



DESALINATION

Potabilization Plant Scale Protection Case Study

Poggibonsi, Italy

HydroFLOW® unit helped protect RO membranes and plant infrastructure from high hardness water, improving efficiency and reducing chemical and maintenance costs in a potabilization plant.

840ppm

Water Hardness Treated



Chemical Consumption



Maintenance Costs



System Longevity



BEFORE & AFTER

BEFORE

- ✗ High hardness caused scaling risk
- ✗ RO membranes at risk of fouling
- ✗ Chemical use required for control

AFTER

- ✓ Reduced encrustation in system
- ✓ RO membrane performance improved
- ✓ Reduced chemical use and maintenance



OVERVIEW

Acque SpA operates a potabilization plant in Poggibonsi, Tuscany, treating water from the Elsa River. Extremely hard water at around 840 ppm CaCO₃ created scaling risks across the plant.



CHALLENGE

Very high water hardness created scaling risks, impacting RO membranes and plant efficiency.

- Water hardness approx. 840 ppm CaCO₃
- Scaling risk to RO membranes
- Chemical dosing required for control
- Risk to pipes, tanks and equipment

SOLUTION

1x HydroFLOW® iCustom 16" unit was installed on the 400 mm main delivery pipe to protect the plant from encrustations.

UNIT INSTALLED

1x HydroFLOW® iCustom 16"

PIPE SIZE

400 mm main delivery pipe

APPLICATION

Potabilization plant (RO system)

INSTALL DATE

May 2023



INSTALLATION

16" unit on main pipe



INSTALLATION

Unit on 400 mm line



RESULTS



Reduced Maintenance Costs

Lower maintenance related to encrustations.



No Softening Required

No Additional Softening Required.



Reduced Chemicals

Lower use of flocculants and antiscalants.



System Protection

Improved protection of pipes, tanks and equipment.



Improved Efficiency

More efficient plant operation.



Extended Lifespan

Longer life of plant sub-systems.

KEY TAKEAWAY

Summary

HydroFLOW® unit installed at Poggibonsi plant operated effectively at 840 ppm hardness, protecting RO membranes, reducing chemicals and maintenance, and improving efficiency.

840ppm

WATER HARDNESS



CHEMICAL USE



SYSTEM LIFE

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