HELIUM CALIBRATED LEAK STANDARDS

GPP Leak Detector Calibrators

The GPP Model CALIBRATORS FOR HELIUM LEAK DETECTORS

These GPP Model Helium Calibrated Leak Standards have glass-permeation type leak elements and are the most common ones used to tune and calibrate helium mass spectrometer leak detectors, leak testing systems and vacuum systems. They are part of a family of Calibrators including the GPPT, GPC and CLP Models offered by VTI that cover leak rates from 10^{-12} up to 10^{-3} atm-cc/sec and larger. Those models are detailed in other brochures, and VTI's experts are always eager to help you select the best model – technically and cost – for your application. Without obligation, of course.

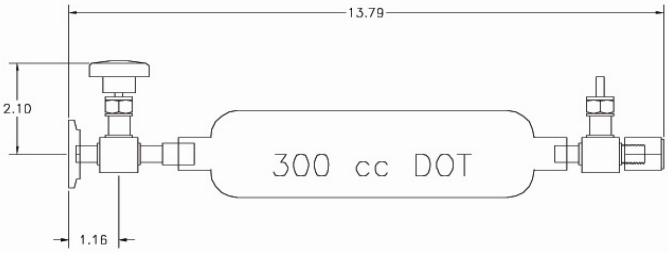
The GPP Accu-Flow™ Calibrated Leaks are based on the principle that helium flows through certain materials at a measurable rate depending on the material thickness, driving pressure and temperature. Depending on the leak rate required in the GPP Leaks, the permeation material is Pyrex or Quartz.

The GPP Leaks feature an all-welded stainless steel construction for reliability. Most leaks require a shut-off "isolation" valve to zero the leak signal during tuning and calibration. VTI offers the GPP Leaks both with and without a Teflon®-packed stainless steel shut-off valve. The inlet port of the brand of leak detector or vacuum system determines the termination of the leak. The most common termination of the GPP Leaks is a 1-1/8" diameter tube which mates directly to many Varian, Veeco and VIC leak detectors. All leaks are available with QF (NW, KF) and many other types of fittings.

All GPP Leaks are provided with certifications of the NIST-traceable calibrations performed in our A2LA-accredited Calibration Laboratory.

Choosing the GPP Calibrator

- **WILL NOT CLOG: permeation leak element.**
- **LONG TERM STABILITY: Low depletion rate.**
- **WIDE LEAK-RATE CHOICE: 10^{-5} – 10^{-9} range.**
- **NEVER NEEDS REFILL: lasts for years.**
- **SIMPLE TO OPERATE: minimal user training.**
- **MEETS ISO REQUIREMENTS: NIST-traceable, A2LA-accredited Calibration Certification.**



GPP Calibrator
Model GPP-X-HE-KF25-300DOT-WFV
(X= Leak Rate Range)

ACCREDITED
Calibration Laboratory
Certificate No. 1707.01

VTI's Calibration Laboratory is Accredited by the American Association for Laboratory Accreditation.

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.

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GPP Leak Detector Calibrators

ORDERING INFORMATION

The GPP Calibrators can be ordered for a specified Helium Leak Rate within a wide range of values. When ordering or requesting a quotation, please provide the Part Number, confirm the Fitting needed, and state the specific Leak Rate requested including your preferred leak-rate units. Also, please specify the Manufacturing Variance ("Tolerance") that you can allow on that Leak Rate. The usual manufacturing variance is +/- 40% of the requested rate. An example specification is 2.0 x 10^{-8} atm-cc/sec +/- 40%. Alternatively, the allowable values as manufactured can be specified as 1 to3x10^{-x}, 4 to 6x10^{-x}, or 7 to 9x10^{-x} in a Leak Rate Range listed below.

Also, a "Special Range" manufacturing variance is available of +/- 15% of the requested rate. For this special variance, an "-SR" is added to the end of the Part Number and there is an additional cost. In all cases, the leak rate provided will be within the selected manufacturing variance and will be as close as we can make it to your specified rate. The actual rate, as calibrated, will be recorded on the Calibration Tag and the Certifications.

PART NUMBER BUILD-UP

The GPP Part Numbers are constructed as follows:

GPP-X-HE-YYYY-ZZZ

where **X** = the code for the Leak Rate Range required,

where **YYYY** = the code for the fitting required,

and **ZZZ** = the code for the reservoir size,

all as listed in the tables.

Valve Requirements – the addition of a Fill Valve is required on all leaks in the mid 10^{-6} range and larger due to the higher fill pressures. In these cases, **-WFV** is added to the end of the part number. For leaks without a shut-off valve, **-NV** is added.

EXAMPLE FITTINGS AVAILABLE

Please contact us for other fitting requirements.

Code:	Description:
118T	*1-1/8" OD Port Tube*
4FVCR	*¼" Female VCR*
4MVCR	*¼" Male VCR*
MCFF	*1.33" OD Mini Conflat Flange*
2CFF	*2.75" OD Conflat Flange*
½T	*½" OD Tube*
KF16	*¾" OD ISO Flange*
KF25	*1" OD ISO Flange*
KF40	*1.5" OD ISO Flange*
118T/34T	*1-1/8" OD Tube with step to ¾" Tube*
4MPT	*¼" Male Normal Pipe Thread*

LEAK RATE RANGES AVAILABLE and EXAMPLE PART NUMBERS

Leak Rate Ranges Available for the GPP (Specify a value in the range)	***Code for Leak Rate Range (X)***	***Code for Fitting (YYY)***	***Suggested Reservoir Size (cc)***	***Code for Reservoir Size (ZZZ)***	***Example Part Number***
1.0 to 9.9x10^{-5} atm-cc/sec	5	KF25	1000	1000DOT	GPP-5-HE-KF25-1000DOT-WFV
1.0 to 9.9x10^{-6} atm-cc/sec	6	KF40	500	500DOT	GPP-6-HE-KF40-500DOT-WFV
1.0 to 9.9x10^{-6} atm-cc/sec	6	118T	500	300DOT	GPP-6-HE-118T-300DOT-WFV
1.0 to 3.0x10^{-6} atm-cc/sec	6	1/2T	300	300DOT	GPP-6-HE-1/2T-300DOT
1.0 to 9.9x10^{-7} atm-cc/sec	7	KF16	110	(Blank)	GPP-7-HE-KF16
1.0 to 9.9x10^{-8} atm-cc/sec	8	2CFF	110	(Blank)	GPP-8-HE-2CFF
1.0 to 9.9x10^{-9} atm-cc/sec	9	MCFF	110	(Blank)	GPP-9-HE-MCFF

Other leak-rate units, such as Torr-liters/sec, can be specified and calibration data will be reported in the units requested. Please contact us if you have any questions or want a customized design or manufacturing variance.

"Special "Orders are everyday products for us ! Just let us know what you need !!

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