Install & Retrieval Manual

This booklet provides all the information you need to install and retrieve iFLUX Samplers to perform a qualitative iFLUX measurement project.

iFLUX

We are looking forward to working together on this project with you. To guide you through it we have listed the process in a step by step guide. Following steps will be taken:

1. QUOTE

We proposed a quote that specifies the amount of cartridges, the analysis packages and additional services you need for your project.

2. PO SENDED

By sending us a PO, you accepted the quote we proposed. The moment we receive this we can start designing the installation plan.

3. INSTALLATION PLAN

In order to finalize the installation plan we need your input in the "Well Information Sheet".

Once ready, the installation plan will be made available on the online tool FLUXeye for you to review and give a final approval before preparations can start.

4. INSTALLATION

Once the installation plan is finalized and approved, this document will guide you through the actual installation.

1. Equipment

First of all, we'll send you the necessary equipment to the address that you provided, so make sure this is the right one. The cartridges will be sent in an insulated box with cooling packs to keep them at a stable cooled temperature.

Here's an overview of what equipment you can expect from us (see image):

Well Cap
Pre-assemled cable

Eyebolt

Rod333

M12 Nut

Cartridge

Dummy

Hinge

Here's an overview of the tools you'll need to provide yourself:

- Water level gauge; to measure the ground water level (GWL).
- Push tool (push cable, push rods or substitute); in case of obstruction in the monitoring well, a push tool is necessary to successfully install the iFLUX samplers.
- Wrench SW19; to assemble the iFLUX samplers a wrench, size 19mm is needed.
- Personal Protection Gear (PBM); Each person on site has to wear his/hers PBM's according to the site stipulations.
- (Keys to open monitoring wells in case of lock)

2. Preparation

When you open the boxes to check if all delivered tools and cartridges are present; check the installation plan to know what you'll have to do and in which wells you have to install which cartridges.

3. Installation

STEP 1

Measure the groundwater level + depth of the well

Open the well and measure the groundwater level (GWL) and the total depth of the well (so depth of the entire tube from top to bottom)

*don't forget to clean the apparatus to avoid cross contamination.

ATTENTION

If these dimensions differ contact your Project Manager

In case these dimensions of the monitoring well and groundwater level differ from the installation plan, contact your iFLUX project manager.

ATTENTION

In case upper cartridge isn't submerged

In case the upper cartridge isn't submerged when installed according tot the installation plan given the current GWL, contact your iFLUX Project Manager!

ATTENTION

Remove sharp edges of the well

Sharp edges can damage the cartridges and may disqualify the measurement. Therefor deburring the sharp edges is advised whenever necessary.

STEP 2

Take the cartridges to install in the monitoring well

Check on the Installation plan which cartridges should go deepest. (Register the cartridge ID's that were used on the 'On Site Registration Form'.

STEP 3

Unpack the cartridges

Do not touch the outside of the cartridges to avoid cross contamination. So open the package and assemble it by holding the cartridge by the packaging.

STEP 4

Put the cartridges on Rod333

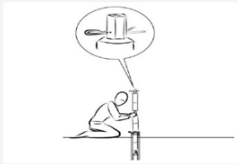
Slide the cartridges on the iFLUX Rod333, starting with the upper one. It's still important to not touch them.

STEP 5

Secure the cartridges with nut

Secure the cartridges by tightening the nut at the lower end of the rod.

STEP 6



Put the Safety Pin in

Before lowering the Samplers into the well, put the Safety Pin through the drainage hole of the rod. This avoids the Samplers sliding down and potentially losing them.

! ATTENTION

Your first sampler is ready

Your first sampler is ready. You can attach the next item according to the installation plan following the same procedure.

STEP 7

Repeat

Attach the next iFLUX Sampler or Rods following the previous procedure and add hinges where indicated according to the installation plan. Put the safety pin in the upper rod and pull out the safety pin out of the lowest rod and lower the whole structure. Iterate according to the installation plan, until the upper Sampler is reached.

! ATTENTION

Don't attach more than 2 samplers at once before lowering them in the well

It is not advised to use more than three segments (±1m) at once to avoid large structures and possible (structural) product failures unless explicitly told.

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ATTENTION

If you're having troubles lowering the Samplers in the well

Use a push tool. This allows you to push down the whole structure in an easy way. When reaching an obstacle (instead of obstruction), it is wise to pull the string of Samplers back up for a few centimetres and lower it again. If other more severe problems occur, contact your iFLUX Project Manager to find a solution. Lowering the samplers goes best slow and steady, so take your time.

STEP 8

Attach the cable, assembly and complete installation

When the upper Sampler is reached, attach the final eyebolt with the cable and Well Cap attached to it. Lower the final part gently until the Well Cap reaches the edge of the well and the weight of the iFLUX Samplers is transferred to the Well Cap.
Close the well again to avoid above ground influences.

4. Finalization

When the installation of the whole plan is completed, check whether all data of the "On Site Registration Form" is registered. It is important to gather all the remaining tools and equipment, gather all waste (e.g. packaging) used during the installation and leave the site as it was before.

5. RETRIEVAL

Before starting with the retrieval first check the Installation Plan to verify which cartridges need to be retrieved and which information should be added on the "On Site Registration Form".

1. Equipment

Here's an overview of what equipment you can expect from us:

- iFLUX "On Site Registration Form" (printed out yourself)
- Locking pins (should be reused from installation)
- Post-measurement Packaging

Here's an overview of the tools you'll need to provide yourself:

- Wrench SW19 (at least 2)
- Water level gauge
- Personal Protection Gear

2. Preparation

The first thing to do now is verifying which iFLUX Cartridges must be retrieved.

3. Retrieval

STEP 1

Check the well name/code + GWL

Check the well name or code and verify the groundwater level.

STEP 2

Pull up the samplers

Take the well cap and pull the iFLUX samplers up gently.

ATTENTION !

Slow and steady

As the centre tube is limited in diameter, pulling up the samplers can't be rushed. Hurrying this job can cause product failures and must be avoided at all costs. Rushing it would only make it harder and even slow down the process.

STEP 3

Retrieve segments and block

When the first 3 segments (± 1m) are retrieved, block the string of samplers with the locking pin before unbolting the rods above.

STEP 4

Separate rods

Separate the rods and unfasten the nut.

ATTENTION

Verify the sequence of the cartridge ID's

During these tasks, don't forget to verify the sequence of the cartridge ID's and check with the previous filled in "on site registration form".

STEP 5

Store the cartridges in the bags

Store the cartridges (individually) in post-measurement bags as prescribed to ensure the shipping quality

STEP 6

Collect cartridges in insulated crate

Eventually collect the packaged cartridges in an insulated crate with cooling packs to store them at a stable low temperature.

STEP 7

Collect remaining iFLUX parts and send them back

The remaining iFLUX parts must be collected to ship back to iFLUX. They will take care of proper cleaning and maintenance for re-use purposes.

4. Finalization

When the retrieval is completed, check whether all data of the 'On Site Registration Form' is registered. It is important to gather all the remaining tools and equipment, gather all waste (e.g. packaging) used during the installation and leave the site as it was before.

After retrieval the cartridges must be stored in a cool environment, shipment must be done as soon as possible (<48 hours after retrieval). The cartridges must be packaged in an insulated box, preferably with ice packs, and sent to following address.

iFLUX must be notified of these actions.

The remaining iFLUX tools must be send back in the same box as you received.

The address to send the iFLUX tools and cartridges to is the following:

iFLUX, Science Park Antwerp University

Galileilaan 15, 2845 Niel, Belgium

Building Darwin C0.05

6. ANALYSIS

SGS will analyze the cartridges once they arrive at their address. The raw data will be sent to and interpreted by iFLUX.

7. RESULTS

By combining the data of the installation plan, the data provided by the customer, the raw analysis data of SGS and our in-house expertise, we generate a final document with the findings. This report will be available in the FLUXeye application, where you can download all related documents.