

Gland Condenser



Oil Cooler

- HEAT EXCHANGER TO COOL THE LUBRICANT OIL FOR ROTATING MACHINERY



Deaerator



Deaerator is defined as a mechanical device for removal of dissolved gases, especially oxygen and carbon dioxide from water. And deaerator heat the feed water and maintain regular N.P.S.H of feed water pump.

Spray & tray type is utilized for land-use deaerator, and stray & scrubber type is utilized for marine-use deaerator.

Donghwa Entec developed major part like spray valve, tray, and scrubber and still research for more high efficiency of deaerator.

Donghwa Entec has ability of thermal design, strength calculation, purchase material, and manufacturing.

H.P / L.P Feed Water Heater

Feed water heater is utilized to heat the feed water with steam from turbine. And this is served to improve the cycle efficiency of power plant and to minimize the thermal effect result from the difference of temperature between steam generator and feed water. Generally, H.P feed water heater is located posterior to deaerator and L.P feed water heater is prior to deaerator.

Feed water heater use u-tube usually and has 3 zone of desuperheating zone, condensing zone and sub-cooling zone. Donghwa Entec has ability of thermal design, strength calculation, purchase material, and manufacturing.



▶ Engineering technology for the future

Heat Exchanger Solution Partner for Steam Turbine

Our company endeavor ceaselessly to develop new products and quality improvement



- MAIN(SURFACE) CONDENSER
- EJECTOR CONDENSER
- GLAND CONDENSER WITH EJECTOR
- GLAND CONDENSER WITH EXHAUST FAN
- OIL COOLER
- DEAERATOR
- H.P / L.P HEATER

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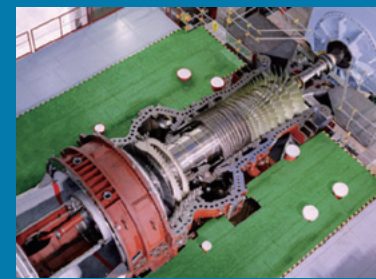
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Heat Exchanger for Steam Turbine

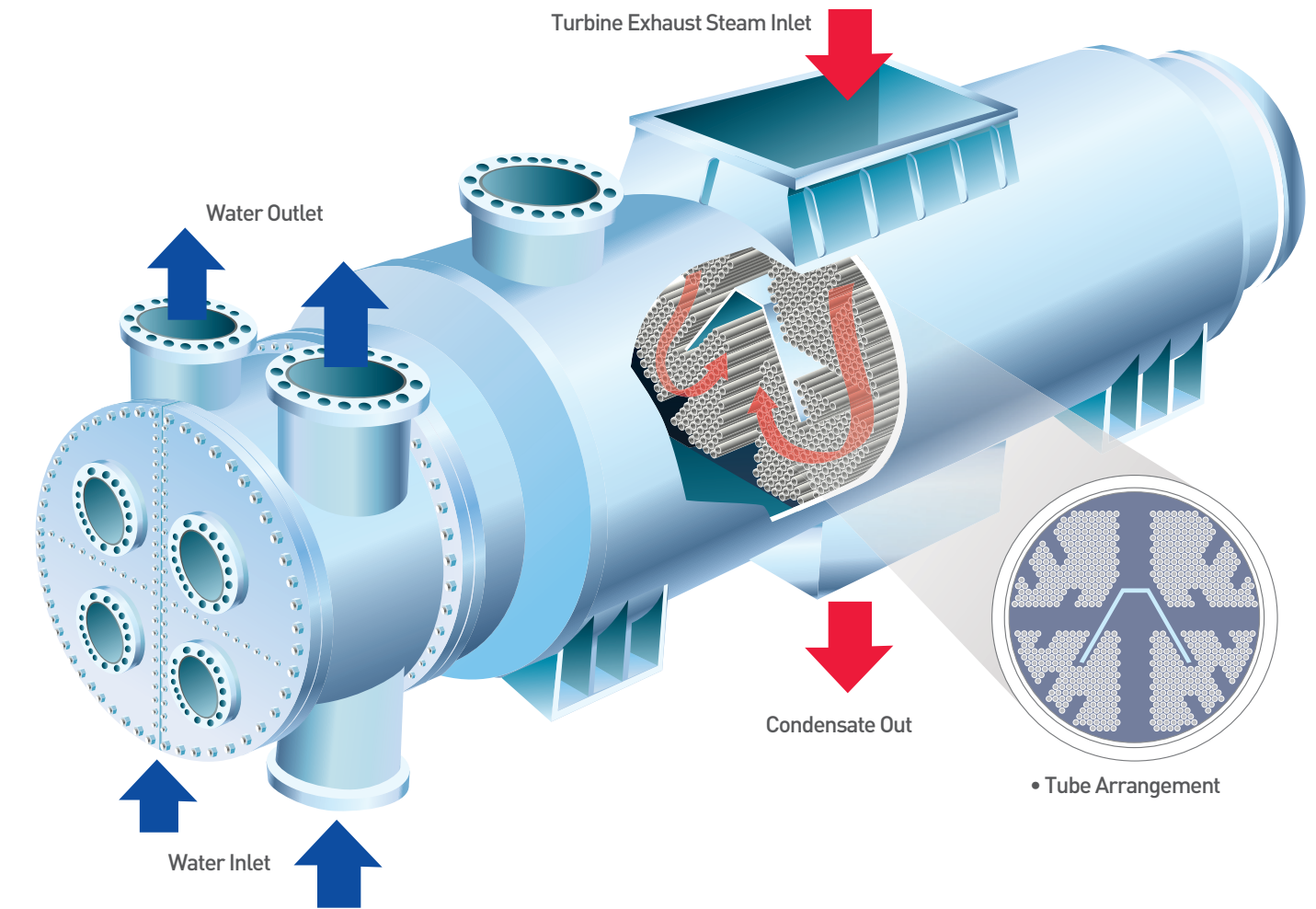


Surface Condenser

The function of surface condenser is to maintain back pressure & the power of turbine for generator driver, compressor driver and propulsion of LNG carrier while exhausted steam from turbine is condensed. The condensed feed water in surface condenser is recirculated to boiler through feed water heater and deaerator. The kind of surface condenser is classified as top entry type and side entry in accordance with location of condenser & turbine. And circular type condenser is used for small & medium size and square type condenser is used for large size of thermal power plant. Donghwa Entec has ability of thermal design, strength calculation, purchase material, and manufacturing. And if customer requires, 2 stage of ejector vacuum system can be supply.

Product Feature

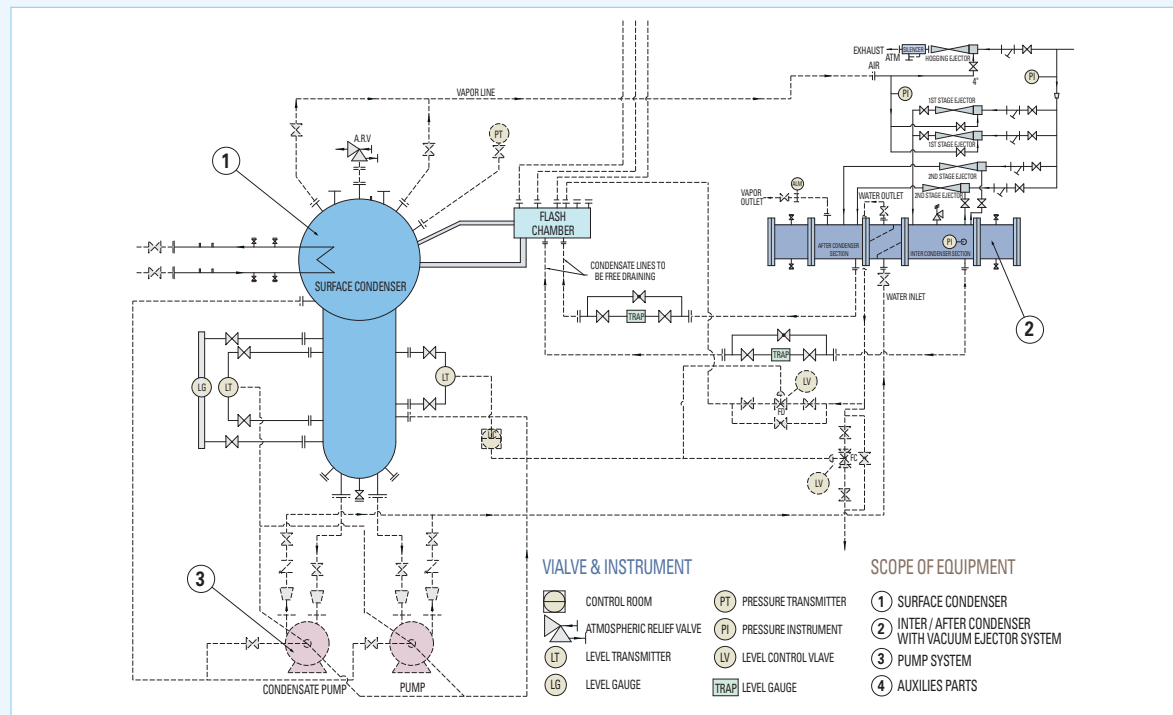
- Design Code**
 - For Plant
 - ASME Code
 - European PED
 - China SELO
 - API Code
 - Korea KGS / KOSHA
 - Japan KHK / JPVC / MHLW
 - TEMA R,C and B
 - Russian GOST
 - ALL CLASS
 - Others Country Local Code [Algeria, Singapore, ...]
 - For Marine Plant
 - All nation's Code including ABS, LR, DNV, GL, BV, KR, NK, RINA
- Applicable Material**
 - Titanium Stainless Steel,
 - Cu-Alloy, 904L, C.S
- Max. Manufacturing Condition**
 - Weight: 400ton



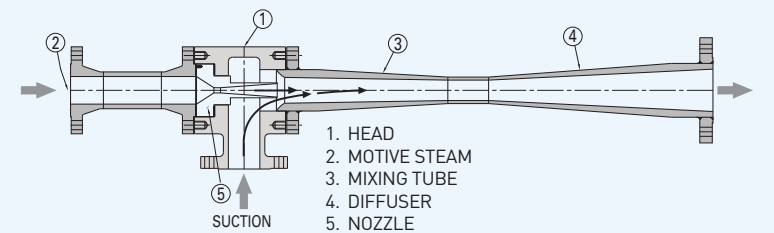
Surface Condenser Package

List of Certificates

- ASME** American Society of Mechanical Engineers, USA (PP, S, U, U2)
- NATIONAL BOARD** The National Board of Boiler & Pressure Vessel Inspectors(PP, S, U, U2)
- SELO** Manufacture License of Special Equipment People's Republic of China
- ANSI** American National Standard Institute, USA
- TEMA** Tubular Exchanger Manufacturers Association, USA
- DIN** Deutsche Industrie Normen, GERMANY
- JIS** Japanese Industrial Standard, JAPAN
- KS** Korean Industrial Standard, KOREA
- API** American Petroleum Institute



Ejector Vacuum System



The vacuum degree is decreased if the air is penetrated to vacuum surface condenser for turbine and result the decrease of power of turbine. Therefore steam driving ejector is necessary in order to remove air in vacuum surface condenser and ejector condenser is necessary in order to condense the driving steam. Usually ejector vacuum system is consisted of 1st ejector, inter condenser, 2nd ejector and after condenser. Comparing to vacuum pump, maintenance is not needed because there is not rotation machinery using electricity. Donghwa Entec has testing system in R&D center and design and manufacture with our own developed computational program.