Air Leak Tester with more versatility and capability

 Loaded with advanced features evolved throughout our extensive knowledge and experiences

**FULL-COLOR TOUCH-SCREEN DISPLAY**
Easy-to-navigate and intuitive interface with simple menu configurations

**USER SELECTABLE MULTI-LANGUAGE CAPABILITY**
Selectable from English, Japanese, Chinese, Korean, German, Spanish and Portuguese.

**WAVEFORM MEASUREMENT DISPLAY**
Graphical display of the test pressure and measured differential pressure

**EXTERNAL PNEUMATIC CIRCUIT**
Detects blockage of select valves and exhaust valves connected to the LS-R900.
* The effect varies depending on the conditions.

**AUTOMATIC SETUP FEATURE FOR EASY PROGRAMMING**
Supports initial test parameter programming by determining stage timers.

**USB PORT FOR EASY DATA STORAGE**
Test results can be automatically copied to a USB Memory after every test, test parameters and System data backup can be stored as well.

**MASTERING FEATURE PROVIDES HIGHLY ACCURATE TEST RESULTS**
Provides faster and more accurate test results by compensating for environmental drifts. Using the Mastering feature, variety of parts can share a Master Chamber as a reference.

COSMO INSTRUMENTS CO, LTD.
Other Features

Display
- Full-color 5.7-inch LCD touch-screen
- Selectable from 6 different measurement screens

Intelligent Pneumatic Circuit
- Comes with self-check features: Sensor sensitivity, Air-valve performance
- K(Ve) can be setup using a calibrator, Leak Master or Auto-Leak Calibrator (ALC) to convert measured pressure to a flow rate.

K(Ve) Setup

Leak Limits
- Two sets of leak limits: Medium/Small leaks on Work-side (UL/UL2) and Master-side (LL/LL2)

Electro-pneumatic Regulator
- For the models come with Electro-pneumatic regulator, different test pressure can be set independently for each channel.

Noise Reduction (NR)
- Eliminates noise by repeating the DET stage when the reading falls between DET UL and DET UL2.

Operation manual download
- Operation manual in each language can be downloaded through the USB port.

Drift Compensation
- Mastering, Auto-Drift Compensation, Compensation Limits, Number of Samples

Self-Check
- Air-operated valve performance, DPS/PS Offset, CPU performance and others

Sensor Protection
- Air-Blow (Intelligent Pneumatic Circuit): The pneumatic circuit is cleaned at the end of every leak test.
- External Exhaust Valve Ready: Valve is sold separately.

Exhaust Interference Prevention
- Exhaust timing will be controlled for the cases where multiple cavities are tested simultaneously.

Charge Hold
- Tester pressurizes the tested part continuously. Used to locate leaks.

Control I/O
- Both for NPN-PNP For Phoenix Contact connector, wire connection can be done with a flat-bladed screwdriver.

Serial Communication
- RS-232C: 2 ports one each on the front and rear panels.
- USB: 1 port

Mastering Settings
- Maximum Idle Time, Day of Week, Interval, Iteration, Consecutive Triggers, Mastering Limits

Display/Messages
- Error Message, Troubleshooting, I/O Monitor, Channel Title, Counter

Quick Mounting Brackets
- Tester can be mounted/removed with only two screws. Good for mounting the tester in the limited space.

Easy-to-navigate configuration with icons

Intuitive operation makes test parameter programming easy.

Selectable Measurement Screens

Measurement screens is selectable from 6 different screens. For four measurement screens, “Standard”, “Simple”, “Waveform” and “4-Channel, the items to be displayed can be customized.

Settings Menus

Large numeric keyboard pops up for easy test parameter settings.

Helpful User-Support Features

Addition to the sophisticated testing capability, LS-R900 comes with wide variety of user-support features such as Information, Troubleshooting, Calculation tools and List of common peripherals.
# Pneumatic Circuit (Intelligent 2 Pneumatic Circuit)

## General Specifications

<table>
<thead>
<tr>
<th>Differential Pressure Sensor (Standard)</th>
<th>Resolution</th>
<th>±2.5% of rdg</th>
<th>±1 Pa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy Guaranteed Range</td>
<td>±1000 Pa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Accuracy</td>
<td>±50 Pa or lower</td>
<td>±2 Pa</td>
<td></td>
</tr>
<tr>
<td>Sensor Proof Pressure</td>
<td>5 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Pressure Unit</td>
<td>kPa, MPa (PSI, kg/cm², bar, mbar, mmHg, cmHg, inHg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leak Unit</td>
<td>Pa, kPa, mL/s, mL/min, L/min, Pa·m³/s, E-3 Pa·m³/s, Pa/s, Pa/min, *Pa/s, *Pa/min (mmH₂O, inH₂O, mmHg, in?min, in?d, ft?/h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K(Ve) Unit (Leak Coefficient)</td>
<td>mL, L (in³, ft³)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Test Pressure source                    | Clean air regulated to the test pressure. The source pressure must be sufficiently higher than the test pressure. |
| Pilot Pressure                          | Clean air regulated from 400 to 700 kPa |
| Tube Diameter                           | Ro(PT) 1/4 (Test pressure, Pilot pressure, Work and Master ports) |
| CPU                                     | ARM9 400MHz, DRAM 128MB |
| RS-232C 2 ports (DE-9 pins)             | IF fixed length ID/F fixed length Test parameters are transmitted as well as test results. |
| T/F fixed length                        | Only test results are transmitted |

| USB Port                                | Exporting test parameters csv file |
|                                       | Test Parameter Backup/Restore System Backup/Restore, Upgrade |

| Accessories                             | Oil mist separator and regulator (except H20 and H49), Filter regulator for Pilot pressure, Power cord, Quick mounting brackets, Control I/O connector, Inspection record, Traceability related documents, Operation manual |

**NOTE:** Regulator and power cords are not included in scope of the CE declaration.

## Model

<table>
<thead>
<tr>
<th>LS-R900</th>
<th>1 Pneumatic Circuit</th>
<th>2 Pressure Range</th>
<th>3 Options</th>
<th>4 Power Cord</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Intelligent 1 Pneumatic Circuit, A2: Intelligent 2 Pneumatic Circuit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precision Regulator</td>
<td>L02: 5 to 20kPa, L: 10 to 100kPa, M: 50 to 800kPa, V: -5 to -100kPa, H20: 2.0MPa or lower *1, H49: 4.9MPa or lower *1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP Regulator</td>
<td>LR: 10 to 95kPa, MR: 50 to 800kPa, VR: -5 to -75kPa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>J: Comes with CAL Driving Valve for Leak Master, K05: Comes with ALC-05 0.5mL, K1: Comes with ALC-1 1mL, K4: Comes with ALC-4 4mL, K10: Comes with ALC-10 10mL, B: Bypass Circuit Ready without regulator, B1: Bypass Circuit Ready with regulator, D4: Differential Pressure Sensor Range: ±10kPa, PV1: Pressure/Vacuum Pressure Sensor PX2: Rechargeable Battery (CE and UL not conformed), UX3: UL conformed</td>
<td></td>
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</tr>
<tr>
<td>Power Cord</td>
<td>VA: 125VAC/7A Length: 3m, VE: 250VAC/10A Length: 2m (CE conformed)</td>
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</tbody>
</table>

* *1 H20 and H49 models come with no regulator.*

## External Appearance

![External Appearance Diagram](image)
Air Leak Tester Common Peripherals

**MC** Master Chamber
A standard master replacing a known good part that is robust and has excellent repeatability. A model dedicated for Mastering feature is also available.

**G3-ME** External Exhaust Valve
Installing it between Air Leak Tester and tested part prevents the tester from contamination with oil and water. This can be driven by Air Leak Testers.

**LM-1C** Leak Master
A leak standard for daily checks of Leak Tester readouts. This is also used for K(Ve) setup.

**QLC** Quick Leak Calibrator
A leak calibrator for Air Leak Testers that precisely generates the specified volume displacement through a single operation.

**NL** NL Select Valve
A dedicated switching valve for Air Leak Testers

**BU** Bypass Unit
Using Bypass Unit for leak testing parts with a large volume can reduce the test time.

**CX** Conversion Cable
Used for installing LS-R900 for a replacement of an older model.

**PLC** PC Link Software 4
Application for Windows OS to analyze and display the data acquired from LS-R900 on a computer.

*The contents of this catalog are as of October 2016. The specs are subject to change without notice.*

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