

User Manual Labtec MINIMASK



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1. foreword

This operating manual describes the operation of the **Labtec MINIMASK** series of test instruments.

Labtec test devices are professional tools that require comprehensive respiratory protection expertise, e.g. by completing training as a respirator maintenance technician, to ensure proper operation and correct measurement.

A prerequisite for proper operation of the device is that the device is operated and used exclusively in accordance with these operating instructions. Labtec is not liable for personal injury or damage to property or consequential damage of any kind if the device is used in a manner other than that described in this manual. The same applies to the acceptance of any warranty and guarantee claims.

Otherwise, the terms of sale and delivery as well as the warranty and guarantee conditions of Labtec GmbH apply, which are not extended in any way by these instructions.

2. safety instructions

Each Labtec test device requires device-specific instruction by an authorized Labtec employee or training partner.

The device may only be operated by instructed and authorized personnel.

The device may only be serviced and repaired by trained and certified Labtec service technicians. Only original spare parts and accessories must be used.

The device may only be opened by a Labtec service technician or, if expressly requested, under instruction by a Labtec employee.

To ensure proper functioning of the device and thus a correct measurement result, the device must be serviced at least once a year by a trained and certified Labtec service technician and tested and calibrated by him or her using a Labtec calibration device.

The list of current, certified employees, training partners and service technicians is updated daily and is available from Labtec or on the Labtec homepage.

Labtec devices are partly operated with breathing air in the high pressure range of up to 400bar. Operating a device under high pressure requires the greatest care. Before connecting and disconnecting a test item / breathing apparatus, the test bench must always be completely depressurized and air supply lines, especially the main valve, closed.

The device connection must always be checked. Devices must always be connected completely correctly. When connecting to the high pressure device connection, the device thread must be completely screwed to the internal thread of the device connection.

Before switching off the test device electrically, the test bench must first be completely depressurized and vented and then all connected devices and any full face masks must be removed.

Never test dirty demand valves or masks on the test head. There is a risk of dust particles getting into the measuring system, which can impair the function.

When the test stand is started up, the mouth opening and the instrument connections must remain open, otherwise self-calibration will be incorrect and the measurement data will be incorrect.

The test device must be set up horizontally and rest well on all support buffers.

Care must be taken to ensure that the measuring nozzle in the mouth opening in the test head is not clogged. In case of false measuring values in low pressure, the opening can be cleaned with a 0.2 - 0.35 mm needle.

**In case of queries or uncertainties
contact the Labtec customer service!**

3. device description

Labtec MINIMASK are electronic test devices to be operated via a PC for the testing of breathing masks according to DIN EN 136.

The tests are performed in the low pressure measuring range (-50 to 50 mbar).

For testing other breathing apparatus or chemical protective suits, contact Labtec. Only breathing air according to DIN EN 12021 may be used.

Model differences

Labtec MINIMASK are automatic testing devices for static testing of breathing masks and demand valve leakage tests in the low pressure range.

The device has several expansion options (modules) which are identified by a letter code:

Modul T (Terminal): Control panel with OLED display and complete set of control elements for manual operation of the unit.

Connection requirements

A 230-240 V / 50-60 Hz power supply is required to operate the test stand.

Scope of delivery and accessories

The scope of delivery of the device includes a power supply cable and a USB cable.

Adapters for the connection of demand valves and sealing caps for masks must be ordered separately depending on the connection used (e.g. ESA, PE45, RD40, manufacturer-specific connections).

Labtec offers a wide range of accessories for test devices.

The range includes test adapters for adapting all respiratory protection devices on the market.

Further information and brochures can be found at www.labtec.de

4. technical data

component	description	unit	value
low pressure sensor	measuring range	mbar	-50...0...+50
	precision	%	± 0,05
complete device	Max. permissible operating pressure	bar	400
	power supply	V / Hz	230-240 / 50-60
	total power electricity	W	max. 100
	IP rating	IP 54	
	permissible temperature range	°C	-10...+55
	measuring volume	ml	480
	dimensions W X L x H	mm	400 x 285 x 490
	total weight	kg	16

5. component description



Test stand housing (A)

Thanks to its ergonomic design, the test stand can be operated fatigue-free even during continuous operation. Operation in computer mode is via PC keyboard and mouse or manually via the optionally available front panel

Front cover / panel (only with Option T) (B)

The front panel contains the control buttons and an OLED display showing measuring values and system information..

Multifunction test head (C)

The test head is a fixed head that can be inflated by an electric pump so that full face masks of any brand can be sealed without problems. A measuring point is installed in the test head which measures the internal pressure in the mask or demand valve.

Power connection (D)

On the left side of the housing there is a C13 power plug coupling for the connection of a cold appliance cable with C14 plug.

USB-Interface (E)

The USB port for data transfer to a PC is located on the left side of the housing.

Vacuum pump

With the built-in vacuum pump, the required air currents are generated and the probe is inflated or deflated. The desired air flow rate can be set in the software from 0.5 to 10 l/min.

6. operating elements



LCD multi function display

Digital display of status of operation

Display for low pressure (LP)



Push button for test head inflation

Pressing causes the test head to be inflated out of the test head



Push button for test head deflation

Pressing causes the air to be aspirated out of the test head



Push button to generate positive pressure

Forcing pump +5 l/min is set in motion by pressing this button



Push button to generate negative pressure

Forcing pump -5 l/min is set in motion by pressing this button



Push button for low pressure relief

Pressing causes the air to be aspirated out of the test equipment



Switch button for 10 l/m exhalation

Forcing pump +10 l/min is set in motion by pressing this button. LED shows function. Pressing button again switches it off.



Switch button for 10 l/m inhalation

Forcing pump -10 l/min is set in motion by pressing this button. LED shows function. Pressing button again switches it off.

7. commissioning

When setting up the unit, make sure that it is horizontal and rests well on all support buffers.

Establish power supply

Connect the power supply to a 230 V / 50-60 Hz power source using the supplied power cable. Switch on the unit at the switch.

Establish connection to the PC

Install the **LabNet Profi** test software according to the installation instructions. Establish the connection between PC and test bench via USB cable.

> See separate installation and operating instructions LabNet Profi

Device connection (breathing mask)

The test head must be completely vented. The breathing connection of the mask is closed with a suitable sealing cap. Alternatively, connect the mask to a suitable demand valve and then make a device connection (SCBA).

The mask is put on the test head. The inner mask should rest correctly on the nose of the probe.

Then tighten the fasteners of the head mask starting from the bottom. The test head can now be inflated until a tight fit of the mask is ensured. If necessary, readjust the mask.

Device connection (demand valve)

The demand valve is inserted into the mouth opening of the test head using a suitable adapter.

The supply line of the demand valve is sealed with a suitable sealing plug.

8. care and maintenance

The test instrument should be protected from external harmful influences such as water, moisture in the form of steam and dust.

The test head should be cleaned and maintained regularly. This can significantly increase the service life of the search unit.

The test head should always be covered with the enclosed protective hood after the instrument has been used.

> See separate test head care instructions

The test device must be serviced at least annually by a certified Labtec service technician.

The test device is recalibrated and deviations in the previous test cycle can be excluded. The maintenance is carried out with a special calibration device.

The maintenance is confirmed by a calibration certificate issued directly by Labtec. The maintenance may only be carried out by authorized and trained service technicians.

In order to ensure a cost-effective and timely maintenance, it is possible to conclude a maintenance contract with Labtec.

Labtec
Gesellschaft für Labortechnik mbH

**Konformitätserklärung
Certificate of Conformity
Attestation de Conformité**



Bezeichnung der Maschine: Type of machine: Description de la machine:	Prüfgerät Test Equipment Instrument de vérification
Modell / Model / Modèle: Typ / Type / Type:	Labtec MINIMASK
Geräte Nr. / instrument no. / Instrument numéro:	MINIMASK / MINIMASK T

Hiermit wird bestätigt, dass das Gerät den Anforderungen der **Maschinenrichtlinie 2016/42/EG**, sowie der **EMV - Richtlinie 2014/30/EU** einschließlich allen bis heute veröffentlichten Änderungen bzw. Nachträgen entspricht. Das Gerät entspricht folgenden Normen bzw. Richtlinien:

We do hereby certify that the above mentioned product meets the requirements set forth in **EEC-Guideline 2016/42/EG** and **EMC 2014/30/EU** including all changes and addendums to date thereto. The above mentioned product meets the following standards and guidelines:

Nous Vous Confirmons que l'appareil cité ci-dessus correspond aux exigences des directives **2016/42/EG** ainsi qu' à la directive **CEM 2014/30/EU** ci-inclus toutes les modifications ainsi que tous les suppléments publiés jusqu'à ce jour. L'appareil mentionné correspond aux nomes cités ci-après :
















DIN EN 60950-1, Ausgabe / dates / en date du **2014-08**
DIN EN 135 Ausgabe / dates / en date du **1999**
DIN EN 136 Ausgabe / dates / en date du **1998**
DIN EN 137 Ausgabe / dates / en date du **2006**
DIN EN 837 Ausgabe / dates / en date du **1997**

Datum / date
01.01.2021

Diese Konformitätsbescheinigung wurde automatisch erstellt und ist ohne Unterschrift gültig.
This calibration certificate was produced automatically and is valid without signature.

A 1 Testing of full face breathing masks






- 1. Complete device (full face mask)**
- 1.1 Leak test with open exhalation valve at - # mbar
- 1.2 Tightness test with closed exhalation valve at + # mbar
- 1.3 Opening pressure of the exhalation valve

Step	Activity	Comment	operating elements
1.1.1	Close breathing connection to mask with sealing plug.	If necessary, moisten the exhalation valve of the mask.	
1.1.2	Place the mask on the test head and tighten the mask strap. Fill test head with head inflation button	The inflation time varies from mask type to mask type.	
1.1.3	Set test vacuum with negative pressure button to setpoint value - # mbar. Switch on stop watch.	Adjust the test pressure with the low pressure relief button if necessary.	 
1.1.4	Read the pressure difference after # min. on the display (LP) and compare with setpoint.		
1.1.5	Deflate the test head with button for test head deflation. Remove mask from test head.		
1.2.1	Seal the exhalation valve of the mask with the adapter. Close breathing connection to mask with sealing plug.	Test only possible with tightly fitted exhalation valve. Use the manufacturer's specific adapters.	
1.2.2	Place the mask on the test head and tighten the mask strap. Fill test head with head inflation button	The inflation time varies from mask type to mask type.	
1.2.3	Set test vacuum with negative pressure button to setpoint value - # mbar. Switch on stop watch.	Adjust the test pressure with the low pressure relief button if necessary.	 
1.2.4	Read the pressure difference after # min. on the display (LP) and compare with setpoint.		
1.2.5	Deflate the test head with button for test head deflation. Remove mask from test head.		
1.3.1	Close breathing connection to mask with sealing plug.		
1.3.2	Place the mask on the test head and tighten the mask strap. Fill test head with head inflation button	The inflation time varies from mask type to mask type.	
1.3.3	Switch on vacuum pump with switch 10l/min Exhalation to produce constant flow.		
1.3.4	Read the opening pressure on the display (LP) and compare it with the setpoint.		
1.3.5	Switch off the pump by pressing the 10l/min Exhalation switch again.		
1.3.6	Deflate the test head with button for test head deflation. Remove mask from test head.		

A 2 Testing of demand valves

2. Complete device (Demand Valve)

2.1 Tightness: Pressure increase after # min at - # mbar negative pressure / + # mbar positive pressure

Step	Activity	Comment	operating elements
2.1.1	Insert the test adapter into the mouth opening of the test head and connect it to the demand valve.	Select suitable adapter according to function and connection type	
2.1.2	Seal the medium pressure hose of the demand valve with a sealing cap.		
2.1.3	Set test negative pressure with button to generate negative pressure to setpoint + # mbar. Switch on stop watch.	Adjust the test pressure with the low pressure relief button if necessary.	 
opt.	Set test overpressure with button to generate positive pressure to setpoint + # mbar. Switch on stop watch.	Adjust the test pressure with the low pressure relief button if necessary.	 
2.1.4	After a preset time # min, read the pressure change on the display (LP) and compare with the setpoint.		
2.1.5	Completely vent the test device.		