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Dry cooler “YARUS”, evaporator unit “YARUS”

Technical description

“YARUS” is the device that combines efficient cooler of circulating water and electricity generator.

The basic purposes of the device are: heat transfer between process heat streams; cooling; heat utilization; heat waste recovery; getting of net power.

Application

“YARUS” may be used to produce electrical energy by utilizing low-grade heat.

Unit “YARUS” may be used as an effective cooler, an evaporator as a heat transmitter for maneuvering the heat flows in a complex process cycles.

Scope of application of dry cooler “YARUS” and evaporator unit “YARUS” include thermal power plants, water recycling system, recovery systems, the enterprises of metallurgy and petrochemical, chemical, food, housing and treatment facilities.

Furthermore, the apparatus “YARUS” may be used as a base for creating a wide range of devices and systems.

Characteristics

“YARUS” is an absolutely sealed system. Thermosiphon principle is used for heat transfer. An adaptive control system with no electronic components is applied. Compatibility with standard condensers to reject heat is provided. Temperature level requirements can be easily tuned.

Dry cooler “YARUS” and evaporator unit “YARUS” can be produced upon your request in wide range of 3 kW up to 1 MW to work at required temperature level. “YARUS” has a build-in generator, which allows electric power generation in the range from 0.8 kW to 8 kW.

Advantages

Along the operation of “YARUS”, part of the transferred low-grade thermal energy is converted into useful work, thereby reducing the thermal pollution of atmosphere.

Cooling efficiency is close to the co-current system, the specific area comparable with cooling towers.

System allows significantly increase the cooling efficiency (increasing the depth of cooling), or reduce the area of cooling ponds of 200–300 times.

“YARUS” has high density of heat transfer (exceeding ones of thermosiphon in some cases).

It does not require any external power supply to operate and start-up, does not requires maintenance. Range of operation temperatures of “YARUS” is wide and includes temperatures below 0 °C.

Due to power generation “YARUS” has a payback period.

Service life is at least 30000 hours (bearing replacement).