

Gardner
Denver

Refrigeration Dryer

High quality compressed air

GDD-series Non-Cycling Refrigeration Dryers



Energy efficient
compressed air treatment



Energy efficient refrigeration dryers

First-class air treatment efficiency

For Gardner Denver, quality and efficiency are just as important for compressed air treatment as they are for compressed air generation. Just like Gardner Denver compressors, the GDD-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 GD-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 ³	Water		Oil Total Oil (aerosol liquid and vapour) mg/m ³
	Maximum number of particles per m ³				Vapour Pressure Dewpoint	Liquid	
	0.1 - 0.5 µm	0.5 - 1 µm	1 - 5 µm		°C	g/m ³	
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 Gardner Denver 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. Gardner Denver offer a range of solutions for drying utilising modern cooling technology.

GDD4F - GDD43F

Air flow rate from 0.42 m³/min to 4.33 m³/min

GDD50F - GDD80F

Air flow rate from 5.00 m³/min to 8.00 m³/min

GDD100F - GDD160F

Air flow rate from 10.00 m³/min to 15.83 m³/min

GDD216F - GDD375F

Air flow rate from 21.67 m³/min to 37.50 m³/min

GDD450F - GDD1920F

Air flow rate from 45.00 m³/min to 191.67 m³/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 Gardner Denver 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

Gardner Denver GDD-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 Gardner Denver 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 Gardner Denver GDD 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

Gardner Denver'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.

Specifically designed for challenging applications

The GDD 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.

Features are your benefits

Air Cooled Condensation (as standard)

Water and Sea Water versions are optional from GDD50F.

Victaulic Connections (optional)

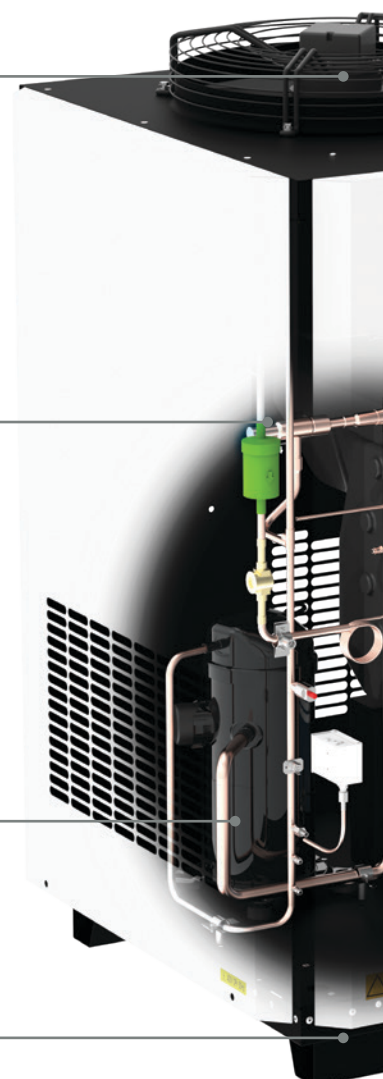
For quick and easy connection of pipework.

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.



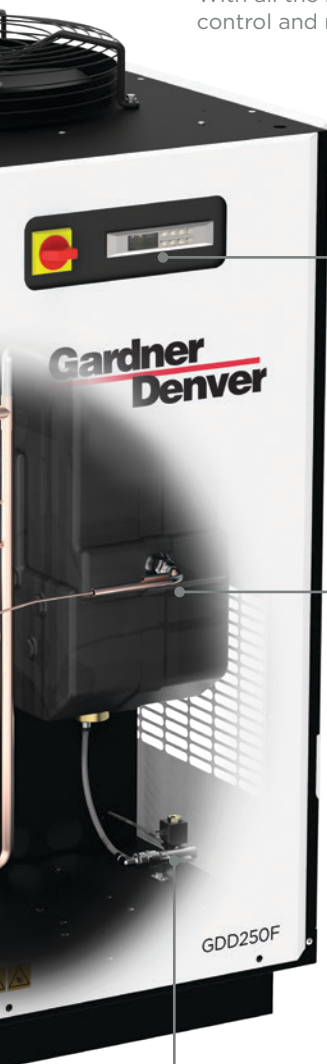


“Gardner Denver’s refrigerated dryers provide the very best combination of high efficiency, low pressure drop and small footprint.”

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 Gardner Denver 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.

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

The GDD-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.

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

Options

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



Model shown GDD1460F

Scroll compressor

Models GDD130 to GDD1920F 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 GDD80F) 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 GDD9F, GDD130F, GDD450F



No-loss drain

The powerful no loss electronic drain is standard from GDD100 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 GDD160F

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

Technical data

Gardner Denver Dryers from 0.42 to 4.33 m³/min

Model	Air Flow-rate			Absorbed power	Power Supply	Dew Point	Max Pressure	Air Connection	Refrigerant	Dimensions W x D x H	Weight
	3°C	5°C	7°C								
	m ³ /min										
GDD4F	0.42	0.45	0.50	0.12	230/1/50	4	16	3/8"	R513A	305 x 360 x 408	19
GDD7F	0.70	0.77	0.83	0.14	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	26
GDD9F	0.90	0.98	1.07	0.17	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	28
GDD12F	1.20	1.30	1.42	0.17	230/1/50	4	16	1/2"	R513A	390 x 432 x 453	28
GDD18F	1.80	1.97	2.12	0.41	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	36
GDD24F	2.40	2.62	2.83	0.5	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	42
GDD30F	3.00	3.27	3.54	0.5	230/1/50	4	16	3/4"	R513A	420 x 516 x 563	44
GDD37F	3.75	4.09	4.43	0.6	230/1/50	4	16	1"	R407C	485 x 595 x 614	48
GDD43F	4.33	4.72	5.12	0.6	230/1/50	4	16	1"	R407C	485 x 595 x 614	49

Gardner Denver Dryers from 5 to 8 m³/min

Model	Air Flow-rate			Absorbed power	Power Supply	Dew Point	Max Pressure	Air Connection	Refrigerant	Dimensions W x D x H	Weight
	3°C	5°C	7°C								
	m ³ /min										
GDD50F	5.00	5.45	5.90	0.9	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	79
GDD60F	6.00	6.53	7.08	0.9	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	79
GDD80F	8.00	8.72	9.43	1.24	230/1/50	4	16	1 - 1/2"	R407C	500 x 718 x 980	85

Gardner Denver Dryers from 10 to 15.83 m³/min

Model	Air Flow-rate			Absorbed power	Power Supply	Dew Point	Max Pressure	Air Connection	Refrigerant	Dimensions W x D x H	Weight
	3°C	5°C	7°C								
	m ³ /min										
GDD100F	10.00	10.90	11.80	1.24	230/1/50	4	16	2"	R407C	779 x 720 x 1360	134
GDD130F	13.00	14.17	15.33	2.14	400/3/50	4	16	2"	R407C	779 x 720 x 1360	164
GDD160F	15.83	17.27	18.68	2.14	400/3/50	4	13	2"	R407C	779 x 720 x 1360	168

Gardner Denver from 21.67 to 37.5 m³/min

Model	Air Flow-rate			Absorbed power	Power Supply	Dew Point	Max Pressure	Air Connection	Refrigerant	Dimensions W x D x H	Weight
	3°C	5°C	7°C								
	m ³ /min										
GDD216F	21.67	23.62	25.57	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
GDD250F	25.00	27.25	29.50	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
GDD300F	30.00	32.70	35.40	2.78	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	234
GDD375F	37.50	40.88	44.25	3.54	400/3/50	4	14	3"	R407C	806 x 1012 x 1539	260

Gardner Denver from 45 to 191.67 m³/min

Model	Air Flow-rate			Absorbed power	Power Supply	Dew Point	Max Pressure	Air Connection	Refrigerant	Dimensions W x D x H	Weight
	3°C	5°C	7°C								
	m ³ /min										
GDD450F	45.00	49.05	53.10	4.99	400/3/50	4	13	DN100 PN16	R407C	905 x 1390 x 1555	351
GDD500F	50.00	54.50	59.00	6.29	400/3/50	4	13	DN125 PN16	R407C	1510 x 1500 x 1555	560
GDD700F	70.00	76.30	82.60	7.29	400/3/50	4	13	DN125 PN16	R407C	1510 x 1500 x 1555	590
GDD800F	80.00	87.20	94.40	9.52	400/3/50	4	13	DN150 PN16	R407C	1510 x 1500 x 1555	665
GDD900F	90.00	98.10	106.20	9.52	400/3/50	4	13	DN150 PN16	R407C	1510 x 1500 x 1555	700
GDD1460F	146.67	159.87	173.07	14.96	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1058
GDD1600F	160.00	174.40	188.80	14.96	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1128
GDD1920F	191.67	208.92	226.17	18.16	400/3/50	4	13	DN200 PN16	R407C	2270 x 1590 x 1570	1205

Global Expertise

The GD rotary screw compressor range from 2.2 – 500 kW, available in both variable and fixed speed compression technologies, are designed to meet the highest requirements which the modern work environment and machine operators place on them.



The oil-free EnviroAire range from 15 – 315 kW provides high quality and energy efficient compressed air for use in a wide range of applications. The totally oil-free design eliminates the issue of contaminated air, reducing the risk and associated cost of product spoilage and rework.



A modern production system and process demands increasing levels of air quality. Our complete **Air Treatment Range** ensures the highest product quality and efficient operation.



Compressor systems are typically comprised of multiple compressors delivering air to a common header. The combined capacity of these machines is generally greater than the maximum site demand. To ensure the system is operated to the highest levels of efficiency, the **GD Connect** air management system is essential.



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For additional information please contact
 Gardner Denver or your local representative.
 Specifications subject to change without notice.