

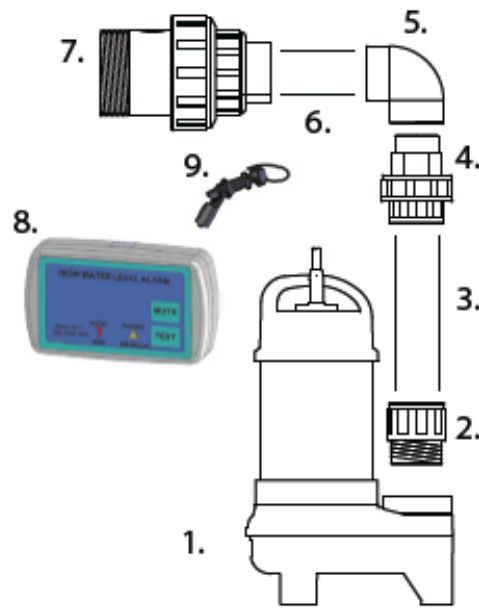


Parts list

Included within 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 50mm 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 (50mm)
7. 1 x 50mm check valve with release union. (*Items 5, 6 and 7 are glued together as one part as are Items 2, 3 and 4*)
8. Newton PA12 High Level Alarm Unit
9. Alarm water level switch

*Twin pump systems have two of everything mentioned above regardless of whether one or two discharge lines are chosen



Electrical Requirements

The Newton CP Pumping range require single phase 230V AC power supply. It is advisable that all pumps are connected to their own individual power supply directly from the consumer board so that each of the pumps does not share a consumer board supply with the other pump or with any other electrical circuit or device. In reality, this is normally only achievable with new build properties or where fundamental refurbishment of the whole property or the electrical supply is to be undertaken. Where it is not planned or possible to have each pump connected to a separate supply from the consumer board, it is preferable that each pump is supplied from a separate circuit. If this is not possible, each pump should be connected to a separate fused and switched spur or socket.

Each separate circuit should have its own RCD protection as required by the 17th Edition Wiring Regulations. The RCD should be correctly sized at 30mA so as not to trip during normal pump start or pump run parameters. It is preferable for the pumps to be wired to the rear of a switched spur. The spur should be switched and have a neon light confirming the on position. Pumps may be plugged into wall sockets and again these should be switched and have neon light notification of the on position. It is recommended that the spur or socket have a label confirming that the switch must not be switched off unless in an emergency.

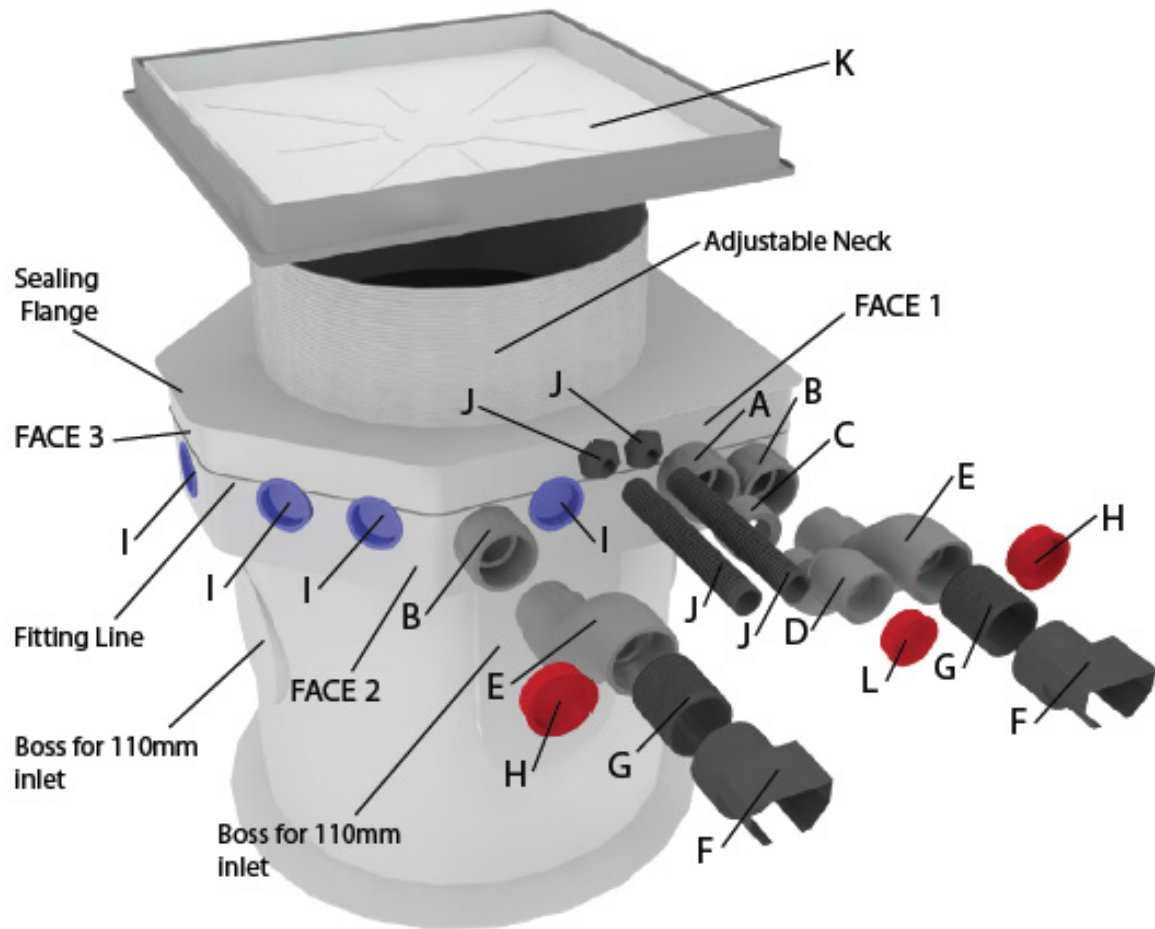
The spur or socket should be fitted with the correctly sized fuse appropriate to the motor size of the connected pump.

CP250 - 5 amps

CP400 - 10 amps

CP750 - 13 amps

The spur or socket should be located in direct eye sight line of the sump and to the wall closest to the sump so that in an emergency it is obvious which switch will turn off the pumps.



- A. 63mm uPVC Bulk-Head fitting ready for connection of the internal and external pump pipe work:
 - i Single union for connection of single pump to Bulk-Head (where only one pump requested)
 - ii Single union for connection of twin pumps where one Bulk-Head is shared by the two pumps
- B. 2 x 63mm uPVC Bulk-Head fittings ready for connection from the Basedrain or Floordrain drainage system

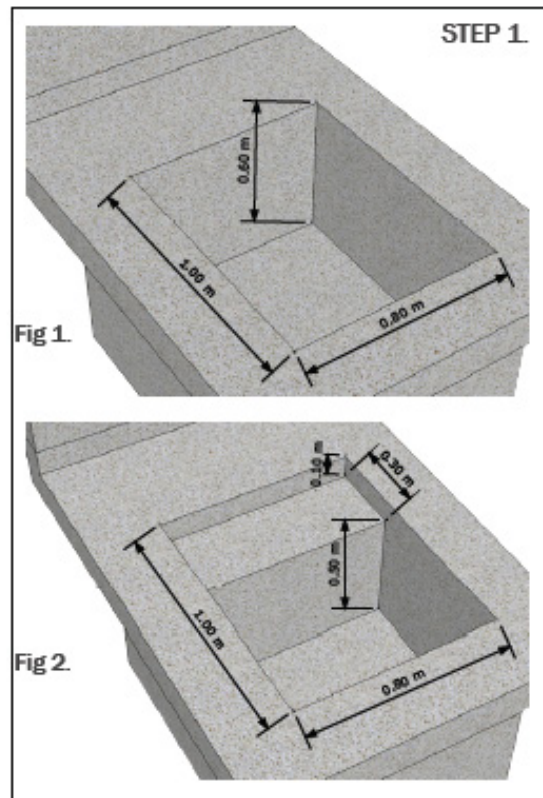
Included within packaging supplied with the sump are:

- C. 1 x 63mm to 50mm uPVC reducer (one for each discharge line)
- D. 50mm uPVC discharge line 'S' bend for the raising of the discharge line to the slab level (one per discharge line)
- E. 2 x 63mm uPVC Inlet line 'S' bends for the lowering of the drainage in line from the slab level to the sump
- F. 2 x Newton Drainage Adaptors for connection of Newton Floordrain to the 63mm drainage inlet
- G. 2 x 63mm flexi connecting pipe for connection of the Drainage Adaptors to the 63mm 'S' Bends of the drainage inlets
- H. 2 x 63mm blanks for sealing the inlet to the 63mm 'S' Bends to protect from concrete ingress during installation
- I. 4 x 60mm blanks for the blanking off of unused inlet and outlet holes drilled to the sump. When twin pumps with separate discharge pumps are ordered, this outlet will be fitted with a second Bulk-Head connection with a single union ready for the connection of the second pump.
- J. 2 x 5m x 32mm conduit pipe and connection to sump for pump power cables and alarm cable (exploded)
- K. 1 x 450 x 450mm Polypropylene Frame with Galvanised 46mm Recessed Lid - (alternative lids available - see page 6)
- L. 1 x 50mm blank for sealing to pump discharge line to protect from concrete ingress during installation

NOTE: 63mm discharge pipe option - Parts C, D and L are removed from the build and are replaced with extra 63mm parts E and H. If 63mm discharge pipe is to be used, this must be confirmed at order.

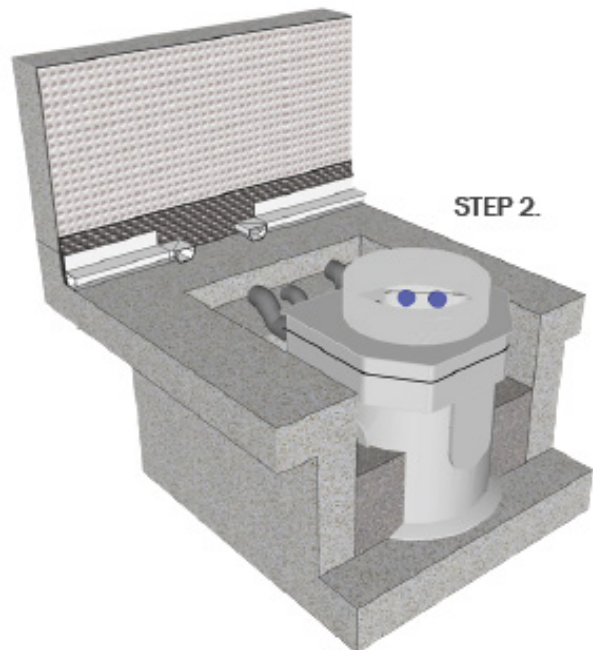
STEP 1

A. Form a concrete box to the same structural integrity as the rest of the concrete slab or raft. The box should be at least 600mm deep x 800mm wide. The dimension perpendicular to the wall accommodates the connections to the sump and should be 1000mm as in Fig. 1. Alternatively create a recess 300mm towards the wall, 100mm deep and 800mm wide as shown in Fig. 2. B. Prepare the sump chamber: The chamber is delivered with all inlet and outlet connections fitted to FACE 1 (see diagram on page 4) ready for a side wall installation. The openings on Face 2 and FACE 3, used for a corner installation only, are closed off with blanks (Part I). If the system was ordered with dual pump discharge lines, there will be two Part A Bulk Head connections. Please note that Parts H & M are not used during an installation within a concrete box. B1. Fit the two 63mm inlet 'S' Bends (Part E) into the two Bulk Head connections (Part B). B2. Fit the discharge line 'S' Bend to the Bulk Head connection (Part A). If two discharge lines are to be used, one for each pump, fit the second 'S' Bend to the other Bulk Head connection. Do not glue at this stage. C. Place approximately 20mm of fine aggregate to the centre of the base of the box. More aggregate may be required if the box is deeper than 600mm.



STEP 2

D. Place the sump chamber into the box with the base directly on to the fine aggregate base. Rotate the chamber so that FACE 1 is perpendicular to the side wall you are installing to. Use a long builders level and adjust the chamber so it is level, ensuring that the Fitting Line is aligned with the top of the slab. Pour and then compact about 300mm of concrete to the sides of the chamber and the excavation. With each 100mm of concrete poured, 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

E. Fit the connecting parts to the sump ready for final concreting in of the sump chamber:
 E1. Fit the two conduit pipes (Parts J & K) into the conduit wall connectors already fitted. Temporarily tape to the surface of the Newton wall membrane ready for the Pump(s) and Alarm cable.

Run the Alarm cable through the 32mm conduit (Part K) ready for connection to the Alarm unit (Part M). It is advisable to run the Pump(s) cable through the 32mm conduit (Part J) 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.

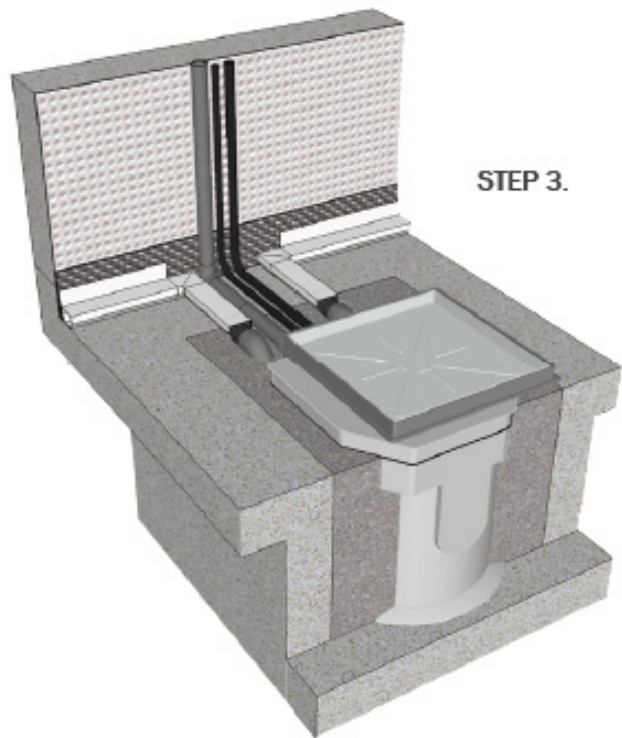
E2. Fit the two Newton Drainage Adaptors (Part F) to then inlet 'S' Bends (Part E) using the short lengths of ribbed 63mm pipe (Part G) to connect these two parts. This is a push fit - no glue required.

E3. Fit two cut lengths of Newton Floordrain to the Drainage Adapter and join to the Newton Basedrain drainage system via two Basedrain 90 degree corners.

E4. Connect 50mm pressure pipe to the outlet 'S' Bend (Part D), If two discharge lines are to be used repeat for the second discharge line. 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 100mm. Once all pipe work is cut to the correct size, glue the pipe parts with uPVC solvent weld glue.

F. Cut the neck of the sump chamber to the correct height so that the top of the supplied Lid and Frame (Part L) match the proposed finished floor level. Place Lid and Frame onto the sump chamber ready for final concreting.

G. Fill the sump with water and then concrete around the sump to match slab. Unless the concrete contains an additive, Newton Lime Inhibitor should be used within or above the new concrete surrounding the chamber. When the concrete is cured, drill a ring of 6mm holes around the chamber at 50mm intervals to capture water that may squeeze up between the sump and the concrete surround.

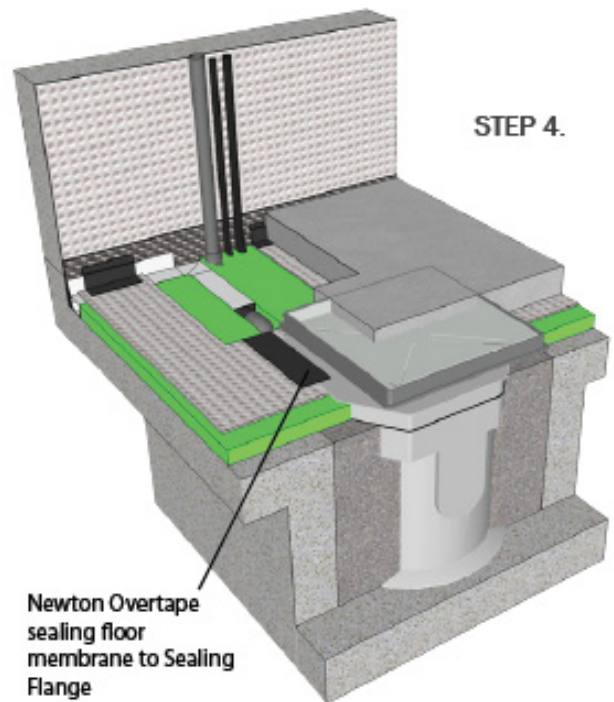


STEP 4

H. Continue with the installation of the Newton System 500 waterproofing system. Fill in between the inlet and outlet connections with shaped closed cell insulation. Fit the floor membrane as normal allowing the cut and shaped floor membrane to undersail the Sealing Flange of the sump chamber.

I. Seal the floor membrane to the Sealing Flange with 5 cut strips of Newton Overtape.

J. Match floor finish with the recessed Lid and Frame.

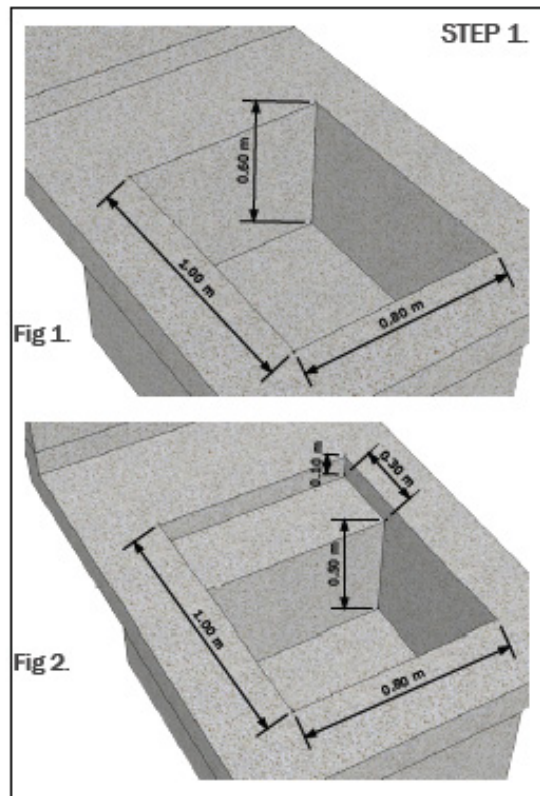


STEP 1

The box should be at least 600mm deep x 800mm wide. The dimension perpendicular to the wall accommodates the connections to the sump and should be 1000mm as in Fig. 1.

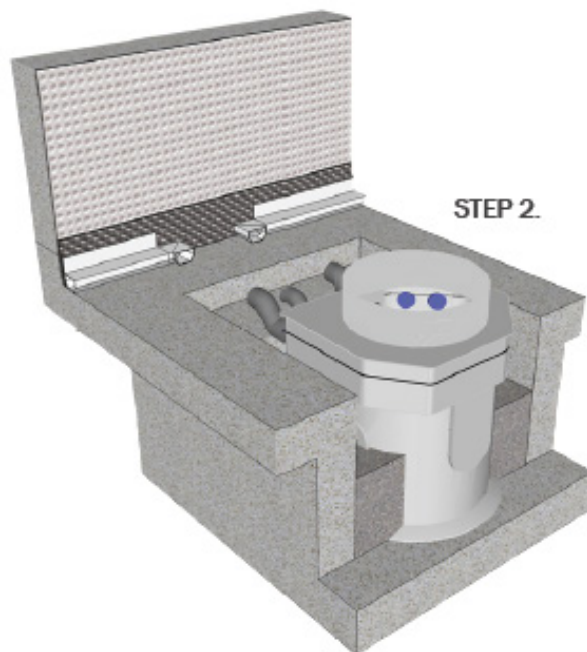
Alternatively create a recess 300mm towards the wall, 100mm deep and 800mm wide as shown in Fig. 2. B. Prepare the sump chamber: The chamber is delivered with all inlet and outlet connections fitted to FACE 1 (see diagram on page 4) ready for a side wall installation. The openings on Face 2 and FACE 3, used for a corner installation only, are closed off with blanks (Part I). If the system was ordered with dual pump discharge lines, there will be two Part A Bulk Head connections.

Please note that Parts H & M are not used during an installation within a concrete box. B1. Fit the two 63mm inlet 'S' Bends (Part E) into the two Bulk Head connections (Part B). B2. Fit the discharge line 'S' Bend to the Bulk Head connection (Part A). If two discharge lines are to be used, one for each pump, fit the second 'S' Bend to the other Bulk Head connection. Do not glue at this stage. C. Place approximately 20mm of fine aggregate to the centre of the base of the box. More aggregate may be required if the box is deeper than 600mm.



STEP 2

D. Place the sump chamber into the box with the base directly on to the fine aggregate base. Rotate the chamber so that FACE 1 is perpendicular to the side wall you are installing to. Use a long builders level and adjust the chamber so it is level, ensuring that the Fitting Line is aligned with the top of the slab. Pour and then compact about 300mm of concrete to the sides of the chamber and the excavation. With each 100mm of concrete poured, 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

E. Fit the connecting parts to the sump ready for final concreting in of the sump chamber:

E1. Fit the two conduit pipes (Parts J & K) into the conduit wall connectors already fitted. Temporarily tape to the surface of the Newton wall membrane ready for the Pump(s) and Alarm cable.

Run the Alarm cable through the 32mm conduit (Part K) ready for connection to the Alarm unit (Part M). It is advisable to run the Pump(s) cable through the 32mm conduit (Part J) 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.

E2. Fit the two Newton Drainage Adaptors (Part F) to then inlet 'S' Bends (Part E) using the short lengths of ribbed 63mm pipe (Part G) to connect these two parts. This is a push fit - no glue required.

E3. Fit two cut lengths of Newton Floordrain to the Drainage Adapter and join to the Newton Basedrain drainage system via two Basedrain 90 degree corners.

E4. Connect 50mm pressure pipe to the outlet 'S' Bend (Part D). If two discharge lines are to be used repeat for the second discharge line. 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 100mm. Once all pipe work is cut to the correct size, glue the pipe parts with uPVC solvent weld glue.

F. Cut the neck of the sump chamber to the correct height so that the top of the supplied Lid and Frame (Part L) match the proposed finished floor level. Place Lid and Frame onto the sump chamber ready for final concreting.

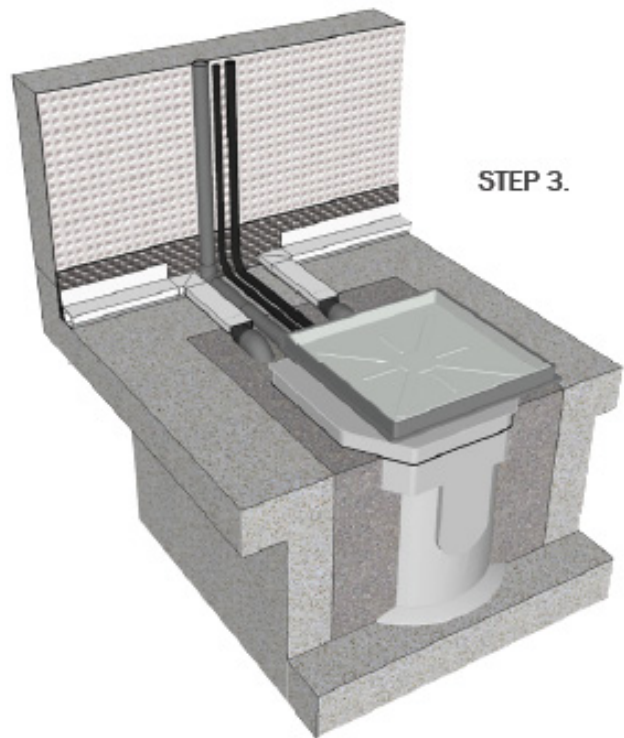
G. Fill the sump with water and then concrete around the sump to match slab. Unless the concrete contains an additive, Newton Lime Inhibitor should be used within or above the new concrete surrounding the chamber. When the concrete is cured, drill a ring of 6mm holes around the chamber at 50mm intervals to capture water that may squeeze up between the sump and the concrete surround.

STEP 4

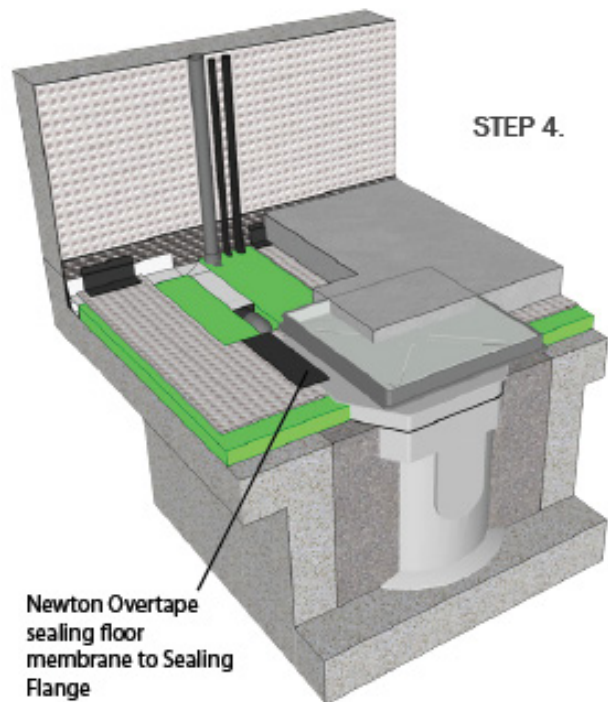
H. Continue with the installation of the Newton System 500 waterproofing system. Fill in between the inlet and outlet connections with shaped closed cell insulation. Fit the floor membrane as normal allowing the cut and shaped floor membrane to undersail the Sealing Flange of the sump chamber.

I. Seal the floor membrane to the Sealing Flange with 5 cut strips of Newton Overtape.

J. Match floor finish with the recessed Lid and Frame.



STEP 3.



STEP 4.

Newton Overtape
sealing floor
membrane to Sealing
Flange

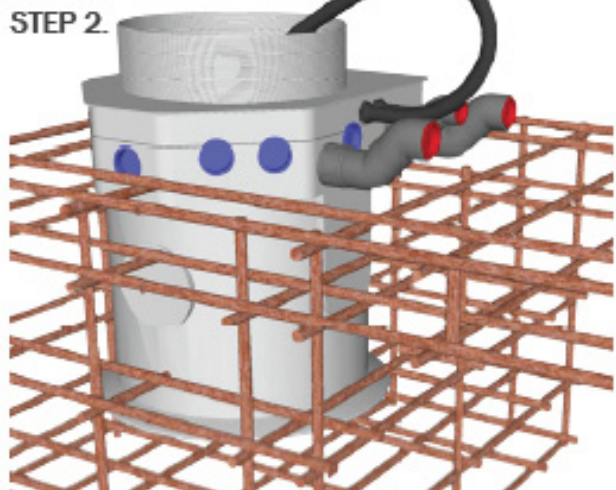
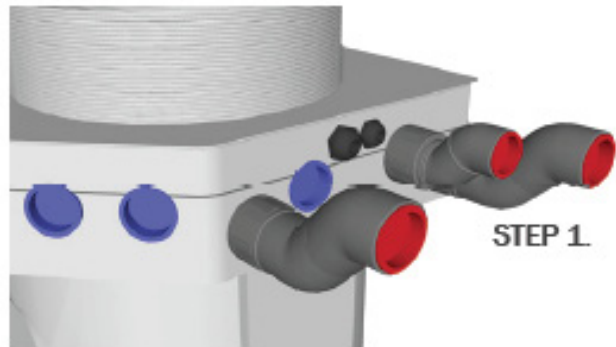
STEP 1

A. During the preparation of the reinforcing steel for the slab or raft, form a cage of steel of sufficient size to take the sump chamber, calculating that the Fitting Line should be level with the top of the soon to be poured slab or raft. The structural Engineer should be involved in specification of the reinforced concrete surrounding the sump chamber does not present a weakness to the structural integrity of the slab or raft.

B. Prepare the sump chamber: The chamber is delivered with all inlet and outlet connections fitted to FACE 1 (see diagram on page 4) ready for a side wall installation. The openings on Face 2 and FACE 3, used for a corner installation only, are closed off with blanks (Part I). If the system was ordered with dual pump discharge lines, there will be two Part A Bulk Head connections.

B1. Fit the two 63mm inlet 'S' Bends (Part E) into the two Bulk Head connections (Part B). Please note that Part H is required for this installation. Fit the two Blanks (Part H) into the ends of the two S Bends as shown in the two Figures adjacent.

B2. Fit the discharge line 'S' Bend to the Bulk Head connection (Part A). If two discharge lines are to be used, one for each pump, fit the second 'S' Bend to the other Bulk Head connection. Ensure the 'S' Bend is straight so that the outlet is at its highest possible position and glue into the Bulk Head connection. Fit the Blank(s) Part M to the outlet(s) S bend (Part D) See Fig 1. adjacent. Fix the two conduit pipes Parts J & K) to the sump wall connectors. Route the two lengths on conduit back into the sump as shown in drawing adjacent.

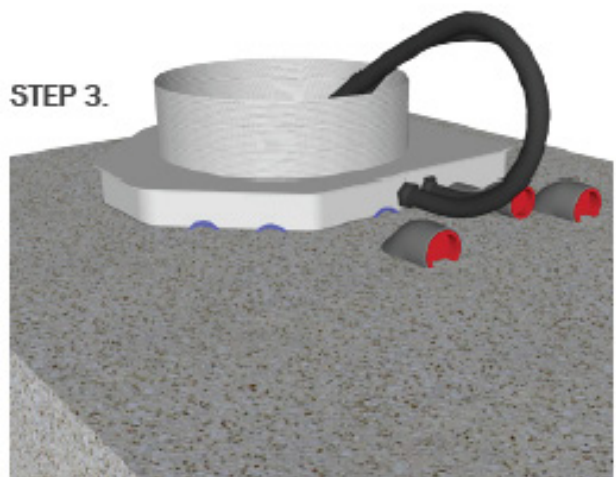


STEP 2

C. Place the sump chamber and fix securely within the reinforcing steel, paying particular attention that the sump is set up so that FACE 1 is perpendicular to the wall you are fitting to, and that the Fitting Line is exactly at the height of the top of the slab or raft yet to be poured.

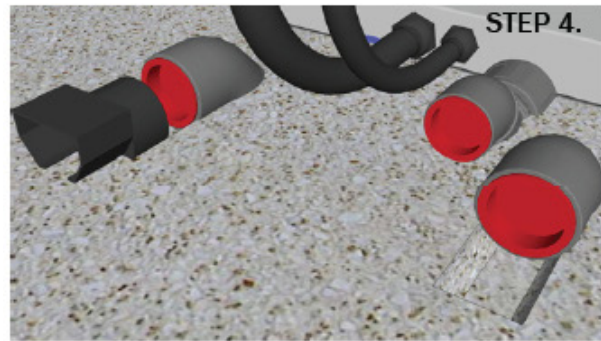
STEP 3

D. Once the sump chamber is fixed securely and supported by the reinforcing steel, fill the sump chamber with water to the Fitting Line. This is an important part of the installation as the water helps support the sump chamber against the weight of the concrete. Use the Fitting Line as a datum so that the top of the concrete pour is exactly matching the Fitting Line of the Sump. Once the concrete is cured sufficiently to walk upon, go to Step 4.



STEP 4

E. Unless the concrete infill contains a pore blocking additive, Newton Lime Inhibitor should be used above the new concrete surrounding the chamber. When the concrete is cured, drill a ring of 6mm holes around the chamber at 50mm intervals to capture water that may squeeze up between the sump and the concrete surround. Remove a small amount of concrete in front of the two inlet connections to allow for removal of the two Blanks and allow for the Basedrain Drainage Adapter (Part F) to be inserted. Approximately 15mm depth x 65mm width and 90mm out from the inlet connection should be sufficient.

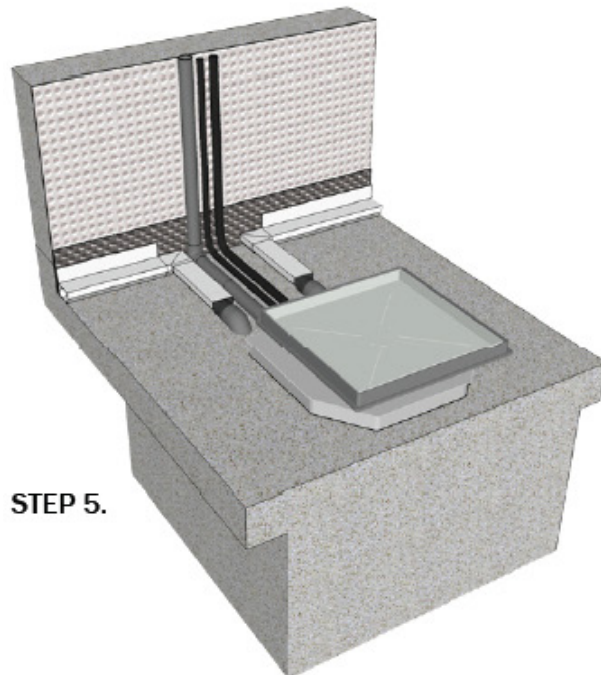


STEP 5

After the Newton wall membrane and Basedrain is fitted it is time to make the connections in and out of the sump chamber. G1. Fit the two Newton Drainage Adaptors (Part F) to the inlet 'S' Bends (Part E) using the short lengths of ribbed 63mm pipe (Part G) to connect these two parts. This is a push fit - no glue required.

G2. Fit two cut lengths of Newton Floordrain to the Drainage Adapter and join to the Newton Basedrain drainage system via two Basedrain 90 degree corners.

G3. Connect 50mm pressure pipe to the outlet 'S' Bend (Part D). If two discharge lines are to be used repeat for the second discharge line. 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 100mm. Once all pipe work is cut to the correct size, glue the pipe parts with uPVC solvent weld glue. H. Cut the neck of the sump chamber to the correct height so that the top of the supplied Lid and Frame (Part L) match the proposed finished floor level. Place Lid and Frame on to the sump chamber ready for final concreting.



STEP 6

I. Continue with the installation of the Newton System 500 waterproofing system. Fill in between the inlet and outlet connections with shaped closed cell insulation. Fit the floor membrane as normal allowing the cut and shaped floor membrane to under sail the Sealing Flange of the sump chamber. J. Seal the floor membrane to the Sealing Flange with 5 cut strips of Newton Overtape. K. Match floor finish with the recessed Lid and Frame.

