

air prep

# 301 Series

Thermal Mass Cycling Air Dryers



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### 301 Series Thermal Mass Cycling Air Dryer

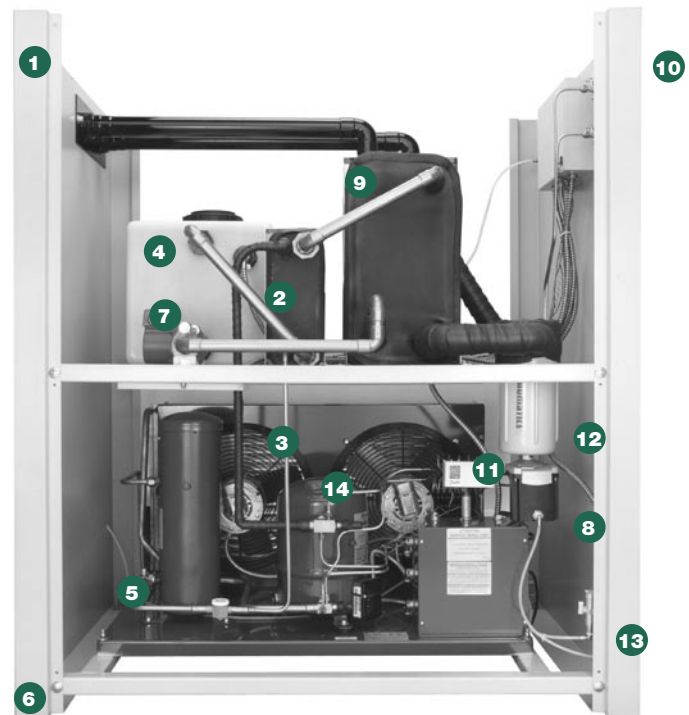
Today's ultra competitive business climate makes every dollar crucial in order to stay competitive. The Ultra Air 301 Series Thermal Mass Cycling Dryer offers energy savings that benefits that all-important bottom line. As its name implies, it cycles the refrigerant compressor on and off only in times of need. With standard, non-cycling refrigerated dryers the compressor remains on whether there is a high or low load.

The 301 Series actively circulates the thermal mass (propylene glycol) allowing for a more consistent pressure dew point while greatly reducing the opportunity of "slugging". This active movement of the thermal mass maximizes the heat transfer coefficient allowing for smaller, more efficient components.

Every model of the 301 Series offers standard pre-filtration, a standard electronic control panel, and ample inside cabinet space giving you years of maintenance friendly uninterrupted service.

### Features

1. Standard suction and discharge gauges on all units for easy detection of pressures.  
Standard electronic control panel for all models (see page 5 for monitoring and control capabilities).
2. The compact, high efficiency counter-flowing evaporator minimizes the compressor size allowing for maximum energy savings
3. Fan has sealed bearings, keeping it maintenance free for many years to come
4. The glycol tank uses welded fittings, assuring zero leakage.
5. Standard liquid line filter dryer assures a clean, dry refrigerant system
6. Powder coat paint finish
7. Circulation pump - the wet rotor design allows it to be maintenance-free and minimize the energy consumed.
8. Zero Loss Drain
  - Does not allow expensive compressed air to pass
  - The continuous monitoring of condensate allows for fast, effective drainage of liquid
  - Standard for separator on all models
9. Heat Exchanger
  - Provides a 5 PSI or less pressure drop across the whole dryer, even with the standard inlet filter (see #10). Specially designed for the compressor dryer industry.
  - 316 stainless steel, non-fouling; designed to meet or exceed a 39°F pressure dewpoint (in accordance with C.A.G.I. performance specifications)
10. Standard Delta Series™ 1 micron inlet filter removes oil and particulate, keeping the heat exchanger efficient for many, many years. Please contact factory for more information on the Delta Series™ filters.



11. Standard Manual Reset prevents overheating of the compressor
12. Separator provides 99%+ water removal efficiency
13. Standard Electronic Drain Valves for prefilter. Optional zero loss drain for prefilter available.
14. Units 400 - 2000 provide a compressor that is:
  - Tolerant to liquid slugging
  - Designed with a 100% gas cooled motor
  - Internal motor protection and pressure relief valve



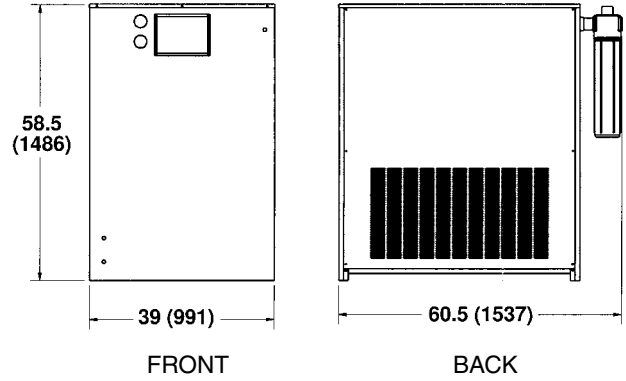
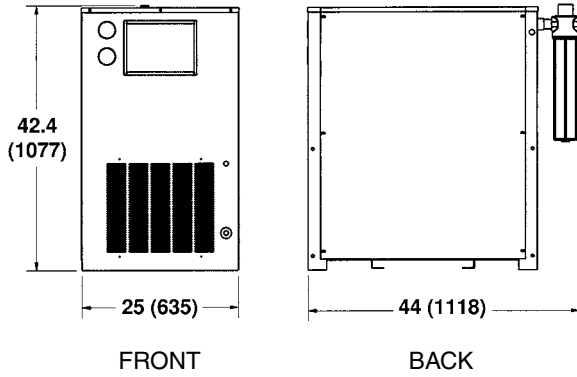
## 301 Series Thermal Mass Cycling Air Dryers

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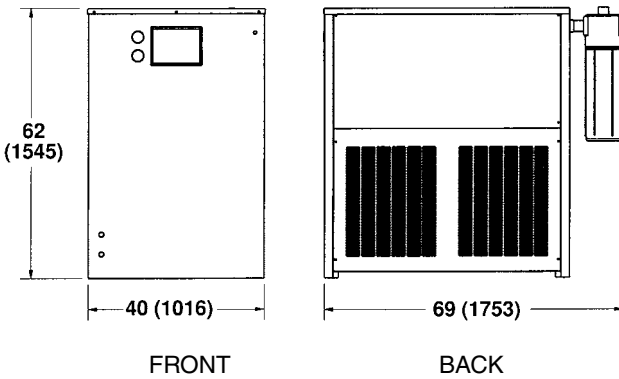
### Ultra-Air 301 Series Cycling Dryers Dimensions

UA301-100, UA301-125, UA301-150, UA301-200, UA301-250,  
UA301-300

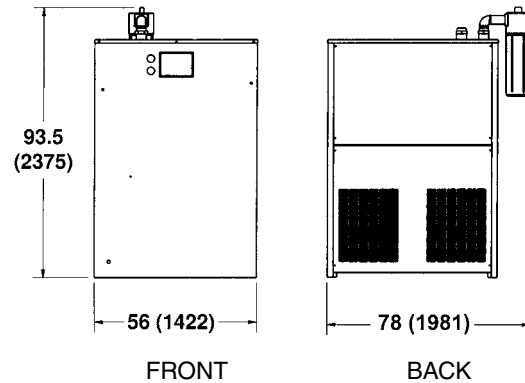
UA301-400, UA301-500, UA301-600



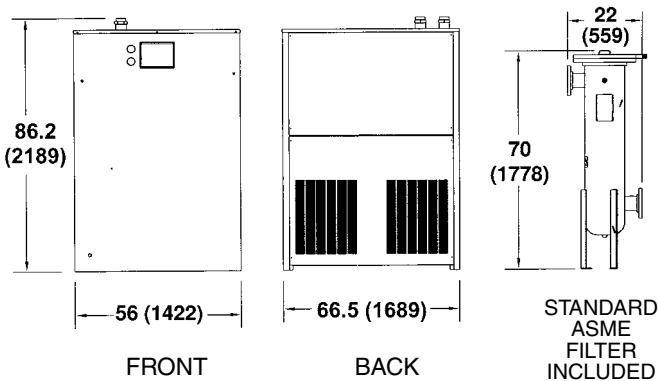
UA301-800, UA301-1000



UA301-1200, UA301-1600



UA301-2000





### Ultra-Air 301 Series Cycling Dryers How to Order/Product Specs

Ultra-Air Model #	*SCFM@ 39°F	Max. Work Pressure	Available Voltage					Ports In/Out	Weight LBS (KG)	Compressor H.P.
			A	B	C	D	E			
UA301-100	100	230	X	X				1 NPT	CF	3/4
UA301-125	125	230	X	X				1 NPT	CF	3/4
UA301-150	150	230		X				1 NPT	CF	1
UA301-200	200	230		X	X	X	X	1 1/2 NPT	CF	1 1/2
UA301-250	250	230		X	X	X	X	1 1/2 NPT	CF	1 1/2
UA301-300	300	230		X	X	X	X	2 NPT	CF	2
UA301-400	400	230		X	X	X	X	2 NPT	CF	2 1/2
UA301-500	500	230		X	X	X	X	2 NPT	CF	3
UA301-600	600	230		X	X	X	X	2 NPT	CF	3
UA301-800	800	230		X	X	X	X	2 1/2 NPT	CF	5
UA301-1000	1000	230			X	X	X	2 1/2 NPT	CF	6
UA301-1200	1200	230			X	X	X	3 NPT	CF	8
UA301-1600	1600	230			X	X	X	3 NPT	CF	10
UA301-2000	2000	230			X	X	X	4 NPT	CF	10

CF = Consult factory

\* Rated Flow Capacity (SCFM)- Conditions for rating dryers are in accordance with CAGI (Compressed Air and Gas Institute).

#### Options

- A = 115/1/60
- B = 208-230/1/60 - 220-240/1/50
- C = 208-230/3/60 - 220-240/3/50
- D = 460/3/60
- E = 575/3/60
- H = High temperature warning light (all models)
- P = Panel ambient air filter (all models)
- W = Water-cooled condenser (all models)
- Z = Additional zero-loss drain on prefilter (all models)

#### Example Model #:

UA301-1000DHZ

#### Description:

1000 SCFM 301 Series Cycling Dryer with 460/3/60 voltage, High temperature warning light, with Zero Loss Drain on both separator and prefilter.

For options not shown please consult factory.

#### Standard Electronic Control Panel

(100-2000) includes:

##### Monitors

- Coolant temp
- Inlet air temp
- Dew point temp
- Ambient air temp
- Percentage savings
- Drain on
- Compressor on
- Dryer on
- Low coolant

##### Controls

- Compressor on/off button
- Push to test drain button
- Drain closed time

#### Refrigerant information:

100-150 = R134A; 200-2000 = R22

#### Replacement Filter Elements

Ultra Air recommends that filter elements be replaced every 9-12 months depending on air quality

FOR MODEL	REPLACEMENT ELEMENT
UA301-100	FRL-EKF9008H
UA301-125	FRL-EKF9008H
UA301-150	FRL-EKF9008H
UA301-200	FRL-EKF9012H
UA301-250	FRL-EKF9012H
UA301-300	FRL-EKF9012H
UA301-400	FRL-EKF9016H
UA301-500	FRL-EKF9016H
UA301-600	FRL-EKF9016H
UA301-800	FRL-EKF9024H
UA301-1000	FRL-EKF9024H
UA301-1200	FRL-EKF9024H
UA301-1600	FRL-EKF9024H
UA301-2000	FI-SP83250

### Dryer Correction Factors

INLET AIR TEMP (°F)	INLET AIR PRESSURE (PSIG)									
	60	80	90	100	110	125	150	200	220	250
	FLOW (% of rated capacity)									
80	103	120	128	135	138	143	149	158	161	165
90	93	108	115	121	124	127	134	142	144	148
100	77	89	95	100	102	106	111	117	119	123
110	59	66	70	74	75	78	82	87	88	91
120	44	50	53	56	57	59	62	66	67	68
130	35	40	43	46	46	48	51	54	55	56

#### AMBIENT AIR CORRECTION TEMP\* (°F) FACTOR

80	1.12
90	1.06
100	1.00
110	0.94

\* For dew points higher than Class H and pressures lower than 100 PSIG, pressure drop may exceed 5 PSI; consult factory for assistance

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