



VDL Klima



**Vanson
Engineering
Pvt. Limited**

An ISO 9001:2008 certified company

Klima Boxcooler



innovative and reliable

VDL Klima b.v. has been based in Eindhoven, The Netherlands since 1908. We are specialized in engineering, manufacturing and marketing marine and industrial heat exchangers, fans and cooling systems.

Our ability to design and manufacture innovative and high quality products enables us to maintain a leading position in a very competitive market. In short, innovation and high quality are the key to our success.

The Working principle of the boxcooler

The boxcooler works on the principle of the thermal siphon effect (where differences in the specific mass of water due to a temperature gradient cause circulation). The boxcooler is positioned inside a sea-chest with inlet and outlet slots.

Engine cooling water is pumped through the tubes of the cooler and cooled by the forces circulation of raw water through the sea-chest when the vessel is sailing. When the vessel is in idle position, water circulation in the sea-chest is caused by thermal siphon effect.

Application

There are no limitations on the way the boxcooler can be applied other than the physical space available inside the vessel in combination with the amount of heat that needs to be dissipated.

| Type of Vessel | Heat Sources |
|-----------------|--------------------------|
| Tug boats | Main engines |
| Supply vessels | Auxiliary engines |
| Ice breakers | Bow thrusters |
| Dredgers | Air-conditioning systems |
| Fishing vessels | Hydraulic systems |
| Cargo ships | |
| Barges | |
| Ferries | |

The advantages of Klima boxcoolers compared to other designs of cooling system

The entire secondary raw water cooling system is eliminated. Cooling efficiency is hardly affected by polluted water or water containing broken ice.

The boxcooler is much less susceptible to corrosion and fouling than other designs of cooling system. Less technical complication reduces the risk of breakdowns.

Klima boxcoolers reduce costs

- Lower installation costs.
- No need to overhaul raw water pumps and piping every 5 years.
- No spare parts
- Reduced auxiliary power requirement (saves fuel and energy)
- Low maintenance costs
- Less items requiring nautical certification testing

Klima boxcoolers reduce costs

| | |
|------|--------------------------------|
| ABS | American Bureau of Shipping |
| BV | Bureau Veritas |
| CCS | Chinese Classification Society |
| DNV | Det Norske Veritas |
| GL | Germanischer Lloyd |
| LRS | Lloyds Register of Shipping |
| MROS | Maritime Register of Shipping |
| PRS | Polski Rejestr Statkow |
| RINA | Registro Italiano Navale |



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