

# La Aceña drinking water treatment plant

## IN SERVICE SINCE

- 2000

## WATER SOURCE

- Aceña river (La Aceña reservoir)

## TREATMENT CAPACITY

- 0.5 m<sup>3</sup>/s

## WATER TREATMENT

### STAGES OF THE PROCESS

- Preoxidation-prechlorination
- Coagulation-flocculation
- Settling
- Fast sand filtering
- pH adjustment
- Disinfection

### REAGENTS USED

- Chlorine and chlorine dioxide for preoxidation and prechlorination
- Ozone and potassium permanganate for initial preoxidation
- Aluminium salts in the coagulation stage
- Activated carbon in the coagulation stage
- Flocculation aid in the flocculation stage
- Sodium hydroxide in the pH adjustment stage
- Chloramines and ozone in the disinfection stage

### RELEVANT TECHNICAL DATA

- 4 lamellar settlers (12 m in length, 4.75 m in width and 5.70 m in depth)
- 8 sand filters with a unit surface of 32 m<sup>2</sup> for a total of 256 m<sup>2</sup>

### TREATED WATER TRANSPORT CHANNEL

- Sierra Norte system



## SLUDGE TREATMENT

### TREATMENT CAPACITY

- 468 m<sup>3</sup>/day:
  - 94 m<sup>3</sup>/day from the filter washing
  - 374 m<sup>3</sup>/day from the settler blowdown

### STAGES OF THE PROCESS

- Mixing in 300 m<sup>3</sup> equalisation tank
- Thickening (flocculation)
- Mechanical dewatering (centrifuges)
- Storage in 6 m<sup>3</sup> containers

### RELEVANT TECHNICAL DATA

- One circular flotation thickener with an inner diameter of 4.5 m, a useful surface of 10.75 m<sup>2</sup> and a unit capacity of 19.5 m<sup>3</sup>/h
- Two centrifuges with enough capacity to treat a maximum flow of 6 m<sup>3</sup>/h of sludge per unit

### FINAL SLUDGE DRYNESS

- 15-20%

