THE EASY WAY TO CALIBRATE HYDROGEN LEAK DETECTORS

Leak testing is a matter of quantifying leaks. To be able to correctly accept/reject test objects you need to measure to a set standard. You also need to calibrate your leak detector against a reliable reference leak. INFICON reference leaks for hydrogen leak detectors cover a wide range of leak rates to suit your specific application.

For maximum accuracy, our reference leaks are equipped with a specially developed diffuser nozzle. This nozzle allows the gas to spread evenly after leaving the leak without variations caused by air convection. The distinctive diffuser holder also eliminates the risk of varying or irregular readings depending on the way the probe approaches the leak. The reference leaks are designed to suit INFICON Sensistor Industrial Hydrogen Leak Detectors, but can easily be used to calibrate most gas detectors. The INFICON family of reference leaks for hydrogen leak detectors include bigger leaks (Types A-C) and smaller leaks (Types E and G). Leak Type A is intended for accumulation testing only. All leaks are traceable to NIST, NMIJ, NPL, PTB, etc., through the “Mutual Recognition Arrangement of the BIPM”.

TYPES AND CONNECTIONS

**A - C**
Sintered stainless steel.
Inlet: Compression connector for 6 x 4 mm and 1/4” x 5/32” tubing. ISO G1/8” internal behind connector.
Outlet: ISO G1/8” external.
Purge valve: Plug to be opened with 2.5 mm Allen key (hex drive). M5 internal behind plug. (Fits also UNF10-32).

**E and G**
Crimped metal capillary.
Filling connection: 1/4” male NPT, adapter for male ISO 1/4” included.

FEATURES AT A GLANCE
- Suitable for industrial applications
- Simple to use
- Special nozzles included for all INFICON hydrogen industrial leak detector hand probes (not Leak A)
- Traceable to NIST, NMIJ, NPL, PTB
- Certificate included
- Available in different flows
- Refillable
- Suit different concentrations of hydrogen tracer gas
CONTENT AT DELIVERY

Type A
- Reference leak assembly comprising leak and purge valve assembly
- Red G1/8" gasket
- Collet nut for connection to 1/4" tubing (marked red)
- Calibration certificate
- Delivery and storage case
- Manual

Type B and C
- Reference leak assembly comprising leak and purge valve assembly
- Diffusor holder (for hand probe calibration)
- Diffusor filter (2 off)
- White probe guide ring for calibration of 8 mm tip probes
- Black probe guide ring for calibration of 10 mm tip probes
- Red G1/8" gasket
- Collet nut for connection to 1/4" tubing (marked red)
- 2.5 mm Allen key (hex drive) for purge valve and assembly of diffusor
- Calibration certificate
- Delivery and storage case
- Manual

Type E and G
- Reference leak assembly
- Thread adapter (NPT-ISO)
- Diffusor holder (for hand probe calibration)
- Diffusor filter
- White probe guide ring for calibration of probes with 8 mm tip
- Black probe guide ring for calibration of probes with 10 mm tip
- Red G1/8" gasket
- Collet nut for connection to 1/4" tubing (marked red)
- 2.5 mm Allen key (hex drive) for assembly of diffusor
- Calibration certificate

SPECIFICATIONS AND ORDERING INFORMATION

Target flow for standard leaks:

<table>
<thead>
<tr>
<th>Type</th>
<th>Part no.</th>
<th>Nominal flow** (atm ml/s)</th>
<th>Accuracy</th>
<th>Equivalent to g/yr (R134a)</th>
<th>For equivalent flow in: mbar l/s or atm cc/s (air)</th>
<th>mbar l/s or atm cc/s (5%H$_2$/95%N$_2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*</td>
<td>590-420</td>
<td>5x10$^{-2}$ (Air)</td>
<td>±2 %</td>
<td></td>
<td>multiply with 1</td>
<td>multiply with 1.04</td>
</tr>
<tr>
<td>B</td>
<td>590-421</td>
<td>5x10$^{-3}$ (Air)</td>
<td>±2 %</td>
<td></td>
<td>multiply with 1</td>
<td>multiply with 1.04</td>
</tr>
<tr>
<td>C</td>
<td>590-422</td>
<td>5x10$^{-4}$ (Air)</td>
<td>±2 %</td>
<td></td>
<td>multiply with 1</td>
<td>multiply with 1.04</td>
</tr>
<tr>
<td>E</td>
<td>590-427</td>
<td>7x10$^{-5}$ (5%H$_2$/95%N$_2$)</td>
<td>±10 %</td>
<td>10</td>
<td>multiply with 0.96</td>
<td>multiply with 1</td>
</tr>
<tr>
<td>G</td>
<td>590-429</td>
<td>2x10$^{-5}$ (5%H$_2$/95%N$_2$)</td>
<td>±10 %</td>
<td>3</td>
<td>multiply with 0.96</td>
<td>multiply with 1</td>
</tr>
</tbody>
</table>

A-C leaks are certified at 1 bar pressure, E and G leaks shall be pressurized according to certificate.

*Type A leaks are delivered without diffuser nozzle and are recommended for accumulation testing only. They can not be used for calibrating hand probes with 5% H$_2$ / 95% N$_2$.

**A-C leaks are delivered with leak size within ±10% of nominal flow, E and G leaks with leak size within ±25% of nominal flow.