18 872 B SysToe – Quick guide

Modif.	*Rév.*	*Date*			
04 090	*A*	*7/02/2011*	First release		
04 335	*B*	*28/08/2012*	Release of new software version 23a		
APPROBATION					
Quality	***R&D Atys***	***Sales***			

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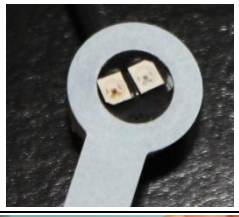
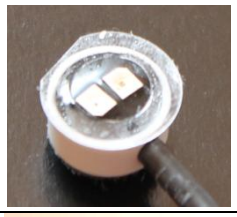
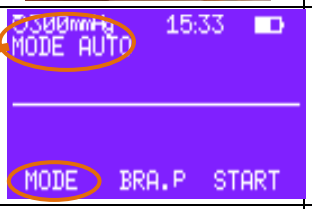
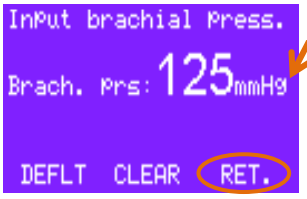
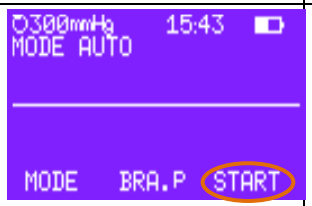
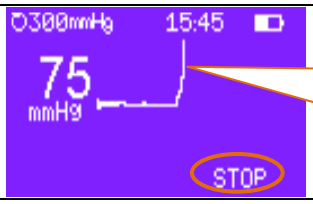
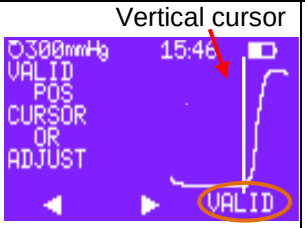
Normal toe: MODE AUTO ➔two cuffs (occlusion & sensor cuff)

1	The supine patient should be resting for 10 min in a room between 22°C and 25 °C. The patient's feet should be warm (≈27°C)			
2	Wrap the occlusion cuff at the base of the toe. The cuff must not be too tight to prevent any residual pressure.			
3	It is compulsory to stick a piece of double-sided ring tape on the sensor. The tape must not cover the infrared cells (white rectangles).			
4	Stick the sensor on the pulp extremity of the toe and secure the sensor cuff. The sensor wire and the cuff tube go downwards as shown on the picture.			
5	Switch on the SysToe: Check that the **AUTOMATIC MODE** is selected. If it is not the case, press on **MODE**.			
6	Press on **BRA.P** in order to input the arm pressure.			Input the pressure with the keyboard. Press on **RET.**.
7	The displayed signal is pulsed or flat. Press on **START**. The measurement is performed automatically.			
8	Press on **STOP** when there is a clear and confirmed increase of the sensor signal. This action stops the examination before the complete deflation of the occlusion cuff.			Clear & confirmed increase of sensor signal
9	The opposite screen is displayed. Check the position of the vertical cursor. **It must be at the foot of the upslope of the sensor signal**. **If it is the case**, press on **VALID**	Vertical cursor 		**If it is not the case**, move the cursor with the horizontal arrows. Press on **VALID**.
10	The systolic pressure and TBI are displayed.		Input the arm pressure if necessary. **BACK** Return to the previous screen. **NEW** Return to Step 7.	**VALID** to save the measurement in the internal memory

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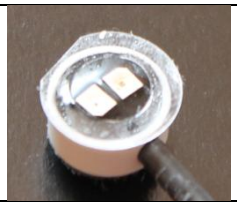
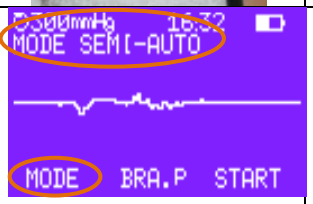
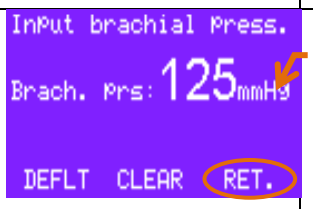
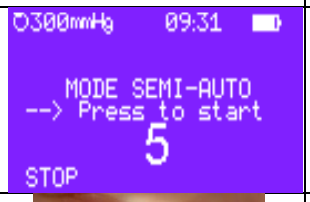
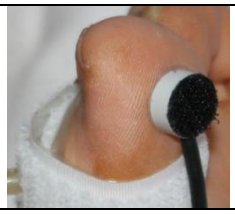
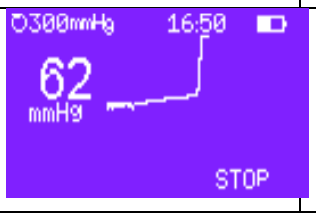
Short toe: MODE SEMI-AUTO ➔only one cuff (occlusion cuff)

The SysToe is fitted with a short toe module. This module should be used only if the toe is too short to accommodate both the occlusion cuff and the sensor cuff.

1	The supine patient. Wrap the occlusion cuff at the base of the toe. The cuff must not be too tighten to prevent any residual pressure			
2	Remove the sensor from its cuff and stick a piece of double-sided ring tape on it.			
3	Stick the sensor on the toe pulp. The sensor wire and the cuff tube go downwards as shown on the picture.			
4	Switch on the SysToe: Press on **MODE** in order to select the **SEMI-AUTOMATIC MODE**.			
5	Press on **BRA.P** in order to input the arm pressure.			Input the pressure with the keyboard. Press on **RET.**.
6	The displayed signal is pulsed or flat.			
7	Press on **START** The opposite screen is displayed			
8	Then press immediately strongly on the sensor as indicated on the opposite picture. Maintain the pressure as long as « **Keep press Until BIP** » is displayed.			
9	When this message disappears, release the pressure. The measurement is performed automatically. For the next steps, refer to the normal toe guide (step 8).			

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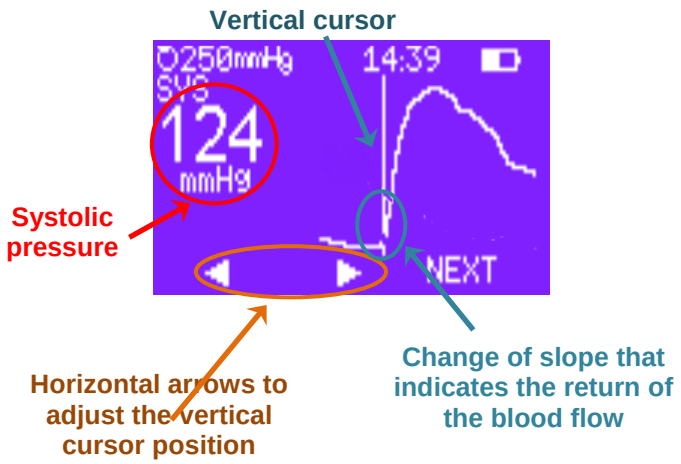
CURVE ANALYSIS



The sensor detects the **return of blood flow** when the occlusion cuff is slowly deflated.

When the blood flow comes back, the sensor signal curve shows a **significant change of slope** (the PPG curve clearly goes up). The systolic pressure is measured where the change of slope happens.
At the end of the examination, a **vertical cursor** is automatically positioned on the blood flow return and the **systolic pressure** (**SYS**) is simultaneously displayed.

NB: In case of positioning error, the vertical cursor can be adjusted by the user with the horizontal arrows.

Toe systolic pressure (SYS) and Toe Brachial Index (TBI)

Diagnosis of peripheral Arterial Disease
When arm pressure is input by the user, the SysToe calculates the TBI value.

$$TBI = \frac{\text{Toe systolic pressure (mmHg)}}{\text{Arm pressure (mmHg)}}$$

- TBI < 0.65 → PAD
- TBI >0.65 → No PAD

Diagnosis of critical ischemia : SYS < 30 mmHg

Diagnosis of arterio venous hemodialysis access-induced hand ischemia
SYS < 60 mmHg or TBI < 0.4 are highly associated with hand ischemia.

When the measured value is lower than the normal value, it is advised to perform a second measurement and even a third one to confirm the diagnosis.

This short guide doesn't exempt you from reading the SysToe user's manual

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