### AUTOMOTIVE



# Cost Effective and Energy Efficient Climate Control



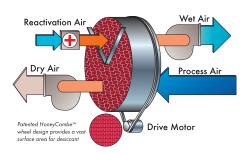
Optimize production, eliminate condensation & corrosion and reduce operating costs



## **Climate Control**

Munters is the world leader in humidity control with an extensive range of products and services that help our customers achieve their production goals. In the automotive industry, we have extensive experience delivering cost effective and energy efficient solutions for exhaust testing, parts and materials storage, injection molding, car window manufacturing, paint and coating processes, environmental chambers, and in many other application areas.

Munters Dehumidification Solution All Munters dehumidifiers provide efficient and consistent humidity control regardless of the ambient or outdoor conditions, ensuring consistent conditions for manufacturing all year round with our patented Honeycombe<sup>™</sup> Rotor Technology: two air streams pass simultaneously through two sectors of the desiccant rotor. One air stream is dehumidified to the required humidity level.



The other air stream dries the rotor so it can absorb moisture again and this accumulated moisture is then exhausted away externally. We deliver cost effective solutions at the highest quality level, that are manufactured under strict control regulations in our ISO 9001: 2008 and 14001 certified facilities. And our systems can be designed according to your requirements.

#### Benefits

- Production processes are optimized and remain constant year round
- Condensation is prevented
- Corrosion problems are prevented
- Low operating cost compared to alternative methods
- Testing and environmental conditions are adjustable and can be reproduced time and time again



## Engine and brake testing, exhaust gas measurement

To be able to register reliable measurements even for the lowest emissions, Munters technology helps supply well-defined dilution air purified at specified temperatures and low humidity levels. The system allows for variations in the air-flow, enabling tests to be exactly tailored to specific requirements. Standardized tests for product development and certification can be carried out to simulate summer and winter conditions.

### Reduce defects in laminating, molding and fabrication processes

Munters dehumidification equipment is used during manufacturing of automotive parts to reduce the unwanted effects of moisture. Our equipment creates the proper environment for testing, production assembly, and transportation of components such as safety glass, air bags, tires and plastics, along with many other products.



### Reliable acoustic chambers, wind tunnels and climate chambers

Test and measurement of engines, assemblies and finished vehicles are critical checkpoints in the manufacturing process. Test stations such as wind tunnels, soak boxes, environmental chambers and anechoic chambers require exact environmental conditions to ensure performance measurements are accurate and repeatable– assuring quality targets are met. Munters enables automotive manufacturers to simulate any environmental dew points as low as -70°C (-94°F).

Munters solutions are a vital part of test chambers, and provide repeatable and controllable humidity levels for:

- Hot and cold start tests
- Heating and air conditioning performance evaluations
- Windscreen/window defrost/de-mist tests
- Functional, durable and structural assessment in extreme environments
- Component and material performance assessments
- Controlled thermal 'soaks' and solar radiation assessments

#### Painting & Coating

High quality finishes and reduced drying times (with shorter drying tunnels) can be achieved when dry air is used during priming, painting and coating processes. Coating specifications often require a maximum Relative Humidity too often unachievable during humid summer months which often result in premature coating failures, like cracks and blisters. By using humidity and temperature control, the quality of paint and coating processes remains consistent all year round; alleviating costly disruptions in production. This improvement in overall drying consistency in turn reduces rework incidences and keeps manufacturing costs down. Munters equipment also controls containment by using high-efficiency filters and fans, and can clean the air before releasing it into the environment.

Additionally, treatment of paint booth exhaust air laden with Volatile Organic Compounds (VOCs), such as solvents, is easily accomplished with Munters Zeol rotor concentrator systems. The system concentrates a large exhaust volume containing a low concentration of VOCs into a small concentrated stream using zeolite Honeycombe<sup>™</sup> media. The concentrated VOCs can be efficiently and costeffectively destroyed in an oxidizer.

Munters heat exchangers, such as Thermo-T<sup>™</sup>, recover heat from energy consuming processes, such as the abatement of paint booth exhaust, at temperatures up to 1093°C (2000°F). Energy can be recovered and returned as process makeup air, used to preheat combustion air, or used for plant or office heating.

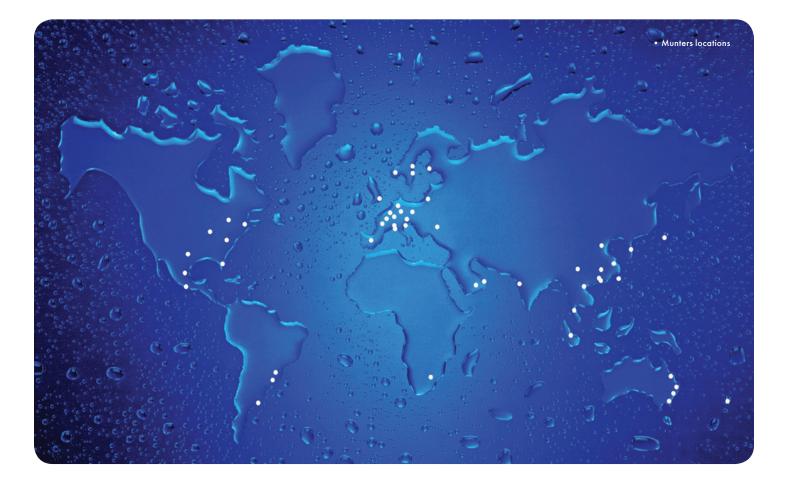
#### Storage without waste

Machinery and stored car components sensitive to humidity such as metal parts, electronics, raw materials, etc., run the risk of corroding; leading to waste and rejection of sub-standard parts. This destructive process is arrested by storing and transporting components in a low humidity climate.



### Munters expertise and global service Our Munters trained service engineers and applications specialists are here to help customers find the right solution for their needs. Our support continues throughout the lifetime of the equipment with our global service network and choice of service plans designed to ensure smooth operation at all times.





# Munters is a global leader in energy efficient air treatment solutions.

Munters manufactures engineered products that can economically control humidity and temperature, provide energy recovery, and/or utilize direct or indirect evaporative cooling for comfort, process and environmental protection. With permanent or temporary solutions, Munters offers a wide variety of options to meet specific climate, application and budget requirements. Munters has net sales approaching \$1 billion USD with more than 20 manufacturing facilities across the globe and sales offices in over 30 countries. Munters employs over 3,000 people worldwide.

For more information see www.munters.com

Australia Phone +61 2 8843 1580, serviceairt@munters.com.au Austria Phone +43 1 6164298-0, service.dh@munters.at Belgium & Luxemburg Phone +32 2 240 6868, service.dh@munters.v. be Brazil Phone +55 41 3317 5050, munters@com.br Canada Phone +1905 858 5894, dhinfo@munters.com China Phone +86 10 8041 8000, serviceairt@munters.cn Zeech Republic Phone +420 544 211 434, servicez@munters.de Denmark Phone +45 4495 3355, service.dh@munters.dk Finland Phone +358 40 186 3074, service.dh@munters.fi France Phone +33 1 311 5757, service.dh@munters.fi Germany Phone +49 40 87 96 90-0, service.dh@munters.de India Phone +91 20 6681 8900, service.dir@munters.in Italy Phone +39 0183 521 377, service.dh@munters.it Japan Phone +91 3 5970 0021, serviceairt@munters.jp Koree +82 2761 8701, service.dir@munters.co.kr Mexico Phone +52 722 270 4029, service.dhmmunters.com Netherlands Phone +31 172 43 32 31, service@munters.nl Poland Phone +48 58 305 35 17, service.dh@munters.si South Africa Phone +27 11 971 9700, info@munters.co.zf Spain & Portugal Phone +34 91 640 09 02, service.dh@munters.es Sweden & Norway Phone +46 6 626 6300, service.dh@munters.se Switzerland Phone +41 52 3438886, service.dh@munters.ch Thailand Phone +66 2 6422 6703, service.dir@munters.com.sg Turkey Phone +90 216 548 1444, serviceair@munters.com united Kingdom & Ireland Phone +41 480 432243, service.dh@munters.co.wl USA Phone +18 00 843 5360, dhinfo@munters.com Vietnam Phone +84 83825 6838, vietnam@munters.com.com



Munters Corporation Tel: (800) 843-5360 E-mail: dhinfo@munters.com www.munters.com