

FLIR GF304



Optical gas imaging of refrigerant gases

The FLIR GF304 is a gas imaging camera which was especially developed for the detection of refrigerant gases without the need to shut down the operation.

Refrigerant gases are used worldwide in industrial refrigeration systems for production, storage and retailing of food. Refrigerant gas is also used in the chemical, pharmaceutical and automotive industries and in air conditioning systems. Keeping an industrial refrigeration system running is of great importance due to the value of the cooled goods.

Furthermore, replacing or recharging gas can be a costly exercise. Although refrigerant gases are vital for many industries they can also be dangerous for the environment and may be governed by local regulations. That is why it is of the utmost importance to find leaks quickly and easy.



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El color del calor
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Cooled detector

The FLIR GF304 contains a cooled Quantum Well Infrared Photodetector (QWIP) and a cold band pass filter that allow to visualize gases in the 8.0-8.6 micrometer waveband. It will not only make refrigerant gases, but also the smallest of temperature differences, clearly visible.



Temperature range

The FLIR GF304 visualizes temperatures from -20°C to +500°C.



Dual use

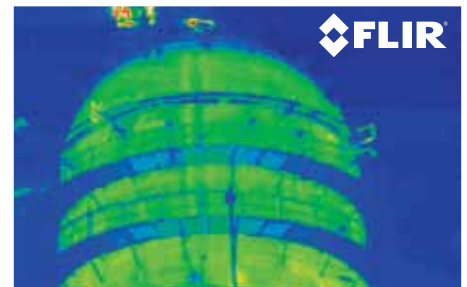
The FLIR GF304 can be used both for finding gas leaks and maintenance inspections. High voltage, low voltage, mechanical and many other inspections can all be easily done with the FLIR GF304.



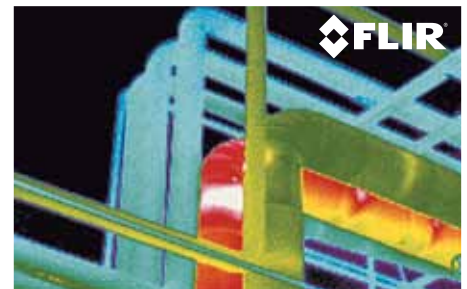
Available lenses

The FLIR GF304 comes either with a fixed 14.5° lens or with a fixed 24° lens. A version with interchangeable lenses is also available but requires a US Department of State license.

Industries:



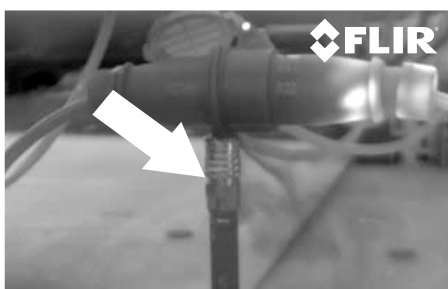
Petrochemical & chemical industries



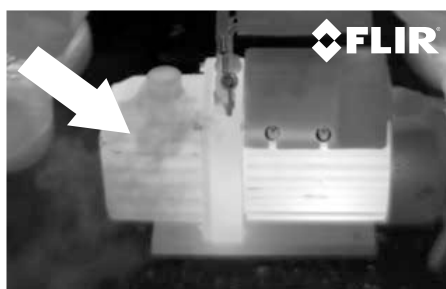
Food industry

The FLIR GF304 detects the following refrigerant gases:

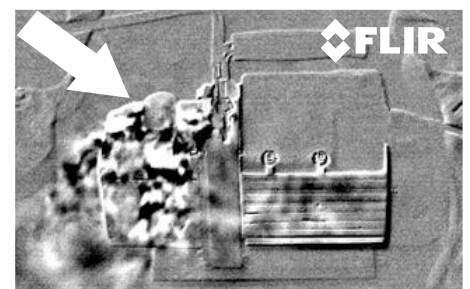
- R404A
- R407C
- R410A
- R134A
- R417A
- R422A
- R507A
- R143A
- R125
- R245fa



Leak from electrical 415V connector



Leaking car air conditioning



Leaking car air conditioning in HSM mode

Imaging and optical data	
Field of view (FOV) / Minimum focus distance	14.5° lens: 14.5° x 10.8° / 0.5m 24° lens: 24° x 18° / 0.3 m
F-number	1.5
Focus	Automatic (one touch) or manual (electric or on the lens)
Zoom	1–8x continuous, digital zoom
Digital image enhancement	Noise reduction filter, High Sensitivity Mode (HSM)
IR resolution	320 x 240 pixels
Thermal sensitivity / NETD	<15 mK @ +30°C
Sensor cooling	Stirling Microcooler (FLIR MC-3)
Electronics and data rate	
Full frame rate	60 Hz
Image presentation	
Display	Built-in widescreen, 4.3 in. LCD, 800 x 480 pixels
Viewfinder	Built-in, tiltable OLED, 800 x 480 pixels
Automatic image adjustment	Continuous/manual; linear or histogram based
Manual image adjustment	Level/span
Image modes	IR-image, visual image, High Sensitivity Mode (HSM)
Measurement analysis	
Spotmeter	10
Area	5 boxes with max./min./average
Profile	1 live line (horizontal or vertical)
Difference temperature	Delta temperature between measurement functions or reference temperature
Reference temperature	Manually set or captured from any measurement function
Emissivity correction	Variable from 0.01 to 1.0 or selected from editable materials list
Measurement corrections	Reflected temperature, distance, atmospheric transmission, humidity, external optics
Set-up	
Menu commands	Level, span Auto adjust continuous/manual/semi-automatic Zoom Palette Start/stop recording Store image Playback/recall image
Color palettes	Iron, Gray, Rainbow, Arctic, Lava, Rainbow HC
Set-up commands	1 programmable button, overlay recording mode, local adaptation of units, language, date and time formats
Storage of images	
Image storage type	Removable SD or SDHC Memory Card, two card slots
Image storage capacity	> 1200 images (JPEG) with post process capability per GB on memory card
Image storage mode	IR/visual images Visual image can automatically be associated with corresponding IR image
Periodic image storage	Every 10 seconds up to 24 hours
File formats	Standard JPEG, 14 bit measurement data included
GPS	Location data automatically added to every image from built-in GPS
Video recording and streaming	
Non radiometric IR-video recording	MPEG4 (up to 60 minutes/clip) to memory card. Visual image can automatically be associated with corresponding recording of non radiometric IR-video.
Visual video recording	MPEG4 (25 minutes/clip) to memory card
Radiometric IR-video streaming	Full dynamic to PC using USB or WLAN
Non radiometric IR-video streaming	RTP/MPEG4
Visual video streaming	MPEG4 using Wi-Fi Uncompressed colorized video using USB
Digital camera	
Built-in digital camera	3.2 Mpixel, auto focus, and two video lamps
Laser pointer	
Laser	Activated by dedicated button
Data communication interfaces	
WLAN	Peer to peer (ad-hoc) for iOS or infrastructure (network) for Android
USB	USB-A: Connect external USB device (e.g. memory stick) USB Mini-B: Data transfer to and from PC
USB, standard	USB Mini-B: 2.0 High Speed
Video	Digital Video Output (image)
Power system	
Battery type	Rechargeable Li Ion battery
Battery voltage	7.2 V
Charging system	In camera (AC adapter or 12 V from a vehicle) or 2-bay charger
Environmental data	
Storage temperature range	-30°C to +60°C
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25°C to +40°C (2 cycl)
EMC	EN61000-6-4 (Emission) EN61000-6-2 (Immunity) FCC 47 CFR Part 15 class A (Emission) EN 61 000-4-8, L5
Encapsulation	IP 54 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Physical data	
Camera weight, incl. lens and battery	2.48 kg
Battery weight	0.24 kg
Cameras size, incl. lens (L x W x H)	306 x 169 x 161 mm
Tripod mounting	Standard, ¼"-20
Housing material	Aluminium, Magnesium
Grip material	TPE Thermoplastic Elastomers
Scope of delivery	
Thermal imaging camera, Hard transport case, Battery charger, Battery, 2 ea., Calibration Certificate, Downloads brochure, FLIR Tools PC software CD-ROM, FLIR VideoReport™ PC software CD-ROM, HDMI-DVI cable, HDMI-HDMI cable, Lens cap (mounted on lens), Memory card, Memory card adapter, Power supply, incl. multi-plugs, Printed Getting Started Guide, Printed important information guide, Registration card, Service & training brochure, Shoulder strap, USB cable, User documentation CD-ROM, Wi-Fi USB micro-adapter (depending on CE and FCC regulations regarding wireless equipment for your country)	

Note: These specifications are for GF-Series with a fixed 14.5° or 24° lens.
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