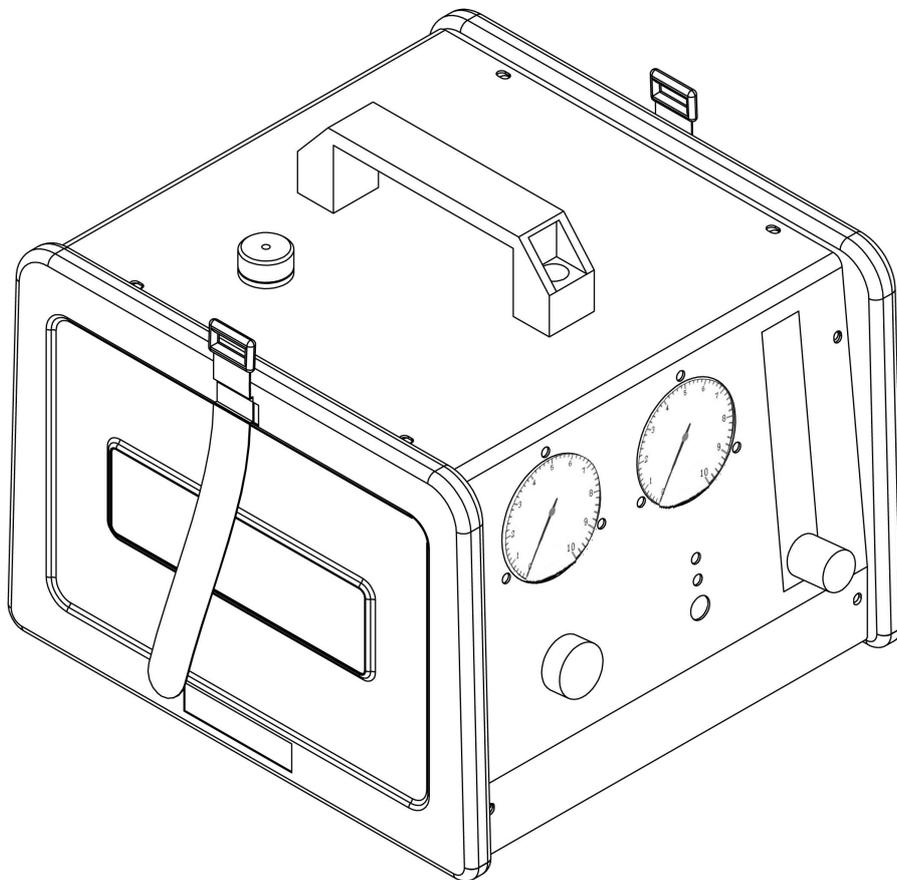


# Automotive Diagnostic Leak Detector

## User Manual



## Warning

1. Only Authorized operator could use this equipment.
2. Always confirm Fluid level before use, if the fluid level is low enough to the bottom of the filler port, it will need a refill.
3. Do NOT use the unit on smoke sensitive parts. Eg. Lamp housing.
4. Avoid using the equipment on windy environment.

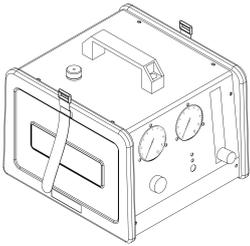
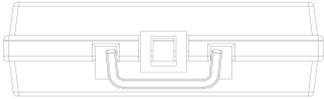
## Safety

1. Do not use the equipment while the engine's running.
2. Wear Protection Glass.
3. It is always best to test in a draft free area. Always use a bright halogen lamp to enhance the visibility of the smoke exiting the leak.

## Specification

Power Supply: 12V automobile Battery 6Amp  
Flow Rate: <20 L/Min  
Flow Control: Yes  
Output Pressure:0.5-8Bar  
Length of Power Cord: 2.5Meters  
Length of Smoke Hose:5Meters  
Working Cycle: 10 Min auto-stop

## Packing List

Art.#		Description	Qty
		Main Unit  <b>Note:</b> In most cases, do not use the equipment over 5Bar/80Psi	1
		Accessories Case	1
		Power Cord	1

		Smoke Delivery Hose	1
		Shop Air Coupler	1
		Test Fluid (250ML) NOTE: MAY NOT COME WITH THE PACKAGE	1
		Funnel	1
		Male Extension Coupler	2
<b>The following parts are applicable at Test Pressure &lt; 3.0Bar/45Psi</b>			
		3 inch Intake Bladder Heavy Duty vehicles	1
		3 inch Intake Bladder Replacement Rubber	1
<b>The following parts are applicable at Test Pressure &lt; 1.0Bar/14.5Psi</b>			
		Adapter Cone	1
		1.5inch Intake Bladder for passenger car	1

		1.5inch Intake Bladder Replacement Rubber	1
		Smoke Nozzle Converter	1

## Accessories Explanation

### Power Cord

To offer connection from the unit to the automobile battery, in order to drive the unit.

### Smoke Delivery Hose

For introduction of smoke from the unit to Adapter Cone / Universal Intake Bladder or to the vacuum pipe directly.

The smoke nozzle at the end of the hose could be removed, if want to fit the Fuel System Adapter Kit to test the EVAP System from under the hood, or to fit the smoke diffuser, or use of the leak size identifiers.

### Shop Air Coupler

For introduce shop air into the machine.

### Test Fluid (250ML)

Food level Mineral Oil based environment friendly test fluid. If the test fluid is not easy to get, An alternate option is to use only medicinal mineral oil or baby oil that does not contain any lotions, aloe, vegetable oil or creams. An added fragrance is acceptable

### Funnel

Assistance method for smoke oil refill, to prevent pour oil to the unit surface.

### Male Extention Coupler

It would be useful if you want to extend the application to get access to more systems, with your own parts.

### 3 inch Intake Bladder Heavy Duty vehicles

For getting access to Heavy Duty central cooling system & exhaust.

### 3 inch Intake Bladder Replacement Rubber

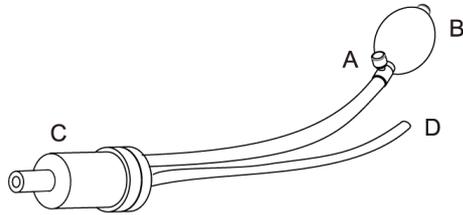
Once the intake bladder rubber was broken, could replace with new one. No further warranty would be provided on the intake bladder.

### Adapter Cone

To fit the intake and exhaust, seal the system and introduce smoke into the system. It may fall out at high pressure and need a second hand to push and hold at operation.

### 1.5inch Intake Bladder for passenger car

To fit the intake and exhaust, seal the system and introduce smoke into the system. Especially while the inlet position is not rounded-shape.



1. Clean the inner wall of the intake opening while the Air Filter, and the Throttle connections are removed, so as not to scratch the adapter.
2. Close the Pressure Relief Valve(A) next to the Hand Pump(B).
3. Put the Rubber Component(C) into the intake opening.
4. Inflate the Rubber Component(C) by pressing the Hand Pump(B) till the intake opening is tightly sealed.
5. Now the system is ready to test, introduce air/smoke into the system by plug the smoke nozzle into the Tube Opening(D) .
6. After test,pull off the smoke nozzle, release the inflated air by open the Pressure Relief Valve(A) next to the Hand Pump(B).
7. Clean the adapter for storage, avoid contact with corrosive liquids.

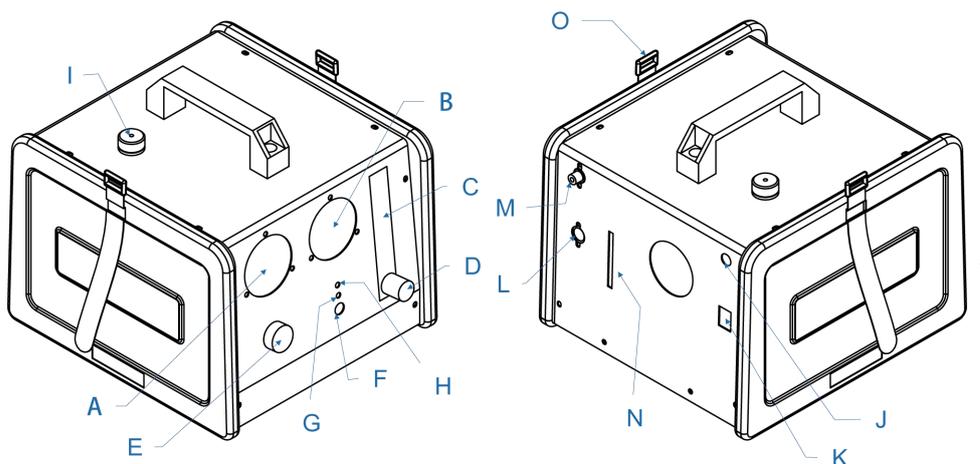
### 1.5inch Intake Bladder Replacement Rubber

The rubber on the Intake Bladder may be easily broken, if not operate it properly with caution. The rubber could be replaced with new one without replace the whole Intake Bladder.

### Smoke Nozzle Converter

For connection to low pressure pipes.

## Product Structure



The following list is designed to familiarize you with the function of the operational components of the machine.

### A Test Pressure Gauge

It indicates the supply air pressure, and determine the MAX working pressure. Adjust <Pressure Adjust Knob> for a proper test pressure before power up the unit.

### **B System Pressure Gauge**

The Output Pressure Gauge displays the output pressure of the machine as well as the real time pressure of the system been testing. **Pressure Decay Test:** This gauge can also be used to determine if a leak exists by closing the Flow Control Valve/switch the machine to <OFF(Decay)> while the system is under pressure. If the gauge holds the displayed pressure, there is no leakage. If the displayed pressure starts drops, there is leakage in the system.

### **C Flow Meter**

The purpose of the flow meter is to provide a quick visual indication of the amount of air/smoke passing through the system being tested. If the smoke nozzle is in a closed system, and there are no leaks in that system, the flow meter will read zero (ball at bottom of scale). As a system is filled with air or smoke, the ball in the flow meter will slowly fall to the bottom of the scale as the pressure in the system equalizes to the output pressure of the unit. As the flow decreases, the output pressure will increase. If the flow meter ball never falls to the bottom of the scale, there is leakage or air passing through the system. It is not necessary to use smoke when using the flow meter to determine if a leak exists.

### **D Flow Control Valve**

In many cases excessive smoke exiting a leak may make it difficult to determine the exact location of the leak. The purpose of the Flow Control Valve is to decrease the amount of smoke exiting a leak so that its position may be pinpointed without the masking effect of excessive smoke. Turn clockwise to decrease flow, counterclockwise to increase flow. This valve is also used to lock out the system under test and observe any pressure decay on the pressure gauge.

### **E Pressure Control Knob**

Test Pressure shall be set before power up the machine, otherwise, improper test pressure may damage the connected accessory or the vehicle components. You should have an idea about what pressure is needed for the specific system which is about to be tested .

### **F Start/Stop Button**

Pressing the Start/Stop Button will start a 10-minute smoke producing cycle. To interrupt this cycle, press the Start/Stop Button again and the smoke production will stop. If the cycle is not interrupted, the smoke production will terminate automatically in 10 minutes. Once the leak has been located, it is recommended to stop the smoke production using this button rather than turning the Flow Control Valve to the fully closed position.

### **G Power LED Indication**

While the machine is powered up, this LED shall be ON, otherwise, check the power supply and the <ON/OFF(Decay) Switch> status.

### **H Smoke Production Cycle LED**

While the machine is producing smoke, this LED shall be ON.

If the LED flashes, the machine is in over-heat protection mode and no smoke would be produced.

### I Oil Filler Port

For oil refill while its needed. The funnel is a nice helper to prevent oil from poured to the surface of the unit.

### J Power Socket

While set up the unit, the power cords need to plug into the power socket.

### K ON/OFF(Decay) Switch

The unit would be Powered on and start generate pressure air while its switched to ON position. Switch to OFF position would turn the unit off, while the connection to the automobile is not disconnect,the unit would be able to do pressure decay test.

### L Shop Air/Nitrogen Inlet Port

To introduce air source into the system, if the shop air coupler coming with the machine is not proper, you may need to prepare your own shop air coupler.

### M Smoke Outlet

While set up the unit, the Smoke Delivery Hose need to be mounted onto the Smoke Outlet .

### N Oil Level Gauge

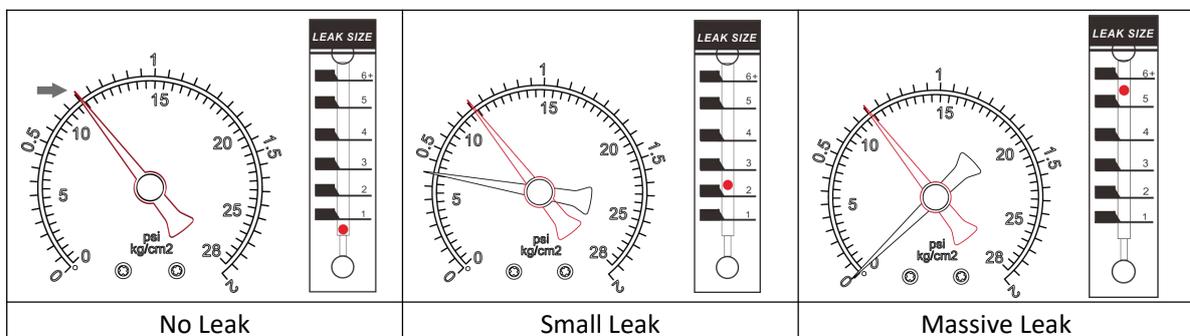
While set up the unit, smoke oil need to be filled into the unit, do not exceed the MAX line.

Check and confirm proper oil level periodically. If the oil level is lower than the MIN line,the unit would need a refill.

### O Velcro Straps

For collection of the smoke delivery hose, and power cord before storage.

## Leak Status Indication



# Warranty

1. The main unit entitled free warranty since the date of purchasing up to 12 months.
2. All accessories entitled free warranty since the date of purchasing up to 6 months, except the Intake Bladders.
3. Any damage to the machine caused by misuse, or improper operation, is not covered by warranty.

# Service Records

Data of Purchase: \_\_\_\_\_

Customer: \_\_\_\_\_

Date	Description