DESICCAT AIR DRYERS FOR SIMPLE RELIABILITY
CD series / AD series / BD series (360-1600 l/s, 763-3392 cfm)
The right desiccant dryer for your application

A dry compressed air system is essential to maintain the reliability of production processes and the quality of your end products. Untreated air can cause corrosion in pipe work, premature failure of pneumatic equipment, and product spoilage. Atlas Copco’s desiccant dryers produce dry compressed air in a reliable and energy-efficient way while protecting your systems and processes.

WORKING PRINCIPLE
Desiccant dryers or twin tower dryers consist of two towers filled with desiccant such as activated alumina or silica gel. While one tower is drying compressed air, the other is being regenerated. Desiccant dryers can achieve dewpoints of down to -40°C/-40°F and -70°C/-100°F.

WHY DESICCANT DRYERS?
- Robust design.
- Total reliability.
- A constant, stable dewpoint in full load conditions.
HIGH RELIABILITY
Compressed air entering the air net is always 100% saturated. When it cools, the moisture will condense, causing damage to your air system and finished products. Removing moisture from compressed air with a pressure dewpoint as low as -40°C/-40°F, Atlas Copco desiccant dryers eliminate system failures, production downtime and costly repairs.

COMPETITIVE PERFORMANCE
A dewpoint down to -40°C/-40°F together with simple and easy controls guarantee the dryer operates in the best way possible.

GOOD EFFICIENCY
Properly sized pipes and valves ensure a limited pressure drop. Several options are available to increase the efficiency and to reduce the energy consumption.

LIMITED MAINTENANCE
Atlas Copco dryers have a small footprint thanks to the all-in-one design. Delivered ready for use, installation is straightforward, minimizing costly production downtime. All internal components are easily accessible to facilitate maintenance. The use of high-grade desiccant and high-quality valves results in three-year maintenance intervals.

ASSURING YOUR PEACE OF MIND
Through continuous investment in our competent, committed and efficient service organization, Atlas Copco ensures superior customer value by maximizing productivity. With a presence in over 170 countries, we offer professional and timely service through interaction and involvement. Uptime is guaranteed by dedicated technicians and 24/7 availability.
How does a desiccant dryer work?

Wet air passes directly through the desiccant medium which adsorbs the moisture. The desiccant medium has a finite capacity for adsorbing moisture before it must be dried out, or regenerated. To do this, the tower containing saturated desiccant medium is depressurized and the accumulated water is driven off. How this happens depends on the type of desiccant dryer:

- Heatless dryers use only compressed air as a purge.
- Blower purge dryers use a combination of air from an external blower, heat and minimal compressed air.

HEATLESS DESICCANT DRYERS

The drying process

- Wet compressed air flows upward through the desiccant which adsorbs the moisture, from bottom to top (1).

The regeneration process

- Dry air from the outlet of the drying tower is expanded to atmospheric pressure and sent through the saturated desiccant, forcing the adsorbed moisture out (2) (4).
- After desorption, the blow-off valve is closed and the vessel is re-pressurized.

Switching

- After regeneration, the functions of both towers are switched (3).
HEATED PURGE DESICCANT DRYERS

The drying process

- Wet compressed air flows upward through the desiccant which adsorbs the moisture, from bottom to top (1).

The regeneration process

- Dry air from the outlet of the drying tower is expanded to atmospheric pressure (4) and sent over the heater (5). The heated air is then sent through the saturated desiccant (2) forcing the adsorbed moisture out, from top to bottom.
- After the heating process, the hot tower desiccant is cooled. Cooling is done by expanding dry compressed air from the outlet over the hot reactivated tower, from top to bottom.

Switching

- After regeneration, the functions of both towers are switched (3).

BLOWER PURGE DESICCANT DRYERS

The drying process

- Wet compressed air flows upward through the desiccant which adsorbs the moisture, from bottom to top (1).

The regeneration process

- The blower (5) takes ambient air and blows it over the external heater (6). The heated air is then sent through the saturated desiccant (2), forcing the adsorbed moisture out, from top to bottom.

Cooling

- Purge: After the heating, the hot tower desiccant is cooled. Cooling is done by expanding dry compressed air from the outlet of the adsorbing vessel over the hot reactivated tower, from top to bottom.

Switching

- After regeneration, the functions of both towers are switched (3).
High-quality desiccant
- Reliable high adsorption capacity desiccant for maximum performance.
- Pressure dewpoint of -40°C/-40°F.

Butterfly valves
High-performance butterfly valves with actuators ensure long lifetime.

Galvanized piping with flanged connections
- Flanged piping simplifies maintenance and minimizes the chance of leakages.
- Properly sized piping.

Filters
- Pre-filter(s) protect desiccant against oil contamination, increasing the lifetime of the desiccant.
- After-filter protects the network against desiccant dust, avoiding network contamination.
- Mounted directly on the inlet and outlet of the dryer, for easy assembly.

Cubicle
- IP 54 protected.
- Electronic control board.
- Time-based steering.
- Load/unload freeze contact.

Robust and compact design
- Standard frame, including forklift slots and lifting eyes for easy handling.
- Vessel connecting flanges are integrated into the top and bottom shells, lowering the total unit height.

Check valve
- Nickel-plated.
- Wafer type.
- With integrated fixed nozzle.
1. High-quality desiccant
   - Reliable high adsorption capacity desiccant for maximum performance.
   - Pressure dewpoint of -40°C/-40°F.

2. Butterfly valves
   High-performance butterfly valves with actuators ensure long lifetime.

3. Galvanized piping with flanged connections
   - Galvanized piping simplifies maintenance and minimizes the chance of leakages.
   - Properly sized piping.

4. Low-watt density heater
   - Stainless steel design to ensure long lifetime.
   - Nickel-plated heater pipe protects against corrosion.
   - Heater is installed in an insulated heater pipe to assure the most energy-efficient setup.

5. Filters (optional)
   - Pre-filter(s) protect desiccant against oil contamination, increasing the lifetime of the desiccant.
   - After-filter protects network against desiccant dust, avoiding network contamination.
   - Mounted directly on the inlet and outlet of the dryer, for easy assembly.

6. Advanced control and monitoring system
   - Fitted inside a real IP54 cubicle for easy cabling and safety.
   - Monitoring of all parameters to ensure maximum reliability for your installation.

7. Robust and compact design
   - Standard frame, including forklift slots and lifting eyes for easy handling.
   - Vessel connecting flanges are integrated into the top and bottom shells, lowering the total unit height.

8. Check valve
   - Nickel-plated.
   - Wafer type.
Industrial performance

1. **High-quality desiccant**
   - Reliable high adsorption capacity desiccant for maximum performance.
   - Pressure dewpoint of -40°C/-40°F.

2. **Butterfly valves**
   High-performance butterfly valves with actuators ensure long lifetime.

3. **Galvanized piping with flanged connections**
   Galvanized and properly sized piping simplifies maintenance and minimizes the chance of leakages.

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   - Fitted inside a real IP54 cubicle for easy cabling and safety.
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7. **Robust and compact design**
   - Standard frame, including forklift slots and lifting eyes for easy handling.
   - Vessel connecting flanges are integrated into the top and bottom shells, lowering the total unit height.
Atlas Copco’s Elektronikon® control and monitoring system takes continuous care of your AD or BD desiccant dryer to ensure optimal productivity and efficiency at your site.

**Advanced control and monitoring**

Available in 32 languages, this graphical 3.5-inch high-definition color display with pictograms and LED indicators for key events is easy to use. The keyboard is durable to resist tough treatment in demanding environments.

**USER-FRIENDLY INTERFACE**

Valuable items of information displayed include the ServicePlan indicator and preventive maintenance warnings.

**CONTROL AND MONITORING**

**Internet-based visualization**

The Elektronikon® system monitors and displays key parameters such as dewpoint, vessel pressure and inlet temperature, and includes an energy-savings indicator. Internet-based visualization of your dryer is possible by using a simple Ethernet connection.

**AIRConnect™**

AIRConnect™ is an optional advanced remote monitoring package that offers complete analysis and accurate management. It is fully customizable to meet specific customer needs, from simple alarm notification via email or SMS to visualization via fieldbus, LAN or internet, including advanced reporting services.

**COMPREHENSIVE MAINTENANCE DISPLAY**

Internet-based visualization

The Elektronikon® system monitors and displays key parameters such as dewpoint, vessel pressure and inlet temperature, and includes an energy-savings indicator. Internet-based visualization of your dryer is possible by using a simple Ethernet connection.

**AIRConnect™**

AIRConnect™ is an optional advanced remote monitoring package that offers complete analysis and accurate management. It is fully customizable to meet specific customer needs, from simple alarm notification via email or SMS to visualization via fieldbus, LAN or internet, including advanced reporting services.
Optimize your system

SCOPE OF SUPPLY

<table>
<thead>
<tr>
<th>Inlet air flange</th>
<th>Exhaust silencer</th>
<th>Outlet air flange</th>
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<tr>
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ADDITIONAL FEATURES & OPTIONS

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- : Not available  ○ : Optional
### Technical specifications

#### HEATLESS DESICCANT DRYERS

<table>
<thead>
<tr>
<th>DRYER TYPE</th>
<th>Inlet flow</th>
<th>Pressure drop (excluding filters)</th>
<th>Inlet/outlet connections</th>
<th>Filter sizes (recommended)</th>
<th>Dimensions</th>
<th>Weight</th>
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#### HEATED PURGE DESICCANT DRYERS

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<th>Average power consumption</th>
<th>Pressure drop (excluding filters)</th>
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<th>Filter sizes (recommended)</th>
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#### BLOWER PURGE DESICCANT DRYERS

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**Reference conditions:**
- Compressed air inlet temperature: 35°C/100°F
- Inlet relative humidity: 100%
- Dryer inlet pressure for 11 bar variants, after inlet filtration.
COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.