

LAS Cool Sorption

Vapour Recovery



Why recover vapours?

Recovered vapours have considerable commercial value for the operator while their removal also ensures a substantial reduction in fire and health risks. Not least, vapour recovery contributes to the reduction of smog formation in the atmosphere.

The experts

LAS Cool Sorption (Pty) Ltd is a joint venture formed between Cool Sorption A/S (Danish) and LAS Oil (South African) to market and sell vapour recovery units on a turnkey basis. LAS Oil, the South African partner, is regarded as the leading supplier of turnkey fuel automation products.

Cool Sorption A/S was founded in 1982 to market, manufacture and support the patented Cold Liquid Absorption process for gasoline vapour recovery. With more than 170 plants installed worldwide Cool Sorption has grown to be an effective and dynamic engineering company with an experienced staff of project and service engineers. Through continuous research and development the original process has been improved, and new technology developed.

LAS Cool Sorption specialises in individual solutions to meet specific process, component and manufacturing standards. We have achieved flexibility by working closely with a number of companies to eliminate capacity problems and ensure that fabrication takes place at a workshop with the qualifications and standards to meet customer and country requirements.

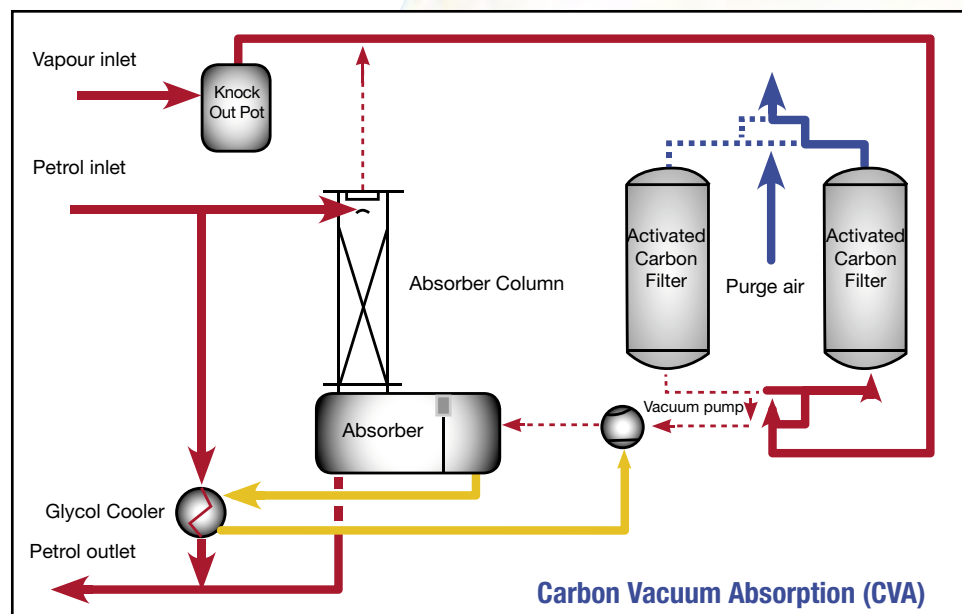
Specialists are dedicated to specific projects from the initial contact with the customer through to final commissioning and hand over. In addition, they are backed by the extensive knowledge and experience of colleagues, providing the customer with peace of mind. LAS Cool Sorption is highly customer focused with a superior level of service, response, quality assurance and control procedures. This ensures that the necessary care and attention is given to all projects, from the initial contact through to execution and beyond - into training and after sales.

Carbon Vacuum Absorption (CVA)

Specifically designed for gasoline vapour recovery, it may also be used for other hydrocarbons such as benzene. With an efficiency of higher than 99%, it is a simple process with low energy and maintenance requirements. CVA is particularly well suited to small and medium sized terminals, as well as large terminals with a uniform loading profile.

This system consists of 2 carbon beds with one connected to the vapour line while the other goes through regeneration. The activated carbon has an extremely high specific surface area where hydrocarbons are adsorbed in a very thin layer. In order to restore the adsorbing capacity for the next cycle, the carbon must be frequently regenerated.

During regeneration, pressure in the bed is lowered until hydrocarbons are desorbed from the carbon. VOC-vapours pass through a vacuum pump into a separator to separate it from the vacuum pump seal liquid. They then pass into the absorber to be absorbed in a counter current stream of fresh absorbent media. A small amount of air is released from the top of the absorber resulting in a minimal carry over of hydrocarbons, which are returned to the carbon bed that is in adsorption mode.



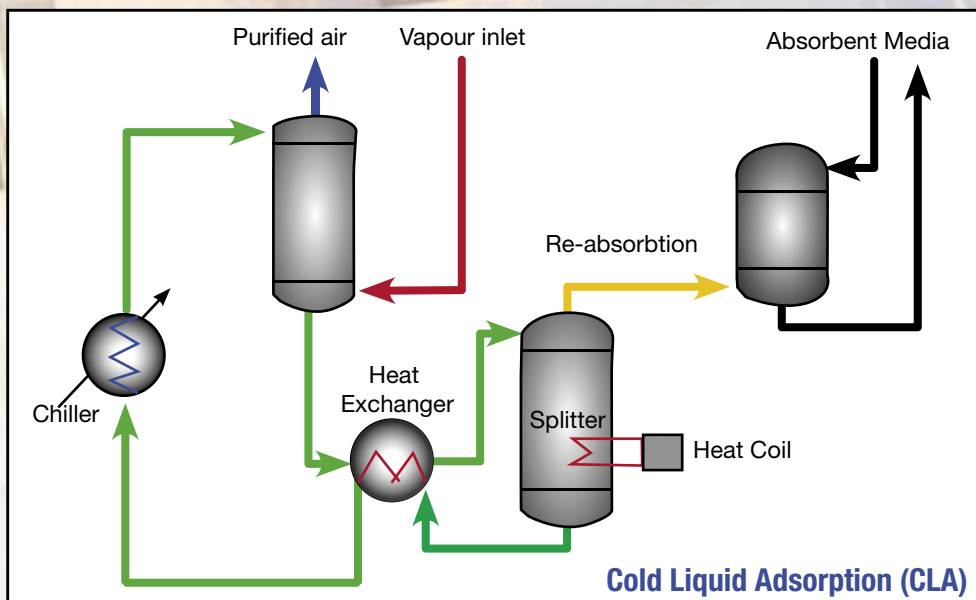
Carbon Vacuum Absorption (CVA)



Cold Liquid Adsorption (CLA)

Suited to high throughput terminals and those with high peak flows, this is a very safe process, since the vapour is at no time in contact with any potential ignition source. With an efficiency of higher than 97% and a relatively low energy consumption, CLA has a wide application range capable of recovering gasoline additives, MTBE, and many chemical and crude oil vapours.

The **Volatile Organic Compound (VOC)** vapours, enter the absorber and pass through a column where they are absorbed in a counter current flow of chilled kerosene, while the purified air is vented into the atmosphere. The kerosene, now mixed with recovered VOC, is collected in the absorber tank and stripped of VOC for re-use. To do this the mixture is pre-heated in a heat exchanger and pumped into a heated distillation column (splitter), where the recovered VOC is flashed off. These VOC- vapours, are pure (not mixed with air), and therefore easy to condense into liquid in the re-absorber, where vapours are washed in a counter current flow of fresh absorbent media. Cleaned kerosene, from the bottom of the splitter, is circulated through a heat exchanger, and further cooled in a refrigeration unit chiller, ready for reuse in the next absorbent cycle.



LAS Cool Sorption offers the following services:

Vapour Recovery

Petrol
Chemicals
Crude Oil

Petrochemical Processes

Atmospheric Distillation
Vacuum Distillation

Head Quarters

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Environmental and Vapour Recovery Specialists



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