



Safe gas sweetening

Amine regeneration



Alfa Laval provides a wide range of cost-effective heat exchanger solutions for use in gas sweetening.

The efficiency, small size and ease of maintenance provided by Alfa Laval plate heat exchanger solutions result in both cost savings and process benefits in comparison to traditional solutions.

Alfa Laval – the wide range

As the world market leader in plate heat exchanger technology, Alfa Laval can provide solutions to meet virtually any specifications, with parts and service backing throughout the world. Gas sweetening equipment from Alfa Laval is well proven in service, with several benefits for operators.

Building up benefits

Using Alfa Laval plate heat exchangers for your gas sweetening process gives you:

- High recovery of heat between the lean amine and rich amine, which makes the installation more compact and minimizes the energy input to the reboiler

- High condensation efficiency, which minimizes the cooling media consumption
- High reboiling efficiency at low pressure drop, which minimizes the heating media consumption
- Excellent temperature control
- Excellent heat transfer and full utilization of the energy value in both heating and cooling media.
- Quick and easy accessibility for cleaning

Because Alfa Laval plate heat exchangers are so compact, they are also notable for their low life cycle cost. You benefit from:

- Low installation cost due to the low weight and the small footprint
- Less maintenance costs due to low fouling, no corrosion and easy maintenance
- Low operating costs due to high heat recovery, less cooling medium and heating medium consumption and less capital tied in recirculated amine

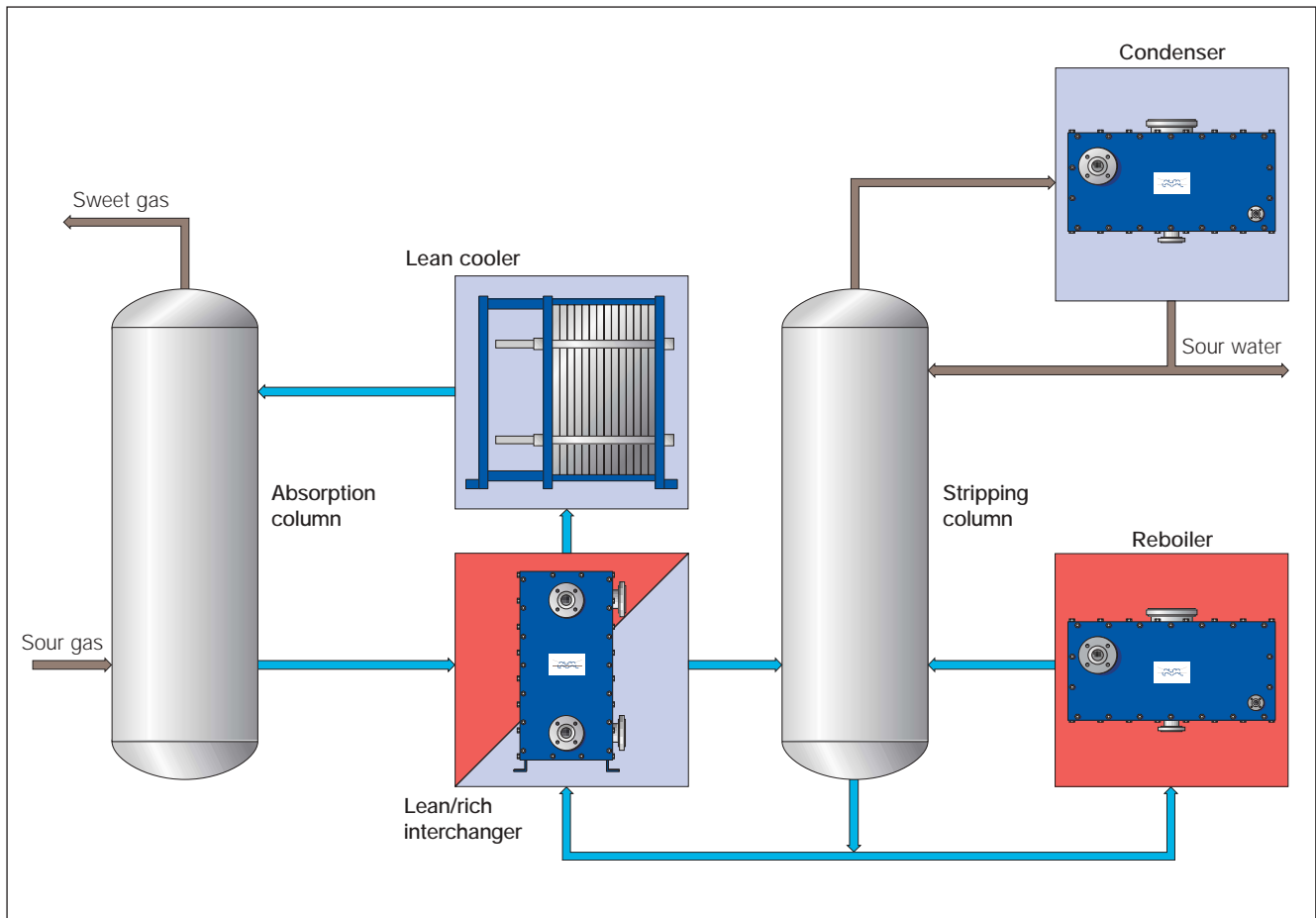


Fig. 1 Traditional gas sweetening process with amine regeneration

Gas sweetening needs heat exchangers

A range of different processes are used for treating sour gas. The most common of these is chemical absorption using an amine absorption media, where the purpose of the lean amine is to absorb as much as possible of the sour components, such as hydrogen sulphide (H_2S) and carbon dioxide (CO_2).

The sour gas enters the absorption tower at low temperature and high pressure, with the sweet gas exiting at the top of the tower and the rich amine containing the absorbed sour components from the bottom.

The sour components are then removed from the rich amine by reducing the pressure so that they are stripped off and condensed. This involves using heat recovered from the lean amine by a heat exchanger, in some cases supplemented by an additional heater and by using a reboiler. The lean amine is finally cooled with water/glycol or sea water in another heat exchanger.

Compabloc for extra safety

A Compabloc heat exchanger can be used for all duties in the gas sweetening process and is especially recommended for services with hydrogen sulphide for safety reasons. It combines the efficiency of the plate heat exchanger with a robust, gasket-free construction.

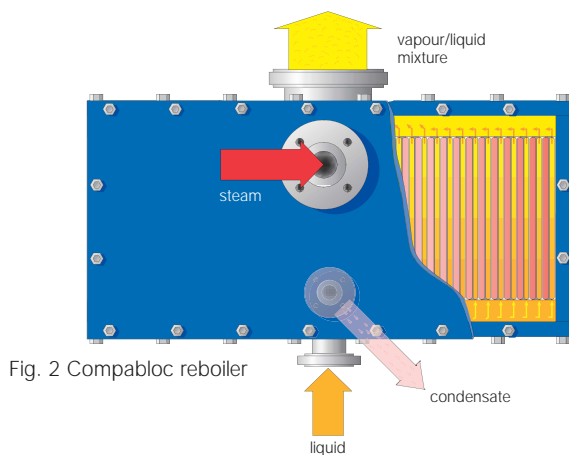


Fig. 2 Compabloc reboiler

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.