



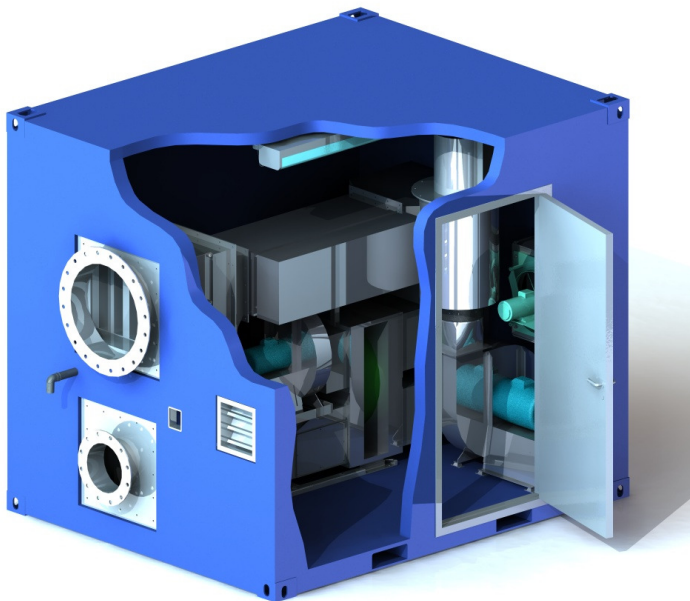
# Dehumidification

## Dehumidifiers for the oil & gas market

Alfsen og Gunderson AS is a leading supplier of dehumidifiers and dehumidifier systems for offshore and maritime use.

Alfsen og Gunderson AS (AG) delivers both standard dehumidifiers and also designs and fabricates complete skid or container mounted units for offshore installations. AG has good in-house engineering resources for both mechanical design and automation / control systems.

Alfsen og Gunderson AS also handles commissioning, start up and service worldwide. Alfsen og Gunderson AS is approved and registered in Achilles, id no. 10758



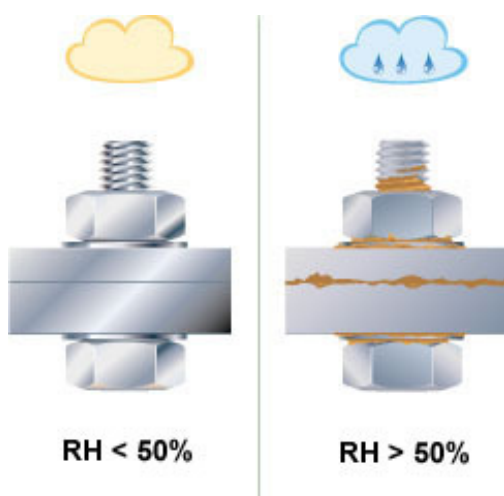
*Two AG-EX-082E dehumidifiers (Ex 3G, EEx IIB T3) is installed on the Adriatic LNG terminal, to keep the pump room / void between the cold LNG tanks free from condensation, ice build-up and corrosion attacks.*

## Advantages of AG dehumidifier installation:

- Reliable protection against condensation and corrosion.
- Replaces the need for surface treatment systems (paint) inside voids etc.
- Huge cost savings
- Important environmental savings (no painting)
- Weight reductions
- Better operational reliability for electric and electronic equipment

## Typical dehumidifier applications:

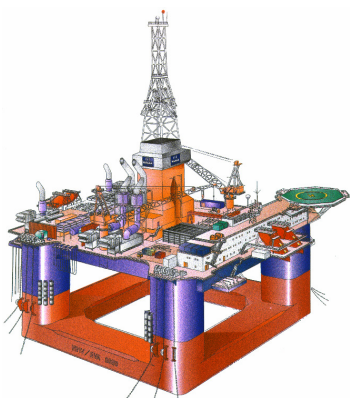
- Boxbottoms in semi submersible platforms
- Platform legs
- Thruster rooms, pump rooms etc.
- Life boats
- Voids close to sea water or LNG tanks etc.
- Pipe tunnels
- Preservation during fabrication period
- Dehumidification during blasting and painting jobs in tanks



*Atmospheric corrosion attacks are completely eliminated if relative humidity is kept below critical value (approx 35%RH in salty atmosphere)*



*Condensation on cold surfaces can be eliminated with low energy consumption and without heating the surface. Dry air is all you need.*



*The Visund platform was our first installation of dehumidifiers in box bottom, replacing painting inside. This method saves a lot of money and provides a reliable corrosion protection that easily can be monitored. It is also better for the environment, and reduces weight. The same system is installed on Troll C, Njord B etc.. This method is also used in steel bridges, and in voids / cofferdams on board ships / tankers.*



*Life boats are kept ready for action with dry air. All interior and equipment is well protected against moisture damages.*



## The dry air preservation method:

- During the fabrication period, dehumidifiers can be used with good result to secure the preservation of rooms and equipment. Either by dehumidifying rooms (control rooms etc.), storage in dehumidified warehouses, or by supplying dry, filtered air into pipe systems, tanks etc..
- This method has been used by the Norwegian Defence for decades to ensure readiness of stored equipment. The energy consumption is much less than heated storage.
- All equipment is protected against moisture damages and corrosion. Both steel, fabric, rubber, electric / electronic equipment etc. is safely protected by dry air, and the protection is easily monitored.
- The de-preservation work is also very easy, no preservation media has to be removed.



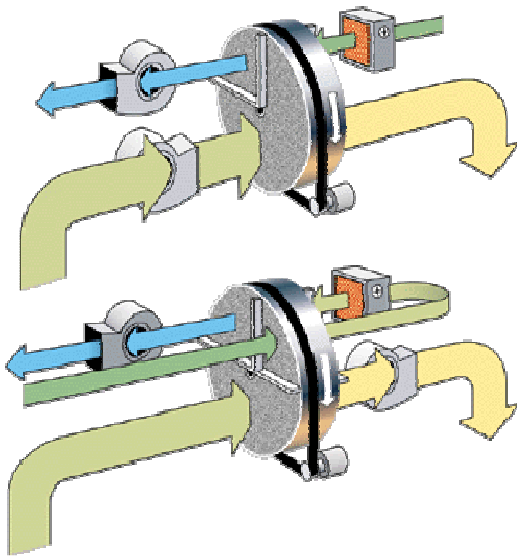
*Approx. 50 pcs. AG dehumidifiers were used for preservation of pipe systems, tanks etc. during fabrication period at Melkøya. Photo: Eiliv Leren*

## Dry and maintenance-free conditions in pipe tunnels:



Pipe tunnels in rock can be made almost maintenance free with a combination of WG tunnelsealing and AG dehumidifiers. The result is dry conditions without water dropping or condensation, and corrosion attacks is eliminated.

## Dehumidification principles:



### **Consort:**

Continuously dehumidification with sorption rotor slowly rotating. The air is efficiently dehumidified at all temperature conditions, also below 0 °C.

This consort principle is used for low regeneration air temperature, as in Ex dehumidifiers with electric regeneration heaters, or with hotwater regeneration.

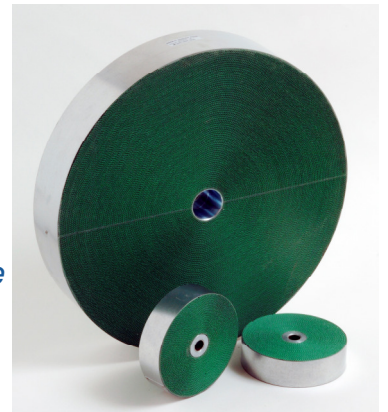
### **Recusorb:**

Same as consort, but with internal heat recovery sector. This system is the most common used in our sorption dehumidifiers.



### **SSCR rotor, the original.**

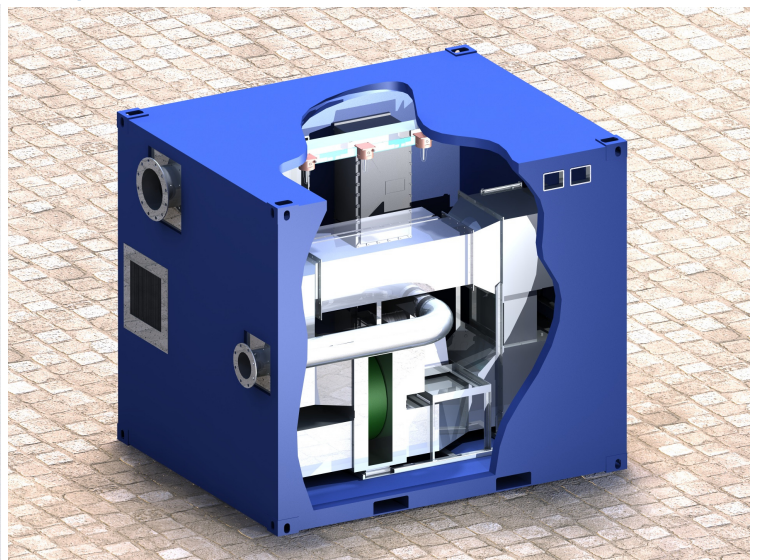
All our dehumidifiers have the SSCR sorption rotor from Seibu Giken Co. Ltd., the first company in the world to produce the silicate rotor.



AG cover a full range of dehumidifiers, from standard dehumidifiers to special designed container solutions or HVAC packages with automation, dampers etc.



*Small standard DST dehumidifiers*



*AG-EX-082E dehumidifier installed on Adriatic LNG terminal*



Alfsen og Gunderson

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