



INDUSTRIAL WATER BATH SYSTEM

Water Bath Cooling System Case Study U.S. Northeast

HydroFLOW® treatment reduced chlorine usage by 75% while preventing algae growth and improving filtration performance in a water bath cooling system.

Client details have been anonymised at their request.

75%

Chlorine Reduction

<0.10ppm

Low Chlorine Levels Maintained

3000 µS

Higher Conductivity Operation

90 days

Trial Evaluation Period

⇒ BEFORE & AFTER

● BEFORE

- ✗ High algae and biofouling in baths
- ✗ Heavy chemical dosing required
- ✗ Frequent blowdowns and water usage

● AFTER

- ✓ No algae observed after installation
- ✓ Chlorine reduced by 75%
- ✓ Reduced blowdown and water use



BEFORE

Waterbath with biological growth



AFTER

Waterbath with no biological growth

OVERVIEW

A polystyrene plastics processing facility in the U.S. Northeast operates a recirculating water bath cooling system. High TDS, bacteria and algae levels caused persistent biofouling, requiring continuous chemical treatment and frequent water replacement to maintain system performance.

CHALLENGE

High biological growth and water quality issues required heavy chemical dosing and frequent system intervention.

- High TDS, bacteria and algae levels
- Biofouling in cooling water baths
- Heavy use of chlorine and chemicals
- Frequent blowdowns and water replacement

SOLUTION

1x *HydroFLOW*® i150 unit was installed on a 6" fiberglass pipe in the cooling loop to treat recirculating water and enable gradual reduction of chemical dosing.

UNIT INSTALLED

1x *HydroFLOW*® i150

INSTALLATION POINT

Cooling loop upstream of water baths

INSTALL DATE

June 2025

TRIAL DURATION

90-day evaluation



INSTALLATION

Main recirculation line



SITE

Cooling water system



INSTALLATION

HydroFLOW® i150 unit inst

RESULTS

75% Chemical Reduction

Chlorine dosing reduced by 75% after installation.

No Algae Growth

No algae observed despite reduced chlorine levels.

Low Chlorine Levels

Free chlorine often dropped below 0.10 ppm.

Stable Operation

System maintained performance with reduced chemicals.

Higher Conductivity

System operated at up to 3,000 $\mu\text{S}/\text{cm}$ with reduced blowdown.

Improved Filtration

Increased solids captured, including polystyrene fines.

KEY TAKEAWAY

Summary

At a plastics processing facility in the U.S. Northeast, Hydropath technology enabled significant reduction in chlorine dosing while maintaining water quality and system performance. During a 90-day trial, chlorine usage was reduced by 75%, algae growth was controlled, and conductivity increased to 3,000 $\mu\text{S}/\text{cm}$ with reduced blowdown. Filtration performance improved, capturing more solids and reducing overall water and chemical demand.

75%

CHLORINE REDUCTION

<0.10ppm

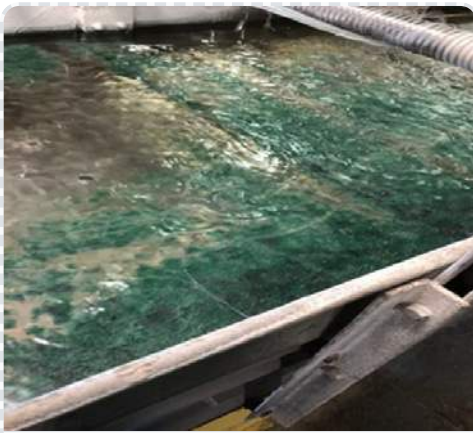
LOW CHLORINE LEVELS

3000 μS

HIGHER CONDUCTIVITY



ADDITIONAL PHOTO EVIDENCE



SITE

Recirculating water bath system



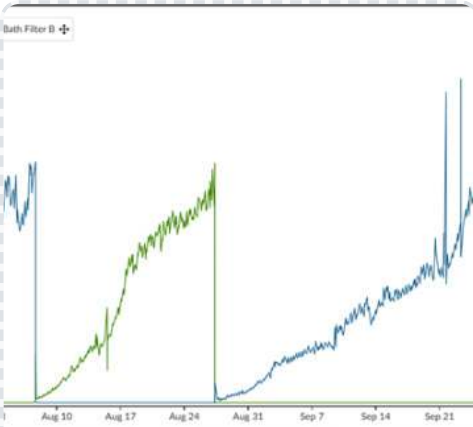
SITE

Water bath with algae and biofouling



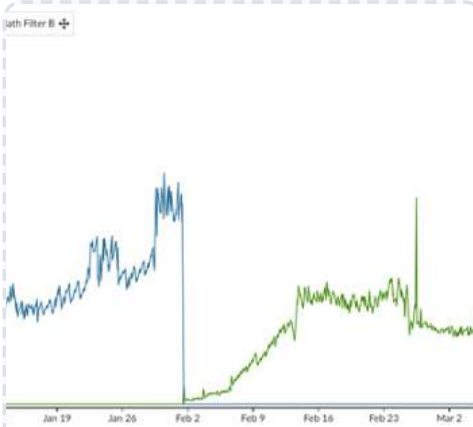
RESULTS

Chlorine levels reduced after installation



BEFORE

Conductivity levels before installation



AFTER

Conductivity levels after installation



RESULTS

Increased solids captured in filtration system



BEFORE

Filter system before HydroFLOW® treatment



BEFORE

Filter bags before HydroFLOW® installation

RELATED CASE STUDY

Commercial Building Cooling Tower Case Study

Honolulu, Hawaii

HydroFLOW® units installed on a commercial building cooling tower in Hawaii eliminated the need for chemical biocides while dramatically reducing water waste through blow-down reduction, delivering over \$121,000 in annual savings with a 3-4 month return on investment.

85% Biocide Reduction

Near-total elimination of chemical biocide dosing on the cooling tower system

50% Blow-down Reduction

Halved water waste by reducing blow-down cycles significantly

\$121K Annual Savings

Combined chemical, water and maintenance cost savings per year

HYDROPATH 

Ready to reduce chemical dosing?

Get a free consultation for your facility.

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