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› Ingersoll-Rand Compressed Air Dryer Refrigerated Type D12IN 7 Scfm 23231798 User Manual

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Model: D12IN 23231798 | Brand: Ingersoll Rand

INTRODUCTION

The Ingersoll Rand D12IN Refrigerated Air Dryer is designed to deliver reliable, virtually maintenance-free performance by effectively removing moisture from compressed air. This non-cycling dryer utilizes a sophisticated refrigeration system and heat exchanger to cool compressed air, ensuring a consistent supply of dry air for your tools and operations.



Figure 1: Ingersoll Rand D12IN Refrigerated Air Dryer, front view.

Key Features:

- **Reduced Energy Use:** Features efficient heat exchangers, a built-in stainless steel demister for moisture removal, and a fully adjustable programmable electronic drain valve to minimize air loss and energy consumption.
- **Built-in Reliability:** Equipped with corrosion-resistant heat exchangers, an enhanced control system, and high-efficiency moisture separation for a steady, long-term supply of dry air.
- **Smart Control:** An easy-to-use, advanced microprocessor control allows for simple adjustment and management of system parameters.
- **Consistent Clean, Dry Air:** Variable-speed fans reduce power consumption during less than maximum cooling capacity, while maintaining a consistent dew point.



REFRIGERATED AIR DRYER

Corrosion-resistant heat exchangers, an enhanced control system, and high-efficiency moisture separation ensure a steady long-term supply of dry air

D12IN REFRIGERATED AIR DRYER

Figure 2: Overview of the refrigerated air dryer's core features, highlighting corrosion-resistant heat exchangers and enhanced control system.



REDUCED ENERGY USAGE

Efficient heat exchangers, a built-in stainless-steel demister that removes all moisture, and a fully adjustable programmable electronic drain valve reduce energy use and minimize air loss



Figure 3: Illustration of how the dryer achieves reduced energy usage through efficient heat exchangers and a programmable electronic drain valve.

SETUP AND INSTALLATION

Proper setup is crucial for the optimal performance of your refrigerated air dryer. This unit is designed for easy integration into existing compressed air systems.

Installation Considerations:

- **Pre/Post Air Filters:** To ensure the highest quality dry air and mitigate contaminants, it is recommended to install appropriate pre and post air filters in your system. This will protect both the dryer and your downstream tools.
- **Temperature Management:** The dryer cools compressed air to less than 50°F (10°C) to remove the bulk of

water. Ensure your system's ambient temperature does not consistently fall below this threshold to prevent water from forming in liquid form within your air lines.

- **Power Requirements:** The unit operates on 115 Volts. Ensure a stable power supply is available.



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Figure 4: Diagram illustrating a typical compressed air system setup, including the placement of the air dryer and filters.

Tips for Selecting a Dryer:

When integrating the dryer into your system, consider the following factors to ensure it meets your specific needs:

- **Max Flow Rate (SCFM):** Determine the peak compressed air demand in standard cubic feet per minute (SCFM).
- **Pressure (PSI):** Identify the inlet pressure of your system, measured in pounds per square inch (PSI).
- **Inlet and Ambient Temperature:** The cooler the air, the easier it is to remove water. Consider both the inlet air temperature and the ambient operating temperature.



Figure 5: Visual guide for key considerations when selecting an air dryer, including flow rate, pressure, and temperature.

Warning: Underspecifying your dryer can lead to equipment damage and contamination; over-specifying will waste money and energy.

OPERATING INSTRUCTIONS

The Ingersoll Rand D12IN dryer features an intuitive microprocessor control for easy operation and monitoring.

Microprocessor Control Panel:

The control panel on the front of the unit allows operators to easily adjust and manage system parameters. This includes changing display parameters and drain valve settings as dictated by seasonal or operational needs.

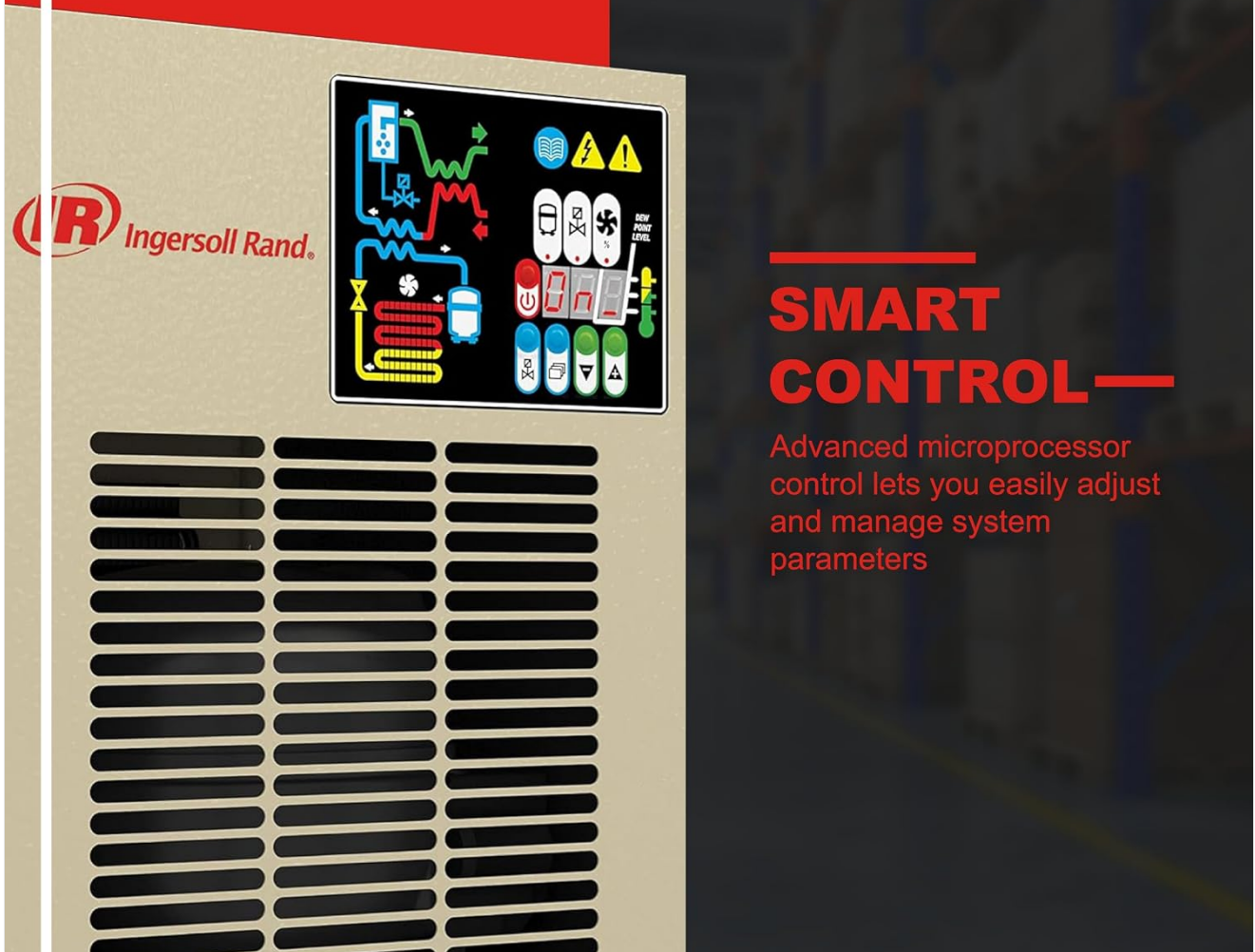


Figure 6: Close-up view of the smart control panel, showing the intuitive interface for managing dryer settings.

Dew Point Management:

The dryer actively cools compressed air to achieve a dew point of less than 50°F (10°C). This process condenses water vapor into liquid, which is then removed from the system, preventing water-related issues in your air lines and tools.

If your system never experiences temperatures below 50°F, you will not encounter water in liquid form within your air lines, thanks to the dryer's efficient operation.

Note: The provided video, "Ingersoll Rand DIN Dryers," offers a visual demonstration of the dryer's features and operation. However, due to vendor restrictions, it cannot be embedded directly in this manual. Please visit the official Ingersoll Rand website for access to product videos.

MAINTENANCE

The Ingersoll Rand D12IN Refrigerated Air Dryer is designed for virtually maintenance-free operation, thanks to its robust construction and advanced features.

Key Maintenance-Reducing Features:

- **Corrosion-Resistant Heat Exchangers:** These components are built to withstand corrosive elements, extending the lifespan of the unit and reducing the need for frequent replacements.
- **High-Efficiency Moisture Separation:** The integrated demister and efficient design ensure maximum moisture removal, preventing buildup and potential issues within the dryer.
- **Programmable Electronic Drain Valve:** This valve automatically discharges condensed moisture, reducing manual intervention and ensuring continuous, efficient operation. The timing of this valve can be adjusted via the microprocessor control panel to suit specific operational demands.

While the dryer requires minimal maintenance, regular visual inspections of the unit and connected air lines are recommended to ensure proper functioning and to identify any potential issues early.

TROUBLESHOOTING

This section provides guidance on common issues that may arise with compressed air systems and how the refrigerated air dryer addresses them. While the D12IN dryer is highly reliable, understanding potential problems can help maintain optimal system performance.

Common Compressed Air System Issues (and how the dryer helps):

Problem	Description / Impact	Dryer's Role in Prevention/Solution
Rusting of Parts	Moisture in compressed air can lead to corrosion and rust in pneumatic tools and equipment, significantly reducing their lifespan.	By cooling the air and removing liquid water, the dryer prevents moisture from reaching tools, thus preventing rust.
Decline in Product Quality	Water in air lines can negatively affect processes like painting, leading to imperfections and reduced finish quality.	Ensures clean, dry air, which is essential for high-quality painting and other sensitive applications.
Unplanned Costly Repairs/Breakdown	Moisture can cause internal damage and premature wear in air tools and system components, leading to unexpected downtime and repair costs.	Provides consistent dry air, protecting your equipment from water damage and extending its operational life.

If you experience water in your air lines despite the dryer being operational, check the following:

- **Power Supply:** Ensure the dryer is receiving continuous 115V power.
- **Drain Valve:** Verify the electronic drain valve is functioning correctly and is not clogged. Adjust its timing if necessary via the control panel.
- **Ambient Temperature:** Confirm that the operating environment temperature is not consistently below 50°F (10°C), which could cause condensation downstream of the dryer.
- **Air Flow Capacity:** Ensure the dryer's 7 SCFM capacity is sufficient for your peak air demand. An undersized

dryer may not adequately remove moisture.

For persistent issues, contact Ingersoll Rand customer support.

SPECIFICATIONS

Attribute	Value
Manufacturer	Ingersoll Rand
Part Number	23231798
Item Weight	52 pounds
Product Dimensions	24.4 x 25.6 x 23.7 inches
Item Model Number	D12IN 23231798
Size	1 Count (Pack of 1)
Color	Beige
Style	Air Dryer
Material	Stainless Steel
Power Source	Corded Electric
Voltage	115 Volts
Wattage	7
Installation Method	Packaged
Item Package Quantity	1
Air Flow Capacity	7 Cubic Feet Per Minute (SCFM)
Maximum Pressure	203 PSI
Sound Level	1 dB
Filter Type	Refrigerated

WARRANTY INFORMATION

The Ingersoll Rand D12IN Refrigerated Air Dryer comes with a **1 Year Manufacturer Warranty**. Please retain your proof of purchase for warranty claims. For detailed terms and conditions, refer to the warranty documentation included with your product or contact Ingersoll Rand customer support.

CUSTOMER SUPPORT

For further assistance, technical support, or inquiries regarding your Ingersoll Rand D12IN Refrigerated Air Dryer, please use the following resources:

- **Official Website:** Visit the Ingersoll Rand Compressor website for product information, FAQs, and additional resources: [IngersollRandCompressor.com](https://www.ingersollrandcompressor.com)
- **Online Store:** Explore other Ingersoll Rand products and support options at the official Amazon store: [Ingersoll Rand Amazon Store](#)
- **Direct Contact:** Refer to the contact information provided in your product packaging for direct customer service lines.



Figure 7: Customer Support availability for assistance.