



● SEAWATER

A Zinc Smelting Operation Case Study Hobart, Tasmania

A *HydroFLOW*® Custom unit improved seawater intake performance by reducing mussel and crustacean build-up in high-flow strainers, extending cleaning intervals in a demanding marine environment.

🔒 Client details have been anonymised at their request.

4-5 mo

Extended Cleaning Interval

4500

m³/hr High-flow System
Treated



Reduced Mussel And
Marine Growth

3 lines

Signal Affected Multiple
Lines

⇒ BEFORE & AFTER

● BEFORE

- Rapid marine growth inside strainers
- Mussels returned quickly after cleaning
- Frequent hot-soak cleaning every two weeks

● AFTER

- ✓ High-flow areas remained largely clean
- ✓ Mussel and crustacean presence reduced
- ✓ Cleaning interval extended to 4-5 months



BEFORE

Strainer heavily fouled with mussels



AFTER

Strainer showing reduced marine growth



OVERVIEW

A zinc smelting operation in Hobart, Tasmania uses seawater from the Derwent Estuary. Three underwater pumps feed water through 150 m of 400 mm pipe into a common header and strainers supplying gas scrubbers. A *HydroFLOW*® Custom 16" unit was installed in mid-2023 to treat at least 4,500 m³/hr. Early inspections showed continued marine growth despite cleaning, but later inspections confirmed reduced fouling in high-flow areas and extended cleaning intervals.



CHALLENGE

Rapid marine growth and recurring fouling reduced system performance and required frequent cleaning.

- Mussels and crustaceans attached to pipework and strainer areas
- Growth returned quickly after repeated cleaning
- Lines hot-soaked and back flushed every two weeks
- High-flow system required treatment at 4,500 m³/hr



SOLUTION

A *HydroFLOW*® Custom 16" unit was installed before the manifold header pipe and strainers, allowing treatment to act across multiple lines.

UNIT INSTALLED

1x *HydroFLOW*® Custom 16"

INSTALLATION POINT

Before manifold header & strainers

INSTALL DATE

Mid 2023

FLOW REQUIREMENT

4,500 m³/hr



INSTALLATION

HydroFLOW® unit installed on intake pipe



SITE

Seawater intake pipework and distribution



SITE

Jetty Pumps feeding strainers and gas scrubbers.



RESULTS

🕒 4–5 Months Since Clean

Strainer remained in service for 4–5 months without cleaning

🚫 Reduced Mussel Presence

No mussels observed in high-flow areas during inspection

📈 High-Flow Areas Clean

High-flow sections remained largely clean at final inspection

🔑 3 Strainers Affected

Signal influenced multiple strainers via common header

💧 High-Flow Operation

System treated flows of at least 4,500 m³/hr

🏆 Trial Progression

Performance improved over time during the trial period



TESTIMONIAL

"There are still signs of sea grass on some housing, but high-flow areas remained clean, and importantly mussels and crustaceans were not observed."

— Customer inspection feedback

KEY TAKEAWAY

Summary

At the Hobart zinc smelting operation, a *HydroFLOW*® custom 16" unit was trialled before the manifold header pipe and strainers. Early inspections showed rapid marine growth despite cleaning. Later inspection found high-flow areas largely clean, with reduced mussel and crustacean presence and extended operation of 4–5 months between cleans. The installation allowed the signal to affect multiple lines.

4-5 mo

EXTENDED TIME BETWEEN CLEANS

4,500 m³/h

HIGH-FLOW SYSTEM TREATED

3 lines

SIGNAL AFFECTED MULTIPLE LINES



ADDITIONAL PHOTO EVIDENCE



SITE

Seawater intake pipework from Derwent River



SITE

Intake chamber and flow entry point



INSTALLATION

HydroFLOW® unit installed on intake line



INSTALLATION

Signal unit mounted on seawater pipe



BEFORE

Strainer fouled with mussels before trial



BEFORE

Heavy marine growth inside intake pipe



MONITORING

Jan 2024 inspection showing marine growth



MONITORING

Feb 2024 inspection with continued fouling

RELATED CASE STUDY

Seawater Intake Biofouling Case Study, Chile

Antofagasta, Chile

A HydroFLOW® unit treated severe biofouling and corrosion in a seawater intake system, reducing maintenance, eliminating chemicals, and improving reliability across heat exchangers over a 12-month period.

80% Fewer Openings

System openings reduced, lowering maintenance and downtime across exchangers

90% Corrosion Reduction

Corrosion tubercles reduced across intake pipelines and system surfaces

\$57k Annual Savings

Savings achieved from reduced chemicals, maintenance, and downtime

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