

## Model 1102 Air Dryer

(for Model 1130 Speciation System)

Rev 112, Jun 2010



### Specifications

Power requirements:	115 VAC, 50-60 Hz. 0.8 A
Heating temperature:	~ 90 °C
Cycle time:	~ 1 hour
Dryer type:	Molecular sieve
Max. Flow capacity:	10 L/m
Dew point:	- 40 °C, typical
Outlet fitting:	¼" compression

### Purpose

The zero air canisters in the **Model 1130 Pump Module** are slightly hygroscopic and can collect water from ambient air. This can cause a number of problems:

- Corrosion of the zero canisters
- Deposition of iodine based compounds into zero air lines (yellowish or brownish deposits)
- Passivation of gold cartridges after desorb cycle due to iodine compounds

### Principle of Operation

The **Model 1102** is a molecular sieve based dryer. It supplies a continuous stream of dry air to the **Model 1130 Pump Module**. The dryer unit contains two cartridges that absorb water when cool and desorb water when heated. Ambient air is directed through the cold cartridge to remove moisture, and the dry air is directed to the **Model 1130 Zero Air Inlet**. At the same time the opposing cartridge is heated to desorb captured moisture and an active air flow pushes the moisture out of the cartridge. A timer arrangement automatically switches between the two cartridges with a period of approximately one hour. This continuous purging occurs whenever the dryer is powered on regardless of whether the **Model 1130** is actually pulling zero air or not.