

Aker Cool Sorption - The Vapour Recovery Specialists



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Why Recover Vapours?

- Distribution of oil and gasoline is a major source to man-made emissions of Volatile Organic Compounds (VOC).
- Emission is drastically reduced by the installation of Vapour Recovery Units (VRU) at gasoline distribution terminals.
- In recent years, it has also become economically viable to recover vapours from crude oil loading and distribution.



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Advantages

- We have more than 20 years of experience and more than 200 VRUs in operation worldwide.
- Our VRUs remove up to 99,98% of hydrocarbon content in the air.
- Our VRUs comply with emission requirements from the EU, US EPA and TA-Luft directives.



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Cost Efficient & Reliable

- Pay-back time for a typical VRU is often less than one year.
- Operational availability above 98% - including service and maintenance checks.
- Our VRUs are custom designed and typically delivered as turnkey systems.
- We supply VRUs for both gasoline & crude oil vapour.



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All Kinds of Vapour Recovery Units

- Most common cleaning process is Carbon Vacuum-regenerated Absorption (CVA).
- CVA: Hourly capacities ranging from 40 m³/h to 7.000 m³/h.
- Aker Cool Sorption A/S has delivered the world's 2nd largest VRU (2005) with a capacity of 17,000 m³/h (CLA).
- We supply both landbased & offshore VRU installations.



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The Recovery Process

- HC vapour is led from the emission source into one of two carbon beds in the VRU.
- HC molecules are adsorbed on the carbon surface, clean air is vented to atmosphere.



- The carbon is regenerated by means of vacuum.
- Highly concentrated HC vapour is pumped to the absorber column, where the HC molecules are absorbed in a counter flow of absorbent (typically gasoline).
- The absorbent is continuously recycled to the storage tank.

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A Loading Profile Example

Maximum 3 minute capacity	18	m3
Maximum 15 minute capacity	114	m3
Maximum hour capacity	350	m3
Maximum 4 hour capacity	1,082	m3
Maximum daily capacity	2,500	m3
Nominal yearly capacity	717,500	m3

- A VRU this size will typically have a pay-back period of less than one year!
- A terminal with a yearly gasoline throughput of 600,000m³ will often recover more than 900,000 litres of product per year using a VRU from Aker Cool Sorption.

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