



Twin Tower Heatless Desiccant Dryers

Engineered for maximum reliability,
long life, and easy service access



Energy efficient compressed
air treatment

AX_T-Series

Reliable heatless desiccant dryers



Premium in-house air treatment manufacturing

A modern production system and process demands increasing levels of air quality, and compressed air operators need to ensure that the downstream equipment also delivers on it 100%.

The new downstream portfolio manufactured by CompAir utilising the latest technology provides an energy efficient solution at the lowest life cycle costs. The same quality, performance, and efficiency standards delivered by the compressors can now be enjoyed from the air treatment range.

Investment in our manufacturing site, in addition to the support teams, ensures that compressed air operators don't need to worry about the quality of their compressed air – quality that is key to ensuring maximum production efficiency and investment protection.

Applications and industries

CompAir's AX-Series are used in a variety of industries where negative PDP is required and are suited to a range of ISO Class 3, 2, and 1 applications in the manufacturing, packaging, textile, food & beverage, and transport industries, to name a few.

Why choose a desiccant dryer?

Compressed air purification must deliver uncompromising performance and reliability whilst providing the right balance of air quality with the lowest cost of operation. Heatless desiccant dryers are the simplest type of desiccant dryer available and have long been the dryer of choice for many industries and applications. They are simple, reliable, and cost-effective solutions for small to medium flow systems, often the only viable technology available.

Air Quality Recommended Standards		
High Quality Air Applications	ISO Class	Pressure Dew Point
Air bearings	3	-20°C
Instrument Air	3	-20°C
Sand blasting	3	-20°C
Air gauging	2	-40°C
Spray painting	2	-40°C
Chemical Process - Oxydation, Ammonia Production	2	-40°C
Conveying, powder products	2	-40°C
Fluidics, sensors	2	-40°C
Food & beverages, direct air contact	2	-40°C
Micro-electronics manufacture	1	-70°C
Clean room processing air - blanketing	1	-70°C
Food & beverage - packaging, forming	1	-70°C
Photographic film processing	1	-70°C

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Heatless desiccant dryers are the simplest type of adsorption dryer available and have long been the dryer of choice for many industries and applications.

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Desiccant operating principle

Desiccant dryers work on the principle of moisture always migrating to the driest medium possible. Therefore, water vapour is removed from compressed air by passing it over an adsorbent desiccant material. As the air contacts the adsorbent material, water vapour transfers from the wet air to the dry desiccant, however, adsorbent materials have a fixed adsorption capacity and once this capacity is reached, they must be regenerated or replaced.

Therefore, to provide a continuous supply of clean, dry compressed air, adsorbent dryers utilise two chambers of desiccant material and at any one time, whilst one chamber is on-line, drying the incoming compressed air, the other is either off-line, being regenerated or is re-pressurised, ready to come on-line. All heatless desiccant dryers remove water in this manner.

The energy consumed by a desiccant dryer can be directly attributed to the method used to regenerate the adsorbent material. The CompAir AX-Series dryers utilise the heatless method to regenerate the adsorbent material.

Advantages at a glance:

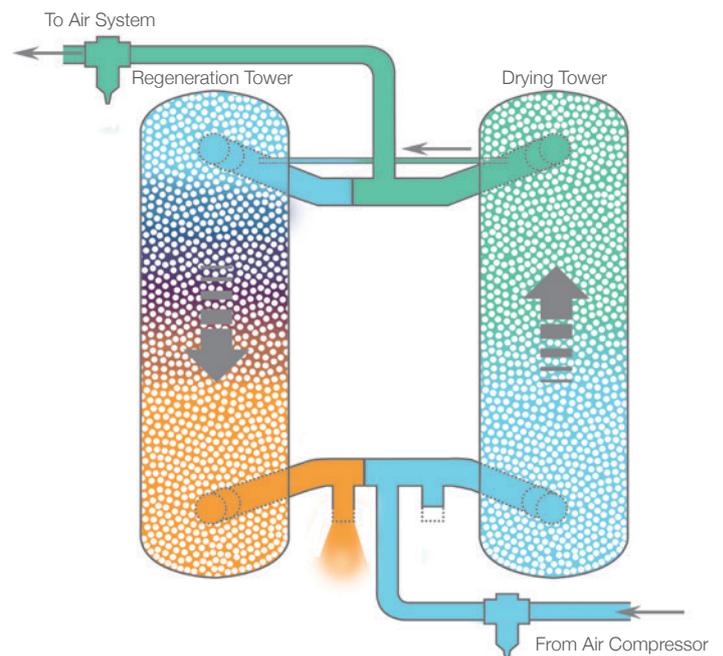
- ▶ **High Reliability** - proven technology used in thousands of applications and installations worldwide.
- ▶ **Low Capital Investment** - large range available for precise sizing to suit your needs.
- ▶ **High Air Quality** - pre and post filter included, helping you to meet stringent air quality requirements.
- ▶ **Energy Efficient** - with the optional high efficiency Energy Management System (EMS) offers even greater efficiency.

AX-Series technology

The CompAir AX-Series uses twin desiccant towers and strategically positioned valves to dry the compressed air.

The compressed air produced is thoroughly dried as it is directed through the on-line desiccant-filled tower of the dryer. As the desiccant in this tower adsorbs moisture from the air, the desiccant in the dryer's off-line tower is purged of moisture and readied for use.

The heatless dryer diverts a portion of the dried compressed air to the off-line tower. This dry air then flows through and regenerates the desiccant. The purge air, now moisture laden, is harmlessly exhausted through a muffler to the atmosphere. This technology requires a small portion of the dried compressed air to be diverted from the air system for desiccant regeneration.



Delivering reliability, performance, and customer value

CompAir AX-Series desiccant dryers deliver a comprehensive, cost-effective solution to multiple applications across a wide range of sectors and is engineered for easy access, energy efficiency, and a long service life.

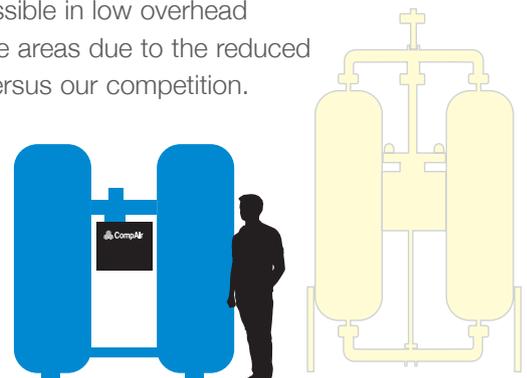
CompAir AX-Series features are your benefits

- ▶ **Maximum reliability** - Robust valves ensure consistent and reliable dryer operation.
- ▶ **Robust switching and purging valves** - Switching valves are normally open, while purge valves are normally closed to allow air flow through the dryer in case of power loss. Valves are designed for a high working cycle and long life. Purge valves are also provided with position indicators to facilitate performance check.



High cycle purge valve with position indicator.

- ▶ **High performance valves** - Switching and purging valves provide quick response and are designed for high cycle, long life. Butterfly valves have stainless steel disc for high resistance. Purge valves are provided with position indicators for performance monitoring.
- ▶ **Low life costs** - Intelligent performance check protects uptime whilst lowering total cost of ownership.
- ▶ **External solenoid valves** - Easily accessible control air solenoid valves for easy service. New valves also feature manual override to facilitate performance check. Plus, a new push to test feature allows the controller program to energise individual solenoid valves to aid in diagnosing valve-related issues.
- ▶ **Low profile design** - Our low profile design provides easy access to key maintenance points at operator level for faster servicing and less downtime. The lower silhouette also allows upright shipment (whilst minimising shopping costs) and facilitates simpler installation. Installation is even possible in low overhead clearance areas due to the reduced height versus our competition.



Low profile design

Traditional design

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Intelligent performance monitoring protects uptime whilst lowering total cost of ownership

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Side-mount inlet and outlet manifolds -

Side mounted upper and lower manifolds provide unobstructed access to all valves for unmatched serviceability compared to competitive designs.

Quick Return of Investment (ROI) with optional Energy Management System (EMS)

EMS can significantly reduce operating cost by limiting purge air consumption in proportion to moisture loading on dryer. It uses ceramic sensor technology that provides the fastest documented response to dew point changes. Through energy management, your ROI can be less than one year! Available in all models and configurations.

CF-Series filters

Prefilter and afterfilter Included in standard scope of supply.

Prefilter – High efficiency prefilter also does particle removal down to 0.01 micron. Maximum remaining oil aerosol content of 0.01 mg/m³ at 21°C, protecting and extending the life of the desiccant bed.

Afterfilter – Heavy duty afterfilter provides Class 2 particulate air downstream, ensuring high quality downstream air for the customer.

Includes differential pressure gauge for easy monitoring and guarantees certified performance.

Protects your investment

Effective protection for dryer and downstream processes.



Precision control for optimised performance



From models AX167TL to AX1417TL

Digital controller mounted on AX167TL and above features intuitive interface with simple navigation enhances ease of use

The CompAir AX_T-Series new digital controller features a large backlit LCD display with user friendly interface and dedicated navigation pad. The optimised control provides precise sequencing of all pneumatic valves, whilst the LCD display is easy to read under all lighting conditions.

The default summary screen provides the status of dryer operation as well as the alarm status, offering a quick visual indicator of overall dryer performance, tower status, and alarm annunciation.

Other features include:

- Modbus RS-485 Ready
- User-adjustable Baud Rate to integrate into wide variety of DCS systems
- Remote Alarm Contact

Proactive maintenance ensures dryer reliability and customer productivity

Preventative maintenance reminders alert users to critical preventative maintenance intervals to ensure consistent, uninterrupted service. This offers peace of mind for users to ensure their operation will continue to run smoothly. Alerts are based on running hours and customers receive maintenance alerts for filter element change outs, desiccant change outs, as well as muffler replacements.

The controller also allows for simple field program revisions via SD card.

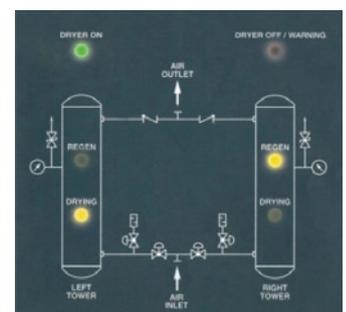


From models AX67TF to AX150

Status panel for ease-of-use

Mounted on AX167TL and above. Provides easy-to-understand visual indication of dryer status.

- Includes Red LED alarm indicator
- Schematic diagram of dryer piping



Technical Data

AX_T-Series

Model	Connection size	Capacity		Weight	Dimensions		
		[m ³ /hr]	[m ³ /min]		[mm]		
				[kg]	Length	Width	Height
AX67TF	1 ½"	400	6.7	285	2160	825	530
AX83TF	1 ½"	500	8.3	400	2380	796	550
AX125TF	2"	750	12.5	520	2117	970	620
AX150TF	2"	900	15.0	700	2305	970	620
AX167TL	2"	1000	16.7	828	2131	1440	1035
AX267TL	3"	1600	26.7	1440	2185	1928	1460
AX333TL	3"	2000	33.3	1500	2185	1928	1460
AX417TL	DN100 PN16	2500	41.7	1800	2041	1982	1530
AX550TL	DN100 PN16	3300	55.0	2300	2349	2132	1652
AX767TL	DN100 PN16	4600	76.7	2654	2349	2132	1652
AX933TL	DN150 PN16	5600	93.3	2950	2535	2438	1791
AX1133TL	DN150 PN16	6800	113.3	3360	2535	2438	1791
AX1417TL	DN150 PN16	8500	141.7	4400	2344	2677	1945

Standard features include:

- High Efficiency Pre Filter and Dust Filters
- IP54 electrical enclosure
- Digital controller
- Tower pressure gauges
- Colour change moisture indicator



Optional features include:

- Energy Management System (EMS) with dew point display
 - Fail-to-Shift alarm - Monitors the dryer sequencing functions to ensure proper dryer operation by sensing the pressure in each tower, sending an alarm in case of anomalies. This option is available from models 1000m³/h and above
 - IP65 electrical rating plus stainless steel control box
 - 4-20 mA signal (requires EMS) is available should you need to get 4-20mA to your SCADA system
 - Different tower vessels design code
 - Stainless steel control air tubing
 - Filter monitoring - Differential pressure switches installed on filter monitor performance. Display options include analog and digital
 - -70°C pressure dew point
 - No air loss drain for filters with alarm
 - Marine paint
- ...full options list available

Global experience – truly local service

With over 200 years of engineering excellence, the CompAir brand offers an extensive range of highly reliable, energy efficient compressors, dryers and accessories to suit all applications.

An extensive network of dedicated CompAir sales companies and distributors across all continents provide global expertise with a truly local service, ensuring our advanced technology is backed up with the right support.

CompAir has consistently been at the forefront of compressed air systems development, culminating in some of the most energy efficient and low environmental impact compressors on the market today, helping customers achieve or surpass their sustainability targets.



CompAir compressed air product range

Advanced Compressor Technology Lubricated

- Rotary Screw
 - > Fixed and Regulated Speed
- Piston
- Portable

Oil-Free

- Water Injected Screw
 - > Fixed and Regulated Speed
- Two Stage Screw
 - > Fixed and Regulated Speed
- Piston
- High Speed Centrifugal - Quantima®
- Rotary Scroll

Complete Air Treatment Range

- Filter
- Refrigerant and Desiccant Dryer
- Condensate Management
- Heat of Compression Dryer
- Nitrogen Generator

Modern Control Systems

- CompAir DELCOS Controllers
- SmartAir Master Sequencer
- iConn - Smart Flow Management

CompAir policy is one of continuous improvement and we therefore reserve the right to alter specifications and prices without prior notice. All products are sold subject to the Company's conditions of sale.

Value Added Services

- Professional Air Audit
- Performance Reporting
- Leak Detection

Leading Customer Support

- Custom Engineered Solutions
- Local Service Centres
- Genuine CompAir Parts and Lubricants