



# Refrigerated Compressed Air Dryers

*HGE Series*  
*PYRAMID Series*



## Improve Productivity and Operations

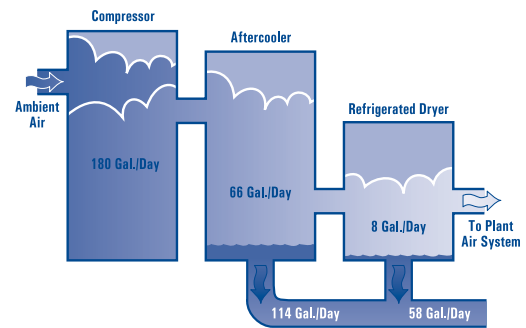
Since 1961, Deltech has delivered technologies that efficiently remove contaminants from compressed air systems. Properly treated compressed air increases productivity and minimizes downtime. Maintenance cost are slashed as improved air quality extends service intervals, while process cleanliness is assured.

### Durable and Reliable

HGE Series Dryers and Pyramid Series Air Treatment Stations are built to last and take up as little space as possible. Sturdy sheet steel is formed and then protected by durable epoxy, powder coat paint. Reliable refrigeration systems use environmentally friendly refrigerants that are known for the ability to maintain stable temperatures – critical to protect the integrity of the 38°F (+3°C) pressure dew point.

### Prevent Contamination from Condensate

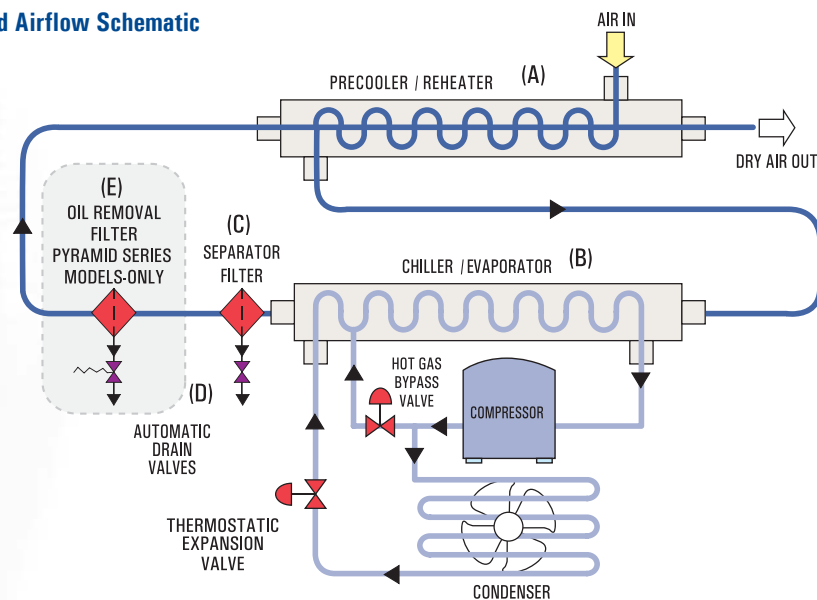
At an ambient of 75°F and 75% relative humidity, a typical 200 HP (1,000 scfm) air compressor inhales 180 gallons of water vapor every 24 hours. Discharging air at 100°F and 100 psig, a well-maintained aftercooler may remove about 114 gallons. That leaves 66 gallons inside your air system. At the CAGI ADF 100 design standard of 38°F, a refrigerated dryer removes an additional 58 gallons to protect your system from condensate contamination. The remaining 8 gallons safely pass through the system as water vapor.



## How They Work...

Compressed air, saturated with water vapor, enters the pre-cooler/reheater (A), is pre-cooled by the outgoing chilled air, and then directed to the chiller/evaporator (B) where it is further cooled by the refrigeration system. As the air is cooled, water vapor condenses into liquid droplets which are removed by the Separator/Filter (C) and discharged from the dryer by an automatic drain (D). Air then passes through an Oil Removal Filter (Pyramid Series models-only) (E). Clean, dry air returns through the pre-cooler/reheater where it is reheated before exiting the dryer.

### Refrigeration and Airflow Schematic



## HGE Series Dryers

*600 through 3,000 scfm*

Deltech HGE Series models feature traditional refrigerated dryer designs with the latest in heat transfer technologies. Many manufacturers are challenged to provide performance, efficiency and, desirable features while using a minimum amount of the customer's valuable floor space. Models HGE600 through HGE3000 meet that challenge head-on in delivering performance and economy.

### *HGE Series Features Include:*

- State-of-the-art emm™ Control Panel allows work scheduling to save energy
- Advanced heat exchangers feature low, pressure drop and, unparalleled performance and reliability
- Integral moisture separator incorporates filtration to remove bulk liquid and solid particulates down to 3 micron.
- Fully automatic, electric no-air-loss drain
- Standard text display formats:  
English, German, French, Spanish, Italian, Polish, Danish, Dutch, Norwegian, and Finnish.
- Environmentally friendly HFC refrigerants



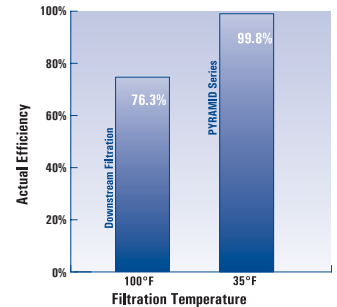
## PYRAMID Series Air Treatment Stations

*1,000 through 3,000 scfm*

The PYRAMID Series is engineered to deliver superior air quality in meeting the ISO 8573.1 Class 1.4.1 air quality standard. PYRAMID delivers clean, dry compressed air, while extracting particulates (to 0.01 micron,) and water and lubricant aerosols (to 0.008 ppm). Integral cold coalescing filtration reduces the size and complexity of your air system. Prefilters, Afterfilters, the interconnecting piping and labor needed to install them, are eliminated by choosing a PYRAMID.

### *PYRAMID Series Eliminates More Lubricant*

Oil removal filters installed downstream of a refrigerated dryer coalesce oil droplets at 100°F. By targeting the coldest point of the air stream, PYRAMID Series' cold-coalescer removes more lubricant aerosols to deliver 99.8% efficient hydrocarbon removal.



### *Pyramid Series Air Treatment Stations Include All the Features of HGE Series Dryers, plus:*

- High efficiency oil removal filter to remove oil aerosols to 0.008 ppm (0.01 mg/m<sup>3</sup>) and particulates to 0.01 micron
- Dedicated fully automatic, electric no-air-loss drain



# Features & Specifications

## Product Features

Models	emm™ Control Panel features:									Integral Filtration		Refrigerant	
	LED's: Power On, Compressor on, Alarm/Service	Dew Point Temp Indicator	Backlit LCD Alphanumeric Text Window	10 Language Display	Predictive Maintenance Scheduler	Scheduling: Timed Auto-Start and Stop	Push-To-Test Button for Electric Demand Drain	NO and NC Voltage-Free Alarm Contacts and RS232 Comm.	Integral 3 Micron Cold Filtration w/Electric Demand Drain	Integral 0.01 ppm Cold Coalescing Filtration w/Electric Demand Drain	Control Valves: Hot Gas Bypass & Thermal Expansion	HFC - Environmentally Friendly	
HGE600 - 3000	S	S	S	S	S	S	S	S	S	S	S	S	
Pyramid1000 - 3000	S	S	S	S	S	S	S	S	S	S	S	S	

S = Standard

## Product Specifications

Models	Rated Flow <sup>1</sup>	Voltages	Power <sup>2</sup>	Connection	H	Dimensions	Weight	
HGE Series	PYRAMID Series	(scfm)	(V/ph/Hz)	(kW)		W (inches)	D (inches)	
HGE600	-	600	2.62	3" NPT	57	28	65	886
HGE750	-	750	3.60	3" NPT	57	28	65	920
HGE1000	PYR1000	1,000	5.83	4" ANSI Flg.	85	48	49	1,540
HGE1250	PYR1250	1,250	6.73	4" ANSI Flg.	85	48	49	1,600
HGE1500	PYR1500	1,500	7.52	4" ANSI Flg.	85	48	49	1,650
HGE1750	PYR1750	1,750	9.89	6" ANSI Flg.	85	54	56	2,200
HGE2000	PYR2000	2,000	10.70	6" ANSI Flg.	85	54	56	2,240
HGE2500	PYR2500	2,500	12.91	6" ANSI Flg.	85	54	56	2,300
HGE3000	PYR3000	3,000	16.92	6" ANSI Flg.	85	54	56	2,500

**Notes:**

Refrigerants utilized on models HGE600-750 is R-134a, models HGE1000-3000 and PYRAMID Series utilize R-404a  
 Models HGE600-3000: standard electric demand drain (dryer MOP 230 psig (15.8 bar)). For cold coalescing filtration second electric demand drain is standard with PYRAMID Series.  
 Maximum inlet temperature: 120°F (49°C)

All models are certified to UL1995/CSA 22.2 No. 236-95

<sup>1</sup> Rated Flow Capacity - Conditions for rating dryers are in accordance with CAGI (Compressed Air and Gas Institute) Standard ADF100 working conditions: inlet air at 100 psig (7 bar) and 100°F (38°C) saturated, ambient air at 100°F (38°C), operating on 60 Hz power supply. At rated conditions, outlet pressure dew point is 38°F (3°C)

<sup>2</sup> At 35°F (2°C) evaporator and 100°F (38°C) ambient

**Table 1 - Correction Factors (multipliers) for Inlet Air Temperature and Pressure**

Inlet Pressure (psig)	Inlet Temperature				
	80°F (27°C)	90°F (32°C)	100°F (38°C)	110°F (43°C)	120°F (49°C)
50	1.35	1.05	0.84	0.69	0.56
80	1.50	1.17	0.95	0.79	0.66
100	1.55	1.23	1.00	0.82	0.70
125	1.63	1.31	1.07	0.91	0.74
150	1.70	1.37	1.13	0.95	0.80
175	1.75	1.42	1.18	0.99	0.84
200	1.80	1.47	1.22	1.03	0.89

**Table 2 - Correction Factors for Ambient Temperature\***

Ambient Temperature	80°F (27°C)	90°F (32°C)	100°F (38°C)	110°F (43°C)
Multiplier	1.12	1.06	1.00	0.94

\*Air-cooled models only. For water-cooled use a 1.15 multiplier if cooling water is less than 95°F (35°C).

**Table 3 - Correction Factors for Dew Point Temperature**

Dew Point Temperature	38°F (3°C)	45°F (7°C)	50°F (10°C)
Multiplier	1.0	1.2	1.3

To adjust dryer capacity for conditions other than rated, use Correction Factors (multipliers) from Tables 1, 2 and 3.

**Example:** What is the capacity of a model HGE1000 when the compressed air at the inlet to the dryer is at 150 psig and 100°F (38°C), the ambient temperature is 90°F (32°C) and a 50°F (10°C) dew point is desired?

**Answer:** 1,000 scfm (rated flow from Specifications Table) x 1.13 (correction factor for inlet temperature and pressure from Table 1) x 1.06 (correction factor for ambient temperature from Table 2) x 1.3 (correction factor for dew point from Table 3) = 1,560 scfm



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Bulletin - HGE-PYR600-3000-NA-1