The FLIR QL320 is a quantitative optical gas imaging (qOGI) system designed specifically for use with the FLIR GF620, GFx320, and GF320 OGI cameras. This system allows surveyors to measure the leak rates for methane and other hydrocarbons, eliminating the need for secondary sampling with a toxic vapor analyzer or similar tool. Unlike these traditional measurement systems, the QL320 does not require close contact with the gas in order to measure emission rates, making it a safer solution for quantifying gas leaks. The QL320 offers advanced features including Delta temperature screening, colorized gas concentration profiles, and a 10-second rolling average leak rate overlayed directly onto a static image snapshot.

www.flir.com/QL320

**Quantitative OGI System**

**FLIR QL320™**

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www.flir.com/QL320

**Quantify Gas with Immediate Results**

Simplifies the visualization and measurement of gas emissions

- Determine the mass leak rates (g/h, lb/h, or MT/h), volumetric leak rates (cc/min, L/min, or SCFH), or concentration (ppm-m) for most hydrocarbon gases
- Measure the size of fugitive emissions from safe distances, as far as 100 feet
- Highlight gas plumes with a color concentration profile for improved visibility and easier detection

**Ensure Effective Readings and Reports**

Built-in tools help you obtain quantifiable readings

- Validate leak surveys and determine the suitability of background conditions with the colorized Delta temperature screening tool
- Easily synchronize to multiple optics and temperature ranges
- In-field reporting includes archiving of measurements, colorized video and raw image data for analysis and post-processing

**Built Tough for Industrial Environments**

Rugged tablet can be used in gas fields, refineries, and other industrial settings

- Included touchscreen tablet is dust- and water-tight (IP65 certified)
- Display provides high contrast for easy reading, even in bright conditions
- Live results can be obtained by tethering the FLIR QL320 directly to the OGI camera
- Post-analysis can be easily performed via Q-Mode (non-tethered mode)
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>System</th>
<th>QL320</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compatible cameras</strong></td>
<td>FLIR GF620, FLIR GF320, FLIR GF320</td>
</tr>
<tr>
<td><strong>Gases detected</strong></td>
<td>Methane, most hydrocarbons*</td>
</tr>
<tr>
<td><strong>Measurement modes</strong></td>
<td>Mass leak rates (g/h, lb/h, MT/h), volumetric leak rates (cc/min, L/min, or SCFH), or concentration (ppm-m)</td>
</tr>
<tr>
<td><strong>Measurement tools</strong></td>
<td>Δ temperature screening, plume highlighting, colorized gas concentration profile, Q-Mode support for non-tethered quantification</td>
</tr>
<tr>
<td><strong>Image modes</strong></td>
<td>Single image snapshot with colorized plume and quantitative result</td>
</tr>
</tbody>
</table>

#### Hardware

<table>
<thead>
<tr>
<th>Tablet</th>
<th>Durabook R11</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>11.6&quot; FHD DynaVue® sunlight readable display, 500 nits</td>
</tr>
<tr>
<td><strong>Touchscreen</strong></td>
<td>Reinforced touchscreen, scratch and shatter resistant film</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>On-screen keyboard, 6 buttons (1 user-definable)</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>ANSI/ISA 12.12.01-2000 (Class I, Division 2)</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td>MIL-STD 810G certified, aluminum-magnesium alloy chassis. 1.22 m (4 ft) drop-rated</td>
</tr>
<tr>
<td><strong>I/O interfaces</strong></td>
<td>SD card reader (microSDXC), USB 3.0 (Type A) × 2</td>
</tr>
<tr>
<td><strong>Communications</strong></td>
<td>Bluetooth V 5.0, 4G LTE mobile broadband</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>AC adapter 100-240 V, 50 Hz-60 Hz, 65 W</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>Li-ion battery, 11.1 V, 3950 mAh, 8 hours</td>
</tr>
<tr>
<td><strong>Dimensions (L × W × H)</strong></td>
<td>298.5 x 192.0 x 20.0 mm (11.75 x 7.56 x 0.79 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1238.3 grams (2.73 lbs)</td>
</tr>
</tbody>
</table>

*See www.flir.com/quantify-gases for a list of nearly 400 potential gases

#### Key features
- Quantifies mass, volumetric, or concentration-based leak rates
- Designed specifically for use with FLIR OGI cameras
- Includes plume highlighting, Delta temperature screening
- Touchscreen tablet is rugged, sun-readable
- No camera modifications or added accessories needed
- Overlays a 10-second rolling average leak rate directly onto an image snapshot

#### Response Factor Calculations

How well the QL320 quantifies a specific gas compound is a function of how sensitive the camera is to that gas. This can be measured relative to a reference compound, with the resulting value called Response Factor (RF). For example, say an RF value for benzene is 0.755 in reference to propane (propane value = 1.000). This means when a FLIR OGI camera visualizes benzene, the image is 75% as strong as an image of propane. An RF value below 1.0 would signify a potentially weaker image, while an RF value above 1.0 signifies a stronger image (e.g. an RF of 1.75 means the image is 75% stronger).

To determine the RF value for other gases, check out the free RF Calculator at www.flir.com/response-factors

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**CORPORATE HEADQUARTERS**

FLIR Systems, Inc.
27700 SW Parkway Ave.
Wilsonville, OR 97070
USA
PH: +1 866.477.3687

**NASHUA**

FLIR Systems, Inc.
9 Townsend West
Nashua, NH 03063
USA
PH: +1 866.477.3687

**LATIN AMERICA**

FLIR Systems Brasil
Av. Antonio Bardeilla, 320
Sorocaba, SP 18085-852
Brazil
PH: +55 15 3238 8070

**CANADA**

FLIR Systems, Ltd.
3430 South Service Road, Suite 103
Burlington, ON L7N 3J5
Canada
PH: +1 800.613.0507

www.flir.com
NASDAQ: FLIR

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19-2746-INS