

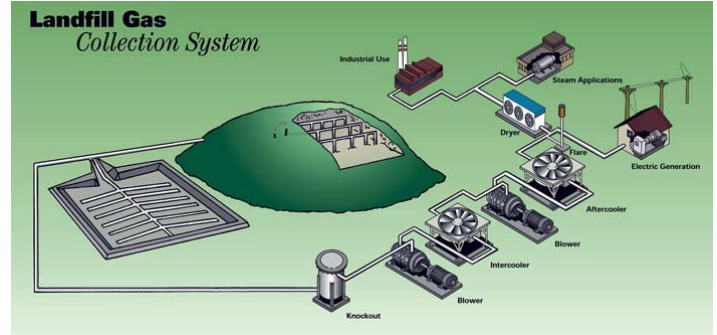
Landfill / Digester Gas Refrigerated Dryers



PSB INDUSTRIES INC.
General Air Division
ISO 9001:2000 CERTIFIED



- Landfill gas is a by-product of the solid waste decomposition of organic matter deposited in landfills.
- Digester gas is a by-product of the digestion of sewage sludge.
- The effluent gas produced in these processes consists mostly of methane and carbon dioxide together with water vapor and minor quantities or organic compounds.
- **PSB Landfill / Digester Gas Dryers** remove water vapor and impurities so the gas can be utilized as a fuel or energy source.
- **Applications for this form of energy include:**
 - steam generation
 - electricity generation
 - leachate evaporation
 - upgrading landfill gas to pipeline quality
 - fueling of asphalt plants and kilns for brick manufacturing
 - offgas destruction



- PSB can custom build a dryer to meet your landfill / digester gas application and specification.
- **PSB Landfill / Digester Gas Dryers** are manufactured to the highest quality standards and delivered as fully tested and functional skid packaged units.
- Designed for continuous operation.
- Accept varying flow / load rates.
- Low to High Pressure Applications
- Chiller or Reheat Design

TYPICAL APPLICATIONS

PSB MODEL RC320A-SP

- 135 SCFM Digester Gas
 - 2 PSIG
 - 150°F Inlet @ 95°F Dew Point
 - 40°F Effluent Dew Point
- Location – WWTP



PSB MODEL R320A-SP

- 1070 SCFM Biogas
 - 30-35 PSIG
 - 104°F Inlet
 - 38°F Effluent Dew Point
- Location – waste to energy plant





Mechanical – Electrical – Instrumentation

- **Stainless Steel** – All materials in contact with the process gas.
- **Demister Pad** – All models include stainless steel mesh pad providing superior moisture removal.
- **Zero Loss Drains** – stainless steel auto-drains maintain liquid seal eliminating process gas losses.
- **ASME** – code and construction for applicable pressure option.
- **Condenser** – air or water-cooled refrigerant condenser.
- **Classification** – Division 1 or Division 2 electrical hazardous area classification.
- **Control Panel** – explosion proof or NEMA “Z” purge design.
- **Refrigeration** – gauges, switches and indicators.
- **NEMA / NEC** – electrical construction standard.
- **UL & CSA** – approval options
- **Low Ambient Package** – available where necessary
- **Local and/or Remote Status Indication**

Heat Exchanger Options

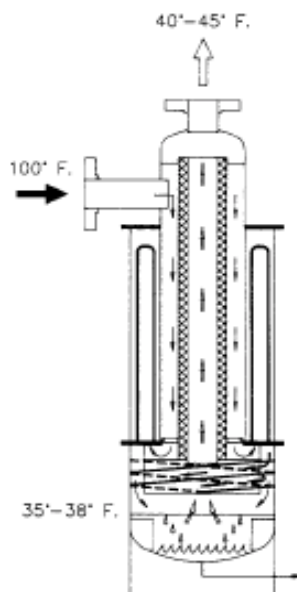
“R” 3-in-1 & 5-in-1 Vertical Heat Exchangers

3-in-1 Heat Exchanger – 20 to 300 psig

PSB’s unique 3-in-1 module is used where gas must be reduced in temperature without pre-cooling/reheating.

3-in-1 functions

- 1 – gas chilling
- 2 – moisture separation
- 3 – condensate removal



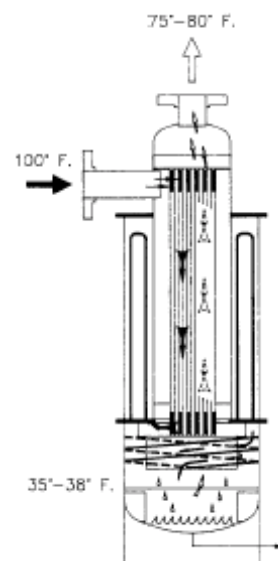
USED FOR GAS CHILLING WITHOUT REHEAT

5-in-1 Heat Exchanger – 20 to 300 psig

PSB’s unique 5-in-1 module utilizes a plate-to-plate pre-cooler that lowers the refrigeration energy requirements.

5-in-1 functions

- 1 – gas pre-cooling
- 2 – gas chilling
- 3 – moisture separation
- 4 – condensate removal
- 5 – gas reheating



GAS PRE-COOLING & REHEATING
 Reduced Refrigeration Energy Requirement

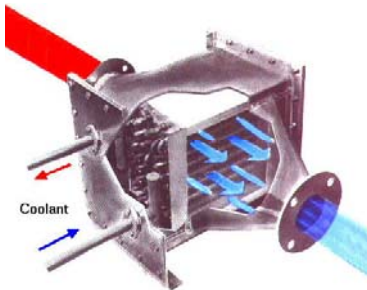


Heat Exchanger Options

“RC” – Coil Type

Fin Tube Coil Exchangers – less than 15 psig.

- low pressure exchangers
- stainless steel coil and fin tube construction
- stainless steel demister pad



“RS” – Horizontal Shell and Tube

Tube and Shell Exchangers – 5 to 30 psig.

- stainless steel construction



At **PSB** all manufacturing processes are **completed in-house**, thus ensuring the high level of quality control needed to provide fabricated products which meet – and exceed – customer specifications.

PSB Industries carries the U, UM, S, and R stamps for the complete manufacture of pressure vessels and boilers. All pressure vessels are built in accordance with ASME Section 8 Division 1 requirements.

At **PSB**, all electrical control systems are designed and fabricated in our own panel shop and are available with **UL** or **CSA** certification.

Working to **ISO 9001** standards, **PSB** rigidly maintains and records quality control procedures required by today’s customers.

Customers worldwide have benefited from **PSB’s engineering and fabrication** expertise in the design, fabrication and assembly of industrial products, from adsorption, compressor and pump skids, to pipe racks, burners and more.

Working from your drawings or designing a custom application, our experienced team can deliver a completely packaged solution to you anywhere in the world.

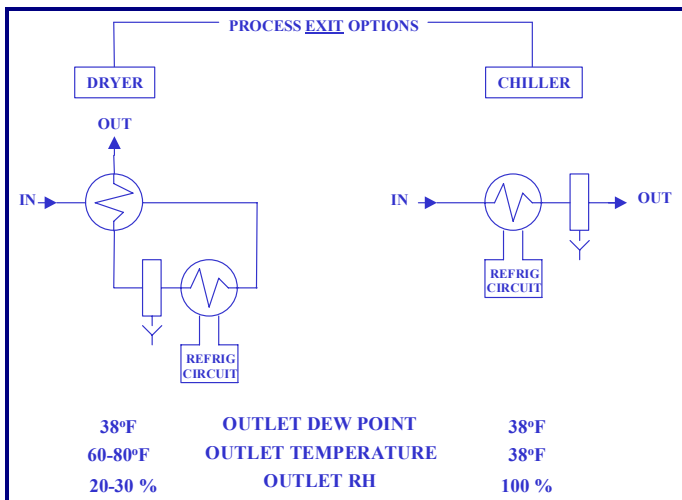
Packaging Options:

To reduce installation costs and expedite start-up processes, **PSB** can package one or more of the following components with your dry...

- Process Blowers
 - Positive Displacement
 - Centrifugal
 - Gas Boosters



- Filters – suction and discharge
 - coalescing, particulate and odorguard
 - inline or ASME housings



ISO 9001:2000 Certified

