
AquaHD Natica demonstration model

Purpose of the demonstration model :

To visually show a proof of concept to interested potential customers.

Expected results when using the demonstration model :

The sole purpose of this demonstration model is to visually show what effluent water quality will be obtained.

No lab analysis will be performed !

What kind of water can be treated with the AquaHD Natica demonstration model :

The Natica typically works best with waters containing suspended organic matter from a few mg/ltr up to 10 grams/ltr with/without traces of sand/clay.

In addition any dissolved solids that will bind to coagulant can be separated as well.

Organic suspended matter could be anything from algae, parts of skins/peels from vegetables, fruits or potatoes, etc.

Prerequisite is that this organic matter is smaller than 800 micron and will be able to create sedimenting flocs after adding coagulant and flocculant.

Hardware contents of the demonstration model :

All required equipment is delivered by AquaHD Europe and contains :

1 pcs AquaHD Natica (1 disc) unit on a mobile platform.

1 pcs. screw pump with 2 pcs. 100 ltr tanks (effluent and feed) including all interconnecting hoses and a 800 micron strainer..

1 pcs. sludge tank (20 ltr)

1 pcs. 230V 1 phase, 50 Hz frequency controller to set the correct speed of the pump.

Several 1 ltr glass jars to show feed/effluent and sludge water quality.

Total weight of the demonstration model : about 120 kg (dry), 230 kg(wet and in operation).

See the next pages for some equipment pictures.

Please note : coagulant and flocculant have to be supplied via the chemical supplier.

Typical test duration :

1 day on site. Set up and disassembly takes 2x 30 minutes.

On site test engineer :

An AquaHD test engineer will perform the testing.

Some customer support will be required during the day (not full time) to help the AquaHD test engineer

Required support on site when using the demonstration model:

Availability of nearby power supply (230V, 50Hz, 1 phase)

Availability of potable water for cleaning the demonstration model between test runs and for final cleaning at the end of testing.

Availability of a sewage drain where tested water can be drained to.

Indoor location (or outside protected from rain) with hard solid floor.

Minimum footprint of 3x3 m.
Availability of minimal 6 x 100 ltr water to be tested.

Before using the demonstration model, the following had to be done already :

Jar testing finding the right coagulant and flocculant : creating good flocs that settle and getting a clear(er) liquid.

Customer to witness the jar testing and to advise if the treated water quality is acceptable.

Note : if jar testing is not satisfactory to the customer , then the Natica technology is not the right separation technology !

Main description of operating the demonstration model :

Fill the 100 ltr feed tank with the water to be treated.

Based on the dosing rates obtained from the jar testing, the right volume of coagulant is then added and mixed with the water to be treated. Then adding and mixing the right amount of flocculant.

When big flocs start to form in the feed tank, start the screw pump @ 400 l/hr as to pump the water into the Natica so that separation will take place.

In the meantime and continue to slowly stir the feed tank as to prevent settling of the flocs.

After approx 12 minutes the feed tank is empty : the treated clean water is now stored in the 100 ltr effluent tank and the sludge containing all the flocs (10-20 ltr) is contained in the 20 ltr sludge tank.

From the effluent tank, water samples can be taken as to visually compare this with the feed quality.

After this test, if necessary, all tanks can be cleaned with potable water to make the demonstration ready for another test. All used water to be drained into the onsite sewage system.

Typically, the complete run takes about 30 to 45 minutes.

A minimum of 6 test runs is recommended to show the consistency of the results.

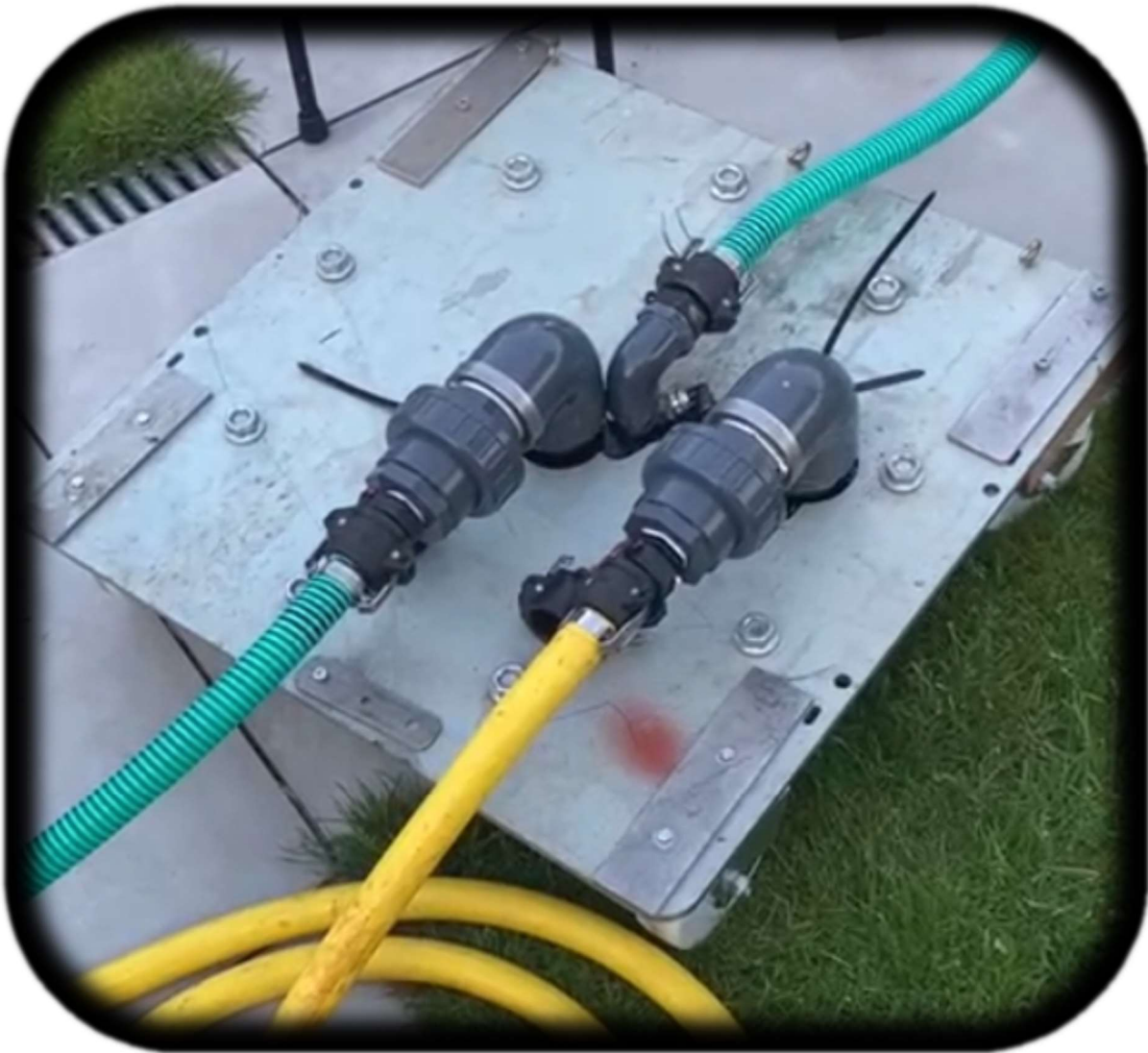
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Picture 1.
1 pcs AquaHD Natica (1 disc) unit on a mobile platform.



Picture 2.

1 pcs. screw pump with 2 pcs. 100 ltr tanks (effluent and feed) including all interconnecting hoses.



Picture 3.
1 pcs. Sludge tank (20 ltr)



Picture 4.

1 pcs. 230V 1 phase, 50 Hz frequency controller to set the correct speed of the pump.