so that there is room for the float switch to activate.
- f) Now measure the length of PVC pipe (5) required between the Elbow (4) and the Socket Union (2) and cut to size.

BBPS Pipe work Guidelines

- a) Screw 1no. 1¼" PI/Th Barrel Nipple (7) into the 24v Pump and then place the 1¼" PVC Elbow (4) over the Barrel Nipple with the Elbow pointing directly upwards.
- b) Now take the 1¼" Brass Non-return Valve and note the arrow on the side pointing in the direction of the flow. Screw a 1¼" PVC PI/Th Barrel Nipple (7) into the bottom of the Valve and 1no. 1¼" PVC Male Th. Adaptor (3) into the top of the Valve.
- c) Place the Valve into the 1¼" PVC Elbow positioned on the pump and position the 24v Pump on the base of the tank. Measure from the inner lip of the Male Threaded Adaptor (3) to the top of the 1¼" PVC pipe on the Primary pump. Cut a length of 1¼" PVC pipe to size and place in to the Male Threaded Adaptor (3) of the pump on the base of the tank ensuring that both lengths of 1¼" PVC Pipe (5) are the same height.
Place the Elbow (4) onto the short length of pipe (5) and check the height at which the pipe work will leave the tank and mark it where the Tank Connector (1) is to be connected (do not glue the Elbow (4) into place yet). Please note that the pump is to be located on the step.
- d) Drill a 1¼" (44mm) hole where you have marked the tank and fix the Tank Connector (1) in place with the threaded part external to the tank.
- e) Screw the 1¼" PVC PI/Th Barrel Nipple (7) into the 24V Pump and glue the 1¼" PVC Elbow (4) onto the 1¼" PVC PI/Th Barrel Nipple (7) pointing vertically.
- f) Take the Non-Return Valve and note the arrow showing the direction of flow. Screw a 1¼" PVC PI/Th Barrel Nipple (7) into the both ends of the Non Return Valve.
- g) Glue the 1¼" PVC PI/Th Barrel end of the Non-Return Valve into the 1¼" PVC Elbow (4) fixed to the 24V Pump ensuring the direction of the Non-Return Valve is in the direction of the flow. Now glue a 1¼" PVC Socket Union (2) onto the 1¼" PVC PI/Th Barrel Nipple (7).
- h) Cut a Short Piece of 1¼" PVC Pipe (5) (approx. 45mm) and glue into place into the 1¼" PVC Elbow (4) attached to the primary pump. Then glue a 1¼" PVC Socket Union (2) onto the Short Piece of 1¼" PVC Pipe (5). Now cut another Short Length of 1¼" PVC Pipe (5) (approx. 45mm) and glue into the 1¼" PVC Socket Union (2).
- i) Place the 1¼" PVC Tee-Piece onto the 1¼" PVC Socket Union (2) with the 1¼" PVC Tee-Piece pointing downwards and position the two pumps. Now measure the distance between the inner rim of the 1¼" PVC Tee-Piece (8) and 1¼" PVC Socket Union (2) attached to the 24V Pump. Cut a Short Piece of 1¼" PVC Pipe (5) to suit.

- j) With the Short Piece of 1¼" PVC Pipe (5) in place between the 1¼" PVC Tee-Piece (8) and the 1¼" PVC Socket Union (2) and measure the distance between the 1¼" Tee-Piece (8) and the 1¼" PVC Socket Union (2) attached to the 1¼" PVC Tank Connector (1) and cut a length of 1¼" PVC Pipe (5) to suit.
- k) With all the pipework in place check the operation of the float switch and glue all remaining pipework in place with plenty of PVC Solvent Cement.

For connection of the external pipe work you will be left with a 1¼" male thread on the outside of the tank, we recommend that you use 1¼" Class E PVC Pressure Pipe but should the installer wish to use 32mm Solvent Weld Waste Pipe (white) then a 32mm Female Threaded Adaptor (6) is supplied within the fittings kit which should be threaded onto the male thread on the outside of the tank.

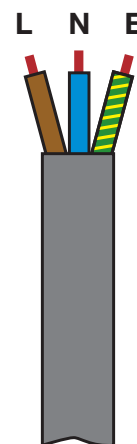
2. Select a suitable location for the pumping station. It is extremely important to site the system with permanent access in mind for routine maintenance of the system.
3. Prepare the tank for all connection, incoming pipe/s (inlets and cable duct). To do this you must select the location and drill the appropriate sized inlet suitable for your incoming pipe/s (fitting not supplied as standard, see section '6.0 Accessories' for inlet rubber seals).
4. In all instances the tank MUST be positioned on a flat, level, concrete base of dimensions sufficient to fully support the base of the tank. Simply lay clean hardcore to the base of the excavation ensuring that it is consolidated to a thickness of 100mm, then lay a mass concrete to a thickness adequate for the ground conditions and of minimum 150mm thickness, on top of the hardcore. Carefully position the tank onto the WET concrete base ensuring that no loose debris is inadvertently knocked onto the base, under the tank during this procedure. Push the tank into the wet concrete by 50mm ensuring that the concrete is fully imbedded into the bottom of the tank. Position it such that the inlet, outlet and cable duct pipe work is correctly aligned.
5. Once the tank is positioned connect the incoming pipe/s (inlets and cable duct) to the tank.
6. It is recommended that an external 1¼" gate valve (see section '6.0 Accessories') be installed on the discharge line should the vertical lift exceed 3 meters and/or the discharge line be connected to a foul water outlet.
7. The electrical cables should be now drawn through a cable duct back to the electrical source via a 50mm rubber fitting (fitting not supplied as standard, see section 6.0 Accessories).
8. In all applications the tank must be backfilled with a mass concrete mix of a minimum 150mm thickness and used in accordance with the ground conditions ensuring that it is as dry as practical to prevent additional floatation pressures being exerted on the tank.
The tank MUST be ballasted with water at the same rate as backfilling such that the level difference between the water and the backfill does not exceed 150mm at any time.
Please ensure that when pouring the concrete backfill, suitable steps are taken to prevent the concrete entering the tank and any incoming/discharge pipe work.
9. Where groundwater is present in the excavation, local de-watering of the ground must be undertaken throughout the installation procedure until the backfill has cured. Please note that the ballast water inside the tank should not be removed until the backfill has fully cured.
10. It is extremely important that once the tank has been installed and all the inlet connections made, before the pump/s are installed, the system is flushed through and all sand, silt, rubble and general debris removed from the tank. **FAILURE TO DO THIS WILL INVALIDATE THE WARRANTY ON THE PUMP/S**

2.1 Electrical Connection

A qualified person in accordance with the Institute of Electrical Engineers Regulations should connect the Pump/s to the mains supply taking into account all the electrical information provided.

1. Each 240V pump should be connected to a 230V 5A fused spur.
2. Please ensure that there is suitable slack on the cable to allow for the pump/s to be removed for maintenance.

L Live (Brown)
N Neutral (Blue)
E Earth (Green/Yellow)



2.2 High Level Alarm (9V)

1. Remove the 2 screws from the back of the sounder module and insert a 9 volt battery (alkaline recommended), being sure to press the clips firmly in place (battery not included).
2. Reassemble ensuring the 2 screws are firmly in place.
3. Press blue test bar and hold for 2 seconds. If the unit is properly assembled, the alarm buzzer will sound.
4. Use the suction cup to attach the sensor to the upper part of the tank ensuring that the activation of the pump is below the sensor. The buzzer will sound when water reaches the 2 metal contacts on the sensor.
5. The alarm sensor's buzzer may continue to sound even after it has been removed from the water. If so, remove the battery and allow the alarm sensor to dry for approximately 2 hours.

2.3 Battery Back-Up Pump System

2.3.1 Electrical Connections

A qualified person in accordance with the Institute of Electrical Engineers Regulations should connect the unit to the mains supply taking into account all the electrical information provided.

1. Select a suitable location for the control panel, taking into account that the panel must be located within 5m of the pump. It is important to bear in mind access to the control panel for maintenance purposes, ensuring it is located in a dry area and the audio alarm is audible to the end user.
2. Mount the panel to a wall or backboard using the mounting points at the back of the panel and appropriate screws and wall plugs (not supplied).
3. The three float switches need to be fixed to the metal bracket using the fittings provided (plastic washer and nut). Place the float switches into position ensuring that the activation arm is down and fixed into position using the plastic washer and nut.

The float switches should be located within the tank ensuring that the following configuration is adhered to:

'Run' Float	Top of bracket
'High Level Alarm'	Float Middle of bracket (float is to be higher than the primary pump float switch).
'Off'	Float Bottom of bracket

4. The electrical/float cables should be drawn through the cable duct back to the control panel.
5. The panel should be connected to a 230V 13A fused spur.
6. For connection to the mains supply it is imperative that the panel is connected to a separate fused spur to that of the primary pump. This is because should a fault occur with the pump and blow its fuse, then the back-up system can still operate.
7. Please ensure that there is suitable slack on the cable to allow for the pump to be removed for maintenance.
8. To commission the control panel you must connect both the batteries using the connectors provided, a red indicator on the battery charger will inform you that the batteries are now charging, once fully charged the red indicator will turn green. Ensure the circuit breaker located on the top component row is switched to the ON position. To test the system, disconnect power from the primary pump and fill the tank with water until the back-up pump activates. Please note that prior to the back-up pump activating the high level alarm should sound.

2.3.2 Control Panel Operation

The most important element of the battery back-up system is the control panel as it controls and monitors and status of the complete system.

The panel consists of both visual and audio indicators that are imperative for both the installer and end user to fully understand.

Visual Indicators

White Indicator (Supply On)	This indicates whether there is a mains supply connected to the unit. Should the mains supply be removed (i.e. Power failure, blown fuse) the light will go out.
Red Indicator (Fault)	This indicates whether there is a fault with the back-up pump, such as a blockage, blown fuse or that the batteries have run dry.
Green Indicator (Running)	This indicates that the back-up pump is in operation.

Audio Indicators

The battery back-up system comes complete with an audio alarm to alert the user when there is a high level situation within the tank. Also located on the front of the panel is an alarm mute button to silence the alarm in a high level situation.

3.0 Technical Specifications

3.1 SumpFlo, SumpFloTwin, SumpFlo BBPS and SumpFloTwin BBPS

Model	SumpFlo, SumpFlo BBPS	SumpFloTwin, SumpFloTwinBBPS
Power Supply	230V AC	230V AC
Rated Current	1.5A	1.5A per pump
Motor Rating	340W	340W per pump
Frequency	50Hz	50Hz per pump
Revolutions Per Min.	2800rpm	2800rpm per pump
Max Vertical Output	7m	7m
Max Horizontal Output	50m	50m
Max Flow Rate	132l/m	132l/m
Max Liquid Temp.	<40°C	<40°C
Discharge Size	1¼" / 32mm	2 x 1¼" / 32mm
Cable Length	5m	5m
Weight	14kg	14kg/20kg
Colour	Yellow	Yellow

3.2 High Level Alarm (9V)

Electrical Input to Alarm	9V
Electrical Output from Alarm	9V

3.3 Battery Back-Up Pump System

Power Supply to Panel	230V AC
Power Supply to Pump (via panel)	24V
Frequency	50Hz
Motor Rating	Intermittent
Max. Vertical Output	6.5m
Max. Horizontal Output	45m
Max Flow Rate	180l/m
Max. Liquid Temp.	<40°C
Rated Current	13A
Discharge Size	1¼"
Cable Length	4m
Battery Life	45min

4.0 Dimensions

4.1 SumpFlo, SumpFloTwin, SumpFlo BBPS and SumpFloTwin BBPS

Diameter	600mm
Height	600mm

4.2 High Level Alarm (9V) Panel

Height	90mm
Width	90mm
Depth	30mm

4.3 Battery Back-Up Panel

Height	380mm
Width	300mm
Depth	180mm

5.0 Parts List

5.1 SumpFlo, SumpFloTwin, SumpFlo BBPS and SumpFloTwin BBPS

Product Name	SumpFlo, SumpFlo BBPS (Qty)	SumpFloTwin, SumpFloTwinBBPS (Qty)
Tank	1	1
Access Cover, Locking, Solid Top 350 x 350mm (Pedestrian Duty)	1	1
Pump (240V)	1	2
Float Arm for Pump	1	2
Fittings Kit (Pipe work/Fittings)	1	1
Non-return Valve (integral)	1	2

5.2 High Level Alarm (9V)

Qty	Product Name
1	Suction Cup
1	High Level Alarm Panel

5.3 Battery Back-Up Pump System

Qty	Product Name
1	Control Panel
1	Non-return valve (Brass)
1	24V Back-Up Pump
3	Mini Float Switch

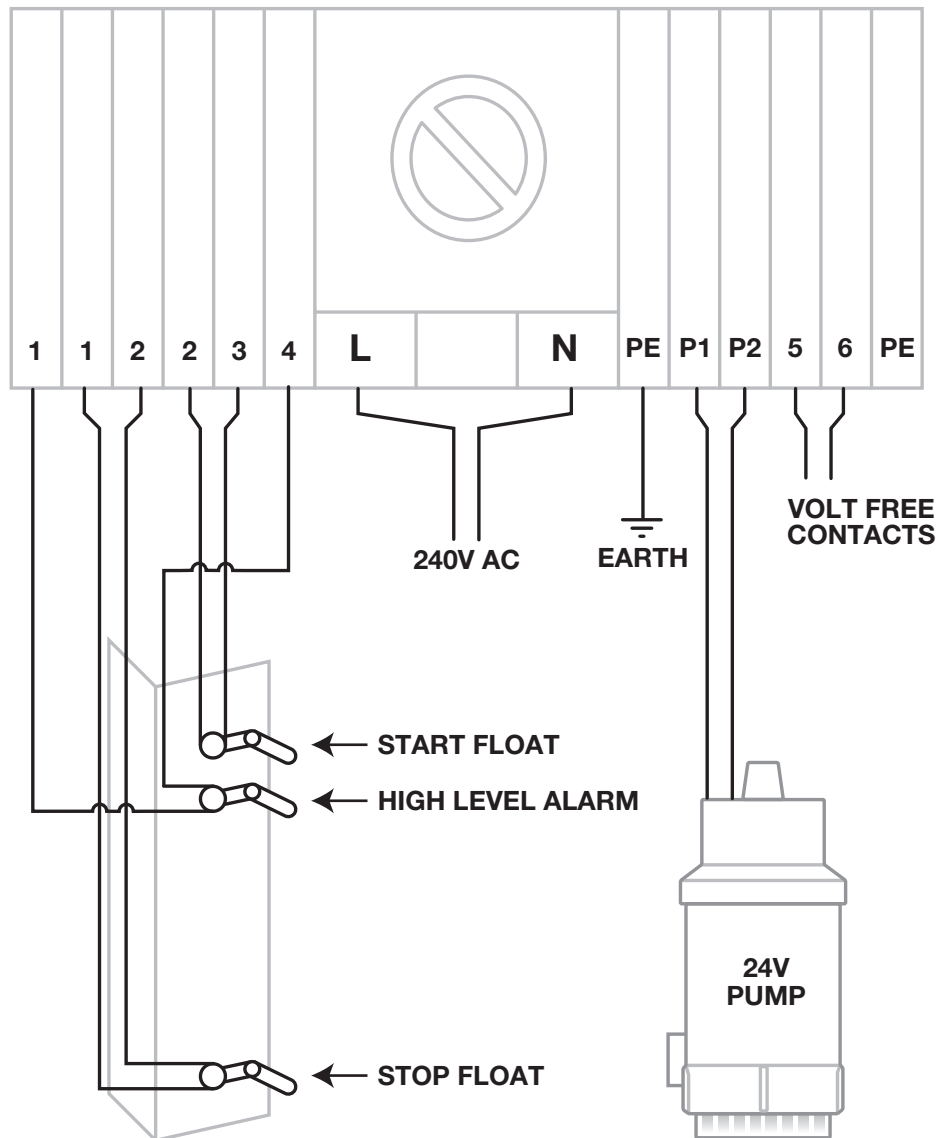
6.0 Accessories

Product Name	Product Code
High Level Alarm (Mains/Battery Operated)	22051
1¼" Brass Gate Valve	10003
110mm Rubber Seal (Drainage Inlet)	17010
50mm Rubber Seal (Inlet/Cable Duct)	17012
12V, 7Ah Battery	14003
Access Cover, Recessed 350 x 350mm	18014
High Level Alarm (Mains Operated)	22050

7.0 Wiring Diagrams

Wiring Diagrams can be found within the panel control/s. Should you require further assistance please contact our technical helpdesk on 0845 400666 from 8:30am – 5:30pm, Monday to Friday.

7.1 Battery Backup Pump System



8.0 Transport

The pump/s are shipped disconnected from the pipe work and fittings to avoid damaged in transit. Carefully unpack the system from its packaging and inspect for any signs of damage. Should there be any damage present it must be reported immediately (no claim will be considered after 24 hours from time of delivery).

9.0 Maintenance

The system requires minimal maintenance; however it is strongly recommended that the unit is serviced quarterly during the first year. It is essential that the unit is serviced at least annually thereafter.

To clean out the unit you must first turn off the power supply and ensure that it cannot be inadvertently turned back on. (i.e. remove the fuse/s). Now remove the access cover to gain access to the pump/s. Next you must remove the pump/s from the tank by disconnecting the pipe work and lifting the pump/s out. It is advisable to check the underside of the pump/s to ensure there is no build up of debris around the pump/s and the float switch/es as this can often lead to poor pump performance or damage to the pump/s.

You must also clean out the tank ensuring that there is no debris in the bottom of the tank. Now that the tank is clean you must reconnect the pump/s to the pipe work and check the function of the pump/s prior to replacing the access cover.

It is advised that the operation of the battery back-up system is checked every 6 months; this can be done by removing the power supply to the primary pump/s and allowing the tank to fill with water until the back-up pump activates. It is also advised that every 6 months the system is allowed to operate using only the back-up pump, this is to allow the batteries to run down and fully recharge which in turn will help to extend the life of the batteries.

It is advised that the High Level Alarm be tested every 6 months by pressing the blue bar.

Please note that we recommend that all batteries be replaced every 2 years.

In addition we strongly recommend that a service agreement be taken out, please refer to section 11 for further information.

10.0 Health and Safety

Please pay attention to the following regulations when installing the pump system or ask your qualified electrician/distributor.

Safety Precautions

In order to minimise the risk of accidents in connection with the service and installation work, the following rules should be followed.

- Do not ignore health hazards. Observe strict cleanliness.
- Bear in mind the risk of electrical accidents
- Use a safety helmet, safety goggles and protective shoes.
- All personnel who work with sewage systems must be vaccinated against diseases to which they may be exposed.
- A first aid kit must be close to hand.
- Note that special rules apply to installations in an explosive atmosphere.

Electrical Connections

- The following works should only be done by qualified and authorised electricians.
- Wykamol Group disclaim all responsibility for work done by untrained and/or unauthorized personnel.
- Heed operating voltage (see name plate and additional labels).
- Take out the main fuses to isolate the mains supply from the control unit before repairs or any other works and ensure it cannot be energized again.
- As the pump is equipped with an automatic level control, there is a risk of sudden restart.
- Before starting check the efficiency of the protective arrangements of the pump and the monitoring equipment. Failure to heed this warning may cause a lethal accident.
- Do not put the lead ends into water! Irruption of water may cause malfunctions.
- If persons are likely to come into physical contact with the pump or pumped media, the earthed (grounded) socket must have an additional connection to an earth (ground) fault protection device (GFI).
- Use the pump only in accordance to the date stated on the pump's plate.
- Connection only to mains supply installed in accordance to the local regulations. For fusing of D.O.L. starting pumps use only appropriate slow fuses or automatic circuit breakers with D characteristics. This is because the motor's nominal voltage is measured at the terminal board of the pump; please consider the voltage drop of long supply cables.
- Replace the cable if the cable jacket is damaged. Do not pinch the cable or pull it around sharp bends.
- Always install the control unit in a dry and well ventilated room. Never install the control unit within the tank.

Earthing

For safety reasons, the earth conductor should be approximately 50mm (2") longer than the phase conductors. If the motor cable is jerked loose by mistake, the earth conductor should be the last conductor to come loose from the first terminal. This applies to both ends of the cable. Ensure the correct earthing of the pump and control unit.

11.0 Guarantee

12 month component Guarantee.

If within the guarantee period of a product any defect is discovered in respect of workmanship, construction or material, we will make good the defect or replace the defective part at our expense inside normal working hours at the company's premises providing, written notice is given immediately the defect is discovered and that, if required by us, the part or complete unit is returned to the company's premises carriage paid. Spares or repaired parts are delivered ex works exclusive of fitting.

The guarantee does not apply to defects caused by incorrect installation, abnormal conditions of working, accidents, misuse or neglects. Our responsibility is in all cases limited to the cost of making good the defect or replacing the defective part at the company's premises inside normal working hours. We exclude all liability for any consequential or other damage or losses which may occur. We will not be liable if the pumping system fails due to it having been incorrectly specified (e.g. where the pump is inundated due to an inadequate waterproofing design or where the pump is used to discharge inappropriate media).

12.0 Service Agreement

All systems are manufactured to the highest standard and we have every confidence the product will serve you well. However as with most appliances of this nature, regular maintenance is essential in ensuring your system operates at its optimum level and fulfils the expected life span.

Our Service Agreement scheme is available at competitive prices, and we will undertake to service equipment at regular intervals. We will supply you with a full report on the work done and the condition of the pump/s and all related equipment each time our engineers attend site.

You can see significant benefits through:

- Reduced running costs including energy and maintenance
- Greater life expectancy for equipment
- Reduced risk of breakdown with its resultant problems and inconvenience
- Better plant utilisation
- Improved environmental conditions

Our Service Agreements consist of the following:

- Scheduled service visits per year
- Reduced hourly charges for un-scheduled call outs
- Fully trained service engineers

Should you require any further information please contact us on 0845 400666.

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