



LUNG SIMULATORS



LS-2000A & LS-2000I

USER MANUAL

**BC BIOMEDICAL
LS-2000 SERIES
TABLE OF CONTENTS**

NOTICES..... ii

DESCRIPTION 1

SETTINGS.....2

MAINTENANCE.....3

DISASSEMBLY & ASSEMBLY4

MANUAL REVISIONS6

LIMITED WARRANTY6

SPECIFICATIONS.....7

NOTES 10

NOTICE

**BC GROUP INTERNATIONAL, INC.
RESERVES THE RIGHT TO MAKE CHANGES
TO ITS PRODUCTS OR SPECIFICATIONS AT
ANY TIME, WITHOUT NOTICE, IN ORDER TO
IMPROVE THE DESIGN OR PERFORMANCE
AND TO SUPPLY THE BEST POSSIBLE
PRODUCT. THE INFORMATION IN THIS
MANUAL HAS BEEN CAREFULLY CHECKED
AND IS BELIEVED TO BE ACCURATE.
HOWEVER, NO RESPONSIBILITY IS
ASSUMED FOR INACCURACIES.**

NOTICE CONTACT INFORMATION

**BC BIOMEDICAL
BC GROUP INTERNATIONAL, INC.
3081 ELM POINT INDUSTRIAL DR.
ST. CHARLES, MO 63301
USA**

**1-800-242-8428
1-314-638-3800**

**www.bcgrouptl.com
sales@bcgrouptl.com**

**LS-2000 Series User Manual
Copyright © 2012
www.bcgrouptl.com
Made in Switzerland
08/12 Rev 04**

BC BIOMEDICAL LS-2000 SERIES LUNG SIMULATOR (ADULT & INFANT)

The LS-2000 is an extremely simple concept, as small and portable as a conventional test lung but incorporating an adjustable compliance and a variable resistance feature as well as a leakage control valve to verify the patient-trigger-function or the leak compensation of a respiratory system. - Choose between the Adult (LS-2000A) and the Infant Version (LS-2000I).

The LS-2000 is the ideal tool for demonstrating and testing all respiratory and anesthesia systems. It is also the optimal complement to the TSI Certifier FA, Certifier FA PLUS, the Puritan Bennet PTS-2000 or any ventilator tester on the market.

This test lung is manufactured in accordance with the CE requirements.

Items Included with LS-2000 Unit:

- BC20-30112 Carrying Case
- BC80-00454 Retainer Clip
- BC80-00455 Side Panel (Infant)
- BC80-00456 Compliance Slide
- BC80-00457 Inlet Valve
- BC80-00458 Rubber Bag (Infant)
- BC80-00459 Tension Nut



SETTINGS

Compliance setting:

The various compliances levels can be adjusted by pressing at the center of the black sides with one hand and slide the adjustment bar until reaching the desired setting.



Resistance setting:

Turning the inlet connector does set the desired resistance.



Leakage setting:

Turning the leak valve will create the necessary air leak.



MAINTENANCE

Hanging:

A hole is provided to easily hang the device.



Cleaning:

All parts of the lung can be disinfected using an alcohol based spray.



DISASSEMBLY & ASSEMBLY

Pull and remove the retainer clip.



Slide back and remove the inlet valve.



Pull the rubber bag backward in order to remove the bag's tension nut.



Pull valve head sideways and remove the assembly.



The rubber bag can then be pulled away.



To assemble, follow these steps backward.

At the end press the inlet valve forward into position and push the retainer clip into its grooves.



It is possible to extend the life of a new rubber bag by spraying or wiping it slightly with silicone after exchanging it.

MANUAL REVISIONS

Revision

Revisions Made

Rev 01	Origination
Rev 02	Miscellaneous Edits
Rev 03	Miscellaneous Edits
Rev 04	Miscellaneous Edits, Pictures Updated

LIMITED WARRANTY

WARRANTY: BC GROUP INTERNATIONAL, INC. WARRANTS ITS NEW PRODUCTS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP UNDER THE SERVICE FOR WHICH THEY ARE INTENDED. THIS WARRANTY IS EFFECTIVE FOR TWELVE MONTHS FROM THE DATE OF SHIPMENT.

EXCLUSIONS: THIS WARRANTY IS **IN LIEU OF** ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF **MERCHANTABILITY** OR FITNESS FOR A PARTICULAR PURPOSE.

BC GROUP INTERNATIONAL, INC. IS NOT LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

NO PERSON OTHER THAN AN OFFICER IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR ASSUME ANY LIABILITY.

REMEDIES: THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE: (1) THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS OR PRODUCTS, WITHOUT CHARGE. (2) AT THE OPTION OF **BC GROUP INTERNATIONAL, INC.**, THE REFUND OF THE PURCHASE PRICE.

SPECIFICATIONS & DATA

Typical settings:

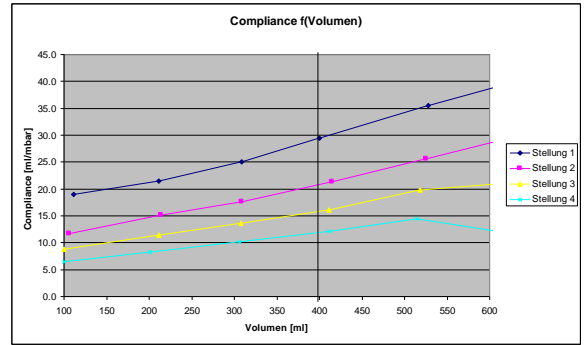
ADULT	LS-2000A	LS-2000I
COMPLIANCE	15, 20, 30 mL/mbar	
RESISTANCE	5 / 20 mL/L/sec	
PEDIATRIC		
COMPLIANCE	15, 20, 30 mL/mbar	
RESISTANCE	5 / 20 mL/L/sec	
INFANT		
COMPLIANCE		1, 2, 3, 5 mL/mbar
RESISTANCE		50 / 200 mL/L/sec

Technical Data:

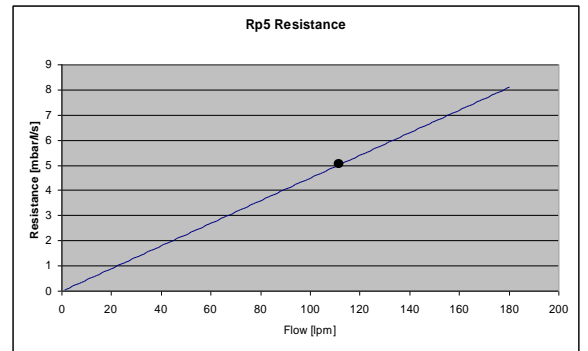
	LS-2000A	LS-2000I
RESISTANCE*	5, 20, 50, 200 mbar/L/sec	5, 20, 50, 200 mbar/L/sec
COMPLIANCE*	10, 15, 20, 30 mL/mbar	1, 2, 3, 5 mL/mbar
VOLUME	0 to 600 ML (WITH 1L BAG)	0 to 200 mL (WITH 0.5L BAG)
LEAK	0 to 10 L/min	0 to 10 L/min
WEIGHT	325 grams	285 grams
DIMENSIONS	270 X 115 X 40 mm	270 X 115 X 40 mm
DEAD SPACE	3.7 mL	3.7 mL
COMPONENTS CAN BE INDIVIDUALLY EXCHANGED. DISINFECTION IS POSSIBLE.		

* Tolerances: Resistance +/- 10%, Compliance +/- 15%

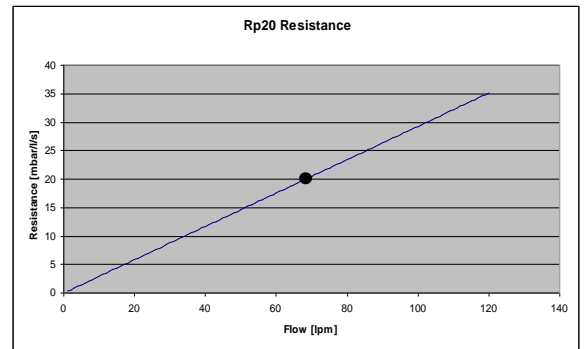
Characteristic Diagrams



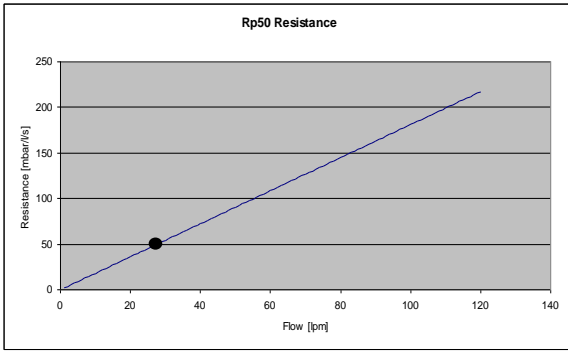
Volume – compliance ratio



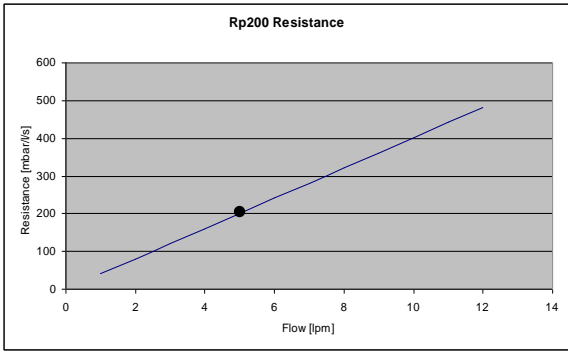
Flow setting w/resistance set at 5 mbar/L/sec



Flow setting w/resistance set at 20 mbar/L/sec



Flow setting w/resistance set at 50 mbar/L/sec



Flow setting w/resistance set at 200 mbar/L/sec

NOTES



**BC GROUP INTERNATIONAL, INC.
3081 ELM POINT INDUSTRIAL DRIVE
ST. CHARLES, MO 63301
USA**

**1-800-242-8428
1-314-638-3800**

**www.bcgrouptl.com
sales@bcgrouptl.com**

**LS-2000 Series User Manual
08/12 – Rev 4**

Copyright © 2012