



The RLS Model CALIBRATORS FOR SNIFFER-TYPE REFRIGERANT LEAK DETECTORS

The RLS Refrigerant Leak Standards developed by VTI have been in use worldwide for over 10 years as the Standard for calibrating sniffer-type refrigerant leak detectors. These Leaks are available for all old and new Refrigerants and a wide range of leak rates from 0.01 to over 10 oz/yr. Also, each RLS has a 10:1 adjustable leak rate range (such as 0.1 to 1.0 oz/yr). VTI's calibrations of each of these Standards are Certified to be NIST-Traceable and A2LA Accredited, and indeed they form the basis of traceability for most of the manufacturers of refrigerant detectors in the world.

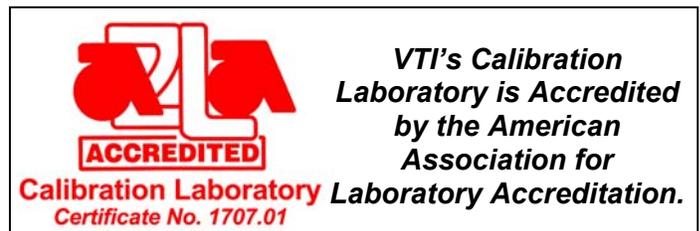


The RLS has a reservoir of liquid refrigerant that is interconnected with a valve to the vapor reservoir to provide a convenient, long time supply of vapor for the Leak. Depending on use patterns and QA requirements, these Leaks are typically sent to VTI for refill and recalibration after one to three years of use. Unlike the fragile glass capillaries sometimes used by other manufacturers, the RLS uses a crimped stainless-steel capillary leak element that is unbreakable.

To provide the adjustable leak-rate feature, the RLS is calibrated by VTI at 3 pressures yielding 3 leak rates, and an individualized graph of the pressure vs. leak-rate data is included in the calibration Certifications for the Leak Standard. Any specific rate within the adjustable range can be selected using this calibration curve and then adjusting the pressure in the vapor chamber to the value corresponding to that rate on the calibration graph. The pressure in the vapor chamber is increased by (slowly) opening the valve connecting the two reservoirs, and is decreased by opening the exhaust valve on the vapor reservoir. The pressure gauge connected to the vapor reservoir is used in the calibration of the RLS, and subsequently in adjusting the pressure to the selected value to preserve the NIST-traceability of the leak rate when calibrating a leak detector.

Choosing the RLS Calibrator

- SPECIFY ANY REFRIGERANT – old or new one.
- WIDE LEAK RATE CHOICE – 0.02 to 20 oz/year.
- ACHIEVE EXACT LEAK RATES – your test point.
- 10:1 ADJUSTABLE LEAK RATE RANGE – use any specific rate within the range.
- UNBREAKABLE – metal capillary leak element.
- NO FALSE READINGS – no large dead spaces.
- EASY PROBE LOCATION – repeatable results.
- MEETS ISO REQUIREMENTS - NIST-traceable, A2LA-accredited Calibration Certification.



As the major manufacturer of Calibrated Leaks for all gases, all leak rates, and all makes of leak detectors, VTI supplies them worldwide to users, distributors, and other manufacturers. These Accu-Flow™ Leak Standards are recognized internationally for their superior quality construction and calibration.



REFRIGERANT CALIBRATED LEAK STANDARDS

RLS Refrigerant Leak Standard

ORDERING INFORMATION

The RLS Calibrators can be ordered for almost all Refrigerants and for 10:1-adjustable leak rate ranges that cover all common rates. For an order or RFQ, please provide the Part Number and also specify the Leak Rate Range and Units that you require using the tables below. If you have any technical or ordering questions, please contact us for assistance.

PART NUMBER BUILD-UP

The RLS Part Numbers are constructed as follows:

RLS-XXXX-YYYY-LFT-ZZZ

where **XXXX** = the "R" code for the Refrigerant requested;

YYYY = the code (the central leak rate) for the adjustable leak rate range requested;

LFT = the code for the standard sniffer-probe interface tube that surrounds the capillary leak element and provides the recess for the sniffer probe during detector calibration; and

ZZZ = the special code (LGF) for an optional customized scale on the pressure-gauge face, and/or the special code (WFV) for a non-standard valve required for some refrigerants. If neither applies, there is no entry after LFT; if both apply, there are two entries.

Common refrigerants are listed by their "R" codes in the Table above right and others are available. Listed in the tables below are the codes (central leak rates) for the various Adjustable Leak-Rate Ranges that are available expressed in the three Leak Rate Units most commonly used.

The LGF code is used to add an optional scale to the pressure-gauge face that reads in actual leak rate units (e.g., oz/year) instead of pressure units. This customized scale is computer printed based on the calibration data and is pasted over the inner "bar units" scale of the gauge. The outer scale of the gauge is in "psi" and remains visible. Instead of this option, most RLS users read the gauge in the more precise pressure units and use the pressure vs leak-rate graph provided.

The special "ZZZ" code is WFV for the non-standard fill valve on the liquid refrigerant reservoir that is required for some refrigerants, as identified in the table above.

<u>Examples of Refrigerants available</u>		
R-12	R-401A	R-507 (AZ-50)
R-22	R-401B	R-290 (Propane)*
R-23*	R-404A	R-600 (nButane)*
R-134A	R-407C	R-600A (Isobutane)*
R-142B	R-410A	SF ₆ (Tracer gas)*
R-152A	R-502	

* Special WFV fill valve required.

LEAK RATES UNITS AND LEAK RATES AVAILABLE

Code for Part No. (central leak rate)	Leak Rate Range (oz/yr)	Code for Part No. (central leak rate)	Leak Rate Range (g/yr)	Code for Part No. (rate exponent)	Leak Rate Range (atm-cc/sec)
0.05OZ	0.01 to 0.1	1.5G	0.3 to 3.0	E6	1.0 to 9.9 x 10E-6
0.1OZ	0.05 to 0.5	3.0G	1.5 to 15	E5	1.0 to 9.9 x 10E-5
0.35OZ	0.07 to 0.7	10G	2.0 to 20	E4	1.0 to 9.9 x 10E-4
0.5OZ	0.10 to 1.0	15G	3.0 to 30	E3	1.0 to 9.9 x 10E-3
1.0OZ	0.25 to 2.5	30G	7.5 to 75		
5.0OZ	1.0 to 10	150G	30 to 300		

Other leak rates can be custom ordered. Also, you may specify a single leak rate within the indicated ranges and only that leak rate and its corresponding pressure will be listed on the Calibration Data Tag and Certifications, and only that rate will be shown on the optional customized pressure-gauge face if ordered.

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