

02 Compressed air Refrigeration dryer

2.1 AH Series Air-Cooled High-Inlet-Temperature Refrigerated Air Dryer



■ Working Principle

High-temperature compressed air containing moisture and oil first enters the air-cooled pre-cooler and the air-to-air heat exchanger, where it is pre-cooled to reduce its temperature. It then passes through the air-to-refrigerant evaporator, where the compressed air is cooled to a dew point of 2–10°C. During cooling, moisture, oil, and some impurities condense and are separated from the compressed air by the gas-liquid separator. The condensate is then discharged through an automatic drain valve. Finally, the dry compressed air passes through the air-to-air heat exchanger, where it is reheated to near ambient temperature, providing clean, dry compressed air for downstream use.

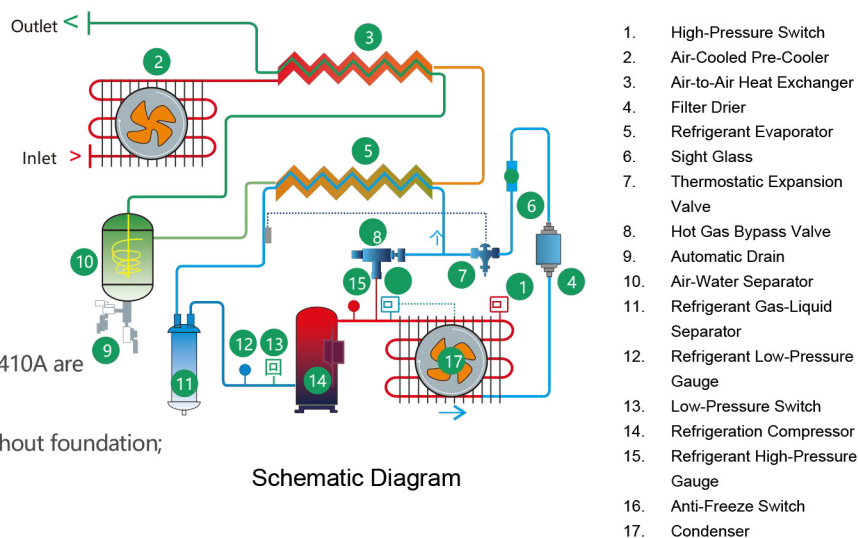
■ Design Features

- **High Stability**
Key heat exchangers are manufactured in-house. Refrigeration compressors are mainly sourced from well-known brands such as Panasonic, Copeland, Danfoss, and Hanbell, together with high-quality refrigeration components.
- **High-Efficiency Moisture Separation**
Equipped with an independently designed, continuously upgraded water separation system to ensure high and reliable separation efficiency.
- **Wide Operating Range**
Hydrophilic aluminum foil is used, while heat exchangers and pre-coolers are standard across the entire series, ensuring reliable operation even under demanding conditions.
- **Intelligent Dual-Compressor Design**
Models from 5 to 180 m³/min feature a 1+1 dual-compressor configuration. The second compressor automatically starts or stops according to system load, improving energy efficiency and adapting to applications with significant fluctuations in air demand.
- **High Customization Capability**
Custom colors and optional PLC control are available. Dry contacts, Modbus communication, IoT connectivity, and other functions can also be customized to meet specific customer requirements.



Operating conditions and Technical requirements

- Rated Inlet Pressure: 0.7 MPa
- (Operating range: 0.6–1.0 MPa; other working pressures available upon request)
- Rated Inlet Temperature: 50°C
(Max. inlet temperature: ≤80°C)
- Pressure Dew Point: 2–10°C
- Rated Ambient Temperature: 32°C
(Operating range: 2–45°C)
- Pressure Drop: ≤0.025 MPa
- Cooling Method: Air-Cooled
- Refrigerant: R22
(Environmentally friendly refrigerants such as R407C and R410A are available upon request)
- Installation: Indoor installation on a level concrete floor without foundation; minimum clearance of 1.5 m around the unit.



Technical Parameter

Model	Air Flow Capacity (m ³ /min)	Power Supply (V/Hz)	Total Power (kW)	Air Inlet / Outlet	Weight (kg)	Dimensions (mm) (L × W × H)
LY-D10AC	1.5	220/50	0.68	G1"	49	680×440×710
LY-D20AC	2.5	220/50	0.83	G1"	58	800×440×800
LY-D30AH	3.8	220/50	1.10	G1.5"	104	980×500×930
LY-D50AH	6.5	220/50	1.50	G1.5"	129	1030×550×1000
LY-D75AH	10.5	220/50	2.20	G2"	177	1240×650×1150
LY-D100AH	13.5	380/50	3.10	G2.5"	215	1350×670×1300
LY-D120AH	17.0	380/50	3.10	G2.5"	222	1350×670×1300
LY-D150AH	21.5	380/50	5.20	DN80	283	1450×700×1510
LY-D180AH	25.0	380/50	5.20	DN80	310	1450×700×1510
LY-D200AH	28.5	380/50	5.50	DN80	334	1550×850×1595
LY-D250AH	32.0	380/50	6.20	DN80	406	1550×850×1595
LY-D300AH	37.0	380/50	7.80	DN100	524	1700×850×1740
LY-D350AH	41.5	380/50	7.80	DN100	600	1700×850×1740
LY-D400AH	45.0	380/50	10.0	DN100	630	1830×950×1840
LY-D450AH	50.0	380/50	10.0	DN100	680	1830×950×1840
LY-D500AH	55.0	380/50	11.7	DN125	714	2020×950×1850
LY-D550AH	60.0	380/50	11.7	DN125	830	2020×950×1850
LY-D600AH	65.0	380/50	11.9	DN125	950	2300×1300×1930
LY-D700AH	75.0	380/50	13.9	DN125	1050	2390×1395×1805
LY-D800AH	85.0	380/50	16.2	DN125	1200	2400×1420×1860
LY-D900AH	95.0	380/50	16.7	DN150	1350	3000×1550×2145
LY-D1100AH	110.0	380/50	19.7	DN150	1450	3100×1600×2180

Note: For air flow capacities above 110 m³/min, or for special requirements regarding specifications, materials, or operating temperatures, please contact our company or your authorized distributor for detailed technical information.