

Heat recovery from warm wastewater

Warm wastewater either discharged or treated in effluent plants, is a by-product of many processes including beverage, food processing, dairies, abattoirs, chemical processing, and pulp and paper industries. Hot wastewater is found in abundance at textile dye houses, laundries and tanneries as a part of their processes. Most of the time, wastewater is sent out to the effluent treatment plant, Alfa Laval WideGap heat exchangers provide excellent efficiency with up to 1°C approach temperature and blockage free operation.

Cooling tower interchanger

Open cooling towers are a major source of fouling for industrial plants, causing the need for frequent maintenance of other equipment in the plant. With the help of an Alfa Laval gasketed plate heat exchanger installed as an interchanger,

closed loop cooling with clean cooling water that is free of debris and steady acceptable levels of calcium carbonate and chloride ions.

Savings in pumping costs with clean pipes,

Savings in reduced maintenance costs

Less money spent on chemical dosing and treatment of a smaller volume of open cooling tower loop.

Savings in unplanned shut downs interrupting processes due to mechanical corrosion

Fast simple and easy cleaning of gasketed plate heat exchanger by a single person in a few hours.

Heat recovery from air compressors

Air compressors are widely used in industrial applications to compress air from ambient conditions. Recovering waste heat from air compressors not only has environmental benefits in sustainability, reducing carbon emissions and monetary savings, helping plant profitability.

Heat recovery from waste flash steam

Steam is found in abundance as a primary heating media in many manufacturing industries, hotels, hospitals, food processing, and pharmaceutical industries. The popularity of steam can be attributed to its high calorific value per ton, economic benefits and not requiring pumping around long distances in large plants. Flash steam is undesired in a perfect steam system. This is undesired as steam not returned as condensate needs to be refilled with costly treated makeup water. For heat recovery, a gasketed plate heat exchanger (GPHE) installed with a simple separation vessel containing a conic rise inhibitor. Heat recovered from flash steam can produce hot water for plant cleaning, bathing facilities, heating offices, and production facilities, returned to the production process, preheat makeup water or sold to surrounding district heating networks.

Free cooling with chiller bypass

Industrial chillers are widely used in many industries such as HVAC, data centres, general manufacturing, food processing, pharmaceutical and industrial applications such as packaging material manufacturing and plastics. Chillers are one of the highest consumers of electricity in utilities part of a plant with large compressors constantly running to compress the refrigerant gases as a part of the refrigeration cycle.

When a plant needs 7°C cold water supplied by the operation of the chiller and the chiller's condenser is working with an open cooling tower, there is an opportunity to save thousands of rupees by turning off the chiller. The possibility for free cooling for certain hours or days in winter, when the open cooling tower water is cold enough for the required cooling needs and is relatively free, with the chiller completely turned off.

Boiler protection with gasketed plate heat exchangers

Be it new or retrofit, boilers are a major investment in communal living and need protection. Gasketed plate heat exchangers (GPHE) installed between the boiler and the point of use, do exactly that. Protection of the new boiler from harm caused by fouling, debris, calcium carbonate and oxygenated water from the dwelling side. Without protection, the layer of calcium carbonate scale on the boiler heat transfer surfaces increases fuel costs, exhaust gases released and an overall negative impact to the environment. A boiler with a gasketed plate heat exchanger, is like a smart phone with cover for protection.