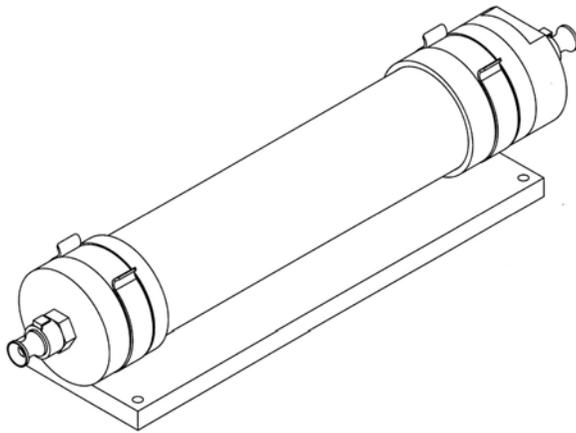




# DIFFUSION DRYER MODEL 250

## Introduction

The Diffusion Dryer Model 250 is designed as a general-purpose aerosol dryer. A water trap at the inlet of the dryer removes coarse water droplets. The aerosol is then passed through a removable cartridge containing the silica gel. The cartridge is formed by two concentric cylinders, an inner fine wire mesh screen and an outer wire mesh screen.



As the aerosol goes through the inner cylinder of the cartridge, the water vapor diffuses into the silica gel through the mesh screen. Silica gel is an amorphous form of silicon dioxide, which is synthetically produced in the form of hard irregular granules or hard irregular beads. A micro porous structure of interlocking cavities gives a very high surface area (800 square meters per gram). It is this structure that makes silica gel a high capacity desiccant. Water molecules adhere to the gels surface because it exhibits a lower vapor pressure than the surrounding air. When pressure equilibrium is reached, no more adsorption occurs. The beauty of silica gel is the physical adsorption of water vapor into its internal pores. There is no chemical reaction, no by products or side effects. Even when saturated with water vapor, silica gel still has the appearance of a dry product, its shape unchanged. The silica gel is easily regenerated in an oven at 250°F for three hours.

Particle loss is minimized because the aerosol particles do not come into contact with the silica gel.

## Specifications

The following data represents the drying capacity of the dryer.

Conditions	Measured Relative Humidity at Exit (%) at 74°F	Measured Relative Humidity at Exit (%) at 74°F
No diffusion dryer	80	60
With one diffusion dryer Model 250	22	21
With one diffusion dryer Model 250 (after 3 hours)	27	23

Specifications of the Diffusion Dryer Model 250

<b>Flow rate</b>	4 L/min
<b>Maximum pressure</b>	415 kPa (60 psig)
<b>Desiccant</b>	
<b>Type</b>	Silica gel (orange, green when saturated)
<b>Capacity</b>	0.250 kg
<b>Fittings</b>	CPC™ Quick Disconnect Coupling with hose barb for ¼" ID tubing
<b>Dimensions</b>	
<b>Length (without fittings)</b>	28.2 cm (11.1 in)
<b>Diameter (cylinder only)</b>	5.67 cm (2.23 in)
<b>Weight (with one cartridge)</b>	0.57 kg (1.26 lb)

Specifications are subject to change without notice.