
OPERATIONS MANUAL

WIDE VALVE UNIT WV Series for Bypass Circuit

No.WV-941B1-A

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1. OVERVIEW

When leak testing a part with a large volume under low test pressure, it is often observed that the pressurization capacity of the leak tester is not good enough, resulting in an extended amount of test time. In such cases, use of the external bypass circuit helps to shorten the pressurization time or overall test time and improve the leak test accuracy. LS-1842 and LS-1880 are capable of controlling such external WV series bypass air valve circuit unit.

2. SPECIFICATIONS

		WV-1	WV-2	WV-3
Components	Types and number of fill valves	Air pilot type valves (normally close)		
		1	2	3
	Types and number of exhaust valves	Air pilot type valves (normally open) 1		
	Silencer	ANA400-04		
	Orifice	6.0		
	Fluid	Dry and clean air		
	Test pressure range	-0.1 ~ 0.5 MPa		
	Pilot pressure range	0.4 ~ 0.5 MPa (supplied from Air Leak Tester)		
	Valve seat leakage (0.05 MPa)	0.05 mL/min max		
	Connection port diameter	OUT: Rc3/8 IN and EXHAUST: Rc 1/2		
	External dimension	188 x 55 (mm)		238 x 55 (mm)
	Suitable part Internal volume *	3 ~ 6 L	6 ~ 20 L	20 L or larger

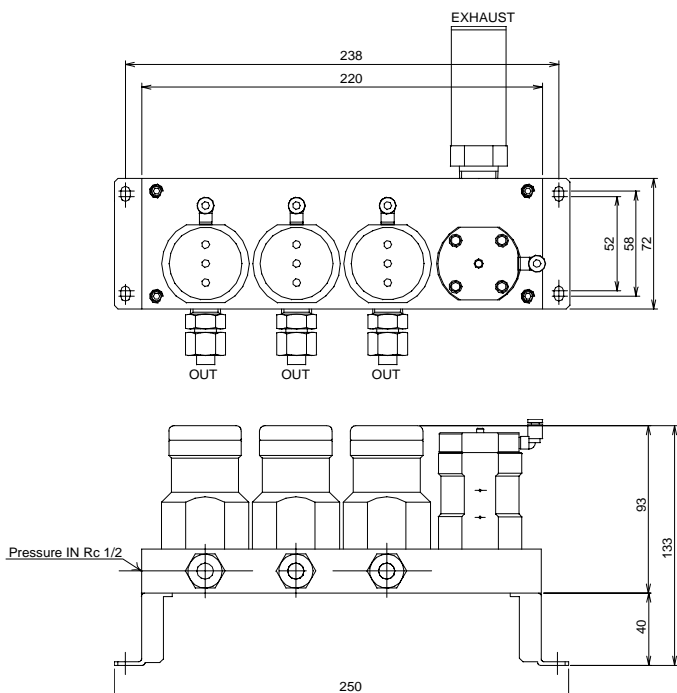
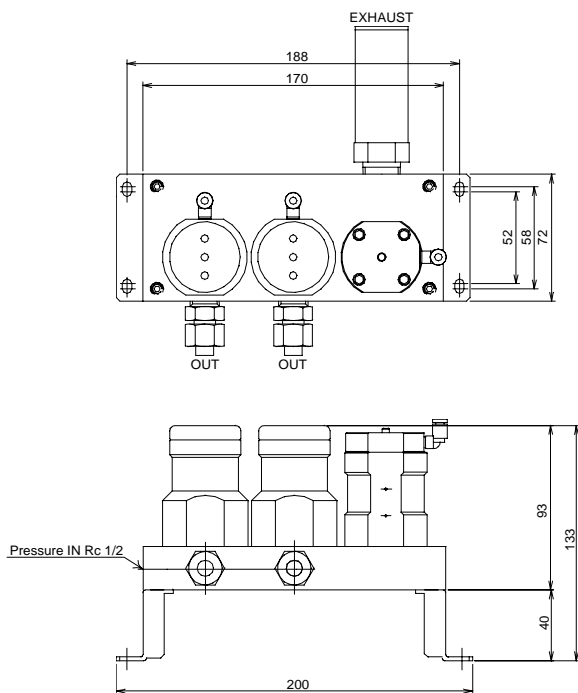
* Bypass Circuit Unit is effective when leak testing parts with large internal volume under low test pressure in short measurement time. Parts fall in listed volume ranges do not necessarily require a bypass circuit unit.

3. EXTERNAL APPEARANCE (WV-2 and WV-3)

WV-2

WV-3

WV1 uses same base (manifold).

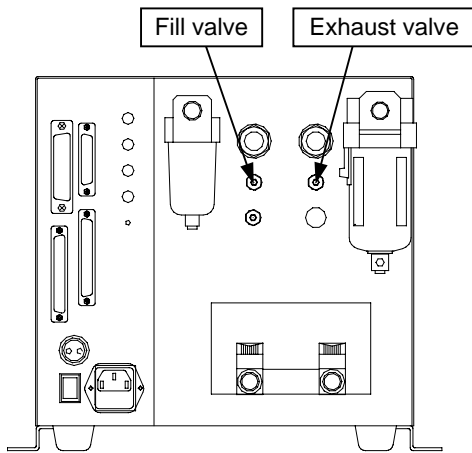


4. OPERATIONS

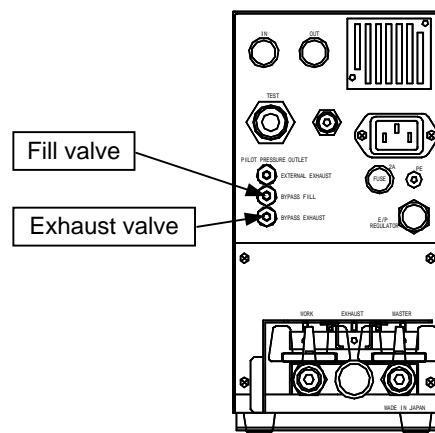
- 1) During Precharge (PCHG) stage, tested part is pressurized from both the external bypass circuit unit and the leak tester, and Master Chamber with small internal volume is pressurized from leak tester.

	PCHG	CHG	BAL>BAL2>DET>BLW>END
Pressurization from leak tester	■	■	■
Pressurization from bypass circuit unit	■		

- 2) Since the exhaust valve is connected to the fill valve 1, air is exhaust from through fill valve1. Be sure to use fill valve 1
- 3) The pilot pressure ports for Wide Valves, one for fill valve and the other for exhaust valve are located on the rear panel of the leak tester (LS-1842/LS-1880). In case of using WV-2 or WV-3, use attached fittings to branch off the tube to connect to each fill valves.

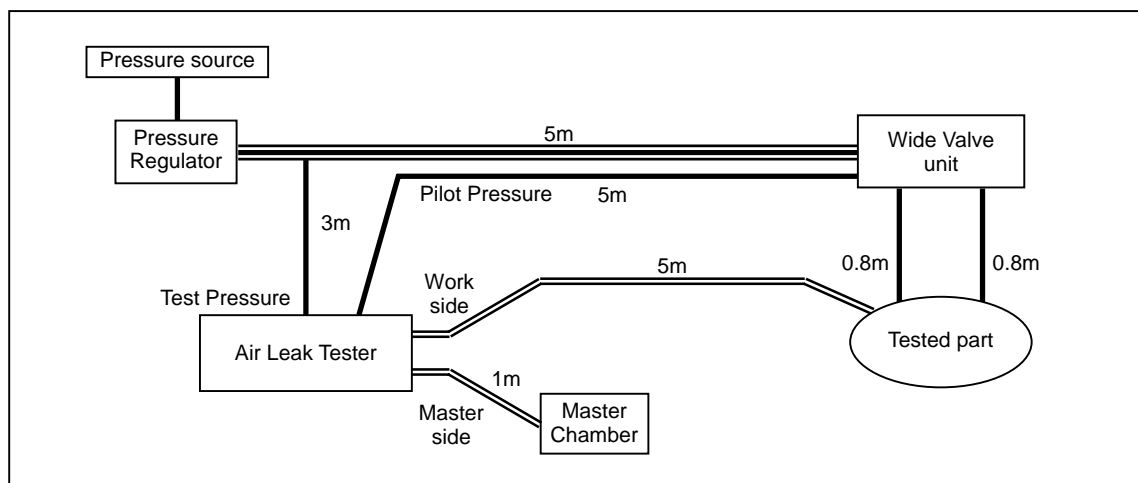


LS-1842

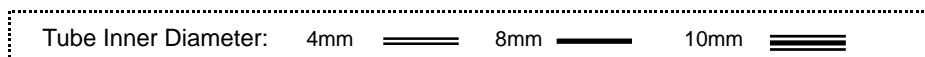


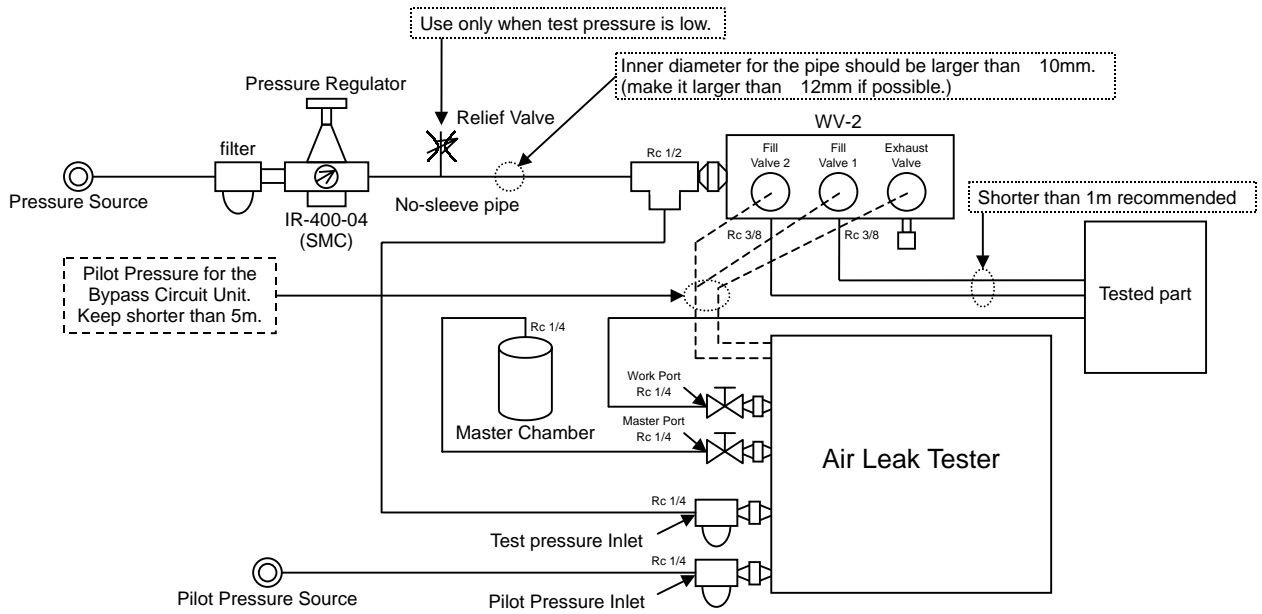
LS-1880 pneumatic circuit unit

5. PNEUMATIC CONNECTION EXAMPLE



Pneumatic Circuit with Bypass Circuit Unit





6. PNEUMATIC CIRCUIT EXAMPLE OF BYPASS CIRCUIT USING WIDE VALVE, WV-3

