

CASE STORY

NORDIC WATER

Combined Continuous filtration from Nordic Water makes potable water from river water with high TSS.

Due to a growing population, the water treatment plant of Santiago in Dominican Republic, La Noriega Water treatment plant, was extended during 2004-2006 with a new line based on micro filtration and continuous sand filtration.

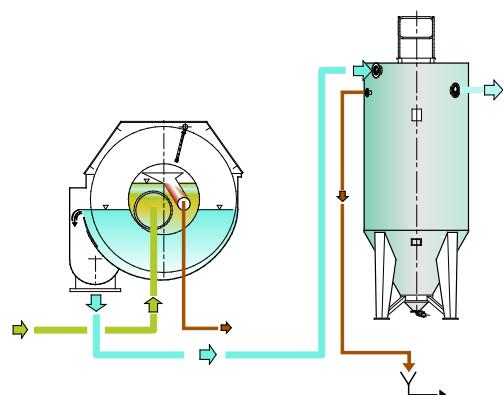
The challenge



Santiago de los Caballeros is the capital of the Santiago province located in the north-central region of the Dominican Republic called Cibao valley. Santiago is the second largest city in the Dominican Republic, and the capital of the Santiago province. The rapidly growing population required more water. The old plant had a capacity of 4m³/second, and the technology was based on four lines of conventional backwashed filters. The raw water is taken from the river Yaque Del Norte, the TSS content is high and during the hurricane season the plant sometimes had to close down because of clogging filters.

The solution

In 2003 the president of the republic decided to extend the water treatment plant of Santiago. The project was financed by Scandinavian governments and the project was won by a Danish company, Aarsleff A/S. Based on experience from surface water treatment from the Scandinavian countries and the fact that DynaSand filters can operate even with changing TSS, Aarsleff A/S decided to ask Nordic Water Products AB to do the design. Nordic Water designed a water treatment line based on contact filtration – chemical treatment with DynaSand filters and a DynaDisc micro screen was used as prefilter.



The Noriega II, the fifth line of the la Noriega WTP, was built by Aarsleff A/S in cooperation with IECCA S.R.L, a Dominican Engineering firm, in 2004-2006.



The result

The Noriega II, the compact grey building on the picture on the first page, is designed to handle an inlet of 1,1m³/second. This is the same as each of the four old blue filter lines. In total the capacity of the plant is 5m³/second. While the old part sometimes must be closed during the hurricane season when the raw water quality is too bad, the DynaSand filters have been working perfectly.

Some facts

Noriega II Process data:	Raw water	Filtrate
Flow rate	1,1 m ³ /s	1 m ³ /s
Inlet TSS	> 100 mg/l	
Outlet turbidity		< 0.5 NTU
Average Outlet*		1.0 NTU

*) The Dominican Republic water utility, Coraasan has adjusted the line to perform at this value.

Installed equipment:

- 1 unit DynaDisc micro screen
- 100 units DynaSand continuous filters