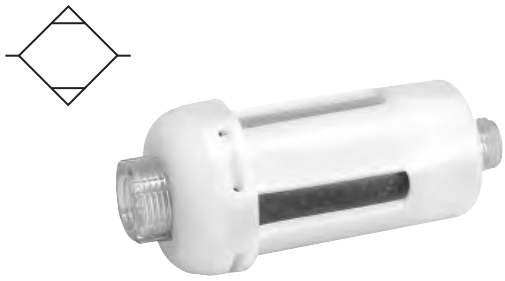
# Mini Disposable Inline Desiccant Dryer DD10

= "Most Popular"



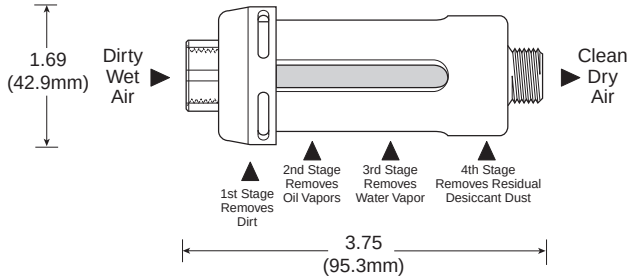
Used at the point-of-use, this disposable, mini inline desiccant dryer removes all traces of water vapor, oil vapor and dirt. It is often used directly upstream of blow guns or spray guns as final protection for critical parts blow off and paint spraying. Install in either direction; it functions in both directions.
A 40 micron, porous bronze element removes fine dirt particles, an oil removing media removes oil vapor, and desiccant beads adsorb water vapor. The see-through housing shows desiccant color change from the original orange to a green color in the desiccant beads, which indicates that the dryer needs to be replaced.

## Features

- Polycarbonate Material Allows Clear Desiccant Visibility
- Disposable
- Used for Parts Blow Off
- Protection for Paint Guns Below the Filter / Dryer
- Non-toxic Desiccant Standard

Non-metalic material is highly resistant to chemicals.

See through housing shows color change when dryer needs replacement.




## Specifications

| | | |
|---|---|---|
| Maximum Pressure Rating | | 125 PSIG (0 to 8.6 bar) |
| Maximum Temperature Rating | | 130°F (54°C) |
| Maximum Flow Capacity | | 15 SCFM |
| Port Size | NPT | 1/4 |
| Weight | lb. (g) | 2.8 oz. (79.4) |

## Materials of Construction

| | |
|---|---|
| Housing | Polycarbonate |

## Installation

The DD10 is equipped with a 1/4" NPT (F) and (M) ports and can be installed in either direction. When installing the filter / dryer hand tighten to a leak proof seal. Do not use any mechanical means to hold the filter / dryer and do not over torque the threads.

## Operation

1. The unque feature of the filter / dryer design allows you to visually see when it is time to install a new DD10 by observing the color change from the original dark color to a complete light transparent color in the desiccant beads.
2. Do not attempt to clean the filter / dryer as the use of solvents, ketones, etc., will adversely affect the plastic housing.
3. Keep the hose free of snags. Extra tension on the filter / dryer assembly could break the unit at the connecting ports. To clear stuck hoses, grasp hose below the filter / dryer.

## Ordering Information

| Model Type | Port Size | Model Number |
|---|---|---|
| **DD10** | 1/4 | DD10-02 |

# Manual Desiccant Dryer Numbering System

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| Unit Function | Family | | | Thread Type | Pipe Size | | Options | Options | Options |
|---|---|---|---|---|---|---|---|---|---|
| X | 0 | 6 | – | 0 | 2 | – | 0 | 0 | 0 |

**Unit Function**

X Manual Desiccant Dryers

**Family**

06 Compact
03 Large
04 Twin Large
25 Extra Large

**Thread Type**

0 NPT
C BSPP*

* Not available on X04 units.

| Code | Pipe Size | Series | | | |
|---|---|---|---|---|---|
| | | 06 | 03 | 04 | 25 |
| 2 | 1/4" | X | X | X | |
| 4 | 1/2" | | X | | X |

**Options**

**Miniature (M03)**

0 Standard Silica Gel, -45°F ADP
E Non-Toxic Desiccant, -45°F ADP
M Metal Bowl*
U 4A Molecular Sieve, -100°F ADP

* X03 and X04 units only. X25 is standard with metal bowl.

**If more than one option is desired, arrange them in alphabetical order in positions 6, 7, and 8.**

**NOTE: 000 in position 6, 7, and 8 signifies standard product.**

F

Dryers

# Desiccant Dryer X06

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**X06-02-000**

## Features and Benefits

- Atmospheric Dew Points as Low as -100°F
- No Electrical Connection Necessary
- Color change of the Desiccant Provides an Instant Status of the Compressed Air System

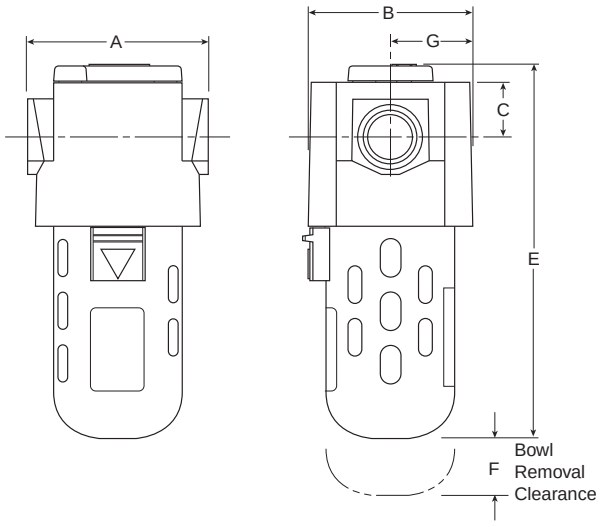
## Specifications

| | | |
|---|---|---|
| Atmospheric Dew Point*– | | |
| Model 000 | Silica Gel | -45°F (-43°C) |
| Model E00 | Silica Gel (Non-toxic) | -45°F (-43°C) |
| Model U00 | 4A Molecular Sieve | -100°F (-52°C) |
| Maximum Continuous Air Flow* | | 5 SCFM (2.3 $dm^3/s$) |
| Maximum Pressure | | 150 PSIG (10.3 bar) |
| Maximum Temperature | | 125°F (52°C) |
| Port Size | NPT / BSPP-G | 1/4 |
| Total Air Flow* | 1/4 | 600 SCF (16.6 $m^3$) |
| Total Minutes of Operation @ Continuous Air Flow | | 120 Minutes |
| Weight (with Desiccant) | lb. (kg) | 1.13 (0.51) |
| Weight Desiccant Alone | lb. (kg) | 0.25 (0.11) |

* With dry desiccant at 100 PSIG (7 bar) and 70°F 21°C), saturated inlet (100% RH).

## Materials of Construction

| | | |
|---|---|---|
| Body | | Zinc |
| Bowls | Plastic | Polycarbonate |
| Bowl Guard | | Steel |
| Seals | | Fluorocarbon |




## Dimensions

| Models (Inches (mm)) | A | B | C | E | F | G |
|---|---|---|---|---|---|---|
| Standard Unit X06-02-000 | 2.99 (75.9) | 2.72 (69) | .90 (22.8) | 6.41 (162.8) | 1.50 (38) | 1.36 (34.5) |

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## Replacement Parts

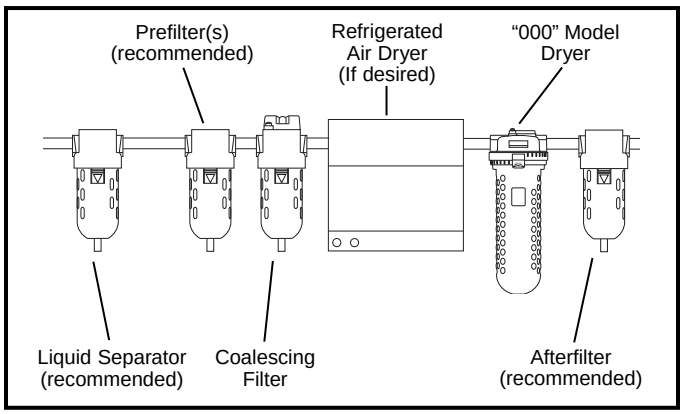
Bowl Guard ..... GRP-95-013
Bowl O-ring ..... GRP-95-259
Transparent Bowl ..... DRP-96-459

## Replacement Desiccant Kits

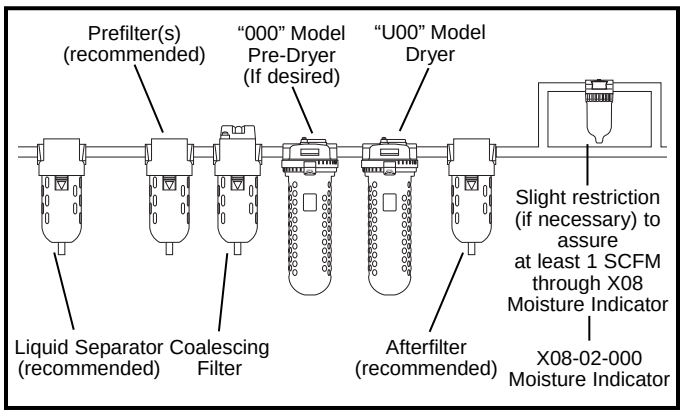
| **Silica Gel (000) -40°F ADP** | | |
|---|---|---|
| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges for X06 |
| DRP-95-303 | DRP-04-10B/001 | 1 |
| | DRP-04-10B/005 | 5 |
| **Non Toxic Desiccant (E00) -40°F ADP** | | |
| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X06 |
| | DRP-04-447/001 | 1 |
| | DRP-04-447/005 | 5 |
| **4A Molecular Sieve (U00) -100°F ADP** | | |
| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X06 |
| DRP-95-304 | DRP-04-514/001 | 1 |
| | DRP-04-514/005 | 5 |

## Typical Installation Arrangement

**-45°F ADP Models:**




**-100°F ADP Models:**




## Ordering Information

| Model Type | Port Size | Polycarbonate Bowl |
|---|---|---|
| **X06** | 1/4 | X06-02-000 |

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.

# Desiccant Dryer
# X03 / X04

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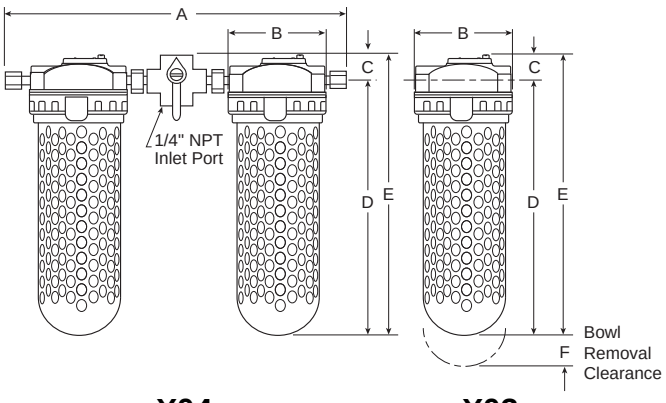
**X03-02-000**

## Features and Benefits

- Atmospheric Dew Points as Low as -100°F
- No Electrical Connection Necessary
- Twin Units Available for Double Service Life
- Color change of the Desiccant Provides an Instant Status of the Compressed Air System




**X04** **X03**

## Specifications

| | | |
|---|---|---|
| Atmospheric Dew Point*– | | |
| Model 000 | Silica Gel | -45°F (-43°C) |
| Model E00 | Silica Gel (Non-toxic) | -45°F (-43°C) |
| Model U00 | 4A Molecular Sieve | -100°F (-52°C) |
| Maximum Continuous Air Flow* | | 10 SCFM (4.7 $dm^3/s$) |
| Maximum Pressure | | 150 PSIG (10.3 bar) |
| Maximum Temperature – | | |
| X03 Transparent Bowl | | 125°F (52°C) |
| X03 Metal Bowl | | 150°F (66°C) |
| X04 Transparent Bowl | | 125°F (52°C) |
| Port Size – | | |
| X03 | NPT / BSPP-G | 1/4, 1/2 |
| X04 | NPT | 1/4 |
| Total Air Flow* | 1/4 | 4,400 SCF (311 $m^3$) |
| Total Minutes of Operation @ Continuous Air Flow | X03 | 440 Minutes |
| | X04 | 880 Minutes |
| Weight (with Desiccant) lb. (kg) – | | |
| X03 Transparent Bowl | | 7.4 (3.4) |
| X03 Metal Bowl | | 6.8 (3.1) |
| X04 Transparent Bowl | | 15.0 (6.8) |
| Weight Desiccant Alone lb. (kg) – | | |
| X03 Transparent Bowl | | 1.8 (0.8) |
| X03 Metal Bowl | | 1.3 (0.6) |
| X04 Transparent Bowl | | 3.6 (1.6) |

* With dry desiccant at 100 PSIG (7 bar) and 70°F 21°C), saturated inlet (100% RH).

## Materials of Construction

| | | |
|---|---|---|
| Body | | Zinc |
| Bowls | Plastic | Polycarbonate |
| | Metal Bowl | Aluminum |
| Bowl Guard | | Steel |
| Seals | | Fluorocarbon |

## Dimensions

| Models (Inches (mm)) | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| Standard Unit X03-02-000 | — | 4.79 (121.6) | 1.23 (31) | 12.60 (320) | 13.83 (351) | 2.00 (50.8) |
| Metal Bowl X03-02-M00 | — | 4.79 (121.6) | 1.23 (31) | 12.60 (320) | 13.83 (351) | 2.00 (50.8) |
| Standard Twin Unit X04-02-000 | 14.42 (366) | 4.79 (121.6) | 1.23 (31) | 11.71 (297.4) | 12.65 (322) | 2.00 (50.8) |

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## Replacement Parts

Bowl Guard –
X03 / X04 Transparent Bowl..... GRP-95-810
Bowl O-ring ..... GRP-95-256
Clamp Ring ..... GRP-96-404
Moisture Indicator* –
X03 Metal Bowl..... DRP-95-623
Replacement Cap for Moisture Removal..... GRP-95-020
Screen Assembly ..... DRP-96-434
Transparent Bowl –
X03 / X04 ..... GRP-95-089
Tube Assembly with Screen –
X03 / X04 Transparent Bowl..... DRP-96-435
X03 Metal Bowl..... DRP-96-451

* The Moisture Indicator contains a weep orifice to provide an air sample to the moisture indicating paper. Air bleed from this indicator is necessary and normal.

## Replacement Desiccant Kits

**Silica Gel (000) -40°F ADP**

| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges for X03 |
|---|---|---|
| DRP-85-059 | DRP-14-10B/002 | 1 |
| | DRP-14-10B/008 | 4 |

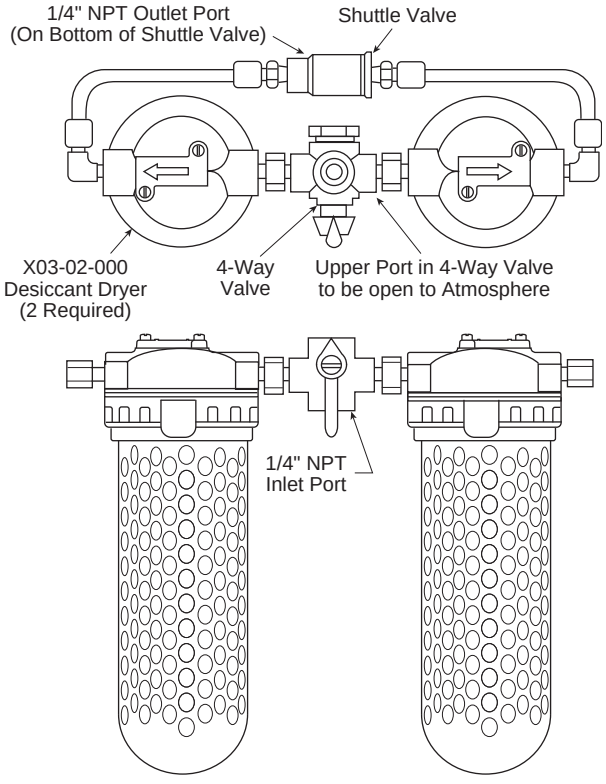
**Non Toxic Desiccant (E00) -40°F ADP**

| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X03 |
|---|---|---|
| | DRP-14-447/002 | 1 |
| | DRP-14-447/008 | 4 |

**4A Molecular Sieve (U00) -100°F ADP**

| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X03 |
|---|---|---|
| DRP-85-060 | DRP-14-514/002 | 1 |
| | DRP-14-514/008 | 4 |

Note: Since X04 consists of two X03 dryers assembled together the amount of desiccant required for a total recharge is twice the amount listed above.




**X04-02-000**

## Ordering Information

| Model Type | Port Size | Polycarbonate Bowl | Metal Bowl |
|---|---|---|---|
| **X03** | 1/4 | X03-02-000 | X03-02-M00 |
| **X04** | 1/4 | X04-02-000 | X04-02-M00 |

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.

# Desiccant Dryer X25

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**X25-04-000**

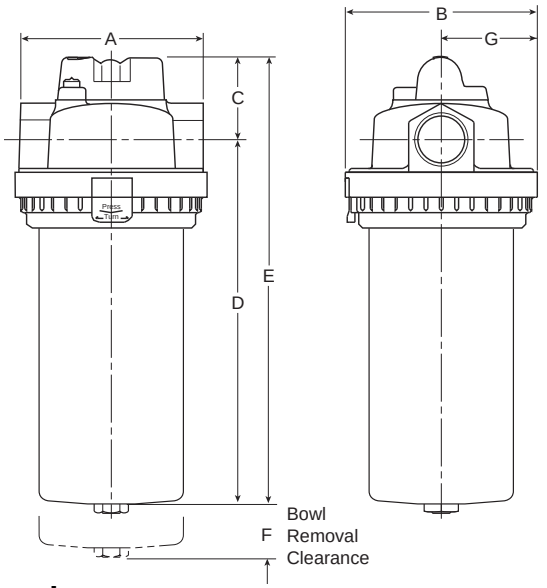
## Features and Benefits

- Atmospheric Dew Points as Low as -100°F
- No Electrical Connection Necessary
- Color change of the Desiccant Provides an Instant Status of the Compressed Air System

## Ordering Information

| Model Type | Port Size | Metal Bowl |
|---|---|---|
| **X25** | 1/2 | X25-04-000 |

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.




## Dimensions

| Models | Inches (mm) | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|
| Standard Unit X25-04-000 | | 4.61 (117) | 4.79 (121.6) | 1.70 (43) | 19.58 (497) | 21.28 (540.5) | 2.00 (50.8) | 2.39 (60.8) |

## Specifications

| | | |
|---|---|---|
| Atmospheric Dew Point*– | | |
| Model 000 | Silica Gel | -45°F (-43°C) |
| Model E00 | Silica Gel (Non-toxic) | -45°F (-43°C) |
| Model U00 | 4A Molecular Sieve | -100°F (-52°C) |
| Maximum Continuous Air Flow* | | 25 SCFM (11.8 $dm^3/s$) |
| Maximum Pressure | | 150 PSIG (10.3 bar) |
| Maximum Temperature | | 150°F (66°C) |
| Port Size | NPT / BSPP-G | 1/2 |
| Total Air Flow* | | 11,000 SCF (311 $m^3$) |
| Total Minutes of Operation @ Continuous Air Flow | | 440 min. |
| Weight (with Desiccant) | lb. (kg) | 11.23 (5.1) |
| Weight Desiccant Alone | lb. (kg) | 4.4 (2.0) |

* With dry desiccant at 100 PSIG (7 bar) and 70°F 21°C), saturated inlet (100% RH).

## Materials of Construction

| | | |
|---|---|---|
| Body | | Zinc |
| Bowls | Metal Bowl | Aluminum |
| Bowl Guard | | Aluminum |
| Seals | | Fluorocarbon |

## Replacement Parts

Bowl O-ring ..... GRP-95-256

Clamp Ring ..... GRP-96-404Moisture Indicator* DRP-95-623

Replacement Cap for Moisture Removal..... GRP-95-020

Screen Assembly ..... DRP-96-434

Tube Assembly with Screen ..... DRP-95-622

* The Moisture Indicator contains a weep orifice to provide an air sample to the moisture indicating paper. Air bleed from this indicator is necessary and normal.

## Replacement Desiccant Kits

| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges for X25 |
|---|---|---|
| **Silica Gel (000) -40°F ADP** | | |
| DRP-85-280 | DRP-14-10B/005 | 1 |
| | DRP-14-10B/015 | 3 |
| **Non Toxic Desiccant (E00) -40°F ADP** | | |
| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X25 |
| | DRP-14-447/005 | 1 |
| | DRP-14-447/015 | 3 |
| **4A Molecular Sieve (U00) -1000F ADP** | | |
| Old Replacement Kit Number | New Replacement Kit Number | # of Replacement Charges For X25 |
| DRP-85-281 | DRP-14-514/005 | 1 |
| | DRP-14-514/015 | 3 |

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Dryers

# Moisture Indicator X08

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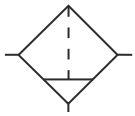


Manual Drain

**X08-02-000**

## Specifications

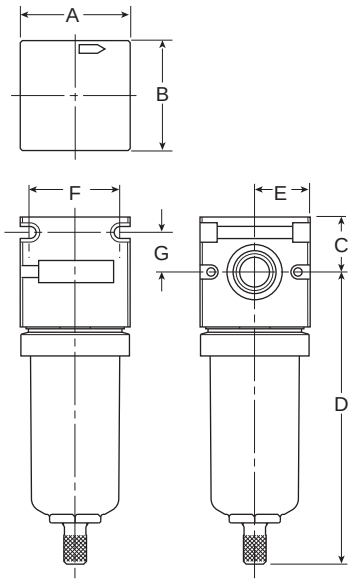
| | | |
|---|---|---|
| Maximum Supply Pressure | | 150 PSIG (10.3 bar) |
| Operating Temperature | | 32° to 120°F (0° to 49°C) |
| Port Size | NPT / BSPT-Rc | 1/4 |
| Weight | lb. (kg) | 0.34 (0.15) |

## Materials of Construction

| | | |
|---|---|---|
| Body | | Zinc |
| Bowls | Plastic Bowl | Polyurethane |
| Seals | | Nitrile |

## Features

- Transparent Plastic Bowl Standard
- Silica Gel Changes Color For Moisture Indication




## Dimensions

| Models | Inches (mm) | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|---|
| Standard Unit X08-02-000 | | 1.59 (40.5) | 1.59 (40.5) | 0.81 (20.6) | 4.25 (107.9) | 5.06 (128.5) | 0.80 (20.2) | 0.58 (14.7) | 1.31 (33.3) |

# What is adsorption drying?

Drying compressed air through adsorption represents a purely physical process in which water vapor (adsorbate) is bound to the drying medium (adsorbent) through binding forces of molecular adhesion. Adsorbents are solids in spherical and granular form which are permeated by an array of pores. The water vapor is deposited onto the internal and external surface of the adsorption medium, without the formation of chemical compounds taking place, therefore the adsorption medium does not have to be replenished but only periodically regenerated.

## Heatless

The layout of adsorption dryers with heatless regeneration is clear and simple. Compared with other adsorption dryer systems, pressure dewpoints down to -100°F (-73°C) can be achieved without additional effort.

Use in the higher pressure ranges and at low inlet temperatures causes the quantity of air needed for desorption to be reduced to an economical value.

At low operating pressure the demand for already dried compressed air for purposes of regeneration is increased. This increase causes a large proportion of the prepared compressed air to be no longer available for productive purposes.

Depending on the cycle, the quantity of air enclosed in the adsorber expands upon release at regular intervals with an emission noise level of about 90-95dB(A). Given suitable noise attenuation measures, a reduction of the noise emission level to the region of 10-15 dB(A) can be accomplished.

The use of adsorption dryers with heatless regeneration is preferred in the following applications:

- Capacity Range of Up to 800 SCFM
- Higher Pressure Ranges
- High Inlet Temperatures
- Installation in Explosion Proof Areas
- Use Under Ground Portable Applications
- Hazardous Locations (Pneumatic Controls)

# Regenerative Desiccant Dryer

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## Features

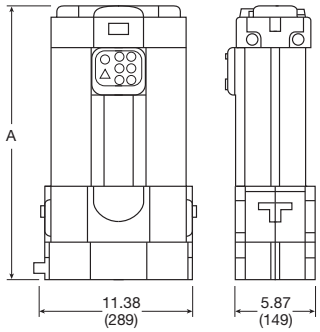
- Point of use application bringing clean dry air just where you need it.
- Approved to International Standards designed in accordance with ASME VIII Div.1, approved to CSA/UL/CRN and fully CE Marked (PED, EMC, LVD) as standard.
- Simple to Install - flexible installation utilising the multiple in-line inlet & outlet connection ports.
- Compact and Lightweight - can be floor, bench or wall / canopy mounted.
- Very Quiet Operation - noise level less than 70dB(A).
- Can be Installed Almost Anywhere, IP66 / NEMA 4 protection as standard.
- Audible Alarm - indicating service interval for optimal performance.
- Simple & Easy to Maintain - due to the quick release top cap arrangement, which does NOT require the inlet / outlet ports to be disconnected as with traditional systems, maintenance can be achieved in under 15 minutes.

The WDAS is the reliable, cost effective and flexible way to provide clean dry air exactly where needed.

## Specifications

| | |
|---|---|
| Operating Temperature | 35°F (1.5°C) Min |
| Inlet Temperature | 122°F (50°C) Max |
| Operating Pressure | 58 to 175 PSIG (4 to 12 bar) |
| Flow Range | 3 SCFM to 20 SCFM @ 100 PSIG (85 L/min to 567 L/min @ 7 bar) |
| Noise Level (Average) | 70dB(A) |
| Pressure Dewpoint – Standard | -40°F (-40°C) pdp (ISO 8573-1:2010) Class 2 |
| Standard Electrical Supply | 115/1ph/60Hz (Tolerance +/- 10%) |
| Controls | Electronic Control Timer |
| Connections | 3/8 NPT |

## Dimensions & Ordering Information




| A | Weight (Kg) | SCFM | Part Number | Maintenance Kit |
|---|---|---|---|---|
| 16.6 (422) | 24.2 (11) | 3 | **WDAS1** | **WDASMK1** |
| 19.7 (500) | 28.7 (13) | 5 | **WDAS2** | **WDASMK2** |
| 24.2 (616) | 35.3 (16) | 8 | **WDAS3** | **WDASMK3** |
| 27.2 (692) | 39.7 (18) | 10 | **WDAS4** | **WDASMK4** |
| 33.3 (847) | 44.1 (20) | 13 | **WDAS5** | **WDASMK5** |
| 35.7 (906) | 50.7 (23) | 15 | **WDAS6** | **WDASMK6** |
| 43.2 (1098) | 61.7 (28) | 20 | **WDAS7** | **WDASMK7** |

F

Dryers

## Service Kits

| Description | Part Number |
|---|---|
| Mounting Bracket | |
| Fixed Wall | WDASMB1 |
| 45° Tilt Wall | WDASMB2 |

## Sizing Chart (correction factor)

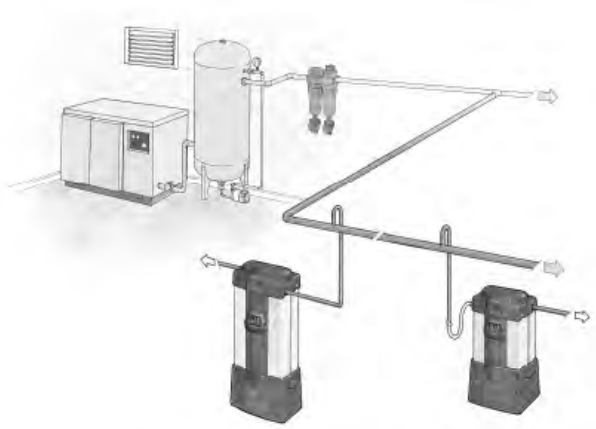
**minimum drying capacity = compressed air flow rate x CFT x CFP x CFD**

| Temperature Correction Factor (CFT) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Inlet Temperature | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | CFT | 1.00 | 1.00 | 1.00 | 1.04 | 1.14 | 1.37 |

| Pressure Correction Factor (CFP) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure | PSIG | 58 | 73 | 87 | 102 | 116 | 131 | 145 | 160 | 174 |
| | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | CFP | 1.60 | 1.33 | 1.14 | 1.00 | 1.03 | 0.93 | 0.85 | 0.78 | 0.71 |

| Dewpoint Correction Factor (CFD) | | Standard |
|---|---|---|
| Required Dewpoint | PDP °F | -40 |
| | PDP °C | -40 |
| | CFD | 1.00 |

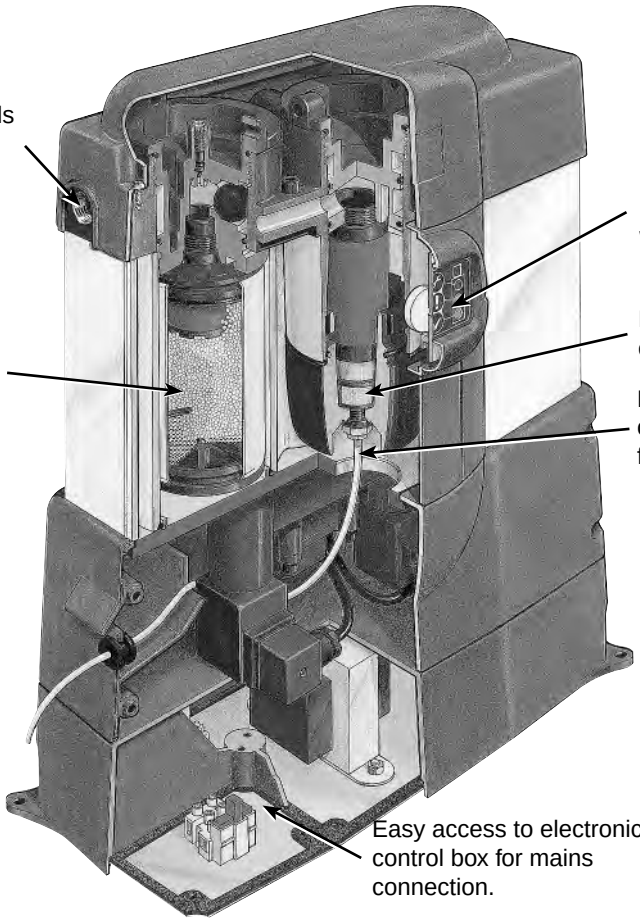
# Product Applications



The Regenerative Desiccant Dryers will benefit users who have a specific need for Clean Dry Air (CDA) directly after a compressor, or for a particular application where the air is critical to the operating process or end product.

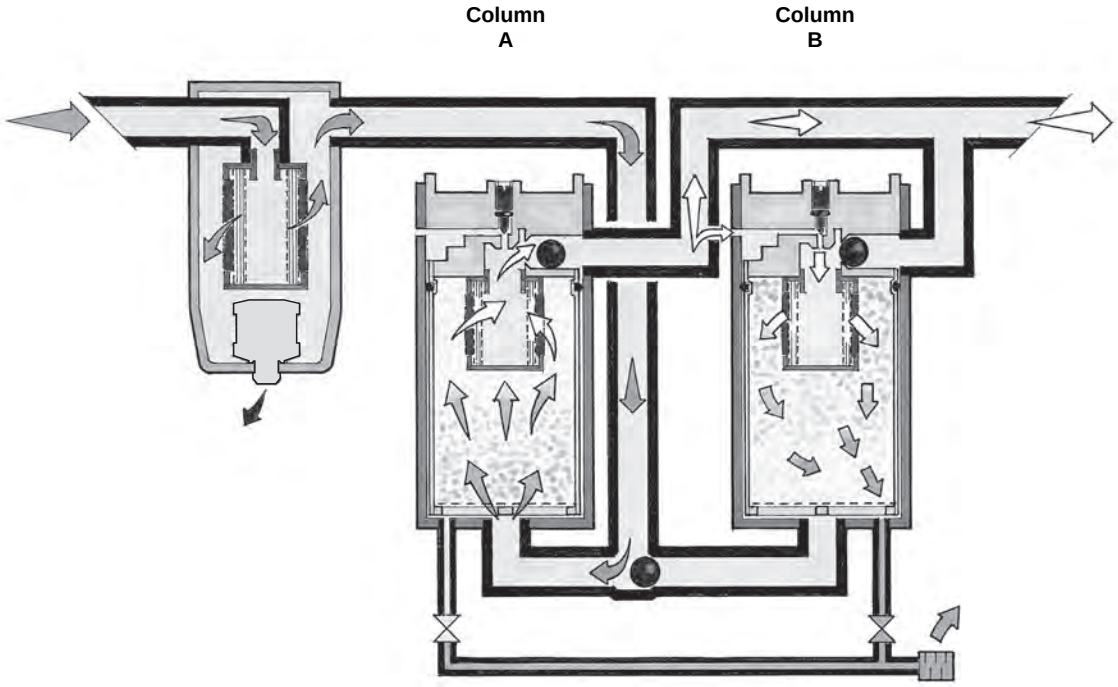
## Typical applications:

- Computer Numerical Control (CNC) Machines
- Coordinate Measuring Machines
- Laboratories
- Lasers
- Packaging Machines
- Instrumentation
- Processing Equipment
- Conveying Machines

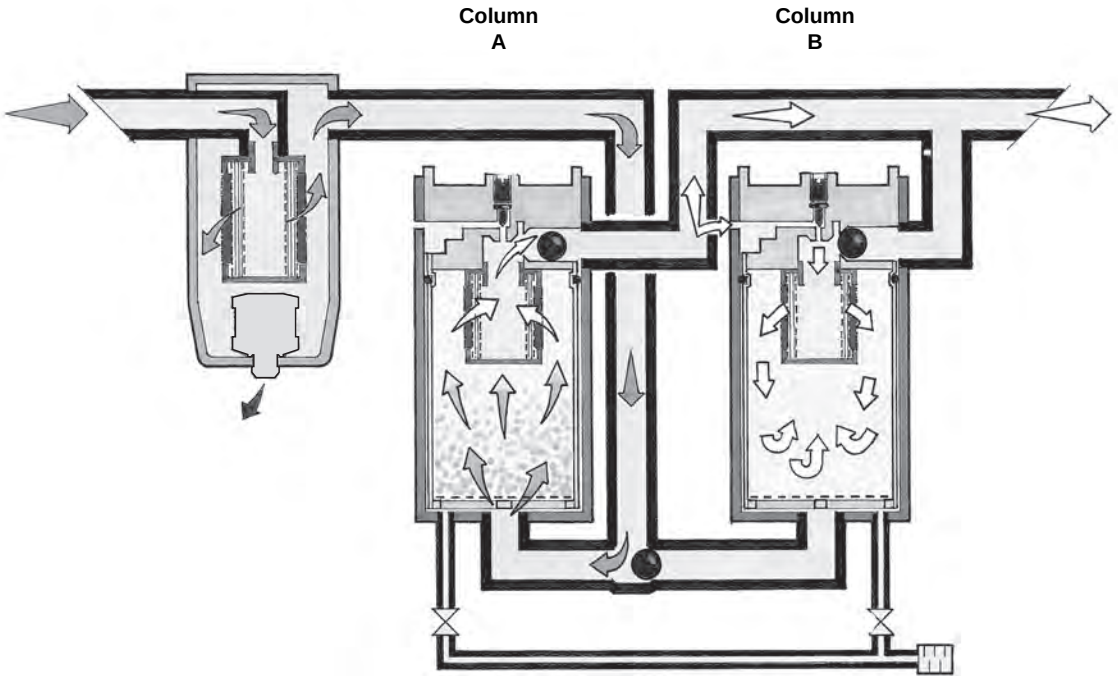


**1** Compressed air enters the integral pre-filter and passes into the left hand chamber (Column A) where the air is dried before passing to the application.

A small amount of dry purge air is used to regenerate the right hand chamber (Column B) which is wet, using the PSA (Pressure Swing Adsorption) method of regeneration, venting the saturated air to atmosphere under pressure. The same regeneration air is also used to "back flush" the integral filter to prolong its working life.

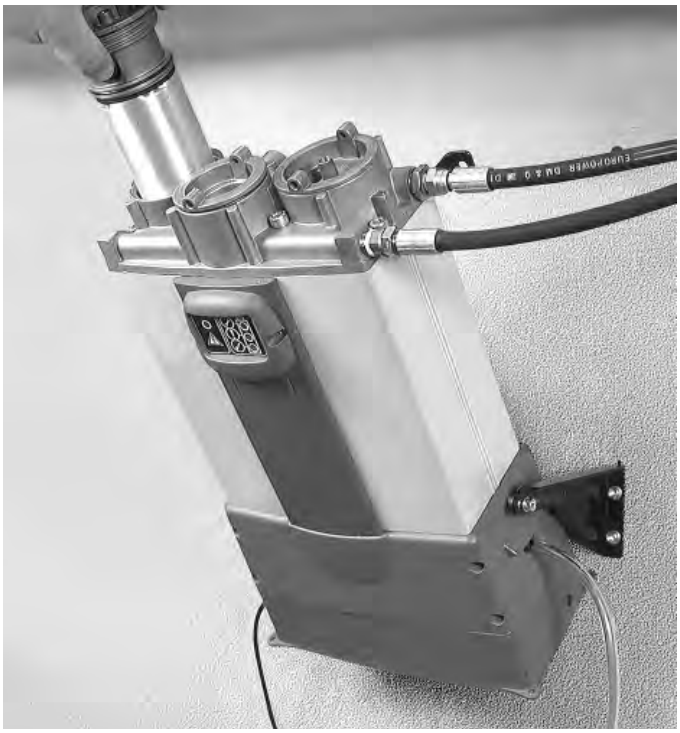



**2** Prior to changeover, the right hand chamber (Column B) enters repressurization where the exhaust valve is closed to allow pressure to increase. This process ensures a smooth uninterrupted changeover, preventing the loss of any system pressure, before the process repeats itself.



## Optional features

- For totally quiet operation, the regeneration exhaust air can be positively piped away.
- Remote indication provides a warning of the dryers need for servicing. (Audible alarm not included)
- Wall mounting kit for vertically securing the dryer to a wall or canopy.



A 45° tilt, wall mounting kit is also available for vertically securing the dryer to a wall, canopy or inside a customers product where access to the top of the dryer is restricted.

- In conditions of limited access, the electronic control box (base) can be detached and relocated remotely from the dryer.

Electronic control box can be remotely located

## Service indication sequence & alarm

During operation, The Regenerative Desiccant Dryers Power On (yellow) LED and Check (Green) LED indicators will illuminate, remaining in this configuration for 11500 hours. At this time, the Warning (Yellow) LED will illuminate and cancel the Check (Green) LED. This signals the user to order service replacement components at the optimum time.

500 hours later (a total of 12000 hours from initial start up) the Service (Red) LED will illuminate and cancel the Warning (Yellow) LED, the Audible Alarm housed inside the display will sound intermittently (every 6 seconds) drawing attention to the need for a service.

F

Dryers

# Heatless Desiccant Air Dryers WTW Series

= "Most Popular"

Parker WTW Series Heatless Desiccant Air Dryers remove water vapor from compressed air through a process known as pressure swing adsorption. Pressure dewpoints ranging from -40°F (-40°C) standard to -100°F (-70°C) optional are attained by directing the flow of saturated compressed air over a bed of desiccant.

## Features

- Pre-Filter and After Filters Included with Dryers
- Solid State Controller
- CycleLoc™ Demand Control
- Variable Cyle Control (Models WTW75 - WTW800 SCFM)
- Purge Flow Indicator
- Purge Flow Regulator (Models WTW75 - WTW800 SCFM)
- Repressurization Circuit (Models WTW75 - WTW800 SCFM)
- Control Air Filter (Models WTW75 - WTW800 SCFM)
- Safety Valves
- Pressure Equalization
- 150 PSIG Design Standard
- Moisture Indicator (Models WTW75 - WTW800 SCFM)

## Options

- DDS Light / DDS (Dewpoint Dependent Switching)

## Specifications

| | |
|---|---|
| Inlet or Ambient Air Temperature | 120°F (49°C) maximum |
| Operating Pressure | 80 PSIG (5.5 bar) minimum |
| Working Pressure | 150 PSIG (10.5 bar) maximum |
| Pressure Drop At Rated Flow | Less than 5 PSI (0.34 bar) |

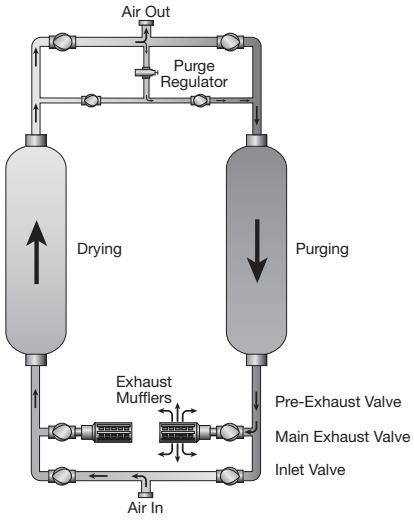
## Heatless Desiccant Air Dryers

| Capacity CFM @ 100 PSIG ($m^3$/min @ 6.9 bar) | Approximate Purge SCFM ($Nm^3$/min) | Primary Voltage | Part Number | Port Size | Filtration Package Included With Dryer | | |
|---|---|---|---|---|---|---|---|
| | | | | | Pre-filter (5µ) | Pre-filter (.01µ) | After-filter (0.5µ) |
| 25 (.70) | 4 (.11) | 120V/1ph/60Hz | **WTW25*** | 1/2 | **F18-04-SH00** | **M18-04-CG00** | **M18-04-BG00** |
| 42 (1.19) | 6 (.19) | 120V/1ph/60Hz | **WTW40*** | 1/2 | **F28-04-SH00** | **M28-04-CG00** | **M28-04-BG00** |
| 60 (1.70) | 9 (.25) | 120V/1ph/60Hz | **WTW55*** | 3/4 | **F28-06-SH00** | **M28-06-CH00** | **M28-06-BH00** |
| 75 (2.13) | 11 (.31) | 120V/1ph/60Hz | **WTW75*** | 3/4 | **F39-06-SH00** | **M39-06-CH00** | **M39-06-BH00** |
| 107 (3.03) | 16 (.45) | 120V/1ph/60Hz | **WTW100*** | 1 | **F39-08-SH00** | **M39-08-CH00** | **M39-08-BH00** |
| 135 (3.82) | 20 (.56) | 120V/1ph/60Hz | **WTW130*** | 1 | **F39-08-SH00** | **M39-08-CH00** | **M39-08-BH00** |
| 200 (5.66) | 30 (.84) | 120V/1ph/60Hz | **WTW200*** | 1-1/2 | **F35-0B-F00** | **M35-0B-F00** | **M35-0B-FS0** |
| 250 (7.07) | 38 (1.07) | 120V/1ph/60Hz | **WTW250*** | 1/1/2 | **F35-0B-F00** | **M35-0B-F00** | **M35-0B-FS0** |
| 300 (8.49) | 45 (1.27) | 120V/1ph/60Hz | **WTW300*** | 1-1/2 | **F35-0B-F00** | **M35-0B-F00** | **M35-0B-FS0** |
| 400 (11.32) | 60 (1.69) | 120V/1ph/60Hz | **WTW400*** | 2 | **F35-0C-F00** | **M35-0C-F00** | **M35-0C-FS0** |
| 500 (14.44) | 77 (2.18) | 120V/1ph/60Hz | **WTW500*** | 2 | **F35-0C-F00** | **M35-0C-F00** | **M35-0C-FS0** |
| 600 (18.40) | 98 (2.77) | 120V/1ph/60Hz | **WTW600*** | 2 | **F35-0C-F00** | **M35-0C-F00** | **M35-0C-FS0** |
| 800 (22.65) | 120 (3.39) | 120V/1ph/60Hz | **WTW800*** | 2 | **F35-0C-F00** | **M35-0C-F00** | **M35-0C-FS0** |

* Options: Dewpoint dependent switching (DDS).
DDS Light includes: energy saving purge cycle control with high humidity alarm and indicator light. When ordering use -DL as suffix.
DDS includes: energy saving purge cycle control with high humidity alarm and digital dewpoint display. When ordering use -DS as suffix.

Parker WTW Series Heatless Desiccant Air Dryers remove water vapor from compressed air through a process known as Pressure Swing Adsorption. Pressure dewpoints ranging from -40°F (-40°C ) standard to -100°F (-70°C) optional are attained by directing the flow of saturated compressed air over a bed of desiccant.

This physically tough and chemically inert material is contained in two separate but identical pressure vessels commonly referred to as “dual” or “twin” towers.




As the saturated compressed air flows up through the “on line” tower, its moisture content adheres to the surface of the desiccant. The dry compressed air is then discharged from the chamber into the distribution system.

A solid state controller automatically cycles the flow of compressed air between the towers, while the “on line” tower is drying, the “off line” tower is regenerating. Regeneration, sometimes referred to as purging, is the process by which moisture accumulated during the “on line” cycle is stripped away during the “off line” cycle. As low pressure dry purge air flows gently through the regenerating bed, it attracts the moisture that had accumulated on the surface of the desiccant during the drying cycle and exhausts it to the atmosphere.

To protect the desiccant bed from excess liquid, all Wilkerson WTW Series Heatless Air Dryers are designed to work with the natural pull of gravity. By directing the saturated air into the bottom of the “on line” tower and flowing up through the bed, liquid condensate caused by system upset, is kept away from the desiccant and remains at the bottom of the tower where it can be easily exhausted during the regeneration cycle. Counter flow purging ensures optimum performance by keeping the driest desiccant at the discharge end of the dryer.

Moisture load, velocity, cycle time and contact time determine tower size and the amount of desiccant. To ensure design dewpoint, each tower is carefully sized to allow a minimum of 5.5 seconds of contact. To prevent desiccant dusting and bed fluidization, air flow velocities are kept below 50 feet per minute. The dryer can cycle for years without changing the desiccant.

Heatless dryers in general are the most reliable and least expensive of all desiccant type dryers. Wilkerson WTW Series Heatless Desiccant Air Dryers are the most energy efficient thanks to standard features like, “Variable Cycle control”, Dewpoint Dependent Switching (DDS) and purge flow regulator.

## Standard equipment

- Electric 120V/1PH/60Hz
- Solid State Controller
- Centrifugal Compressor Surge Protection (Models WTW75 - WTW800 SCFM)
- System Sequence Annunciator
- CycleLoc™ Demand Control
- Variable Cycle Control (Models WTW75 - WTW800 SCFM)
- Purge Flow Indicator
- Purge Flow Regulator (Models WTW75 - WTW800 SCFM)
- Repressurization Circuit (Models WTW75 - WTW800 SCFM)
- ASME Coded Pressure Vessels (Models WTW100 - WTW800 SCFM)
- Separate Tower Pressure Gauges
- Separate Fill / Drain Ports
- NEMA 4 Controls
- Stainless Steel Diffuser Screen
- Pressure Equalization
- 150 PSIG Design Standard
- Structural Steel Base
- Moisture Indicator (WTW25 - WTW800 SCFM)
- Pre and Post Filtration

## Optional equipment

- Dewpoint Dependent Switching (DDS)
- 4-20 mA Output
- All NEMA Classifications
- Pressure to 1,000 PSIG (69 bar)
- High Humidity Alarm
- Fail to Switch Alarm
- Electronic Drain Systems
- -80°F (-62 °C) to -100°F (-70 °C) Dewpoints
- Contacts for Remote Alarms

## Variable Cycle Control

Additional energy savings can be achieved by adjusting the amount of purge to the actual moisture load. When demand is expected to be less than maximum, Wilkerson's Variable Cycle Control provides a means to adjust the purge cycle time to reduce the total amount of purge used for regeneration. As a result of less frequent cycling, the desiccant will last longer and the switching valves will require less maintenance. The Variable Cycle Control incorporates a short cycle position that can be employed to provide dewpoints as low as -80°F (-60°C).

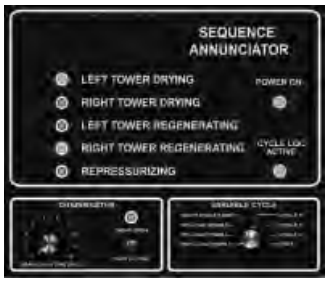
## Surge Protection

To accommodate the unique requirements of centrifugal compressors, all Wilkerson desiccant dryers are now programmed with a special anti-surge control. A sequenced timing circuit eliminates potential compressor surge by preventing momentary flow restrictions from occurring at tower switch over.

Total dryer operation is managed by a NEMA 4 automatic control center. The solid state module controls all dryer functions including the Sequence Annunciator.

## Sequence Annunciator

Wilkerson's Sequence Annunciator is a solid state visual display panel that shows exactly what is happening in the dryer. The panel lights signal which tower is "on line" drying, and whether the "off line" tower is purging, repressurizing or in Dewpoint Dependent Switching mode. It will also annunciate optional equipment operation and function alarms. The panel is integral with the NEMA 4 Master Control and is conveniently mounted for easy monitoring.




## Dewpoint Dependent Switching (Optional)

Compressed air systems are rarely constant and the dryer regeneration cycle frequency is dependent upon the actual inlet flow, pressure and temperature. Operation under inlet conditions where there is lower than design flow and temperature and or higher pressure, will result in less regeneration cycles and a maximum in the cost of utilities.

Dewpoint Dependent Switching (DDS) provides a precision demand cycle control which terminates the adsorption (drying). This results in the full adsorptive capacity of the desiccant bed being utilized prior to switch over and regeneration.

DDS is built into the dryer control system, with a precision hygrometer producing a continuous display of the outlet dewpoint. The preset contacts of the instruments are utilized to initiate tower changeover.

## Dewpoint Dependent Switching (DDS)

**An Overview**

The adsorption capacity of the desiccant within the dryer is essentially constant whereas the moisture loading and the air flow through the dryer are continuously varying as ambient and plant conditions change. In order to maintain the specified air quality downstream of the dryer, it has to be sized for the worst case conditions, namely the lowest pressure, highest flow and highest inlet temperature. These conditions may only occur for a small part of the service life of the dryer, for example, the highest inlet temperatures may only be present during the summer months. This means that the moisture loading on the desiccant beds is below the dryer's capacity for much of its service life (ie quiet periods in between shifts usually have lower air supply requirements). To gain access to this dynamic adsorption capacity, a moisture sensor is fitted which continually monitors the downstream dewpoint. DDS interrupts the normal sequence of the controller, which is only permitted to change over when the desiccant has adsorbed moisture to its capacity, effectively elongating the drying cycle. However, as regeneration has been optimized for a fully laden desiccant bed, this remains of constant duration resulting in a period of zero energy consumption (i.e. purging is discontinued).
In this way, energy savings are obtained while maintaining a constant supply of clean dry air to your plant.

**DDS**


**DDS Light**

F

Dryers

= "Most Popular"

## Flow correction factors

Capacities are based upon:

- Pressure Drop At Rated Flow Less Than 5 PSI (0.34 bar)
- Maxium Inlet Air or Ambient Air Temperature 120°F (49°C)
- Maximum Working Pressure: 150 PSIG (10.5 bar) Standard Units for High Maximum Working Pressure are Available
- Minimum Operating Pressure: 80 PSIG (5.5 bar)

## Sizing Chart (correction factor)

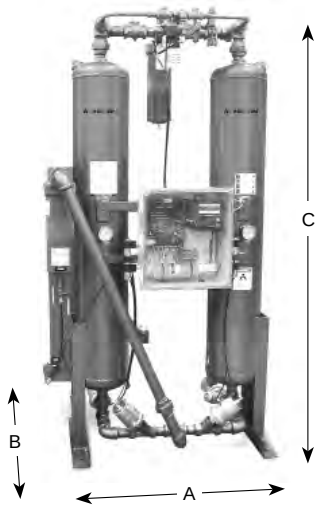
**minimum drying capacity = compressed air flow rate x CFT x CFP x CFD**

| Temperature Correction Factor (CFT) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Inlet Temperature (C1) | °F | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 |
| | °C | 27 | 29 | 32 | 35 | 38 | 41 | 43 | 46 | 49 |
| | CFT | 1.17 | 1.17 | 1.17 | 1.15 | 1.00 | 0.87 | 0.76 | 0.66 | 0.58 |

| Pressure Correction Factor (CFP) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure (C2) | PSIG | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 |
| | bar g | 5.51 | 5.86 | 6.21 | 6.55 | 6.89 | 7.24 | 7.58 | 7.93 | 8.27 | 8.62 | 8.96 | 9.31 |
| | CFP | 0.83 | 0.87 | 0.91 | 0.96 | 1.00 | 1.04 | 1.09 | 1.13 | 1.17 | 1.22 | 1.26 | 1.31 |

| Dewpoint Correction Factor (CFD) | | Standard | Option |
|---|---|---|---|
| Required Dewpoint (C3) | PDP °F | -40 | -100 |
| | PDP °C | -40 | -70 |
| | CFD | 1.00 | 1.43 |

## Heatless Desiccant Air Dryers

| | Part Number | A (length) | B (width) | C (height) | Weight lbs. (kg) |
|---|---|---|---|---|---|
| **WTW Series**   | **WTW25** | 19 (483) | 16 (406) | 64 (1626) | 156 (71) |
| | **WTW40** | 21 (533) | 17 (432) | 48 (1219) | 190 (86) |
| | **WTW55** | 21 (533) | 20 (508) | 67 (1702) | 230 (104) |
| | **WTW75** | 35 (889) | 27 (686) | 80 (2032) | 384 (174) |
| | **WTW100** | 35 (889) | 27 (686) | 80 (2032) | 468 (212) |
| | **WTW130** | 35 (899) | 21 (533) | 70 (1778) | 496 (225) |
| | **WTW200** | 44 (1118) | 28 (711) | 78 (1981) | 692 (314) |
| | **WTW250** | 44 (1118) | 30 (762) | 78 (1981) | 776 (352) |
| | **WTW300** | 44 (1118) | 30 (762) | 78 (1981) | 796 (361) |
| | **WTW400** | 74 (1880) | 41 (1041) | 84 (2134) | 1626 (738) |
| | **WTW500** | 74 (1880) | 41 (1041) | 85 (2159) | 1735 (787) |
| | **WTW600** | 74 (1880) | 41 (1041) | 86 (2184) | 1740 (789) |
| | **WTW800** | 74 (1880) | 41 (1041) | 91 (2311) | 2120 (962) |

Inch (mm)

## Service Kits

| Element Kits | | | |
|---|---|---|---|
| **Series** | **5µ** | **0.01µ** | **0.5µ** |
| **18** | **FRP-96-639** | **MTP-96-646** | **MSP-96-647** |
| **28** | **FRP-96-653** | **MTP-96-648** | **MSP-96-649** |
| **39** | **P3NKA00ESE** | **P3NKA00ESCB** | **P3KNA00ES9** |
| **35** | **FRP-95-505** | **MTP-95-502** | **MSP-95-502** |