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HEAT RECOVERY SYSTEMS

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General Description and Purpose Of Use

Tubular heat exchangers are equipment that allows heat transfer of two fluids at different temperatures without contact with each other. It consists of a large number of small diameter pipes built into a large diameter pipe.

The implementation of heat recovery from wastewater, which is polluted in the process, which is not to be used, but which expresses a serious value in terms of heat, is an investment that pays off quickly. The heating of cold clean water that will enter the facility from the hot wastewater coming out of the process in sectors such as textiles provides a significant energy saving.

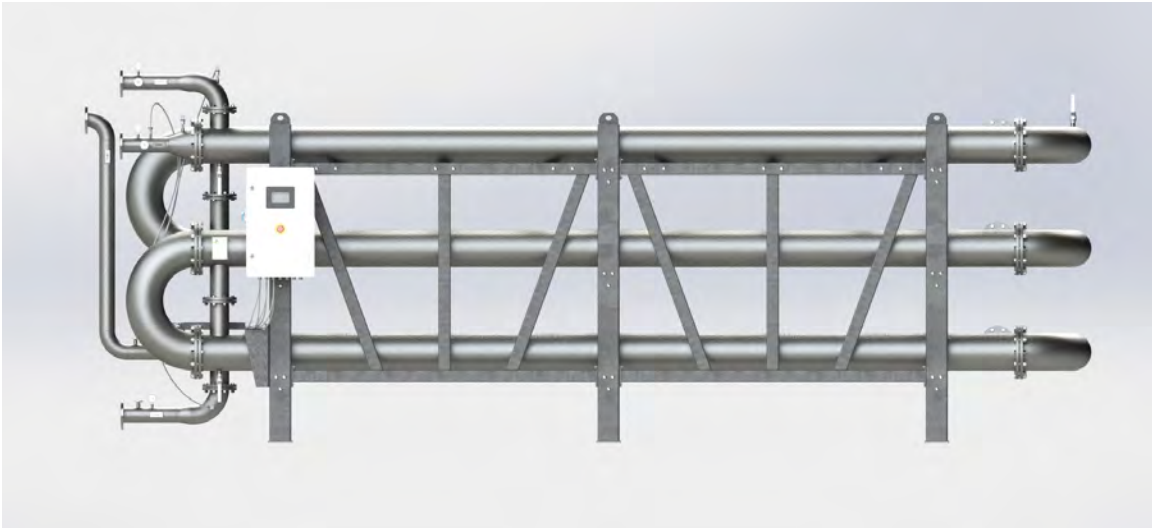
It is a very effective practice for reducing both operating costs and investment costs by means of heat recovery heat exchangers to re-evaluate the hot dirty water discharged from the machines instead of sending it to direct discharge.

Tubular heat exchangers are the most widely used types in the industry. Its tolerance for blockages is much higher than other heat exchangers.

Operating Principle Of The Equipment

The filtered hot fluid is transmitted to the heat exchanger system with the help of a pump. While the hot fluid travels through the small pipes in the heat exchanger system, the clean cold fluid passes through a large-diameter pipe that encloses the small pipes in the body. Therefore, heat transfer occurs in pipe walls.

The liquid that is hot continues its route through a large number of small pipes. The cold fluid moving linearly in the pipe plane touches the outer walls of small diameter pipes and the heat passes into the cold fluid. Therefore, heat transfer occurs in pipe walls.



TECHNICAL SPECIFICATIONS

- It provides ease of use thanks to its user interface in Turkish, English and other requested languages.
- The heat transfer of the cold and hot fluid to be used in the system is provided without contact with each other.
- As the hot fluid flows through a large number of small diameter pipes inside the large diameter pipe, there is minimal heat loss.
- It provides heat transfer in more viscous liquids than plate heat exchangers.
- Due to heat transfer efficiency, depreciation time is very short.
- The system temperature differences are listed on the PLC screen. The system keeps the target temperature constant in proportional valve control at the clean water inlet line. The targeted values are changed through the user interface.
- Clean water temperature, wastewater temperature, wastewater pressure values are reported and monitored every 10 minutes.
- Clean water inlet-outlet temperature, wastewater inlet-outlet temperature, wastewater inlet-outlet pressure, the amount of occupancy in the sewage lagoon can be monitored continuously.
- The entire system can be controlled on one page.
- The energy gained is reported every 24 hours. Reporting is carried out within the required time frame.
- The energy gained and the material allowance are reported monthly.
- There is a light and sound warning system related to the alarm conditions occurring in the system.
- All alarms are stored and reported on the alarm history page.

Accessories

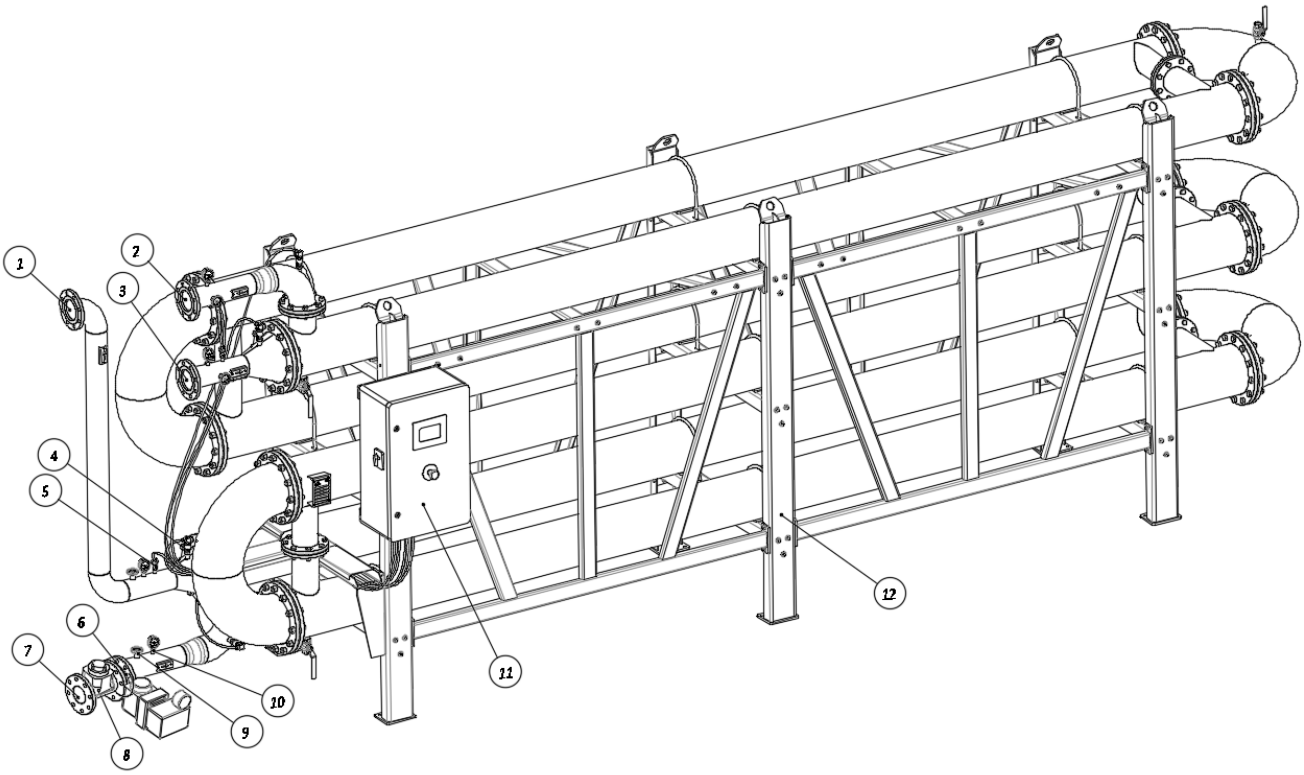
- 7 ”Color Touch Screen
- SIEMENS Brand PLC
- Clean Water Inlet - Clean Water Outlet - Wastewater Inlet - Wastewater Outlet Temperature Indicator 0-120 ° C
- Clean Water Inlet - Clean Water Outlet - Wastewater Inlet -Wastewater Outlet Temperature Transmitter
- Clean Water Inlet - Clean Water Outlet - Wastewater Inlet-Waste Water Outlet Manometers 0-10 Bar
- Clean Water Inlet - Clean Water Outlet - Wastewater Inlet -Wastewater Outlet Pressure Transmitters
- Clean Water Inlet Proportional Valve
- Clean Water Inlet Pulse Output Mechanical Water Meter
- Local Power and Control Board
- Emergency Stop Button
- Heat Exchanger Feeding Pumps*
- Lagoon Level Measurement Systems*
- Rotary Disc Sieve System for Filtering*

*Opsiyonel aksesuarları tanımlamaktadır.

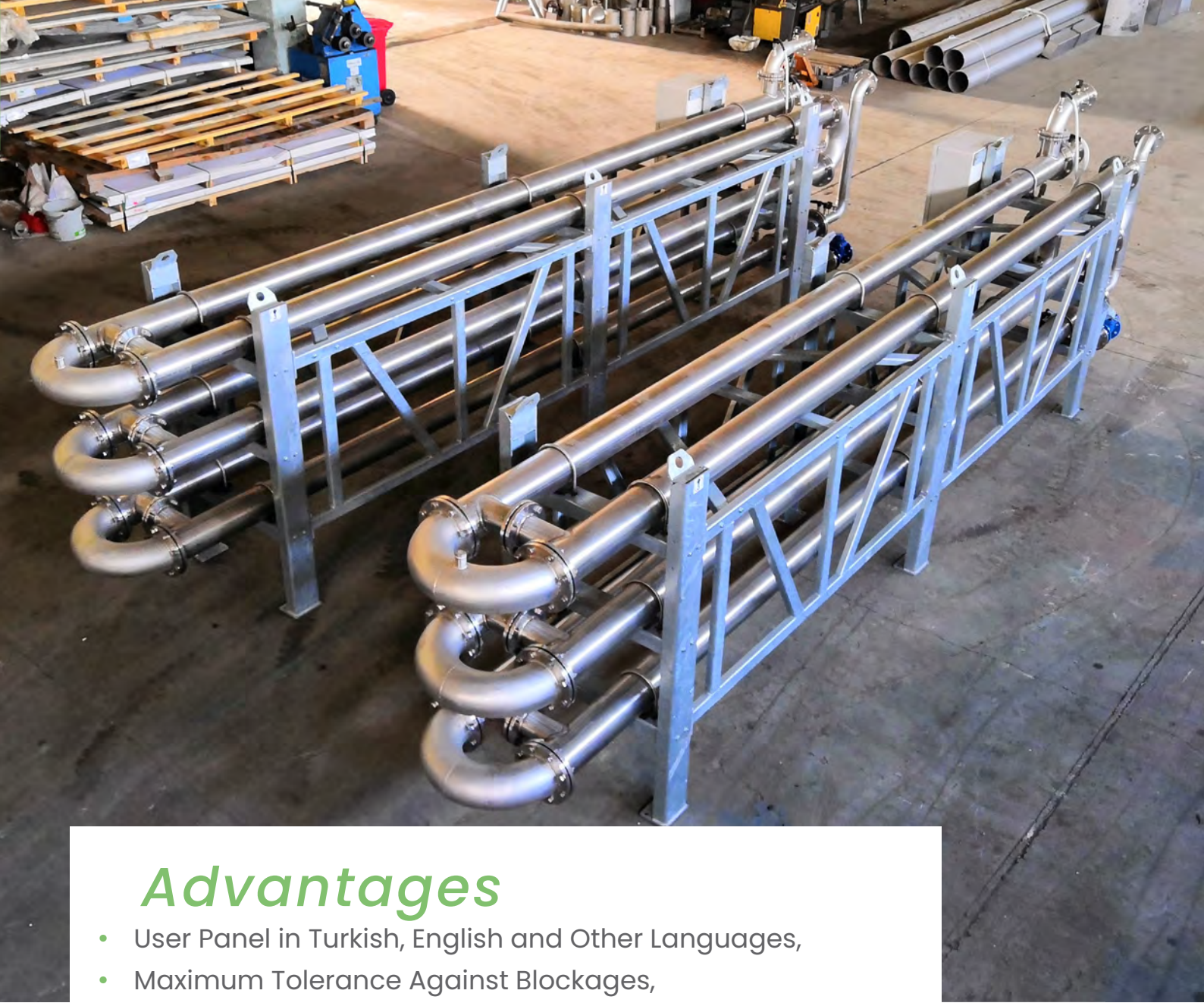
Material Details

- Parts in Contact with Wastewater: It is manufactured as DIN 1.4401 (AISI 316).
- Parts in Contact with Clean water: It is manufactured as DIN 1.4301 (AISI 304).
- Heat Exchanger Chassis Material: S235JR + Hot Dip Galvanized, it is produced as S235JR.
- All Pipes Used in the System are European origin welded pipes.

“Different material choices can also be made according to the customer’s request.”



No	Part Name
1	Cold Wastewater Outlet
2	Clean Hot Water Outlet
3	Hot Wastewater Inlet
4	Temperature Transmitter
5	Pressure Transmitter
6	Proportional Valve
7	Clean Cold Water Inlet
8	Pulse Output Mechanical Water Meter
9	Temperature Indicator
10	Pressure Indicator
11	Local Power and Control Panel
12	Chassis



Advantages

- User Panel in Turkish, English and Other Languages,
- Maximum Tolerance Against Blockages,
- Paying off in a Short Time,
- Heat Recovery with 85%-90% Efficiency,
- Minimum Heat Loss,
- Design That can Work at High Pressures,
- It can be Operated at Very High and Low Temperatures,
- It can be Manufactured for all Types of Fluids,
- It can Monitor and Control the Operation of the System via SCADA,
- Low Operation and Maintenance Cost,
- Durable Heavy Duty Design,
- Easy Transport and Installation,
- Long Operating Life,
- Low Initial Investment Cost,
- Easy Maintenance,
- Suitable For Working Outside.

Marmaracık Mah. 1982. Sok. No: 13/1
Ergene / Tekirdağ / TÜRKİYE
+90 0282 686 63 33 pbx +90 0282 686 63 34
www.baharmuhendislik.com