



High-Efficiency Combined Dryer

H-CB Series



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High Efficiency Combined Dryers

H-CB series high efficiency combined dryers make a breakthrough from a simple serial connection of ordinary refrigerator and absorber and obtains a superior energy-saving effect to greatly improve the return on investment of users.

- Through refrigerated air drying, the inlet high-temperature compressed air is cooled to 5 °C or below;
- Saturated humid air under low temperature conditions, after removing the condensed water by an efficient cyclone separator, and then filtering out the oil by an efficient oil removal filter, enters the adsorption tower for low-temperature adsorption;
- The adsorbed dry and cold air enters the freeze-drying system again, and achieves a temperature rise effect by exchanging heat with the humid hot air at the inlet;
- After being reheated, most of the dry compressed air flows to the air distribution pipeline, while a small portion of the heated dry air returns to the regeneration tower to thermally regenerate the adsorbent that has become saturated under low-temperature conditions.

Product Features

Reliable performance

A stable outlet temperature ensures high-quality compressed air with a consistently low dew point, free of impurities and moisture.

Easy maintenance

The refrigerated drying system first reduces the moisture content of the compressed air, effectively extending the service life of the desiccant, lengthening the operating cycle, and reducing valve wear.

Selectable Pressure Dew Point

The pressure dew point can be designed to be -40°C or -70°C according to user requirements.

Good energy-saving effect

This dryer requires neither an electric heater nor additional regeneration air consumption, reducing regeneration purge air consumption to ≤3% while lowering refrigeration compressor power consumption by 20%–40%.

Space-saving

Compact structural design requires significantly less space compared with a conventional simple series combination of refrigeration and adsorption units.



Technical Specifications

- Nominal Working Pressure: 0.7–1.0 MPa
- Nominal Inlet Air Temperature: ≤45°C
- Average Purge Consumption: ≤3%
- Electrical Classification: NEMA 4 or IP55
- Cooling Water Temperature: 32°C
- Standard Inlet Conditions: 0.7 MPa / 38°C / 100% saturated air

Product Configuration

- Siemens PLC and touchscreen HMI
- Local and remote control
- Integrated enclosure design for models up to 60 m³/min
- Split-type design for models of 80 m³/min and above
- Stable dew point performance and energy-saving operation

Model H-CB	Flow Rate m³/min	Power Supply V/Ph/Hz	Air Connection Size mm	Cooling Water Connection Size	Cooling Water Flow Rate t/h	Twin-Tower Desiccant Charge Kg
H-CB Series High-Efficiency Combined Dryers (Water-Cooled)						
H900CB-W	15	380/3/50	DN65	1"	4.5	324
H1200CB-W	20	380/3/50	DN65	1"	5.0	350
H1800CB-W	30	380/3/50	DN80	1-1/2"	6.0	430
H2400CB-W	40	380/3/50	DN100	1-1/2"	8.0	628
H3000CB-W	50	380/3/50	DN100	1-1/2"	10.0	650
H3600CB-W	60	380/3/50	DN125	1-1/2"	12.0	845
H4800CB-W	80	380/3/50	DN125	1-1/2"	16.0	1122
H6000CB-W	100	380/3/50	DN150	1-1/2"	22.0	1560
H7200CB-W	120	380/3/50	DN150	1-1/2"	27.0	1800
H9000CB-W	150	380/3/50	DN200	1-1/2"	30.0	2260

Note: All dryer air inlet connections are flanged. Overall dimensions and inlet/outlet connection sizes are subject to the dimensional drawing. Custom models for other flow capacities are available upon request.



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