

ECLIPSE™

Heat-Of-Compression Air Dryers

250-2,165 SCFM

Air-Cooled
Now Available



Lowest Cost
Compressed Air
Treatment

ZCA Heat-Of-Compression

ZXA Precision Heat-Of-Compression

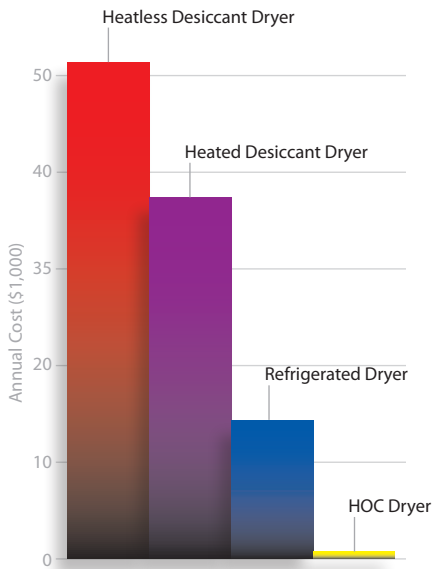
www.zeks.com

Heat-Of-Compression - The Efficient Alternative

ZEKS Eclipse™ Heat-Of-Compression (HOC) dryers provide the most cost effective way to remove moisture from compressed air. By making use of the heat that's generated during the air compression process, ZEKs HOC dryers provide air system users with clean, dry air for a cost that is far less than that from typical desiccant or refrigerated dryers.

Compressed Air Dryer Energy Consumption Comparison

(Based on 2,100 SCFM; 8,700 hrs.; \$.10 kWh)



The energy required to operate a ZEKs water-cooled HOC dryer is equivalent to that of a 150-watt light bulb, making it the most cost-effective method for compressed air treatment.

Efficiency

Eclipse™ HOC dryers are engineered to make efficient use of reclaimed heat energy from oil-free air compressors. By enabling delivery of consistently clean, dry air to critical processes, these dryers help users of compressed air achieve productivity goals and maximize operating efficiency.

Eclipse™ HOC dryer performance meets the need:

- Clean, dry oil-free air for broad application
- Minimum fluctuations in outlet dew point and air temperature
- Low pressure drop to minimize air system operating cost
- Simultaneous connection to up to three air compressors

Reliability

Along with its many innovations, Eclipse™ HOC dryers are equipped with time-tested components, proven in the field on ZEKs dryers in the most demanding applications.

- High performance flow control valves with stainless steel internal parts
- Digital Dryer Control with *Adaptive Control™ Technology*
- No Air-Loss drains with high condensate alarm and drain backup
- Patented stainless steel heat exchangers (water-cooled models)
- Air-cooled or water-cooled configuration



HOC model 800ZCA shown in standard configuration.

Performance Flexibility

To accommodate a broad range of application requirements, ZEKs makes two HOC dryer models, each with unique customer advantages:

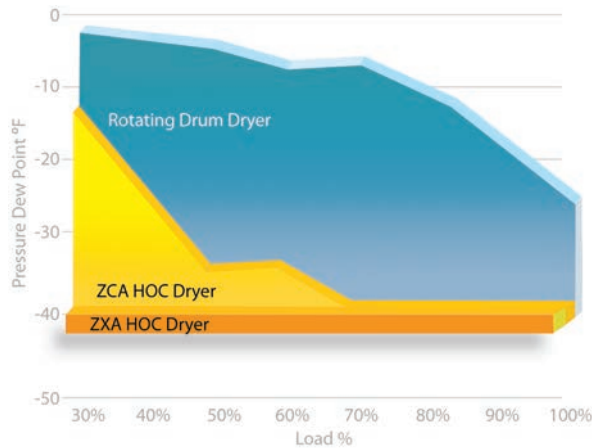
- **Eclipse™ ZCA - Instrument Quality* Compressed Air** Provides instrument quality air down to 30% of capacity with minimum energy consumption.
- **Eclipse™ ZXA - Precise Dew Point Control** Provides consistent -40°F pressure dew point through the entire range of operation for critical compressed air requirements.

Competitive dryers can exhibit dew point spikes of >40°F and temperature spikes of 250°F, or more. Both ZCA and ZXA models feature a unique, *dual cooler* arrangement designed to minimize these spikes. During the dryer operating cycle, a secondary cooler is utilized to reduce the temperature of the desiccant. This feature virtually eliminates temperature and dew point spikes, providing consistently dry air without the temperature excursions found on competitive dryers.

Maintainability

Eclipse™ HOC dryers include features specifically designed to ease installation, foster adherence to routine maintenance and promote safe operation:

- Low overall height accommodates installations with low overhead clearance
- Controller communicates routine maintenance reminders to ensure continuous, trouble-free operation
- Serviceable components are within easy reach
- Stand-alone Air-Cooled Module requires minimal maintenance
- Condensate drains are readily accessible
- Stainless steel heat exchangers resist corrosion (water-cooled models)
- On-board Event and Alarm history through dryer controller



Adaptability.

Eclipse™ HOC dryer operation is automatically managed with an advanced full-featured controller. The Controller is user-friendly and intuitive to operate, facilitating quick dryer set-up and indication of dryer operating status at the touch of a button - any time.

Both ZCA and ZXA dryer models include *Adaptive Control™ Technology* that continuously monitors environmental and air system parameters and adjusts dryer operation accordingly to provide the most efficient delivery of clean, dry oil-free air.

ZXA models are programmed to also evaluate the temperature of the air entering from the air compressor(s) and select the dryer mode of operation necessary to maintain -40°F dew point, regardless of air compressor utilization.



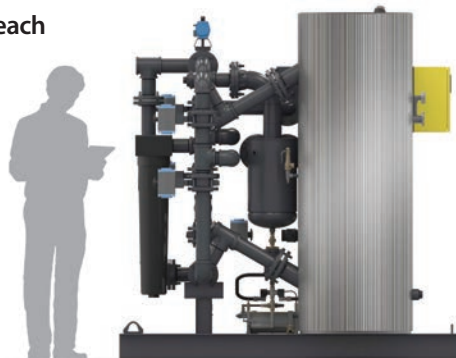
User-Friendly Controls

Logical Interface - Touch pad navigation through icon-based LCD displays provides complete dryer status and setup

Alarm Indication - Visible indication of alarm state and record of event history

Operator Input - User-adjustment of dryer performance to match application need

Communication - Modbus through RS-485 interface assures integration within facility



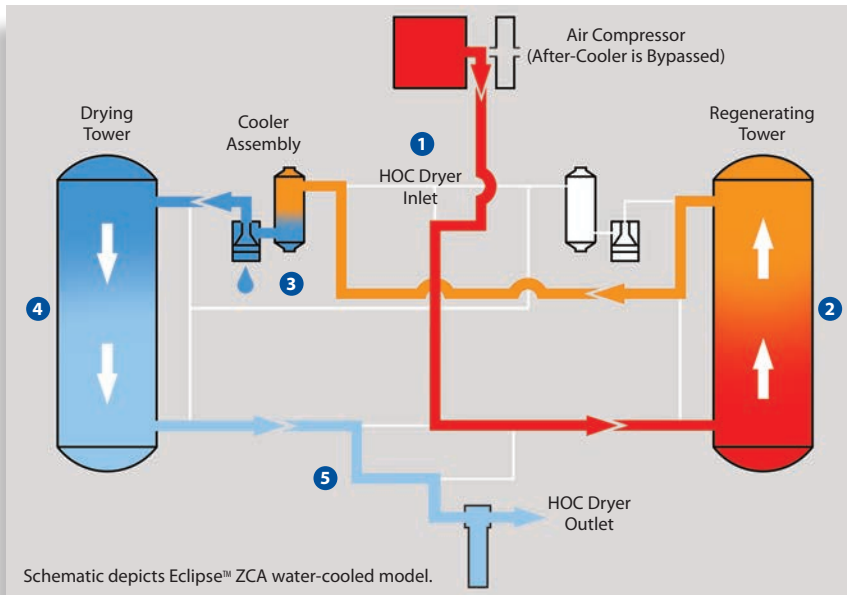
ECLIPSE™

Heat-Of-Compression
Regenerative Desiccant Dryers

*** Instrument Air, quality standard:**

Pressure dew point: The pressure dew point measured at the dryer outlet will be at least 18°F below the minimum temperature to which any part of the instrument air system is exposed. The pressure dew point shall not exceed 39°F at line pressure.

Understanding HOC Dryer Operation



- 1 Hot air from oil-free air compressor(s) enters dryer. Flow is directed into the Regenerating Tower.
- 2 Heat energy from the air removes moisture from the desiccant media, regenerating it for use in the subsequent drying cycle.
- 3 Moisture-laden hot air flows from the Regenerating Tower, through the Cooler Assembly where bulk moisture is condensed and separated from the airstream.
- 4 Cooled and dried air flows through the Drying Tower where desiccant media adsorbs any remaining moisture.
- 5 Clean, dry oil-free air flows through a particulate after-filter before exiting the dryer for use in downstream processes.

ZEKS HOC Dryer Features

Standard Features	ZCA	ZXA		ZCA	ZXA
NEMA 4 Electrical Enclosure(s) (UL-Listed)	✓	✓	Tower Pressure Gauges	✓	✓
Tower and Heating Manifold Insulation	✓	✓	Tower Temperature Gauges	✓	✓
High-Performance Valves with Stainless Steel Internals	✓	✓	After-Filter (1 micron)	✓	✓
No-Loss Condensate Drain System	✓	✓	MODBUS Connectivity	✓	✓
High Condensate Alarm with Back-Up Drain	✓	✓	Outlet Pressure Transducer	✓	✓
Dual Water- or Air-Cooled Cooler Assemblies	✓	✓	Contact For Remote Signal	✓	✓
High-Efficiency Moisture Separator	✓	✓	Full-Featured Controller with Adaptive Control	✓	✓
Stainless Steel Heat Exchangers (Water-Cooled)	✓	✓	Constant -40°F Performance	NA	✓
ASME -Vessels	✓	✓			

Optional Features	ZCA	ZXA		ZCA	ZXA
NEMA 4X Stainless Steel Enclosure(s)	✓	✓	3-Valve Dryer Bypass	✓	✓
Air-Cooled Module	✓	✓	Stainless Steel Control Air Tubing	✓	✓
Dew Point Transmitter	✓	✓	Class I; Div. 2	✓	NA
Water Regulating Valve	✓	✓			

NA - Not Available

Specifications

MODEL	CAPACITY (SCFM)	IN/OUT CONNECTION	DIMENSIONS* (inches)			SHIP WEIGHT* (lbs.) ZCA/ZXA
			DEPTH	WIDTH	HEIGHT	
250ZCA/ZXA	250	1-1/2" FPT	58	60	75	1770/2020
400ZCA/ZXA	400	2" FPT	87	76	93	2430/2680
500ZCA/ZXA	500	2" FPT	87	76	93	2700/2850
600ZCA/ZXA	600	3" FPT	87	76	93	4050/4350
800ZCA/ZXA	800	3" FPT	93	84	87	4380/4680
1200ZCA/ZXA	1,200	4" FLG	99	88	89	5890/6190
1600ZCA/ZXA	1,600	4" FLG	104	90	99	6650/6950
2165ZCA/ZXA	2,165	6" FLG	129	96	99	8640/9040

* Dimensions and Shipping Weights shown for water-cooled configuration. Consult factory for air-cooled Dimensions and Shipping Weights.
 Dryer performance rating: Water-cooled unit; 100 psig system pressure; 95°F ambient air temperature; 85°F cooling water temperature
 Dryer pressure rating: 150 psig



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