PNEUMATECH® INC.

## MANUFACTURED

*with high-quality components and innovative techniques*

## DESIGNED

*for economical, trouble-free performance and long-life reliability*

## SUPPORTED

*by a world-wide distribution network*

EXCLUSIVE 3C Heat Transfer Technology

# CHILLED CM MEDIA™ CYCLING REFRIGERATED AIR/GAS DRYERS

WORLD LEADERS IN COMPRESSED AIR SYSTEM MANAGEMENT

*Pneumatech has been manufacturing cycling design dryers for over 30 years*

# Exclusive Features and Benefits

## *Cooling is provided instantly to dehumidify your plant's compressed air when conditions change from low load to full load.*

- Chilled Media circuit utilizes **both conduction and convection** heat transfer principles for more efficient operation. A pump continuously circulates the Chilled Media™, in our exclusive Counterflow Convection Cooling™ (**3C**™) design heat exchangers.
- System will pull down to operating temperatures within minutes, unlike other cycling designs.
- Dryer cycles based on precise compressed air dew point temperature.
- Exclusive dual cycling thermostats, sensing both the dew point temperature and, as an added safety, the Chilled Media™ to insure the dryer cycles during all load conditions.

## *System will experience minimal pressure drop due to innovative technology.*

- Exclusive Pneumatech shell and tube heat exchanger design.
- Plain copper tube construction prevents clogging and fouling of the heat exchanger, minimizing unwanted pressure drop.
- Efficient five-step centrifugal separator removes condensed moisture from the air.

## *Easy, trouble-free maintenance and reduced service costs.*

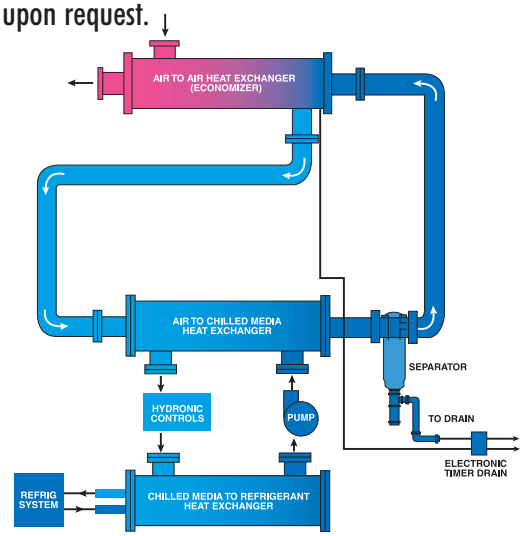
- Dual, programmable auto drains; Air Free™ drain option available upon request.
- Auto drain line has a particle strainer with a shut-off valve.
- Pneumatech's unique modular air system construction.
- Non-blended R-22 pure fluid refrigerant.
- Easy access door to electrical panel.

EXCLUSIVE 3C Heat Transfer Technology

***1) Counter Flow:*** Heat transfer efficiency is significantly improved by flowing the fluids (Air, Chilled Media and Refrigerant) in opposite directions.

***2) Convection:*** Circulation of the Chilled Media (convection) creates turbulent flow for more efficient cooling.

***3) Cooling:*** Refrigeration system designed and sized exclusively for air dryer application.




***Flow Diagram***

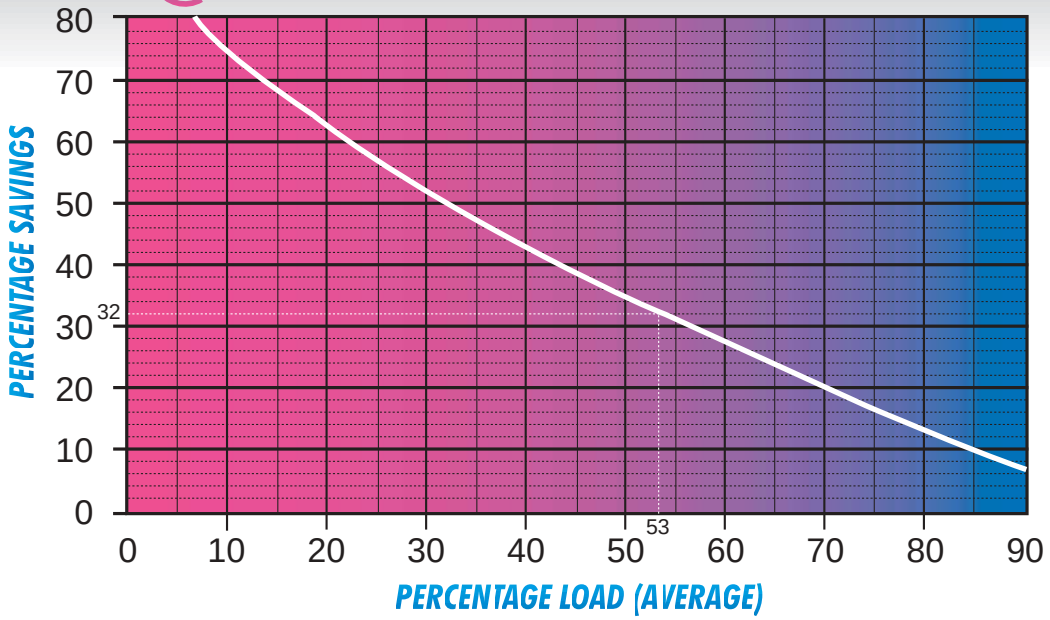
## *Digital Dry Guard™ (DDG) Control*

Introducing the Digital Dry Guard (DDG), a microprocessor based control now standard on models AC(W)-250 to AC(W)-4000. The most advanced operator control panel for refrigerated dryers on the market.

**The Digital Dry Guard displays:**
- Inlet Air temperature
- Chilled Media temperature
- Ambient temperature
- Fahrenheit and Centigrade selection
- Alarm indicator
- Compressor running indicator
- Service due indicator
- Programmable auto-drain

# Energy Savings Estimates

## for Chilled CM Media™ Cycling Dryers vs. Non-Cycling Refrigerated Air Dryers




***Annual Operating Hours: 6,680. Non-cycling dryers run continuously.***

***Example:** Air dryer Model: AC-500, Capacity: 500 SCFM, Power Cost: $.06/KWH*

### USAGE CHART

| | MON-FRI | | SATURDAY | | SUNDAY | |
|---|---|---|---|---|---|---|
| | FLOW (SCFM) | TAU (SCF) | FLOW | TAU | FLOW | TAU |
| 1st SHIFT | 450 | 1,080,000 | 375 | 180,000 | 0 | 0 |
| 2nd SHIFT | 250 | 600,000 | 0 | 0 | 0 | 0 |
| 3rd SHIFT | 75 | 180,000 | 0 | 0 | 0 | 0 |

* Assumes both non-cycling and cycling dryers are shut off after 1st shift Saturday through Sunday.

**Power consumption of AD-500 Non-Cycling dryer from bulletin A-7-A.

Total air usage (TAU) per week: **2,040,000 CU. FT**
Total dryer capacity (TDC) per week: **3,840,000 CU. FT***

Average load percentage = TAU x 100 / TDC = **2,040,000 x 100 ÷ 3,840,000 = 53%**

Non-Cycling dryer power input/year: **4.6 KW** x 6680 H = 30,728 KWH**

Cycling dryer at 53% load (average) runs 68% of the time = 32% savings. (From graph above)
Power input/year: **4.6 KW x 6680 H x .68 = 20,895 KWH**

Ambient/inlet air temp. correction factors:
Cool Climate = 1.20 Warm Climate = 1.15

Annual savings $: **(30,728 - 20,895) x .06 x 1.2 = $707.98**
Annual savings at $.10/KWH: **707.98 x .10/.06 = $1,179.96**

## Pneumatech Chilled CM Media™ Cycling Air Dryers

# Standard Features

1. *Digital Dry Guard™ (DDG) Control*
2. *Dual cycling thermostats*
3. *Programmable auto drain(s)*
4. *3C™ design heat exchangers*
5. *Modular construction air and refrigeration system*
6. *Heavy duty fan motors with ball bearing and enclosed intake end frame for long life*
7. *Oversized air cooled condenser to withstand higher ambient temperatures and to provide built-in reserve capacity for dirty industrial environments*
8. *Metal cabinet with easy access panels (600 SCFM & below)*
9. *Condensing unit exclusively designed and manufactured for air dryer application*
10. *Factory tested for automatic operation with a full charge of refrigerant and oil*
11. *Dryer can be shut off during non-operating hours unlike other cycling designs*
12. *Shell and tube design water cooled condensers with removable end bonnets for easy maintenance*
13. *Regulating valve for water conservation and system efficiency (water-cooled units)*
14. *Water cooled condensers designed for multisource water supplies (city & tower water)*
15. *Commercially available and interchangeable refrigeration controls for fast service*

# Specifications

| MODEL SIZES | CAP.* SCFM (NM³/HR) | REFRIGERATION H.P. | ELECT. KW INPUT | WATER USAGE** GPM (LPM) CITY 55-60°F (13-16°C) | WATER USAGE** GPM (LPM) TOWER 85-90°F (29-32°C) | HEAT REJECTION BTU/HR | DIMENSIONS INCHES (MILLIMETERS) L x W x H | CONNECTIONS-INCHES AIR | CONNECTIONS-INCHES WATER | APPROX. SHIP. WT. LBS. (KGS.) | ELECT. POWER SUPPLY VOLTAGE -PHASE-CYCLES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AC-100 | 100 (170) | 3/4 | 1.3 | 1.1 (2.08) | 0.55 (4.16) | 10,400 | 32 x 23 x 32 (813 x 584 x 813) | 1" NPT (F) | 3/8" NPT | 375 (170) | 115-1-60 208/230-1-60 |
| AC-150 | 150 (255) | 1 | 1.48 | 1.0 (3.79) | 2.0 (7.57) | 11,350 | 39 x 31 x 44 (991 x 787 x 1118) | 1½" NPT (F) | 1/2" NPT(F) | 550 (249) | 208/230-1-60 |
| AC-250 | 250 (425) | 2 | 2.12 | 1.6 (6.06) | 3.2 (12.11) | 17,000 | 39 x 31 x 44 (991 x 787 x 1118) | 1½" NPT (F) | 1/2" NPT(F) | 600 (272) | |
| AC-325 | 325 (552) | 2 | 3.36 | 2.6 (9.84) | 5.2 (19.68) | 28,600 | 39 x 31 x 44 (991 x 787 x 1118) | 2" NPT (F) | 1/2" NPT(F) | 700 (318) | |
| AC-400 | 400 (680) | 3 | 3.91 | 2.8 (10.60) | 5.6 (21.20) | 36,435 | 53 x 33 x 45.25 (1346 x 838 x 1149) | 2" NPT (F) | 1/2" NPT(F) | 850 (386) | |
| AC-500 | 500 (850) | 3 | 3.91 | 3.0 (11.36) | 6.0 (22.71) | 37,400 | 53 x 33 x 45.25 (1346 x 838 x 1149) | 2" NPT (F) | 1/2" NPT(F) | 900 (408) | |
| AC-600 | 600 (1020) | 4 | 4.36 | 4.0 (15.14) | 8.0 (30.28) | 43,180 | 53 x 33 x 45.25 (1346 x 838 x 1149) | 3" NPT (F) | 3/4" NPT(F) | 1100 (499) | 208/230-3-60 OR 440/480-3-60 |
| AC-750 | 750 (1274) | 5 | 6.36 | 6.2 (23.47) | 12.4 (46.93) | 63,800 | 72 x 42 x 57.5 (1829 x 1067 x 1461) | 3" NPT (F) | 3/4" NPT(F) | 1200 (544) | 575-3-60 (Opt.; Std. in Canada) |
| AC-1000 | 1000 (1699) | 5 | 6.36 | 6.5 (24.60) | 13.0 (49.21) | 64,900 | 72 x 42 x 57.5 (1829 x 1067 x 1461) | 3" NPT (F) | 3/4" NPT(F) | 1500 (680) | |
| AC-1200 | 1200 (2039) | 7 ½ | 7.53 | 6.7 (25.36) | 13.5 (51.10) | 78,000 | 72 x 42 x 62.75 (1829 x 1067 x 1594) | 4" FL. 150# | 1" NPT(F) | 1700 (771) | |
| AC-1500 | 1500 (2549) | 7 ½ | 7.53 | 7.0 (26.50) | 14.0 (52.99) | 79,500 | 72 x 42 x 60.25 (1829 x 1270 x 1530) | 4" FL. 150# | 1" NPT(F) | 1800 (816) | |
| AC-1700 | 1700 (2889) | 10 | 10.71 | 10.5 (39.74) | 21.0 (79.49) | 114,000 | 72 x 42 x 60.25 (1829 x 1270 x 1530) | 4" FL. 150# | 1" NPT(F) | 2100 (953) | |
| AC-2000 | 2000 (3398) | 10 | 10.71 | 11.5 (43.53) | 23.0 (87.06) | 116,000 | 72 x 42 x 60.25 (1829 x 1270 x 1530) | 4" FL. 150# | 1" NPT(F) | 2500 (1134) | |
| AC-2500 | 2500 (4248) | 15 | 15.40 | 15.0 (56.78) | 30.0 (113.55) | 169,200 | 115 x 60 x 64 (2921 x 1524 x 1626) | 6" FL. 150# | 1½" NPT(F) | 3500 (1588) | |
| AC-3200 | 3200 (5437) | 20 | 20.19 | 21.0 (79.49) | 42.0 (158.97) | 193,000 | 125 x 68 x 91 (3175 x 1727 x 2311) | 6" FL. 150# | 2" IN., 1½" OUT. | 4200 (1905) | |
| AC-4000 | 4000 (6796) | 25 | 24 | 30.0 (113.56) | 60.0 (227.12) | 305,000 | 150 x 75 x 95 (3810 x 1905 x 2413) | 8" FL. 150# | 2" FL. | 6900 (3130) | |

* Capacity ratings, in accordance with recommended NFPA standards and Compressed Air & Gas Institute (CAGI) Standard No. ADF 100. Capacity ratings based on 100°F (38°C) inlet temp. and 100 PSIG (7.03 Kg.cm²) inlet pressure and 100°F (38°C) maximum ambient temp. Maximum pressure 150 PSIG (10.55Kg/cm²)

** Watercooled models only.

*Pneumatech reserves the right to change or revise specifications and product design in connection with any features of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.*

| ACCESSORIES | DRYER MODELS 125 - 150 | 250 - 600 | 750 - 4000 |
|---|---|---|---|
| Digital Dry Guard™ Control† | Opt. | Std. | Std. |
| Power on/off switch | Std. | Std. | Std. |
| Power on light | Std. | NA | NA |
| Alarm light | Std. | Std. | Std. |
| Refrig. Dual press. Control | Std. | Std. | Std. |
| Dew Pt. Temp. gauge/display†† | Opt. | Opt. | Opt. |
| Air-in pressure gauge | Opt. | Opt. | Opt. |
| Air-in temp. gauge/display†† | Opt. | Std. | Std. |
| Air-out pressure gauge | Opt. | Opt. | Opt. |
| Air-out temp. gauge/display†† | Opt. | Opt. | Opt. |
| Refrig. Suction press. (Analyzer) gauge | Std. | Std. | Std. |

† Digital Dry Guard™ Control (DDG) includes: Inlet air temperature, chilled media temperature, ambient temperature, Fahrenheit and Centrigrade selection, alarm indicator, compressor running indicator, service due indicator, programmable auto-drain. Digital Dry Guard™ options: Dew point temperature, Air-free auto-drain, New mini air-free auto-drain

†† Analog gauge provided on AC-100 & AC-150. Displayed on Digital Dry Guard Control AC(W)-250 to AC(W)-4000.

| ACCESSORIES | DRYER MODELS 125 - 150 | 250 - 600 | 750 - 4000 |
|---|---|---|---|
| Refrig. Discharge press. (Analyzer) gauge¹ | Opt. | Opt. | Opt. |
| Low ambient (fan) control | Std. | Std. | Std. |
| Low air pressure shut-down switch | Opt. | Opt. | Opt. |
| Ambient filters | Opt. | Opt. | Opt. |
| NEMA - 3R, 4, 7, 9, 12 | Opt. | Opt. | Opt. |
| Cabinet | Std. | Std. | Opt. |
| Open Frame design | NA | NA | Std. |
| Water cooled condenser | Opt. | Opt. | Opt. |
| Cupro-nickel water cooled condenser | Opt. | Opt. | Opt. |
| 200, 250 or higher working pressure | Opt. | Opt. | Opt. |

1 Standard on water-cooled models

- *To order watercooled units, use ACW designation (e.g. ACW-2000).*
- *Dew point range preset at Factory (Field Adjustable)*
- *AC-750 and larger models are open frame construction*
- *For larger or smaller capacity dryers, please consult factory*
- *For correction factors see Bulletin A-7-A*
- *Available voltages: 208/230-3-60, 440/480-3-60, 575-3-60 optional (std. in Canada)*
- *Also available in 50 cycles*

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PNEUMATECH INC.
& ConservAIR® Technologies Co. LLP
4909 70th Avenue • Kenosha, Wisconsin U.S.A. 53144
(262) 658-4300 Fax: (262) 658-1945 • Web Site: www.pneumatech.com


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