

# No machine has to die due to **corrosion.**

Adsorbers filter supply air and  
**keep moisture out of machines  
and operating oils** - for a long,  
trouble-free service life!



# GIEBEL

Adsorber<sup>®</sup>

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Editorial

## **Beat corrosion.**

A short story about how you can prevent the formation of corrosion and the contamination of operating fluids and make your systems more durable, more cost-effective and most importantly: less susceptible to maintenance.

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## **Services.**

Fast support for replacements, custom designs & inspections.

***Want to know how to solve problems caused by moisture?*** Then it's worth taking a look at our websites:

USA  
[www.giebel-adsorber.com](http://www.giebel-adsorber.com)

Europe  
[www.giebel-adsorber.de](http://www.giebel-adsorber.de)  
[www.giebel-desiccants.com](http://www.giebel-desiccants.com)

CHINA  
[www.giebel-adsorber.cn](http://www.giebel-adsorber.cn)

# Beat corrosion.

**W**ater - we need it to live, for machines it is deadly. A few drops of condensate are the start of corrosion inside tanks, loss of quality in operating oils, poor lubrication on gearboxes, hydrolysis in transformers. In short: water is a real trouble-maker.

However, as the machines constantly draw in air during operation to equalize pressure, moisture and fine dirt particles easily find their way into systems, forming condensate and sludge deposits as soon as temperatures drop.

The solution: filter moisture and dirt out of supply air - exactly what our GIEBEL Adsorbers® do. And they do even more: They prevent harmful oil aerosols escaping the system.

It is a simple solution that helps you to prevent corrosion, protect operating oils, make your systems durable, cost-effective and most importantly: less susceptible to maintenance.

To meet all the challenges of different machine types and installation requirements, we have developed various adsorber series and accessories, which you will find on the following pages.

# Series.

## Breather dryers / Dehumidifiers

to prevent humidity entering your system

## Water separators

to prevent liquid water entering your system



### VV-D series

Disposable breather dryers, developed to **protect hydraulics, gears, drums and IBCs with constant air exchange and short maintenance intervals** in indoor, outdoor and offshore use against moisture damage.

The plastic housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, it is replaced.



### VV-DV series

Disposable breather dryers, developed to **protect hydraulics and gears under dusty environments or when minimal pressure build-up is required even with high air flows** in indoor, outdoor and offshore use against moisture damage.

The plastic housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, the cartridge is replaced. The stable and frost-proof valve part remains on the system. It protects the adsorber from unnecessary loading thus enables longer maintenance intervals.



### VV-R series

Rechargeable breather dryers without valves, developed to **protect hydraulics, gears, barrels and IBC with constant air exchange and short downtimes** in indoor and outdoor use against moisture damage.

The plastic housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost.



### VV-RV series

Rechargeable breather dryers with valves, developed to **protect hydraulics and gears under dusty environments or when minimal pressure build-up is required even with high air flows** in indoor, outdoor and offshore use against moisture damage.

The plastic housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost.

**Oil mist separators / Aerosol filters** to prevent oil mist & pollutants escaping your system

**Gas separators** to filter humidity and specific gases from process air



Fits **hydraulics**



Fits **barrels & IBC**



Fits **gears**



Fits **transformers**



Fits **storage tanks**



### MA-R series

Rechargeable breather dryers without valves, developed to **protect barrels and IBC filled with isocyanates, polyols, DOT4, SKYDROL, hygroscopic solvents or oils** in indoor and outdoor use against moisture damage.

The aluminium housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost.

MA-R adsorbers are available with FKM or EPDM seals and can be used in zone II 2 G / D IIC T4 according to the ATEX product directive 2014/34/EU.



### MA-RV series

Rechargeable breather dryers with valves, developed to **protect hydraulics and gears in harsh environments or with aggressive operating fluids** in indoor and outdoor use against moisture damage.

The aluminium housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. MA-RV adsorbers are available with FKM or EPDM seals and can be used in zone II 2 G / D IIC T4 according to the ATEX product directive 2014/34/EU.



### ME-RV series

Rechargeable breather dryers with valves, developed to **protect hydraulics, gears in the chemical industry or exposed to salt air** in indoor, outdoor and offshore use against moisture damage.

The stainless steel housing is filled with GIEBEL Xdry® and a 3µm filter to ensure effective drying and cleaning of the supply air. A layer of activated carbon adsorbs escaping oil mist when the air is pressed out - to protect desiccant and environment from contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. ME-RV adsorbers are available with FKM or EPDM seals and can be used in zone II 2 G / D IIC T4 according to the ATEX product directive 2014/34/EU.



### MS-R series

Rechargeable breather dryers without valves, developed to **protect large storage tanks of more than 60cbm** in indoor, outdoor and offshore use against moisture damage.

The stainless steel housing is filled with GIEBEL Xdry® to ensure effective drying and cleaning of the supply air. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. MS-R adsorbers can be used in zone II 2 G / D IIC T4 according to the ATEX product directive 2014/34/EU and meet the criteria of corrosivity category CX. In combination with a venting system and a supply air valve, the air flow into and out of a tank can be controlled.



### VG-D series

Disposable oil mist separators without valves, developed to **protect hydraulics, gears, barrels & IBC - especially turbo gearboxes, test benches and recirculating oil lubrication systems** - in indoor and outdoor against the escape of oil mist.

The plastic housing is filled with activated carbon. Combined with a slosh protection and oil demister, the activated carbon cleans the air coming out of the unit, protecting the environment from oil aerosol contamination. Once the adsorber is saturated, it is replaced.



### VG-R series

Rechargeable oil mist separators without valves, developed to **protect hydraulics, gears, barrels & IBC - especially turbo gearboxes, test benches and recirculating oil lubrication systems** - in indoor and outdoor against the escape of oil mist.

The plastic housing is filled with activated carbon. Combined with a slosh protection and oil demister, the activated carbon cleans the air coming out of the unit, protecting the environment from oil aerosol contamination. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost.



### TB-RV series

Rechargeable dehumidifiers, developed to **protect transformers** in indoor and outdoor use from moisture damage.

Inside the plastic housing, a bed of GIEBEL Xdry® ensures effective drying of the supply air. In addition, the dehumidifier has a stable valve part made of fiberglass-reinforced polyamide and an oil reservoir. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. TB-RV dehumidifiers are available with all common connections for transformers. The series has an activated carbon layer to separate escaping oil mist. This ensures cyclic self-regeneration and thus very long maintenance intervals.



### TM-RV series

Rechargeable dehumidifiers, developed to **protect transformers in zone II 2 G / D IIC T4 according to the ATEX product directive 2014/34/EU** in indoor, outdoor and offshore use from moisture damage.

Inside the stainless steel housing, a bed of GIEBEL Xdry® ensures effective drying of the supply air. In addition, the dehumidifier has a stable valve part and an oil reservoir. Once the adsorber is saturated, all of the inner workings can be replaced at low cost. TM-RV dehumidifiers are available with all common connections for transformers. The series has an activated carbon layer to separate escaping oil mist. This ensures cyclic self-regeneration and thus very long maintenance intervals. The adsorbers meet the criteria of corrosivity category CX.



### VL-D series

*Disposable inline filters, developed to **dry and filter pipeline air streams of storage tanks** from moisture and specific gases.*

Inside the plastic housing, a bed of GIEBEL Xdry® ensures effective drying of the process air. In addition, a filter is integrated that separates abrasion and ambient dirt. When the adsorber is saturated, all components of the inner workings can be replaced at low cost. If required, the inline filters can be filled with molecular sieves (3A, 4A, 5A, 13X) to filter specific gases. With a DN50 thread, even large volume flows can be fed through the adsorber.



### VL-R series

*Rechargeable inline filters, developed to **dry and filter pipeline air streams of storage tanks** from moisture and specific gases.*

Inside the plastic housing, a bed of GIEBEL Xdry® ensures effective drying of the process air. In addition, a filter is integrated that separates abrasion and ambient dirt. When the adsorber is saturated, all components of the inner workings can be replaced at low cost. If required, the inline filters can be filled with molecular sieves (3A, 4A, 5A, 13X) to filter specific gases. With a DN50 thread, even large volume flows can be fed through the adsorber.



### VM-R series

*Rechargeable inline filters, developed to **dry and filter pipeline air streams of storage tanks in extremely harsh environments or in explosion protection zones according to ATEX 2014** from moisture and specific gases.*

Inside the aluminium housing, a bed of GIEBEL Xdry® ensures effective drying of the process air. In addition, a filter is integrated that separates abrasion and ambient dirt. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. If required, the inline filters can be filled with molecular sieves (3A, 4A, 5A, 13X) to filter specific gases.



### VE-R series

*Rechargeable inline filters, developed to **dry and filter pipeline air streams of storage tanks in extremely harsh environments or in explosion protection zones according to ATEX 2014** from moisture and specific gases.*

Inside the stainless steel housing, a bed of GIEBEL Xdry® ensures effective drying of the process air. In addition, a filter is integrated that separates abrasion and ambient dirt. Once the adsorber is saturated, all components of the inner workings can be replaced at low cost. If required, the inline filters can be filled with molecular sieves (3A, 4A, 5A, 13X) to filter specific gases.




## HS-D series


Waterseparators to **protect gears from water droplet ingress** while allowing them to breathe.

HS-D membrane filters are an excellent alternative to adsorbers when liquid water is a challenge but moisture is not a problem. With the help of an ePTFE filter in the core of the robust polyamide housing, the gear oil is protected from contamination by water, even if the gear is used outdoors or cleaned with water.



# Accessories.

 Fits **hydraulics**

 Fits **gears**

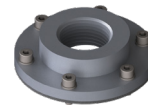
 Fits **storage tanks**

 Fits **barrels & IBC**

 Fits **transformers**

## Assembly

Use these accessories for the installation of adsorbers in confined or difficult to access spaces or with very special connection requirements.



Flange adapters  
for easy adsorber installation on hydraulics.



Suction lances  
for connecting barrel pumps or bypass filter systems and extracting substances from the tank bottom during the adsorber operation.



Wall mounts  
for flexible adsorber installation in confined spaces.



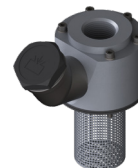
Mounting adapters  
for offset or horizontal adsorber installation in confined spaces.



Adapters, sleeves & reductions  
for easy adsorber installation on existing threads.



Filling adapters  
for refilling oil into hydraulic power units or gearboxes during the adsorber operation.



IBC covers  
for easy adsorber installation on IBC.

## Monitoring

Use these accessories for monitoring the loading status of adsorbers.



### Sensors

for monitoring the loading status of an adsorber and planning maintenance intervals.

## Protection

Use these accessories for protecting adsorbers in harsh environments, against overpressure and underpressure, swelling and against escaping oil mist.



### Oil demisters

for protecting adsorbers and the environment from contamination by larger oil particles.



### Valve adapters

for holding existing tank preloads during the adsorber operation.



### Protection adapters

for monitoring positive and negative pressure during the adsorber operation and protecting machines in the event of danger.



### Protection hoods

for protecting adsorbers in harsh environments.

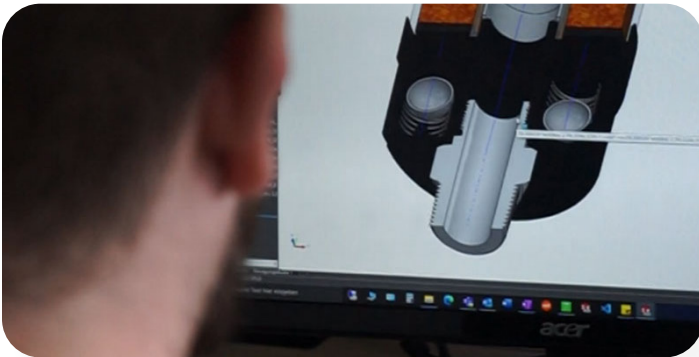
## Ventilation

Use these accessories for filling or emptying tanks without vapor recovery.

## Ventilation

systems  
*for filling or emptying tanks without vapor recovery during the adsorber operation.*

# Services.



Fast support for replacements, custom design & inspections.

Do you want to replace an adsorber? Do you need a special design or want to order products with your own label? Are you unsure whether your current adsorber is working properly? **We are here to help YOU!**





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