



## TRUBLUE ANTI-FOULING SCREEN

Extend TruBlue conductivity data logger deployments in high bio-fouling environments with a new TruBlue Anti-fouling Screen made from 90/10 copper nickel alloy.

### What is Marine Bio-fouling?

Harmful growth of microscopic organisms through shelled invertebrates on submerged structures.

### Why is Bio-fouling a problem?

Bio-fouling on the conductivity cell or pressure sensor can compromise reading accuracy and reliability.

### How does it develop?

Many organisms can contribute to fouling problems. Fouling begins with adsorption of organic and inorganic macromolecules immediately after immersion forming a conditioning layer, followed by bacterial micro-fouling and macro-fouling from more complex multi-cellular species, and eventually to larger marine invertebrates.

### Anti-fouling techniques

Passive strategies that do not require external energy to be anti-fouling.

- Biocides are chemical substances that deter or kill organisms that create bio-fouling. These effects can come from biocidal metallic substrates, paints and other coatings.
- Surface treatments – slick, hydrophobic surfaces or hydrophilic, non-adherence nanotechnologies,

Active strategies are energy dependent to be anti-fouling.

- Mechanical, Thermal or Irradiation techniques, such as, UV, laser, ultrasound, and vibration

### PRODUCT DESIGN/FEATURES

- Field Installable
- Securely attaches to instrument with compression fitting and Titanium set screw.
- Composed of 90/10 Copper Nickel
- Slips onto pressure sensor end
- Simple “Screw-on” design allows for quick installation and cleaning
- Circular holes to allow water flow to the conductivity cell and pressure sensor

### BENEFITS

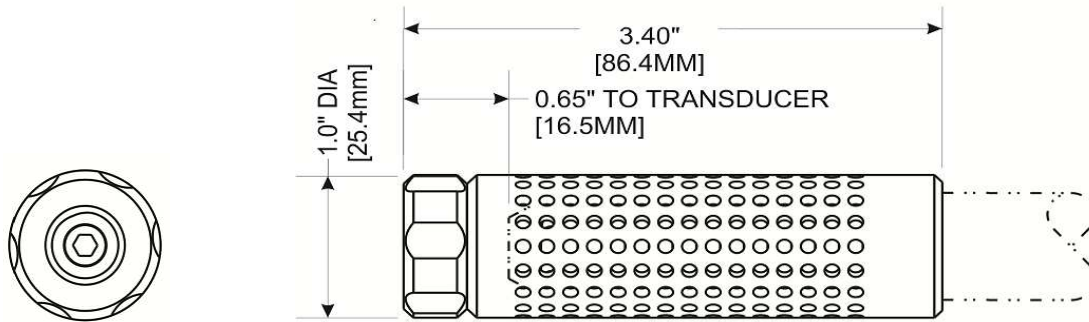
- Guard isolated from data logging transducer to reduce galvanic activity
- Machined from alloy blank for rigidity – won’t bend or collapse
- Extend the deployment duration of the instrument
- Reduce Maintenance cost
- Can Be Installed On-Site

## TRUBLUE ANTI-FOULING SCREEN

### What techniques does the TruBlue Anti-fouling Screen employ?

- The bacteriostatic properties of Cupronickel to bio-fouling are well recognized and widely used since the 1950's. Our Antifouling Screen is made from alloy C70600, a 90/10 Copper Nickel alloy. C70600 alloy has been used in the shipbuilding, offshore power, and desalination industries for seawater piping, heat exchanger and condenser tubing, water boxes, structural cladding and other applications requiring anti-fouling properties.
- Copper nickel deters bio-fouling in seawater through two mechanisms. The first is a highly protective oxidation layer of cuprous oxide, Cu<sub>2</sub>O. Subsequent corrosion in seawater will gradually convert the outer layers of the oxide film to cupric hydrochloride, which is considered to be less adherent than the cuprous oxide. After time, this layer will slough away leaving a protective cuprous oxide film exposed again.
- For best performance, copper alloys should be freely exposed, electrically insulated from less noble alloys and cathodic protection. Avoid deploying in waters polluted with sulfides when first wetted.

### PRODUCT DRAWINGS



Antifouling Screen Assembly

### SPECIFICATIONS

Anti-Fouling Screen	
<b>Environmental</b>	
• Wetted Materials	Alloy C70600 (90/10 Copper Nickel alloy), Delrin, Titanium
<b>Physical</b>	
• OD (inches)	1.0 in. / 25.4mm
• Length	3.4 in. / 86.4mm
• Weight	3.7 oz. / 105g

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