

## Keel Cooler: Vital Heat Exchange Ensured with Vacuum Box Bubble Leak Weld Testing

A Keel Cooler is a critical heat exchange component in the cooling system of large ships, playing a vital role in maintaining optimal operating temperatures for onboard machinery



To guarantee the integrity of Keel Coolers, rigorous nondestructive testing inspection methods like Vacuum Box Testing are employed to detect defects in welded joints. This process ensures that the Keel Cooler is free from defects that could compromise its effectiveness, enabling it to maintain optimal engine temperatures and contribute to the overall efficiency and safety of the vessel during its operations at sea.

We engineered a customized vacuum box tailored to our customer's specific needs to create a design that could fit in the limited space. Our design allowed for a single unit to effectively test both the corner fillet weld securing the keel coolers to the hull as well as the butt welds that extend their length. By providing a tailored solution that meets the customer's unique requirements, we have strengthened their weld quality assessment process and enhanced the overall integrity of their crucial marine systems.

