

Pan-ORC ORC



Organic Rankine Cycle

Product Overview

The ORC (Organic Rankine Cycle) is an eco-friendly power generation system that produces electricity from low- to medium-temperature waste heat.

Onboard vessels, the system recovers heat from engine exhaust gases or cooling water and converts it into stable electrical power for ship operations.

AMB & PMSG Type



Integrated expander-generator design



Non-explosive & non-flammable working media



Applicable to waste heat above 75°C



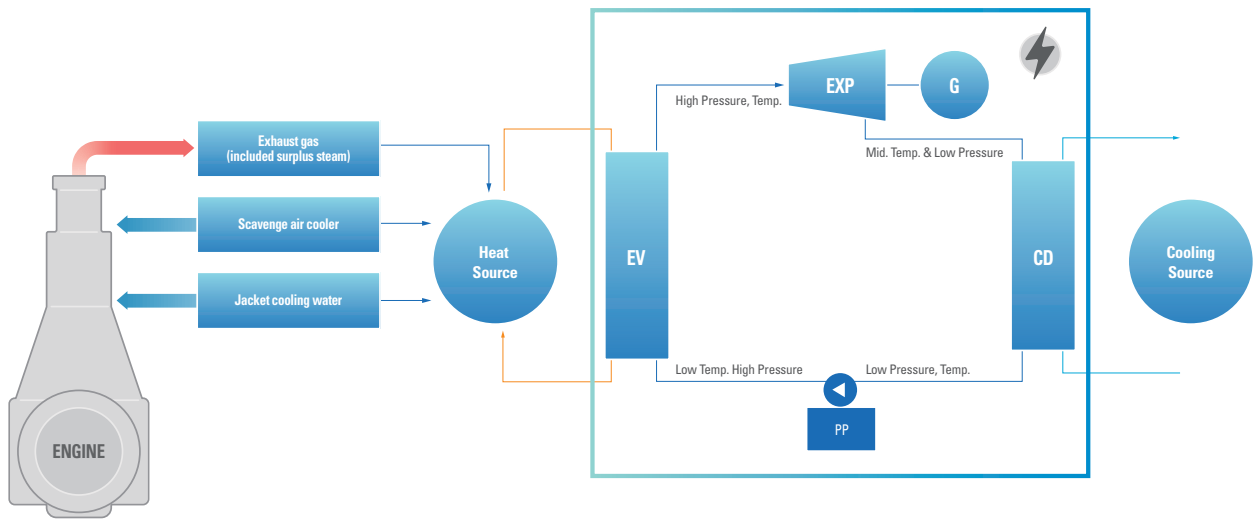
Technical Specification

Heat source temperature	75 - 150 °C
Working fluid	ODP(Ozone Depleting Potential) : 0
	GWPG(Greenhouse Warming Potential) : 1
	ASHRAE Classification : A1 (Non-toxic, non-flammable)
Expander	Radial inflow turbine
Generator	Permanent magnet synchronous generator
Heat Exchanger	Brazed or Gasketed plate construction
Control	Custom programmable logic controller
Site condition for installation	Non-hazardous, indoor
Emission profile	Zero (Closed binary cycle)
Voltage	380 - 480VAC
Frequency	60 or 50Hz

Line-up

Model	Pan-ORC1	Pan-ORC2	Pan-ORC3	Pan-ORC4
Gross Power	~ 100 kW	~ 200 kW	~ 300 kW	~ 600 kW
Heat source	1,301 ~ 2,235 kW	2,603 ~ 4,470 kW	3,904 ~ 6,705 kW	7,809 ~ 13,411 kW
Cooling source	1,210 ~ 2,134 kW	2,420 ~ 4,268 kW	3,630 ~ 6,401 kW	7,261 ~ 12,803 kW
Dimension (LxWxH)	4 x 2 x 2.5 m	4.5 x 2 x 2.8 m	5.5 x 2.5 x 3 m	7 x 3.6 x 3.7 m
Weight	5 ton	8 ton	16 ton	23 ton

System Diagram



Key Benefits

Low Maintenance Oil-free, wear-free expander with minimal service needs	Expander & Generator Patented expander with high efficiency, no oil, no wear, ensuring durability
Fuel & CO₂ Savings Lower fuel consumption, compliance with EEXI/EEDI/CII, and CO ₂ tax reduction	Smart Monitoring Remote access and real-time data logging (optional)
Green & Sustainable Minimal emissions, improved environmental profile	Working Media A1 classified, non-flammable, non-toxic, ODP ≈ 0, GWP < 1
Certified & Reliable Marine classification approvals, safe and robust design	Standard DNV, LR, ABS, BV, NK, RINA approval-ready; CE/PED/Machinery/EMC/Low Voltage/Grid Code compliance
Simple Integration Easy installation, automated operation	Control System Autonomous PLC with HMI, Modbus TCP integration, 1-second data logging