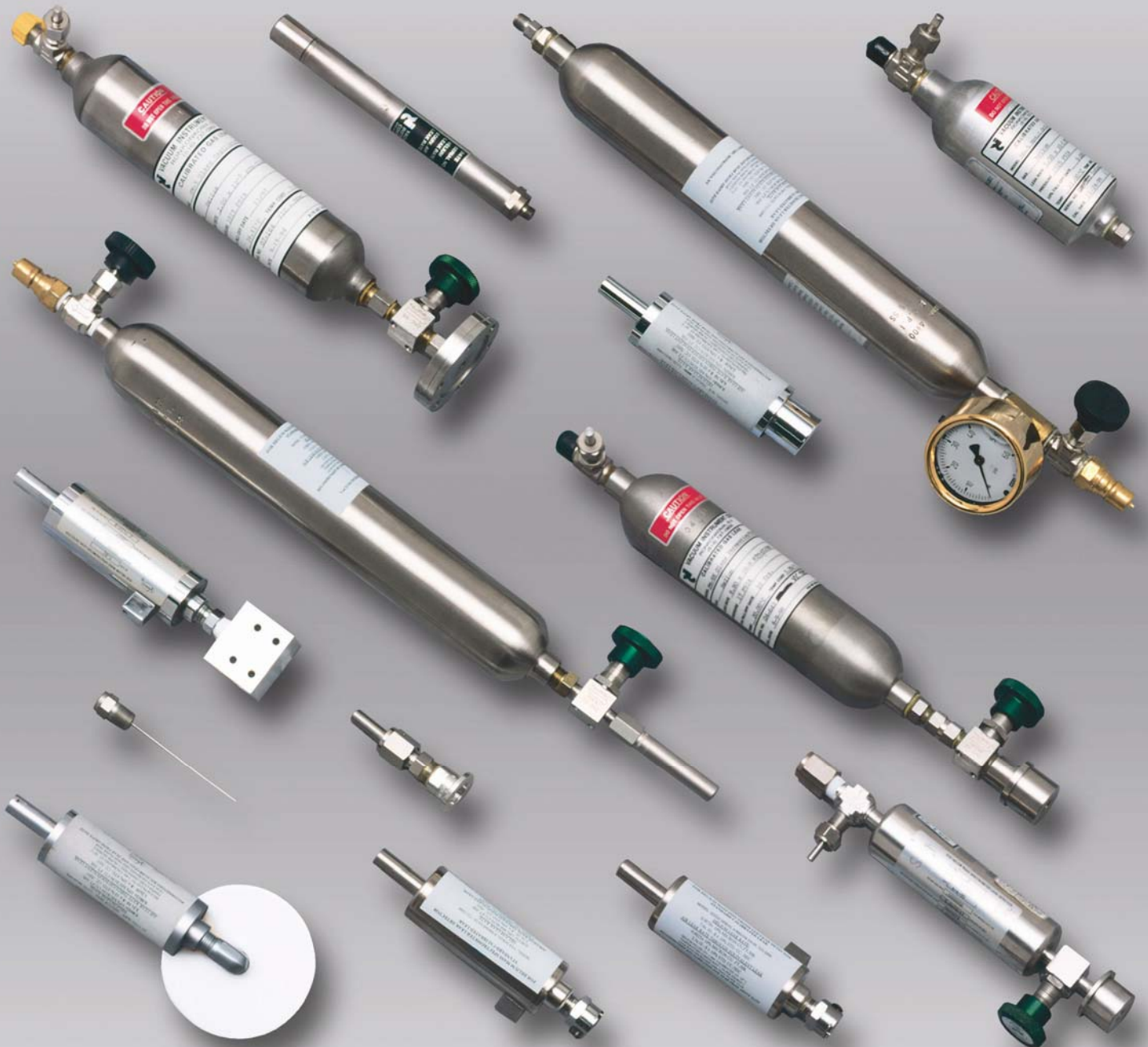


# Calibrated Leaks

are provided with certificates traceable to NIST,  
ideal for companies establishing ISO-9000  
and other quality procedures



**VIC Leak Detection®**

*Ask about our recalibration services*

Air Leak  
Testing

Industrial Leak  
Detection

Advanced  
Leak  
Metrology



# CALIBRATED GAS LEAKS

**VIC Leak Detection®**

VIC offers a high quality line of calibrated gas leaks traceable to National Institute of Standards Technology (NIST). Calibrated gas leaks are used to provide a controlled delivery of gases at a relatively low flow rate for applications including:



- Calibration of leak detectors, including helium and halogen sniffers
- Calibration of residual gas analyzers
- Calibration of analytical mass spectrometers
- Provides pressure rise at predictable rates
- Gas blending
- Simulated leak

Certificates of NIST traceability are provided with each leak standard documenting the accuracy, and calibration parameters. This information is perfect for meeting various quality standards.

VIC offers a variety of Calibrated Gas Leaks

**OM Series** Orifice type, lowest temperature coefficient ensures predictable leak rates over a wide temperature band

**PM Series** Permeation type, suitable for precision calibration of helium leak detectors; resists clogging

**Outlet Fittings** for PM and OM Series

**EMOT Series** Metal Orifice type, designed for atmospheric sniffing applications

**SC Series** designed for MS-40, -50, and -60 leak detectors and helium leak detectors made by Veeco Instruments

**Specialty Leaks**

**Storage Cases** for calibrated leaks

**Recalibration Services**

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# OM Series

## Calibrated Orifice Leaks

**VIC Leak Detection®**

The OM Series leaks utilize a precision tapered glass capillary as the leak element. Gases pass through a single orifice, with the leak rate dependent upon size and gas pressure. To prevent clogging of the fine orifice, a unique particle trap is located between the capillary tube and outlet fitting.



### High Performance features

- Lowest temperature coefficient available, 0.2 %/°C ensures predictable leak rates over a wide temperature band
- Wide range of leak rates available,  $10^{-3}$  to  $10^{-9}$  Atm-cc/sec
- Specific leak rate values available to match your product's leak specifications
- Supplied with N.I.S.T. certificate at no additional charge
- Unique particle trap virtually eliminates clogging, typically associated with capillary leaks
- Leaks supplied with 300cc or 500cc stainless steel cylinder (depending on leak rate) with DOT-3E1800 rating offering maximum life span
- Available in a wide variety of gases (see ordering information) and outlet fittings

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# OM Series

## Ordering Information

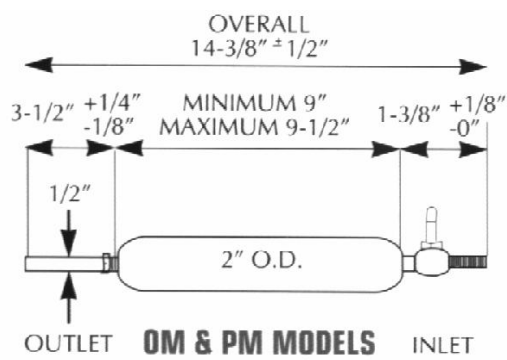
**VIC Leak Detection®**

Available in a wide range of gases as coded below. Specify gas code and leak rate. When ordering P/N 922-XYX, X = Leak Rate Exponent and YY = Gas Code from the chart below. Leak Rates:  $10^{-3}$  to  $10^{-9}$ .

Example: OM No. 922-501 =  $10^{-5}$  range Helium Leak

All leaks filled with high purity gases. Please note that other gases and specific leak rate values are also available upon request. Available gases include:

01 Helium	08 Deuterium	15 Methane
02 Helium 3	09 R-12	16 Neon
03 Argon	10 R-22	17 Sulfur Dioxide
04 Nitrogen	11 R-23	18 SF <sub>6</sub>
05 Hydrogen	12 Krypton	19 Xenon
06 Oxygen	13 Carbon Dioxide	20 —
07 Air	14 Carbon Monoxide	21 R-134A



All OM models supplied with 1/2" OD smooth tube connection unless otherwise specified. OM<sup>3</sup> Range leaks provided with 500-cc volume.

Other gases and specific leak rate values available upon request. At an additional charge, all OM model gas leaks can be supplied at a specific leak rate + or - 1 of specified leak rate. P/N 922-021 (Example:  $2.5 \times 10^{-5}$  Atm-cc/sec asked for, will receive leak at  $1.5$  or  $3.5 \times 10^{-5}$  Atm-cc/sec), or at an extra close tolerance of specific leak rate + or - 0.5 of specified leak rate. P/N 921-622 (Example:  $2.5 \times 10^{-5}$  Atm-cc/sec asked for will receive leak at  $2$  to  $3 \times 10^{-5}$  Atm-cc/sec).

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# PM Series

## Calibrated Permeation Leaks

**VIC Leak Detection®**

The PM Series leaks utilize a durable 7740 Pyrex glass permeation leak element that permits diffusion of helium gas. Helium diffuses through the glass membrane at a constant rate determined by the membrane thickness and surface area. These leaks are highly resistant to clogging by nature of their design.



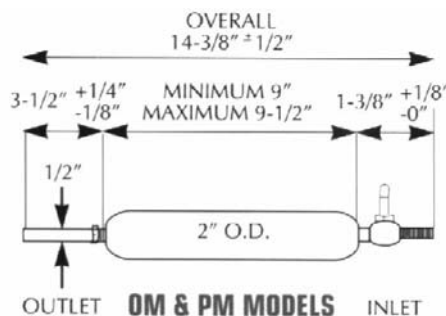
### High Performance features

- Supplied exclusively with high purity helium gas Ideally suited for precision calibration of leak detectors
- Available in leak rates from  $10^{-5}$  to  $10^{-10}$  Atm-cc/sec
- Temperature coefficient is 3.2%/°C
- Durable 7740 Pyrex glass element will not clog
- Leaks supplied with 300cc stainless steel cylinder with DOT-3E1800 rating offering maximum life span
- Supplied with N.I.S.T. certificate at no additional charge
- Fused glass to kovar transition
- Available with a wide variety of outlet fittings

### PM Series - Ordering Information:

Available in Helium only. All PM models are supplied with 1/2" OD smooth tube connection unless otherwise specified. Specify leak rate when ordering, as follows: P/N 923-X01 where X = Leak Rate Exponent and available Leak Rates are  $10^{-5}$ ,  $10^{-6}$ ,  $10^{-7}$ ,  $10^{-8}$ ,  $10^{-9}$ ,  $10^{-10}$

Example: PM No. 923-801 =  $10^{-8}$  range (helium) leak.



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All PM models supplied with 1/2" OD smooth tube connection unless otherwise specified.

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# Outlet Configurations for PM and OM Series CGL's

## Part Number and Description

922-011	1-1/8" O.D. Tube Outlet
922-012	Conflat Flange, 2.75"
922-013	Mini Conflat Flange, 1.33"
922-014	1/4" Cajon Male VCR
922-015	1/4" Cajon Female VCR
922-016	1/4" Cajon Male VCO
922-017	1/4" Cajon Female VCO
922-018	NW-16 ISO KF
922-019	Isolation Valve, all metal, bellows sealed
922-020	Isolation Valve, high pressure, req'd w/10 <sup>-3</sup> leaks
922-022	NW-25 ISO KF
922-026	NW-40 ISO KF
922-028	1/4" OD Tube
922-033	NW-10 ISO KF
922-036	1/8" Female to 1/4" Male NPT
922-025	1/2" Cajon Female VCR
922-027	1/2" Cajon Male VCR
922-034	2" OD Smooth Tube
922-035	3/4" OD Smooth Tube
473-291-1001	Replacement Fill Valve



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# EMOT Series

## Calibrated Metal Orifice Leaks

**VIC Leak Detection®**

These leaks are specifically designed for atmospheric sniffing applications. The leak standard features a metal orifice with zero dead space volume between leak element and outlet fitting. This allows for direct reading of leak rates in atmospheric conditions. Leaks are available in helium, SF<sub>6</sub>, and most refrigerant gases.



### High Performance features

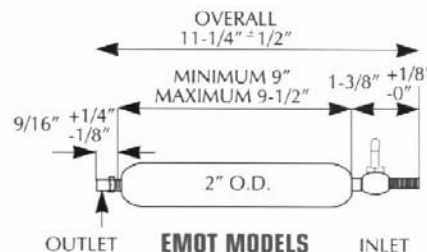
- Construction providing direct reading of leak rates in atmosphere
- Non-breakable stainless steel leak element
- Unique outlet fitting filter protects orifice from clogging
- Wide range of leak rates available, 10<sup>-1</sup> to 10<sup>-6</sup> Atm-cc/sec
- Low temperature coefficients
- Supplied with 300cc stainless steel cylinder with DOT3E1800 rating offering maximum life span
- Supplied with N.I.S.T. certificate at no additional charge
- Specifically designed for atmospheric sniffing
- Ideal for calibrating VIC's TurboTest™ MD-290S, -390S and -490S, and halogen sniffing instruments

### EMOT Series - Ordering Information:

Specify leak rate when ordering VIC Part No 921-XYX, where X = Leak Rate Exponent, YY = Gas Code and available Leak Rates are 10<sup>-1</sup>, 10<sup>-2</sup>, 10<sup>-3</sup>, 10<sup>-4</sup>, 10<sup>-5</sup>, 10<sup>-6</sup>

Example: EMOT No. 922-621 = 10<sup>-6</sup> Range R-134A Leak

All leaks filled with high purity gases. Gases available include: R-12 (09), R-22 (10), R-23 (11), R-134A (21), Helium (01), and SF<sub>6</sub> (18) gases. (Gas ordering codes in parentheses). Other gases and specific leak rate values available upon request.



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# SC Series Calibrated Gas Leaks

**VIC Leak Detection®**

The SC Series leaks are calibrated to a master standard traceable to NIST in a temperature and humidity controlled room. Calibrations are fully compliant with Mil Spec 45662/45662A and all applicable industrial standards. SC leaks are supplied with a certificate of calibration; these leaks are ideal for the Advanced Leak Metrology division's high-speed production leak detectors and older Veeco models.



## **SC Series - Ordering Information:**

SC-4 for external calibration of all systems,  $10^{-8}$  Atm-cc/sec range;  
P/N 6130-001-01

SC-4/Ar for MS-50 Argon series only (internal calibrator replacement,  
 $10^{-8}$  Atm-cc/sec. range); P/N 0139-392-00

SC-7/40 for MS-40 and MS-50 series only (internal calibrator  
replacement,  $10^{-8}$  Atm-cc/sec range); P/N 0137-016-00

SC-7 for MS-30 series only (internal calibrator replacement,  $10^{-8}$  Atm-  
cc/sec. range); P/N 0135-110-00

SC-5 for external high sensitivity calibrator for all systems,  $10^{-9}$  or  $10^{-10}$   
Atm-cc/sec. range; P/N 6150-001-01

SC-9 for MS-60 HS and MS-50 HS series only (internal calibrator  
replacement,  $10^{-9}$  Atm-cc/sec. range); P/N 0137-016-01

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# Specialty Leaks

**VIC Leak Detection®**

VIC manufactures a wide range of specialty leaks designed specifically to meet your application requirements. Please contact our application specialist for complete details.

## GL-2 Standard Calibrator

A sintered stainless steel filtered orifice that can be used for helium leak detection calibration in the gross leak test mode. When used in conjunction with an externally regulated helium source, the leak provides calibrated leakage rates at  $3 \times 10^{-3}$  Std-cc/sec (5% air equivalent (or  $4.8 \times 10^{-3}$  Std-cc/sec He). An integral filter assembly prevents most potential clogging effects. P/N 6160-001-00



## Laser Drilled Micron Orifice

These leaks utilize a laser-drilled orifice as the leak element. The leaks are attached to a product (bogey) and are internally charged with tracer gas. The tracer gas flows into the product and through the orifice and allows for direct reading by a mass spectrometer.

### High Performance features

- orifice sizes available down to 2 microns
- ideally suited for product mounting, and offers fast response times
- specific leak rate values available to match your products leak specification

This calibrated leak will have a blank VCR fitting to protect the orifice and a 1/4" NPT thread fitting to attached to the customer's product and will be provided with a 0.xx micron diameter orifice. This orifice yields a  $x.x \times 10^{-4}$  Atm-cc/sec leak rate of air at atmosphere.

## Internal Leak Detector Leaks

Sniffer Units (MD-390S & MD-490S) Internal Helium Calibrated Gas Leaks, P/N 752-150

Model MD-180/MD-290 Internal Helium Leak, P/N 752-103

Please contact VIC for additional ordering information.

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# Storage Cases for Calibrated Gas Leaks

**VIC Leak Detection®**

VIC offers a durable custom storage case for its calibrated gas leaks. Constructed of a high impact resistant material, each case is filled with a specially molded insert which eliminates the chances of damage to the precision leak element in the event the gas leak is dropped. A handle and clearly marked outer label facilitate transportation and identification. Two case sizes are available: 16" x 4" x 4" and 19" x 4" x 4" to accommodate additional fittings to the calibrated leak.



- Protect your company's investment
- Eliminate costly replacements of leak elements
- Minimize downtime
- Improve accuracy of mass spectrometer calibrations

16" x 4" x 4" case, P/N 922-024

19" x 4" x 4" case, P/N 922-038

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# Recalibration Services

## Quality Control and Calibration Lab

**VIC Leak Detection®**

We offer a full recalibration service for calibrated gas leaks manufactured by VIC and other companies from our new 3000 sq.-ft calibration laboratory located in our New York headquarters. Services include recalibrating and recharging with replacement of the precision element if breakage or clogging occurs, along with full N.I.S.T.



Certificates of N.I.S.T. traceability are provided with each leak standard documenting the accuracy, and calibration parameters. This information is perfect for those companies who are establishing ISO-9000 and other quality procedures.

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