



The GPC Model CALIBRATORS FOR HELIUM LEAK DETECTORS

The GPC Model Helium Calibrated Leak Standards have crimped stainless-steel capillary leak elements and are widely used to tune and calibrate helium mass-spectrometer leak detectors and leak testing systems. They are part of a family of Helium Calibrators offered by VTI including the GPP, GPPT and CLP Models detailed in other brochures. Together they cover a wide range of leak rates from 10^{-12} to 10^{-2} atm-cc/sec and larger. VTI's experts are always eager to help you select the best model – technically and cost – for your application. Without obligation, of course.

The GPC Accu-Flow™ Helium Leaks, due to the capillary leak element, can be manufactured for larger leak rates than permeation-type leaks. They are often used therefore in calibrating detectors in the “gross leak” mode. Also, capillary-type leaks have a very low temperature coefficient of 0.2%/°C, as compared to 3 to 4% for permeation-type leaks. This reduces the possibility of calibration error in applications where ambient temperatures vary widely. As compared to some leaks that are made with glass capillary leak elements, the GPC Leaks with their stainless steel capillaries are unbreakable.



In applications where these capillary-type leaks are exposed to dirt, water or oil vapor, clogging of the leak element can be a problem, particularly for leak rates of 10^{-6} atm-cc/sec and smaller. For this reason, the shut-off valve on the leak should be closed when not in use, especially when venting the vacuum system or detector to which it is attached. While GPC Leaks can be made without shut-off valves, it is not usually recommended.

As with all of VTI's Helium Calibrators, the GPC Model Leaks are available with QF (NW,KF), pipe thread and many other types of attachment fittings, and are provided with Certifications of the NIST-traceable Calibrations performed in our A2LA Calibration Laboratory.

Choosing the GPC Calibrator

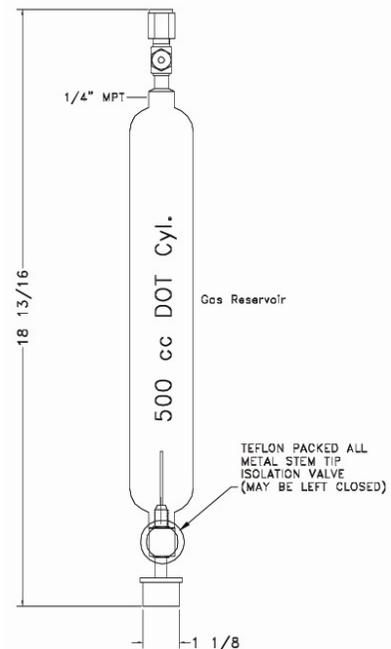
- LOW TEMPERATURE COEFFICIENT: 0.2%/°C.
- WIDE LEAK-RATE RANGE: 10^{-3} to 10^{-6} atm-cc/sec.
- LONG TERM STABILITY: low depletion rate.
- UNBREAKABLE: stainless steel leak element.
- NEVER NEEDS REFILL: lasts for years.
- CLOGGING POSSIBLE: in unclean environments.
- MEETS ISO REQUIREMENTS: NIST-traceable, A2LA-accredited Calibration Certification.



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

Certificate No. 1707.01

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.



GPC Calibrator Model GPC-X-HE-500DOT-WFV (X= Leak Rate Range)



HELIUM CALIBRATED LEAK STANDARDS

GPC Leak Detector Calibrators

ORDERING INFORMATION

The GPC 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 2.0×10^{-5} atm-cc/sec +/- 40%. Alternatively, the allowable values as manufactured can be specified as 1 to 3×10^{-x} , 4 to 6×10^{-x} , or 7 to 9×10^{-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 GPC Part Numbers are constructed as follows:

GPC-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	1/4" Female VCR
4MVCR	1/4" Male VCR
MCFF	1.33" OD Mini Conflat Flange
2CFF	2.75" OD Conflat Flange
1/2T	1/2" OD Tube
KF16	3/4" OD ISO Flange
KF25	1" OD ISO Flange
KF40	1.5" OD ISO Flange
118T/34T	1-1/8" OD Tube with step to 3/4" Tube
4MPT	1/4" Male Normal Pipe Thread

LEAK RATE RANGES AVAILABLE and EXAMPLE PART NUMBERS

Leak Rate Ranges Available for the GPC (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 9.9×10^{-3} atm-cc/sec	3	KF16	1000	1000DOT	GPC-3-HE-KF16-1000DOT-WFV-1500PSI
1.0 to 9.9×10^{-4} atm-cc/sec	4	MCFF	1000	1000DOT	GPC-4-HE-MCFF-1000DOT-WFV
1.0 to 9.9×10^{-5} atm-cc/sec	5	KF25	1000	1000DOT	GPC-5-HE-KF25-1000DOT-WFV
1.0 to 9.9×10^{-5} atm-cc/sec	5	KF40	500	500DOT	GPC-5-HE-KF40-500DOT-WFV
1.0 to 9.9×10^{-6} atm-cc/sec	6	118T	1000	1000DOT	GPC-6-HE-118T-1000DOT-WFV
1.0 to 9.9×10^{-6} atm-cc/sec	6	1/2T	500	500DOT	GPC-6-HE-1/2T-500DOT-WFV

Other leak-rate units, such as mbar-liters/sec, can be specified and calibration data will be reported in the units requested. The GPC Calibrators with 10^{-3} leak rates are refillable by the user. Leak rates of 10^{-2} and larger are also available and are refillable. Please contact us if you have any questions or want a customized design.

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

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