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WIPCOOL®
IDEAL PRODUCTS FOR HVAC

ALD-1
Infrared
Refrigerant Leak Detector

-Operation Manual-

1.Notice for Use

■Thank you for buying WIPCOOL ADVANCED series infrared refrigerant leak detector, we are dedicated to providing you with high quality products.

■Please check if your ordered goods in good shipment condition, with the correct accessories, any damage during transportation, please contact us or the local distributors in time if you find any problems.

■If there is any change in the product (including the specification), we won't inform any more.

⚠Warning!

Please read and understand this manual thoroughly before operation and maintenance.

Please do NOT disassemble the detector by yourself.

If you have any technical questions, please feel free to contact us.

1.Please ONLY install clean filter before detection or it may damage the sensor.

2.Please charge the detector promptly to ensure sufficient battery level for the detection*.

3.Do NOT use the probe to touch or detect any charged objects.

4.Do not let water enter the air inlet of the probe.

5.Please protect your eyes and skin while using the UV LED during detection. Never look directly to the UV ray.

6.Please avoid breathing the refrigerant vapors. Inhalation of high concentration refrigerants harmful and may cause unconsciousness or death.

7.The battery is hazardous. Be extra careful when using it. Never dispose of used batteries in regular trash can (but in the battery recycle box) to avoid danger or harm to environment.

*The detector has a built-in rechargeable lithium battery, please do not change to other battery types.

2. Specifications

1.Flexible Probe	5.USB Port (Type-c)
2.UVLED	6.Display Screen
3.Filter Components	7.Buttons
4.Headphone Jack	8.Buzzer

Included:

Infrared Leak Detector x 1	Plastic Case x 1
UV LED x 1	Charging Cable x 1
User Manual x 1	Filter Components x 5

3. Technic Data

Sensor life	10 years
Sensitivity	Maximum 3g/yr
Sensor Principle	Infrared (IR) absorption spectroscopy
Alarm Mode	Audible and visual alarm; TFT indication
Auto OFF	After 10 minutes of inactivity
Battery	2×18650 lithium battery (see Battery Replacement Diagram)
Working Hour	8h continuous use on a single charge
Storage Temperature	-20°C~60°C(-4°F~140°F)
Operating Environment	Temperature: -10°C~52°C; Humidity: Maximum 90%RH(non-condensing)
Dimensions	201 x 72 x 35mm (7.9"x 2.8"x 1.4")
Compliance	CE, EN14624:2012, RoHS,SAE_J1627, SAE_J2791,SAE_J2913
Detectable Gases	CFCs, HFCs, HCFC Blends and HFO-1234YF
Charging Voltage/Current	DC 5V，1A
Charging Time	Approx.4h
Weight	450g (15.9oz)

Battery Replacement Diagram

4. Functions

Model	ALD-1
Leak indication	
Sensitivity levels	
Buzzer ON/OFF	
Peak function	
UV LED	

4.1Button Functions

ON/OFF Press and hold for 2 seconds to turn on the detector; press again to turn it off.

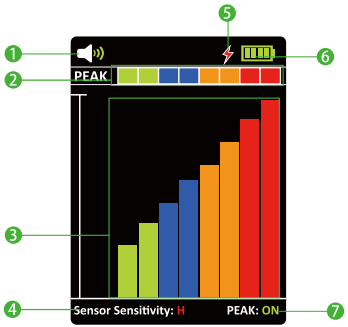
RESET SENS Press to select preferred sensitivity level among Low, Medium and High.

MUTE Press to turn on/off the buzzer.

PEAK Press and release to mark or unmark the maximum leak. If unmarked, the peak value will be cleared.

MODE Release soon

4.2 Display



1. Buzzer: Indicates buzzer status. Red icon: disabled; Green icon: enabled.
2. Peak value: Indicates the maximum detected leak.

   Note: PEAK function must be ON or it will not show peak value.
3. Leak value: Indicates the current detected leak. Higher leak concentration, higher the bars.
4. Sensitivity level: Displays current sensitivity level.3 levels are available for different needs.

   H: high sensitivity; M: medium sensitivity; L: low sensitivity.
5. Battery charging status.
6. Battery level: Displays current battery level.

   Green:Full battery; Yellow:Low battery; Red:Extreme-low battery, please charge ASAP.
7. PEAK ON/OFF: Indicates PEAK function status. The display shows ON or OFF to indicate the peak function is enabled or disabled (To turn off PEAK will clear all recorded peak values).

5. Operation

⚠Warning!

■Please keep moving the detector during the detection. As ALD-1 are designed to detect the relative concentration of gases, if the detected concentration remains unchanged in the stationary environment, it will not be able to pinpoint the leakages.

■Please ensure the system pressure is at least above 340Kpa (50psi) before detection as many refrigerant leaks can't be detected at low pressure.

■Do not place the detector close to organic solvents, detergents or high voltage power supplies. Please wipe up the detectors with a clean towel.

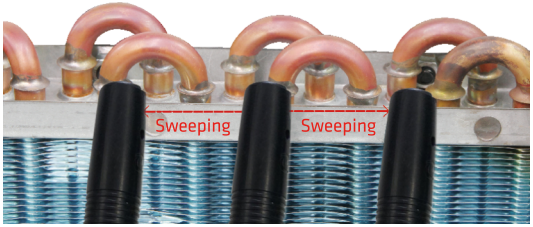
■Before start, please confirm the battery is sufficient for this detection (it normally takes about 30 minutes for one detection).

Steps

1. Turn on the detector. Wait for the warm-up count down in order to reach the optimal detection status. It takes about 30 seconds before it enters the main interface.
2. Press button to adjust to your preferred sensitivity level (default level is High).
3. Locate places that refrigerant leaks are most likely to occur, such as: Joints in refrigerant lines, Points that have changes in cross section, Points that have changes in vertical section.Visually trace the entire refrigerant system for all lines, hoses, fittings, couplings, service valves, etc. and signs of lubricant leak, damage and corrosion as the likely leak points.
4. Move the probe slowly (about 3ft/s or 75mm/s) at these suspicious places, move back and forth but no more than 0.25"/6mm away from the leak areas.

Note: A closer probe position and slower "sweeping" movement usually improves the possibility of finding a leak.

5. The buzzer and LCD display will indicate the detected leak at the same time:
Buzzer: The sound will increase in proportion to the leak intensity.
The faster the buzzer beeps, the higher the leak has been detected.
LCD display: The bar graph will increase from bottom to top in proportion to leak intensity. The higher the bar graph rises, the higher the leak has been detected.
6. Follow the operations above to detect the entire refrigerant system and mark every leak that has been found.
See the illustration below for visualized detection method:



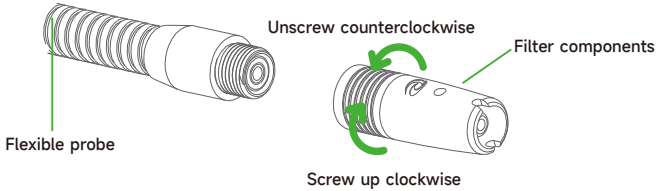
6. Maintenance

Battery Charging & Maintenance

⚠Warning!
Avoid complete discharging and frequent charging or it may affect battery life.
Do not dissemble the built-in rechargeable lithium battery.
If the detector will not be used for a long time, please charge it before hand to prevent battery life reduction due to self-discharging. Do not store it for more than 6 months.
Use DC 5V/1A power adapter to charge the detector.
Charging indicator in Orange: the battery is charging now;
Charging indicator in Green: the battery is fully charged.

Filter Replacement

The filter can block large particle contaminants and moisture to reduce false alarms caused by excessive humidity. Please replace the filter in time when it is seriously polluted (black and clogged).
Follow the steps below:
1.Unscrew the filter components counterclockwise.
2.Screw filter components clockwise.



7. Warranty

One year since the date of original purchase.

1.用前须知

■尊敬的用户，感谢您对本公司的信赖与支持，欢迎您使用维朋公司领先系列红外冷媒检漏仪，我们将竭诚为您提供优质的产品。
■请您仔细检查收到的产品是否与订购产品一致，备附件、使用说明等是否齐全，运输过程中是否有损坏，如果发现上述情形请及时与本公司或当地经销商联系。
■产品（包括说明书）以后若有任何改动，请恕不另行通知。

⚠安全注意事项

请在使用和维护前仔细阅读和理解本手册。
请勿自行拆卸仪器。
如果您有任何技术问题，请随时联系我们。
1. 在检测前请先安装干净的滤芯，否则可能损坏传感器。
2. 请及时给仪器充电，以保证有足够的电量进行检测。
3. 请勿使用探头触碰或检测任何带电物体。
4. 请勿让水进入探头的进风口。
5. 使用UV LED检测时，请注意保护眼睛和皮肤。切勿直视紫外线。
6. 请避免吸入制冷剂蒸汽。吸入高浓度制冷剂是有害的，可能导致昏迷或死亡。
7. 电池属于危险品。使用时需要格外小心。不要将废弃的电池丢弃在普通垃圾桶中(应放进电池回收箱中)，以避免危险和对环境的伤害。
*仪器内置可充电锂电池，请勿更换电池类型。

2. 产品概述

ALD-1是基于红外探测原理研发的制冷剂红外检漏仪。与传统的电晕或加热二极管检漏仪相比，该系列的传感器具有更高的精度和更长的使用寿命，检测更多种类的制冷剂，避免高浓度制冷剂损坏等优点。还具有独特的人体力学外观设计和创新的大型TFT液晶大屏幕，呈现检测结果更加直观和多样化，优化用户体验。

1. 柔性探杆	5. Type-C充电口
2. UV LED	6. 显示屏
3. 滤芯组件	7. 按键
4. 耳机插孔	8. 蜂鸣器

内附：

红外检漏仪 x 1	吹塑包装箱 x 1
UV LED x 1	充电线 x 1
说明书 x 1	滤芯组件 x 5

3. 技术参数

传感器寿命	10年
灵敏度	最大3g/a
可检测气体	CFCs, HFCs, HCFC系列和HFO-1234YF
充电参数	DC 5V，1A
传感器原理	红外光谱吸收
报警模式	声光报警；TFT显示
自动关机	10分钟无操作
电池	两节18650锂电池（详见电池拆装示意图）
工作时间	连续工作约8小时
充电时间	约4小时
储存温度	-20°C ~ 60°C(-4°F ~ 140°F)
操作环境	-10°C ~ 52°C；最大90%湿度（无凝露）
符合认证	CE, EN14624:2012, RoHS, SAE_J1627, SAE_J2791，SAE_J2913
规格尺寸	201mm x 72mm x 35mm (7.9″x 2.8″x 1.4″)
重量	450g(15.9oz)

电池拆装示意图

4. 功能说明

型号	ALD-1
泄露显示	
灵敏度等级	
蜂鸣器开关	
峰值特征	
UV LED	

4.1 按键功能

ON OFF 长按2秒可开启仪器，短按可关闭仪器。

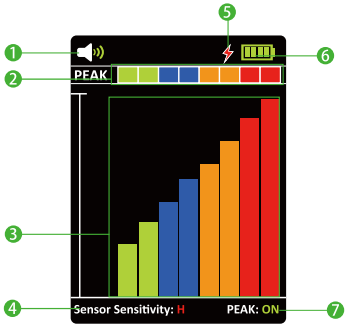
RESET SENS 短按可选择低、中、高三个灵敏度等级。

MUTE 短按可开启或关闭蜂鸣器。

PEAK 短按可标记或取消标记最大泄漏量，取消后同时清除已记录的最大值。

MODE 预留功能。

4.2 显示



❶ 蜂鸣器指示：指示蜂鸣器功能状态，红色表示关闭蜂鸣器，绿色表示开启蜂鸣器。
❷ 最大泄漏值：显示已检测到的最大泄漏值（PEAK功能需开启，如关闭则不会显示）。
泄漏量指示：显示当前的泄漏量大小，泄露浓度越高，柱状图越高。
❸ 灵敏度等级：显示当前灵敏度等级，共3个等级选项可根据需求切换，显示：
❹ H-最高灵敏度，M-中级灵敏度，L-低级灵敏度。
充电状态指示
❺ 电量指示：显示当前电量状态，绿色满格为满电；黄色为低压；红色为欠压，需要及时充电。
❻ 峰值指示：指示PEAK功能状态，开启PEAK功能时，屏幕显示ON，打开记录功能。
❼ 关闭PEAK功能，屏幕显示OFF，同时清除记录峰值。

其他

故障报警：偿传感器出现故障，开机时会弹出故障Error:Sensor。

预热倒计时：仪器需要预热，因此开机后请等待直至预热倒计时结束，整个过程约30秒左右。

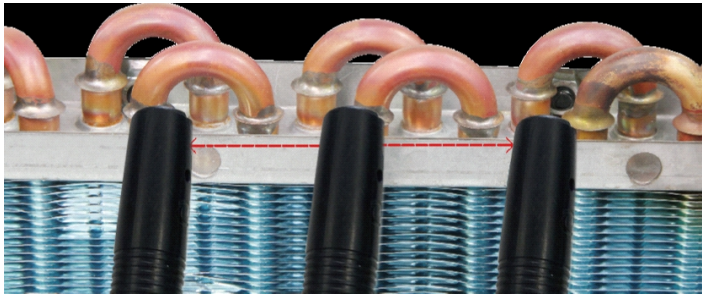
5. 操作

⚠警告！

检测前请确认电量是否足够本次检测（通常一次检测时间大约30分钟）。
检测过程中需要保持仪器不断移动，因为ALD-1的原理检测的是气体的相对浓度，如果检漏仪保持不动且浓度未发生变化时，将无法检测出泄漏情况。
偿系统中的压力很低的时候，很多冷媒泄漏无法检测出来，因此在检测开始前，请确保关闭系统状态下压力最少340Kpa(50psi)以上。
不要把仪器靠近有机溶剂或者清洁剂、高压电源，检测完后，用干毛巾清洁仪器。

步骤

检测注意事项
1.开机后，等待仪器预热达到最佳探测状态，大约30秒后进入主界面。
2.调整到合适的灵敏度级别（默认为高灵敏度）。
3.寻找制冷剂最有可能泄漏的地方，建议考虑点包括：
制冷剂管路的节点
制冷剂管路横截面异常点
制冷剂管路纵截面异常点
目视跟踪整个制冷系统（所有管路 、软管、配件、联轴器、服务阀等）寻找润滑油泄漏，系统损坏和腐蚀迹象，如有则可能是泄漏点。
4.在这些可能出现泄漏的地方缓慢移动探头（建议75毫米/秒），来回移动，探头距离泄漏区域不超过6毫米。
注：较近的探测距离和较缓慢的移动速度会提高发现泄漏的可能性。
5.当检测到泄漏时，蜂鸣器与液晶屏会同时进行相应的提示:
蜂鸣器: 发声的频率与泄漏强度成正比，即蜂鸣声越急促，表示泄漏值越大;
液晶屏: 柱状图从下到上比例显示泄漏强度，随着泄漏量增加，柱状图往上递增。
6.利用上面的方法，仔细检测整个系统，如果发现泄漏请做好标记。
查询方法示例图如下，可供参考：



6. 维护保养

电池充电

◆避免电池完全放电。同时避免对锂电池频繁充电，否则会影响电池寿命。

◆请勿拆卸内置可充电锂电池。

◆仪器长时间不用，需要对电池进行充电，防止自放电造成电池寿命减少，最长储存时间不超过6个月。

◆使用直流5V/1A电源适配器给仪器充电。

橙色充电指示灯:电池正在充电;

绿色充电指示灯:电池已充满。

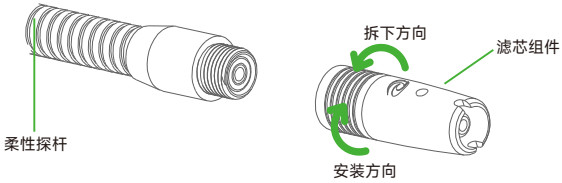
更换滤芯

滤芯可以过滤大颗粒污染物以及水汽，减少因湿度过大引起的产品误报警; 当滤芯被污染严重时(滤芯发黑，堵塞) 请务必及时更换。

具体更换方式如下:

1.将滤芯组件逆时针拆下。

2.将新滤芯元件以顺时针方向安装，更换过程结束。



7. 保修

由于厂家制造疏忽引起产品本身的质量问题，自购买之日(凭发票)或出厂之日（无发票)起1个月内免费调换、12个月内免费保修、终身有偿检修。

下列情况除外:

擅自拆卸或修理引起损坏的;

使用不当（任意甩弃跌落等），以及不可抗力因素引起损坏的。

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