



## Refrigeration Dryer

High quality compressed air



Energy efficient compressed air treatment

**CD-Series**  
Non-Cycling Refrigeration Dryers

# Energy efficient refrigeration dryers



## First-class air treatment efficiency

For CompAir, quality and efficiency are just as important for compressed air treatment as they are for compressed air generation. Just like CompAir compressors, the CD-Series refrigerant dryers also provide a consistently high performance with optimum efficiency for many industrial compressed air applications. They are carefully selected depending on working conditions with continuous dew point monitoring enabling reliable operation with the lowest possible pressure losses and running costs. When it comes to compressed air treatment, modern, reliable technology and compact dimensions make the CD-Series the preferred choice for every application.

## Investment protection through compressed air quality

Modern production systems and processes demand high quality compressed air, which is defined in the 6 classes outlined in international standard ISO 8573-1:2010 as illustrated below. These are only achievable with filtration, water separation and drying. Users in the food and pharmaceutical industry must adhere to stringent compressed air quality guidelines, as well as local legislation. Other industries may also follow specific advice regarding the quality compressed air they use to ensure the protection and efficiency of process equipment and finished product.

## Compressed air quality classes according to ISO 8573-1:2010

ISO 8573-1: 2010 Class	Solid Particulate			Mass Concentration [mg/m <sup>3</sup> ]	Water		Oil Total Oil (aerosol liquid and vapour) [mg/m <sup>3</sup> ]
	Maximum number of particles per m <sup>3</sup>				Vapour Pressure Dewpoint [°C]	Liquid [g/m <sup>3</sup> ]	
	0.1 - 0.5 µm	0.5 - 1 µm	1 - 5 µm				
0	As specified by the equipment user or supplier and more stringent than Class 1						
1	≤ 20,000	≤ 400	≤ 10	—	≤ -70	—	0.01
2	≤ 400,000	≤ 6,000	≤ 100	—	≤ -40	—	0.1
3	—	≤ 90,000	≤ 1,000	—	≤ -20	—	1
4	—	—	≤ 10,000	—	≤ +3	—	5
5	—	—	≤ 100,000	—	≤ +7	—	—
6	—	—	—	≤ 5	≤ +10	—	—

“

Efficient compressed air systems from CompAir offer long-term solutions, ensuring lower operational costs and a timely return on investment.

”

## Impressive return on investment and operational reliability

The use of clean dry compressed air ensures high levels of reliability, guarantees that quality standards are met, and can reduce production costs. CompAir offer a range of solutions for drying utilising modern cooling technology.

### CD4F - CD43F

Air flow rate from 0.42 m<sup>3</sup>/min to 4.33 m<sup>3</sup>/min

### CD50F - CD80F

Air flow rate from 5.00 m<sup>3</sup>/min to 8.00 m<sup>3</sup>/min

### CD100F - CD160F

Air flow rate from 10.00 m<sup>3</sup>/min to 15.83 m<sup>3</sup>/min

### CD216F - CD375F

Air flow rate from 21.67 m<sup>3</sup>/min to 37.50 m<sup>3</sup>/min

### CD450F - CD1920F

Air flow rate from 45.00 m<sup>3</sup>/min to 191.67 m<sup>3</sup>/min

## Save energy with refrigerant dryers

Operators primarily focus on compressed air quality and purchase cost. Differences in the operating costs of refrigerant dryers are often less likely to be considered. The CompAir refrigerant dryers are characterised by their energy efficiency, which helps to reduce running costs, thanks to patented heat exchanger technology.

- High quality heat exchanger with low pressure loss
- Energy Saving mode ESA – shuts dryer off during low loads
- Full feature, multi-function innovative control panel
- Anti freeze mode – shuts dryer off to avoid icing
- Low operating costs
- Compact design
- Alarm display with history of alarms
- Effective condensate separation
- Easy to install, operate and maintain
- Simplified access to unit for easy maintenance



# Reliable, efficient & clean dry air

CompAir's refrigerated dryers provide the very best combination of high efficiency, low pressure drop and small footprint

CompAir CD-series refrigerant dryers deliver a comprehensive, cost-effective solution to multiple applications across a wide range of sectors including automotive, manufacturing, petrochemical, oil and gas, dry cleaning and light processing to name a few.

## Optimum efficiency by Design

Using refrigerated dryers from CompAir will provide clean, dry air which means less corrosion in the air distribution system, less damage to air-powered tools, and reduced potential for contamination in the production process. The design features of CompAir CD dryers not only ensure constant dew point at all load levels, but also deliver continuous dry air performance that meets the most challenging ISO 7183 industry standards.

## Low cost of ownership

CompAir's refrigerated dryers provide the very best combination of high efficiency, low pressure drop and small footprint which reduces power consumption, reduces installation time and facilitates maintenance.

## Options

- No loss drain
- Sea water cooled
- Different voltages
- ANSI/NPT air connections
- Remote control
- Different gas

## Features are your benefits

**Air Cooled Condensation (as standard)**  
Water and Sea Water versions are optional from CD50F.

**Victaulic Connections (optional)**  
For quick and easy connection of pipework.

**Reliable Design**  
Scroll compressors with corrosion resistant materials. They feature fewer moving parts, are fully-instrumented and monitored for reliability, and are protected by IP42 rated electrical enclosures.

**Reduced Footprint**  
30% smaller than previous model.

### Innovative Control Panel

With all the main functions you would expect to control and monitor the unit:

- Anti freeze mode – shuts dryer off to avoid icing
- Alarm display: Dew Point, high/low temperature, High ambient temperature
- Remote ON/OFF (optional)
- Alarm history
- Condensate drain management

### New Heat Exchangers

Designed and developed in our laboratories to deliver the highest levels of performance with the lowest pressure drop. The adoption of the new CompAir heat exchanger has enabled the removal of the inlet and outlet headers.

### Innovative No-loss Drain

With sensor installed directly in the moisture separator and control logic managed by the main Control Panel.



## Specifically designed for challenging applications

The CD Refrigerated Dryer Range is one range for all applications. These units provide a small footprint with complete, affordable solutions for applications ranging from dry cleaning to automotive body shops, to light processing and manufacturing applications. The high capacity units are designed for large-scale industrial, automotive and petrochemical applications.

## Outstanding efficiency thanks to custom designed heat exchangers and patented control board

The CD-series of refrigeration air dryers has been designed to maximise efficiency and reliability. All models are equipped with a high efficiency heat exchanger including an integrated condensate separator. The heat exchangers, completely designed and developed in our labs, are capable of achieving the highest levels of performance required from the market, together with a very low pressure drop rate.

Thanks to our patented solution, the programmable control board will adjust the fan speed according to the load in order to guarantee, under any working conditions, a constant and high level performance.

Every unit is equipped with a wide range of adjustable settings and alarm outputs such as high dew point temperature, anti freezing alarm, fault probe, and so on.

CD-series dryers are all equipped with a programmable electronic condensate discharger, suitable for working with high efficiency in all kind of conditions.



# Reliable design



Model shown CD1460F

## Scroll compressor

Models CD130 to CD1920F are fitted with a scroll refrigerant compressor. Scroll compressors with corrosion resistant materials deliver cost efficient, long-life performance. They feature fewer moving parts, are fully-instrumented and monitored for reliability, and are protected by IP42 rated electrical enclosures.

This makes them the optimum investment for high-volume needs with a lot at stake.

Every unit delivers advanced microprocessor control with multi-level menus, password protection and alarms.

## Electronic drain valve

The programmable electronic drain valve is a standard feature (up to CD80F) and is fully adjustable to help minimise air loss.

- Easily adjusted from the dryer control panel to match all possible working conditions.
- Proven reliability – thousands in service.
- Includes a strainer for quick maintenance.

Models shown CD9F, CD130F, CD450F



## No-loss drain

The powerful no loss electronic drain is standard from CD100 and above, optional on all other models, and eliminates the need for pre-setting the unit. It uses state-of-the-art software combined with a special transducer interface to measure the presence of condensate so that it is released only when needed. Continuous monitoring ensures fast and effective discharge of the condensate with no deficit of compressed air.

## Correction Factors

Correction Factors for working pressure															
bar	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
FC1	0.7	0.78	0.85	0.93	1	1.06	1.11	1.15	1.18	1.2	1.22	1.24	1.25	1.26	

Correction Factors for inlet air temperature							
°C	30	35	40	45	50	55	60
FC2	1.2	1	0.85	0.71	0.58	0.49	0.42

Correction Factors for dew point temperature									
°C	3	4	5	6	7	8	9	10	
FC3	1	1.04	1.09	1.14	1.18	1.25	1.3	1.33	

Correction Factors for ambient temperature (for air cooled)							
°C	25	30	35	40	42	45	50*
FC4	1	0.96	0.92	0.88	0.85	0.8	0.7

\*units up to, and including CD160F

Correction Factors for different water inlet temperature (for water cooled version)								
°C	15	20	25	29.4	30	35	38	40
FC4	1.08	1.06	1.03	1	0.99	0.95	0.91	0.88

Calculation for correct Dryer Air flow = Nominal Dryer Air Flow x FC1 x FC2 x FC3

## CompAir Refrigeration Dryer - Technical Data

### CompAir Dryers from 0.42 to 4.33 m³/min

Model	Air Flow-rate			Absorbed power kW	Power Supply V/Ph/Hz	Dew Point ISO Class	Max Pressure bar g	Air Connection BSP	Refrigerant	Dimensions	Weight [kg]
	3°C	5°C	7°C							W x D x H	
	m³/min	m³/min	m³/min							[mm]	
CD4F	0.42	0.45	0.50	0.12	230/1/50	4	16	3/8"	R513A	305 x 360 x 408	19
CD7F	0.70	0.77	0.83	0.14	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	26
CD9F	0.90	0.98	1.07	0.17	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	28
CD12F	1.20	1.30	1.42	0.17	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	28
CD18F	1.80	1.97	2.12	0.41	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	36
CD24F	2.40	2.62	2.83	0.5	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	42
CD30F	3.00	3.27	3.54	0.5	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	44
CD37F	3.75	4.09	4.43	0.6	230/1/50	4	16	1"	R407C	485 x 595 x 614	48
CD43F	4.33	4.72	5.12	0.6	230/1/50	4	16	1"	R407C	485 x 595 x 614	49

### CompAir Dryers from 5 to 8 m³/min

Model	Air Flow-rate			Absorbed power kW	Power Supply V/Ph/Hz	Dew Point ISO Class	Max Pressure bar g	Air Connection BSP	Refrigerant	Dimensions	Weight [kg]
	3°C	5°C	7°C							W x D x H	
	m³/min	m³/min	m³/min							[mm]	
CD50F	5.00	5.45	5.90	0.9	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	79
CD60F	6.00	6.53	7.08	0.9	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	79
CD80F	8.00	8.72	9.43	1.24	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	85

### CompAir Dryers from 10 to 15.83 m³/min

Model	Air Flow-rate			Absorbed power kW	Power Supply V/Ph/Hz	Dew Point ISO Class	Max Pressure bar g	Air Connection BSP	Refrigerant	Dimensions	Weight [kg]
	3°C	5°C	7°C							W x D x H	
	m³/min	m³/min	m³/min							[mm]	
CD100F	10.00	10.90	11.80	1.24	230/1/50	4	16	2"	R407C	779 x 720 x 1360	134
CD130F	13.00	14.17	15.33	2.14	400/3/50	4	16	2"	R407C	779 x 720 x 1360	164
CD160F	15.83	17.27	18.68	2.14	400/3/50	4	13	2"	R407C	779 x 720 x 1360	168

### CompAir Dryers from 21.67 to 37.5 m³/min

Model	Air Flow-rate			Absorbed power kW	Power Supply V/Ph/Hz	Dew Point ISO Class	Max Pressure bar g	Air Connection BSP	Refrigerant	Dimensions	Weight [kg]
	3°C	5°C	7°C							W x D x H	
	m³/min	m³/min	m³/min							[mm]	
CD216F	21.67	23.62	25.57	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
CD250F	25.00	27.25	29.50	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
CD300F	30.00	32.70	35.40	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
CD375F	37.50	40.88	44.25	3.54	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	260

### CompAir Dryers from 45 to 191.67 m³/min

Model	Air Flow-rate			Absorbed power kW	Power Supply V/Ph/Hz	Dew Point ISO Class	Max Pressure bar g	Air Connection BSP	Refrigerant	Dimensions	Weight [kg]
	3°C	5°C	7°C							W x D x H	
	m³/min	m³/min	m³/min							[mm]	
CD450F	45.00	49.05	53.10	4.99	400/3/50	4	13	DN100 PN16	R407C	905 x 1390 x 1555	351
CD500F	50.00	54.50	59.00	6.29	400/3/50	4	13	DN125 PN16	R407C	1510 x 1500 x 1555	560
CD700F	70.00	76.30	82.60	7.29	400/3/50	4	13	DN125 PN16	R407C	1510 x 1500 x 1555	590
CD800F	80.00	87.20	94.40	9.52	400/3/50	4	13	DN150 PN16	R407C	1510 x 1500 x 1555	665
CD900F	90.00	98.10	106.20	9.52	400/3/50	4	13	DN150 PN16	R407C	1510 x 1500 x 1555	700
CD1460F	146.67	159.87	173.07	14.96	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1058
CD1600F	160.00	174.40	188.80	14.96	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1128
CD1920F	191.67	208.92	226.17	18.16	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1205

## Global experience – truly local service



Customer Service Centre, Stores and Trade Counter

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

We provide a truly local service, ensuring our advanced technology is backed up with the right support.

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



### CompAir compressed air product range

#### Advanced Compressor Technology

##### Lubricated

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

##### Oil-Free

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

#### Complete Air Treatment Range

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

#### Modern Control Systems

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

#### Value Added Services

- Professional Air Audit
- Performance Reporting
- Leak Detection

#### Leading Customer Support

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