

# PRODUCT INFORMATION AIR LEAK TESTER

**Compact Body with Excellent Features.  
Differential Pressure Type Air Leak Tester  
specialized in Operability and Cost performance**



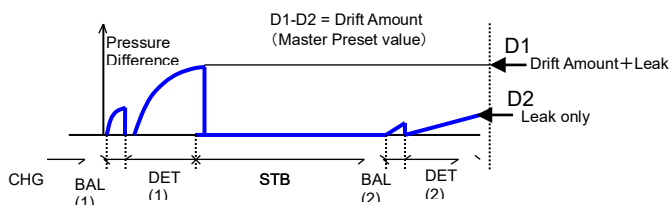
## LS-1866 Air Leak Tester

### Features

"LS-1866" is not only compact and lightweight but simple and easy to use Air Leak Tester. Compact size body with the latest functions such as Master Preset, Multi-channel and mL/min display of Leak Rate etc.

### Master-Preset

Extracts the real leakage out of drift or noise factors that affecting measurement. This function allows the improvement of production ratio and shortening of cycle time



### Clamp Output

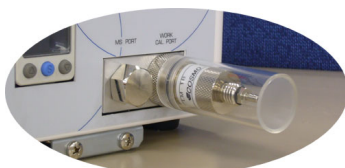
DC24V is output from the beginning to the end of test. Using this signal allows the control of clamp jig by Air Leak Tester



Stage	DL1	CHG	DL2	BAL	DET	DL3	END
24V output	←						→

### Leak Calibration

Calibration port, is located on the front panel of Air Leak Tester, allows easy check of the leak rate by installing Leak Master etc



### Quick Attachment Bracket

Installation or Removal of Air Leak Tester can be easily carried out with only two threads.



## ■ Functions

High Sensitivity 0.1Pa Display	The minimum resolution capability is 0.1Pa (Only when the unit is Pressure)
Multi-Channel	16 channels available to deal with various specifications
Master-Preset	Shorten the test time and improve the accuracy by removing a drift from detection value, also adjusting to environmental change. Only one MASTER is required even when testing multiple WORK have volume difference
NR mode (Noise Reduction)	Remove noises, caused by individual variability, by repeating measurements. That allow more detailed limit setting
Leak Rate Display	Convert the pressure difference into the leak rate to display mL/min unit, by a calibration using Leak Master (LM-1B)
Prevention of Exhaust Interference	Prevent the interference noise caused by the exhaust time lag when equipping multiple Air Leak Tester in the same machine
Clamp Output	DC24V is output for activating the air cylinder (externally installed)

Data Output	Serial communication port (RS-232C) is equipped
Two-staged Limit Setting	Distinguish small & large leak in NG judgment
Self-Diagnosis	Differential pressure sensitivity is automatically checked by Blow check in every test
Air Circuit Cleaning	Prevent foreign material such as water/oil etc from entering to WORK by the air blow at exhaust time
Test Pressure Monitoring	Upper/Lower limit setting of Test pressure
Quick Attachment Bracket	Allow installation/removal of Air Leak Tester from the front. No side space required
Leak Calibration	Allow easy calibration or judgment check by connecting Leak Master to the calibration port
External Exhaust Valve	Prevent water/oil from entering. However, Exhaust valve unit is separately required.
NPN-PNP Common I/O Port	NPN and PNP available for I/O

## ■ Model Classification

### LS-1866—①②—③

① Pneumatic Circuit	<b>A1</b>	Intelligent 1 Pneumatic Circuit
	<b>AS01</b>	Pneumatic Circuit Specialized in Minute Volume WORK
② Test Pressure	<b>L</b>	Low Pressure MAX95kPa (with Regulator) (10kPa to 95kPa)
	<b>M</b>	Medium Pressure MAX800kPa (with Regulator) (50kPa to 800kPa)
	<b>V</b>	Vacuum MAX-100kPa (with Regulator) (-5kPa to -100kPa) (With Limitation, Depending on Barometric Pressure)
	<b>H10</b>	High Pressure MAX990kPa (with Regulator) (100kPa to 990kPa)
	<b>H15</b>	High Pressure MAX1.5MPa (with Regulator) (0.5MPa to 1.5MPa)
③ Option	<b>D4</b>	Wide Range : DPS Range 10kPa

## ■ Specification

DPS	Minimum Reading	0.1Pa
	Display Range	±999Pa
	Proof Pressure	5MPa
	Reading Accuracy *1	±2.5% of rdg ±1Pa 50Pa or lower: ±2Pa
Leak Rate Display Range		0.00 to ±999 (Pa, mL/min) (Auto Range)
Limit Setting Range		0 to ±999
Channel Number		16
Timer Setting Range		0 to 999.8 s (999.9 s means no time limitation)
Power Source		AC100 to 240V ±10% 50/60Hz Power Consumption 70VA
Pressure Source		Clean air sufficiently higher than the test pressure.
Pilot Pressure Source		Clean air from 400 to 700kPa
Tubing Port Inner Diameter		Rc1/4 (Pressure Source, WORK and Master Ports), 6mm one-touch joint (Pilot pressure source) (Pressure Range M, L is connected to Pressure source by 6mm tube)
Communication Function		Serial Port RS-232C (Print mode is available)
Ambient Temperature·Humidity		5 to 40°C, 80%RH max, but no condensation
Weight		Approx 6.3kg (H Type: Approx. 8kg)
Standard Equipment and Accessory		(Standard) Regulator, Oil-mist separator, Filter regulator for Pilot regulator (Accessory) Quick attachment bracket, Inspection report, Operation manual
Power Cord		<b>VA:</b> 125 VAC 3 m, <b>VE:</b> 250 VAC 2 m, <b>VK:</b> 250 VAC 2 m (Only for Chinese customers)

\*1 For the option D4: DPS 10kPa, the reading accuracy is 5% of rdg ±0.01 kPa. However, ±0.02 for 0.2 kPa or lower.

## I/O Port Table

● Input NO: Normal Open NC: Normal Close

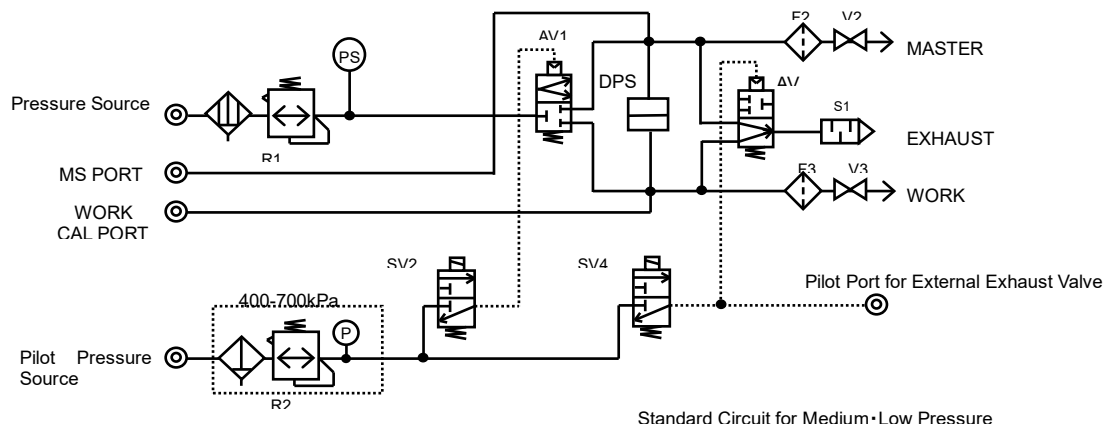
Name	Terminal No.	Signal Type
Start (START)	2	NO Pulse
Stop (STOP)	3	NO/NC Pulse
Charge Hold (CHG HOLD)	4	NO Hold
Master Preset	5	NO Pulse
External Power Input	10	
Channel #3	21	NO Pulse
Channel #2	22	NO Pulse
Channel #1	23	NO Pulse
Channel #0	24	NO Pulse

\* NPN, PNP both available for I/O

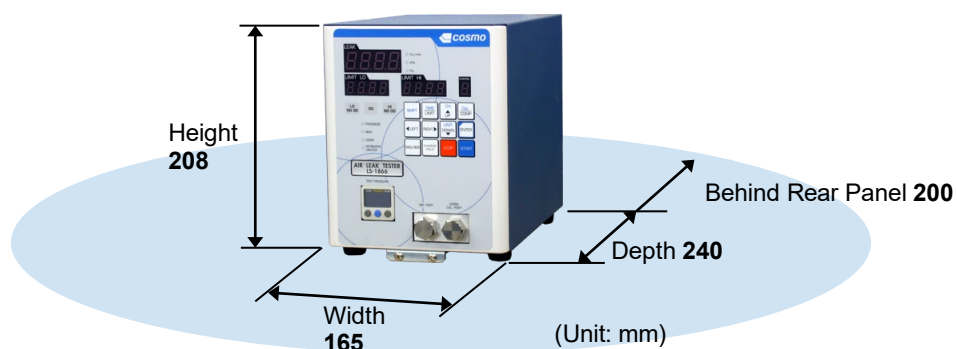
● Output (Open Collector)

Name	Terminal No.	Signal Type
During Operation (BUSY)	36	NO Pulse/Hold
End of Operation (END)	35	NO Pulse
OK (GO)	14	NO Pulse/Hold
MASTER NG (Lo-NG)	32	NO Pulse/Hold
MASTER NG (LL-NG)	33	NO Pulse/Hold
WORK NG (Hi-NG)	13	NO Pulse/Hold
WORK NG (HH-NG)	31	NO Pulse/Hold
Error (ERR)	16	NO Pulse/Hold
Output Common	19	
Stage #1	17	NO Pulse
Stage #0	18	NO Pulse
Time Extension	34	NO Pulse

## Pneumatic Circuit



## External Dimension



\* Behind rear panel, 200mm of space required for the installation of air filter and regulator etc

## Peripheral Equipment

### MC Master Chamber

Master Chamber is a part without any leakage. Small shape and great at air tightness. Easy to adjust its volume so that it can be used for various type of WORK. Master Chamber specialized in Mastering purpose is also available



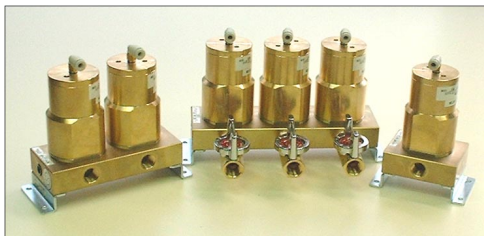
### LM-1C Leak Master

Leak Master intentionally generate a certain amount of leakage. Used for Air Leak Tester sensitivity check and the measurement of Equivalent Internal Volume etc.



### NL NL Select Valve

NL Select Valve is the selectable valve that minimize the external factors affecting measurement such as leakage, temperature and small volume change etc



### Cosmo Super Gel

Cosmo Super Gel has been developed in a way we pursue the seal technology of Air Leak Testing. Great in flexibility and stretching properties  
Can be formed in various sizes, configurations due to its thermoplasticity



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### G3-ME External Exhaust Valve Unit

Install External Exhaust Valve between Air Leak Tester and WORK in order to prevent water/oil etc from entering to WORK. Directly activated by Air Leak Tester.



### LC Leak Calibrator QLC Quick Leak Calibrator

Generate the pressure difference by changing a volume. Used for Air Leak Tester sensitivity check and the measurement of Equivalent Internal Volume. QLC is activated by one easy action



LC



QLC

### RC Remote Control BOX

Compact external remote controller. Select the model according to the required function.



RC-16

RC-12B

### KS Machine (Base Machine Type)



KS series designed to maximize Air Leak Tester performance and can be easily connected. This machine reflects our seal technology and jig clamp method that we have been developed in 40 years of experience. We offer this machine in a reasonable price so that customers can take advantage of it.

<http://www.cosmo-k.co.jp/>

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