

Civil Engineering Works / Hydraulic Infrastructures

Drafting the works project and performance of the construction works of the ozonation plant at the drinking water treatment station of L'Ampolla, Tarragona.

Client

Consorci d'aigües de Tarragona

Amount

€ 4,598,300.02 € (ex-VAT)

Location

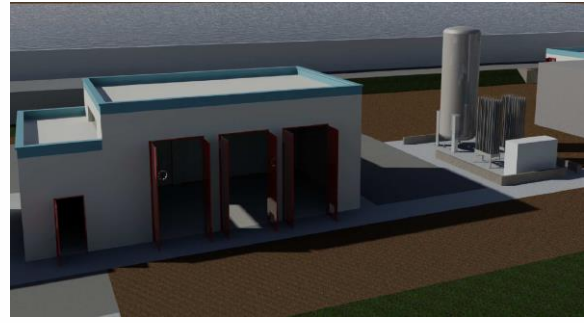
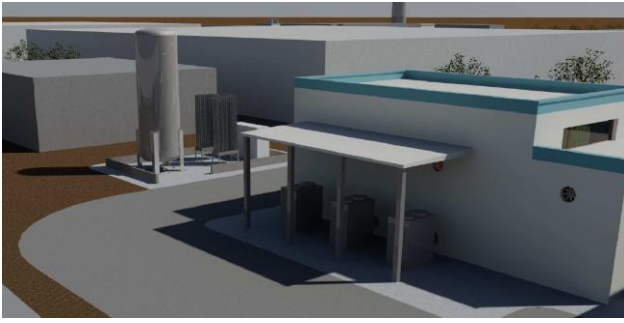
Tarragona

Period of works

From September 2015 to September 2016

Scope

The works consist of drafting the works project and building an ozonation plant.



Description of the works

Execution of the necessary elements to fit the Drinking Water Treatment Plant of L'Ampolla with the necessary equipment and installations to dose ozone as an oxidating agent both in pre-oxidation as well as in the

intermediate phase prior to filtering through the existing active carbon. Ozone generation shall be performed using oxygen as the precursor element. The installation shall have capacity to treat 4.2 m³/s of water.

Main data of the works

Inspection pits:

- Inspection pits to measure the input and output flows: replacement of the flow meter, from ultrasound to electromagnetic.

Pre-ozonation:

- Ozone generation, three (2 + 1) generators of 5.998 kg O₃ / h in 12% of unit capacity.
- Ozone transport in DN50 pipes with the relevant valves, flow metres and high concentration analysers to regulate flows and dosage.
- Installation of refrigerators, three (2 + 1) with 72 kW refrigeration power.
- Injection and dispersion of ozone by Stati Flo static mixer.
- A sealed contact room of 420 m³, equipped with an excess pressure valve and a residual ozone analyser in the water.
- Ozone destroyer, one of 70 Nm³O₃ / h capacity.

Post ozonation:

- Ozone generation, three (2 + 1) generators of 10,975 kg O₃ / h in 12% of unit capacity.
- Ozone transport in DN50 pipes with the relevant valves, flow metres and high concentration analysers, to regulate flows and dosage.
- Installation of refrigerators, three (2 + 1) capacity 111 kW refrigeration power.
- A sealed contact room of 3,150 m³, divided into 2 sub-chambers with 3 compartments each.
- Ozone dosage by a network of 44 ceramic disc diffusers for each 2 lines, of 117 mm.
- Two ozone destroyers of 115 Nm³O₃ / h unit capacity.

Oxygen storage and dosage:

- Vertical cryogenic tank of 30,000 kg of liquid oxygen and subsequent gasification.
- Rack of 10 mx 6 m to hold the cryogenic tanks and gasification lines.

Hypochlorite:

- Two HDPE storage tanks of 25,000 l each one.
- Retention tank 8 m long, 4.5 m wide and 1 m high.
- A sodium hypochlorite discharge pump of 25 m³ / h.
- Two dosage pumps (one of them in reserve), membrane type of 500 l / h.