

Automatic Blood Pressure Monitor

Model #: RX811 Instruction Manual





Recommended by Recommandé par Hypertension Canada Silver | Argent

Instruction Manual

Table of Contents

1.	Introduction
1.1	Features
1.2	Important Information
	1.2A Safety Information
	1.2B Care of the Device
	1.2C Comparing Readings to Other Blood Pressure Devices
	1.2D Calibration
1.3	About Blood Pressure
1.4	Normal Blood Pressure Values
1.5	Common Blood Pressure Questions and Answers
2.	Getting Started
2.1	About the Blood Pressure Monitor
2.2	About the LCD Screen
2.3	Inserting the Batteries
2.4	Using the AC/DC Power Adapter
<u>3.</u> 3.1	Using the Device
3.1	Obtaining Accurate Measurements
	3.1A Tips on Taking Accurate Measurements
	3.1B Common Sources of Error
	3.1C Fitting the Wide Range Cuff
3.2	Measuring your Blood Pressure
3.3	Discontinuing a Measurement
3.4	Memory Recall
3.5	Recall the Memory with the Power Off
3.6	Clear Measurements from Memory
3.7	Hypertension Classification Indicator
<u>4.</u>	Error Messages / Malfunctions
5.	Care and Maintenance
6.	Lifetime Guarantee
<u>u.</u>	
<u>7.</u>	Technical Specifications

1. Introduction

Thank you for purchasing the Rexall^{TM/MC} Automatic Blood Pressure Monitor. Designed for convenient and easy operation, this device provides a simple, yet accurate method to measure your blood pressure.

Your blood pressure is an important parameter that can be used to monitor your health. This device enables you to monitor your blood pressure regularly, and maintain a record of your blood pressure measurements. You can then use this record to assist your physician in diagnosing and maintaining a healthy blood pressure level.

1.1. Features

This monitor uses oscillometric technology to measure the arterial blood pressure and pulse rate. The cuff is wrapped around the arm and automatically inflated by the air pump. The sensor in the device senses weak fluctuation of the pressure in the cuff produced by extension and contraction of the artery of the arm in response to each heartbeat. The amplitude of the pressure waves is measured, converted in millimeters of the mercury column, and is shown on the display.

- Memory Features 30 blood pressure readings.
- Hypertension Classification Indicator displays the range between which your blood pressure values lie. The classification is based on standards adopted by Hypertension Canada.
- Detects Irregular Heartbeat
- Averaging Averages last 3 readings

This device is easy to use and has been proven in clinical studies to provide excellent accuracy. Before using the monitor, read this instruction manual carefully and keep it in a safe place.

The blood pressure monitor meets the accuracy requirements of Hypertension Canada and has been tested for clinical accuracy.

1.2 Important Information

Refer to the following sections to learn about important safety instructions and how to take care of the Rexall^{TMMC} Blood Pressure Monitor.

1.2A Safety Information

- Self-measurement means control, not diagnosis or treatment. Your values must always be discussed with
 your doctor or a physician who is familiar with your family history.
- If you are undergoing medical treatment and receiving medication, consult your doctor to determine the
 most appropriate time to measure your blood pressure. Never alter the dosages of any medication without
 direction from your doctor.
- Your blood pressure depends on several factors, such as age, gender, weight and physical condition. It also
 depends on the environment and your state of mind at the time of measurement. In general, your blood
 pressure is lower when you are asleep and higher when you are active. Your blood pressure may be higher
 when recorded at a hospital or a clinic and may be lower when measured in the relaxing comfort of your
 home. Due to these variations, we recommend that you record your blood pressure regularly at home as
 well as at your doctor's clinic.
- Try to record your blood pressure regularly at the same time of the day and under the same conditions. This
 will help your physician detect any extreme variations in your blood pressure and thus treat you accordingly.

- Morning Hypertension (> 135 / 85 mm Hg): Recently, several studies have identified elevated cardiovascular risks (heart failure, stroke, angina) associated with "morning hypertension". There is a typical rise in blood pressure during the physiological changes from sleep to arising for the day.
- The ideal time to measure your blood pressure is in the morning just after you wake up, before breakfast
 and any physical activity, and in the absence of the urge to urinate. If this is not possible, try to take the
 measurements later in the morning, before you start any physical activity. Relax for a few minutes before
 you record your blood pressure.
- Your blood pressure increases or decreases under the following circumstances:

Blood pressure is higher than normal:

- when you are excited, nervous, or tense
- while taking a bath
- during and after exercise or strenuous physical activity
- when it is cold
- within one hour after meals
- after drinking tea, coffee, or other caffeinated drinks
- after smoking tobacco
- when your bladder is full

Blood pressure is lower than normal:

- after consuming alcohol
- after taking a bath
- The pulse display is not suitable for checking the frequency of heart pacemakers.
- If you have been diagnosed with a severe arrhythmia or irregular heartbeat, vascular constriction, liver
 disorder or diabetes, have a cardiac pacemaker, or are pregnant, measurements made with this instrument
 should only be evaluated after consultation with your doctor.
- Take care while handling the batteries in the device. Incorrect usage may cause battery fluid leakage.

To prevent such accidents, refer to the following instructions:

- Insert batteries with the correct polarity.
- Turn off power after use. Remove and store the batteries if you are not planning to use the device for an extended period of time.
- Do not mix different types, brands, or sizes of batteries. This may cause damage to the product.
- Do not mix old and new batteries.
- Remove batteries and dispose of them according to the proper regulations in your area.
- Do not disassemble batteries or expose them to heat or fire.
- Do not short circuit the batteries.
- Do not use rechargeable batteries.

1.2B Care of the Device

For prolonged life of your blood pressure monitor, note the following instructions:

- **Do not** drop or bang the unit. Prevent sudden jerks, jars or shocks to the device to prevent damage.
- Do not insert any foreign objects in any device openings or vents.
- Do not disassemble the unit.
- If the unit has been stored at very low or freezing temperatures, allow the unit to reach room temperature before using it.
- Do not store the unit in direct sunlight, high humidity or in places with a lot of dust.
- 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 wash the cuff.

1.2C Comparing Readings to Other Blood Pressure Devices

Many questions arise when two blood pressure devices are compared in an effort to check accuracy. An accurate comparison requires repeatable measurements under the same conditions, and significant time is required to reduce naturally occurring blood pressure variability during the test. For proper comparisons, the subject should be seated comfortably with feet flat on the floor, and have rested for 5 minutes before the first reading to allow blood pressure levels to stabilize. The patients back, elbow and forearm should be supported, and the middle of the cuff should be at the level of the right atrium. There should be no talking or moving during the measurement and if comparing to an aneroid gauge or mercury column, observers should avoid parallax and be careful not to round measurements.

The most accurate way to compare devices is to take two readings at the same time. However most people and doctor's offices do not have the equipment necessary to measure blood pressure from two devices simultaneously. To take sequential measurements properly requires a pair of initial measurements to determine the subjects blood pressure level: first with the reference equipment, followed by 60 seconds, then with the monitor-under-test. The actual accuracy test requires three pairs of measurements with 60 seconds between measurements. These measurements are averaged and a comparison can be made. Since most people tend to relax and their blood pressure falls with subsequent measurements, following this protocol reduces these natural changes in blood pressure levels. The standard technical error of both consumer and professional devices is normally ±3 mmHg, so a discrepancy of 6 mmHg is acceptable even when the devices are working within their specifications.

Any comparisons without following the procedures described above will not yield reliable results. In addition, to do an accuracy test properly the reference device must also be tested to a known reference to confirm its accuracy, prior to being used as the reference for comparisons.

1.2D Calibration

Digital blood pressure monitors do not require recalibration. If the unit turns on and does not display an error code, the product is working properly. In extremely rare cases, the cuff may have developed a pin-hole leak, or the gasket where the cuff connector enters the monitor may not have a proper seal; both of these leaking air issues will potentially cause errors in accuracy, but otherwise the product will work accurately without drifting out of calibration.

1.3 About Blood Pressure

Your blood pressure level is determined in the circulatory center of your brain. Your nervous system allows your body to adapt or alter blood pressure in response to different situations. Your body alters your pulse or heart rate and the width of blood vessels through changes in muscles in the walls of blood vessels.

Your blood pressure reading is highest when your heart pumps or ejects blood. This stage is called your systolic blood pressure.

Your blood pressure is lowest when the heart rests (in between beats). This is called your diastolic blood pressure.

It is critical to maintain blood pressure values within a "normal" range in order to prevent cardiovascular diseases. Increased blood pressure values (various forms of hypertension) have associated long- and medium-term health risks. These risks concern the arterial blood vessels of your body, which are endangered due to constriction caused by deposits in the vessel walls (arteriosclerosis). A deficient supply of blood to important organs (heart, brain, muscles) can be the result. Furthermore, with long term increased blood pressure values, the heart will become structurally damaged.

There are many different causes of the appearance of high blood pressure. We differentiate between common primary (essential) hypertension, and secondary hypertension. The latter group can be attributed to specific organic malfunctions. Please consult your doctor for information about the possible origins of your own increased blood pressure values.

1.4. Normal Blood Pressure Values

Blood pressure is too high when measuring at home and you have rested, the diastolic pressure is above 85 mmHg or the systolic blood pressure is over 135 mmHg. If you obtain readings in this range, consult your doctor immediately. High blood pressure values over time can damage blood vessels, vital organs such as the kidney, and your heart.

With blood pressure values that are too low (i.e., systolic values under 105 mmHg or diastolic values under 60 mmHg), consult with your doctor.

Systolic	Diastolic	Comment
Below 120	Less than 80	This range is considered "Normal" and ideal.
120 – 139	80 – 89	This range is considered " Pre-hypertension ". Discuss with your health care professional. Lifestyle modifications maybe required to avoid advancing into hypertension.
140 - 159	90 — 99	This is in the " hypertension " range. Discuss with your health care professional. Medication(s) and lifestyle modifications are typical treatments.
160 and higher	100 +	Discuss with your medical professional, medication(s) and lifestyle modifications are necessary to control your hypertension

Adopted From: Understanding and Managing your Blood Pressure; Hypertension Canada.

Note: A diagnosis of high blood pressure must be confirmed with a medical professional. A doctor should evaluate any unusual blood pressure readings. Additionally, lower targets may be appropriate for some populations such as African-Americans, the elderly, or patients with underlying issues such as diabetes mellitus or chronic kidney disease.

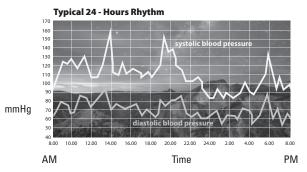
Important for Canadians:

- * Hypertension measured at home \ge 135/85
- * Hypertension measured at a physician's office \ge 140/90
- * Hypertension measured at a physician's office for a diabetic patient \ge 130/80

1.5 Common Blood Pressure Questions and Answers

a) Why is my blood pressure reading always different?

Your blood pressure changes constantly. It is quite normal for blood pressure to fluctuate significantly (50 mmHg to 60 mmHg) throughout the day. Blood pressure is normally lowest at night, but increases during waking hours when the stress and activities of everyday life are highest.



Your blood pressure also increases and decreases under the following circumstances

Blood pressure is higher than normal:

- when you are excited, nervous, or tense
- while taking a bath
- during and after exercise or strenuous physical activity
- when it is cold
- within one hour after meals
- after drinking tea, coffee, or other caffeinated drinks
- after smoking tobacco
- when your bladder is full

Blood pressure is lower than normal:

- after consuming alcohol
- after taking a bath

b) Why is the doctor's reading different from the reading taken at home?

Your blood pressure can vary due to the environment (temperature, nervous condition). When measuring blood pressure at the doctor's office, it is possible for blood pressure to increase due to anxiety and tension.

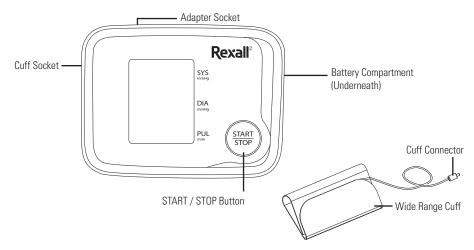
c) Why should I monitor blood pressure at home?

One or two readings will not provide a true indication of your normal blood pressure. It is important to take regular, daily measurements and to keep records over a period of time. This information can be used to assist your physician in diagnosing and preventing potential health problems.

2. Getting Started

2.1 About the Blood Pressure Monitor

a) This section describes the various components of the Automatic Blood Pressure Monitor.



b) Upper arm cuff:

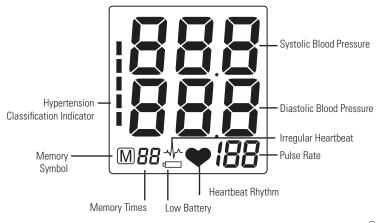
Wide range cuff for arm circumference 22 - 42 cm or 8.6" - 16.5".

Cuff connection:

Insert the cuff connector into the opening provided on the left side of the monitor as shown in the diagram.

2.2 About the LCD Screen

The LCD screen displays the systolic and diastolic blood pressure measurements along with your heart rate. It also displays previously recorded measurements, the date and time, when the appropriate button is pressed.

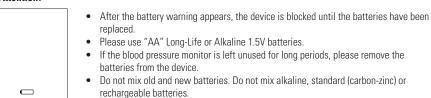


2.3 Inserting the Batteries

Follow these steps to insert four "AA" batteries in the device.

- 1. Open the battery compartment cover in the direction shown.
- 2. Insert the four "AA" batteries with the correct polarity as indicated.
- 3. Replace the battery compartment cover.

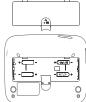
Attention!

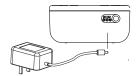


2.4 Using the AC/DC Power Adapter

You may also operate this monitor using the included AC/DC adapter. Use only the included adapter to avoid damaging the unit.

- 1. Ensure that the AC/DC adapter and cable are not damaged.
- 2. Plug the adapter cable into the AC/DC Adapter port on the top of the blood pressure monitor.
- 3. Plug the adapter into your electrical outlet. When the adapter is connected, no battery current is consumed.





3. Using the Device

This section describes how to get the maximum benefit from your blood pressure monitor. Follow the instructions carefully to get an accurate measurement of your blood pressure and pulse rate.

3.1 Obtaining Accurate Measurements

Your blood pressure can vary based on numerous factors, physiological conditions, and your surroundings. Follow these guidelines to obtain accurate and error-free measurements of your blood pressure and pulse rate.

3.1A Tips on Taking Accurate Measurements

(V	
V		

In morning before breakfast, 2 hours after dinner, before taking medication.



Avoid coffee and smoking within the hour, and no exercise 30 minutes before measuring.



Do not speak while taking the measurement.



Sit with legs uncrossed so as not to restrict blood flow.



Ensure that the cuff is level with the heart while the arm is supported on the table.



Empty bladder (if necessary).



Rest quietly for 5 minutes. Remain calm and quiet while the measurement is in process.



Take measurements on the non dominant arm.



Sit with back supported and measurement arm resting on a table. Sit with feet flat on the floor.

*Reprinted by permission of BIOS Diagnostics

3.1B Common Sources of Error

All efforts by the patient to support the arm can increase the blood pressure. Make sure you are in a comfortable, relaxed position and do not activate any of the muscles in the measurement arm during the measurement. Use a cushion for support if necessary.

ATTENTION!

Comparable blood pressure measurements always require the same conditions with a peaceful and calm environment. Ensure that you take measurements under the same conditions to obtain an accurate estimate of blood pressure variation patterns.

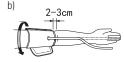
- If the arm artery lies considerably lower or higher than the heart, an erroneous value of blood pressure is measured. Each 15 cm difference in height results in a measurement error of 10 mmHg.
- A loose cuff causes false measurement values.
- With repeated measurements, blood accumulates in the arm,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

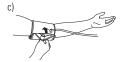
3.1C Fitting the Wide Range Cuff

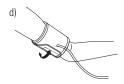
- a) Put the end of the cuff (with fastener) through the metal ring, making the cuff a cylinder. (Ignore this step if your cuff is already set up.) Proper assembly allows the Velcro® to match up properly.
- b) Place the cuff around your bare arm. Make sure the bottom edge of the cuff is about 1" (2-3 cm) above the elbow joint. Adjust the cuff so that the rubber tubing under the cuff lies over the brachial artery, which runs on the inside of the arm (see Fig. B). The artery mark should be over the brachial artery.
- c) Pull the cuff and tighten it by attaching the Velcro® fastener. Normally, the left arm is used, unless there is a physical reason for using the right arm.
- d) The cuff should fit snugly around the arm, but not too tight. You should be able to fit two fingers under the cuff.

- e) Place the arm on the table (palm facing upwards) so that the cuff is at the same level as the heart. Make sure there is no kink in the hose.
- f) You can adjust the level of your arm by putting a cushion under your arm. Ideally the cuff should be at heart level.
- g) Remain seated quietly for at least 5 minutes before you begin the measurement.
- For those who cannot put the cuff on the left arm, put it on the right arm as shown.

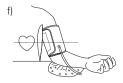














- Consecutive measurements will cause blood accumulation in the lower arm which will affect the measuring results. To improve reading accuracy, raise the arm being measured, squeeze and relax your hand several times, then take another measurement. Another option is to take the cuff off and wait at least 5 minutes before repeating measurement.
- If this device was stored in low temperature, it is necessary to leave it in room temperature for at least 1 hour, otherwise the measurement can be inaccurate.

Comment:

If it is not possible to fit the cuff to your left arm, it can also be placed on the right arm. However all measurements should be made using the same arm.

Comparable blood pressure measurements always require the same conditions (Relax for several minutes before taking a measurement).

ATTENTION: Do not use a cuff other than the original cuff contained in this kit!

3.2 Measuring Your Blood Pressure

After the cuff has been appropriately positioned, the measurement can begin:

- Press the START/STOP button until all the symbols appear on the screen, "0" will flash for 2 seconds. The pump then begins to inflate the cuff. The increasing pressure in the cuff is shown on the display.
- After the suitable pressure has been reached, the pump stops and the cuff gradually deflates. The cuff pressure will then be displayed. In case the initial inflation is not sufficient, the device automatically re-inflates to a high pressure.
- 3. When the device detects a heartbeat, the heart symbol "♥" on the display starts to flash.
- 4. When the measurement has been completed, the systolic, diastolic and pulse rate will appear on the display.
- The measurement readings remain on the display until you switch off the device. If no button is pressed, the device switches itself off in 3 minutes.
- **NOTE:** The symbol " $\mathcal{A}_{\mathcal{A}}$ " will be displayed along with the reading if irregular heartbeat has been detected during the measurement. If the " $\mathcal{A}_{\mathcal{A}}$ " symbol appears frequently (e.g. several times a week), it may be an indication of a more serious heart problem, and you should consult your doctor.

3.3 Discontinuing a Measurement

To stop the measurement (eg. the patient feels unwell) press the **START/STOP** button. The device will immediately decrease the cuff pressure automatically.

3.4 Memory Recall

This blood pressure monitor automatically stores 30 measurements in its memory. The oldest record will be replaced by the latest measurement value when there are more than 30 sets.



150



i)

3.5 Recall the Memory with the Power Off

Press and hold the **START/STOP** button for 3 seconds when monitor is turned off, the average of the last 3 measurements will be shown, press the **START/STOP** button again to see the most recent measurement value. Subsequent measurements can be displayed one after the other by pressing the **START/STOP** button.



3.6 Clear Measurements from Memory

If you are sure that you want to permanently remove all stored memories, press and hold the **START/STOP** button for 10 seconds until "CL" appears when the monitor is off. Press the **START/STOP** button "CL" will flash 3 times to clear the memory. After this, press the **START/STOP** button for 10 seconds, the symbols "[M]" and "no" will appear on the screen. This means that the memory has successfully cleared.

3.7 Hypertension Classification Indicator

The bars on the left hand side of the display show you the range within which the indicated blood pressure values lies. Depending on the height of the bar, the readout value is either within the normal (bar 1-2), borderline (bar 3) or danger (bar 4-5) range.

The classification is based on standards adopted by Hypertension Canada.

The indicator bar rises according to your measurement.

- If your measurement has only one or two bars, your measurement is in the "Normal" range.
- If your measurement has three bars, it is in the "High Normal", in the pre-hypertensive range.
- If your measurement has four bars, it is in the "High Blood Pressure with Self / Home Monitoring" range.
- If your measurement has five bars, it is in "Moderate to Severe Hypertension" range.

		SYS (m	mHg) DIA
5 -	•	145♠	95♠
4 -	-•	135-145	85-95
3 -	-•	121-134	81-84
2 -	-•	110-120	70-80
1 -	•	★ 110	▼ 70
	L		

4. Error Messages / Malfunctions

If an error occurs during a measurement the LCD displays the corresponding error code.

Error	Possible Cause	Remedy
٤;	Weak signal or a sudden change in pressure	Ensure that the cuff is worn correctly and measure again. Avoid movement or talking when the cuff is being inflated.
53	External disturbance (eg. if there is a cell phone near by)	Electromagnetic interferance can cause odd behaviour in the monitor. Move away from the source.

63	Appears when there is an error during the inflation process	Make sure the cuff is wrapped around the arm properly and that the air plug is properly connected to the unit.
85	Abnormal blood pressure	Rest for 5 minutes and try measurement again.
	Low battery	Replace batteries.

If problems occur when using the device the following points should be checked, and if necessary, the corresponding measures should be taken.

Malfunction	Remedy
The display remains blank when the device is switched on.	 Check batteries for correct polarity. If using the AC adapter, ensure it is correctly inserted.
The pressure does not rise even though the pump is running.	Check the connection of the cuff tube and connect properly if necessary.
The device frequently fails to measure the blood pressure values, or the values measured are too low or too high.	 Check the positioning of the cuff and cuff tension. The cuff should be snug but not tight. Measure the blood pressure again, ensuring that you have remained motionless for a sufficient amount of time to ensure an accurate reading.
Every measurement produces varying results although the instrument functions normally and the values displayed are normal.	Note that blood pressure fluctuates continuously; therefore measurements will show some variability.
	Record the daily development of the values and consult your doctor.
Blood pressure values measured differ from those measured by the doctor.	Note: Individuals visiting their doctor frequently experience anxiety which can result in a higher blood pressure reading than at home.

For assistance call the Blood Pressure Hotline: 1-866-536-2289

5. Care and Maintenance

- Do not expose the device to either extreme temperatures, humidity, dust or direct sunlight.
- b) The cuff contains a sensitive air-tight bubble. Handle this carefully and avoid all types of stress through twisting or buckling.
- c) Clean the device with a soft, dry cloth. Do not use gas, thinners or similar solvents. Spots on the cuff can be removed carefully with a damp cloth and soapsuds. The cuff with bladder must not be washed in a dishwasher, clothes washer, or submerged in water.
- Handle the tube carefully. Do not pull on it. Do not allow the tubing to kink and keep it away from sharp edges.
- e) Do not drop the monitor or treat it roughly in any way. Avoid strong vibrations.
- f) Never open the monitor. This voids the manufacturer's warranty.
- g) Batteries and electronic instruments must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

6. Lifetime Guarantee

Rexall^{TMMC} blood pressure monitors have a lifetime warranty to be free of manufacturing defects for the life of the original owner. This warranty does not include the inflation system including the cuff and inflation bladder. The cuff is warranted for two years. The warranty does not cover damage from misuse or tampering. If you have questions regarding the operation of your monitor call the

Blood Pressure Hotline: 1-866-536-2289

Should repair 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:

Repair 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 repair or replace (at Thermor's discretion) free of charge any parts necessary to correct the defect in material or workmanship.

Please allow 10 days for repair and return shipping.









7. Technical Specifications

100 x 45 mm pmetric during deflation 9 mmHg 40 – 199 beats per minute 199 beats per minute
Ig Ire within ± 3 mmHg of the reading / Batteries; size AA apter

Technical alterations reserved

Type BF applied part



Read the instruction manual carefully before using this device, especially the safety instructions, and keep the instruction manual for future use.



Batteries and electronic devices must be disposed of in accordance with the locally applicable regulations, not with domestic waste.

IP20: Protected against solid foreign particles with a diameter of more than 12.5 mm, no protection against water.

Quality Assured / Qualité Assurée

Manufactured for / Fabriqué pour : Rexall Pharmacy Group Ltd. Mississauga, ON L4Z IR9 ©2017 www.RexalLca

by / par: Thermor Ltd. 16975 Leslie Street, Newmarket, ON L3Y 9A1