



## Refrigerated Landfill / Digester Gas Dryers

LDS Series

### FEATURES

- ▶ Chilled glycol, flooded evaporator system (more efficient than direct expansion)
- ▶ Smooth wall 304 SST tubing for minimum fouling factor, low pressure drop and corrosive gasses
- ▶ 316 Stainless steel and cupronickel tubing available for special applications
- ▶ Extra surface area gas-to-gas pre-cooler/reheater allows use of minimum refrigeration hp for improved energy efficiency
- ▶ Modular gas system construction for easy servicing
- ▶ Centrifugal moisture separator for better condensate elimination
- ▶ Hot gas by-pass system to enhance performance and prevent liquid slug back damage to compressor in low flow operation. 0-100% load control without freeze-up
- ▶ Refrigeration compressor protection devices:
  - Low oil pressure automatic shutdown (semi-hermetic & open drive only)
  - Low & high refrigerant pressure automatic shutdown (dual pressure)
  - Internal thermal overload protection
  - Starters on 3 phase units
- ▶ System designed to accept saturated gas at 100°F to 120°F inlet condition
  - Inlet pressure 10 to 500 PSIG
  - Ambient air temperatures 50°F to 105°F (special outdoor design available as an option)
- ▶ Non-cycling refrigeration unit delivers constant dew point and longer compressor life
- ▶ All various voltages, with 50Hz dryers available
- ▶ NEMA 4 electrical standard with 4X, 7 & 9 explosion proof class wiring optional

# LANDFILL DIGESTER GAS DRYERS – JOB RATED, CUSTOM BUILT

**Pneumatech technology** is preferred by landfill operators attempting to dry landfill/digester gas. Dry gas will allow engines and boilers to perform trouble-free and efficiently.

Not surprisingly, excess moisture and other impurities in the gas are problems for these systems. The same can be said of gas going into utility gas lines or to industrial consumers.

Pneumatech gas dryers and filters remove impurities while also condensing and removing moisture.

**Job-rated to capacity.** Whatever your landfill digester gas volume generation may be, Pneumatech can fit a dryer size to your needs... from 100,000 CF/day up to 21,000,000 CF/day. Pressure ranges available from 10 to 500 PSIG.

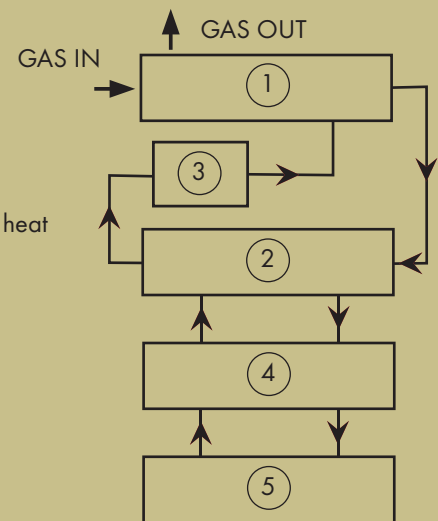
Pneumatech refrigerated gas dryers are rated at PDP of  $39^{\circ}\text{F} \pm 2^{\circ}\text{F}$  from saturated conditions at  $100^{\circ}\text{F}$  to  $120^{\circ}\text{F}$ . Dryers function normally under ambient air temperatures of  $50^{\circ}\text{F}$  to  $105^{\circ}\text{F}$ .

**Custom built.** In addition to meeting customers' capacity requirements, Pneumatech offers choices in modular configuration, as well as a list of accessory gauges, controls and warning lights that customize a dryer to a buyer's needs.

Pneumatech refrigerated gas dryers contain standard commercial refrigeration units, controls, valves and automatic drains. All units contain our own precision designed heat exchangers, filters, separators and refrigeration circuitry... including NEMA 4, 4X, 7 and 9 class wiring (explosion proof).

**Economy, long life.** Pneumatech dryers are designed and manufactured for maximum dependability and minimum maintenance and servicing. The continuous operation with down to 100% capacity modulation, provides longer dryer life.

## Operational Flow Diagram



1. Gas-to-gas heat exchanger
2. Gas-to-chilled glycol heat exchanger
3. Separator
4. Glycol system
5. Refrigeration system

This system operates with two heat exchangers and a separator to dehumidify. Gas enters the gas-to-gas heat exchanger (1). It travels on to the gas-to-chilled glycol heat exchanger (2) and then into a separator (3), where moisture is removed to  $39^{\circ}\text{F} \pm 2^{\circ}\text{F}$  PDP. It travels back through the no. 1 heat exchanger where it is reheated before leaving the system. This reheating prevents condensation on transmission pipes.

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Pneumatech reserves the right to change or revise specifications and product design in connection with any features of our products. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacements for equipment previously sold or shipped.

**PNEUMATECH**

Pneumatech LLC  
4909 70th Avenue  
Kenosha, Wisconsin U.S.A. 53144  
(262) 658-4300 Fax: (262) 658-1945

[www.pneumatech.com](http://www.pneumatech.com)