

Gardner
Denver

Variable Speed Refrigeration Dryers

Optimised energy efficiency for a sustainable future
Cycling & Non-Cycling Refrigeration Dryers

PROTECT 10
Extended Warranty for GD Compressors



Energy efficient
compressed air treatment



A Next Generation Energy Saving Variable Speed Refrigeration Dryer



► GDD 21÷300 VS

Flow rate

1,260 ÷ 17,664 m³/h

First-class air treatment efficiency

The low environmental impact R513A refrigerant gas combined with a variable speed operation is the height of technological evolution and maximises respect for the environment. By using inverters, it is possible to modulate the electrical power input by the scroll compressor and fans according to the thermal load required by the user.

Advantages:

- Greater environmental friendliness;
- Reduced running cost;
- Optimised consumption and performance under all load conditions.

Many testing hours in our R&D laboratories have confirmed the reliability, robustness and performance of the new GDD-VS range, made of high quality materials, mechanical and electronic components from leading international brands in the industrial refrigeration sector.

Eco-friendly R513A refrigerant

The GDD-VS refrigeration dryer series uses the environmentally friendly R513A refrigerant gas with low GWP, which is non-toxic and non-flammable, and makes it possible to install GDD-VS units indoors. The GDD-VS dryers wide operating limits meet the most diverse industrial demands.



Ozone Friendly

ODP (ozone depletion potential) = 0

Non-Flammable Gas

ASHRAE category A1

Very Low GWP

GWP (global warming potential)

Refrigerants	GWP
R404A	3922
R410A	2088
R407C	1774
R134A	1430
R32	675
 R513A	631

“Using environmentally-friendly **R513A refrigerants** with the **lowest Global Warming Potential** contributes to reducing greenhouse gas emissions.”

Variable speed

Variable speed dryers, using inverter technology for compressor and fans, can adapt their energy consumption according to the thermal load applied, and adjust the refrigerant flow rate to the **ALU-DRY heat exchanger**. With the new DMC55 controller and electronic EHGBV hot gas bypass valve, the user can choose between **Cycling** or **No-Cycling** operation for extremely low heat loads.



DMC55 Electronic Controller

The GDD-VS series is equipped with the DMC55 electronic controller, which has an intuitive user interface with its 4.3” capacitive touch screen display and multiple functions. The controller constantly monitors the operating pressure and temperature values and adjusts the compressor and fan speeds. This ensures an extremely stable dew-point under all operating conditions.

The new main functions introduced are:

- Weekly on-off programming
- Display of instantaneous electrical power input
- Display of spare-parts list
- Dryer management via Modbus RS485 RTU communication (Industry 4.0 ready)

Electronic hot gas by-pass Valve - EHGBV

The electronic hot gas bypass valve EHGBV directly controlled by the DMC55, introduced a **No-cycling mode**. This function allows maximum performance even in conditions of low thermal loads: the compressor, in this condition, never shuts down, remaining at minimum speed and delegating the cooling capacity control to the EHGBV, which guarantees continuous and stable regulation.

Drain condensate system

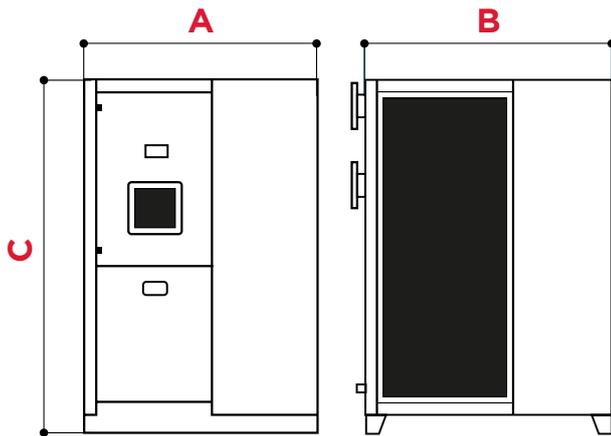
To maximise the Energy Savings the full GDD-VS range is equipped with Electronic Zero Loss Drain.



Five operating modes

The GDD-VS range is equipped with intelligent/automatic management of five operating modes, which can be set directly from the controller display:

Operating modes	Dew Point (PDP)	Saving
Performance	++++	+
Standard	+++	++
ECO	++	+++
ECO^{PLUS}	+	++++
AODM (Automatic Optimised Dewpoint Management)		This mode optimises consumption and the dew-point according to the detected room temperature.



Data refer to the following nominal conditions:
Ambient temperature of 25°C, with inlet air at 7 barg
and 35°C and 3°C pressure Dew Point.

Max. working conditions:
Ambient temperature 45°C, inlet air temperature 70°C
and inlet air pressure 14 barg.

Technical Data

Model	Refrigerant	Flow-Rate			Pressure Drop bar	Connections Ø	Power Supply Ph/V/Fr	Dimensions (mm)			Weight kg
		m ³ /h	l/min	scfm				A	B	C	
GDD21VS	R513A	1,260	21,000	742	0.1	DN 80 PN16	3/400/50-60	790	1,000	1,465	249
GDD30VS	R513A	1,800	30,000	1,060	0.12	DN 80 PN16	3/400/50-60	790	1,000	1,465	276
GDD36VS	R513A	2,208	36,800	1,300	0.13	DN 80 PN16	3/400/50-60	790	1,000	1,465	296
GDD40VS	R513A	2,400	40,000	1,413	0.09	DN 100 PN16	3/400/50-60	1,135	1,205	1,750	510
GDD50VS	R513A	3,000	50,000	1,766	0.08	DN 100 PN16	3/400/50-60	1,135	1,205	1,750	590
GDD60VS	R513A	3,600	60,000	2,119	0.12	DN 100 PN16	3/400/50-60	1,135	1,205	1,750	597
GDD72VS	R513A	4,416	73,600	2,600	0.13	DN 100 PN16	3/400/50-60	1,135	1,205	1,750	669
GDD90VS	R513A	5,400	90,000	3,178	0.12	DN 150 PN16	3/400/50	1,300	1,750	1,810	1,000
GDD110VS	R513A	6,624	110,400	3,900	0.13	DN 150 PN16	3/400/50	1,300	1,750	1,810	1,110
GDD120VS	R513A	7,200	120,000	4,238	0.12	DN 200 PN16	3/400/50	1,400	2,200	1,870	1,330
GDD150VS	R513A	8,832	147,200	5,200	0.13	DN 200 PN16	3/400/50	1,400	2,200	1,870	1,510

On request models with 60Hz power supply.

Correction factor for operating pressure changes:										
Inlet air pressure (barg)	4	5	6	7	8	10	12	14		
Factor	0.77	0.86	0.93	1	1.05	1.14	1.21	1.27		
Correction factor for ambient temperature changes:										
Ambient temperature (°C)	≤ 25	30	35	40	45					
Factor	1	0.96	0.9	0.82	0.72					
Correction factor for operating pressure changes:										
Inlet air temperature (°C)	≤ 25	30	35	40	45	50	55	60	65	70
Factor	1.2	1.12	1	0.83	0.69	0.59	0.5	0.44	0.39	0.37
Correction factor for dew point changes:										
Dew Point (°C)	3	5	7	10						
Factor	1	1.09	1.19	1.37						

Options & Accessories

WC: Water Cooling with shell & tube condenser

BY-PASS: By-pass group (only for GDD21VS-GDD36VS)

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For additional information please contact
Gardner Denver or your local representative.

Specifications subject to change without notice.