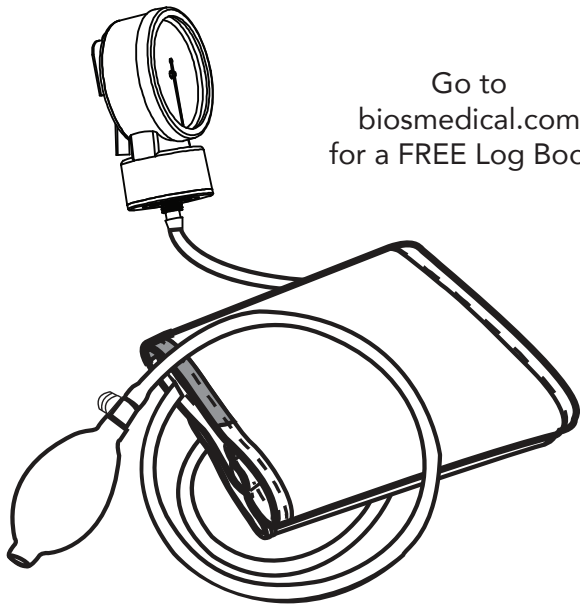


Aneroid Sphygmomanometer

Instruction Manual

Models: BD901/BD902/BD903

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Introduction

Thank you for purchasing a BIOS Diagnostics™ Aneroid Sphygmomanometer, featuring an advanced non-stop pin mechanism, precise control valve, and durable cuff.

Blood pressure is an important parameter used to monitor health. This aneroid sphygmomanometer, alongside the use of a stethoscope enables you to measure blood pressure, and maintain a record. Physicians can use this record to diagnose and help patients maintain a healthy blood pressure level.

Indications for Use:

The aneroid sphygmomanometers (BD901/BD902/BD903) are intended to measure the systolic/diastolic pressures of an individual. They are intended to be attached to a patient's arm, and manually inflated alongside a stethoscope to detect Korotkoff sounds. Designed to be portable, and used in both home and medical environments.

Features

- Designed for healthcare professionals
- 300 mmHg aluminium alloy manometer
- Adjustable nylon cuff
- High-quality 2-tube PVC bladder and bulb
- Dual-use air-release valve with spring
- Taper end valve
- Compact for easy travel

What is Blood Pressure?

Blood pressure is the pressure in your blood vessels while blood circulates throughout your body. High blood pressure or "Hypertension" is the pressure at which ones normal average blood pressure is considered too high and other health risks including: heart attack, stroke, dementia, kidney failure, heart disease, and erectile dysfunction may occur. It is expressed as two numbers: systolic/diastolic 120 mmHg/80 mmHg (mmHg= millimeters of mercury). "Systolic" numbers refer to the pressure on the walls of your arteries while the heart is contracting and pushing blood. "Diastolic" pressure is the lower number when the heart is at rest and relaxed.

Normal Blood Pressure Values

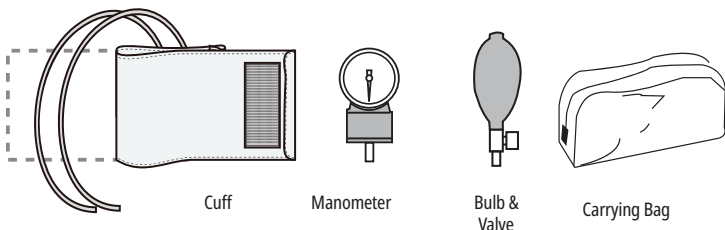
Systolic	Diastolic	Comment
Below 120	Less than 80	This range is considered 'Normal' . Introduce/continue healthy lifestyle alterations to maintain healthy blood pressure.
120 - 129	70 - 79	This range is considered 'Elevated' or 'Pre-hypertension' . Discuss with your health care professional. Lifestyle modifications may be required to avoid advancing into hypertension.
130 - 139	80-89	This is in the 'Hypertension' range. Discuss with your health care professional. Medication(s) and lifestyle modifications are typical treatments.
140 - 179	90 - 119	Discuss with your medical professional, medication(s) and lifestyle modifications are necessary to control your hypertension.

180 and above	120 and above	This range is considered ' Crisis '. Seek medical attention immediately.
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Adapted to include new information as outlined in Hypertension Canada's 2025 Understanding and measuring your blood pressure guideline.

About the Aneroid Sphygmomanometer

This section describes the various components of the device.



NOTE: Aneroid Sphygmomanometer must be used alongside a stethoscope (not included).

Cuff Sizing

This instrument comes in 3 cuff size options (see chart below).

Care should be taken to ensure that the cuff size is appropriate for the person whose blood pressure is being taken. This improves the accuracy of the reading.

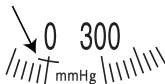
Model #	Size	Arm Circumference Range
BD901	Small	18.4 - 26.7 cm (7.2" - 10.5")
BD902	Standard	25.4 - 40.6 cm (10" - 16")
BD903	X-Large	33.3 - 51.0 cm (13.1" - 20.1")

Taking a Blood Pressure Measurement

Before taking a blood pressure measurement, ensure that the manometer gauge needle is resting within the indicated line. It does not need to be pointed directly at the center of the line to ensure calibration.

1. Apply the cuff to the patient's bare arm (usually left), unless there is a variance of more than 10 mmHg between arms. If one arm is 10mmHg higher, continue to measure on that arm. The cuff should fit snugly around the arm, but not too tight. You should be able to fit two fingers under the cuff.
2. Ensure the cuff is positioned approximately 2-3 cm (0.8"-1.2") above the elbow joint, with the tubing running down the inside of the arm above the brachial artery. The cuff should be at the same level as the heart.
3. Close the air exhaust valve.

Indicator line



4. Place the stethoscope chestpiece firmly, but ensuring minimal pressure, over the brachial artery. Once the stethoscope is in place, raise the cuff pressure to at least 30 mmHg above the point where the radial pulse disappears (the systolic value).
5. Once at that point, slowly begin to open the air exhaust valve so that the displayed manometer value drops at a rate of 2–3 mmHg/second. Other deflation speeds will cause errors in accuracy.
6. The initial “tapping” sound (heard for at least two consecutive heartbeats), indicates maximum (systolic) blood pressure, as shown on the manometer.
7. When the pulse sound is no longer heard, close the air exhaust valve immediately. The minimum (diastolic) blood pressure is shown on the aneroid manometer.
8. After the blood pressure reading is complete, quickly deflate the cuff by fully opening the air exhaust valve. Remove the stethoscope and cuff from the patient’s arm.

ATTENTION!

Comparable blood pressure measurements always require the same conditions with a peaceful and calm environment. Ensure that measurements are taken under the same conditions to obtain accurate and reliable readings.

- If the arm artery lies considerably lower or higher than the heart, an erroneous value of blood pressure is measured.
- Each 15 cm difference in height results in a measurement error of 10 mmHg.
- A loose cuff causes false measurement values.
- With repeated measurements, blood accumulates in the arm, which can lead to false results. Consecutive blood pressure measurements should be repeated after a 30–45 second pause or after the arm has been held up in order to allow the accumulated blood to flow away.

Care and Maintenance

The instrument should be used only for the purposes as outlined in this instruction manual. The manufacturer is not responsible for damage caused by incorrect application. This device is comprised of sensitive components, and must be treated gently.

For prolonged life of your sphygmomanometer, note the following instructions:

- **DO NOT** overinflate the cuff past 300 mmHg.
- **DO NOT** drop or bang the unit.
- **DO NOT** attempt to repair or dismantle the manometer under any circumstance. This will void the warranty.
- If the unit has been stored at very low or freezing temperatures, allow it to reach room temperature before use.
- **DO NOT** store the unit in direct sunlight, high humidity, or in places with a lot of dust.
- **DO NOT** use the device if you think it is damaged, or if anything appears unusual.
- Ensure that children do not use this device unsupervised; some parts are small enough to be swallowed.
- Always deflate the cuff completely before storing.

To clean:

- Clean the device with a soft dry cloth.
- **DO NOT** use gasoline, thinner, or similar solvents.
- Carefully remove spots on the cuff with a damp cloth and soap.
- **DO NOT** submerge any part of the instrument.

1 Year Limited Warranty

The BIOS Diagnostics™ Aneroid Sphygmomanometers have a 1 year limited warranty to be free of manufacturing defects in materials and workmanship under normal applications of the original owner. If this product becomes inoperable due to defect, return the product with all component pieces and proof of purchase to the address listed below. This warranty does not cover any shipping/transport costs. This warranty does not apply if the product is subject to misuse, neglect, rough handling, or damage.

100% Satisfaction Guarantee

If you have questions regarding this warranty call the BIOS Medical Hotline: 1-866-536-2289

Should it be necessary, return the unit with all component pieces. Enclose proof of purchase and \$5.00 for return shipping and insurance. Ship the unit prepaid and insured (at owners option) to:

THERMOR LTD.

Returns Department

16975 Leslie Street

Newmarket, ON L3Y 9A1

www.biosmedical.com

Email: support@biosmedical.com

Please include your name, return address, phone number, and email address. Thermor will replace (at Thermor's option) free of charge any parts necessary to correct the defect in material or workmanship.

Please allow 10 days for return shipping.

Technical Specifications

Storage Environment	Temperature: -20°C to 70°C/-4°F to 158°F Relative Humidity: 20%-85% (non-condensing)
Operating Environment	Temperature: 10°C to 40°C/50°F to 104°F Relative Humidity: 20%-85% (non-condensing)
Measurement Range	0-300 mmHg
Measurement Resolution	2 mmHg
Accuracy	Within ± 3 mmHg in 10°C to 40°C/50°F to 104°F or 2%, whichever is greater
Accuracy	$< \pm 4$ mmHg/min

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