# Transmission Line Dehydrator

# 100 L 30 hPa

**Manual**

**Date: 10/12**

**Figure 1 – Front view**

# 1. Short description

The dehydrator supplies dry air. This dry air is filled into transmission lines such as waveguides of radio link systems to prevent the occurrence of humidity and condensation. The dehydrator is designed for installation in ETSI standard cabinets, in 19” racks, and for wall or floor mounting. It requires a height clearance of 3 units (special model 2 rack units).

A pressure sensor in the dehydrator system automatically controls within preset limits the correct air pressure inside the waveguide. An external air distribution may be connected by hose to the ½ “ air outlet (each outlet with shut-off valve) to supply several antennas. A number of air distributors may be cascaded, if this is required.

A drying cartridge with a built-in humidity indicator in the lock screw (sight glass on the left side of the dehydrator) contains a desiccant that is consumed during operation. When the humidity indicator changes from blue to pink (in segment 40 % rF), the desiccant must be exchanged.

The compressor inside the dehydrator draws air in, which passes through the solenoid valve into the drying cartridge. The desiccant inside the drying cartridge removes moisture from the air. The dried air may then be used to ventilate the groups of waveguides, by passing it through a six fold distribution. A humidity indicator monitors the desiccant (molecular sieve). When humidity increases, the indicator changes color from originally blue to pink. The adsorbent´s consumption period depends on the tightness and the volume of the connected line system as well as on the ambient humidity. Under normal conditions and depending on the connected waveguides and their lengths, the filling of a cartridge remains operational for one year and more. Afterwards, the desiccant must be exchanged.

The drying cartridge has a total dry air capacity of ca. 6000 l useful air. After the indicator changed from blue to pink (as described earlier) an additional amount of dry air (ca. 500 l) can be produced. Afterwards, the desiccant must be exchanged.

# 2. Specifications

| | |
|---|---|
| Effective air output | ca. 100 l/h |
| Start-up pressure | 20 hPa ± 10% * |
| Shut-off pressure | 30 hPa ± 10% * |
| Alarm pressure | 10 hPa + 1 hPa |
| Over pressure | Safety valve<br>opens at ca. 40 hPa * |
| Ambient temperature | - 25°C to + 50°C |
| Ambient humidity | 83 % at ambient<br>temperature of + 23°C |
| Dew point reduction | >--35 K in relation to<br>ambient temperature |
| Desiccant | Molecular sieve |
| Total drying capacity of the<br>desiccant cartridge | Standard version<br>approx. 6000 l |
| Power supply | 230 VAC / 50 Hz ±10% |
| Battery power | 24 VDC =, ± 10 % |
| Battery power | 36 VDC to 70 VDC |
| Signal connection | e.g. with 24 V external<br>voltage |
| Power consumption at | |
| 230VDC/50Hz | ca. 12 VA |
| 48/60VDC0 | ca. 11 W |
| 24VDC | ca. 10 W |
| Fuse protection | 0.5 A automat |
| Air supply | Air outlet for<br>½“ hose |
| Dimensions (h x w x d) | 133/440/245 mm |
| Weight | ca. 8 kg |
| Mounting options | Mounted in ETSI-/19”-rack,<br>floor- or wall-mounting |

* Other pressures on request

Friedl & Müller
Gerätebau GmbH Karl-Benz-Str. 14
85221 Dachau
Telefon 0 81 31 / 31 33 2-0  Telefax 0 81 31 / 1 55 45
http://www.friedl-mueller.de
e-mail: info@friedl-mueller.de