challenge for innovation

Plate Heat Exchanger

For Power Generation Equipment

HISAKA

HISAKA's Plate Heat Excha in various power plants.

Hydroelectric

Cogeneration

Thermal

ngers working

HISAKA's Plate Heat Exchangers contribute stable power supply to highly efficient power plants with high quality, safety and reliability.

Standards

- Pressure Container Structural Standards
- ASME U-STAMP
- CE Marking
- CRN Code

Quality Guarantee

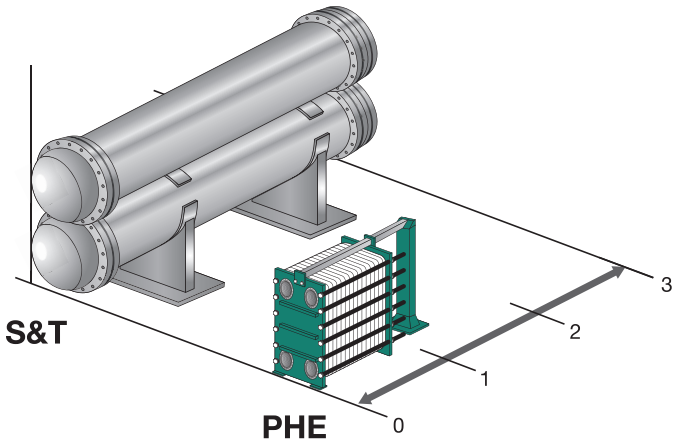
- ISO 9001 certification
- ISO 14001 certification

Integration of HISAKA's own know-how

The structure of plate heat exchanger (PHE) comprises the necessary number of “heat transfer plates,” which consist of thin corrugated plates made from anti-corrosive metals such as stainless steel or titanium and are sealed around the edges with synthetic rubber gaskets. These plates are suspended by guide bar and tightened by bolts between a fixed and movable frame.

High Performance

Corrugated plate which comprise thin sheets provide high turbulence flow. This makes heat-transfer performance of PHE 3~5 times higher than that of Shell and Tube Heat Exchanger (S&T) and minimize heat transfer area of PHE.



Easy Maintenance

Visual inspection and cleaning of plate pack can be carried out easily just by loosening tie rods. Assembly is also as simple as disassembly.

Light, Compact, Space-Saving

Because of the thin heat transfer plates, less inner volume and minimized heat transfer area, PHE is lightweight, quake-resistant, and can be easily installed.
The weight of PHE is 1/10, the installation area is 1/3 and maintenance area is 1/5 of S&T.

LX-90

The Latest Technologies of Jumbo Plate Heat Exchanger.

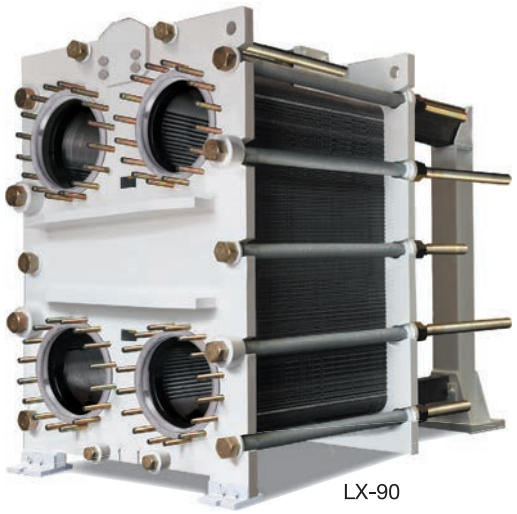
LX-90 is suitable for seawater services where only small pressure drop is allowed.
Possible applications are CCW cooler, seawater heater and steam heater / condenser.

Benefits

Less pressure drop
- Less pump output

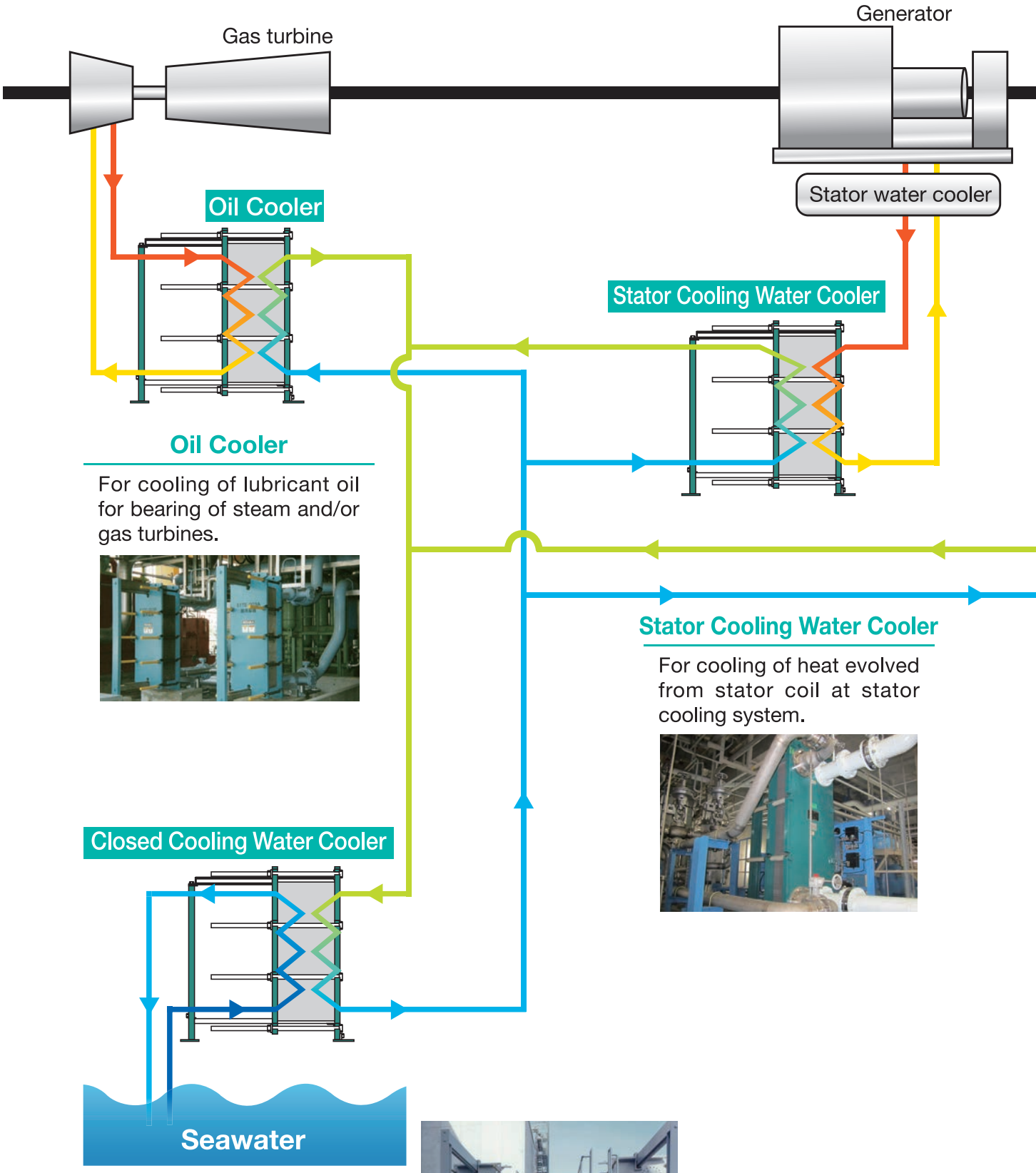
Compact design
- Minimized plot area (easy layout)
- Low initial cost
- Low handling cost for transportation, installation and maintenance
- Safe handling

Suitability for seawater
- Less clogging



LX-90

Plate heat exchangers are used for cooling various



Oil Cooler

For cooling of lubricant oil for bearing of steam and/or gas turbines.

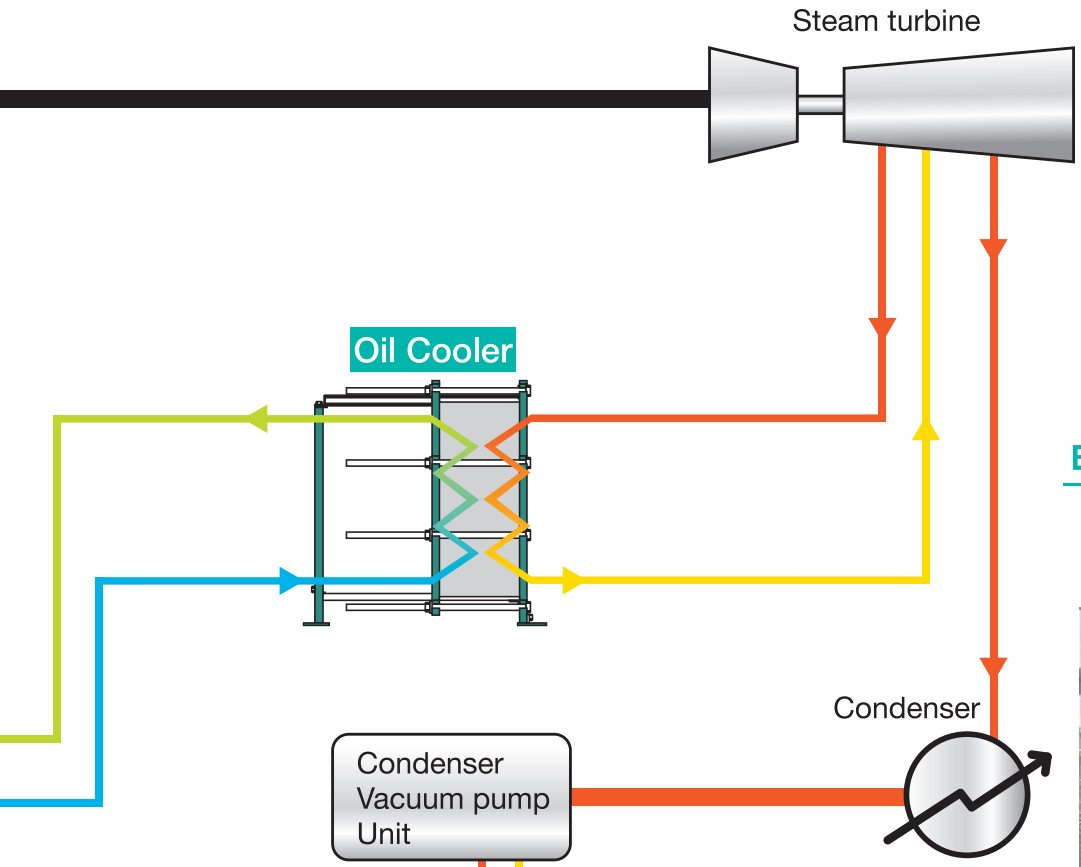
Stator Cooling Water Cooler

For cooling of heat evolved from stator coil at stator cooling system.

Closed Cooling Water Cooler

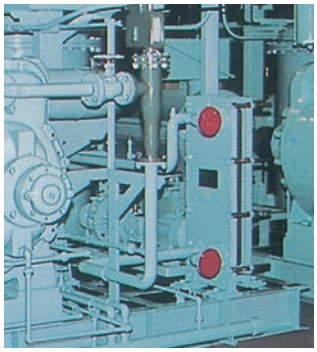
For Cooling of Closed Cooling Water circulating throughout facilities like Lubricant Oil Cooler means of seawater and/or low quality water.

equipment in thermal power plants.



Boiler Feedwater Heater

For heating of the boiler feed water by waste heat in power plant.



Vacuum Pump Sealwater Cooler

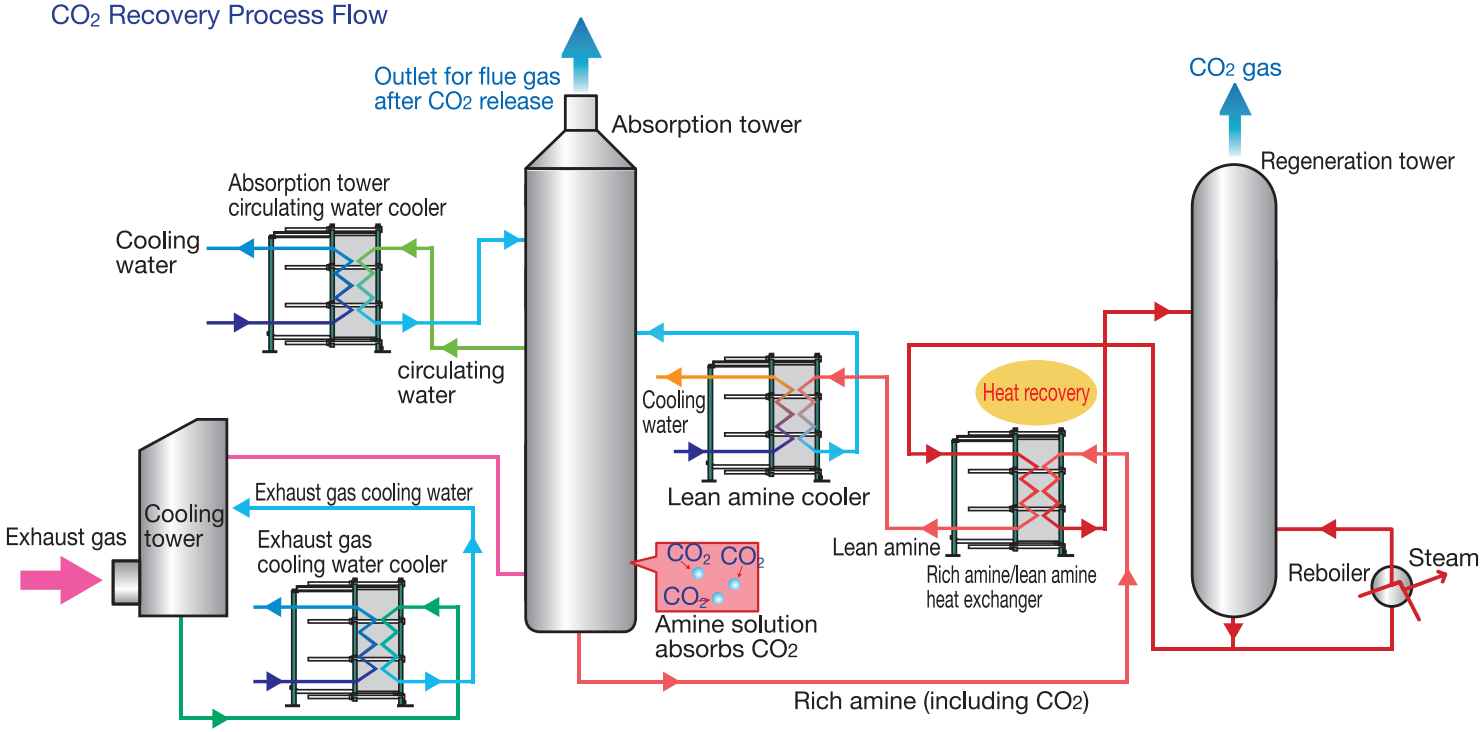
For cooling of sealing water of vacuum pumps which maintain condensers as vacuum.

Plate heat exchangers also active in “Environmentally Friendly Systems”.

Energy saving in CO_2 recovery equipment

Gas purification plants, which recover CO_2 from combustion exhaust gases discharged by thermal power plants, steel mills, chemical plants and so on, comprise various processes.
In CO_2 recovery plants that employ chemical absorption using amine solutions, the amine solutions absorb CO_2 from exhaust gases as cold lean amine solutions in an absorption tower. These become rich amine solutions and enter a high-temperature regeneration tower. When they are heated, these rich amine solutions release CO_2 and are regenerated as lean amine solutions, which are cooled and once more circulated to the absorption tower. Plate heat exchangers are numerously used to conduct heat exchange in this circulation process.

CO_2 Recovery Process Flow

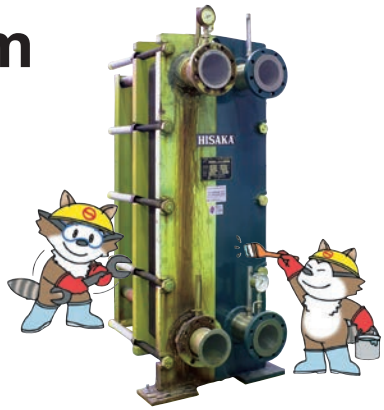


Rich Amine/Lean Amine Heat Recovery SX-80

Rich Amine/Lean Amine Heat Exchanger

SX-80 series dramatically improves operation efficiency through its innovative plate design and gasket improvements of more stability to amine solutions.
Hisaka works, Ltd. has supplied a number of Plate Heat Exchanger at gas refinery plants where amine solutions are used.
Our SX-80 series contributes to realization of running cost reduction and stable operation of the plants, through the adoption of further high performance heat transfer chevron patterns to suit its heat recovery operation conditions as well as the new development of more stable gaskets to amine solutions.

Maintenance work of the top manufacturer provides assurance for the long-term quality of your product.



HISAKA's Full Service Package restores PHEs to as-new performance quality, and requires no work by the customer. Many of our repeat customers have evaluated this service highly.

Flow of the Full Service Package

The Full Service Package is a service in our maintenance menu for keeping good condition of PHE by cleaning at our maintenance factory.

Purpose of Use	Gasket Replacement Estimate
Oil cooler	3 to 7 years
Bearing cooling water cooler	3 to 7 years
Other coolers	3 to 7 years

Replacement of the gaskets is recommended once in 5 years.

Acceptance → Plate disassembly → Soaking and cleaning → Jet cleaning → Gasket application → Assembly → Final inspection

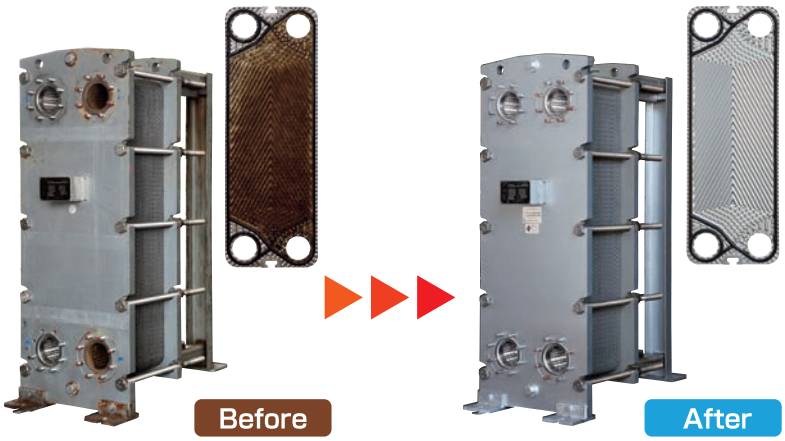
Advantages of the Full Service Package

Merit 1
Rapid Maintenance Work

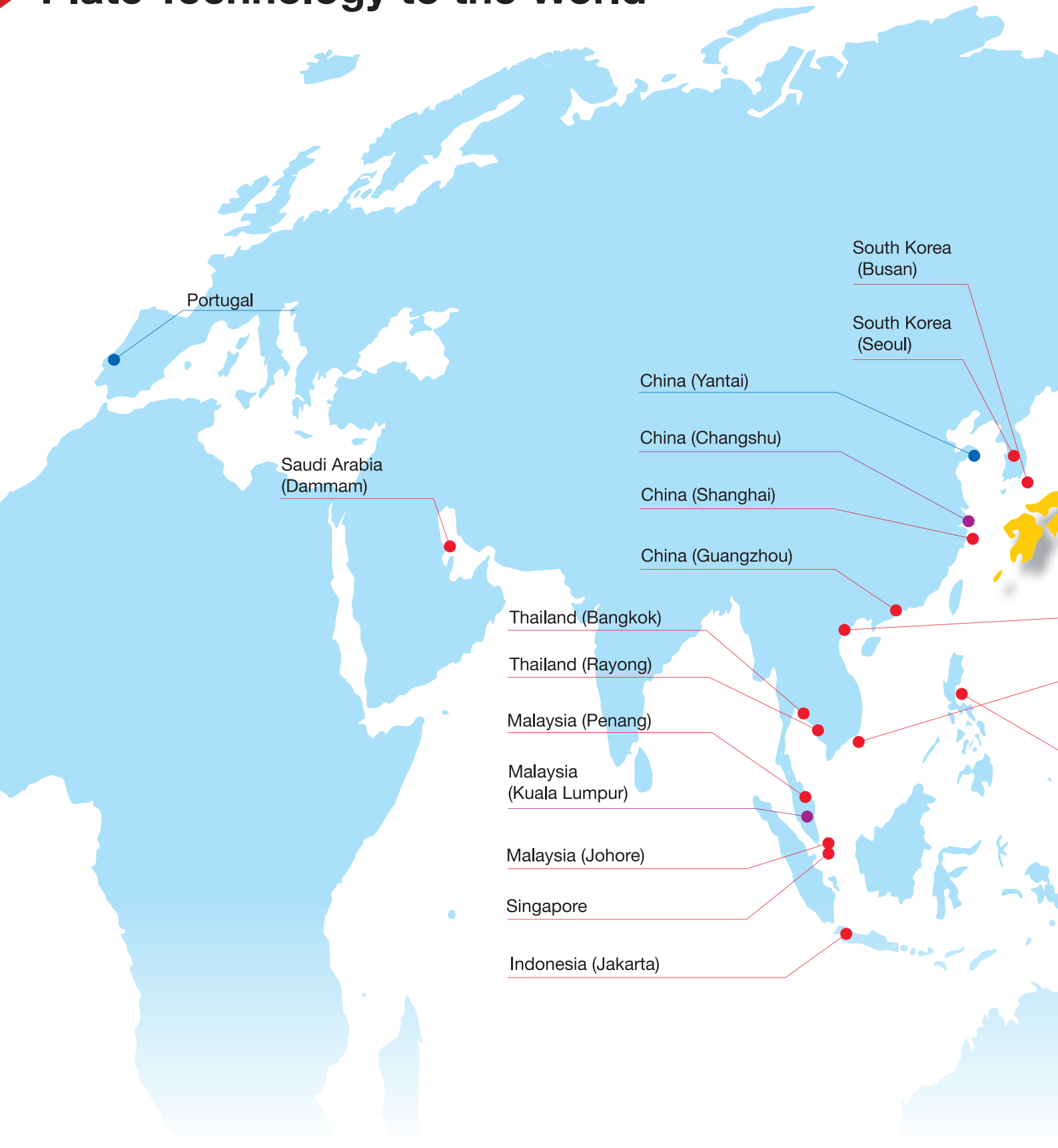
Merit 2
Complete Recovery of Heat Transfer Performance

Merit 3
Reliable and Stable Operation

Merit 4
Reduced Environmental Impact for the Customer



HISAKA – Delivering the Latest Plate Technology to the World



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challenge for innovation

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HISAKA WORKS, LTD., Heat Exchanger Division, is ISO9001 certified for its quality management system for all products including plate type heat exchangers.

HISAKA WORKS, LTD., is ISO14001 certified for its environmental management system.

Agent

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