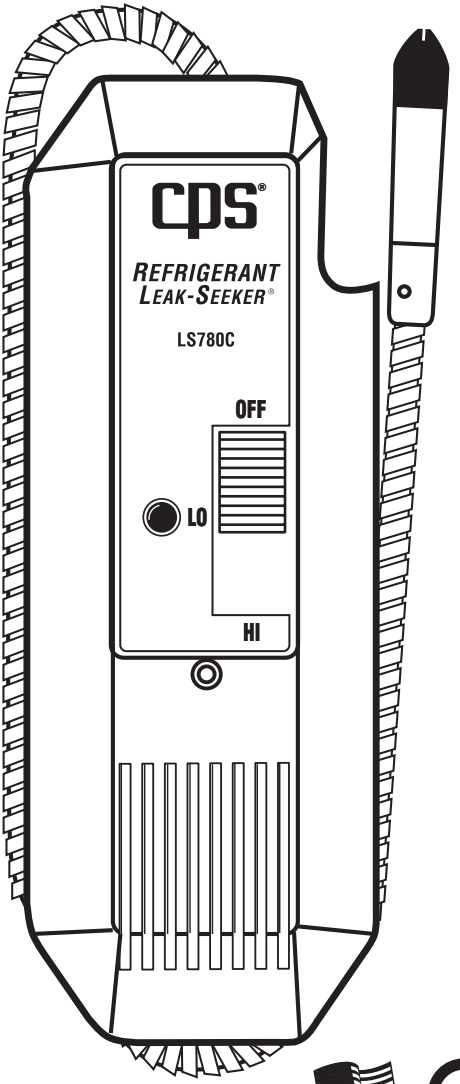
LEAK-SEEKER® LS780C

Refrigerant Leak Detector



MADE IN U.S.A.

CE

MANUAL

GENERAL SPECIFICATIONS

The **LS780C** is a perfect combination of advanced electronics and field practical features. Developed from over 20 years of engineering experience and sensor research, the LS780C incorporates sophisticated patented technologies, yet is one of the easiest to use leak detectors available today.

The quick and accurate location of a refrigerant leak is critical to the thousands of professionals who rely on CPS for their leak testing needs. Designed to effectively detect all CFC, HFC, HCFC refrigerants and refrigerant blends as well as the latest HFO type refrigerants for automotive use, the LS780C is the best value in leak detectors in the market.

The portability of the LS780C allows the user access to any suspected leak area, no matter how remote or restricted it may be. An ergonomically shaped body provides a sure grip while the 18" flexible probe bends it's way into almost any position. A multitude of other time saving and practical features provides the professional with the absolute feedback they need to confidently say, "the leak is here!"

The following pages contain all of the necessary information you will need to properly operate, maintain or leak test using the LS780C LEAK-SEEKER®. Please take the time to thoroughly read and understand the enclosed information prior to operating the unit.

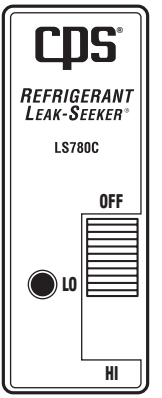
FEATURES

- Patented Ion-Pump® sensor enhances sensitivity & reliability
- Patented filter eliminates false signals due to moisture
- LED leak size indicator
- Detects all halogenated refrigerants
- 2 selectable sensitivity ranges
- 30 Hour battery life
- Rated better than 0.25 ounce for R-134a
- Low battery indicator
- CE Approved

ADDITIONAL PARTS INCLUDED

- Spare Ion-Pump® Sensor
- Carrying case
- Earphone for noisy environments
- 4 AA Alkaline Batteries

INSTRUMENT CONTROLS



The instrument features an easy to use 3-position slide switch as its only control feature. The function of each of the positions is as follows:

OFF: In this position, the power to the circuit is disconnected.

LO: This is the position that puts the LS780C into it's low sensitivity mode. When switching from OFF to LO, the instrument wakes up, takes note of the contamination conditions around the sensor, setting itself to those conditions and notifies the user that it is ready to function by sounding a low pitched tone at regular intervals. This tone increases in pitch and frequency as the leak is approached.

HI: This is the position that puts the LS780C in its high sensitivity mode. When switching from OFF to HI, the instrument wakes up, takes note of the contamination conditions around the sensor, setting itself to those conditions and notifies the user that it is ready to function by sounding a low pitch tone at regular intervals. This tone increases in pitch and frequency as the leak is approached.

Note: It is not necessary to go from LO or HI to the OFF position to clear the instrument.

AUTOMOTIVE APPLICATIONS

SAE J1628 RECOMMENDED PROCEDURE

NOTE: On automotive A/C systems, test with the engine off.

1. The air conditioning or refrigeration system should be charged with sufficient refrigerant to have a gauge pressure of at least 340 kPa / 50psi when not in operation. At temperatures below 15˚C / 59˚F, leaks may not be measurable, since this pressure may not be reached.
2. Take care not to contaminate the detector probe tip if the part being tested is contaminated. If the part is particularly dirty, or condensate (moisture) is present it should be

wiped off with a dry shop towel or blown off with shop air. No cleaners or solvents should be used, since the detector may be sensitive to their ingredients.

3. Visually trace the entire refrigerant system and look for signs of air conditioning lubricant leakage, damage, and corrosion on all lines, hoses, and components. Each questionable area should be carefully checked with the detector probe, as well as all fittings, hose to line couplings, refrigerant controls, service ports with caps in place, brazed or welded areas, and areas around attachment points and hold down on lines and components.

4. Always follow the refrigerant system around in a continuous path so that no areas of potential leaks are missed. If a leak is found, always continue to test the remainder of the system.

5. At each area checked, the probe should be moved around the location, at a rate no more than 25 to 50 mm/second (1-2 in/second), and no more than 5 mm (1/4 in) from the surface, completely around the position. Slower and closer movement of the probe greatly improves the likelihood of finding a leak.

6. An apparent leak shall be verified at least once by blowing shop air into the area of the suspected leak, if necessary and repeating the check of the area. In cases of very large leaks, blowing out the area with shop air often helps locate the exact position of the leak.

7. Leak testing of the evaporator core while in the air conditioning module shall be accomplished by turning the air conditioning blower on high for a period of 15 seconds minimum, shutting it off, then waiting for the refrigerant to accumulate in the case for ten minutes. Next, insert the leak detector probe into the blower resistor block or condensate drain hole if no water is present, or into the closest opening in the heating/ventilation/air conditioning case to the evaporator, such as the heater duct or a vent duct. If the detector alarms, a leak apparently has been found.

8. Following any service to the refrigerant system, and any other service which disturbs the refrigerant system, a leak test of the repair and of the service ports of the refrigerant system should be done.

OPERATING TIPS

Windy Conditions: Do not attempt to find a leak in windy areas. Even very large leaks may be impossible to find as the escaping gas is quickly dissipated into the atmosphere. If necessary, fabricate a gas trap using aluminum foil around joints or fittings or otherwise shield the search area from the wind.

Recommended Sensitivity Setting: Start searching for leaks using the LO sensitivity range to detect and repair the biggest leaks first. Switch to the HI sensitivity setting if no leaks are found using the LO setting.

Leak Verification: If a suspected leak is indicated, verify several times by moving the sensor away from the leak area, allowing the alarm to clear and then back to the suspected leak. If the instrument indicates a leak three consecutive times, you have found a leak.

MAINTENANCE

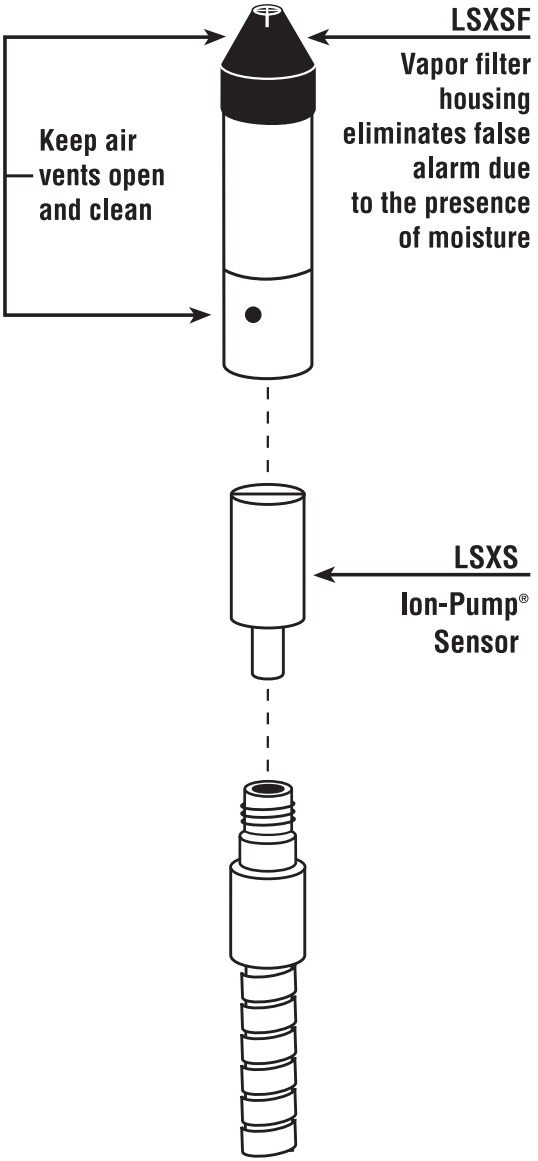
The LS780C LEAK-SEEKER® is designed to require a minimal amount of field maintenance. Regular cleaning of the sensor housing air vents, replacement of the Ion-Pump® sensor and changing the batteries are the only maintenance needs.

Battery: Replace with "AA" alkaline batteries only.
Note: Do not use rechargeable batteries.

Changing the Ion-Pump® Sensor: Eventually, the Ion-Pump® sensor will need to be replaced. This condition is usually indicated by abnormal or erratic performance when the instrument is in the lowest sensitivity range. Install the new sensor as indicated in **Figure-1** (turn the unit OFF before attempting to change the sensor). CPS recommends that you change the Ion-Pump® sensor at the beginning of every AC & R season and always have a spare sensor available for replacement in the field.

Patented Vapor Filter: Ensure that the sensor housing inlet and outlet air vents are clean and free of materials that may block the air from circulating through the Ion-Pump® sensor. If the vents become dirty and clogged remove the housing from the probe and remove the Ion-Pump® sensor (turn the unit OFF before removing the housing). Next, attempt to remove any contaminants using low pressure shop air or by hand **ONLY**.

FIGURE - 1



Note: Do not attempt to clean this housing by any other means. If the sensor housing remains contaminated, simply replace it.