

## Fieldpiece DR58

# Fieldpiece DR58 Heated Diode Refrigerant Leak Detector User Manual

Model: DR58

## 1. INTRODUCTION

The Fieldpiece DR58 Heated Diode Refrigerant Leak Detector is an ultra-sensitive tool designed for HVACR professionals to quickly and accurately locate refrigerant leaks. Utilizing a heated diode sensor, it detects a wide range of refrigerants with high precision. This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your DR58 leak detector.





Image 1.1: The Fieldpiece DR58 Heated Diode Refrigerant Leak Detector, showing its main body and flexible probe.

## 2. KEY FEATURES

The DR58 is equipped with several features to enhance leak detection efficiency:

- **Ultra-Sensitive Heated Diode Sensor:** Detects micro leaks as small as <0.03 oz/yr, offering 20 times greater sensitivity than traditional bubble methods.
- **Universal Refrigerant Compatibility:** Capable of detecting all HFC, CFC, HCFC, HFO, H2N2 (Tracer Gas), and blended refrigerants used in HVACR systems.
- **Durable and Long-Lasting:** Features an IP54 rating for resistance against moisture and oil, ensuring reliability in various working conditions. The sensor has a typical life of 300 hours.
- **Clear Leak Indicators:** A large, backlit LCD screen displays leak size and intensity using a bar graph and numeric readings. An LED tip and audible beep provide immediate feedback for precise leak pinpointing.
- **Flexible Probe and Extended Battery Life:** A 17-inch flexible probe allows access to tight spaces. The

rechargeable USB battery provides up to 18 hours of continuous operation. Replaceable filter tips are included.



Image 2.1: Visual summary of the DR58's features, including its heated diode sensor, backlit LCD, refrigerant compatibility, and durable design.

### 3. SETUP

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Before initial use, ensure the DR58 is properly set up and charged.

#### 3.1 Unpacking and Components

Your Fieldpiece DR58 package should include:

- 1 x Heated Diode Refrigerant Leak Detector (DR58)
- 5 x Replacement Filtered Tips (RFT6)
- 1 x Blow-Molded Case
- 1 x Heated Diode Sensor (RHD1) (pre-installed or separate)
- 1 x USB Charging Cable and Wall Adapter



Image 3.1: Contents of the DR58 package, showing the detector, charging cable, filter tips, and case.

### 3.2 Initial Charging

1. Connect the USB charging cable to the DR58's charging port.
2. Plug the other end of the cable into the wall adapter and then into a power outlet.
3. Allow approximately 6 hours for a full charge. The battery indicator on the LCD will show charging status.

### 3.3 Sensor and Filter Tip Installation

1. Ensure the device is powered off.
2. If the heated diode sensor (RHD1) is not already installed, carefully insert it into the end of the flexible probe until it clicks into place.
3. Screw a filtered tip onto the end of the sensor. Ensure it is finger-tight to prevent debris from entering the sensor.

## 4. OPERATION

Follow these steps for effective leak detection with your DR58.

### 4.1 Powering On and Warm-up

1. Press and hold the power button (blue button with sun icon) for approximately 1 second to turn on the device.
2. The DR58 will display 'Warm' and then 'AZERO' as it warms up and performs an automatic zeroing. This process typically takes less than 10 seconds.

### 4.2 Zeroing the Device

Zeroing establishes a baseline for the ambient air, allowing the detector to accurately identify refrigerant concentrations above this baseline.

- **Automatic Zeroing:** The device automatically zeros upon power-on and continuously adjusts to

background refrigerant levels during operation.

- **Manual Zeroing:** To manually zero the device, move the probe to an area known to be free of refrigerant. Press the 'ZERO MANUAL/AUTO' button. The display will show 'AZERO' to confirm.

### 4.3 Adjusting Sensitivity

The DR58 offers adjustable sensitivity levels to suit different leak detection scenarios.

- Press the 'SENSITIVITY MAX ON/OFF' button to cycle through sensitivity levels (High, Medium, Low).
- Use higher sensitivity for smaller leaks or when the leak source is difficult to pinpoint. Use lower sensitivity in areas with higher background refrigerant levels to avoid false positives.

### 4.4 Leak Detection Procedure

1. Slowly move the flexible probe along the suspected leak area, such as refrigerant lines, coils, and connections. Maintain a consistent speed of approximately 1-2 inches per second.
2. Observe the LCD display for increasing bar graph segments and numeric readings, indicating the presence of refrigerant.
3. Listen for the audible beep, which will increase in frequency and pitch as the leak source is approached.
4. The LED tip on the probe will also illuminate red, intensifying as the leak concentration increases.
5. Once a leak is detected, move the probe away from the area and then slowly re-approach to confirm the exact location.



Image 4.1: Close-up of the DR58's flexible probe tip, showing the illuminated red LED indicator during leak detection.

Your browser does not support the video tag.

Video 4.1: An official product video demonstrating the Fieldpiece DR58 leak detector in use, highlighting its features and effectiveness in finding refrigerant leaks.

## 5. MAINTENANCE

Regular maintenance ensures the longevity and accuracy of your DR58.

### 5.1 Replacing Filter Tips

The filter tips prevent debris from entering the sensor. Replace them regularly, especially in dirty environments, or if they appear clogged.

1. Unscrew the old filter tip from the sensor.
2. Screw on a new replacement filter tip (RFT6) until it is finger-tight.

### 5.2 Sensor Replacement

The heated diode sensor (RHD1) has a typical life of 300 hours. Replace the sensor when its performance degrades or if the device indicates a sensor error.

1. Power off the DR58.
2. Unscrew the filter tip.
3. Gently pull the old sensor out of the probe.
4. Insert the new RHD1 sensor into the probe until it clicks into place.
5. Re-attach a clean filter tip.

### 5.3 Cleaning

- Wipe the exterior of the device with a damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the sensor and filter tip are free from oil, moisture, and debris.

## 6. TROUBLESHOOTING

If you encounter issues with your DR58, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery.	Charge the device using the provided USB cable and adapter.
Inaccurate or inconsistent readings.	Sensor contaminated or worn out; filter tip clogged; high background refrigerant.	Replace filter tip. Replace sensor if necessary. Perform manual zeroing in a clean air environment.
No leak detected despite suspected leak.	Low sensitivity setting; probe moved too quickly; sensor issue.	Increase sensitivity. Move probe slower. Check and replace sensor if needed.
Constant alarm or high readings in clean air.	Device not properly zeroed; sensor contaminated.	Perform manual zeroing in a clean air environment. Clean or replace sensor.

## 7. SPECIFICATIONS

Technical specifications for the Fieldpiece DR58 Heated Diode Refrigerant Leak Detector.



**DR58****Fieldpiece**

## Specifications

**Sensor Type: Heated diode****Sensor Life: 300 hours typical****Sensitivity Levels: High, medium, low (selectable)****Maximum Sensitivity: 0.03 oz/yr (1g/a), stationary; 0.1 oz/yr (3g/a), in motion****Detection Feedback: Red tip LED, LCD bar graph, LCD digits, beeper****Refrigerants: HFC, HCFC, CFC, HFOs, and blends****Response Time: <1 seconds typical****Recovery Time: <10 seconds typical****Battery Type: 3.7 VDC (nominal) 2550mAh, non-replaceable****Charge Time: 6 hours typical with included charger.****Battery Life: 18 hours typical, backlight off****Auto Power Off: 10 minutes without detection or button press****Operating Environment: 32°F to 104°F (0°C to 40°C); < 75% RH (non-condensing)****Storage Temperature: -4°F to 140°F (-20°C to 60°C); < 80% RH****Weight: 14 oz (400g)****Water Resistance: Designed to IP54****US Patent: [www.fieldpiece.com/patents](http://www.fieldpiece.com/patents)**

Image 7.1: A detailed list of the DR58's technical specifications, including sensor type, sensitivity, and battery life.






Specification	Value
Sensor Type	Heated diode sensor
Sensor Life	300 hours typical
Sensitivity Levels	High, medium, low (selectable)
Maximum Sensitivity	0.03 oz/yr (1g/a) stationary; 0.1 oz/yr (3g/a) in motion
Detection Feedback	Red tip LED, LCD bar graph, LCD digits, beeper
Refrigerants	HFC, HCFC, CFC, HFOs, and blends
Response Time	<1 seconds typical
Recovery Time	<10 seconds typical
Battery Type	3.7 VDC (nominal) 2550mAh, non-replaceable

Specification	Value
Charge Time	6 hours typical with included charger
Battery Life	18 hours typical, backlight off
Auto Power Off	10 minutes without detection or button press
Operating Environment	32°F to 104°F (0°C to 40°C); < 75% RH (non-condensing)
Storage Temperature	-4°F to 140°F (-20°C to 60°C); < 80% RH
Weight	14 oz (400g)
Water Resistance	Designed to IP54
Product Dimensions	10 x 8 x 10 inches

## 8. WARRANTY AND SUPPORT

Fieldpiece Instruments provides a warranty for its products against defects in material and workmanship. For specific warranty terms, registration, and technical support, please refer to the official Fieldpiece website or contact their customer service directly. Keep your purchase receipt as proof of purchase. For further assistance, visit the [Fieldpiece Store on Amazon](#) or the official Fieldpiece website.

### Related Documents - DR58

	<a href="#">Fieldpiece DR58 Heated Diode Refrigerant Leak Detector Operator's Manual</a> Operator's manual for the Fieldpiece DR58 Heated Diode Refrigerant Leak Detector, detailing its features, specifications, operation, installation, maintenance, and functionality testing for detecting various refrigerants.
	<a href="#">Fieldpiece DRX3 Refrigerant Leak Detector Operator's Manual</a> Comprehensive operator's manual for the Fieldpiece DRX3 Refrigerant Leak Detector, detailing its features, operation, safety precautions, maintenance, and specifications for HVAC professionals.
	<a href="#">Fieldpiece DR82 Infrared Refrigerant Leak Detector Operator's Manual</a> Comprehensive guide to the Fieldpiece DR82 Infrared Refrigerant Leak Detector, covering its features, specifications, operation, maintenance, and warranty. Learn how to detect HFC, HCFC, CFC, HFO, and blend refrigerants with high sensitivity and multiple indicators.
	<a href="#">Fieldpiece DR82 Infrared Refrigerant Leak Detector Operator's Manual</a> Operator's manual for the Fieldpiece DR82 Infrared (IR) Refrigerant Leak Detector. Details features, specifications, operation, maintenance, safety guidelines, and warranty information for HVACR professionals.
	<a href="#">Fieldpiece DR82 Infrared Refrigerant Leak Detector Operator's Manual</a> Comprehensive operator's manual for the Fieldpiece DR82 Infrared (IR) Refrigerant Leak Detector, detailing its features, operation, maintenance, and specifications for HVACR professionals.





### [Fieldpiece DRX3 Refrigerant Leak Detector Operator Manual](#)

Comprehensive operator manual for the Fieldpiece DRX3 Refrigerant Leak Detector, detailing its features, operation, maintenance, and safety guidelines for detecting refrigerant and combustible gas leaks.