

# Helium Recovery

## Gas Recovery Systems

*Introducing a solution to lower the cost associated with tracer gas consumption*

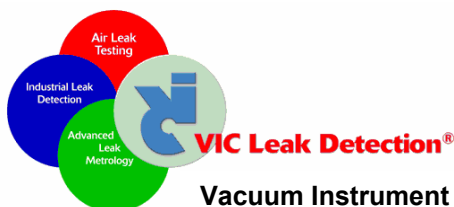
While industries strive to meet increasing demands to offer higher quality products at lower prices, the need to efficiently recycle process gas becomes apparent.



24 SCFM Recovery System

### Features:

- Stand-Alone programmable control packages
- Compressors utilizing an oil-less piston seal design to prevent oil contamination of the test object
- Recovery efficiencies up to 98% are common
- ASME coded and certified gas storage vessels
- Continuous on-line gas concentration monitoring and feedback ensures tracer gas percentage levels
- Real time diagnostics
- Automatic start-up operation



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## GAS RECOVERY SYSTEMS

### How It Works

The Gas Recovery Systems offered consists of ASME coded pressure tanks, a set of compressor(s), gas analyzer, microprocessor controls and all necessary valving, gas regulation and piping.

The gas recovery operation includes these major steps:

- The tracer gas in the product is vented into the vacuum surge tank (T1).
- During each stage of compression the tracer gas is passed through a set of high efficiency water cooled heat exchangers to remove the heat generated during compression.
- The final compressor outputs to tank (T3) completing the recycling operation.

### Model Selection

A variety of models are available, each designed to recover a particular volume of gas.

Standard Sizes Include:

4 SCFM P/N 925-117

8 SCFM P/N 925-119

20 SCFM P/N 925-112



### Performance

#### Efficiency

Approximately 98%. Actual efficiency will be dependent on charge pressure, cycle time and product volume.

### Compressors

Systems utilize oil-less piston compressors designed for industrial gas compression applications.

### Electronics

Microprocessor-based programmable logic controller housed in NEMA 12 enclosure. System includes diagnostics and operating parameter displays.

### Valving

Rack and pinion pneumatically actuated ball valves.

### Pressure Vessels

ASME coded tanks designed for 300 psig service. Actual number and volume of tanks will be dependent upon gas handling volume. All manifolding, valving and tanks are helium leak tested to  $1 \times 10^{-6}$  atm cc/sec at 300 psig.

### Heat Exchangers

Four high efficiency tube and shell exchangers ensure adequate cooling of process gas.

### Process Monitors

A group of thermocouples and pressure transducers monitor temperature and pressure in critical areas. System includes real time monitoring capability and process alarm display.

### Gauging

Tank pressures are displayed on operator control panel. System includes high pressure regulators for output supply and make-up process gas.

### Utility Requirement

Power: 440 Volt / 60Hz / 3 Phase  
Power Consumption: Approx. 18,000 Watts  
Cooling Water: 3-5 GPM at 70° F

Ratings are based on a 250 psig output.  
Other sizes available on request.

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