### It's Easy to Switch to Millrock

Considering switching freeze dryer manufacturers? Read the most frequently asked questions from our customers.



# MILLROCK TECHNOLOGY

#### Introduction

Millrock Technology is the most trusted innovator of freeze dryer solutions in the world. Our sole dedication to lyophilization for the pharmaceutical, biotech and related industries allows us to focus on providing the highest performing, advanced freeze drying solutions and support services to our customers.

We know you have questions and concerns about moving to a new freeze dryer partner. Below are some common questions we receive when talking to a new customer in the purchasing process:

#### What makes a Millrock freeze dryer better than others?

In short ... reliability, performance, and process control. We oversize our refrigeration systems, use the highest reliability components and instrumentation, and have over 40 years of processing experience programmed into our control software.

You place your valuable products into your freeze dryer and you want to be confident they will be processed properly. Our equipment gives you that confidence.

### Can I transfer an existing protocol from my current freeze dryer to a Millrock freeze dryer?

Yes! Transferring your existing protocol is easy with a Millrock freeze dryer. Our equipment provides superior performance and advanced process controls that ensure easy transfer from legacy freeze dryers.

Legacy freeze dryers often have process limiting designs. Millrock's freeze dryers are designed to eliminate bottlenecks such as choked flow and condenser overloading. We offer maximized condensing rates, increased shelf heat transfer, and advanced process control so that the equipment is not the limit to your process. You can rest assured that your existing protocols can be easily transferred.

### Will the new freeze dryer be able to perform the same as my current freeze dryer?

Yes! Millrock freeze dryers will outperform your legacy equipment, providing you more consistent results and the confidence that your precious product will be processed correctly.

In addition, the extra capacity helps eliminate process variation due to fluctuating room temperatures.

### I need to ramp from 20 degrees to 30 degrees over the course of 10 hours. Can I program the same type of ramp rate into your freeze dryer?

Yes! By simply entering the time between temperatures, extremely slow ramp rates are possible.

#### Do Millrock freeze dryers have the ability to be accessed remotely?

Yes! All Millrock freeze dryers have the capability and technology to be accessed remotely by our service team to assist customers when needed. Customer remote access can be configured with our Millrock service team during installation of your freeze dryer and access can only be enabled by customer demand.

### Can I trust that the condenser temperature reading is accurate to ensure process control?

Millrock freeze dryers are supplied with exposed coil condensers that provide the best possible condensing capabilities and include temperature measurement on the condensing surface to ensure your product is properly freeze-dried. The condenser configuration ensures maximum condensing rates while eliminating vapor bypass that can damage pumps.

Your legacy system may have a 'cooled wall' condenser. On these style condensers the temperature is not measured on the condensing surface and is measured at the inlet. Under high loads the temperature of the wall can increase above -40C which results in loss of process control, while you as the user, are not aware since the displayed temperature is not on the wall. In addition, vapor can bypass the condenser surface and enter the vacuum pump causing damage.

#### Will my freeze dryer condenser overload?

Millrock freeze dryers are designed with robust refrigeration systems featuring high throughput/high capacity exposed coil condensers to handle the most demanding protocols.

#### Do your freeze dryers have choke points?

Millrock freeze dryers are designed with vapor ports with the proper diameter and length to dramatically reduce the potential for choked flow conditions.



#### Will my Millrock freeze dryer be able to stopper vials as small as 2R?

Millrock provides freeze dryers with sturdy shelves and hydraulic stoppering with stoppering pressures capable of closure of a wide array of vial sizes, including 2R.

#### Will the freeze dryer control system be able to store recipes?

Millrock's freeze dryer control systems are capable of storing an unlimited number of recipes/protocols.

#### Will I have more capacity with the Millrock freeze dryer?

Millrock freeze dryers provide up to 30% more shelf area when compared to same footprint of competitive products.

#### Can you automate our manual steps?

Millrock freeze dryer control systems offer fully automated protocol/recipe execution.

#### How difficult is it going to be to validate my new freeze dryer?

Millrock freeze dryers are offered with optional industry standard validation packages. The consistency and performance of our freeze dryers make for an easy validation process.

#### What power requirements/utilities are needed for my freeze dryer?

Millrock offers freeze dryers that can be configured to work with the many electrical requirements needed around the world.

#### Can your software help me define a freeze-drying protocol?

Yes! As a standard feature, our Gen2 software provides a Cycle Assist feature that will create a freeze-drying cycle based on your product's critical process parameters.



#### Does your control system have built-in reporting or do I have to export the data to excel and manipulate it?

Millrock Technology's OptiDry Gen2 software includes batch reporting. After your run is complete, the control system will generate a report including the freeze-drying protocol, the run data, graphs of the cycle, and any alarms that may have occurred. The file is in PDF format and can be saved for your records.

## Can your control system determine the End of Primary Drying and automatically advance the process to secondary drying?

On systems ordered with a capacitance manometer, the Gen2 software can determine the End of Primary Drying and advance the cycle into secondary drying. Thus keeping your drying times to a minimum.

#### What type of compressors are used in your equipment?

Millrock models Revo, Magnum, and Epic use highly reliable scroll compressors, instead of hermetic or semi-hermetic compressors. Scroll compressors are designed for the refrigerants used for the freeze drying process and with only 3 moving parts they provide the longest lasting reliable performance available.

#### What type of vacuum fittings do you use on your chambers?

The connection points for all instrumentation use sanitary fittings for robust and reliable vacuum connections. Sanitary fittings eliminate the reliability issues of rubber hose and clamps.

When you purchase a Millrock product, you get more than a freeze dryer. You get a long-term partner delivering industry-changing innovations, high-performing products, and on-call expert support.

### Contact us to learn more about how Millrock Technology can partner with your business to provide the highest-performance, advanced freeze drying services.

SALES: 845.339.5700 sales@millrocktech.com SERVICE: 845.331.1279 service@millrocktech.com : 845.339.7757

Millrock Technology, Inc. • 39 Kieffer Lane • Kingston, NY 12401 Visit our website at <u>millrocktech.com</u>