

Low Dew Point Ultra Dry Rooms and Chambers

Humiscope



Humiscope is the only
Australian owned and operated
company offering turnkey
low dew point, ultra-dry
room solutions

Master your indoors

As global awareness of climate change soars, Humiscope provides the precise indoor climate for alternate energy production.

Turnkey Rooms

With a team of highly qualified engineers and draftsmen who use the latest technology, we custom design your ultra-dry room specific to the conditions required.

Together with our specially trained technicians, we build your fully sealed and ducted room complete with HVAC systems, custom designed to your specific requirements.

We use state-of-the-art HVAC equipment, with a special focus on desiccant dehumidification technology. We seamlessly retrofit new equipment with your current systems with limited or no interruption to production.



“ Humiscope offered strong customer service throughout the entire project and backed it up with thorough technical knowledge.

- Dallas Garratt, GM Operations - Cap-XX Australia (Low Dew Point Room Client)

Low dew point dry rooms required for lithium based manufacturing, are not simply modified clean rooms or large environmental chambers.

Critical Considerations

When lithium metal and water in the air mix, the reaction is exothermic (generates heat). Even the tiniest amount of moisture can lead to burning or even explosion. Moisture sealed inside the battery can react even after the battery is completed. Also, flammable solvents are often used in these rooms therefore an exhaust system is important to remove the solvent vapours.

On top of the safety concerns, ultra-low dew point air supply is necessary to

Maximise Product Yield

Product Quality

Energy Efficiency

Product Life

Storage Capacity



Important

An incorrectly designed room built without proper knowledge of this industry’s niche requirements, or using HVAC systems that have not been designed specifically to the production requirements, will mean your operation will not run efficiently. Any of these can lead to heavily increased energy costs and a decrease in product quality.

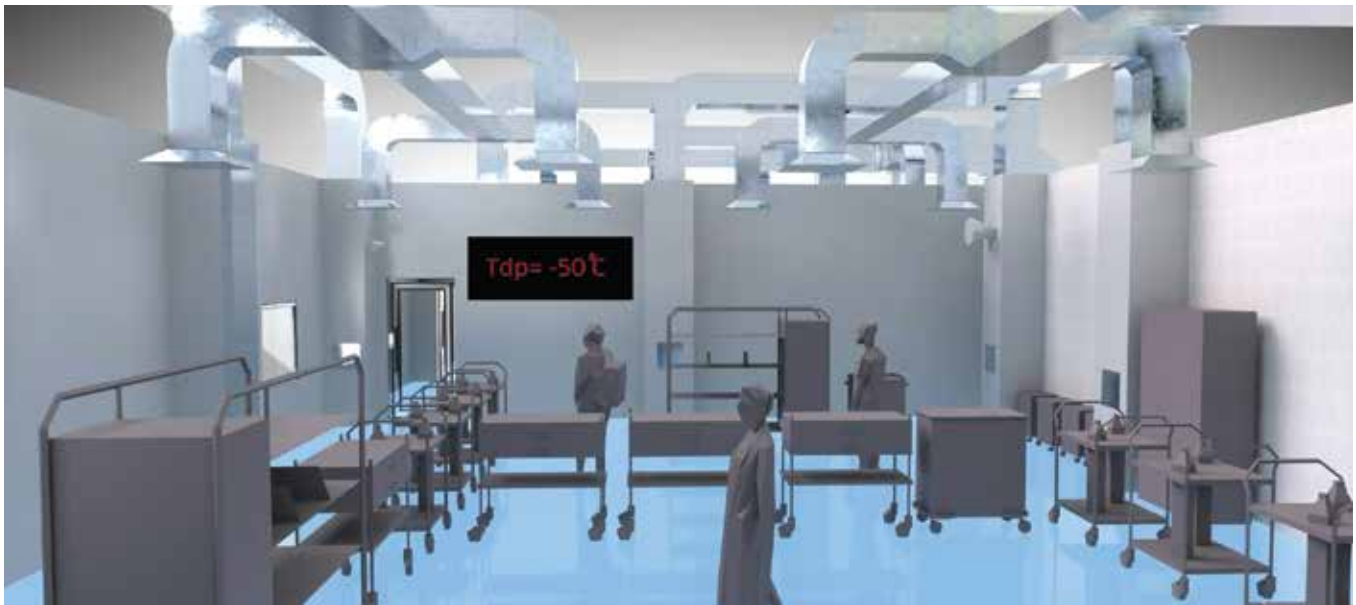
Building an ultra-dry room requires a very high level of expertise and knowledge on the subject. Experience and technical know how of heat load and moisture load calculation is needed.

Critical Considerations

Moisture Loads That Affect the Room

These points need to be taken into consideration when designing any climate and humidity controlled room.

- _____
- People
- _____
- Air Lock Infiltration
- _____
- Make Up Air Load
- _____
- Openings in the Envelope
- _____



“ Humiscope offered strong technical support during the inquiry and tender process which provided confidence in the technical knowledge of the company. They worked well to overcome technical challenges presented with a space constrained project site.

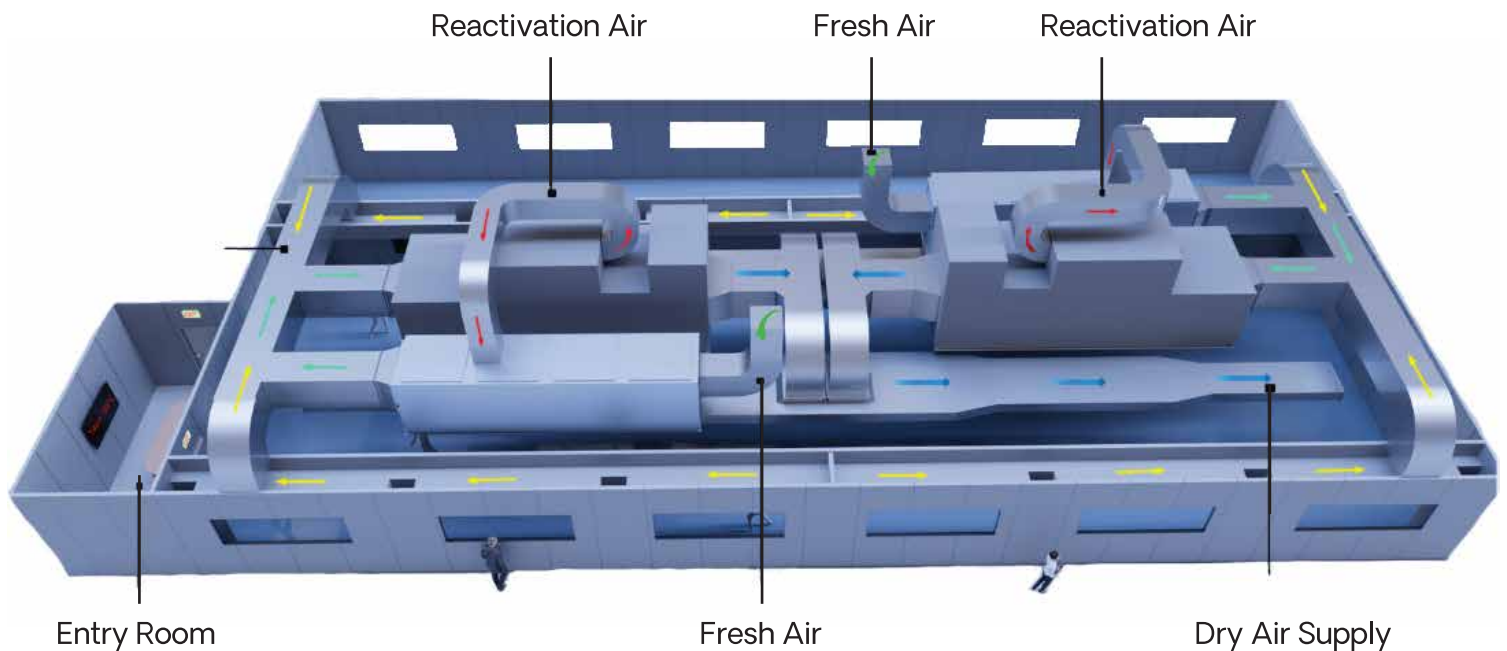
- Dallas Garratt, GM Operations - Cap-XX Australia (Low Dew Point Room)

A low dew point, ultra-dry room creates and maintains the optimal temperature and humidity for achieving low dew point control for hygroscopic and moisture sensitive material.

Critical Requirements

Manufacturing lithium-ion batteries is a technical process and is to be done under very low humidity conditions, typically below 1%RH and -35° to -40° dew point and must also be a low particle environment.

To control humidity in lithium battery processing, vapour sealed dry rooms were developed that allowed manufacturing to take place in extreme dryness, with very low humidity and provided particle filtration for cleanliness.



Humiscope is the only Australian owned and operated company offering turnkey solutions for low dew point, ultra-dry rooms.

We are a group of engineers, technicians and draftsmen dedicated to our clients and committed to providing energy efficient indoor environment systems; from simple applications to specially engineered solutions.

3D Models and Renders

Our interactive designs are produced to engineer appropriate air treatment solutions to best suit your requirements. Aesthetically speaking, the low dew point units can be located indoors or outdoors.



Convert an Existing Space

Our high quality equipment including European manufactured industrial dehumidification systems, is installed onsite and seamlessly retrofitted with your current equipment.



Industry standards for ultra-dry rooms are at a dew point of -40°C . However, we have delivered ultra dry rooms capable of -55°C and we have the best technology for the potential demands of the future.

Room Inclusions

Superior quality insulated and fire retardant panels.

Vapour sealed rooms with HEPA filters.

Entrance door with air lock.

Dew point meter and dewpoint sensor controller.

Anti-static flooring if required.

European made low dew point Desiccant Dehumidifiers

Chilled water or glycol system for room cooling

Ducting return and supply air grills.

Digital scanning and 3D modelling for design.

Electrical systems

Circuit breaker panel

GFI outlets

Lighting

Service Inclusions

End-to-end design through interactive processes

Construction and Installation

Commissioning of equipment

Remote monitoring

Ongoing monitoring and support

“ Our manufacturing business has been using Humiscope for several years. They are always responsive & professional. Recently they completed a significant project for us & it was delivered on time and to a very professional standard. I have no hesitation in recommending Humiscope.

~ Hygroscopic Powder Manufacturer

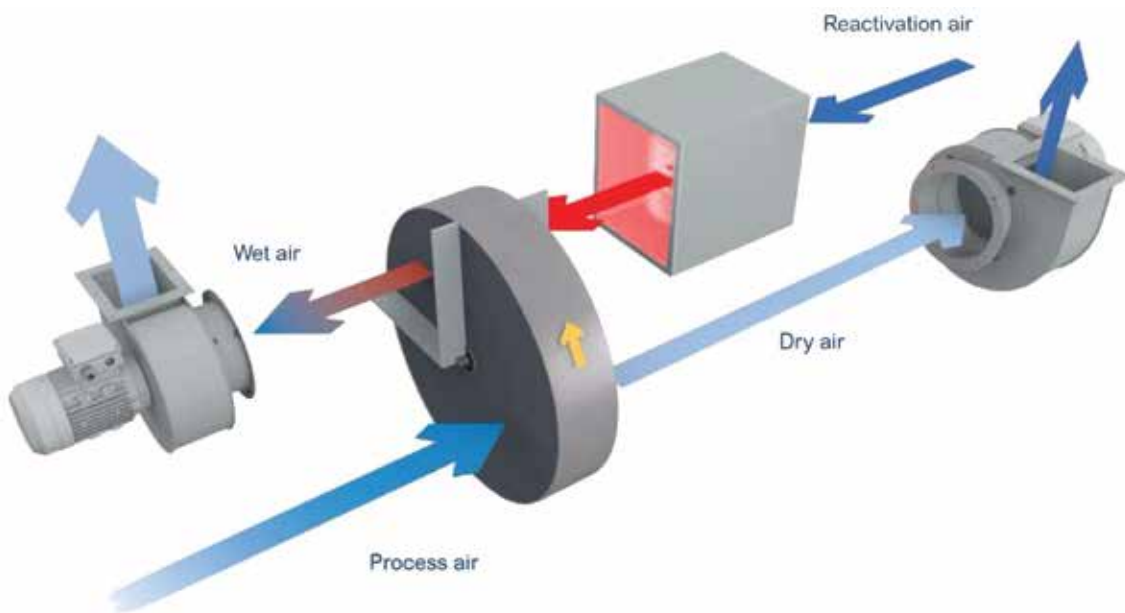
A desiccant dehumidification system provides a source of cool, dry air and allows the room to operate under positive air pressure while preventing moisture from entering the space.

Desiccant Dehumidifiers

Desiccant dehumidifiers work by passing air through a rotating desiccant wheel to extract moisture from the air. They achieve humidity levels below 35% and have proven themselves to reduce both operating costs and energy consumption.

Industrial Desiccant Dehumidifiers

Industrial dehumidification units have a thicker rotor and a high impermeability to air and water vapour due to rubber gaskets. They control humidity in the room and reach a very low dew point of -30°C to -60°C .



Humiscope are leaders in dehumidification technology. We custom design desiccant dehumidifiers to the precise specifications required for your low dew point application.



We understand the critical
nature of our clients'
processes and solve
indoor climate
challenges
in ways our
competitors cannot

Master your indoors



Our services



Design and Installation

We are experts in designing, building and installing state-of-the-art climate control systems and environments. We always begin the process with a friendly, obligation free chat. We provide a full evaluation of your operation and offer suggestions and advice. Respecting your vision and budget.

We are with you all the way including post installation data logging, tweaks and check ins. Our systems will provide stress free humidity control, allowing you to focus your attention on other matters.

We don't just provide solutions, we work with you as a partner to fully understand what you're trying to achieve.

" We're very happy with the outcome. Drying times were reduced by 50%. Essentially we created our own climate. ~ Peter Schulte, Managing Director Schultes Meat

Dehumidifier Hire

Whether the application is a temporary project or being able to test the technology before investing, renting is a risk-free option. Some temporary projects we have provided rental units for:

- Sand blasting
- Bridge restoration
- Flood restoration
- Freezers
- Transformer repair

From low dew-point applications to large air flow volumes in larger spaces, our rental fleet is highly versatile. There are many configuration options and easy customisation for easy application.

" I just want to say a big thank you for your efforts and help in getting the rental dehumidifier to Narrabri. ~ Neil Rattray, Supervisor, BSA

Service & Maintenance

With over 35 years' experience we are able to service any brand dehumidifier regardless of make or model. We can identify where improvements can be made so you can optimise equipment and system reliability and preserve your investment.

Call us - obligation free and we can talk through your specific concerns and suggest some solutions that would work best for you.

" Katherine was terrific! Nothing was too much trouble, and she couldn't have been more helpful. " ~ Peter Schulte, Managing Director, Schulte's (drying room)

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Head Office

Ph: 1300 686 822
1/121 Olympic Circuit,
Southport, QLD, 4215

NSW Office

Ph: 02 9188 4371

VIC Office

Ph: 03 9088 3941

WA Office

Ph: 08 6558 1251