

Torrelaguna drinking water treatment plant

IN SERVICE SINCE

- 1967 (1st stage)
- 1968 (2nd stage)

BACKFITTING

- 1990
 - General updating of the equipment
 - Automation
- 2001
 - Adaptation and updating of the filtration and automation systems
- 2002
 - Construction of the sludge treatment plant
- 2011
 - Backfitting and extension of the sludge treatment plant

WATER SOURCE

- Jarama river (El Vado reservoir)
- Sorbe river (Pozo de los Ramos mill dam)
- Lozoya river (El Villar reservoir)

TREATMENT CAPACITY

- 6 m³/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
- Potassium permanganate in preoxidation
- Aluminium salts in the coagulation stage
- Powdered activated carbon in the coagulation stage
- Calcium hydroxide in the coagulation stage
- Flocculation aid in the flocculation stage
- Calcium hydroxide in the final pH adjustment stage
- Chloramines during the final disinfection stage

RELEVANT TECHNICAL DATA

- Six Accelerator-type sludge recirculation settlers with a diameter of 46 m
- 24 sand filters with a unit surface of 116 m², for a total surface area of 2,784 m²

TREATED WATER TRANSPORT CHANNEL

- Torrelaguna and Canal Alto catchwork



SLUDGE TREATMENT

TREATMENT CAPACITY

- 26,088 m³/día:
 - 24,480 m³/day from the filter washing
 - 1,608 m³/day from the settler blowdown

STAGES OF THE PROCESS

- Gravity settling and flotation
- Mechanical dewatering (centrifuges)
- Storage in 80 m³ silo

RELEVANT TECHNICAL DATA

- Two lamellar settlers with dimensions of 8.0 x 9.4 x 3.5 m
- Two floats of 7.62 x 2.21 x 1.35 m with a unit capacity of 20 m³/h
- Three centrifuges capable of treating a maximum unit flow of 20 m³/h of sludge

FINAL SLUDGE DRYNESS

- 15-20%

