

System Sump and Pump

NEWTON TITAN-2

Compact Packaged Pumping System

Rev 1.0 - 18 August 2016

PRODUCT CODE - T21-T31

INTRODUCTION

The [Newton Titan-2](#) is a compact pumping system incorporating an octagonal sump chamber, class-leading pumps, a lock & seal lid and frame, a [Newton High Water Level Alarm](#), internal pipework, one way valves, and a quick release shut-off valve for quick release of the pumps for servicing. The Newton Titan-2 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.

The sump can be used with single pumps or twin pumps via a single discharge line.

The recommended discharge is 50 mm. 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. The Newton Titan-2 is designed to be used with a range of Newton [CP Pumps](#) and NP Pumps. The [NP400](#) pump option is available in a 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.

PUMP OPTIONS

CLEAN WATER PUMP

Newton [CP250](#) - Auto only

Newton [CP400](#) - Auto and Manual versions

Newton [NP400](#) - Auto and Manual versions

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

EFFLUENT PUMP

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](#) - Auto only

The effluent system should also include:

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

NOTE - NOT SUITABLE TO RECEIVE SEWAGE

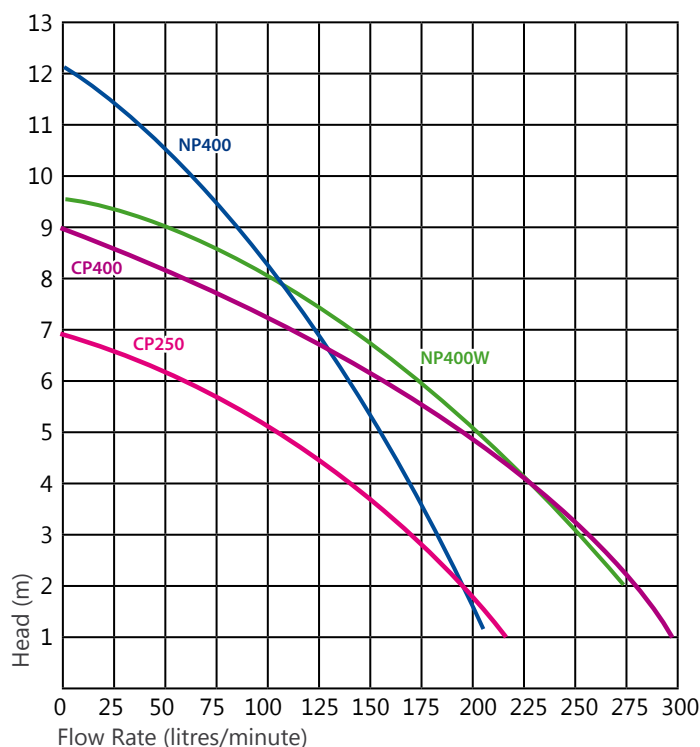
For sewage lifting, please use the [Newton Trojan](#) System, available in 1.0 m and 1.5 m depths.

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

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:

- Twin pump systems are matched pairs
- The Titan-2 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 50 mm, ready for a 50 mm uPVC pressure pipe rising main. The Titan-2 does not support 40 mm ABS waste pipe
- A vent pipe is not required if the sump is receiving water from Newton Basedrain drainage system. In all other cases a vent is required.
- External pipe and fittings should be purchased with the pumping system as they are not readily available from builders merchants. Please see OPTIONS confirmed on Page 4

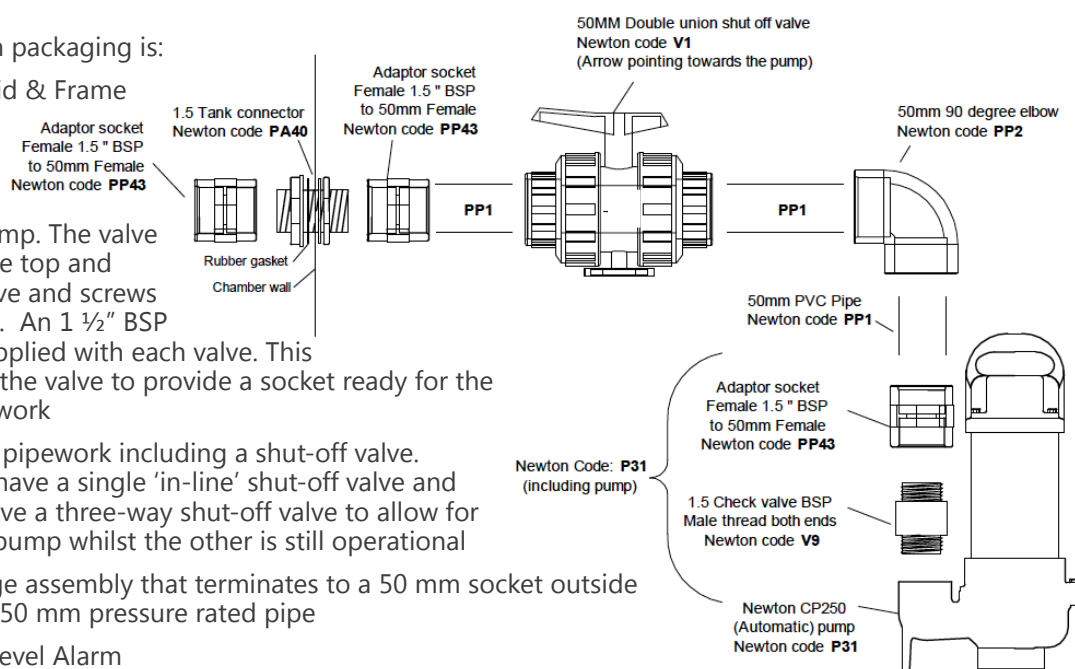
NEWTON TITAN-2

Compact Packaged Pumping System

SYSTEM PARTS

Included within the system packaging is:

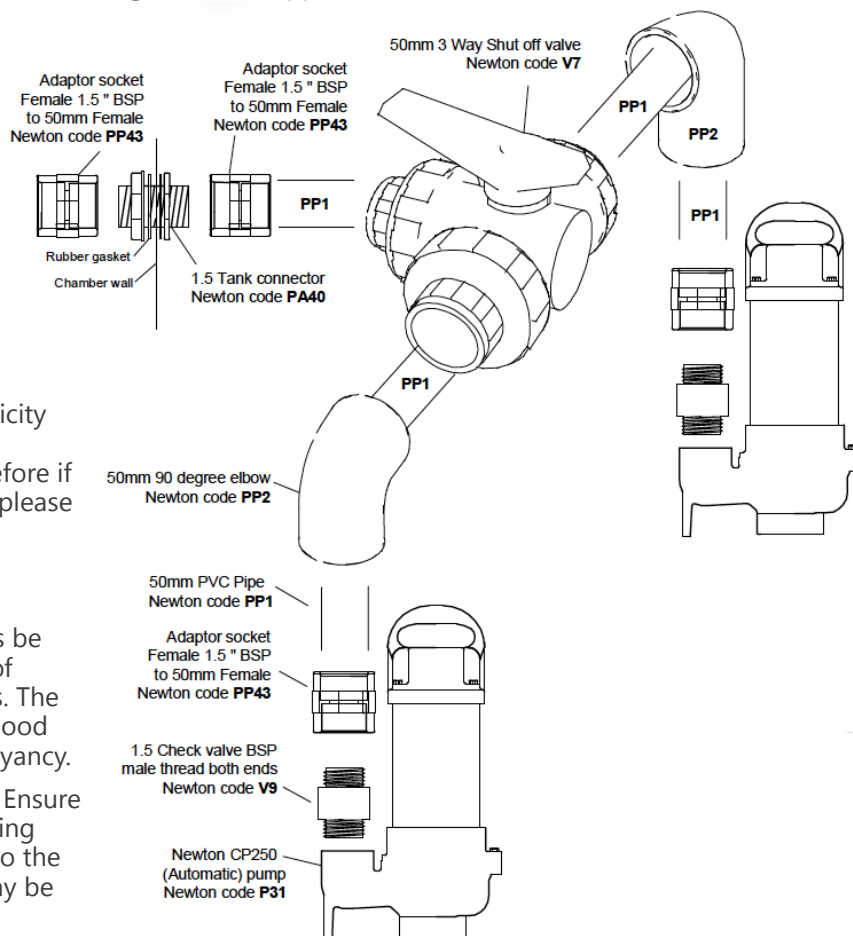
- 1 x Locked & Sealed Lid & Frame with 46 mm recess
- One or two Newton CP or NP pumps
- 1 x check valve per pump. The valve has a BSP thread to the top and the bottom of the valve and screws directly into the pump. An 1 1/2" BSP to 50 mm socket is supplied with each valve. This screws into the top of the valve to provide a socket ready for the supplied internal pipework
- 50 mm pressure rated pipework including a shut-off valve. Single pump systems have a single 'in-line' shut-off valve and twin pump systems have a three-way shut-off valve to allow for disconnection of one pump whilst the other is still operational
- 1 x sump wall discharge assembly that terminates to a 50 mm socket outside of the sump ready for 50 mm pressure rated pipe
- 1 x PA50 High Water Level Alarm



The vertical pipe is supplied slightly oversized and will need to be cut to the correct size as determined by the discharge line outlet position. Conduit and solvent weld glue is not supplied but required for the installation.

Please note: The sump is supplied without any holes cut to the chamber wall. Holes for inlet and outlet connections, vent and separate conduits for the 230V pumps and 12V Alarm should be cut on site.

The discharge line, requires a 51 mm hole cutter (not supplied). Vent, conduit and inlet connections will require a hole cutter suitable for the size of the inlets.



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 to any of the following, please do not hesitate to contact us.

SUMP INSTALLATION - NOTES

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 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, pipe work and surrounding concrete.

4) External pipe, vent pipe and conduit is not supplied. Please order pressure-rated pipe with the pumping system. Vent pipe must be a minimum of 50 mm internal diameter and we recommend that 50 mm waste pipe is used, which requires a 50 mm wall flange. Please see page 4 for further information. Use suitably sized conduit.

NEWTON TITAN-2

Compact Packaged Pumping System

SUMP INSTALLATION

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-2 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. Create a supporting base with a minimum of 100 mm of concrete which is of a consistency that will support the chamber during the levelling process

STEP 2:

1. Place the sump chamber into the excavation with the base directly on to the freshly placed concrete base. Rotate the chamber so that it will match with your desired inlet connections and your preferred discharge pipe location. Use a long builders level and adjust the chamber so it is level
2. 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. Cut the holes ready for: 2 x 50 mm conduit; 1 x 50 mm vent pipe, 1 x rising main discharge pipe and the required number of inlet holes, at the required locations, and fit the wall flanges and Tank Connector, complete with external Threaded Socket
2. Fit inlet pipes, 50 mm vent pipe and conduit pipes
3. Run the Alarm cable and pump cables through the separate conduits. 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
4. Connect 50 mm pressure pipe to the outlet 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 pipe work is cut to the correct size, glue the pipe parts with uPVC solvent weld glue
5. Fill the sump with water and then concrete around the sump to match the slab. Unless the concrete contains an additive, [Newton 906 Lime Inhibitor](#) 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

For building the internal pipework, please reference the pipe build drawings on page 2.

1. Fit the screwed One-Way Valve(s) into the Pump(s), ensuring that the direction arrow is facing upwards
2. Screw the Socket Adaptors onto the One-Way Valve(s) and the Tank Connector
3. Cut the supplied piece of 50 mm pipe so that when fitted into the lower Socket Adaptor and the 90° elbow, the horizontal socket of the Elbow is at the same height as the Tank Connector
4. Cut the remaining 50 mm pipe to the required lengths to make connections from the Shut-Off Valve to the Socket Adaptor and the Bend
5. Dry fit the pipe and fittings to ensure correct fitment. Make adjustments as required
6. Remove the glaze from the pipe ends and inside of the sockets with sand-paper or uPVC Pipe Primer
7. Chamfer the pipe ends with a pipe chamfering tool
8. Apply glue into the socket and onto the pipe ends and carefully insert the pipe end into the sockets, slightly twisting the pipe as it is inserted. Insert fully, using pressure, and hold for at least 30 seconds
9. Remove excess glue with a slightly damp cloth
10. Leave for one hour before testing the pipe

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 instructions within the applicable manuals to make final electrical connections.

NEWTON TITAN-2

Compact Packaged Pumping System

OPTIONS

ITEM	Product Code
<i>uPVC Pressure Rated Discharge Pipe</i>	
50 mm Pipe - 2.5 m lengths	PP1
50 mm 90 degree elbows	PP2
50 mm 45 degree elbows	PP3
50 mm female-female sockets	PP4
50 mm Tee	PP5
50 mm wall mount clips	PP6
1½" BSP to 50 mm Hosetail	PP28
1½" BSP to 50 mm Socket	PP43
uPVC Solvent-on Wet 'R Dry - 240ml	G2
uPVC Pipe Primer - 473ml	G3
<i>Alternative Frame and Lid</i>	
Galvanised steel frame recessed lid with 450 x 450 mm opening	TPSL2
Stainless steel edged recessed lid with 450 x 450 mm opening	TPSL3
Brass edged recessed recessed lid with 450 x 450 mm opening	TPSL4
Alulite triple-sealed recessed lid with 450 x 450 mm	TPSL7
<i>General Options</i>	
Wall flange for 63 mm inlet	TP01
Wall flange for 110 mm inlet	TP02
Wall flange for 50 mm diameter vent and conduit pipe	TP03
Hole Cutter for 110 mm wall flange	PA34
Arbor for hole cutter	PA33

Newton Waterproofing Systems reserve the right to update product literature at any time. Please always refer to our [website](http://www.newtonwaterproofing.co.uk) for the latest versions.