

**NC Series™**  
75-2,400 SCFM Models

**Multi-Module Series™**  
3,250-19,200 SCFM Models

*Non-Cycling Refrigerated Compressed Air Dryers*



**Independently Verified  
Performance** (200-1000 SCFM models)

**CFX®** *Stainless Steel  
Heat Exchangers*

# NC Series™

## Refrigerated Compressed Air Dryers

75-2,400 SCFM

Compressed air is used commonly for powering tools and equipment, in production and finishing processes and to control valves and instruments. The compression process itself causes concentrations of water, compressor lubricant aerosols, and air-borne particulates to increase to levels that can damage tools, increase maintenance requirements or spoil finished product.

### Efficient Operation

NC Series™ dryers cool compressed air using a hermetically sealed refrigeration system. Moisture from the cool air condenses and is efficiently separated and discharged from the dryer. The result is clean, dry air that is suitable for the most demanding applications.

NC Series™ dryer components are sized and matched to enable consistent dew point at full or partial moisture loading in all industrial environments:

- **Fully hermetic refrigeration systems minimize maintenance requirements**
- **Generously sized condensers deliver rated performance even in elevated ambient temperatures**
- **ZEKS exclusive moisture separator design provides 99% separation efficiency**
- **ZEKS CFX®-based precooler/reheater cools incoming compressed air to reduce the load on the refrigeration system thereby minimizing energy cost**
- **ZEKS CFX®-based precooler/reheater warms outgoing compressed air to eliminate pipe sweating**



NC Series™ model 400 NCG  
shown in standard configuration.

### ZEKS Performance Has Been Independently Verified!

Through participation in the Compressed Air and Gas Institute (CAGI) Performance Verification Program, actual performance and energy consumption of 200-1000 SCFM NC Series™ dryers have been independently validated. Visit [www.zeks.com](http://www.zeks.com) to view ZEKS refrigerated dryer Data Sheets.

**Insist upon a dryer with performance that has been independently validated.**



# Multi-Module Series™

## Refrigerated Compressed Air Dryers

3,250 - 19,200 SCFM

## Built-In Redundancy Provides Superior High Volume Air Treatment

For large volume compressed air applications, Multi-Module Series™ dryers provide the benefits of NC Series™ dryers plus:

### **Redundancy –**

Multi-Module Series™ dryers are an assembly of individual air treatment modules, each with refrigeration system, heat exchangers, moisture separator and drain. Two or more modules are integrated to form eleven dryer models with air treatment capacities from 3,250 - 19,200 SCFM. This modular approach provides inherent redundancy of critical dryer components, eliminating the need to operate and maintain more than one dryer. Individual electrical disconnects on each module enable the dryer to remain operational and continue to provide compressed air treatment even if a module must be isolated for service or maintenance.

### **Versatility and Expandability –**

Individual modules in each dryer model share a single INLET and a single OUTLET air header, each with dual connection capability. This permits connection to either side of the dryer to suit site conditions. Multi-Module™ dryers have also been engineered to address the ever-changing manufacturing environment. Because header centerline position is common among all models, planned increase in air treatment capacity can be accommodated through addition of modules.



*Multi-Module Series™ model 4000 NCFM shown configured with water-cooled refrigeration condensers.*

**The Standard of Excellence For Heat Exchanger Design**

ZEKS patented CFX® heat exchangers have been engineered exclusively for compressed air drying. The unique design features:

- **100% Stainless Steel Construction**
- **Very Low Pressure Drop**
- **3-5 Times More Flow Area Than Competitive Exchangers**
- **Greater Fouling Resistance Than Competitive Exchangers**
- **Higher Energy Efficiency Than Competitive Exchangers**
- **ZEKS Exclusive 10-Year Warranty**



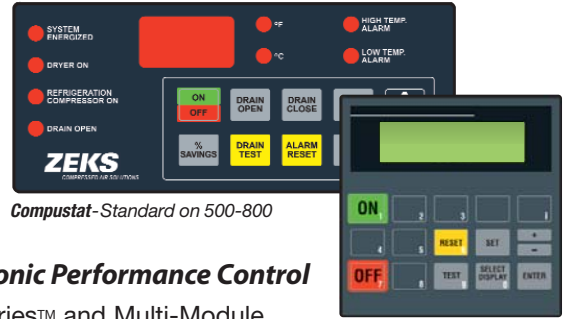
Protected under U.S. Patent Nos. 6,186,223 and 6,244,333

Even well maintained compressed air systems can contain corrosive impurities that are introduced at the air compressor intake. The corrosion-resistance of CFX® stainless steel heat exchangers addresses this threat, providing durability in environments where exchangers made of copper or other metals are not suitable.

**Durable Construction**

The internal structure of NC Series™ and Multi-Module Series™ dryers is made of heavy gauge galvanized steel. Full external cabinet is powder coated with removable panels that allow convenient access to all serviceable components.

**...Engineered to maximize operating efficiency and provide continuous trouble-free service in a broad range of compressed air applications.**



Compustat-Standard on 500-800

DPC-Standard on 1000-2400, optional on 75-400

**Electronic Performance Control**

NC Series™ and Multi-Module Series™ dryer operation is automatically controlled to ensure continuous air treatment. Both Compustat and DPC controllers enable the user to monitor the dryer refrigeration system as well as adjust condensate drain timing at the touch of a button.

**Compustat Controller** – Standard on 500-800 models. Includes LED display to communicate dryer operating status.

**DPC Controller** – Optional on 75-400 models. Enhanced version standard on 1000-2400 models. Includes backlit LCD to communicate dryer operating status.

**DPC Plus Controller** – Optional on 500-2400 models and standard on 3250-19200 models. Provides all the features of the DPC Controller, with the addition of air temperature and pressure displays.

| Display Of:                       | Dryer Model |           |           |            |
|-----------------------------------|-------------|-----------|-----------|------------|
|                                   | 75-400      | 500-800   | 1000-2400 | 3250-19200 |
| • Chiller Temp.                   | 0           | S         | S         | S          |
| • Refrig. Suction Pres.           | S (Gauge)   | S (Gauge) | S         | S          |
| • Refrig. Suction Temp.           | NA          | +         | S         | S          |
| • Refrig. Discharge Pres.         | NA          | +         | S         | S          |
| • Refrig. Comp. Running Time      | 0           | +         | S         | S          |
| • Dryer Running Time              | 0           | +         | S         | S          |
| • Diagnostic Memory               | 0           | +         | S         | S          |
| • Inlet Air Pres. and Temp.       | NA          | +         | +         | S          |
| • Outlet Air Pres. and Temp.      | NA          | +         | +         | S          |
| <b>Drain Time Adjustment</b>      | 0           | S         | S         | S          |
| <b>Automatic Dryer RESTART</b>    | 0           | S         | S         | S          |
| <b>Remote START/STOP-Ready</b>    | 0           | S         | S         | S          |
| <b>Remote Alarm Contact</b>       | 0           | S         | S         | S          |
| <b>MODBUS Communication-Ready</b> | 0           | +         | S         | S          |

S - Standard feature with either Compustat or DPC  
 0 - Option provided by DPC  
 NA - Not Applicable  
 + - Included with DPC Plus Option



## NC Series™ and Multi-Module Series™ Features

### Standard:

- **Stainless Steel CFX® Heat Exchangers**  
Patented CFX® stainless steel heat exchangers used in all precooler/reheater and chiller assemblies.
- **Fully Hermetic Refrigeration Compressor(s)**  
Quiet, reliable operation.
- **High Efficiency Moisture Separator**  
Collects condensate, eliminates moisture reentrainment.
- **Timed Electric Condensate Drain**  
Fully adjustable with large port that resists clogging.
- **Electronic Performance Controller** (optional on 75-400)  
Enables performance modification and real-time monitoring of dryer functions.
- **Air-Cooled Refrigeration Condenser** (75-2,400)  
Condenser is mounted to maximize air flow.
- **Water-Cooled Refrigeration Condensers** (3,250-19,200)  
Internally mounted condenser in each module makes use of available cooling supply.
- **Multiple Electric Disconnects** (3,250-19,200)  
Enable isolation of individual modules for service while dryer remains operational.
- **Single Point Electric Service Connection**  
Minimizes installation cost.
- **Closed Frame Construction**  
Full powder coated cabinet protects internal components.
- **Air Circuit Precooler/Reheater**  
Conditions air optimally for compressed air system.
- **Environmentally Friendly Refrigerant**  
NC Series™ and Multi-Module Series™ dryers use R-404A refrigerant.

### Optional:

- **NEMA 4 Electrics** (200-19,200)  
Water tight and dust tight enclosure for indoor/outdoor protection against rain, falling water, and washdown.
- **Water-Cooled Refrigeration Condenser** (200-2,400)  
Condenser makes use of available cooling supply.
- **Air-Cooled Refrigeration Condensers** (3,250-19,200)  
Condensers maintain individual module efficiency in all ambient conditions.
- **Savair™ No Air-Loss Condensate Drains** (3,250-19,200)  
Pneumatically operated demand drains waste no compressed air. Each has a large discharge port that resists clogging.
- **Removable-Head Condensers** (3,250-19,200)  
Permit cleaning of the condensers in applications where water has high concentrations of silt or particulate. Units are top-mounted for convenient access.
- **CME Cold Mist Eliminator** (200-400)  
99% removal of air compressor lubricant carryover.

#### Exclusive Warranty

In addition to the standard dryer warranty, refrigeration compressors are warranted for five years and CFX® heat exchangers for ten years.

Refer to:  
*ZEKS Product Warranty  
Policies and Procedures.*

## Sizing and Selection

Dryer selection is based on matching dryer treatment capacity to the total maximum compressed air volume (SCFM). Select a model that has the required treatment capacity (SCFM) from the Technical Specifications Charts. Use the following Correction Factors to select a model that provides the required dew point for an application that deviates from the standard ISO 7183 rating conditions (selection example provided):

| Dryer Selection Example                 | Inlet Air Temperature | Correction Factor | Inlet Air Pressure | Correction Factor | Ambient Air Temperature | Correction Factor |
|---|-----------------------|-------------------|--------------------|-------------------|-------------------------|-------------------|
| Air Volume Requirement: <b>375 SCFM</b> | 80°F                  | .61               | 50 psig            | 1.29              | 80°F                    | .80               |
| Inlet Air Temperature: <b>110°F</b>     | 90°F                  | .79               | 75 psig            | 1.10              | <b>90°F</b>             | <b>.89</b>        |
| Inlet Air Pressure: <b>150 psig</b>     | 100°F                 | 1.00              | 100 psig           | 1.00              | 100°F                   | 1.00              |
| Ambient Air Temperature: <b>90°F</b>    | <b>110°F</b>          | <b>1.23</b>       | <b>150 psig</b>    | <b>.86</b>        | 110°F                   | 1.16              |
|   | 120°F                 | 1.51              | 250 psig           | .79               | 113°F                   | 1.27              |

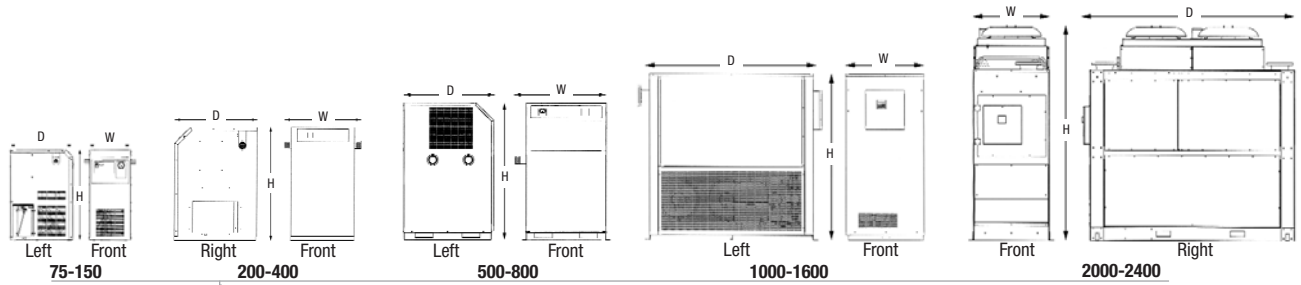
Corrected SCFM can be calculated with the correction factors:

$$1.23 \times .86 \times .89 \times 375 \text{ SCFM} = 353 \text{ SCFM corrected}$$

Select the model that matches or exceeds the corrected treatment capacity (SCFM).

For the example given, it is model 400NCG delivering 38°F PDP.

See *Technical Specifications* charts on back page.



**NC Series™**

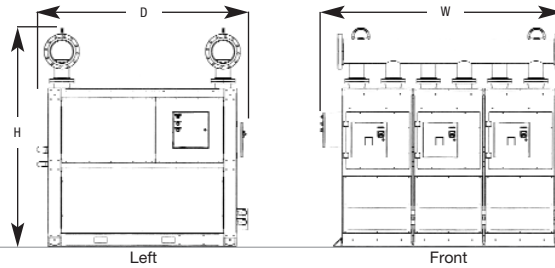
**Technical Specifications**

| MODEL   | CAPACITY* |          | PRESSURE DROP** | DIMENSIONS |       |       | SHIP WEIGHT   |                 | AIR DRAIN CONNECT | REFRIG COMP CONNECT | REFRIG COMP |               | OPERATING      |                  | MAX WORKING TYPE | PRESSURE | VOLTAGES§  |
|---------|-----------|----------|-----------------|------------|-------|-------|---------------|-----------------|-------------------|---------------------|-------------|---------------|----------------|------------------|------------------|----------|--|
|         | 38°F PDP  | 50°F PDP |                 | W IN.      | D IN. | H IN. | AIR-COOL LBS. | WATER-COOL LBS. |                   |                     | AIR-COOL HP | WATER-COOL HP | AIR-COOL KW*** | WATER-COOL KW*** |                  |          |  |
| 75NCG   | 75        | 103      | 1.3             | 14         | 21    | 31    | 145           | NA              | 1" MPT            | 1/4"                | .3          | NA            | .67            | NA               | R404             | 300 psig | 115-1-60<br>208/230-1-60<br>220-1-50                         |
| 100NCG  | 100       | 138      | 2.5             | 14         | 21    | 31    | 150           | NA              | 1" MPT            | 1/4"                | .5          | NA            | 1.0            | NA               | R404             | 300 psig |  |
| 125NCG  | 125       | 172      | 2.0             | 14         | 21    | 31    | 180           | NA              | 1 1/2" MPT        | 1/4"                | .6          | NA            | 1.3            | NA               | R404             | 300 psig |  |
| 150NCG  | 150       | 207      | 2.6             | 14         | 21    | 31    | 200           | NA              | 1 1/2" MPT        | 1/4"                | .6          | NA            | 1.3            | NA               | R404             | 300 psig |  |
| 200NCG  | 200       | 276      | 1.6             | 23         | 31    | 40    | 325           | 360             | 1 1/2" MPT        | 1/4"                | 1.0         | 1.0           | 1.8            | 1.4              | R404             | 300 psig | 208/230-3-60<br>220-3-60<br>460-3-60<br>380-3-50<br>575-3-60 |
| 250NCG  | 250       | 345      | 3.1             | 23         | 31    | 40    | 340           | 380             | 1 1/2" MPT        | 1/4"                | 1.5         | 1.0           | 2.2            | 1.4              | R404             | 300 psig |  |
| 300NCG  | 300       | 414      | 2.0             | 23         | 31    | 40    | 375           | 400             | 2" MPT            | 1/4"                | 1.5         | 1.5           | 2.4            | 1.9              | R404             | 300 psig |  |
| 400NCG  | 400       | 552      | 2.9             | 23         | 31    | 40    | 375           | 440             | 2" MPT            | 1/4"                | 2.5         | 2.5           | 3.6            | 2.9              | R404             | 300 psig |  |
| 500NCE  | 500       | 690      | 2.9             | 42         | 40    | 62    | 950           | 720             | 3" MPT            | 1/4"                | 2.5         | 2.5           | 3.7            | 2.9              | R404             | 300 psig |  |
| 600NCE  | 600       | 828      | 3.0             | 42         | 40    | 62    | 950           | 820             | 3" MPT            | 1/4"                | 3.0         | 3.0           | 4.6            | 3.8              | R404             | 300 psig |  |
| 700NCE  | 700       | 966      | 2.7             | 42         | 40    | 62    | 1,050         | 840             | 3" MPT            | 1/4"                | 3.5         | 4.0           | 5.9            | 4.7              | R404             | 300 psig |  |
| 800NCE  | 800       | 1,104    | 3.0             | 42         | 40    | 62    | 1,050         | 850             | 3" MPT            | 1/4"                | 4.0         | 4.0           | 5.9            | 4.7              | R404             | 300 psig |  |
| 1000NCF | 1,000     | 1,380    | 2.4             | 32         | 72    | 69    | 1,700         | 1,630           | 4" FLG            | 1/4"                | 5.0         | 5.0           | 7.4            | 6.1              | R404             | 220 psig |  |
| 1200NCF | 1,200     | 1,656    | 3.1             | 32         | 72    | 69    | 1,725         | 1,630           | 4" FLG            | 1/4"                | 6.5         | 5.0           | 9.5            | 6.1              | R404             | 220 psig |  |
| 1600NCF | 1,600     | 2,208    | 3.3             | 32         | 72    | 69    | 1,800         | 1,790           | 4" FLG            | 1/4"                | 9.0         | 6.5           | 11.3           | 8.9              | R404             | 220 psig |  |
| 2000NCF | 2,000     | 2,760    | 3.5             | 32         | 91    | 90.68 | 2,450         | 2,690           | 6" FLG            | 1/4"                | 10.5        | 8.0           | 13.8           | 9.0              | R404             | 220 psig |  |
| 2400NCF | 2,400     | 3,312    | 4.8             | 32         | 91    | 90.68 | 2,500         | 2,720           | 6" FLG            | 1/4"                | 12.0        | 10.5          | 16.2           | 11.7             | R404             | 220 psig |  |

Overall dimensions indicated.

Air, electric service, and drain connection configurations vary per model. Contact factory for details.

§ 200NCG also available in 208-1-60 and 230-1-60 voltages.



Overall dimensions indicated.

Air INLET and OUTLET header centerline remains consistent throughout the Multi-Module Series™ model range.

Module number varies depending on model. See last column in Technical Specifications chart to identify modules per model. 3-module model depicted in this illustration.

**Multi-Module Series™**  
**Technical Specifications**

| MODEL     | CAPACITY* |          | PRESSURE DROP** | OVERALL DIMENSIONS |       |       | SHIP WEIGHT | CONNECT SIZE | DRAIN (QTY) SIZE | REFRIG COMP       |                     | H <sub>2</sub> O FLOW | H <sub>2</sub> O CONN | OPERATING |                | NUMBER OF MODULES |
|-----------|-----------|----------|-----------------|--------------------|-------|-------|-------------|--------------|------------------|-------------------|---------------------|-----------------------|-----------------------|-----------|----------------|-------------------|
|           | 38°F PDP  | 50°F PDP |                 | W IN.              | D IN. | H IN. |             |              |                  | AIR-COOL (QTY) HP | WATER-COOL (QTY) HP |                       |                       | GPM @85°F | AIR-COOL KW*** |                   |
| 3250NCFM  | 3,250     |          | 3.4             | 76.5               | 96    | 100.2 | 4,800       | 8" FLG       | (2) 1/2"         | (2) 8.0           | (2) 6.5             | 42                    | 1.5 NPT               | 22.6      | 17.8           | 2                 |
| 4000NCFM  | 4,000     |          | 3.5             | 76.5               | 96    | 100.2 | 5,000       | 8" FLG       | (2) 1/2"         | (2) 10.5          | (2) 8.0             | 52                    | 1.5 NPT               | 27.6      | 18.0           | 2                 |
| 4800NCFM  | 4,800     |          | 4.8             | 76.5               | 96    | 100.2 | 5,500       | 8" FLG       | (2) 1/2"         | (2) 12.0          | (2) 10.5            | 68                    | 1.5 NPT               | 32.4      | 23.4           | 2                 |
| 6000NCFM  | 6,000     |          | 3.5             | 110.25             | 98    | 99.53 | 7,500       | 10" FLG      | (3) 1/2"         | (3) 10.5          | (3) 8.0             | 78                    | 2.0 NPT               | 41.4      | 27.0           | 3                 |
| 7200NCFM  | 7,200     |          | 3.5             | 110.25             | 98    | 99.53 | 8,000       | 10" FLG      | (3) 1/2"         | (3) 12.0          | (3) 10.5            | 102                   | 2.0 NPT               | 48.6      | 35.1           | 3                 |
| 8000NCFM  | 8,000     |          | 3.5             | 148                | 100   | 102   | 9,000       | 12" FLG      | (4) 1/2"         | (4) 10.5          | (4) 8.0             | 104                   | 2.5 NPT               | 55.2      | 36.0           | 4                 |
| 9600NCFM  | 9,600     |          | 4.8             | 148                | 100   | 102   | 10,000      | 12" FLG      | (4) 1/2"         | (4) 12.0          | (4) 10.5            | 136                   | 2.5 NPT               | 64.8      | 46.8           | 4                 |
| 12000NCFM | 12,000    |          | 4.3             | 175.5              | 102   | 103   | 14,000      | 14" FLG      | (5) 1/2"         | (5) 12.0          | (5) 10.5            | 170                   | 3.0 FLG               | 81.0      | 58.5           | 5                 |
| 14400NCFM | 14,400    |          | 4.3             | 210.5              | 100   | 103   | 17,000      | 14" FLG      | (6) 1/2"         | (6) 12.0          | (6) 10.5            | 204                   | 3.0 FLG               | 97.2      | 70.2           | 6                 |
| 16800NCFM | 16,800    |          | 4.8             | 242                | 104   | 106   | 21,000      | 16" FLG      | (7) 1/2"         | (7) 12.0          | (7) 10.5            | 238                   | 4.0 FLG               | 113.4     | 81.9           | 7                 |
| 19200NCFM | 19,200    |          | 4.8             | 275                | 104   | 106   | 25,000      | 16" FLG      | (8) 1/2"         | (8) 12.0          | (8) 10.5            | 272                   | 4.0 FLG               | 129.6     | 93.6           | 8                 |

\* Performance data obtained according to ISO 7183, Table 2, Option A2. Pressure dew point at 100 psig inlet air pressure, 100°F inlet air temperature, 100°F ambient air temperature.

\*\* Pressure drop ±.5 psi. Pressure drops noted are for the 38°F PDP flows.

\*\*\* Average kilowatts per hour of dryer operation at full rated capacity.

460/3/60; 380/3/50; 575/3/60 voltages available for 3,250 - 19,200 SCFM models.

220 psig maximum working pressure for 3,250 - 19,200 SCFM models. Dimensions subject to change without notice.

Shipping weights shown for Multi-Module Series™ are for air-cooled models. Water-cooled model weight is less.

**NC Series™ and Multi-Module Series™**  
Non-Cycling Refrigerated Compressed Air Dryers



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