

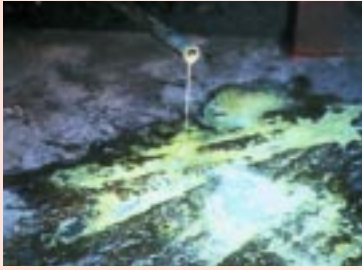


## MDA-Range of Modular Desiccant Compressed Air System



Intelligent Air Technology

# MDA-Range of Modular Desiccant Compressed Air Dryers



## The Problem

Compressed air is an essential power source that is widely used throughout industry. This safe, powerful and reliable utility can be the most important part of your production process.

However, compressed air contains water, dirt, wear particles and even degraded lubricating oil, mixed together these form an unwanted condensate. This condensate, often acidic, rapidly wears tools and pneumatic machinery, blocks valves and orifices causing high maintenance and costly air leaks. It also corrodes piping systems and can bring your production process to an extremely expensive standstill.

The use of high-efficiency compressed air filters fitted with condensate drains will remove the oil, water and dirt particles to eliminate the abrasive sludge in the compressed air system.

In many cases this action alone is not enough, as modern production systems and processes demand an even higher level of air quality. When this is required, "point-of-use" desiccant air dryers can provide the correct air quality, without the need for drying the complete compressed air installation, which is both costly and unnecessary.



## The Solution

The CompAir MDA (Modular Dry Air) Range of desiccant air dryers offers the user uncompromised performance from a dedicated "point-of-use" clean dry air system. It is easy to install and will transform an ordinary process into a highly reliable and efficient production operation.

CompAir's MDA Range cleans and dries compressed air down to  $-40^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$ ) pressure dewpoint, meeting the requirements of ISO 8573.1 Class 1.2.1 as standard. For critical applications, a pressure dewpoint of  $-100^{\circ}\text{F}$  ( $-73^{\circ}\text{C}$ ) ISO 8573.1 Class 1.1.1 is achievable.

## The Features

ISO 7000 inlet & outlet symbols cast into the top cover ensure correct piping installation.

Integral Grade C high-efficiency filter.

Corrosion protected by alocrom and epoxy painting.

One Combi-Cartridge per column containing molecular sieve desiccant and Grade E particulate filter.

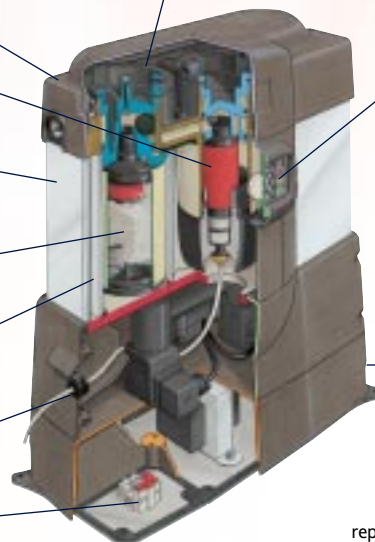
Patented high tensile extruded aluminum column with twin drying chambers.

Positive removal of pre-filter condensate by piping away for remote collection.

Easy access to electronic control box for mains connection.

Top End Repressurization – ensuring uninterrupted compressed air at all times.

Electronic display providing high visibility LED indication with an internal audible alarm.



Alarm reset facility to cancel the audible alarm for 24 hours while replacement components are sourced.

# The Benefits

## “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 utilizing 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 75 dB(A).

## Can be Installed Almost Anywhere

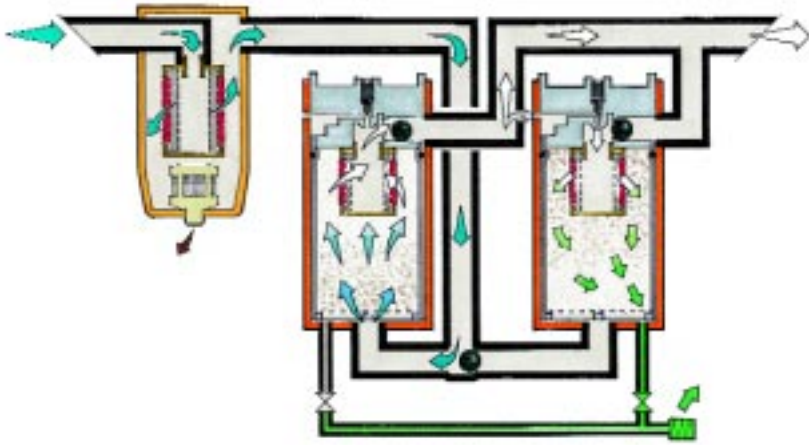
- IP66/NEMA 4 protection as standard.

## Audible Alarm

- Indicating service interval for optimal performance

## Simple and Easy to Maintain

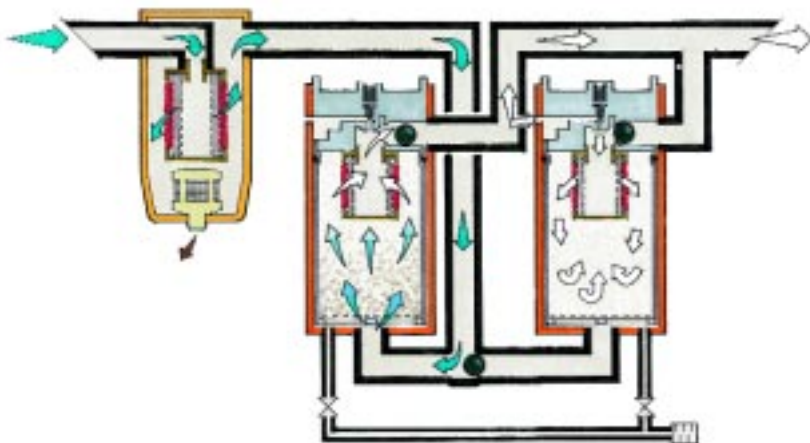
- A 100% service can be achieved in under 15 minutes due to the quick release top cap arrangement, which does NOT require the inlet/outlet ports to be disconnected as with traditional systems.



## Operation

- 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.

# Service Indication Sequence & Alarm

During operation, Power On (yellow) LED and Check (Green) LED indicators will illuminate, remaining in this configuration for 11,500 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.



## Sizing Chart (Correction Factors)

Minimum Inlet Pressure		Maximum Inlet Temperature °F (°C)			
psi g	bar g	95 (35)	104 (40)	113 (45)	122 (50)
58	4	0.63	0.61	0.55	0.46
73	5	0.75	0.73	0.66	0.55
87	6	0.88	0.85	0.77	0.64
102	7	1.00	0.97	0.88	0.73
116	8	0.97	0.94	0.85	0.71
131	9	1.08	1.05	0.95	0.79
145	10	1.18	1.14	1.04	0.86
160	11	1.29	1.25	1.14	0.94
174	12	1.40	1.36	1.23	1.02

### Example

Selecting a dryer for a compressor producing, at full load 8 cfm (13.6 m<sup>3</sup>/hr) at 87 psi g (6 bar g) with 95°F (35°C) air inlet temperature and a pressure dewpoint requirement of -40°F (-40°C.)

#### Step 1

From the sizing chart select the required pressure @ 87 psi g (6 bar g) and read across to the required inlet temperature @ 95°F (35°C.) The correction factor is 0.88.

#### Step 2

To adjust the flow for your application, divide the required flow by the 0.88 correction factor.

$$\text{Example: Sizing Capacity} = \frac{\text{Actual Flow}}{\text{Correction Factor}} = \frac{8 \text{ cfm (13.6 m}^3\text{/hr)}}{0.88} = 9 \text{ cfm (15.5 m}^3\text{/hr)}$$

#### Step 3

From the model selector, select the dryer which has a rated flow capacity of 9 cfm (15.5 m<sup>3</sup>/hr) or higher.

**Selected model for this example is CompAir A3MDA.**

## Model Selector

Model	Flow Rates	
	cfm	m <sup>3</sup> /hr
<b>A1MDA</b>	3	5.1
<b>A2MDA</b>	5	8.5
<b>A3MDA</b>	10	17.0
<b>A4MDA</b>	15	25.5
<b>A5MDA</b>	20	34.0

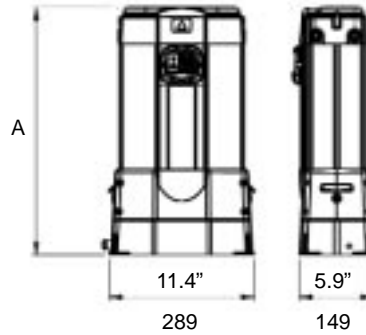
## Technical Specifications

Flow Range:	3 cfm (5.1 m <sup>3</sup> /hr) to 20 cfm (34.0 m <sup>3</sup> /hr) at 102 psi g (7 bar g)	<b>Standard Electrical Supply:* 115/1 ph/60 Hz (Tolerance +/- 10%)</b>
Minimum Operating Pressure:	58 psi g (4 bar g)	
Maximum Operating Pressure:	174 psi g (12 bar g)	Controls: Electronic Control Timer
Minimum Operating Temperature:	35°F (1.5°C)	
Maximum Inlet Temperature:	122°F (50°C)	Inlet Connections: 3/8" NPT
Noise Levels (Average):	≤75 dB(A)	
Pressure Dewpoint (Standard): -40°F pdp (-40°C pdp) (ISO 8573.1 Class 1.2.1) (optional): -100°F pdp (-70°C pdp) (ISO 8573.1 Class 1.1.1)		Outlet Connections: 3/8" NPT

\* Other voltages available.

## Weights and Dimensions

Model	Dimensions inches (mm) A	Weight lbs. (kg)
A1MDA	16.6 (422)	24.3 (11)
A2MDA	19.7 (500)	28.7 (13)
A3MDA	27.2 (692)	39.7 (18)
A4MDA	35.7 (906)	50.7 (23)
A5MDA	43.2 (1,098)	61.7 (28)



## Fixing Kits

Description	Kit
Fixed Wall Mounting Bracket	MDAMB1
45° Tilt Wall Mounting Bracket	MDAMB2

## Maintenance Kits

Model	Maintenance Kit
A1MDA	MDAMK1
A2MDA	MDAMK2
A3MDA	MDAMK3
A4MDA	MDAMK4
A5MDA	MDAMK5

# Intelligent Air Technology

Compressed air solutions for every application

## Compressors

Up to 2,750 cfm

1 - 604 hp

Up to 6,000 psi

## Lubricated

Rotary Vane

Single-Stage Screw

Two-Stage Screw

Speed Regulated Screw

Piston

Portable

## Oil-Free

Two-Stage Screw

Water-Sealed Screw

Piston

Portable

## Complete Accessories Program

Filters and Dryers

Cooling Systems

Heat Recovery

Condensate Management

Air Receivers

Multi-Set Controllers

Lubricants

## Value Added Services

Air Audit

Performance Reporting

Utility Air

Performance Contracting

## Complete Service for Compressed Air Technology

Engineering of Complete Compressor Stations

Local Service Centers

Guaranteed Parts Availability



CompAir  
PO Box 927  
211 East Russell Road  
Sidney, Ohio 45365-0927  
United States of America

Telephone +01 (937) 498-2500  
Facsimile +01 (937) 492-3923

www.CompAirUSA.com  
Email sales@CompAirUSA.com

CompAir policy is one of continuous improvement and we therefore reserve the right to alter specifications and prices without prior notice. All products are sold subject to the Company's conditions of sale.

Brochure Re-Order Ref. No. 98700-521  
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STANDARD BY THE REGISTER OF QUALITY  
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