



CommScope DryLine® dehydrator solutions

Static desiccators
Heat regenerative dehydrators
Membrane dehydrators

The fine line between dry and damaged

Today's RF path is more sensitive than ever to signal disruption—especially when it comes to moisture. While some RF lines are waterproof, none are moisture-proof. Elliptical waveguide systems are no exception.

Fact is, all seals leak—because all seals breathe. During the day, rising ambient temperatures increase the pressure and temperature inside the waveguide. The pressure equalizes as the seals breathe. At night, temperatures drop and the pressure in the waveguide reduces. External air is drawn through the seals and into the waveguide as pressures equalize. Any moisture in this air can condense on the walls of the waveguide. If allowed to build up over time, the moisture causes severe signal attenuation that can disrupt service, erode revenue and increase maintenance costs.

Within a sealed volume, a drop of 15.5 °C will reduce pressure by an estimated 14 kPa (2 psi).

The pressure to get it right

To keep the waveguide dry, the transmission line must maintain moderate but constant internal pressure to prevent the ingress of moisture. Various dehydration solutions are available, each designed and sized for a specific range of applications.

- Static desiccators are for very small volumes, less than 30 liters (1 ft³), where power is not available. It consists primarily of a clear container filled with desiccant and attaches directly to the waveguide flange. As the air flows through the desiccator and into the waveguide, the moisture is removed. Once the desiccant is fully saturated, it must be replaced.
- Heat regenerative dehydrators are typically used for volumes from 30 to 300 liters (1 to 10 ft³) where dc power is available. They operate by using two adsorbing desiccant containers. As air flows through one, the moisture is adsorbed. When the desiccant becomes saturated, the airflow is redirected to the second while the first is heated and allowed to dry out. When the second container reaches saturation the process is reversed.
- Membrane dehydrators are reserved for volumes of more than 300 liters (10 ft³) or where higher pressures may be required. They feature a semipermeable membrane, which traps air molecules while enabling the water molecules to pass through and be vented into the atmosphere. The dry air is then conducted into the waveguide.

How much pressure

To keep moisture out, the waveguide must be kept at a positive pressure relative to the outside pressure. The pressure required is minimal—indeed, maintaining excessive pressure can damage the waveguide and waste energy.

When it comes to dehydrators, proper sizing is everything. If undersized, the unit must run longer in order to maintain pressure, increasing wear on the compressor and driving maintenance costs higher. An oversized dehydrator, however, creates pressure surges in the waveguide. This causes the unit to constantly cycle on and off, again resulting in increased compressor wear and higher maintenance costs.

Considering the various waveguides across your network—their locations, sizes and environments—you need a complete line of dehydration solutions you can trust from day one. Absolute reliability and performance are nonnegotiable.

The optimal pressure range is about 3-35 kPa (0.4-5 psi).

Meet the new DryLine[®] family of dehydration solutions

For years, CommScope's DryLine desiccating, heat regenerative, and membrane-based dehydrators have provided superior moisture protection for microwave and broadcast transmission lines in every imaginable environment. Preferred for their reliability, performance and low maintenance, they maintain consistent internal pressure no matter how wildly temperature and humidity swing. That translates to lower OpEx, higher RF efficiency and better quality of service.

Now, with expanded options and new streamlined ordering, CommScope makes it easier than ever to get the features, capabilities and performance level you need.

Static desiccator

DryLine SD003

The passive, nonpowered SD003 is ideal for very small systems. The SD003 mounts directly to the waveguide flange or connector and can be used indoors or outdoors. The clear housing is filled with a cobalt chloride-free desiccant that turns from orange to green as it absorbs moisture. A single SD003 can process 283 liters (10 ft³) of air at 80% relative humidity and an ambient temperature of more than 20°C.



Heat regenerative dehydrators

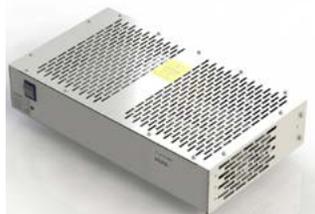
DryLine HR150

The HR150 provides excellent low-pressure performance and reliability. The rack-mounted solution features four outputs, has a total volume capacity of 600 litres (21.2 ft³), nominal flowrate of 150l/h (5.2 ft³/h) and a set pressure of 3.0 kPa (0.4 psig). The HR150 comes with low pressure, high pressure, and power fail alarms with an optional high humidity alarm. The compressor has a maximum power consumption of 45W at -48/60 Vdc with an ac power supply available as an option.



DryLine HR300

The innovative HR300 is one of the newest members of the DryLine family. Designed for medium volume applications, it features four outputs, enabling you to add multiple waveguide runs to a site without having to buy more dehydrators. Capacity can also be increased through the addition of a booster unit. Go from a flowrate of 300 l/h (10.6 ft³/h) to 600 l/h (21.2 ft³/h). The HR300 installs as either a rack- or wall-mounted solution and provides four output ports. Low pressure, high pressure, and power fail alarms are standard and an optional high humidity alarm is available as well. The 50W compressor operates at 48/60 Vdc with an ac power supply available as an option.



Membrane dehydrators

DryLine MT050C and MT500D

The MT050C and MT500D are high-output membrane-type dehydrators. The MT050C supplies a flowrate of 300 l/h (10.6 ft³/h) while the MT500D delivers a nominal flowrate of 900 l/h (31.8 ft³/h) nominal flowrate. With four output ports and energy-efficient operation—less than 240 W at 115/230 Vac—they can boost your bottom line as well. Both can be installed as wall-mounted or rack-mounted solutions and their low pressure, excess run, and power fail alarms come standard with an optional humidity alarm kit. The MT050C and MT500D use the same servicing kits to help minimize spares and simplify ordering. The units are supplied with European (stripped leads) and U.S. power cords.



DryLine Sahara

Designed specifically for use in broadcast transmission networks, the DryLine Sahara is a preferred solution for pressurizing large systems from 2,830 to 31,150 liters (100 to 1,100 ft³). It features a single output port and operates at 3,400 l/h (120 ft³/h), while its compact size enables the Sahara to be floor or table mounted to save space. Low pressure, excess run, and power fail alarms come standard while an optional high humidity alarm is also available. The Sahara's 230 Vac motor consumes 925W during operation.



Right-size and customize with DryLine options and accessories

No two waveguide systems are identical or operate under the same conditions. So the redesigned DryLine family of dehydrators makes it easier to configure each solution for the specific environment and reduce your inventory and CapEx as well. Select from a variety of options and accessories. Customize the number of outputs to match your multi-antenna requirements. Standalone manifolds with two, four, or six output ports enable you to split individual dehydrator output ports and support additional waveguides, each with its own pressure gauge. Or select a similar-sized distribution panel, which provides the same function as a manifold but without the pressure gauges. With optional power converters and high humidity alarms, you can also customize your DryLine dehydrators for a specific site location.

How can we help solve your next challenge?

Of course, behind all the technology, performance and value stands CommScope, dedicated to helping you solve your toughest network challenges. Our innovative and agile line of dehydrators is just one way we do it.

To learn more about CommScope's newly redesigned family of DryLine dehydrating solutions, contact your local CommScope representative or visit commscope.com.

	SD003	HR150	HR300	MT050C/MT500D	DryLine Sahara
Drying technology	Static desiccant	Heat regenerative	Heat regenerative	Membrane/ membrane	Membrane
Application volume	Very small	Small	Small to medium	Medium/large	Very large
Installation	Flange mount	Rack mount	Rack/wall mount	Rack/wall mount, rack/wall mount	Floor/table mount
Flowrate	N/A	150 l/h (5.2 ft ³ /h)	300l/h (10.6 ft ³ /h), 600l/h (21.2 ft ³ /h) with booster	300l/h (10.6 ft ³ /h), 900l/h (31.8 ft ³ /h)	3400l/h (120 ft ³ /h)
Operating voltage	N/A	-48/60 Vdc	-48/60 Vdc	115/230 Vac, 115/230 Vac	230 Vac
Power consumption	N/A	45W	50W	< 240W/<240W	925W
Output ports	1	4	4	4/4	1
Low pressure alarm	N/A	Standard	Standard	Standard/standard	Standard
High pressure alarm	N/A	Standard	Standard	Standard/standard	Standard
Power fail alarm	N/A	Standard	Standard	Standard/standard	Standard
Excess run alarm	N/A	N/A	N/A	Standard/standard	Standard
High humidity alarm	N/A	Optional	Optional	Optional/optional	Optional

Everyone communicates. It's the essence of the human experience. *How* we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers—we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.



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