



**WORLD LEADER IN
PACKAGED DESICCANTS
FOR AUTOMOTIVE
A/C SYSTEMS**

The Flow Dry™ line of packaged desiccants is engineered to deliver the highest drying capacity for any given application without sacrificing cost effectiveness or system operating reliability.

Single Tube Bags

Engineered for a wide range of applications, Flow Dry tube bags are manufactured in sizes that extend from 20 mm to 33 mm outer diameter and they are a cost-effective solution for numerous installations including integrated condenser dryers and small diameter receiver cans.

Integrated Filter, Plug and Desiccant System

An integrated solution requires less fabrication time and installation overheads, reducing your production line costs. Because we produce and ship our products in environmentally controlled environments, you can rest assured knowing you receive a superior quality product on delivery. We can provide combined or separate solutions, for example filter, plug and desiccant or individual components.

Saddle Bags

Flow Dry saddlebags are offered in four standard styles to meet end users' needs. For special applications, custom design services are also readily available. Currently, Flow Dry is tooled to produce all GM accumulator desiccant bags in standard 80, 100, 120, and 240 grams.

Custom Bags

Flow Dry offers custom design services. Our engineers partner with customers to develop low cost solutions for any automotive desiccant application.

Snap-On Bags

The Flow Dry snap-on bag is the leader in cost-effective, high-performance desiccant containment bag technology. It features a unique design that installs easily in less than 3 seconds without tag ties or wire straps. Despite rigorous vibration, the

Flow Dry snap-on bag maintains its position and integrity. It has a proven track record of superior field performance in sump, side out and bottom type J-tube filter accumulators.

Tracer Wafers™

Tracer dyes are used to detect leaks in automotive a/c systems. The simplest method to install the dye into the system is to install it into the desiccant bag. This eliminates a second part number and reduces the possibility of missed installation and contamination.

Materials

Flow Dry desiccant bags can be manufactured from a wide range of materials. 100% Polyester from 4 1/2 oz. – 11 oz. and Cerex PBN-II® for anti-thumping within a system are commonly used and universal to most applications.

Molecular Sieve

Flow Dry packaging equipment is designed in-house by process engineers. Highly reliable and adaptive, desiccants bag packaging equipment can provide a package with any available desiccant, silica gel or other specified drying material. Although XH-7™ and XH-9™ from UOP are the most commonly used desiccants for automotive applications, packages can also be provided to meet applications specifications using a variety of desiccant manufacturers including UOP, Zeochem, Grace, or ATOFINA. In response to the marketplace's growing need to use reliable molecular sieves at an affordable price we developed our own molecular sieve, Flow Dry AD-1® which has high moisture capacity, strong resistance to wet and dry attrition and is compatible with both new refrigerant HFO-1234yf and also R744.



Testing

The proof is in the testing! Flow Dry Technology, Inc. engineers quality into every desiccant product and its extensive testing service verifies it. The result is higher product integrity, greater durability, superior performance and peace of mind.

Pressure Drop

Pressure drop testing is used to determine the amount of fluid flow restriction a receiver dryer or accumulator design creates. Less restrictive designs have the potential to create a higher performance a/c system. The desiccant package contained inside the receiver dryer or accumulator can create a restriction in the system and therefore increase the pressure drop of the system. Because pressure drop is a critical design requirement, Flow Dry utilizes pressure drop tests to aid in designing the highest performance desiccant packages on the market.

Vibration

Vibration testing is used to determine if a desiccant package is designed to withstand the punishment it will be subjected to in a vehicle. If the desiccant package is not designed properly, it could be damaged or cause damage to other components in the system. Flow Dry has the

capability to test desiccant packages as installed in receiver dryers and accumulators to ensure long life without premature failure. Combined with our capability to test attrition of the desiccants we can guarantee the longevity of our products in the vehicle. To find out more about the industry standards on vibration and attrition testing, please contact us.

Permeability

The physical properties of the material used to fabricate desiccant bags are critical to ensure proper performance. The permeability of the bag material must be balanced to allow the desiccant exposure to the refrigerant, while at the same time containing any attrition of desiccant particles inside the bag. Because of their low cost and permeability properties, polyester felts have become the standard materials of construction for most a/c desiccant bags. The construction of the bag also affects

permeability and filtration. Some desiccant bag fabricators form or stretch the bag material in the process of manufacturing; this distortion can weaken the material and reduce its filtration properties. Flow Dry fabricates its desiccant bags without stretching or deforming the bag material to ensure that the proper permeability rating is maintained. Extensive permeability testing is performed to verify that all bags have the proper permeability rating.

Loss on Ignition (LOI)

The industry standard test to measure the amount of water that has been adsorbed by the desiccant is the Loss on Ignition test. To perform this test, the desiccant must be heated for a specified period of time to bake out the water. The difference in the desiccant weight before and after heating is the amount of water the desiccant contained. LOI testing is performed on all incoming desiccant material; work-in-process and outgoing product to maintain the initial

moisture content below maximum specifications.

Seam Strength

Along with vibration testing, seam strength testing is critical to ensure structural integrity of the desiccant package. An automated pull tester checks the strength of package welds. SPC data of the seam strengths is recorded and monitored to maintain proper process control.

Crush Force Testing

The wide range of applications for our desiccant beads means that they may be subjected to great compression forces. Our desiccant beads are tested to a very high standard to ensure they resist fracture and fail during transit and application.

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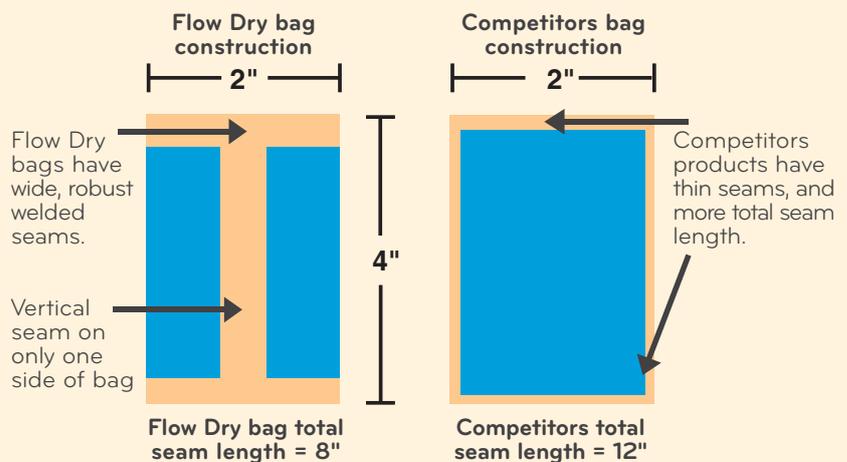
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Seam Strength

Flow Dry bags have less seam area (the area known to fail in perimeter seam welded bags) therefore, a more robust product. Accu-Weld™ seams ensure containment for the life of the accumulator.



Attrition Resistant Design for Automotive Applications

The Flow Dry desiccant bag design and manufacturing process retains the highest material integrity and does NOT "stretch" or "deform" the felt material. The Flow Dry process results in a bag with greater filtering capability and NO "pinholes" in the material. These holes have led to desiccant and particulate escaping from competitor's bags and causing damage to a/c systems.

www.FLOWDRY.com

Visit our website for more information about Flow Dry cartridges for Automotive A/C Systems.