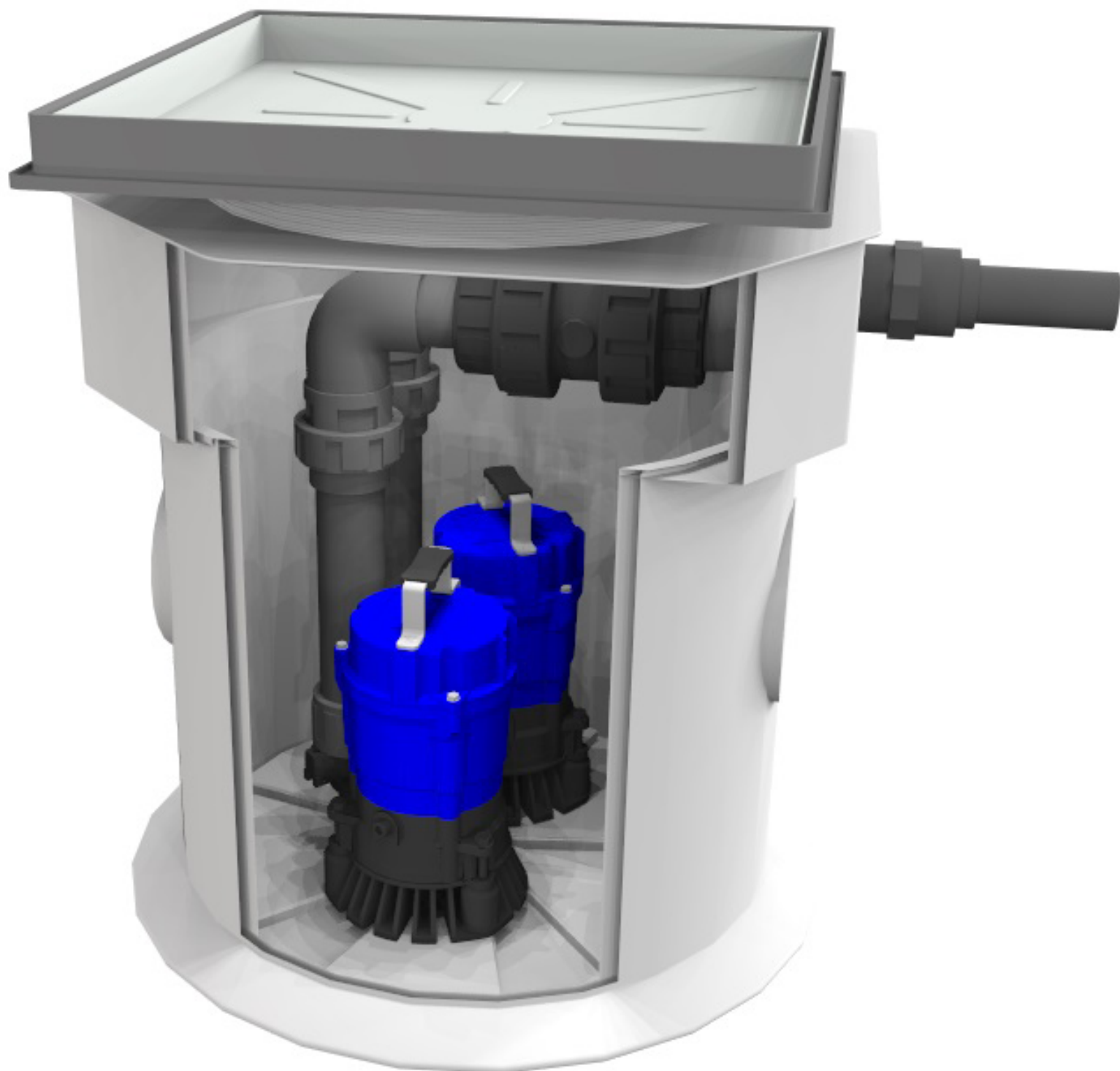


Pumps, Pumping Systems and Ancillaries

# TITAN-S

Surface Water Pumping System



Operational Manual

## INTRODUCTION

The [Newton Titan-S](#) is designed for the pumping of ground water or surface water where the added features of the Titan-Pro are not required. The Newton Titan-S is ideally suited for receiving connections from rainwater gullies and surface slot drainage entering the sump through optional 110 mm wall flanges for connection to incoming pipework by request.

The Titan-S pumping system is a general purpose pumping system suitable for use with our range of clean and effluent pumps and can be used with single and twin pumps and twin pumps with twin discharge lines for greater pump efficiency.

If the pumping system is to be used with our Newton System 500 waterproofing system, please use the [Newton Titan-Pro](#). For sewage or deeper chamber requirements, please use the [Newton Trojan](#) range of pumps.

The recommended discharge is 50 mm, or 63 mm depending on pump size and duty requirement. The pumps are more efficient with 63 mm pipe than they are with 50 mm and the larger pipe should be considered where maximum duty is required or where the distance from sump to final connection is over 20 m. Twin discharge lines are much more efficient when both pumps are working as duty assist. We recommend 63 mm pipe be used for the [NP750](#) and [CP750](#) pumps. **NOTE:** Pipe and pipe fittings should be ordered at the same time as the pumping system as these items are not available in the high street or at builders merchants. If 63 mm discharge pipe is to be used, this must be confirmed at the point of ordering.

The Newton Titan-S is designed to be used with a range of Newton CP Pumps and NP Pumps. Most pumps are available in manual versions so as to be compatible with the [Pump Controller](#) and [Control Panel-Pro](#) pump control systems. Please see individual pump data sheets for further information.

### PUMPS FOR CLEAN GROUND WATER AND SURFACE WATER

[Newton NP400 - P2 & P3](#) - 400W pump (auto & manual versions)

[Newton NP750 P5 & P6](#) - 750W pump (auto & manual versions)

[Newton CP250 - P31](#) - 250W pump (auto only)

[Newton CP400 - P32](#) - 400W pump (auto & manual)

[Newton CP750 P33](#) - 750W pump (manual only)

### NOTE - EFFLUENT ADDED TO TITAN-S

If the chamber is also to receive waste water from washing machines and sinks etc, the float switches on the above pumps are not suitable and so the following pump should be used:

[Newton NP400W - P4](#) - 400W pump for waste water & effluent (auto & manual versions)

The effluent system should also ensure that:

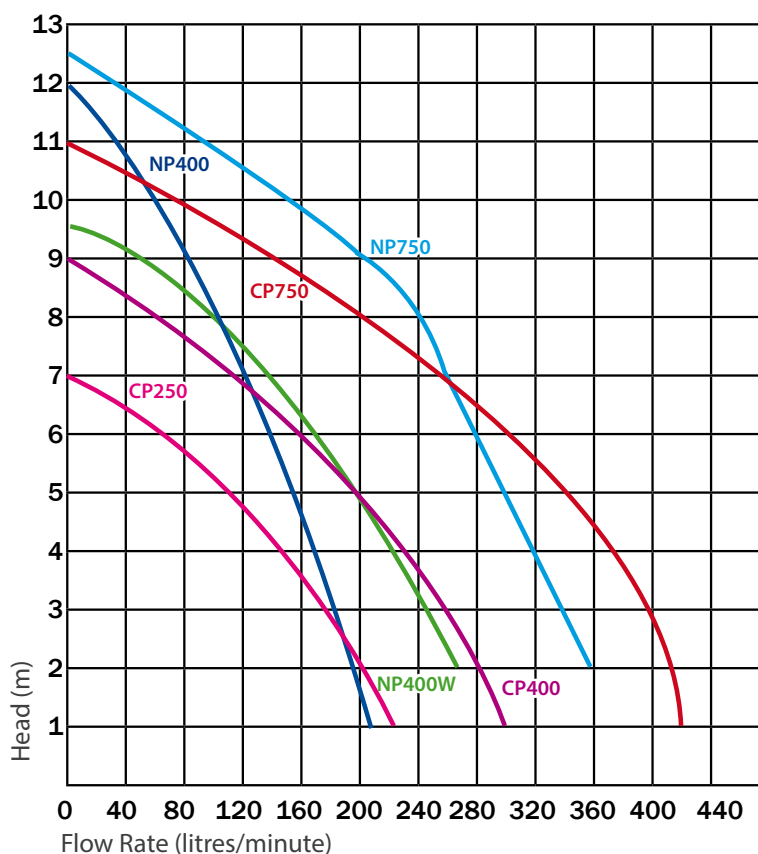
- The supplied sealed and locked standard lid or other sewage rated lid is used
- A trapped gully or drainage connection is used
- The sump is serviced at least every 6 months or to the recommendation of the service engineer

### NOTE - SEWAGE PUMPING

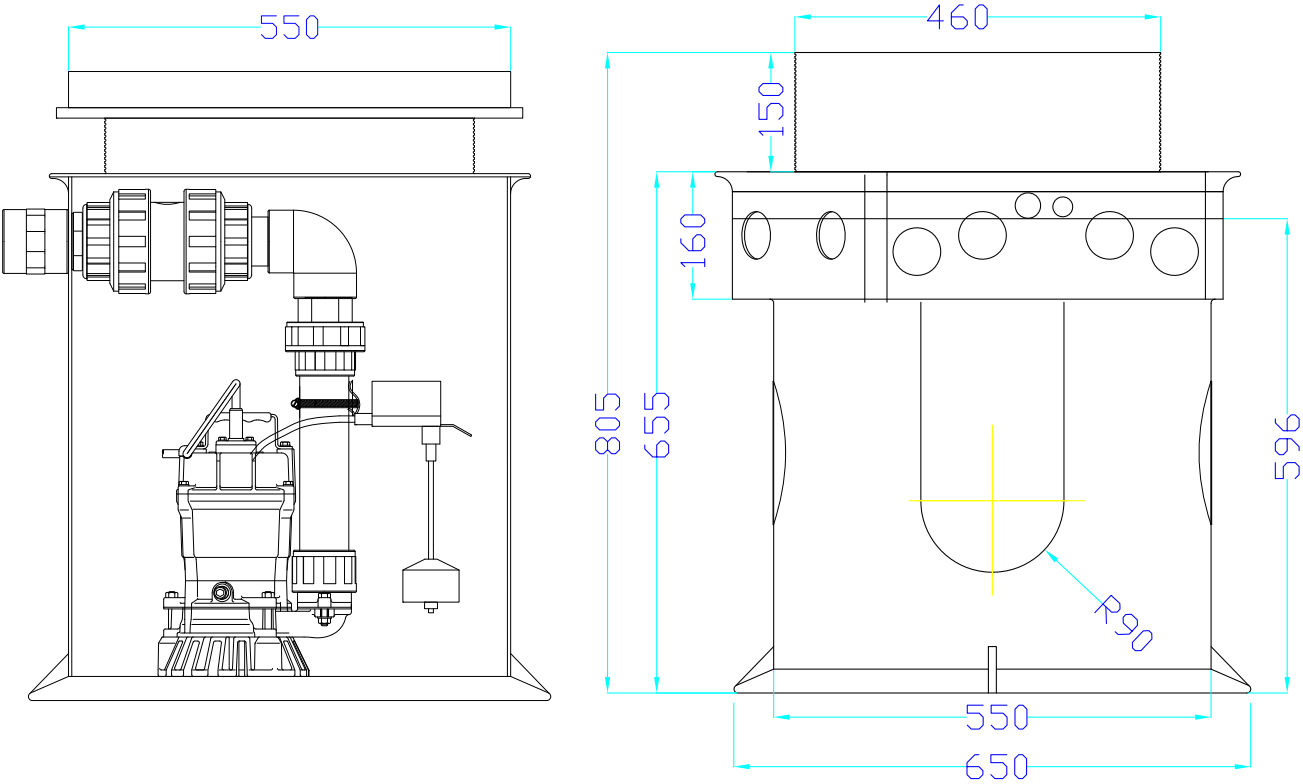
For sewage lifting, please use the Newton Trojan System, available in 1 m and 1.5 m depths.

Where 24 hour storage is required to comply with Part H of Building Regulations, please contact our Technical Department.

**Note:** 110 mm wall flanges are available for the Titan-S on request. See ancillaries on page 6.



	PAGE
PUMPS	4
SUMP CHAMBER PARTS & ANCILLARIES	5
SUMP INSTALLATION	6
PUMP INSTALLATION	7



# PUMPS

The Titan-S pumping system is supplied with single or dual automatic or manual pumps, with single or dual pipe discharge lines. The following pumps are available:

Newton **CP250** - Auto and Manual versions

Newton **CP400** - Auto and Manual versions

Newton **NP400** - Auto and Manual versions

Newton **NP400W** - Auto only

Newton **CP750** - Manual only

Newton **NP750** - Auto and Manual versions

**Please note** that manual pumps must be matched to the Newton Pump Controller or Newton Control Panel-Pro.

Automatic pumps, except for the **NP400W**, are supplied with Vertical Float Switches that allow for very flexible pump switching, allowing for adjustment of the ON & OFF positions of each pump, as well as the overall height of the pump switching.

The **NP400W** has an adjustable float system that is unaffected by effluent and washing machine waste.

Please see pump data sheets for further information.

## Notes:

1. Twin pump systems are matched pairs. In the main, the reason for the secondary pump is to provide continued pumping in the event of a failure of the first pump. It makes sense therefore that the pump taking over the workload has the same duty as the other pump
2. Pumps of 400W and over have the option of twin discharge lines. Two pumps pumping through two separate discharge lines will pump approximately 50% more water than two pumps pumping through one discharge line. This is very much dependent though on the pumps, pipe size and distance pumped
3. The Titan-S pumping system is built with and designed to be used with pressure pipe which is tested for and supplied as suitable for pumping. The pipe inside the sump is 50 mm and terminates to a socket of 63 mm, ready for a uPVC pressure pipe rising main. A 63 mm to 50 mm reducer is supplied to allow for discharge with 50 mm pressure pipe. 63 mm pressure pipe can be used to provide better flow rates for longer pipe runs are required and is recommended when CP750 or NP750 pumps are used. If 63 mm discharge pipe is to be used, this must be confirmed at the point of ordering
4. The Titan-S does not support 40 mm ABS waste pipe

The sump chamber, with fittings and alarm can be supplied separately from the pumps if required to allow for site installation of the sump without the pumps being left on site for extended periods.

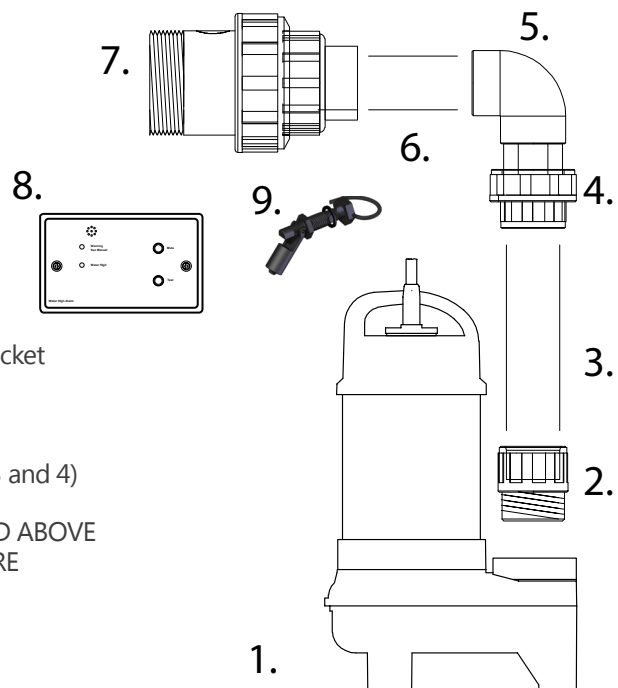
## PUMP PARTS

Included within the packaging supplied with each pump is:

1. 1 x Pump
  2. 1 x threaded socket to screw into the pump
  3. 1 x length of 50 mm uPVC pipe
  4. 1 x quick-release union with socket and male screw thread (Items 2, 3 and 4 are glued together as one part)
  5. 1 x 90 degree elbow with socket and female screw thread socket
  6. Connecting pipe (50 mm)
  7. 1 x 50 mm check valve with release union.
- (Items 5, 6 and 7 are glued together as one part, as are Items 2, 3 and 4)

TWIN PUMP SYSTEMS HAVE TWO OF EVERYTHING MENTIONED ABOVE REGARDLESS OF WHETHER ONE OR TWO DISCHARGE LINES ARE CHOSEN

8. [Newton PA50 High Level Water Alarm](#) Unit
9. Alarm water level switch

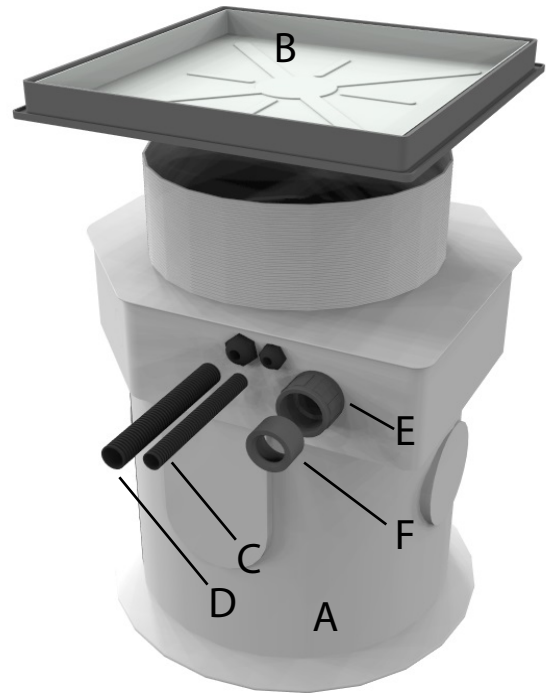


## SUMP PARTS

Included within the sump packaging is:

- A. Sump Chamber
- B. Sealed Lid & Frame
- C. 1 x 5m x 32 mm conduit and connection to sump for Alarm cable (exploded showing connection separate to conduit)
- D. 1 x 5m x 40 mm conduit pipe and connection to sump for pump power cables
- E. 63mm uPVC Bulk-Head fitting ready for connection of the internal and external pump pipework.
- F. 63mm to 50mm uPVC reducer

Pipe and pipe fittings should be ordered at the same time as the pumping system as these items are not available in the high street or at builders merchants. If 63 mm discharge pipe is to be used, this must be confirmed at the point of ordering.



### ITEM

### Product Code

#### ***uPVC Pressure Rated Discharge Pipe***

- 50 mm Pipe - 2.5 m lengths
- 50 mm 90 degree elbows
- 50 mm 45 degree elbows
- 50 mm female-female sockets
- 50 mm Tee
- 50 mm wall mount clips
- 1½" BSP to 50 mm Hosetail
- 1½" BSP to 50 mm Socket
- 63 mm Pipe - 2.5 m lengths
- 63 mm 90 degree elbows
- 63 mm 45 degree elbows
- 63 mm female-female sockets
- 63 mm Tee
- 63 mm wall mount clips
- uPVC Solvent-on Wet 'R Dry - 240ml
- uPVC Pipe Primer - 473ml

- PP1
- PP2
- PP3
- PP4
- PP5
- PP6
- PP28
- PP43
- PP10
- PP11
- PP12
- PP13
- PP14
- PP15
- G2
- G3

#### ***Alternative Frame and Lid***

- Galvanised Frame - Galvanised Steel 600x450x45 mm lid for higher quality internal use
- Galvanised Frame - Galvanised Steel 600x600x45 mm lid with stainless edging
- Galvanised Frame - Galvanised Steel 600x600x45 mm lid with brass edging
- Polypropylene Frame - Galvanised Steel 600x450x80 mm recess lid for external use
- Galvanised Frame - Galvanised Steel 600x600x45 mm triple seal lid with aluminium edging

- TPSL2
- TPSL3
- TPSL4
- TPSL6
- TPSL7

#### ***General Options***

- Wall flange for 63 mm inlet
- Wall flange for 110 mm inlet
- Hole Cutter for 110 mm wall flange
- Arbor for hole cutter

- TP01
- TP02
- PA34
- PA33

# SUMP INSTALLATION

## HEALTH AND SAFETY AT WORK

The dangers of working with water and electricity pose severe threats to health if obvious and fundamental precautions are not taken. Therefore if you are in any doubt as to any of the following, please do not hesitate to contact us.

## SUMP INSTALLATION

**NOTE:** This HDPE chamber is a liner and must always be supported by a concrete base and surround of adequate thickness for the ground conditions. The chamber requires a minimum of 100 mm of good grade concrete surrounding it to prevent buoyancy.

- 1) Select a suitable location for the chamber. Ensure that the sump lid is accessible once all the finishing works are complete. Pay particular attention to the proposed line of stud and block walls that may be built after the sump installation
- 2) Check that no underground cables, pipes or service ducts lie beneath
- 3) Ensure that sufficient space is available to receive the chamber, pipework and surrounding concrete

### STEP 1:

1. Excavate a hole or create a concrete box within the floor ready for the sump chamber. The hole or box should be at least 200 mm larger diameter than the Titan-S chamber to allow for sufficient concrete to surround the chamber to prevent flotation. Where the sump is to be installed within a structural slab, an engineer should advise on the volume and mass of concrete surrounding the chamber. The depth of the excavation or concrete box will depend on your finished floor height. When calculating this, please be aware that the neck of the chamber is adjustable and can be cut to suit your finished floor height
2. If installed into an excavation, create a concrete supporting base with a minimum of 100 mm of concrete which is of a consistency that will support the chamber during the levelling process. If the chamber is to be installed to a formed concrete box, place a fine aggregate to the bottom of the box to allow for levelling

### STEP 2:

1. Place the sump chamber into the excavation with the base directly on to the freshly laid concrete base or the fine aggregate. Rotate the chamber so that it will mate with your desired inlet connections and your preferred discharge line route. Use a long builders level and adjust the chamber so it is level. Place and then compact about 200 mm of concrete to the sides of the chamber and the excavation. With each 100 mm of concrete placed, place an equivalent depth of water into the sump chamber. Keep checking the level and height periodically and adjust if necessary. Let the concrete go off sufficiently so that the sump is locked in place and then go to Step 3

### STEP 3:

1. Fit the connecting parts to the sump ready for final concreting in of the sump chamber
2. Fit the inlet(s) into the sump chamber via the wall flanges ordered with the system. Run the Alarm cable through the 32 mm conduit (Part C) ready for connection to the Alarm unit (Part 7). It is advisable to run the Pump(s) cable through the 40 mm conduit (Part D) at this stage if these are available having been supplied with the sump chamber. If the Pump(s) and Alarm are not on site, run a pull cable through the two conduits ready for pulling through the cables when they are ready to be fitted
3. Connect 63 mm pressure pipe to the outlet socket (Part E) or 50 mm pressure pipe to the reducer (Part F) after gluing the reducer into the socket. Use a 90 degree elbow at the wall if the pipe is to rise vertically at this point. Continue with pipe fitting to final connection if possible, but at a minimum the vertical pipe should extend higher than the finished floor level by about 100 mm. Once all pipework is cut to the correct size, glue the pipe parts with uPVC solvent weld glue
4. Cut the neck of the sump chamber to the correct height so that the top of the supplied Lid and Frame (Part B) match the proposed finished floor level. Place Lid and Frame on to the sump chamber ready for final concreting
5. Fill the sump with water and then concrete around the sump to match slab. Unless the concrete contains an additive, [Newton 906 Lime Inhibitor](http://www.newtonwaterproofing.co.uk) should be used within or above the new concrete surrounding the chamber. When the concrete is cured, drill a ring of 6 mm holes around the chamber at 50 mm intervals to capture water that may squeeze up between the sump and the concrete surround

## PUMP INSTALLATION - PIPE AND FITTINGS

Three methods of connections are available regardless of the model of pump(s) to be installed:

1. With single pump installations, the check valve female union is connected directly to the inside wall of the sump ready for a screw connection to the check valve (Part 7)
2. With twin pump installations, two check valve female unions are fitted to the inside wall of the sump chamber via a two-into-one manifold
3. In all cases, the installation of each pump is the same. Screw the glued parts 2, 3 and 4 into the pump via the male thread of part 2, and glue part 4 into the glued parts 5 and 6 via the female socket of part 5. Use the threaded union of part 4 to allow for rotation of the pumps within the sump for optimum position and spacing. Tighten all unions and proceed to fit the pumps as per the pump instructions

## PUMP INSTALLATION - ELECTRICAL CONNECTION

**The pumps should be installed by a competent person in accordance with Part P of the building regulations.**

Pumps should not be fitted to either grid mains or Control Panels or Inverter Battery Back-Up until after the applicable product Installation Manual has been consulted and the electrical requirements and methods of connection are fully understood. Use the instruction within the applicable manuals to make final electrical connections.

# JN<sup>®</sup>

## NEWTON

---

## WATERPROOFING

Newton Waterproofing Systems Is A Trading Name Of  
**John Newton & Company Ltd.**

Newton House, 17-20 Sovereign Way  
Tonbridge, Kent TN9 1RH

T: +44 (0)1732 360095

E: [info@newtonwaterproofing.co.uk](mailto:info@newtonwaterproofing.co.uk)

W: [www.newtonwaterproofing.co.uk](http://www.newtonwaterproofing.co.uk)

