MIURA News Release

MIURA CO., LTD.

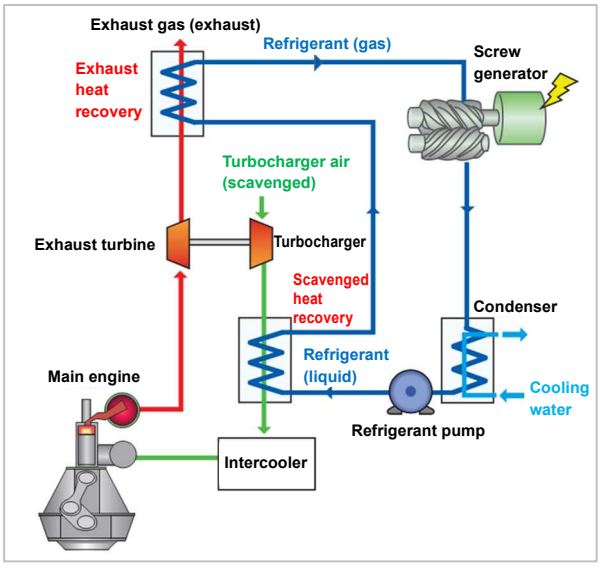
Issued June 19, 2025

Binary Cycle Power Generation System for Ships That Converts Waste Heat into Energy
- Completion of the NEDO Practical Development Phase -

Industrial boiler manufacturer MIURA CO., LTD. (Tokyo Head Office: Minato-ku, Tokyo; President and CEO: Tsuyoshi Yoneda; hereinafter referred to as “MIURA”) is developing a binary cycle power generation system for ships that uses waste heat from ships to generate power. This development effort has been conducted with the support of the New Energy and Industrial Technology Development Organization (NEDO). MIURA is pleased to announce that the planned verification tests for NEDO’s practical development phase were completed in March.

[Development Background and Activities to Date]
In July 2023, the International Maritime Organization (IMO) adopted a strategy for the reduction of greenhouse gas (GHG) emissions to net zero by 2050, making the implementation of energy conservation technologies in the maritime sector even more important.

The binary cycle power generation system for ships that MIURA is developing utilizes waste heat from the main engine of a ship to generate power. In addition to the scavenged heat from turbochargers, it utilizes a multi-stage heat recovery method to recover heat from exhaust gas. This method delivers double the amount of power and allows stable, highly efficient power generation even during operation at low loads. It is anticipated to be one of the GHG reduction measures that will allow the reduction of fuel used for power generation in the future.



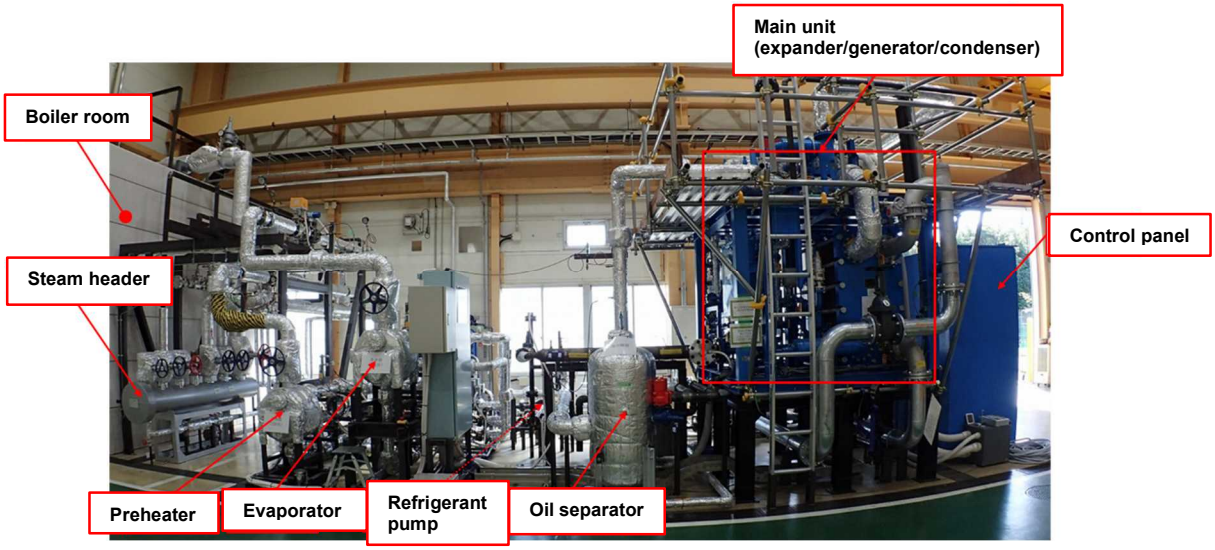
▲Diagram of binary cycle power generation for ships using multi-stage heat recovery

These verification tests evaluated the performance and reliability of this new control technology as a multi-stage heat recovery system under a range of operating conditions simulating maritime use, and obtained favorable results.

[Future Development]

MIURA is currently moving forward with the development of a product that can use new refrigerants with a low environmental impact, and which can accommodate larger systems. After verification tests are complete, MIURA plans to equip a test vessel with this product for demonstration testing. After these demonstration tests, the company intends to begin the sale of this system.

Going forward, MIURA will continue efforts to develop its binary cycle power generation system for ships to contribute to energy conservation on ships and the reduction of their environmental impact.



▲Land-based testing facility* for the binary cycle power generation system for ships

*Land-based testing facility

The land-based testing facility for the binary cycle power generation system for ships uses steam from a steam boiler as a simulated heat source in place of waste heat from the main engine of a ship.

Related release

July 12, 2022

Notice of conclusion of technical licensing agreement on binary cycle power generation system for ships

https://www.miuraz.co.jp/news/newsrelease/2022/1294.php

▼Inquiries

Corporate Communications Department, MIURA CO., LTD.
Tel: (+81) 089 979 7019
Email: info_miuraz@miuraz.co.jp
URL: https://www.miuraz.co.jp