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DIFFERENCES MATTER

WHAT TO LOOK FOR WHEN PURCHASING A
PORTABLE AIR DRYER



Portable Compressed Air Dryer Diagram



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BUYERS GUIDE FOR *PORTABLE AIR DRYERS*
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You have many options when it comes removing moisture from compressed air for portable applications. The most common way to remove moisture is through a Portable Deliquescent Air Dryer Package. There are many air dryer manufacturers out there with packages to choose from, it is important to know the product you are purchasing. This complete buyers guide will help educate you on the various components of a portable dryer package and what features are worth a little extra money.

1. SIZE MATTERS: The most critical part of any portable air drying package is the size of the deliquescent desiccant vessel. The bigger the vessel, the more desiccant it can hold and the more SCFM you can flow through the dryer without sacrificing performance. The longer the air remains in contact with the desiccant, the lower the dew point and the better your performance will be at the outlet. Since a larger dryer vessel will hold more desiccant, you will also be able to extend your maintenance cycles. Since this is the most critical part of any dryer package, it can also be the most expensive component. Often times, manufacturers will *undersize a dryer vessel or use thinner steel to remove some cost* out of their portable dryer packages. Below is a recommended vessel size based on your flow at 100 psig, 125 psig, and 150 psig.

Van Air Blast Pak Model #	Vessel Diameter	SCFM Flow Rate @ 100 psig	SCFM Flow Rate @ 125 psig	SCFM Flow Rate @ 150 psig
PRO-25	16"	250	304	359
PRO-40	20"	400	487	574
PRO-50	24"	800	974	1149
PRO-75	30"	1200	1462	1723
PRO-100	36"	1600	1949	2297

2. RECIEVER TANK VS. DELIQUESCENT DRYER: It is important to understand the basic principles of a deliquescent compressed air dryer. A deliquescent dryer is a pressure vessel that looks very similar to a receiver tank. The main differences can only be seen on the inside of the tank. Receiver tanks are used for compressed air storage. Whereas a deliquescent dryer vessel has a grid plate which elevates a bed of desiccant above the condensate reservoir. This allows liquid to condense and fall into the bottom of the dryer vessel. Wet air from the compressor will flow from the bottom of the vessel through the desiccant bed and out the top of the vessel. As the wet air passes through the vessel, the desiccant absorbs the moisture in the air. As the desiccant tablets absorb water, they dissolve and the liquid condensate removed by the desiccant falls to the bottom of the reservoir in the vessel. This condensate can then be drained from the bottom of the dryer. The only maintenance that needs to occur is topping off the dryer with more desiccant when your desiccant level drops below the two sight windows. As you can see a deliquescent dryer vessel is much different that a storage or receiver tank.

3. NOT ALL DESICCANT TABLETS ARE CREATED EQUAL: One item to look for when purchasing a portable compressed air dryer is what type of desiccant tablets the dryer uses. *Also is the desiccant included in your portable air dryer purchase?* Often times we receive calls from customers looking to use water softener tablets in their compressed air dryer. Both of these tablets are made of Sodium Chloride, so it is easy to understand why a customer would draw that conclusion. However, there are several reasons why doing this would be a bad idea. Remember that Sodium Chloride comes in many formulas it is used on roads to melt ice/snow, in water softener tablets, as an oral dietary supplement, and to dry compressed air. A good water softener tablet is typically 99% pure sodium chloride, which allows it to dissolve in liquid water. Van Air Systems desiccants for example, do not sit in liquid water because they are elevated by a grid plate inside the deliquescent dryer. A water softener tablet needs to be submerged in liquid to dissolve. Deliquescent Desiccants have other ingredients which allow these tablets to absorb moisture from compressed air. Van Air Systems' Dry-O-Lite desiccant has a specifically engineered chemical formula. The chemical formula of Dry-O-Lite is not 99% Sodium Chloride. We have been manufacturing desiccants for over 70 years, and there is no substitution for the performance of Dry-O-Lite Deliquescent desiccant tablets.

4. WARRANTY: When investing in a portable air dryer package it's important to know that your unit is rugged enough to withstand the abuse of a contractor and provide years of rental revenue. A warranty says a lot about the product and whether the manufacture will stand behind it. For example, Van Air Systems offers a 15 year prorated warranty on their dryer vessels with the first 5 years being a full 100% replacement warranty. This gives you the reassurance that your unit will stand the test of time. Some dryer warranties are only good for 90 days to 1 year. Remember you are making an investment when purchasing a portable air dryer package so regardless the manufacturer. Make sure you ask about the warranty and know that your system is covered for the long haul. You deserve the peace of mind that comes with a strong warranty.

5. WHAT'S YOUR PRESSURE. WHAT'S YOUR FLOW?: Your operating pressure plays an important role in the amount of flow a dryer package can handle without sacrificing performance. As your pressure increases, so will your flow rate. Just like your water faucet at home, you will flow more gallons per minute when pressure is increased by opening the tap all the way as opposed to only halfway open. The same logic holds true with compressed air capacities. At higher pressures, you will be able to flow more CFM through the vessel. This is because higher pressure air cannot hold as much moisture as low pressure air. Since you will have less moisture in the air lines at higher pressures, you do not need to increase the size of your vessel to handle the increased flow rate. Below is a chart that will show flow rates at higher pressures. The important thing to remember is that if your pressures are above 100 psig, you may be able to reduce the size of your portable dryer package without sacrificing performance of the desiccant dryer. The one example that I like to point out is our PRO-75 listed above. If your operating pressure is 100 psig, this unit is rated for 1200 SCFM to achieve optimal drying performance. However, if your operating pressure is 150 psig, you can now use this same PRO-75 system to dry 1723 SCFM without sacrificing performance.

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6. AFTERFILTERS: An afterfilter is a critical component. It is your last line of defense on a portable air drying system and will capture particulates before going down stream to your blast pots. Particulates enter the compressed air system from the intake of your compressor. Any dust or debris floating in the ambient air surrounding the compressor will enter your compressed air stream. As the dryer system ages, this filter will also protect against pipe scale or internal corrosion that may occur throughout the years. Make sure that your dryer package has at least a 10 micron afterfilter on the system for proper protection.

7. MORE BANG FOR YOUR BUCK: When comparing systems, it's always a good idea to look at what other additional features are included. The dryer itself is the main component but what else does the package include to make your job easier. Options such as lifting lugs, tie downs, and a forklift skid will help with portability and transportation. Other options such as air motor exhaust mufflers and filters may help to reduce oil residue and provide quieter operation. Without a separate filter housing to capture these oils from the air motor, they will drip down the dryer vessel. That may not affect performance of the dryer, but it isn't very friendly to our environment. Some portable drying systems also have a removable aftercooler assembly. Being able to remove the complete aftercooler assembly makes servicing the air motor an easy task. When it comes to desiccant replacement, check to see if there are sight windows for viewing the desiccant levels and easy access to refill the vessel. Another added feature when comparing air dryer packages is to know if the manufacturer includes desiccant with the initial purchase. Taking a closer look at these added options will help make servicing the air dryer package easier in the future.

8. REPUTATION: Often overlooked when purchasing an air dryer package is the company's reputation. How long have they been in business or how long have they been manufacturing air dryers? When it comes to purchasing an air dryer system, you have to set price aside and look at the company as a whole. Do you want a unit with a low price built with lower grade materials and very little experience building dryers, or would you feel more comfortable with a unit that is built by the experts in the industry? There are other manufacturers out there but only Van Air Systems has nearly 75 years of experience manufacturing compressed air dryers and deliquescent desiccants. When buying an air dryer package, make sure you look at the company, not just the product. Reliability is essential when it comes to purchasing a compressed air dryer.

9. CUSTOMER SERVICE YOU CAN RELY ON: Nowadays companies tend to focus less and less on providing a high level of customer service. You may purchase the product and never hear from the company again. Like any big purchase when you have a problem or question, you want to know who to call and who will help you. Take note of the service you receive how long does it take to get a question answered? Do you talk to someone or do you have to press a bunch of buttons before actually getting to speak to someone? Fewer companies take pride in their customer service and no longer provide access to industry trained professionals to help answer questions, troubleshoot problems, and react to product improvement ideas. When you decide to purchase your portable air dryer package make sure the customer service has surpassed your expectations and will be there every step of the way moving forward. Once the sale is complete the service should continue.

Before you make an investment in a Portable Air Drying System, make sure you take the time to compare the dryers available in the market and know what options would suit your application. Van Air Systems has been a manufacturing compressed air dryers for nearly 75 years. We have worked to develop a portable system to meet the demanding conditions of the rental market. When you are looking for a portable compressed air dryer make sure you take a look at the Blast Pak PRO. We listen to the needs of those in the market and are willing to help answer any question you may have. We understand that portability and reliability matter when it comes to drying compressed air.

FOR MORE INFORMATION CONTACT VAN AIR SYSTEMS AT 1-800-840-9906 OR VISIT US AT VANAIRSYSTEMS.COM



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