Therm-X Heat Exchanger

Rotating brushes

Therm-X is a liquid-liquid or steam-liquid heat exchanger adapted to conditions where the inflow is extremely soiled. It is also one of very few self-cleaning exchangers available in Canada – its cleaning process requires no periodical downtime.

Design

The exclusive design of the Therm-X heat exchanger (concentric rings of thermal plates combined with automatic cleaning of the plates on the soiled water side) guarantees trouble-free operation, even in conditions of extremely dirty wastewater. This patented system achieves a high thermal efficiency.

The Therm-X Heat Exchanger

A Self-Cleaning Exchanger

A unique feature of the Therm-X is that it automatically brushes the thermo-plates, up to 60 times a minute, thus preventing fouling. Because the plates remain always clean, heat transfer is consistently high, week after week.

In addition to the actual cleaning process, the movement of the brushes causes considerable turbulence between the soiled water and the thermo-plates, further improving thermal efficiency.

ADVANTAGES

- Heat transfer performance up to 35% higher than with a standard heat exchanger
- Continually swept surfaces prevent fouling
- Does not require waste water conditioning (i.e. pressurized filter)
- High reliability
- Easy to inspect
- Can be used for heating or cooling
- Available in a wide variety of corrosion-resistant materials
- Works with a wide range of fluids (ammonia, waste water, steam, etc.)

Case Study

	HOT SIDE	COLD SIDE
Flow (gpm)	300	127
Fluid temperature at inlet (°C)	43.5	12.3
Solid content (g/mL)	216	NA
PERFORMANCE		
Fluid temperature at outlet (°C)	35	32.2
Heat exchange (Btu/h)	2,274,500	
ENERGY SAVINGS		
Hours of operation (h/yr)	8400	
Natural gas cost ($/MMBtu)	7.80	
Boiler efficiency (%)	77.4	
ANNUAL SAVINGS	**$ 192,500**	

FIELDS OF APPLICATION

- Food and dairy industry
- Pulp and paper
- Pharmaceutical industry
- Wastewater treatment
- Fresh water heating
- Laundries
- etc.

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Steam-Condensate Closed System