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**L I N G Y U 凌 宇**

**ENERGY-EFFICIENT. PURE AIR.**

**PROFESSIONAL SERVICE PROVIDER FOR COMPRESSED AIR  
PURIFICATION AND SEPARATION**

# ABOUT US



注：上图依次为新工厂鸟瞰图、新工厂办公大楼及生产车间

## GUANGDONG LINGYU ENERGY EQUIPMENT CO., LTD.

- Established in 2009 in Guangdong Province, China.
- Drafting Organization for 30+ National, Industry, and Association Standards; Holder of 30+ Patents
- Recognized as a National High-Tech Enterprise, a Guangdong Specialized, Sophisticated, Distinctive and Innovative (SRDI) Enterprise, a Guangdong Innovative SME, and a Grade-A Tax Credit Enterprise
- Annual sales exceeded RMB 100 million in 2021, with an average annual growth rate of over 25% during the past three years
- Specializing in compressed air purification and separation technologies, with integrated capabilities in R&D, manufacturing, sales, and service
- Jointly established research institutes and comprehensive laboratories with Southwest Petroleum University and Jiangsu University of Science and Technology, respectively
- Council Member of the Compressor Branch and the Gas Purification Equipment Branch of the China General Machinery Industry Association (CGMA)
- Operating approximately 40,000 m<sup>2</sup> of manufacturing facilities, with a workforce of over 300 employees
- Supported by a comprehensive sales and service network, with dedicated departments for domestic channel sales, international sales, and after-sales service, and more than 40 sales and after-sales service locations

## CORE BUSINESS CONCEPTS



# DEVELOPMENT CHRONICLES



### BROAD PROSPECTS 2022 - Present

- 2022 – Ranked No. 1 in Zhongshan in the Energy Conservation & Environmental Protection Category of the China Innovation & Entrepreneurship Competition.
- 2022 – Established a joint research institute with Southwest Petroleum University.
- 2023 – Established a joint dryer laboratory with Jiangsu University of Science and Technology.
- Launched and mass-produced the 3rd-generation DB Series energy-saving refrigerated air dryer.
- 2023 – Won the Bronze Award at the National Machinery Industry Design Innovation Competition.
- 2024 – Won the Silver Award at the National Machinery Industry Product Quality Innovation Competition.
- A new 40,000 m<sup>2</sup> smart factory was completed and put into operation, further expanding production capacity.

### HIGH QUALITY 2019-2021

- Increased R&D investment with a focus on the energy-saving market.
- Recognized as a Guangdong SRDI Enterprise.
- Annual sales exceeded RMB 100 million in 2021.
- Featured on CCTV's Brand Origin program.
- Refrigerated and desiccant air dryers passed product quality and safety certification.
- Launched a new corporate VI system.

### UPGRADE 2016 -2018

- Continued to host the China Compressor Industry High-End Energy-Saving & Intelligent Technology Forum.
- General Manager Yan Wenxue was interviewed by CCTV's National Brand Program.
- Obtained 24+ utility model patents.
- Blower-heated and heat-of-compression dryers were certified as High-Tech Products.
- Recognized as a National High-Tech Enterprise for the first time.
- Established a nationwide sales and service network.

### INCREASING SCALE 2013 -2015

- Refrigerated air dryers and other products received High-Tech Product Certification for the first time.
- Lingyu became the exclusive permanent co-organizer of the South China Air Compressor Exhibition.
- Shifted strategic focus toward mid-to-high-end products.
- Introduced "Craftsmanship" as a core concept for Lingyu's premium brand positioning.
- General Manager Yan was interviewed by Dongsheng TV on "Building the Brand, Caring for Employees."

### EARLY DEVELOPMENT 2009 -2012

- Obtained the National Industrial Product Production License.
- Launched sheet metal and heat exchanger workshops and a new assembly workshop.
- Obtained a design patent for product design.
- Established the first regional office in Kunshan.
- Achieved ISO 9001 Quality Management System Certification.

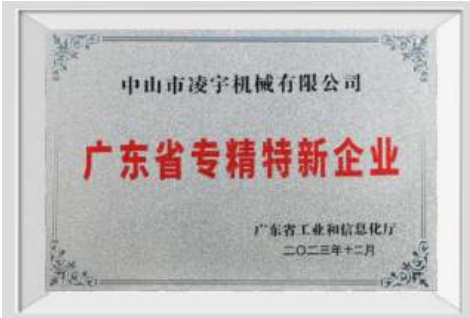
Creating a world-renwned brand



# CORPORATE HONORS



High-Tech Enterprise



Specialized and Sophisticated Enterprise



Credit Rating AAA Enterprise



AAA Quality Service Enterprise



GCCA Product Quality Safety Certificate(Refrigerated Air Dryer)



GCCA Product Quality Safety Certificate(Adsorption Air Dryer)



ADSORPTION COMPRESSED AIR DRYER CE CERTIFICATE



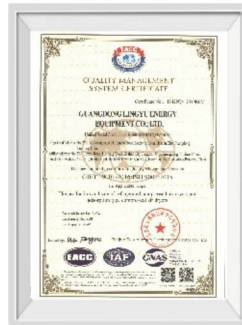
REFRIGERATED COMPRESSED AIR DRYER CE CERTIFICATE



COMBINED COMPRESSED AIR DRYER CE CERTIFICATE



Accumulated 30+ Patent Certificates



ISO 14001 Environmental Management System Certification,ISO 9001 Quality Management System Certification,ISO 45001 Occupational Health & Safety Management System Certification

**Corporate Mission**  
To provide professional, comprehensive, and competitive solutions and services for compressed air purification and separation.

**Corporate Vision**  
To become an industry leader and build a globally recognized brand.

**Development Philosophy**  
Technology-Driven · Value-Oriented

**Brand Values**  
Professional · Reliable · Service-Focused

**Market & Sales Strategy**  
Win the market through premium-quality products and professional service.



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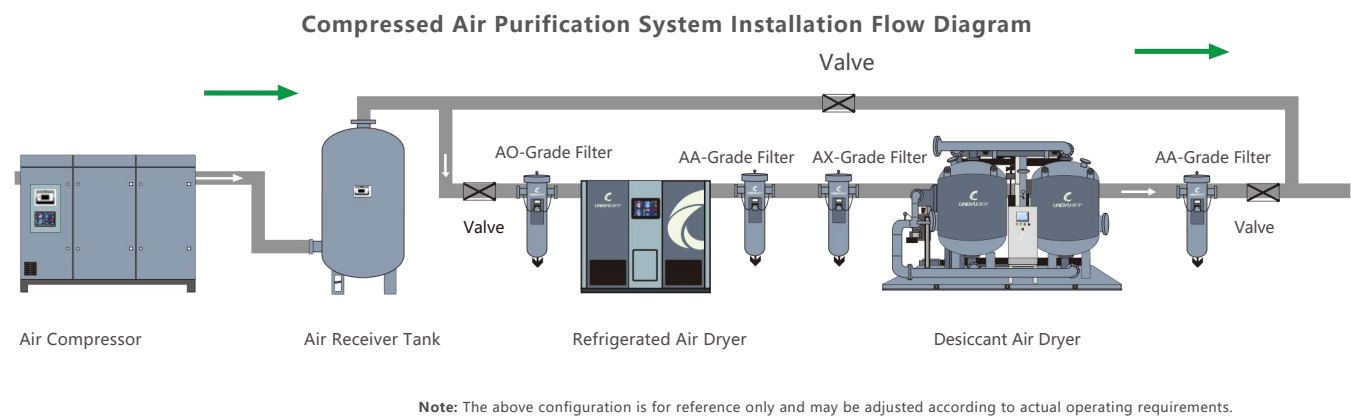
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# 01 Compressed air purification system

Compressed air is an essential source of power for industrial applications and production processes. To ensure reliable operation and prevent production downtime, compressed air must be clean, dry, and oil-free.

Compressed air is produced by compressing large volumes of ambient air, which naturally contains contaminants such as dust particles and moisture in the form of water vapor. When combined with oil introduced by the air compressor, these contaminants can form harmful and corrosive emulsions, leading to equipment failure, production downtime, and significant economic losses.



## QUESTION 1:COMPRESSED AIR MOISTURE

■ Purification solutions:Refrigerated air dryer,desiccant air dryer,adsorption dryer

### Types of Contamination

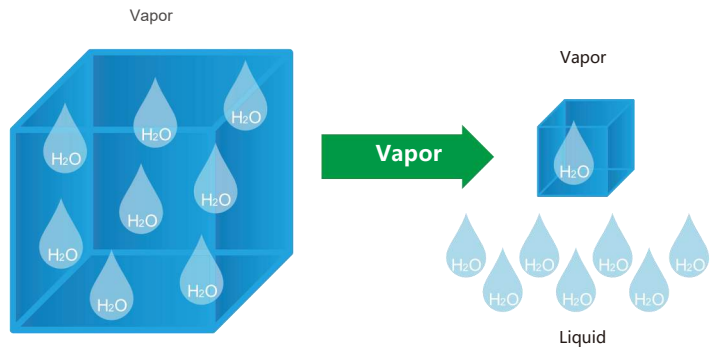
Liquid Water · Water Vapor

### How Is the Contamination Formed?

When air is compressed, the amount of water contained per cubic meter increases.At any given temperature, air can hold only a limited amount of water vapor.As the air continues to be compressed, excess moisture condenses into liquid water.

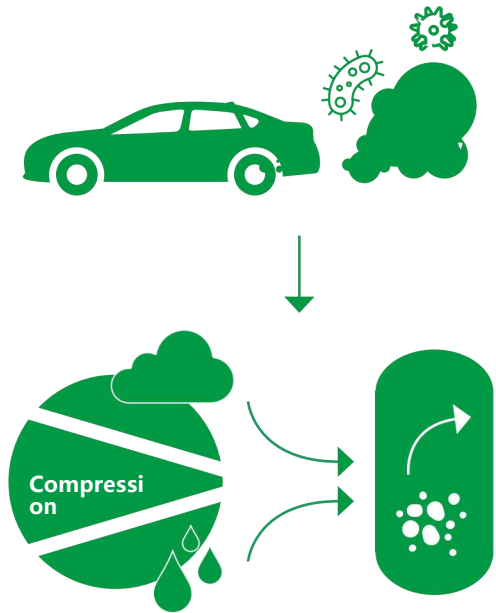
### What Problems Can It Cause?

Pipeline corrosion  
Reduced final product quality  
Control system failures  
Freezing



## Problem 2: Oil Contamination in Compressed Air

■ Lingyu Solution: Refrigerated Air Dryers, Oil Removal Filters, Oil-Water Separators, High-Efficiency Oil Removal Systems, etc.



**Types of Contamination:** Liquid Oil · Oil Vapor

### What Problems Can Oil Contamination Cause?

- Damage to production equipment, resulting in product defects, reduced productivity, and increased costs
- Air pollution, creating an unhealthy working environment
- Deposits and blockages in compressed air pipelines

### How Is Oil Contamination Formed?

Oil-lubricated compressors may introduce lubricating oil into the compressed air system. In addition, oil vapors from vehicle exhaust and industrial emissions present in the ambient air can be drawn into the compressor and enter the compressed air system.

## Problem 3: Solid Particle Contamination in Compressed Air

■ Lingyu Solution: Dust Removal Filters · Self-Cleaning Filters

**Types of Contamination:** Dust · Pipeline Contaminants

### How Is the Contamination Formed?

Solid contaminants may come from airborne dust and particles drawn into the compressor, desiccant dust from adsorption dryers, and metal particles from compressed air pipelines.

### What Problems Can It Cause?

Damage to production equipment, resulting in product defects, reduced productivity, and increased operating costs.



# 01 Compressed air purification system

## What Is Saturated Air?

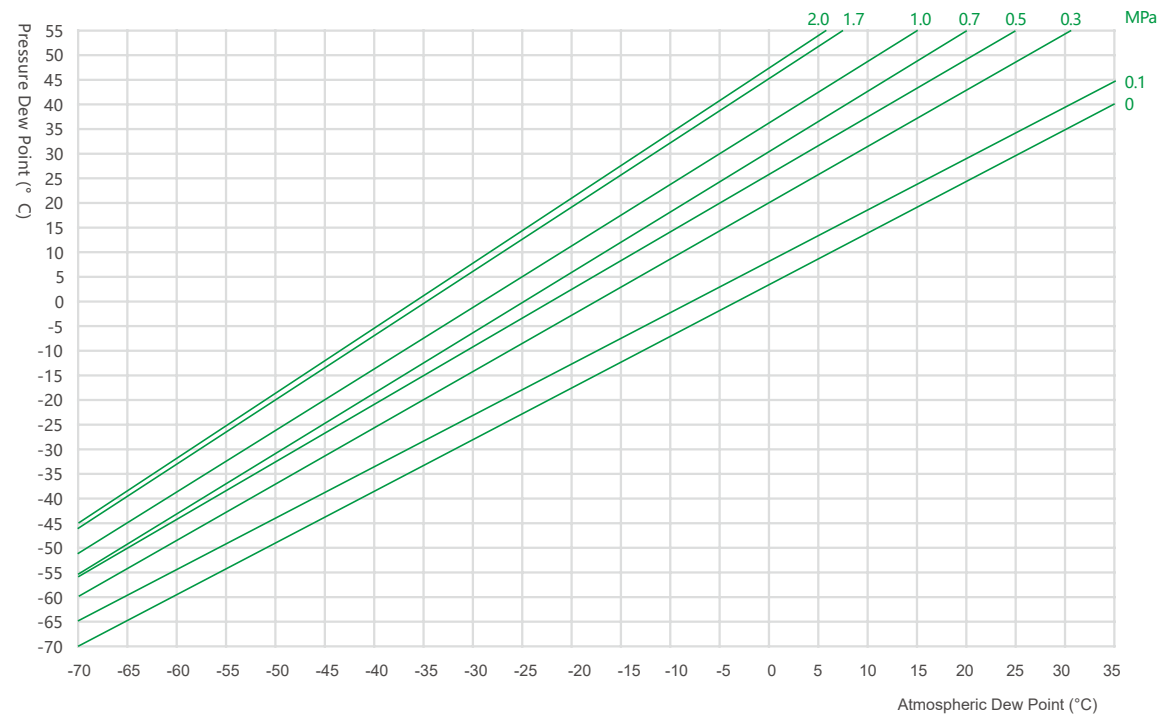
At a given temperature and pressure, there is a limit to the amount of water vapor that air can hold. When the water vapor content reaches the maximum possible level at a given temperature, the air is called saturated air. If the water vapor content is below this limit, the air is called unsaturated air.

## Dew Point – Definition and Explanation

At a given air pressure, as the air temperature gradually decreases, the water vapor eventually reaches saturation and begins to condense into liquid water. The temperature at which condensation begins is called the dew point temperature at that pressure.

The dew point of moist air depends on its moisture content: the higher the moisture content, the higher the dew point; the lower the moisture content, the lower the dew point.

Pressure Dew Point (PDP) – Atmospheric Dew Point (ADP) Conversion Chart

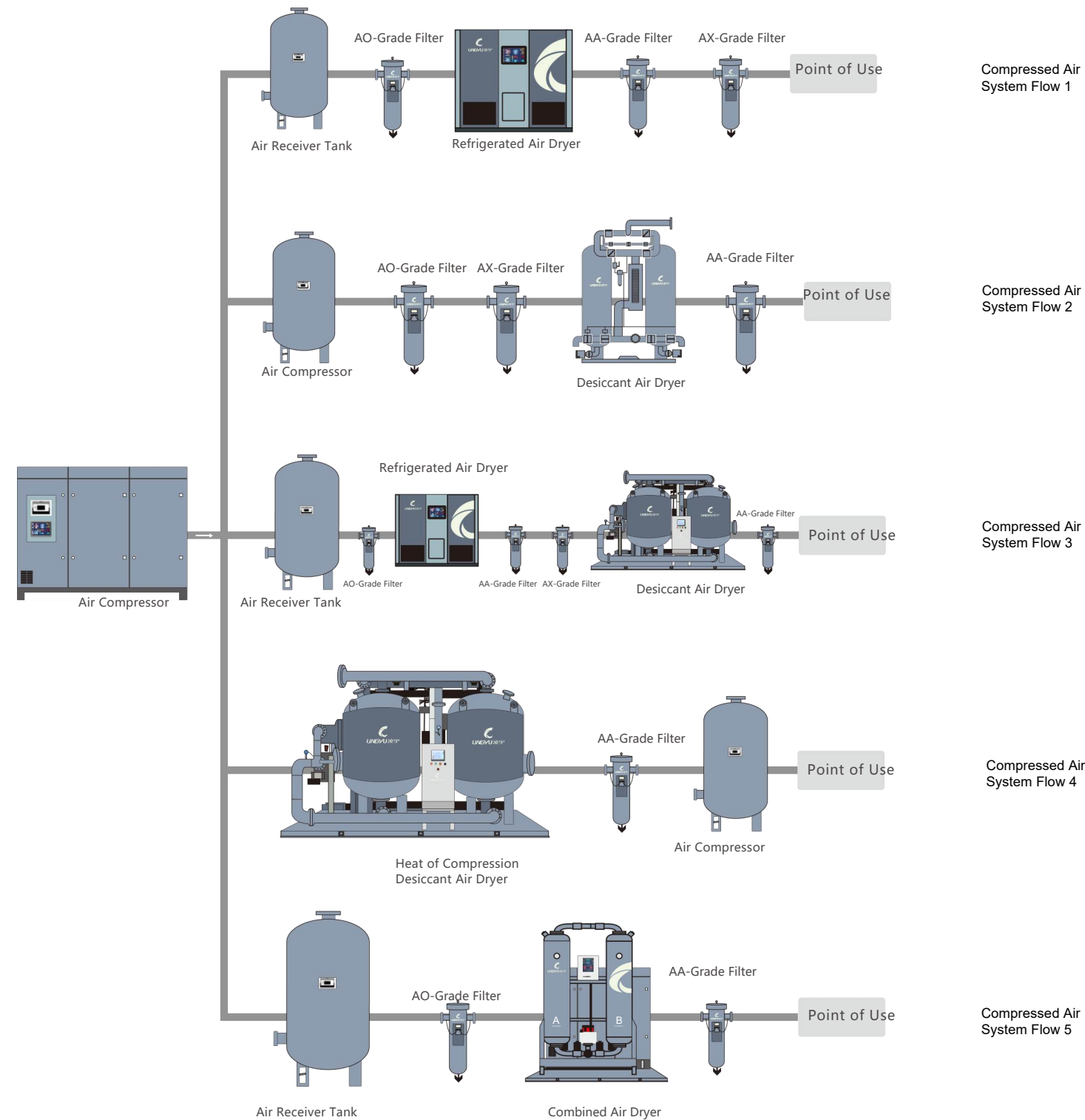


Atmospheric Dew Point vs. Moisture Content Chart

| Dew Point (°C) | Moisture Content (g/m³) | Dew Point (°C) | Moisture Content (g/m³) | Dew Point (°C) | Moisture Content (g/m³) | Dew Point (°C) | Moisture Content (g/m³) | Dew Point (°C) | Moisture Content (g/m³) | Dew Point (°C) | Moisture Content (g/m³) |
|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|----------------|-------------------------|
| 14             | 12.070                  | 1              | 5.192                   | -12            | 2.0060                  | -25            | 0.7074                  | -38            | 0.2141                  | -51.1          | 0.0540                  |
| 13             | 11.350                  | 0              | 4.847                   | -13            | 1.8760                  | -26            | 0.6463                  | -39            | 0.1940                  | -53.9          | 0.0400                  |
| 12             | 10.660                  | -1             | 4.523                   | -14            | 1.7360                  | -27            | 0.5922                  | -40            | 0.1757                  | -56.7          | 0.0290                  |
| 11             | 10.010                  | -2             | 4.217                   | -15            | 1.6050                  | -28            | 0.5422                  | -41            | 0.1590                  | -59.4          | 0.0210                  |
| 10             | 9.309                   | -3             | 3.930                   | -16            | 1.4830                  | -29            | 0.4960                  | -42            | 0.1438                  | -62.2          | 0.0140                  |
| 9              | 8.819                   | -4             | 3.660                   | -17            | 1.3690                  | -30            | 0.4534                  | -43            | 0.1298                  | -65.0          | 0.0110                  |
| 8              | 8.270                   | -5             | 3.4070                  | -18            | 1.2610                  | -31            | 0.4141                  | -44            | 0.1172                  | -67.8          | 0.0080                  |
| 7              | 7.50                    | -6             | 3.1690                  | -19            | 1.1650                  | -32            | 0.3779                  | -45            | 0.1055                  | -70.6          | 0.0050                  |
| 6              | 7.260                   | -7             | 2.9460                  | -20            | 1.0740                  | -33            | 0.3445                  | -46            | 0.0950                  | -73.3          | 0.0030                  |
| 5              | 6.797                   | -8             | 2.7370                  | -21            | 0.9884                  | -34            | 0.3138                  | -47            | 0.0854                  |                |                         |
| 4              | 6.360                   | -9             | 2.5410                  | -22            | 0.9093                  | -35            | 0.2856                  | -48            | 0.0768                  |                |                         |
| 3              | 5.947                   | -10            | 2.3580                  | -23            | 0.8359                  | -36            | 0.2597                  | -49            | 0.0689                  |                |                         |
| 2              | 5.559                   | -11            | 2.1860                  | -24            | 0.7678                  | -37            | 0.2359                  | -50            | 0.0617                  |                |                         |



Air Compressor Station Purification  
System Process Flow Diagram



Note: The above configuration is for reference only and may be adjusted according to actual operating requirements.

# 03 Compressed air Adsorption dryer

## 3.1.1 CH Series Heatless Regenerative Desiccant Air Dryer



### Working Principle

The Heatless Regenerative Desiccant Air Dryer operates on the principle of Pressure Swing Adsorption (PSA). At high water-vapor partial pressure, the desiccant adsorbs moisture from the compressed air. At low water-vapor partial pressure, the adsorbed moisture is desorbed and released back into the gas phase, thereby regenerating the desiccant.

A portion of the dry compressed air produced by the dryer is used as purge air for regeneration. Since the purge air and product air come from the same source, the system features a simple structure and convenient operation.

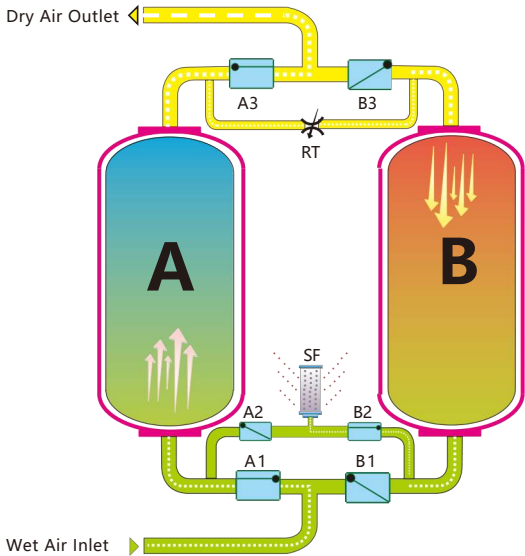
During heatless regeneration, the purge air not only provides the conditions required for desorption but also carries the released moisture out of the system. As the PSA process is generally considered isothermal, no additional cooling process is required. Desorption and regeneration of the desiccant are therefore completed simultaneously.

### Design Features

- High-Performance Pneumatic Valves**  
Reliable and responsive pneumatic valves ensure fast switching, stable operation, and long service life.
- High-Torque Pneumatic Actuators**  
High-torque aluminum alloy pneumatic actuators provide smooth, reliable operation.
- High-Performance Desiccant**  
Premium desiccant offers excellent adsorption capacity and abrasion resistance, ensuring a stable dew point over long-term operation with minimal dusting.
- Intelligent Programmable Control**  
Equipped with a fully electronic programmable controller featuring an intuitive interface for easy operation and maintenance.
- Low-Noise Operation**  
Low-noise check valves and high-performance silencers minimize operating and exhaust noise.
- Automatic Repressurization**  
Before valve switching, the system automatically repressurizes and equalizes the pressure between the vessels. This ensures stable vessel pressure, minimizes pressure fluctuations and impact on the desiccant, and helps extend desiccant service life.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C  
(Max. inlet temperature: ≤40°C)
- Average Purge Air Consumption: 8–14%
- Outlet Pressure Dew Point: –50°C to –20°C
- Desiccant: Activated Alumina
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



Schematic Diagram

### Technical Parameter

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Air Inlet / Outlet | Weight (kg) | Dimensions (mm) (L × W × H) |
|-------------|----------------------------|---------------------|------------------|--------------------|-------------|-----------------------------|
| LY-CH30NX   | 3.8                        | 220/50              | 0.1              | G1½"               | 175         | 840×500×1691                |
| LY-CH50NX   | 6.5                        | 220/50              | 0.1              | G1½"               | 310         | 1010×500×1713               |
| LY-CH75NX   | 10.5                       | 220/50              | 0.1              | G2"                | 430         | 1090×600×1912               |
| LY-CH100NX  | 13.5                       | 220/50              | 0.1              | G2"                | 522         | 1164×600×2192               |
| LY-CH120NX  | 17.0                       | 220/50              | 0.1              | DN65               | 580         | 1195×780×2251               |
| LY-CH150NX  | 21.5                       | 220/50              | 0.1              | DN80               | 720         | 1265×900×2282               |
| LY-CH180NX  | 25.0                       | 220/50              | 0.1              | DN80               | 820         | 1346×870×2394               |
| LY-CH200NX  | 28.5                       | 220/50              | 0.1              | DN80               | 1000        | 1460×1060×2320              |
| LY-CH250NX  | 32.0                       | 220/50              | 0.1              | DN80               | 1100        | 1460×1060×2510              |
| LY-CH300NX  | 37.0                       | 220/50              | 0.1              | DN100              | 1180        | 1580×1080×2460              |
| LY-CH350NX  | 41.5                       | 220/50              | 0.1              | DN100              | 1350        | 1700×1060×2730              |
| LY-CH400NX  | 45.0                       | 220/50              | 0.1              | DN100              | 1420        | 1765×1160×2550              |
| LY-CH450NX  | 50.0                       | 220/50              | 0.1              | DN100              | 1550        | 1765×1160×2750              |
| LY-CH500NX  | 55.0                       | 220/50              | 0.1              | DN100              | 1670        | 1825×1150×2690              |
| LY-CH550NX  | 60.0                       | 220/50              | 0.1              | DN100              | 1790        | 1825×1150×2790              |
| LY-CH600NX  | 65.0                       | 220/50              | 0.1              | DN125              | 2000        | 2040×1240×2820              |
| LY-CH650NX  | 70.0                       | 220/50              | 0.1              | DN125              | 2120        | 2040×1240×2920              |
| LY-CH700NX  | 75.0                       | 220/50              | 0.1              | DN125              | 2320        | 2136×1240×2930              |
| LY-CH800NX  | 85.0                       | 220/50              | 0.1              | DN125              | 2500        | 2210×1350×2970              |
| LY-CH900NX  | 95.0                       | 220/50              | 0.1              | DN150              | 2850        | 2330×1430×3250              |
| LY-CH1100NX | 110.0                      | 220/50              | 0.1              | DN150              | 3000        | 2450×1430×2980              |
| LY-CH1300NX | 130.0                      | 220/50              | 0.1              | DN150              | 4300        | 2610×1580×3055              |
| LY-CH1500NX | 150.0                      | 220/50              | 0.1              | DN200              | 5100        | 2900×1400×3211              |

**Note:** For air flow capacities above 150 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.1.2 HH Series Heatless Regenerative Desiccant Air Dryer



### Working Principle

The Heatless Regenerative Desiccant Air Dryer operates on the principle of Pressure Swing Adsorption (PSA). When the partial pressure of water vapor is high, the desiccant adsorbs moisture from the compressed air. Under low water-vapor partial pressure, the adsorbed moisture is desorbed and released back into the gas phase, thereby regenerating the desiccant.

A portion of the dry compressed air produced by the dryer is used as purge air for regeneration. Since the purge air is taken directly from the product air, the system features a simple structure and convenient operation.

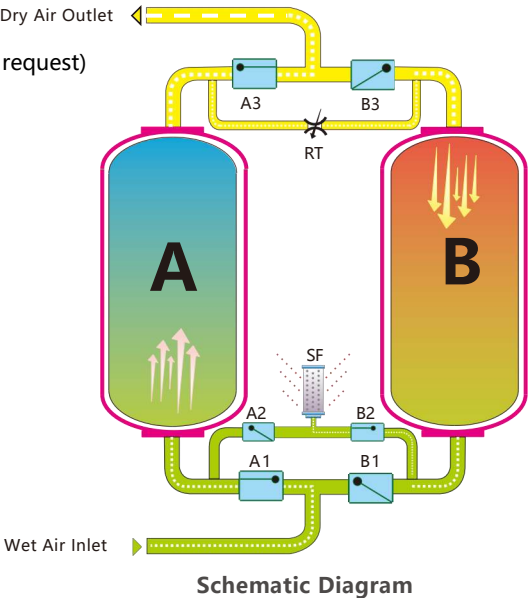
During heatless regeneration, the purge air provides the conditions required for desorption while also carrying the released moisture out of the system. As the PSA process is generally considered isothermal, no additional cooling stage is required. Desorption and regeneration of the desiccant are therefore completed simultaneously.

### Design Features

- High-Performance Pneumatic Valves**  
Reliable and highly responsive pneumatic valves provide fast and stable switching with a long service life.
- High-Torque Pneumatic Actuators**  
High-torque aluminum alloy pneumatic actuators ensure smooth, stable, and reliable operation.
- High-Performance Desiccant**  
Premium desiccant provides excellent adsorption capacity and abrasion resistance, ensuring a stable pressure dew point over long-term operation with minimal dusting.
- Intelligent Programmable Control**  
Equipped with a fully electronic programmable controller featuring an intuitive interface for easy operation and maintenance.
- Low-Noise Operation**  
Low-noise check valves and high-performance silencers minimize noise during both normal operation and exhaust.
- Automatic Repressurization**  
Before valve switching, the system automatically repressurizes and equalizes the pressure between the vessels. This ensures stable vessel pressure, minimizes pressure fluctuations and impact on the desiccant, and helps extend desiccant service life.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C  
(Max. inlet temperature: ≤40°C)
- Average Purge Air Consumption: 8–14%
- Outlet Pressure Dew Point: ≤−40°C
- Desiccant: Activated Alumina + High-Performance Molecular Sieve
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



### Technical Parameter

| Model     | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Air Inlet / Outlet | Weight (kg)  | Dimensions (mm) (L × W × H) |
|-----------|----------------------------|---------------------|------------------|--------------------|--------------|-----------------------------|
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
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| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |
| LY-HH10NX | 1.5                        | 220/50              | 0.1              | G1"                | 726×520×1802 | LY-HH10NX                   |

**Note:** For air flow capacities above 150 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.2.1 CH Series Heated Purge Regenerative Desiccant Air Dryer



### Working Principle

The Heated Purge Regenerative Desiccant Air Dryer operates on the principle of Temperature Swing Adsorption (TSA). The desiccant adsorbs moisture at ambient temperature, while at elevated temperatures the adsorbed moisture is desorbed and released back into the gas phase.

An external heat source provides the thermal energy required for desorption, while a portion of the dry product air is used as the carrier gas for regeneration. During the heated regeneration process, complete desorption of the moisture does not mean that the desiccant has been fully regenerated. Its original adsorption capacity is fully restored only after the desiccant temperature has cooled to near its initial level.

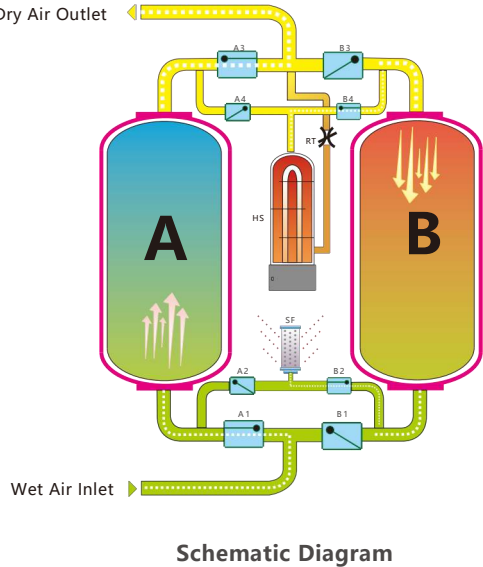
Therefore, the regeneration cycle consists of two stages: heated desorption, followed by cooling regeneration. Desorption is only one stage of the complete desiccant regeneration process.

### Design Features

- High-Performance Pneumatic Valves**  
Reliable and highly responsive pneumatic valves ensure fast and stable switching with a long service life.
- High-Efficiency Desiccant**  
High-performance desiccant provides excellent adsorption capacity and abrasion resistance, ensuring a stable pressure dew point during long-term operation with minimal dusting.
- Intelligent Programmable Control**  
Equipped with a fully electronic programmable controller featuring an intuitive interface for easy operation and maintenance.
- Low-Noise Operation**  
Low-noise check valves and high-performance silencers minimize noise during both normal operation and exhaust.
- Automatic Repressurization**  
Before valve switching, the system automatically repressurizes and equalizes the pressure between the vessels. This ensures stable vessel pressure, minimizes pressure fluctuations and impact on the desiccant, and helps extend desiccant service life.
- Heater Pressure Protection**  
The heater is equipped with pressure protection to prevent dry heating, improving operational safety and extending heater service life.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C  
(Max. inlet temperature: ≤40°C)
- Average Purge Air Consumption: 4–8%
- Outlet Pressure Dew Point: –50°C to –20°C
- Desiccant: Activated Alumina
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



### Technical Parameter

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Air Inlet / Outlet | Weight (kg) | Dimensions (mm) (L × W × H) |
|-------------|----------------------------|---------------------|------------------|--------------------|-------------|-----------------------------|
| LY-CH10HX   | 1.5                        | 380/50              | 0.9              | G1"                | 95          | 666×520×1692                |
| LY-CH20HX   | 2.5                        | 380/50              | 1.7              | G1"                | 125         | 726×520×1802                |
| LY-CH30HX   | 3.8                        | 380/50              | 1.7              | G1½"               | 180         | 840×500×1691                |
| LY-CH50HX   | 6.5                        | 380/50              | 2.5              | G1½"               | 315         | 1010×500×1713               |
| LY-CH75HX   | 10.5                       | 380/50              | 3.7              | G2"                | 448         | 1090×600×1912               |
| LY-CH100HX  | 13.5                       | 380/50              | 3.7              | G2"                | 540         | 1164×600×2192               |
| LY-CH120HX  | 17.0                       | 380/50              | 3.7              | DN65               | 610         | 1195×780×2251               |
| LY-CH150HX  | 21.5                       | 380/50              | 6.1              | DN80               | 740         | 1265×900×2282               |
| LY-CH180HX  | 25.0                       | 380/50              | 10.0             | DN80               | 850         | 1346×890×2394               |
| LY-CH200HX  | 28.5                       | 380/50              | 10.0             | DN80               | 1040        | 1460×1060×2320              |
| LY-CH250HX  | 32.0                       | 380/50              | 10.0             | DN80               | 1150        | 1460×1060×2510              |
| LY-CH300HX  | 37.0                       | 380/50              | 10.0             | DN100              | 1280        | 1580×1080×2460              |
| LY-CH350HX  | 41.5                       | 380/50              | 13.1             | DN100              | 1390        | 1700×1060×2730              |
| LY-CH400HX  | 45.0                       | 380/50              | 13.1             | DN100              | 1460        | 1765×1160×2550              |
| LY-CH450HX  | 50.0                       | 380/50              | 13.1             | DN100              | 1590        | 1765×1160×2750              |
| LY-CH500HX  | 55.0                       | 380/50              | 13.1             | DN100              | 1700        | 1825×1150×2690              |
| LY-CH550HX  | 60.0                       | 380/50              | 20.1             | DN100              | 1830        | 1825×1150×2790              |
| LY-CH600HX  | 65.0                       | 380/50              | 20.1             | DN125              | 2050        | 2040×1240×2820              |
| LY-CH650HX  | 70.0                       | 380/50              | 20.1             | DN125              | 2270        | 2040×1240×2920              |
| LY-CH700HX  | 75.0                       | 380/50              | 20.1             | DN125              | 2380        | 2136×1240×2930              |
| LY-CH800HX  | 85.0                       | 380/50              | 27.1             | DN125              | 2650        | 2210×1350×2970              |
| LY-CH900HX  | 95.0                       | 380/50              | 27.1             | DN150              | 2950        | 2330×1430×3250              |
| LY-CH1100HX | 110.0                      | 380/50              | 34.1             | DN150              | 3200        | 2450×1430×2980              |
| LY-CH1300HX | 130.0                      | 380/50              | 42.1             | DN150              | 4700        | 2610×1580×3060              |
| LY-CH1500HX | 150.0                      | 380/50              | 50.1             | DN200              | 5300        | 2900×1400×3211              |

**Note:** For air flow capacities above 150 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.2.2 HH Series Heated Purge Regenerative Desiccant Air Dryer



### Working Principle

The Heated Purge Regenerative Desiccant Air Dryer operates on the principle of Temperature Swing Adsorption (TSA). The desiccant adsorbs moisture at ambient temperature. At elevated temperatures, the adsorbed moisture is desorbed and released back into the gas phase.

An external heat source provides the thermal energy required for desorption, while a portion of the dry product air is used as the carrier gas for regeneration. During heated regeneration, complete desorption of the adsorbed moisture does not mean that the desiccant has been fully regenerated. Its original adsorption capacity is fully restored only after the desiccant has cooled to approximately its initial temperature.

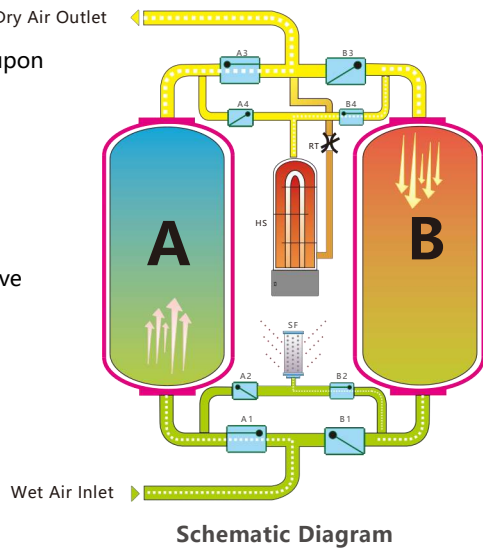
Therefore, the regeneration cycle consists of two stages: heated desorption followed by cooling regeneration. Desorption is only one stage of the complete desiccant regeneration process.

### Design Features

- High-Performance Pneumatic Valves**  
Reliable and highly responsive pneumatic valves ensure fast and stable switching with a long service life.
- High-Efficiency Desiccant**  
High-performance desiccant provides excellent adsorption capacity and abrasion resistance, ensuring a stable pressure dew point during long-term operation with minimal dusting.
- Intelligent Programmable Control**  
Equipped with a fully electronic programmable controller featuring an intuitive interface for easy operation and maintenance.
- Low-Noise Operation**  
Low-noise check valves and high-performance silencers minimize noise throughout operation and during exhaust.
- Automatic Repressurization**  
Before valve switching, the system automatically repressurizes and equalizes the pressure between the vessels. This ensures stable vessel pressure, minimizes pressure fluctuations and their impact on the desiccant, and helps extend desiccant service life.
- Heater Pressure Protection**  
The heater is equipped with pressure protection to prevent dry heating, enhancing operational reliability and extending heater service life.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C  
(Max. inlet temperature: ≤40°C)
- Average Purge Air Consumption: 4–8%
- Outlet Pressure Dew Point: ≤−40°C
- Desiccant: Activated Alumina + High-Performance Molecular Sieve
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



### Technical Parameter

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Air Inlet / Outlet | Weight (kg) | Dimensions (mm) (L x W x H) |
|-------------|----------------------------|---------------------|------------------|--------------------|-------------|-----------------------------|
| LY-HH10HX   | 1.5                        | 380/50              | 1.7              | G1"                | 125         | 726×520×1802                |
| LY-HH20HX   | 2.5                        | 380/50              | 1.7              | G1"                | 180         | 840×500×1691                |
| LY-HH30HX   | 3.8                        | 380/50              | 2.5              | G1½"               | 310         | 1010×500×1713               |
| LY-HH50HX   | 6.5                        | 380/50              | 3.7              | G1½"               | 436         | 1160×600×1847               |
| LY-HH75HX   | 10.5                       | 380/50              | 3.7              | G2"                | 610         | 1195×660×2175               |
| LY-HH100HX  | 13.5                       | 380/50              | 6.1              | G2"                | 720         | 1256×700×2225               |
| LY-HH120HX  | 17                         | 380/50              | 10               | DN65               | 850         | 1346×970×2390               |
| LY-HH150HX  | 21.5                       | 380/50              | 10               | DN80               | 1000        | 1460×930×2264               |
| LY-HH180HX  | 25                         | 380/50              | 10               | DN80               | 1100        | 1459×930×2443               |
| LY-HH200HX  | 28.5                       | 380/50              | 10               | DN80               | 1280        | 1560×1070×2450              |
| LY-HH250HX  | 32                         | 380/50              | 13.1             | DN80               | 1350        | 1600×1050×2650              |
| LY-HH300HX  | 37                         | 380/50              | 13.1             | DN100              | 1550        | 1700×1100×2680              |
| LY-HH350HX  | 41.5                       | 380/50              | 13.1             | DN100              | 1700        | 1830×1150×2700              |
| LY-HH400HX  | 45                         | 380/50              | 20.1             | DN100              | 1830        | 1830×1150×2790              |
| LY-HH450HX  | 50                         | 380/50              | 20.1             | DN100              | 2000        | 2040×1240×2780              |
| LY-HH500HX  | 55                         | 380/50              | 20.1             | DN100              | 2170        | 2040×1240×2875              |
| LY-HH550HX  | 60                         | 380/50              | 27.1             | DN100              | 2460        | 2130×1300×2790              |
| LY-HH600HX  | 65                         | 380/50              | 27.1             | DN125              | 2650        | 2210×1340×2970              |
| LY-HH700HX  | 75                         | 380/50              | 27.1             | DN125              | 3100        | 2350×1380×2920              |
| LY-HH800HX  | 85                         | 380/50              | 34.1             | DN125              | 3200        | 2350×1380×2920              |
| LY-HH900HX  | 95                         | 380/50              | 34.1             | DN150              | 4000        | 2446×1430×3170              |
| LY-HH1100HX | 110                        | 380/50              | 42.1             | DN150              | 4700        | 2610×1580×3060              |
| LY-HH1300HX | 130                        | 380/50              | 50.1             | DN150              | 5140        | 2900×1400×3079              |
| LY-HH1500HX | 150                        | 380/50              | 55.1             | DN200              | 6100        | 3100×1580×3274              |

**Note:** For air flow capacities above 150 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.3 M Series Modular Desiccant Air Dryer



### Working Principle

The M Series Modular Desiccant Air Dryer adopts an advanced modular structure based on the conventional twin-tower desiccant dryer design. Its straight-through adsorption chamber design improves desiccant utilization and adsorption efficiency.

The specially designed base incorporates an inlet air buffer chamber, together with a unique “snowstorm” desiccant filling method. This design effectively addresses common problems found in conventional dryers during adsorption and regeneration, including uneven airflow distribution, adsorption dead zones, channeling, and tunneling effects.

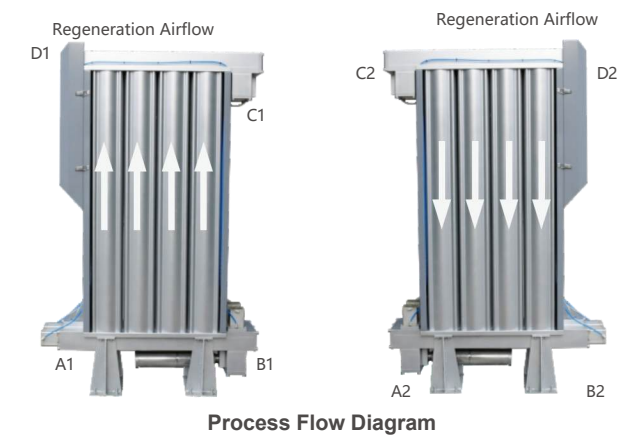
It also minimizes desiccant attrition and dusting caused by the impact of compressed air. As a result, the desiccant is more fully utilized, its service life is extended, and a stable pressure dew point can be maintained over long-term operation.

### Design Features

- Energy Efficient**  
Low regeneration air consumption of only 5–8%.
- Stable Performance**  
High-quality desiccant is carefully selected to ensure reliable performance and a stable pressure dew point.
- Cost-Effective**  
A full-capacity standby unit can be configured at relatively low cost, while maintenance and servicing costs remain low.
- Clean Air & Long Service Life**  
All surfaces in contact with compressed air are treated with an anti-corrosion oxidation process, effectively preventing secondary contamination of the treated air. This makes the unit particularly suitable for food and pharmaceutical applications, with a service life of up to 30 years.
- No Annual Pressure Vessel Inspection Required**  
The unit is not classified as a pressure vessel subject to mandatory special-equipment inspection and therefore does not require annual pressure vessel reinspection.\*
- Compact Modular Construction**  
The integrated structure is manufactured from aerospace-grade magnesium-aluminum extruded alloy, providing a compact and robust design. The unit can pass through standard doorways, making it suitable for installation in a wide variety of locations.

### Operating Conditions and Technical Requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C  
(Max. inlet temperature: ≤40°C)
- Inlet Air Dew Point: ≤15°C
- Outlet Pressure Dew Point: ≤–20°C  
(–40°C available as an option)
- Desiccant: Activated Alumina + High-Performance Molecular Sieve
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



**Group A – Adsorption:**During the adsorption cycle of Group A, inlet valve A1 opens, silenced exhaust valve B1 closes, and outlet check valve C1 opens. The compressed air enters the lower air manifold through valve A1 and then passes through the adsorption chambers, where moisture is removed by the desiccant. The dried compressed air flows into the upper air manifold and is delivered to the point of use through check valve C1. A portion of the dry air is diverted through regeneration valve D1 to Group B for desiccant regeneration.

**Group B – Regeneration:**During the regeneration cycle of Group B, inlet valve A2 closes, silenced exhaust valve B2 opens, and outlet check valve C2 closes. The regeneration air from Group A enters the upper air manifold through regeneration valve D2 and passes through the adsorption chambers to desorb moisture from the desiccant. The released moisture is then discharged through silenced exhaust valve B2.

### Technical Parameter

| Model     | Inlet Air Flow (m³/min) | Connection Size | Weight (kg) | Power Supply (V/Hz) | Dimensions (mm) (L × W × H) |
|-----------|-------------------------|-----------------|-------------|---------------------|-----------------------------|
| LY-M10NX  | 1.5                     | G1"             | 35          | 220/50              | 460×300×752                 |
| LY-M20NX  | 2.5                     | G1"             | 60          | 220/50              | 460×300×1246                |
| LY-M30NX  | 3.8                     | G1"             | 70          | 220/50              | 460×300×1546                |
| LY-M50NX  | 6.5                     | G1-½"           | 190         | 220/50              | 400×778×1735                |
| LY-M75NX  | 10.5                    | G2"             | 285         | 220/50              | 400×952×1735                |
| LY-M100NX | 13.5                    | G2-½"           | 375         | 220/50              | 400×1126×1735               |
| LY-M120NX | 17.0                    | G2-½"           | 470         | 220/50              | 400×1300×1735               |
| LY-M150NX | 21.5                    | G2-½"           | 565         | 220/50              | 400×1474×1735               |
| LY-M180NX | 25.0                    | G2-½"           | 660         | 220/50              | 400×1648×1735               |
| LY-M200NX | 28.5                    | DN80            | 755         | 220/50              | 762×1126×1760               |
| LY-M300NX | 37.0                    | DN100           | 940         | 220/50              | 762×1300×1760               |
| LY-M350NX | 41.5                    | DN100           | 1130        | 220/50              | 762×1474×1760               |
| LY-M450NX | 50.0                    | DN100           | 1320        | 220/50              | 762×1648×1760               |
| LY-M500NX | 55.0                    | DN125           | 1510        | 220/50              | 762×1884×1760               |

**Note:** For air flow capacities above 55 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.4.1 HRB-E Series Low-Purge Blower-Heated Regenerative Desiccant Air Dryer



### Working Principle

The Low-Purge Blower-Heated Regenerative Desiccant Air Dryer is developed on the basis of the heated purge regenerative desiccant dryer, with the addition of an independent blower.

During regeneration, ambient air is drawn in by the blower and heated by the heater. The heated air then passes through the regeneration tower to heat the desiccant and desorb the adsorbed moisture. During the cooling stage, only a small amount of dry product air—approximately 2% of the system air flow—is used as cooling purge air to continuously cool the regenerated desiccant bed.

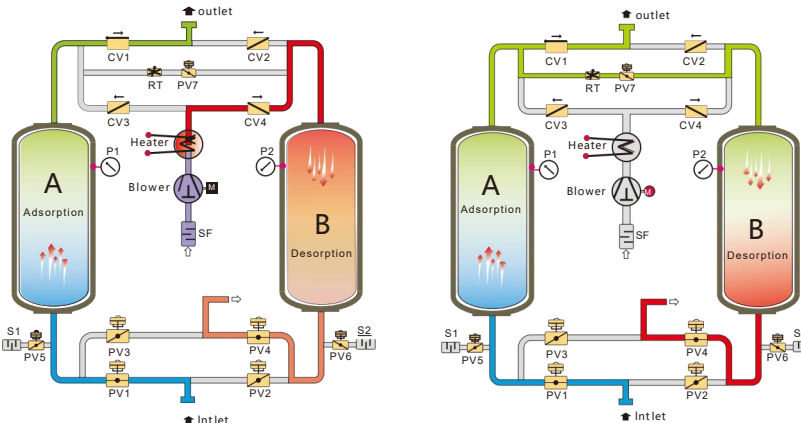
As a result, the entire regeneration process consumes only a minimal amount of compressed air, significantly reducing purge-air losses and improving overall energy efficiency.

### Design Features

- Flexible Communication:** Supports RS-485 communication as standard, with optional IoT connectivity and other communication solutions available to meet customer requirements.
- Intelligent Energy-Saving Control:** Equipped with the independently developed EBZ200-2 multi-core control system. Compared with conventional fixed-cycle operation, it can reduce overall energy consumption by more than 10%.
- Dew-Point-Based Energy-Saving Control (Optional):** Under fluctuating load conditions, the dew-point-based control system can extend the adsorption cycle according to actual operating demand, reducing overall energy consumption by more than 30%.
- High-Performance Desiccant:** Customized high-performance desiccant with a 20% additional filling allowance ensures reliable adsorption performance and long-term operating stability.
- Premium Core Components:** Equipped with a high-pressure blower and high-performance pneumatic valves from reputable manufacturers, together with a high-efficiency cooler designed using HTFS thermal design software, ensuring reliable performance and long service life.
- Optimized Airflow Design:** Features 304 stainless steel control-air piping and a specially designed flow distributor to maximize desiccant utilization while minimizing compressed-air pressure drop.
- Intelligent Touchscreen Control:** Equipped with a 7-inch MCGS touchscreen programmable controller for dynamic monitoring of the entire operating cycle. Monitored parameters include air outlet temperature, heating temperature, regeneration exhaust temperature, Tower A/B pressure, blower pressure, and pressure dew point (optional).

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa (Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C (Max. inlet temperature: ≤40°C)
- Inlet Air Dew Point: ≤25°C
- Regeneration Air Consumption: 2–3%
- Outlet Pressure Dew Point: –20°C / –40°C (Optional)
- Rated Ambient Temperature: 35°C (Operating range: 2–40°C)



Schematic Diagram

### Technical Parameter

| Model     | Air Flow Capacity (m³/min) | Air Connection Size | Installed Power (kW) | Dimensions (mm)<br>(L×W×H) |
|-----------|----------------------------|---------------------|----------------------|----------------------------|
| HRB-E100  | 13.5                       | DN65                | 12.1                 | 1416*950*2357              |
| HRB-E120  | 17.5                       | DN65                | 16.7                 | 1620*1000*2389             |
| HRB-E150  | 21.5                       | DN65                | 19.5                 | 1720*1000*2567             |
| HRB-E180  | 25.0                       | DN80                | 19.5                 | 1900*1000*2533             |
| HRB-E200  | 28.5                       | DN80                | 22.8                 | 1900*970*2533              |
| HRB-E250  | 32.0                       | DN80                | 28.0                 | 1900*970*2703              |
| HRB-E300  | 37.0                       | DN100               | 36.5                 | 2000*1150*2823             |
| HRB-E350  | 41.5                       | DN100               | 36.5                 | 2100*1300*2758             |
| HRB-E400  | 45.0                       | DN100               | 36.5                 | 2100*1180*2848             |
| HRB-E450  | 50.0                       | DN100               | 36.5                 | 2100*1180*2848             |
| HRB-E500  | 55.0                       | DN125               | 57.5                 | 2850*1800*2959             |
| HRB-E550  | 60.0                       | DN125               | 57.5                 | 2850*1800*2959             |
| HRB-E600  | 65.0                       | DN125               | 57.5                 | 2850*2004*3159             |
| HRB-E700  | 75.0                       | DN125               | 57.5                 | 2993*2004*2913             |
| HRB-E800  | 85.0                       | DN125               | 63.5                 | 2930*1930*3075             |
| HRB-E900  | 95.0                       | DN150               | 77.5                 | 3076*2347*3029             |
| HRB-E1000 | 110                        | DN150               | 77.5                 | 3076*2347*3029             |
| HRB-E1200 | 120                        | DN150               | 77.5                 | 3200*2456*3146             |
| HRB-E1400 | 140                        | DN200               | 105.5                | 3700*2789*3307             |
| HRB-E1600 | 160                        | DN200               | 143                  | 3750*2743*3365             |
| HRB-E1800 | 180                        | DN200               | 146.5                | 4000*2898*3411             |
| HRB-E2000 | 200                        | DN200               | 230.5                | 4100*2800*3440             |
| HRB-E2100 | 210                        | DN200               | 250.5                | 4100*2850*3450             |
| HRB-E2600 | 260                        | DN250               | 257.5                | 4150*3000*3480             |

**Note:** For air flow capacities above 260 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.4.2 HRB-Z Series Zero-Purge Blower-Heated Regenerative Desiccant Air Dryer



### Working Principle

The Zero-Purge Blower-Heated Regenerative Desiccant Air Dryer is developed on the basis of the low-purge blower-heated regenerative desiccant air dryer, with the addition of an intercooler.

During the heating stage, ambient air is drawn in by the blower and heated by the heater. The heated air then passes through the regeneration tower to heat the desiccant and desorb the adsorbed moisture.

During the cooling stage, the air circulates continuously through the intercooler and regeneration tower in a closed-loop circuit, cooling the regenerated desiccant bed without using any dry product air. As a result, no compressed air is consumed throughout the entire regeneration process, maximizing compressed-air utilization and improving overall system efficiency.

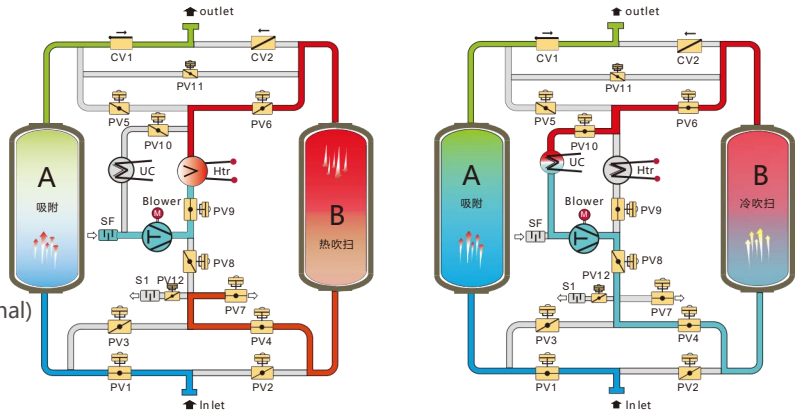
### Design Features

- Flexible Communication:** Supports RS-485 communication as standard, with optional IoT connectivity and other communication solutions available to meet customer requirements.
- Intelligent Energy-Saving Control:** Equipped with the independently developed EBZ200-2 multi-core control system. Compared with conventional fixed-cycle operation, it can reduce overall energy consumption by more than 10%.
- Dew-Point-Based Energy-Saving Control (Optional):** Under fluctuating load conditions, the optional dew-point-based control system can extend the adsorption cycle according to actual operating demand, reducing overall energy consumption by more than 30%.
- High-Performance Desiccant:** Customized high-performance desiccant with a 20% additional filling allowance ensures reliable adsorption performance and long-term operating stability.
- Premium Core Components:** Equipped with a high-pressure blower and high-performance pneumatic valves from reputable manufacturers, together with a high-efficiency cooler designed using HTFS thermal design software, ensuring reliable performance and long service life.
- Optimized Airflow Design:** Features 304 stainless steel control-air piping and a specially designed flow distributor, ensuring high desiccant utilization and low compressed-air pressure drop.
- Intelligent Touchscreen Control:** Equipped with a 7-inch MCGS touchscreen programmable controller for dynamic monitoring of the complete operating cycle. Monitored parameters include air outlet temperature, heating temperature, regeneration exhaust temperature, Tower A/B pressure, blower pressure, and pressure dew point (optional).



### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa (Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 10–30°C (Max. inlet temperature: ≤40°C)
- Inlet Air Dew Point: ≤25°C
- Regeneration Air Consumption: ≈0%
- Outlet Pressure Dew Point: –20°C / –40°C (Optional)
- Rated Ambient Temperature: 35°C (Operating range: 2–40°C)
- Cooling Water Temperature: ≤32°C
- Cooling Water Pressure: 0.2–0.6 MPa



### Technical Parameter

| Model         | Air Flow Capacity (m³/min) | Air Connection Size | Installed Power (kW) | Dimensions (mm) (L×W×H) |
|---------------|----------------------------|---------------------|----------------------|-------------------------|
| HRB-ZW/A 100  | 13.5                       | DN65                | 12.1                 | 1955*1040*2350          |
| HRB-ZW/A 120  | 17.5                       | DN65                | 16.7                 | 2090*1102*2311          |
| HRB-ZW/A 150  | 21.5                       | DN65                | 19.5                 | 2098*1102*2511          |
| HRB-ZW/A 180  | 25.0                       | DN80                | 19.5                 | 2148*1197*2437          |
| HRB-ZW/A200   | 28.5                       | DN80                | 22.8                 | 2293*1250*2500          |
| HRB-ZW/A250   | 32.0                       | DN80                | 27.8                 | 2179*1302*2766          |
| HRB-ZW/A 300  | 37.0                       | DN100               | 36.5                 | 2412*1560*2792          |
| HRB-ZW/A 350  | 41.5                       | DN100               | 36.5                 | 2477*1500*2822          |
| HRB-ZW/A400   | 45.0                       | DN100               | 36.5                 | 2477*1500*2825          |
| HRB-ZW/A450   | 50.0                       | DN100               | 36.5                 | 2480*1500*2825          |
| HRB-ZW/A 500  | 55.0                       | DN125               | 57.5                 | 3030*1940*2958          |
| HRB-ZW/A 550  | 60.0                       | DN125               | 57.5                 | 3030*1940*3158          |
| HRB-ZW/A600   | 65.0                       | DN125               | 57.5                 | 3030*1940*3160          |
| HRB-ZW/A700   | 75.0                       | DN125               | 57.5                 | 3030*1940*2888          |
| HRB-ZW/A800   | 85.0                       | DN125               | 63.5                 | 3030*1970*3046          |
| HRB-ZW/A900   | 95.0                       | DN150               | 77.5                 | 3306*2189*3078          |
| HRB-ZW/A 1000 | 110                        | DN150               | 77.5                 | 3356*2150*3078          |
| HRB-ZW/A 1200 | 120                        | DN150               | 77.5                 | 3570*2319*3130          |
| HRB-ZW/A 1400 | 145                        | Dn200               | 105.5                | 3668*2548*3330          |
| HRB-ZW/A 1600 | 165                        | DN200               | 143                  | 3590*2800*3380          |
| HRB-ZW/A 1800 | 185                        | DN200               | 146.5                | 4356*2708*3436          |
| HRB-ZW/A2100  | 210                        | DN200               | 230.5                | 4400*2800*3440          |

**Note:** The HRB-ZW model adopts water cooling, while the HRB-ZA model adopts air cooling.

**Note:** For air flow capacities above 260 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.5.1 HOC-E Series Low-Purge Heat-of-Compression Regenerative Desiccant Air Dryer



### Working Principle

The Low-Purge Heat-of-Compression Regenerative Desiccant Air Dryer utilizes the thermal energy contained in the high-temperature compressed air discharged from the air compressor to directly heat the desiccant after the adsorption cycle. The heat desorbs the accumulated moisture from the desiccant, allowing it to be thoroughly regenerated.

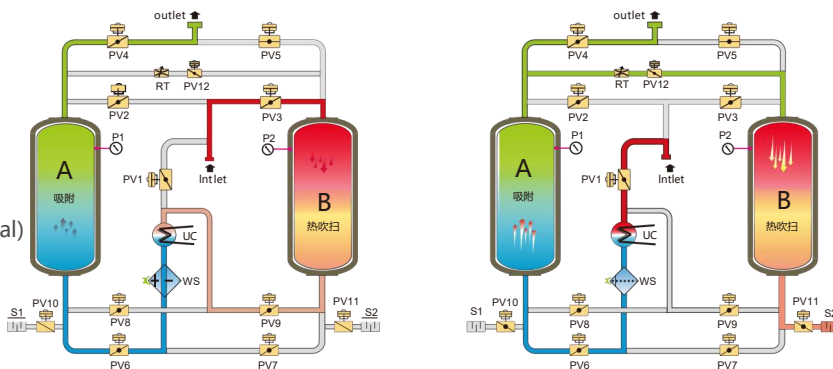
No compressed air is consumed during the heating and regeneration stage, while only a small amount of dry product air is required during the cooling stage. This significantly reduces compressed-air losses and improves overall energy efficiency.

### Design Features

- Flexible Communication**  
Supports RS-485 communication as standard, with optional IoT connectivity and other communication solutions available to meet customer requirements.
- Energy-Saving Control**  
Equipped with the independently developed EBZ200-2 multi-core control system. Compared with conventional fixed-cycle operation, it can reduce overall energy consumption by more than 10%.
- Dew-Point-Based Energy-Saving Control (Optional)**  
Under fluctuating load conditions, the optional dew-point-based control system can extend the adsorption cycle according to actual operating demand, reducing overall energy consumption by more than 30%.
- High-Performance Desiccant**  
Customized high-performance desiccant with a 20% additional filling allowance ensures reliable adsorption performance and long-term operating stability.
- Reliable Core Components**  
Equipped with high-performance pneumatic valves and a high-efficiency cooler designed using HTFS thermal design software, ensuring reliable operation and long service life.
- Metal Control-Air Piping**  
Metal control-air piping provides a robust, durable, and professional installation.
- Optimized Airflow Distribution**  
A specially designed flow distributor ensures high desiccant utilization while minimizing compressed-air pressure drop.
- Intelligent Touchscreen Control**  
Equipped with a Siemens touchscreen programmable controller for dynamic monitoring of the complete operating cycle. Monitored parameters include air outlet temperature, heating temperature, regeneration exhaust temperature, Tower A/B pressure, blower pressure, and pressure dew point (optional).

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 120°C  
(Allowable inlet temperature range: 110–180°C)
- Regeneration Air Consumption: ≤3%
- Outlet Pressure Dew Point: –20°C / –40°C (Optional)
- Cooling Water Temperature: ≤32°C
- Cooling Water Pressure: 0.2–0.6 MPa



### Technical Parameter

| Model     | Air Flow Capacity<br>m³/min | Cooling Water Flow<br>Rate (T/h) | Cooling Water<br>Connection Size | Compressed Air<br>Connection Size | Dimensions (mm) (L ×<br>W × H) |
|-----------|-----------------------------|----------------------------------|----------------------------------|-----------------------------------|--------------------------------|
| HOC-E100  | 13.5                        | 5.5                              | G1½"                             | DN65                              | 2050*1350*2550                 |
| HOC-E120  | 17.0                        | 7.0                              | G1½"                             | DN65                              | 2050*1350*2550                 |
| HOC-E150  | 21.5                        | 9.0                              | G1½"                             | DN65                              | 2100*1350*2550                 |
| HOC-E180  | 25.0                        | 10.5                             | G2"                              | DN80                              | 2150*1400*2600                 |
| HOC-E200  | 28.5                        | 11.5                             | G2"                              | DN80                              | 2200*1450*2600                 |
| HOC-E250  | 32.0                        | 13.0                             | G2"                              | DN80                              | 2300*1500*2700                 |
| HOC-E300  | 37.0                        | 15.0                             | G2"                              | DN100                             | 2400*1600*2750                 |
| HOC-E350  | 41.5                        | 17.0                             | G2"                              | DN100                             | 2500*1650*2850                 |
| HOC-E400  | 45.0                        | 18.5                             | DN65                             | DN100                             | 2600*1700*2910                 |
| HOC-E450  | 50.0                        | 20.5                             | DN65                             | DN100                             | 2700*1800*2950                 |
| HOC-E500  | 55.0                        | 22.5                             | DN65                             | DN125                             | 2800*1950*2950                 |
| HOC-E550  | 60.0                        | 24.5                             | DN65                             | DN125                             | 2900*2050*2950                 |
| HOC-E600  | 65.0                        | 26.8                             | DN65                             | DN125                             | 3100*2150*2950                 |
| HOC-E700  | 75.0                        | 31.0                             | DN80                             | DN125                             | 3200*2250*3000                 |
| HOC-E800  | 85.0                        | 35.0                             | DN80                             | DN125                             | 3370*2300*3050                 |
| HOC-E900  | 95.0                        | 39.0                             | DN100                            | DN150                             | 3450*2400*3100                 |
| HOC-E1000 | 110                         | 45.0                             | DN100                            | DN150                             | 3800*2700*3350                 |
| HOC-E1200 | 120                         | 49.0                             | DN100                            | DN150                             | 3900*2700*3500                 |
| HOC-E1400 | 140                         | 57.5                             | DN125                            | DN200                             | 4100*2800*3550                 |
| HOC-E1600 | 160                         | 65.5                             | DN125                            | DN200                             | 4200*2850*3600                 |
| HOC-E1800 | 180                         | 74.0                             | DN125                            | DN200                             | 4500*3100*3650                 |
| HOC-E2100 | 210                         | 86.0                             | DN125                            | DN200                             | 4800*3150*3750                 |

**Note:** For air flow capacities above 260 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 03 Compressed air Adsorption dryer

## 3.5.2 HOC-Z Series Zero-Purge Heat-of-Compression Regenerative Desiccant Air Dryer



### Working Principle

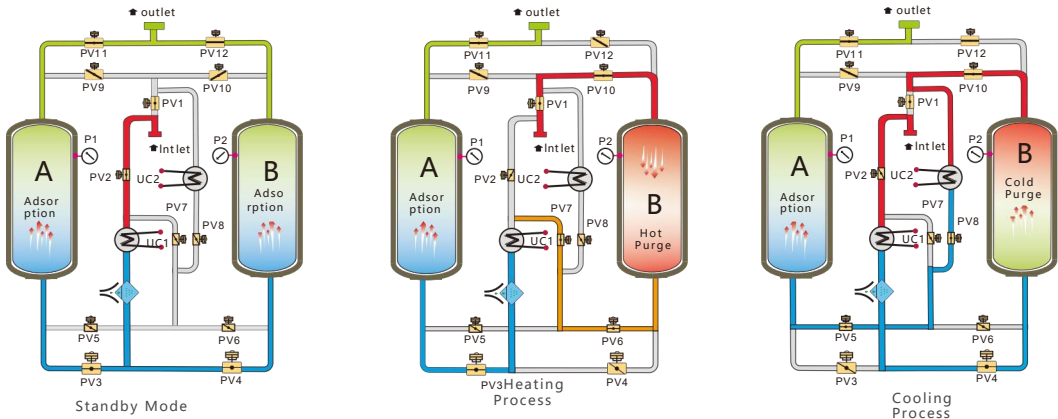
The Zero-Purge Heat-of-Compression Regenerative Desiccant Air Dryer utilizes the thermal energy contained in the high-temperature compressed air discharged from the air compressor to directly heat the desiccant after the adsorption cycle, thoroughly removing the adsorbed moisture and regenerating the desiccant. During the cooling stage, compressed air cooled by the cooler is used to cool the regenerated desiccant bed. Since no dry product air is consumed during either the heating/regeneration stage or the cooling stage, compressed-air losses are eliminated, maximizing energy efficiency.

### Design Features

- Dew Point Monitoring and Control:** Equipped with a dew point meter that can be configured to display either atmospheric dew point or pressure dew point, ensuring stable and reliable dew point performance.
- Siemens Touchscreen Control:** Equipped with a Siemens touchscreen controller, featuring an RS-485 communication interface with communication protocol provided for integration with centralized control systems.
- High-Reliability Pneumatic Valve System:** The solenoid valves controlling the pneumatic valves adopt a dual-coil design. High-performance, high-temperature-resistant double-eccentric butterfly valves are used and equipped with valve-position feedback switches. In the event of an abnormal shutdown or power failure, the valves can maintain their operating positions, allowing short-duration maintenance without interrupting the compressed-air supply and significantly improving system reliability.
- Automatic Flow Distribution Control:** The opening of the flow-diverting valve is automatically adjusted according to air flow rate and heating temperature, enabling fully automatic intelligent control. The system can accommodate 30–110% load variations, ensuring stable performance across a wide operating range.
- Intelligent Condensate Drainage:** A liquid-level sensor is incorporated into the drainage system. When accumulated condensate reaches the alarm level, the system automatically initiates forced drainage and contaminant discharge. The water level in the condensate receiver is dynamically displayed on the touchscreen. Manual forced drainage, timed forced drainage, and automatic level-based forced drainage are also available, ensuring reliable condensate removal.
- Seamless Partial-Flow / Full-Flow Operation:** The system adopts a seamless transition between partial-flow and full-flow operating modes. The cooling air also provides a certain degree of desorption, allowing the regeneration heating temperature to be appropriately reduced. This improves operational safety while further reducing energy consumption.
- Differential Pressure Monitoring and Protection:** The system provides inlet-to-outlet differential pressure display and alarm functions. If the differential pressure exceeds the preset limit, the dryer automatically enters emergency operation with both towers operating in parallel, enhancing system safety and maintaining air supply.
- Hot-Dip Galvanized Piping:** Process piping is hot-dip galvanized to provide up to 10 years of corrosion protection, significantly extending the service life of the unit while helping prevent drain blockages caused by corrosion products.
- Skid-Mounted Pressure Equipment:** For connecting piping larger than DN150, the piping and pressure vessels are integrated into a skid-mounted pressure equipment assembly, with the applicable inspection and supervision certificate provided.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Regeneration Air Consumption: 0%
- Cooling Water Temperature: ≤32°C
- Rated Inlet Pressure: 0.7 MPa (Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Outlet Pressure Dew Point: –20°C / –40°C (Optional)
- Cooling Water Pressure: 0.2–0.6 MPa
- Rated Inlet Temperature: 120°C (Allowable inlet temperature range: 110–180°C)



### Technical Parameter

| Model     | Air Flow Capacity (m³/min) | Inlet Temperature (°C) | Cooling Water Flow Rate (t/h) | Cooling Water Connection Size | Compressed Air Connection Size | Dimensions (mm) (L×W×H) |
|-----------|----------------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------|
| HOC-Z100  | 13.5                       | 110 ~ 180              | 10                            | G1½"                          | DN65                           | 2350*1650*2800          |
| HOC-Z120  | 17.0                       | 110 ~ 180              | 12.5                          | G1½"                          | DN65                           | 2350*1650*2800          |
| HOC-Z150  | 21.5                       | 110 ~ 180              | 16                            | G1½"                          | DN65                           | 2350*1700*2820          |
| HOC-Z180  | 25.0                       | 110 ~ 180              | 18.5                          | G2"                           | DN80                           | 2400*1750*2870          |
| HOC-Z200  | 28.5                       | 110 ~ 180              | 21                            | G2"                           | DN80                           | 2650*1800*2870          |
| HOC-Z250  | 32.0                       | 110 ~ 180              | 23.5                          | G2"                           | DN80                           | 2850*1800*2870          |
| HOC-Z300  | 37.0                       | 110 ~ 180              | 27                            | G2"                           | DN100                          | 2950*1980*3050          |
| HOC-Z350  | 41.5                       | 110 ~ 180              | 30.5                          | G2"                           | DN100                          | 2950*2000*3050          |
| HOC-Z400  | 45.0                       | 110 ~ 180              | 33                            | DN65                          | DN100                          | 3000*2050*3100          |
| HOC-Z450  | 50.0                       | 110 ~ 180              | 36.5                          | DN65                          | DN100                          | 3100*2150*3150          |
| HOC-Z500  | 55.0                       | 110 ~ 180              | 40                            | DN65                          | DN125                          | 3100*2250*3150          |
| HOC-Z550  | 60.0                       | 110 ~ 180              | 44                            | DN65                          | DN125                          | 3200*2350*3150          |
| HOC-Z600  | 65.0                       | 110 ~ 180              | 47.5                          | DN65                          | DN125                          | 3300*2450*3200          |
| HOC-Z700  | 75.0                       | 110 ~ 180              | 55                            | DN80                          | DN125                          | 3400*2450*3200          |
| HOC-Z800  | 85.0                       | 110 ~ 180              | 62                            | DN80                          | DN125                          | 3500*2450*3250          |
| HOC-Z900  | 95.0                       | 110 ~ 180              | 69.5                          | DN100                         | DN150                          | 4050*2400*3490          |
| HOC-Z1000 | 110                        | 110 ~ 180              | 66                            | DN100                         | DN150                          | 4200*2800*3300          |
| HOC-Z1200 | 120                        | 110 ~ 180              | 72                            | DN100                         | DN150                          | 4300*2800*3300          |
| HOC-Z1400 | 140                        | 110 ~ 180              | 84                            | DN125                         | DN200                          | 4500*2850*3500          |
| HOC-Z1600 | 160                        | 110 ~ 180              | 96                            | DN125                         | DN200                          | 4700*2950*3550          |
| HOC-Z1800 | 180                        | 110 ~ 180              | 108                           | DN125                         | DN200                          | 4800*3000*3600          |
| HOC-Z2100 | 210                        | 110 ~ 180              | 126                           | DN125                         | DN200                          | 4850*3100*3700          |
| HOC-Z2600 | 260                        | 110 ~ 180              | 156                           | DN125                         | DN250                          | 5100*3200*3850          |

**Note:** For air flow capacities above 260 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

# 04 Compressed air Combined dryer

## 4.1 DC Series Combined Compressed Air Dryer



### Working Principle

The wet compressed air first enters the pre-cooler of the refrigerated drying system, where it exchanges heat with the dry, low-dew-point air discharged from the adsorption drying system. During this process, the low-dew-point air is reheated, while the incoming compressed air is pre-cooled and part of its moisture is removed. This reduces the compressed air temperature to near ambient temperature and minimizes the cooling load on the evaporator. The pre-cooled compressed air then enters the evaporator, where further heat exchange cools the air to a pressure dew point of approximately 2–10°C. Most of the moisture and oil, together with some impurities in the compressed air, condense at this stage. The condensate is then effectively separated from the air by an air-water separator. The partially dried compressed air passes through an oil-removal filter before entering the adsorption drying system, where moisture is deeply adsorbed by high-efficiency molecular sieve desiccant within the adsorption bed, producing compressed air with a very low pressure dew point. Finally, the low-dew-point compressed air passes through a high-efficiency particulate filter to remove residual dust and desiccant particles, providing clean compressed air with an ultra-low pressure dew point.

### Design Features

#### Advanced Refrigerated and Adsorption Drying Systems

**The refrigerated drying system** is engineered to maximize the heat-transfer area and contact time between the compressed air and refrigerant, ensuring highly efficient and thorough heat exchange. High-precision refrigeration components, an advanced expansion and throttling device, and an automatic temperature-based capacity control system continuously adjust operating conditions for optimum performance. This effectively reduces the electrical power consumption of the refrigeration compressor and improves overall energy efficiency.

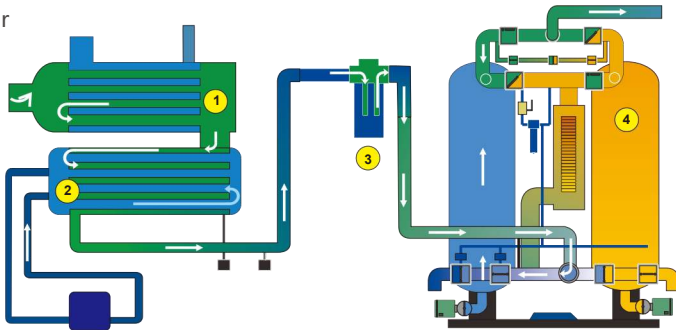
**The adsorption drying system** utilizes high-efficiency desiccant and an optimized adsorption cycle. The selected desiccant offers high mechanical strength, excellent wear resistance, and superior adsorption performance. By carrying out moisture adsorption at an optimized low temperature, the system significantly enhances adsorption capacity and depth, enabling the dryer to achieve an ultra-low pressure dew point.

#### Integrated Design

The integrated system features a compact footprint and easy installation. Developed through years of technical research and manufactured using modern production processes and equipment, every unit undergoes rigorous testing and inspection before shipment to ensure that it meets the specified performance and operating requirements.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 50°C  
(Max. inlet temperature: ≤80°C)
- Regeneration Method: Heatless / Heated Purge Regeneration
- Cooling Method: Air-Cooled / Water-Cooled
- Outlet Pressure Dew Point: ≤−40°C
- Desiccant: Activated Alumina
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



Unit Operating Principle

Note: The standard combined dryer is equipped with one intermediate filter. Additional intermediate filters can be provided as optional equipment according to customer requirements.

### Technical Parameter AH Series Refrigerated Air Dryer + CH Series Heatless Regenerative Desiccant Air Dryer

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Compressed Air Inlet / Outlet | Equipment Weight (kg) | Dimensions (mm) (L×W×H) |
|-------------|----------------------------|---------------------|------------------|-------------------------------|-----------------------|-------------------------|
| LY-DC10AHN  | 1.5                        | 380/50              | 0.9              | G1"                           | 154                   | 1150x680x1692           |
| LY-DC20AHN  | 2.5                        | 380/50              | 0.9              | G1"                           | 208                   | 1260x940x1700           |
| LY-DC30AHN  | 3.8                        | 380/50              | 1.2              | G1½"                          | 320                   | 1270x980x1691           |
| LY-DC50AHN  | 6.5                        | 380/50              | 1.6              | G1½"                          | 460                   | 1340x1030x1713          |
| LY-DC75AHN  | 10.5                       | 380/50              | 2.2              | G2"                           | 622                   | 1630x1260x1892          |
| LY-DC100AHN | 13.5                       | 380/50              | 2.8              | G2"                           | 850                   | 1665x1304x2162          |
| LY-DC120AHN | 17.0                       | 380/50              | 2.9              | DN65                          | 930                   | 1665x1355x2175          |
| LY-DC150AHN | 21.5                       | 380/50              | 5.3              | DN80                          | 1150                  | 1815x1265x2307          |
| LY-DC180AHN | 25.0                       | 380/50              | 5.3              | DN80                          | 1330                  | 1925x1450x2384          |
| LY-DC200AHN | 28.5                       | 380/50              | 5.6              | DN80                          | 1630                  | 2045x1559x2311          |
| LY-DC250AHN | 32.0                       | 380/50              | 6.3              | DN80                          | 1800                  | 2100x1600x2510          |
| LY-DC300AHN | 37.0                       | 380/50              | 7.9              | DN100                         | 2000                  | 2165x1700x2448          |
| LY-DC400AHN | 45.0                       | 380/50              | 10.6             | DN100                         | 2750                  | 2200x1842x2541          |

Note: For air flow capacities above 45 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.

### Technical Parameter AH Series Refrigerated Air Dryer + CH Series Heated Purge Regenerative Desiccant Air Dryer

| Model       | Air Flow Capacity (m³/min) | Compressed Air Inlet / Outlet | Dimensions (mm) (L×W×H) |
|-------------|----------------------------|-------------------------------|-------------------------|
| LY-DC10AHH  | 1.5                        | G1"                           | 1 1 50x680x1 692        |
| LY-DC20AHH  | 2.5                        | G1"                           | 1 2 60x940x1 700        |
| LY-DC30AHH  | 3.8                        | G1½"                          | 1 2 70x980x1 691        |
| LY-DC50AHH  | 6.5                        | G1½"                          | 1 340x 1030x 1713       |
| LY-DC75AHH  | 10.5                       | G2"                           | 1630x 1260x 1892        |
| LY-DC100AHH | 13.5                       | G2"                           | 1665x 1304x2162         |
| LY-DC120AHH | 17.0                       | DN65                          | 1665x 1355x2175         |
| LY-DC150AHH | 21.5                       | DN80                          | 1815x 1265x 2307        |
| LY-DC180AHH | 25.0                       | DN80                          | 1925x 1450x2384         |
| LY-DC200AHH | 28.5                       | DN80                          | 2045x 1559x2311         |
| LY-DC250AHH | 32.0                       | DN80                          | 2100x 1600x2510         |
| LY-DC300AHH | 37.0                       | DN100                         | 2165x 1700x 2448        |
| LY-DC400AHH | 45.0                       | DN100                         | 2200x 1842x 2541        |

Note: Combined air dryers in various configurations, including air-cooled, water-cooled, heatless regenerative, and heated-purge regenerative types, can be customized according to customer requirements. Units with air flow capacities above 45 m³/min are also available on a custom-engineered basis.

# 04 Compressed air Combined dryer

## 4.2 DH Series Combined Compressed Air Dryer



### Working Principle

The wet compressed air first enters the pre-cooler of the refrigerated drying system, where it exchanges heat with the dry, low-dew-point air discharged from the adsorption drying system. This process reheats the low-dew-point air while simultaneously pre-cooling the incoming compressed air and removing part of its moisture. The compressed air temperature is reduced to near ambient temperature, thereby reducing the cooling load on the evaporator. The pre-cooled compressed air then enters the evaporator for further heat exchange, where it is cooled to a pressure dew point of approximately 2–10°C. Most of the moisture and oil, together with some impurities in the compressed air, condense at this stage. The condensate is then effectively separated from the compressed air by an air-water separator. The partially dried compressed air passes through an oil-removal filter before entering the adsorption drying system. Within the adsorption bed, residual moisture is deeply adsorbed by high-efficiency molecular sieve desiccant, producing compressed air with a very low pressure dew point. The low-dew-point compressed air then passes through a high-efficiency particulate filter to remove residual dust and desiccant particles, ultimately providing clean compressed air with an ultra-low pressure dew point.

### Design Features

#### Energy Saving

The refrigerated air dryer reduces the moisture content of the compressed air before it enters the adsorption dryer, thereby reducing the moisture load on the adsorption system. This lowers regeneration air consumption and extends the service life of the desiccant. While ensuring a consistently low pressure dew point of the treated air, the combined drying system provides improved operating economy and higher overall energy efficiency.

#### Advanced Refrigerated and Adsorption Drying Systems

**The refrigerated drying system** is designed to maximize the heat-transfer area and contact time between the compressed air and refrigerant, enabling more efficient and thorough heat exchange. High-precision refrigeration components, an advanced expansion and throttling device, and an automatic temperature-based capacity control system continuously adjust the refrigeration system according to actual operating conditions. This allows the system to maintain optimum performance while effectively reducing the electrical power consumption of the refrigeration compressor.

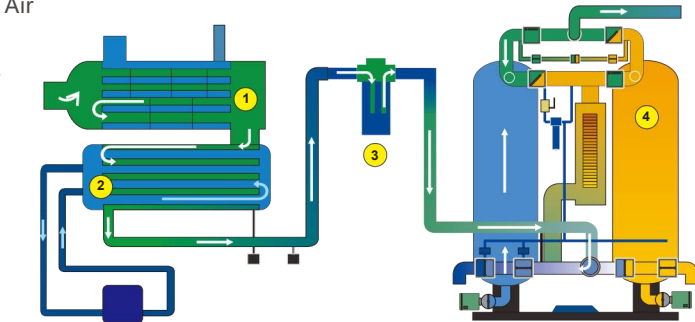
**The adsorption drying system** utilizes high-efficiency desiccant with an optimized adsorption cycle. The selected desiccant features high mechanical strength, excellent wear resistance, and superior adsorption performance. By carrying out moisture adsorption at an optimized low temperature, the system significantly improves adsorption capacity and depth, enabling an ultra-low pressure dew point to be achieved.

#### Integrated Design

The integrated configuration features a compact footprint and easy installation. Developed through years of technical research and manufactured using modern production processes and equipment, every unit undergoes rigorous testing and inspection before shipment to ensure compliance with the specified operating and performance requirements.

### Operating conditions and Technical requirements

- Applicable Medium: Compressed Air / Non-Corrosive Air
- Rated Inlet Pressure: 0.7 MPa  
(Operating range: 0.6–1.0 MPa; other pressure ratings available upon request)
- Rated Inlet Temperature: 50°C  
(Max. inlet temperature: ≤80°C)
- Regeneration Method: Heatless / Heated Purge Regeneration
- Cooling Method: Air-Cooled / Water-Cooled
- Outlet Pressure Dew Point: ≤−40°C
- Desiccant: Activated Alumina + High-Performance Molecular Sieve
- Rated Ambient Temperature: 35°C  
(Operating range: 2–45°C)



**Note:** The standard combined dryer is equipped with one intermediate filter. Additional intermediate filters are available as optional equipment according to customer requirements.

### Technical Parameter AH Series Refrigerated Air Dryer + HH Series Heatless Regenerative Desiccant Air Dryer

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Compressed Air Inlet / Outlet | Equipment Weight (kg) | Dimensions (mm) (L × W × H) |
|-------------|----------------------------|---------------------|------------------|-------------------------------|-----------------------|-----------------------------|
| LY-DH10AHN  | 1.5                        | 220/50              | 0.9              | G1"                           | 182                   | 1260x762x1803               |
| LY-DH20AHN  | 2.5                        | 220/50              | 1.0              | G1"                           | 263                   | 1260x940x1700               |
| LY-DH30AHN  | 3.8                        | 220/50              | 1.2              | G1½"                          | 420                   | 1345x1030x1773              |
| LY-DH50AHN  | 6.5                        | 220/50              | 1.6              | G1½"                          | 574                   | 1455x1160x1847              |
| LY-DH75AHN  | 10.5                       | 220/50              | 2.3              | G2"                           | 782                   | 1665x1295x2175              |
| LY-DH100AHN | 13.5                       | 380/50              | 2.8              | G2"                           | 980                   | 1665x1356x2225              |
| LY-DH120AHN | 17.0                       | 380/50              | 2.9              | DN65                          | 1072                  | 1725x1346x2384              |
| LY-DH150AHN | 21.5                       | 380/50              | 5.2              | DN80                          | 1399                  | 1955x1459x2265              |
| LY-DH180AHN | 25.0                       | 380/50              | 5.3              | DN80                          | 1554                  | 1950x1459x2465              |
| LY-DH200AHN | 28.0                       | 380/50              | 5.6              | DN80                          | 1820                  | 2070x1560x2448              |
| LY-DH250AHN | 32.0                       | 380/50              | 6.3              | DN80                          | 2010                  | 2115x1600x2642              |
| LY-DH300AHN | 37.0                       | 380/50              | 7.9              | DN100                         | 2336                  | 2140x1760x2680              |
| LY-DH400AHN | 45.0                       | 380/50              | 10.6             | DN100                         | 2750                  | 2270x1830x2801              |

**Note:** Combined air dryers in various configurations, including air-cooled, water-cooled, heatless regenerative, and heated-purge regenerative types, can be customized according to customer requirements. Units with air flow capacities above 45 m³/min are available on a custom-engineered basis.

### Technical Parameter AH Series Refrigerated Air Dryer + HH Series Heated Purge Regenerative Desiccant Air Dryer

| Model       | Air Flow Capacity (m³/min) | Power Supply (V/Hz) | Total Power (kW) | Compressed Air Inlet / Outlet | Equipment Weight (kg) | Dimensions (mm) (L × W × H) |
|-------------|----------------------------|---------------------|------------------|-------------------------------|-----------------------|-----------------------------|
| LY-DH10AHH  | 1.5                        | 380/50              | 2.3              | G1"                           | 187                   | 1260x762x1803               |
| LY-DH20AHH  | 2.5                        | 380/50              | 2.5              | G1"                           | 270                   | 1260x940x1700               |
| LY-DH30AHH  | 3.8                        | 380/50              | 3.6              | G1½"                          | 430                   | 1345x1030x1773              |
| LY-DH50AHH  | 6.5                        | 380/50              | 5.0              | G1½"                          | 580                   | 1455x1160x1847              |
| LY-DH75AHH  | 10.5                       | 380/50              | 5.7              | G2"                           | 890                   | 1665x1295x2175              |
| LY-DH100AHH | 13.5                       | 380/50              | 9.1              | G2"                           | 1090                  | 1665x1356x2225              |
| LY-DH120AHH | 17.0                       | 380/50              | 13.0             | DN65                          | 1255                  | 1725x1346x2384              |
| LY-DH150AHH | 21.5                       | 380/50              | 15.1             | DN80                          | 1420                  | 1955x1459x2265              |
| LY-DH180AHH | 25.0                       | 380/50              | 15.3             | DN80                          | 1720                  | 1950x1459x2465              |
| LY-DH200AHH | 28.5                       | 380/50              | 15.8             | DN80                          | 1970                  | 2070x1560x2448              |
| LY-DH250AHH | 32.0                       | 380/50              | 19.2             | DN80                          | 2070                  | 2115x1600x2642              |
| LY-DH300AHH | 37.0                       | 380/50              | 21.1             | DN100                         | 2540                  | 2140x1760x2680              |
| LY-DH400AHH | 45.0                       | 380/50              | 27.0             | DN100                         | 2830                  | 2270x1830x2801              |

**Note:** Combined air dryers in various configurations, including air-cooled, water-cooled, heatless regenerative, and heated-purge regenerative types, can be customized according to customer requirements. Units with air flow capacities above 45 m³/min are available on a custom-engineered basis.

# 07 Project Cases

## Partial projects

Project Reference 1: Class 1 Energy-Efficient Compressed Air Station Project for a Semiconductor Company (Actual Site Photo of the Compressor Station)

|                                                                                   |                      |                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 6 × 150 m³/min Units                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                   | System Configuration | Zero-Air-Loss Heat-of-Compression (HOC) Regenerative Adsorption Dryers                                                                                                                                                                                                                                                                                                       |
|                                                                                   | Project Requirements | Meet Class 1 Energy Efficiency Standards and provide 200 million m³ of clean, oil-free, low-dew-point compressed air.                                                                                                                                                                                                                                                        |
|                                                                                   | Proposed Solution    | <p>Six 150 m³/min zero-air-loss HOC regenerative adsorption dryers were supplied, featuring:</p> <ul style="list-style-type: none"><li>Class 1 energy-efficient operation and intelligent monitoring</li><li>High-performance pneumatic butterfly valves</li><li>Advanced automatic control system</li><li>High-quality adsorbent with sufficient filling capacity</li></ul> |

Project Reference 2: A Foundry Co., Ltd. (Actual Interior View of the Compressed Air Station)

|                                                                                    |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 10 × 65 m³/min Units                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                    | System Configuration | Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                    | Project Requirements | <p><b>Project Requirements:</b> Safe, reliable, fully automated operation with integration into the central control system and MES.</p> <p><b>Performance:</b> Dew Point: ≤ -40°C, Oil Content: ≤ 0.01 ppm, Particle Size: ≤ 1 µm, Regeneration Air Consumption: 0%</p>                                                                                                                                                                   |
|                                                                                    | Proposed Solution    | <p>Ten 65 m³/min zero-air-loss blower-heated dryers were supplied, featuring:</p> <ul style="list-style-type: none"><li>High-performance pneumatic butterfly valves</li><li>High-quality adsorbent</li><li>Optimized airflow distribution</li><li>Dew-point and time-based control modes</li><li>Siemens touchscreen and Schneider electrical components</li><li>Integrated oil-water separation and high-efficiency filtration</li></ul> |

Project Reference 3: A Photovoltaic Technology Co., Ltd. (Actual Site Photo of the Compressed Air Station)

|                                                                                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 8 × 220 m³/min Units                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                     | System Configuration | Low-Purge Blower-Heated Regenerative Adsorption Dryers                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                     | Project Requirements | <p><b>Project Requirements:</b> High efficiency, energy savings, safe and reliable operation, easy maintenance, and an attractive design.</p> <p><b>Performance:</b> Pressure Dew Point: ≤ -40°C, Oil Content: ≤ 0.01 ppm, Particle Size: ≤ 1 µm, Regeneration Air Consumption: ≤ 3%</p>                                                                                                                                                                 |
|                                                                                     | Proposed Solution    | <p>Eight customized 220 m³/min low-purge blower-heated regenerative adsorption dryers, featuring:</p> <ul style="list-style-type: none"><li>High-performance pneumatic butterfly valves</li><li>High-quality adsorbent</li><li>Optimized airflow distribution and advanced control system</li><li>Approx. 8% energy savings compared with conventional heated-purge dryers</li><li>Excellent moisture removal and stable dew-point performance</li></ul> |

Project Reference 4: Compressed Air Dryer Retrofit Project for an Electrical Appliance Group Co., Ltd. (Actual Site Photo of the Compressed Air Station)

|                                                                                     |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 4 × 85 m³/min Units                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                     | System Configuration | Dual-Efficiency Energy-Saving Refrigerated Air Dryers (Water-Cooled)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                     | Project Requirements | <p><b>Project Requirements:</b> Four energy-efficient dryers to reduce system pressure drop and overall energy consumption.</p> <p><b>Performance:</b> Pressure Dew Point: 2-10°C, Oil Content: ≤ 0.01 ppm, Particle Size: ≤ 1 µm</p>                                                                                                                                                                                                                                                                                                                                 |
|                                                                                     | Proposed Solution    | <p>Four 85 m³/min dual-efficiency refrigerated air dryers, combining low pressure drop and variable-frequency technology.</p> <ul style="list-style-type: none"><li>Variable-frequency operation adjusts automatically according to air demand</li><li>Terminal pressure increased from 6.45 bar to 6.8 bar</li><li>Overall energy savings of approximately 39%</li><li>Mitsubishi variable-frequency compressor and electronic expansion valve</li><li>Patented low-pressure-drop design</li><li>Intelligent touchscreen control with RS-485 communication</li></ul> |

Project Reference 5: An Energy Storage Technology Co., Ltd. (Actual Interior View of the Compressed Air Station)

|                                                                                      |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 6 × 50 m³/min Units                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                      | System Configuration | Stainless Steel Low-Purge Blower-Heated Regenerative Adsorption Dryers                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                      | Project Requirements | <p><b>Project Requirements:</b> Safe, stable, and reliable dryers with an advanced control system.</p> <p><b>Performance:</b> Pressure Dew Point: ≤ -40°C, Oil Content: ≤ 0.01 ppm, Particle Size: ≤ 1 µm, Regeneration Air Consumption: ≤ 3%</p>                                                                                                                                                                                                                        |
|                                                                                      | Proposed Solution    | <p>Six 50 m³/min stainless steel blower-heated adsorption dryers, featuring:</p> <ul style="list-style-type: none"><li>High-performance hard-seated pneumatic butterfly valves</li><li>High-quality adsorbent for stable dew-point performance</li><li>Optimized airflow distribution</li><li>Comprehensive temperature and pressure monitoring</li><li>7-inch touchscreen with international-brand electrical components</li><li>Stainless steel construction</li></ul> |

Project Reference 6: An Aluminum Industry Co., Ltd. (Actual Site Photo of the Compressed Air Station)

|                                                                                       |                      |                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Project Scale        | 6 × 110 m³/min Units                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                                       | System Configuration | Zero-Air-Loss Heat-of-Compression + Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers                                                                                                                                                                                                                                                                                        |
|                                                                                       | Project Requirements | <p><b>Project Requirements:</b> High efficiency, energy savings, safe and reliable operation, easy maintenance, and attractive appearance.</p> <p><b>Performance:</b> Pressure Dew Point: ≤ -40°C, Oil Content: ≤ 0.01 ppm, Particle Size: ≤ 1 µm, Regeneration Air Consumption: 0%</p>                                                                                               |
|                                                                                       | Proposed Solution    | <p>Customized 110 m³/min zero-air-loss HOC and blower-heated regenerative adsorption dryers, featuring:</p> <ul style="list-style-type: none"><li>Multi-point temperature monitoring for control and protection</li><li>Multi-point pressure monitoring for safe and reliable operation</li><li>Local/Remote control modes</li><li>Time-Based/Dew-Point-Based control modes</li></ul> |

07 Project Cases

Cases



**Project Client** New Energy Materials  
**Machine Model** 2 Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers + 3 Refrigerated Air Dryers + 350 m³/h Nitrogen Generator



**Project Client** Cement Industry  
**Machine Model** 5 × 45 m³/min Refrigerated Air Dryers



**Project Client** Pharmaceutical Co., Ltd.  
**Machine Model** 4 × 28.5 m³/min Refrigerated Air Dryers + Modular Adsorption Dryers



**Project Client** Petrochemical Industry  
**Machine Model** 4 × 40 m³/min CCS-Certified Adsorption Dryers



**Project Client** New Energy Materials  
**Machine Model** 9 × 200 m³/min Blower-Heated Regenerative Adsorption Dryers



**Project Client** New Energy Industry  
**Machine Model** 8 × 95 m³/min Stainless Steel Adsorption Dryers



**Project Client** Petrochemical Industry  
**Machine Model** 8 × 250 m³/min WH Series Refrigerated Air Dryers



**Project Client** Power Plant  
**Machine Model** 2 × 75 m³/min Modular Adsorption Dryers



**Project Client** Overseas Market  
**Machine Model** 5 Refrigerated Air Dryers + Nitrogen Generators

● Petrochemical Industry ● New Energy Vehicle Industry ● Machinery Manufacturing Industry ● Metallurgy & Steelmaking Industry



**Project Client** A Foreign-Invested Electromechanical Company  
**Machine Model** 50 × 50 m³/min Modular Adsorption Dryers



**Project Client** New Energy Industry  
**Machine Model** 3 Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers + 4 Stainless Steel Combined Air Dryers



**Project Client** New Energy Industry  
**Machine Model** 5 Sets of Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers + Refrigerated Air Dryers



**Project Client** New Energy Industry  
**Machine Model** 12 × 220 m³/min Low-Purge Blower-Heated Regenerative Adsorption Dryers



**Project Client** Chemical Industry  
**Machine Model** 6 × 32 m³/min Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers + Refrigerated Air Dryers



**Project Client** Advanced Materials Industry  
**Machine Model** 5 × 55 m³/min AH Series Refrigerated Air Dryers



**Project Client** Pharmaceutical Industry  
**Machine Model** 3 × 85 m³/min Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers



**Project Client** Pharmaceutical & Food Industry  
**Machine Model** 10 × 45 m³/min Energy-Efficient Refrigerated Air Dryers + Blower-Heated Regenerative Adsorption Dryers



**Project Client** Food Industry  
**Machine Model** 4 × 45 m³/min Zero-Air-Loss Blower-Heated Regenerative Adsorption Dryers (40 bar)

● Electronic Components Industry ● Defense Manufacturing Industry ● Textile Dyeing & Printing Industry ● Pharmaceutical & Food Industry

# 08 our services

## LINGYU Services



Professional & Efficient



Committed to Improving Customer Satisfaction



Nationwide Coverage Rapid Response

## Service Scope

- Free after-sales technical consultation
- Commissioning, repair, and maintenance of Lingyu
- equipment under warranty
- On-site inspection and customized maintenance solutions for
- out-of-warranty Lingyu equipment and other brands

## Comprehensive Spare Parts Supply

- Refrigerated Air Dryer Parts**  
Fans, compressors, condensers, evaporators, filter driers, expansion valves, bypass valves, pressure gauges, various drain valves, etc.
- Adsorption Dryer Parts**  
Valves, electrical control boxes, adsorbents, diffusers, silencers, solenoid valves, check valves, etc.
- Other Spare Parts**  
Various filter elements, differential pressure gauges, etc.

## Service industry and customers

|                          |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Electronics Industry     |    |    |    |    |    |    |
| Power Industry           |    |    |    |    |    |    |
| Home Appliance Industry  |    |    |    |    |    |                                                                                       |
| Aerospace Industry       |    |    |    |    |    |    |
| Steel Industry           |  |  |  |  |  |  |
| Machinery Industry       |  |  |  |  |  |                                                                                       |
| Automotive Industry      |  |  |  |  |  |  |
| Lithium Battery Industry |  |  |  |  |                                                                                       |                                                                                       |

Note: The companies listed above include both existing customers and prospective customers with upcoming cooperation.