VALUE THROUGH PERFORMANCE

DELTECH

The Lowest Energy Cost Refrigerated Dryer!

PYRAMID 2000®
EVOLUTION²

World Leader

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Deltech Pyramid 2000® Evolution^2
Lowest Energy Cost

Our famous Pyramid 2000 concept has been further developed to offer the **lowest total operating cost** refrigerated dryer system on the market.

The Pyramid 2000 *Evolution^2* Provides:

- **Guaranteed lowest energy operating cost** – energy savings 20 times greater than Department of Energy compressed air challenge guidelines
- **Low pressure drop** – energy savings actually exceed cost to operate dryer
- **Additional energy saving options available**
- **24 times greater oil removal** – through Deltech's unique cold coalescing 810 filter principle
- **Highest air quality** – outlet air contains virtually no condensable hydrocarbons
- **Single installation** – single-point air, electrical and drain connections

Lowest pressure drop guarantees lowest total operating cost

The **Pyramid 2000 Ev^2** filter-dryer design eliminates the need for accessory filters that not only add to initial and installation costs, but also increase overall pressure loss. Loss in pressure adds to operating cost by requiring additional power at the compressor to overcome the pressure drop.

Each psi drop in pressure costs an additional **0.5%** in power consumption by the compressor.

Example: a 100 hp air compressor costs $280 to operate for each 1 psid (@ $ .07 kWh for 8,760 hours)

The Pyramid 2000 Ev^2 Treatment System annual energy savings is in excess of $3,000, which is almost twice the annual operating cost of the dryer system.

Highest efficiency oil removal coupled with lowest pressure drop – an unbeatable combination

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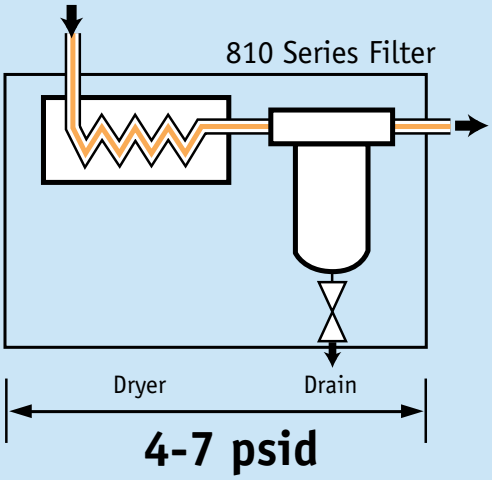
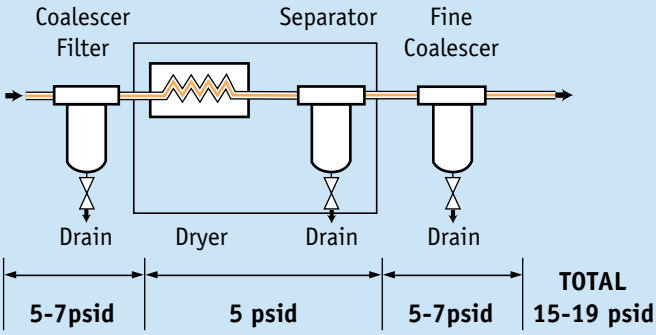
Pyramid 2000 Evolution² System



- Single-engineered compressed air treatment system
- Single-point installation
- Average pressure drop, 4-7 psid

Typical Competitor's Installation



- Refrigerated dryer with three accessory filters to achieve similar performance
- Installation and cost of three separate components
- Average overall pressure drop, 15-19 psid

Unique 810 Series filter provides unsurpassed performance

The 810 Series filter functions as a moisture separator, particulate filter and high-efficiency coalescer. No other single filter on the market can perform this triple function. Coalescing at the lowest air temperature, where the concentration of liquid oil is highest, significantly enhances the oil removing capacity of the Pyramid 2000 Ev² system. As a result, performance is measurably superior to that of ANY combination of a filter and refrigerated dryer in series.

Example Comparison of Filtration Efficiency at 100°F and 35°F

	Hydrocarbon Concentration (ppm)						
Filtration Temperature	At Filter Inlet			At Filter Outlet			Actual Efficiency
	Liquid	Vapor	Total	Liquid	Vapor	Total	
100°F (38°C)	2	0.62	2.62	0.0004	0.62	0.6204	76.3%
35°F (2°C)	2.616	0.004	2.62	0.00052	0.004	0.00452	99.8%

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Deltech quality stands up to the toughest performance tests

EVOLUTION²

Deltech's unique **Pyramid 2000 Ev²** dryers have been the systems of choice around the world for many years. This well-earned reputation was enhanced when the Pyramid 2000 Ev² product line was registered under the **ISO 9001 Quality System Standard**.

- Refrigeration systems must be evacuated to drive off moisture or other liquid or gas impurities that can destroy the compressor. Our testing is five times more stringent than the industry standard to ensure greater protection.
- Every refrigeration assembly is leak-tested to sense any leak of 0.05 ounce per year or greater.
- Every dryer undergoes a super-heat inspection to verify accurate settings of refrigerant flow control valves.
- Every dryer is tested to verify operation before it leaves the factory. These tests, combined with our high standards for design, engineering and manufacturing, give you the confidence that your Deltech dryer will perform to your requirements for years to come.

2-year warranty

Deltech's Pryamid 2000 Ev² refrigerated treatment systems come with a two-year warranty.

A key to the superior performance of Deltech dryers

All models of this unique design incorporate refrigerant control valves to insure consistent dew points and trouble-free performance over the life of the dryer. Models rated for 425 scfm and larger utilize both a hot gas bypass valve (HGBV) and a thermostatic expansion valve (TEV). Smaller models use a constant pressure valve. The valves are adjustable and easily serviceable.

The TEV controls the flow of liquid refrigerant to the chiller. It increases or decreases the amount of refrigerant as the cooling load fluctuates with changes in flow or temperature of the inlet airstream. By modulating the flow of refrigerant in response to the incoming air load, the TEV matches cooling capacity to cooling requirements.

The HGBV meters hot gas from the discharge of the compressor to the evaporator, preventing the dryer from freezing up under very low load conditions. The hot gas is introduced inside the chiller. This provides far better control – the dryer can handle 0 to 100% of its capacity without freezing up and without overheating the refrigerant compressor.

Engineered to provide maximum energy savings, filtration efficiency and durability

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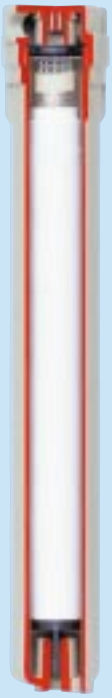
Multiple tube-in-tube heat exchanger provides maximum surface area in minimum space

System Operation Monitor displays critical temperatures and controls the drain valve (standard in ratings 425 - 1000 scfm, optional on ratings 75 - 300 scfm)



810 Series Filter functions as a moisture separator, particulate filter and high-efficiency coalescer

State-of-the-art fully hermetic compressor uses no CFC refrigerants

Electronic solenoid drain valve provides trouble-free condensate removal

Rugged sheet metal and solid frame enclosure with polyester-based powder coat finish stands up to harsh environments

Flexible closed cell foam insulates chiller, separator and suction line

Pyramid 2000 Evolution²

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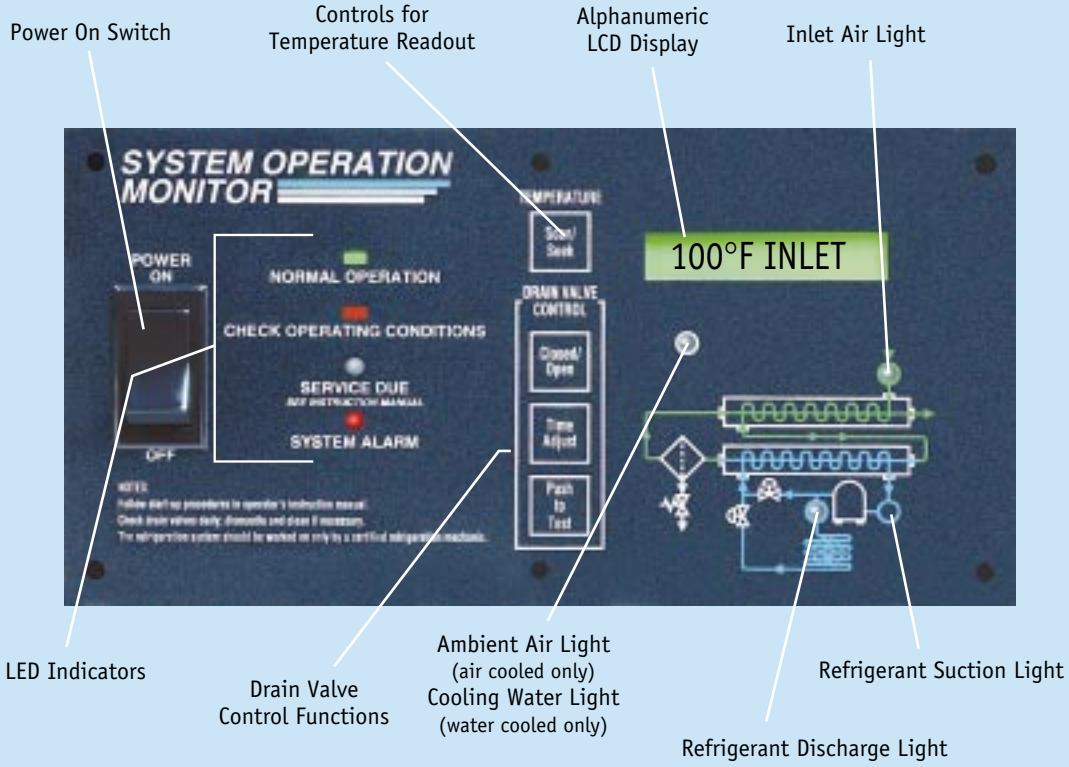
System Operation Monitor makes operation and maintenance easy

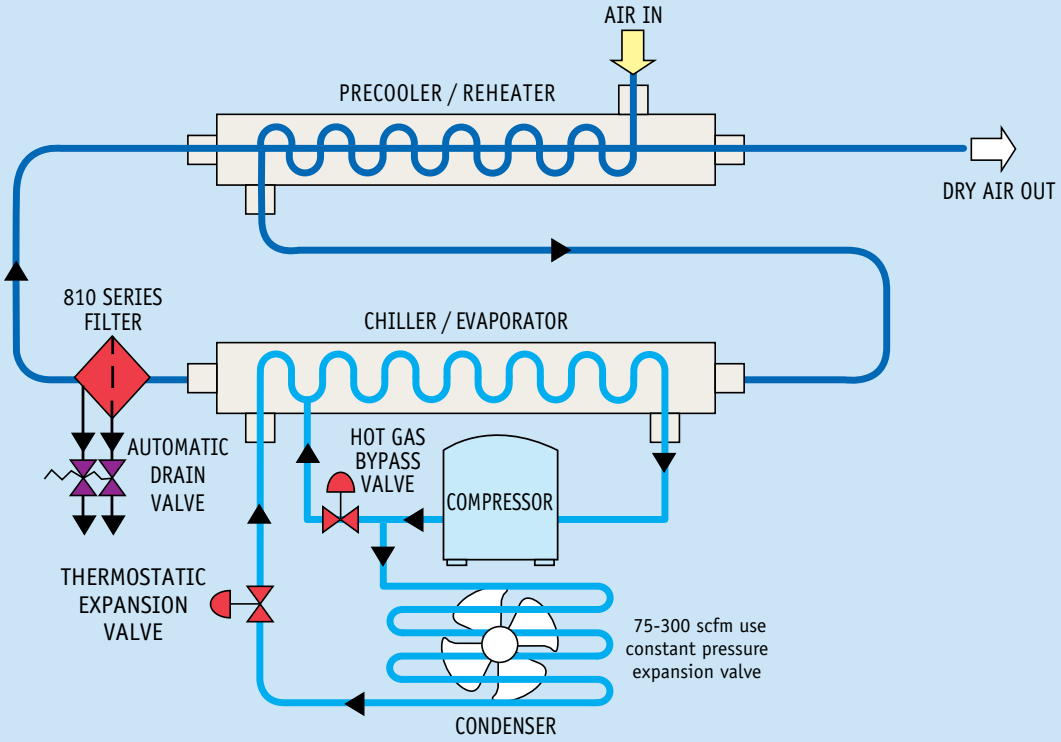
Deltech Pyramid 2000 Ev^2 refrigerated compressed air treatment systems use technology to provide better performance with greater operator convenience. The System Operation Monitor is optional for 75-300 scfm and standard on the 425-1000 scfm.



Standard Features and Controls

- On/Off switch
- Normal operation light
- System schematic with critical temperature display
- A backlit LCD display indicates:
  - inlet air temperature
  - ambient air temperature
  - cooling water temperature
  - intermediate air temperature
  - refrigerant suction temp.
  - refrigerant discharge temp.
- Fault messages
  - temperature sensor failure
  - change filter element
  - high evaporator temperature
- System warning light indicates
  - high inlet air temperature
  - low refrigerant suction temperature
  - high and low ambient temperature
  - high and low cooling water temp.
- System alarm light indicates
  - high temperature inlet air
  - low temperature refrigerant suction
  - high and low temperature ambient air
  - high and low temperature cooling water
- RS232 serial port
- Remote dry contacts, one N.O. and one N.C. set to indicate remotely warning and alarm conditions

Refrigeration and Airflow Schematic



Sizing Information

Inlet temperature, inlet pressure, ambient air temperature, required air flow, pressure dew point and cooling medium (air or water) must be established before a dryer can be specified for your application.

Example: Select a dryer for 350 scfm at 125 psig (8.6 barg) and 110°F (43°C) inlet air temperature, and 39°F (4°C) pressure dew point.

Step 1. On the Dryer Sizing chart locate the inlet air temperature, 110°F (43°C).

Step 2. At 110°F (43°C) read across the chart to 125 psig (8.6 barg) inlet air pressure. The correction factor is 0.90.

Step 3. To adjust the required flow, divide the required flow by 0.90.

350 scfm/0.90 = 389 scfm

Step 4. Using the Specifications chart select a dryer which has a rated capacity of 389 scfm or larger. Select Model P425A or W.

Dryer Sizing Chart

Inlet Air Temperature		Inlet Air Pressure psig (barg) Correction Factor									
		60	80	90	100	110	125	150	175	200	250
°F	(°C)	(4.1)	(5.5)	(6.2)	(6.9)	(7.6)	(8.6)	(10.3)	(12.1)	(13.8)	(17.2)
100	(38)	0.82	0.90	0.96	1.00	1.03	1.08	1.14	1.18	1.21	1.27
110	(43)	0.68	0.75	0.80	0.83	0.85	0.90	0.95	0.98	1.00	1.05
120	(49)	0.56	0.61	0.65	0.68	0.70	0.73	0.78	0.80	0.82	0.86
130	(55)	0.48	0.53	0.57	0.59	0.61	0.64	0.67	0.69	0.71	0.75

Correction Factors

Ambient Air Temp °F	(°C)	Correction Factor
100	(38)	1.00
110	(43)	0.94
120	(49)	0.88

Operating Conditions

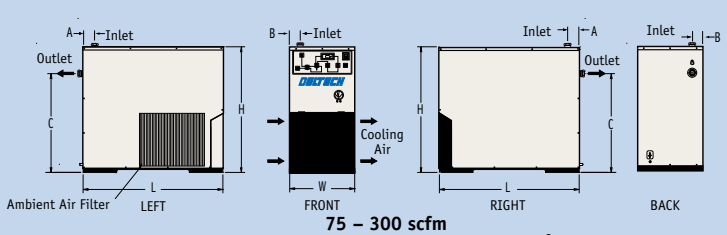
- Maximum inlet pressure 250 psig (17.2 barg)
- Maximum inlet air temperature 120°F (49°C)
- Maximum ambient air temperature 120°F (49°C)

Specifications

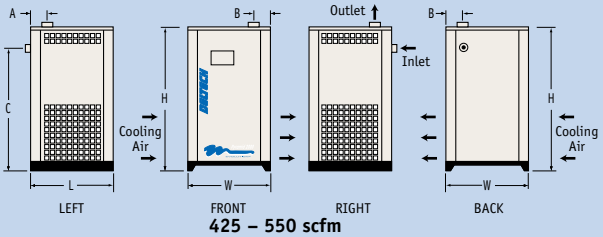
Model	Dimensions inches (cm) H	L	W	A	B	C	In-Out Connections inches (NPTF)	Approx. Ship Wt. lbs	(kg)	Refrigerant type	oz
PYR75A	31.0 (78.7)	34.8 (88.4)	16.3 (41.4)	3.0 (7.6)	2.6 (6.6)	24.3 (61.7)	1	176	(80)	R134A	13.5
PYR100A	31.0 (78.7)	34.8 (88.4)	16.3 (41.4)	3.0 (7.6)	2.6 (6.6)	24.3 (61.7)	1	189	(86)	R134A	15.5
PYR150A	44.9 (114.0)	44.3 (112.5)	18.3 (46.5)	8.9 (22.6)	3.3 (8.4)	31.9 (81.0)	1½	271	(123)	R134A	25.0
PYR200A	44.9 (114.0)	44.3 (112.5)	18.3 (46.5)	8.9 (22.6)	3.3 (8.4)	31.9 (81.0)	1½	301	(137)	R134A	41.0
PYR250A	45.8 (116.3)	48.3 (122.7)	19.3 (49.0)	17.5 (44.4)	3.7 (9.4)	35.8 (90.9)	2	401	(182)	R134A	41.0
PYR300A	45.8 (116.3)	48.3 (122.7)	19.3 (49.0)	17.5 (44.4)	3.7 (9.4)	35.8 (90.9)	2	406	(184)	R134A	41.0
P425A	64.0 (162.6)	36.0 (91.4)	36.0 (91.4)	6.0 (15.2)	7.3 (18.5)	48.9 (124.2)	3	675	(306)	R22	140.0
P550A	64.0 (162.6)	36.0 (91.4)	36.0 (91.4)	6.0 (15.2)	7.3 (18.5)	55.0 (139.7)	3	850	(386)	R22	240.0
P750A	73.0 (185.4)	48.0 (121.9)	36.0 (91.4)	6.9 (17.5)	9.8 (24.9)	15.8 (40.1)	3	1300	(590)	R22	240.0
P1000A	73.0 (185.4)	48.0 (121.9)	36.0 (91.4)	6.9 (17.5)	9.8 (24.9)	22.5 (57.2)	3	1600	(726)	R22	192.0

Model	Flow Capacity[1] scfm	(Nm^3/min)	Pressure Drop[2] psig	(barg)	Standard Voltage	Unit RLA	Unit kW	Compressor hp	Fan Motor hp	Cooling Air Flow cfm
PYR75A	75	(2.1)	3.3	(0.23)	120/1/60	10.1	0.77	½	25W	550
PYR100A	100	(2.8)	5.4	(0.37)	120/1/60	11.6	0.83	⅔	25W	550
PYR150A	150	(4.2)	5.3	(0.37)	208-230/1/60	9.0	1.34	1	75W	1200
PYR200A	200	(5.7)	5.3	(0.37)	208-230/1/60	17.8	2.63	2½	75W	1200
PYR250A	250	(7.1)	3.4	(0.23)	460/3/60	6.1	3.08	2¾	75W	900
PYR300A	300	(8.5)	3.5	(0.24)	460/3/60	6.8	3.46	3	¼	1300
P425A	425	(12.0)	5.7	(0.39)	460/3/60	5.9	3.00	2	¼	3000
P550A	550	(15.6)	5.0	(0.34)	460/3/60	6.8	3.45	3	¼	2700
P750A	750	(21.2)	3.1	(0.21)	460/3/60	10.7	5.46	4	½	5200
P1000A	1000	(28.3)	5.0	(0.34)	460/3/60	12.8	6.51	5	½	4800

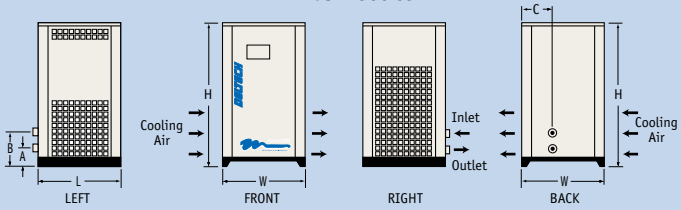
1 Performance data obtained in accordance with CAGI Standard No. ADF 100, Refrigerated Compressed Air Dryer - Methods for Testing & Rating. Rating conditions are 100°F (38°C) inlet temperature, 100 psig (6.9 bar) inlet pressure, 100% relative humidity and 100°F (38°C) ambient temperature. Capacity applies to 60 cycle dryer, capacity reduced 17% for 50 cycle.
2 Pressure drop includes filter in normal wetted operating conditions.



75 – 300 scfm



425 – 550 scfm



750 – 1000 scfm

ISO 9001

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