

# DryGair Reducing Humidity While Saving Energy

DryGair is an efficient solution to your humidity problems. It's dehumidification and air circulation system allows you to effectively control the climate within your greenhouse.

# This allows you to simultaneously achieve higher yields while reducing the cost of chemicals and pesticides.

The DryGair units can operate inside a variety of greenhouses; with different crops, growing methods, and climate conditions around the world. The units can be positioned along the aisles, rows, or on the side of a greenhouse. It can stand on the ground or be installed above a gutter. All units can be connected to a climate control system or operate independently.

#### The Benefits of Using DryGair

Prevents humidity related diseases

Reduces the need for pesticides

Continuous air circulation

Better humidity control allows you to control dew points

Allows for higher density planting

Grow healthier crops with up to 25% higher yields

Prevents loss of CO<sup>2</sup>

Up to 80% energy savings

Removes up to 13G/hr, over 1 G/hr removed per kwh (At  $64^{\circ}$ C, 80% RH)

10 - 20% reduction in crop cycle

Reduces manual crop observation labor costs



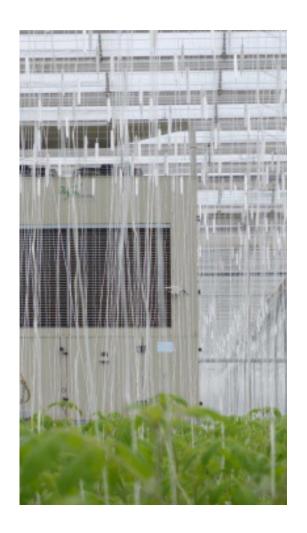


## How the Unit Works

Water vapor is emitted from plants and soil constantly. This causes high humidity levels which then affect your plants ability to grow. It also creates the ideal conditions for mold and bacteria growth.

Mold and bacteria growth results in a loss of crop and requires high energy consumption to salvage or destroy lost product, costing you money.

The DryGair units effectively eliminate these problems by drawing in the heavy, humid air that sits around the foliage. Inside the unit, water vapor is removed from the air, condensing it back into liquid for re-use. The now dry and slightly warmer air is returned into the greenhouse, evenly distributing throughout the growing area.



This system is elegant and effective. It allows you to achieve accurate climate control in your growing area, especially when regular ventilation doesn't do the job. The DryGair solution works best in a closed area at night or in extreme weather conditions such as cold temperature, high humidity, or rain.

### Key Features:

- · Optional Heating and Cooling
- Powerful Humidity Control
- Can be integrated with most climate control systems or operate independently
- Closed system no use of desiccant or chemicals
- Only power and condensation lines need to be connected
- Extra water may be reused

# Using DryGair in Drying Rooms

Discover the DryGair solution for drying rooms

Evaporation inside the drying room can be just as high as during plant growth. As a result, DryGair's unique air circulation, together with its leading water extraction capacity is the right choice for achieving uniform, mold-free, dry plants.

The DryGair dehumidifiers are powerful and reliable with the capacity to remove large amounts of water during the first few days after harvesting.

They are also capable of adjusting the quantities of water removed throughout the different stages of the drying process. This is crucial for any busy drying room that has a frequently changing numbers of plants.



Powerful air flow that goes in and around every part of the plant



Optional wheels for easy placement



Condensation of up to 12 gallons (45 litres) of water per hour with the standard unit



Simple integration inside both new and existing drying rooms



Efficient water extraction - over 1 gallon of water per 1 kwh



Air circulation for creating uniform drying results



Full and efficient control of the drying process



Minimize yield loss and get higher quality product



Energy savings lead to lower costs

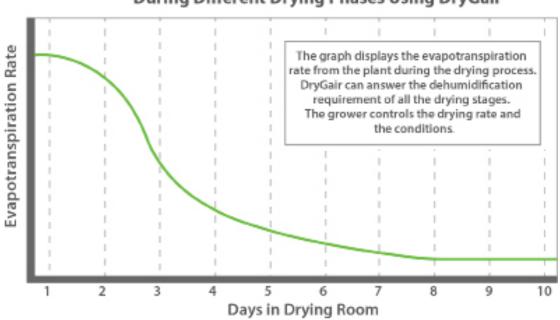


Dry (warm/cold) treated air



Possible HVAC integration

# Plant Evapotranspiration Rate During Different Drying Phases Using DryGair



### Standard Unit - DG12



Available as a split unit, with heating and cooling, or both

DryGair's DG12 is the standard dehumidification unit. It effectively controls the climate of greenhouses up to 40,000 ft<sup>2</sup> in size.

The unit can be positioned on the ground along the aisles, as part of the rows, on the side of the greenhouse, or it can be hung.



Technical Specifications			
Dimensions	Depth	3' - ½" (930 mm)	
	Width	7' - 7 ¼" (2,320 mm)	
Weight		~ 1,710 lb (775 kg)	
Height		7' - 5 ¼" +~ 1' - 7 ¾" (2,270 mm + ~ 500 mm) Air Distribution Module	
Area Coverage *		Up to 40,000 ft <sup>2</sup> (4,000 m <sup>2</sup> )	
Optimal Temperature Range		50°F - 80°F (10°C - 25°C)	
Water Condensation Rate @ 64F, 80%RH		12 G/hr, 96 pints/hr (45 L/hr)	
Electricity Consumption		10 kw	
Electricity Requirements		3 Phase, 460 V 60 Hz I (oper max) = 21 Amp or 3 Phase, 208 V 60 Hz I (oper max) = 46 Amp	
Air Flow		~ 13,000 CFM (22,000 m <sup>3</sup> /hr)	
Type or Refrigerant		R507	

### Small Unit - DG6



#### Available as a split unit, with heating and cooling, or both

The DG6 is a smaller unit, ideal for greenhouses sizing up to 21,000 ft<sup>2</sup>.

The unit can be positioned on the ground, along the aisles, as part of the rows, on the side of the greenhouse, or it can be hung.



Technical Specifications			
Dimensions Depth		3' - ½" (930 mm)	
	Width	7' - 7 1/4" (2,320 mm)	
Weight		~ 1,210 lb (500 kg)	
Height		6' - 4 ¾" +~ 1' - 7 ¾" (1,950 mm + ~ 500 mm) Air Distribution Module	
Area Coverage *		Up to 21,000 ft <sup>2</sup> (2,000 m <sup>2</sup> )	
Optimal Temperature Range		10°C - 25°C, 50°F-80°F	
Water Condensation Rate @ 64F, 80%RH		6 G/hr, 48 pints/hr (24 L/hr)	
Electricity Consumption		6 kw	
Electricity Requirements		3 Phase, 460 V, 60 Hz, I (oper max) = 16 Amp	
Air Flow		~ 7,000 CFM (12,000 m³/hr)	
Type or Refrigerant		R507	

### Small Unit - DG5



One Phase

The DG5 is a smaller unit, ideal for greenhouses sizing up to 17,000 ft<sup>2</sup>.

The unit can be positioned on the ground, along the aisles, as part of the rows, on the side of the greenhouse, or it can be hung.



Technical Specifications			
Dimensions Depth		3' - 1/4" (920 mm)	
	Width	6' - 8 ¾" (2,250 mm)	
Weight		~ 1,150 lb (520 kg)	
Height		6' - 3 1/4" +~ 1' - 7 3/4" (1,910 mm + ~ 500 mm) Air Distribution Module	
Area Coverage *		Up to 17,000 ft <sup>2</sup> (1,580 m <sup>2</sup> )	
Optimal Temperature Range		50°F - 80°F (10°C - 25°C)	
Water Condensation Rate @ 64F, 80%RH		4.75 G/hr, 38 pints/hr (18 L/hr)	
Electricity Consumption		4.3 kw	
Electricity Requirements		1 Phase, 280 V, 60 Hz, I (oper max) = 35 Amp	
Air Flow		~ 6,500 CFM (11,000 m³/hr)	
Type or Refrigerant		R410A	

# Compact Unit - DG3



One Phase

The DG3 is the smallest unit, ideal for greenhouses sizing up to 10,000 ft<sup>2</sup>.

The unit can be positioned on the ground, along the aisles, as part of the rows, on the side of the greenhouse, or it can be hung.



Technical Specifications			
Dimensions Depth		3' - ¼" (920 mm)	
	Width	4' - 6" (1,370 mm)	
Weight		~ 850 lb (385 kg)	
Height		6' - 3 1/4" +~ 1' - 7 3/4" (1,910 mm + ~ 500 mm) Air Distribution Module	
Area Coverage *		Up to 10,000 ft <sup>2</sup> (930m <sup>2</sup> )	
Optimal Temperature Range		50°F - 80°F (10°C - 25°C)	
Water Condensation Rate @ 64F, 80%RH		3 G/hr, 24 pints/hr (11 L/hr)	
Electricity Consumption		2.8 kw	
Electricity Requirements		1 Phase	
Air Flow		~ 4,500 CFM (7,600 m³/hr)	
Type or Refrigerant		R410A	

### Warm Climate Unit - DG13



#### Engineered for higher temperatures

DryGair's Warm Climate unit is the perfect solution to the humidity problems of warmer climates. This unit has been specially designed to work in the higher temperatures of a warm climate or hot summer.

The unit can be positioned on the ground, along the aisles, as part of the rows, on the side of the greenhouse, or it can be hung.

The unit can be requested with a 208 V 3 Phase configuration. Contact Bellpark Horticulture to order in advance.



Technical Specifications			
Dimensions	Depth	3' - 2 ¼" (930 mm)	
	Width	7' - 8 ½" (2,350 mm)	
Weight		~ 1,740 lb (790 kg)	
Height		7'- 11 $\frac{1}{4}$ " +~ 1'- 7 $\frac{3}{4}$ " (2,420 mm + ~ 500 mm) Air Distribution Module	
Area Coverage *		Up to 40,000 ft² (4,000 m²)	
Optimal Temperature Range		50°F - 105°F (10°C - 40°C)	
Water Condensation Rate @ 64F, 80%RH		13 G/hr, 104 pints/hr (48 L/hr)	
Electricity Consumption		12 kw	
Electricity Requirements		3 Phase, 460V, 60Hz, 1 (oper max)=47 Amp	
Air Flow		~ 14,000 CFM (24,000 m <sup>3</sup> /hr)	
Type or Refrigerant		R134A	

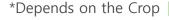
# Split Unit Options

*Including the DG12 and DG6* 

Split units can be positioned on the ground, along the aisles, as part of the rows, on the side of the greenhouse, or even hung. There can be a space up to 13' (4 meters) between the parts of the unit.



#### **Technical Specifications** DG12 (Standard Unit) Split DG6 (Small Unit) Split **Upper Part** Lower Part **Upper Part** Lower Part Dimensions Depth 3'-81/2" (1,130 mm) 2'-8 1/4" (820 mm) 3'-8" (1,120 mm) 2'-81/4" (820 mm) Width 7' - 7 1/4" (2,320 mm) 6' - 2 3/4" (1,900 mm) 7'-61/2" (2,300 mm) 5'-5 1/4" (1,655 mm)\*\*\* Weight ~1,210 lb (550 kg) ~725 lb (330 kg) ~725 lb (330 kg) ~715 lb (325 kg) Height 5'-3"+~1'-734" 3' - 1" (940 mm) $3' - 9 \frac{3}{4}'' + \sim 1' - 7 \frac{3}{4}''$ $3' - 1 \frac{1}{2}$ " (950 mm) $(1,600 \text{ mm} + \sim 500 \text{ mm})$ $(1,160 \text{ mm} + \sim 500 \text{ mm})$ Air Distribution Model Air Distribution Model (adjustable) (adjustable) Area Coverage\* Up to 40,000 ft<sup>2</sup> (4,000 m<sup>2</sup>) Up to 21,000 ft<sup>2</sup> (2,000 m<sup>2</sup>) 50°F - 80°F (10°C - 25°C) 50°F - 80°F (10°C - 25°C) Optimal Temperature Range Water Condensation Rate 12 G/hr, 96 pints/hr (45L/hr) 6 G/hr, 48 pints/hr (24 L/hr) @ 64F, 80%RH **Electricity Consumption** 10 kw 6 kw **Electricity Requirements** 3 Phase, 460 V, 60 Hz, I (oper max) = 16 Amp3 Phase, 460 V, 60 Hz, I (oper max) = 21 Amp3 Phase, 208 V, 60 Hz, I (oper max) = 46 Amp Air Flow $\sim$ 13,000 CFM (22,000 m<sup>3</sup>/hr) $\sim$ 7,000 CFM (12,000 m<sup>3</sup>/hr) Type of Refrigerant R507 R507





# Split Unit Options

*Including the DG12 and DG6 heating & cooling options* 



Technical Specifications					
		DG12 (Standard with Heating	•	DG6 (Small Unit) Split with Heating & Cooling	
		Upper Part	Lower Part	Upper Part	Lower Part
Dimensions	Depth	3'-8 ½" (1,130 mm)	2' - 8 ¼" (820 mm)	3' - 8" (1,120 mm)	2' - 8 ¼" (820mm)
	Width	7' - 7 ¼" (2,320 mm)	6' - 2 <sup>3</sup> / <sub>4</sub> " (1,900 mm)	7' - 6 ½" (2,300 mm)	5' - 5 ¼" (1,655 mm)***
Weight		~1,320 lb (600 kg)	~725 lb (330 kg)	~1,200 lb (545 kg)	~715 lb (325 kg)
Height		6'-34"+~1'-734" (1,850 mm +~500 mm) Air Distribution Model (adjustable)	3' - ½" (930 mm)	4' - 3 1/4" + ~1' - 7 3/4" (1,300 mm + ~500 mm) Air Distribution Model (adjustable)	3' - 1 ½" (950 mm)
Hot water pipe	connection	11 ¾" (300 mm)		11 ¾" (300 mm)	
Area Coverage	*	Up to 40,000 ft <sup>2</sup> (4,000 m <sup>2</sup> )		Up to 21,000 ft <sup>2</sup> (2,000 m <sup>2</sup> )	
Optimal Temperature Range		50°F - 80°F (10°C - 25°C)		50°F - 80°F (10°C - 25°C)	
Water Condensation Rate @ 64F, 80%RH		12 G/hr, 96 pints/hr (45L/hr)		6 G/hr, 48 pints/hr (24 L/hr)	
Electricity Consumption		10 kw		6 kw	
Electricity Requirements		3 Phase, 460 V, 60 Hz, I (oper max) = 21 Amp or 3 Phase, 208 V, 60 Hz, I (oper max) = 46 Amp		3 Phase, 460 V, 60 Hz, I (oper max) = 16 Amp	
Air Flow		~13,000 CFM (22,000 m³/hr)		~7,000 CFM (12,000 m <sup>3</sup> /hr)	
Type of Refrigerant		R507		R507	





# Heating & Cooling Options

*Including the DG12 and DG6* 

The DG12 and DG6 are both available as heating and cooling units. The heating and cooling units have the ability to control both the humidity and the temperature inside your greenhouse. These units distribute warm or cold air above the crops, enabling better control of the plants temperature and create more uniform climate conditions.

Technical Specifications				
		DG12 (Standard Unit) with Heating & Cooling	DG6 (Small Unit) with Heating & Cooling	
Dimensions	Depth	3' - ¾" (930 mm)	3'-34" (930 mm)	
	Width	7' - 7 ¼" (2,320 mm)	7' - 7 ¼" (2,320 mm)	
Weight		~1,815 lbs (825 kg)	~1,320 lb (600 kg)	
Height		8' - 3 1/4" + ~1' - 7 3/4" (2,520 mm + ~500 mm) Air distribution module	$7' - 2'' + \sim 1' - 7 \frac{3}{4}''$ (2,185 mm + ~500 mm) Air distribution module	
Hot water pipe connection		11 - ¾" (300 mm)	11 - ¾" (300 mm)	
Area Coverage*		Up to 40,000 ft <sup>2</sup> (4,000 m <sup>2</sup> )	Up to 21,000 ft <sup>2</sup> (2,000 m <sup>2</sup> )	
Optimal Temperature Range		50°F - 80°F (10°C - 25°C)	50°F - 80°F (10°C - 25°C)	
Water Condensation Rate @ 64F, 80%RH		12 G/hr, 96 pints/hr (45 L/hr)	6 G/hr, 48 pints/hr (24 L/hr)	
Electricity Con	sumption	10 kw	6 kw	
Electricity Requirements		3 Phase, 460 V, 60 Hz, I (oper max) = 21 Amp or 3 Phase, 206 V, 60 Hz, I (oper max) = 46 Amp	3 Phase, 460 V, 60 Hz, I (oper max) = 16 Amp	
Air Flow		~13,000 CFM (22,000 m³/hr)	~7,000 CFM (12,000 m³/hr)	
Type of Refrigerant		R507	R507	



\*Depends on the Crop



With over 20 years in the horticulture business, Bellpark Horticulture (Visser NA) is a trusted name in Horticultural Automation Solutions. Serving growers in Canada and the United States the Bellpark team strives to provide customers with the highest quality solutions.

Our sales and project consultants realize that each grower is different and that each project requires a personal level of attention to detail to ensure it's success.

Our service team is committed to offering our customers the highest level of service with the quickest response time. With a dedicated parts and service department our factory trained technicians are available when you need them.



DryGair Energies Ltd. was established in 2010 in order to design and develop an efficient and environment-friendly dehumidification solution to the humidity problem in greenhouses. They provide some of the most efficient, high quality dehumidifiers on the market.

