

3 Programming

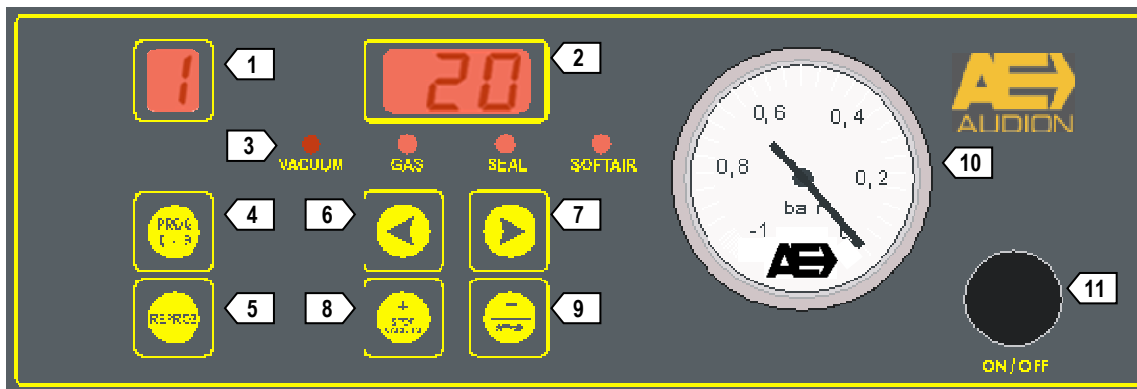








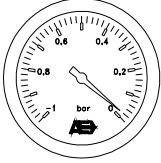



Figure 3.1: Control panel

	<p>Display (1): This display shows the program number of the active program. When the program contains active gas flush setting, a dot will be indicated in the lower right hand corner.</p>
	<p>Display (2): In this display you can see the process times in seconds. When the machine has sensor control, the figure shows the vacuum level of the chamber in percentage. If Vacuum Plus Time is activated in sensor control, a dot will be indicated in the lower right hand corner when the relevant program is selected.</p>
	<p>Process LED (3): During the setting of programs or during the actual use of the machine, the LED of the active process turns on.</p>
	<p>Programming button (4): With this button you can select the program. Programs 1 - 9 can be re-programmed to desired packaging conditions. The program 0 is for servicing purpose and cannot be changed.</p>
	<p>Re-Programming button (5): This button is being used to change the settings of a program; and to save the new settings.</p>
	<p>Function select button (6 & 7): These buttons are used to select the processes in a program (vacuum, gas, seal or soft-air).</p>

	<p>Combination button [+], [vacuum stop] (8): During programming, this button increases a setting value. For instance a longer vacuuming time. During operation, this button has the function to stop vacuuming process immediately and skip to the next process (gas or seal).</p>
	<p>Combination button [-], [stop] (9): During programming, this button decreases a setting value. For instance a shorter vacuuming time. During operation, this button has the function to stop the whole cycle. The machine decompresses the chamber and the lid will open.</p>
	<p>Vacuum meter (10): The vacuum meter shows the level of vacuum inside the chamber. The maximum level of vacuum is about 99.95 percent and the vacuum meter points at '-1'. When the pressure inside the chamber is equal to the outside atmosphere, the vacuum meter points at '0'.</p>
	<p>ON/OFF switch (11):</p>

3.1 Programming with open lid

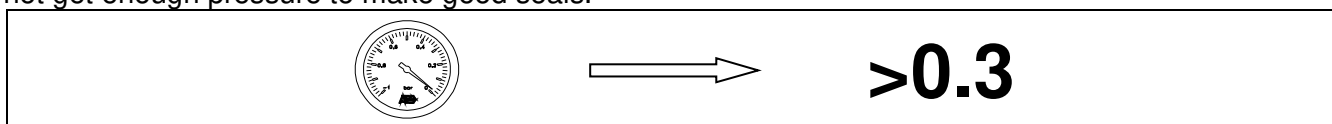
1)	Open the lid	
2)	Turn the machine on	
3)	Select program	
4)	Press [REPROG] to enter programming mode.	
5)	Select process	
6)	Set parameters with [+] and [-] buttons. VACUUM 0 – 99 sec. GAS (*1) 0 – 99 sec. SEAL 0 – 6.0 sec. SOFTAIR 0 – 99 sec.	
7)	Press [REPROG] to save the setting.	

(*1) Gas flush is an option. When the option is not installed, the process cannot be selected.

3.1.1 Remarks about gas flush option

When gas flush is activated in a program, the display (1) shows a dot next to the program number.

The maximum gas flush setting is 99 seconds, but make sure not to let the chamber decompression level become lower than “0,3”. If the chamber decompression level is lower than that, the seal bars do not get enough pressure to make good seals.



The percentage of vacuum has to be at least 30%.

It is not allowed to use gas mixture containing more than 25% of oxygen due to the risk of explosions.



Never use gas mixes containing over 25% of Oxygen.

3.1.2 Remarks about seal time setting

Do not operate the machine continuously in short cycles while the sealing time is set longer. The seal transformer shuts down when it is heated up too much. The maximum sealing time available for continuous operation is 10 % of the production cycle (for example, 2.5 seconds sealing time for 25 seconds cycle time).

3.2 Programming with open lid in case of a sensor option

1)	Open the lid	
2)	Turn the machine on	
3)	Select program	
4)	Press [REPROG] to enter programming mode.	
5)	Select process 	
6)	Set parameters with [+] and [-] buttons. VACUUM 0 – 99 % VACUUM PLUS TIME (*2) 0 – 99 sec. GAS (*1) OFF, 30 – 99 % SEAL 0 – 6.0 sec. SOFTAIR 0 – 99 sec.	
7)	Press [REPROG] to save the setting.	

(*1) Gas flush is an option. When the option is not installed, the process cannot be selected. The value to be set for gas flush in percentage is the final decompression level of the chamber after flushing gas. For example, 60% gas flush means 39% of the chamber is filled with gas. When gas flush is activated in a program, the display (1) shows a dot next to the program number.



(*2) Vacuum plus time is an extra vacuum time (in seconds) after reaching 99% vacuum. The function is disabled when the vacuum is set to 98% or lower. When the function is enabled, a dot will be shown on the lower right hand corner of the display.








(*3) It is not possible to store conflicting values. For example, gas cannot be set to 60% while vacuum is set only to 50%.







(*4) It is not recommendable to set vacuum % lower than 30%.

3.2.1 Operating a program with timer on a sensor machine

It is possible to set a program with timer while the other programs are regulated by sensor.

1)	Press [REPROG] to enter programming mode.	
2)	Press [-] button until the vacuum (%) becomes OFF.	
3)	Press [>] button once. Now you are in the vacuum plus time setting mode (the display shows OFF).	
4)	Press [+] button and set vacuum plus time to a desired length in seconds.	
5)	Press [REPROG] to save the setting. Now this program will run in timer mode.	

3.3 Programming with closed lid

1)	Open the lid	
2)	Turn the machine on	
3)	Select program 	
4)	Press [REPROG] to enter programming mode.	
5)	Close the lid.	
6)	<p>The machine starts to vacuum. Press [STOP VACUUM] when the vacuum has reached to the sufficient level. If full vacuum is required, wait for 5 seconds after the vacuum meter reaches “-1”, then press [STOP VACUUM].</p> <p>If the machine has the sensor control and 99% vacuum is set, the machine starts counting vacuum plus time (see § 3.2). Press [STOP VACUUM] again after sufficient vacuum plus time.</p>	
7)	<p>The machine starts to flush gas into the chamber. (*1) Press [STOP] when sufficient gas has been inserted.</p> <p>The minimal gas level allowed to set is “0,3” on the vacuum meter. When the chamber decompression level is lower than that, the seal bars do not get enough pressure to make good seals.</p>	
8)	The machine ventilates the chamber and finishes the programming (*2). The setting is stored in the program.	

(*1) Gas flush is an option. When the option is not installed, the process cannot be selected.

(*2) Seal time and soft air time cannot be set with closed lid programming.

3.4 Programming seal 1-2 option

For vacuum packaging thick shrink bag with cut-off seal, seal 1-2 is recommendable. Seal 1-2 is an option that allows to set sealing times independently for two sealing wires. For example, sealing wire can be set at 2,5 seconds and cut-off wire at 3,5 seconds. In this way, the bag can be sealed and trimmed without having melted seal.

When programming with seal 1-2 option, 2 figures can be entered in seal process. The first figure is the seal time and the second figure is the cutting time.

1)	Open the lid											
2)	Turn the machine on											
3)	Select program											
4)	Press [REPROG] to enter programming mode.											
5)	<p>Select process</p>											
6)	<p>Set parameters with [+] and [-] buttons.</p> <table border="0"> <tr> <td>VACUUM</td> <td>0 – 99 sec.</td> </tr> <tr> <td>GAS (*1)</td> <td>0 – 99 sec.</td> </tr> <tr> <td>SEAL 1 (*2)</td> <td>0 – 6.0 sec.</td> </tr> <tr> <td>SEAL 2 (*3)</td> <td>0 – 6.0 sec.</td> </tr> <tr> <td>SOFTAIR</td> <td>0 – 99 sec.</td> </tr> </table>	VACUUM	0 – 99 sec.	GAS (*1)	0 – 99 sec.	SEAL 1 (*2)	0 – 6.0 sec.	SEAL 2 (*3)	0 – 6.0 sec.	SOFTAIR	0 – 99 sec.	
VACUUM	0 – 99 sec.											
GAS (*1)	0 – 99 sec.											
SEAL 1 (*2)	0 – 6.0 sec.											
SEAL 2 (*3)	0 – 6.0 sec.											
SOFTAIR	0 – 99 sec.											
7)	Press [REPROG] to save the setting.											

(*1) Gas flush is an option. When the option is not installed, the process cannot be selected.

(*2) SEAL 1 is the sealing time for the sealing wire.

(*3) SEAL 2 is the sealing time for the cutting wire.

3.5 Special functions on request

The following functions are useful for certain special applications. Contact Audion or your local dealer if you wish to have these functions enabled.

3.5.1 Multi-cycle control

The multi-cycle is used for packaging applications which require very low oxygen rests in package. The operation of the multi-cycle control is automatically repeating vacuum and gas flush processes with a maximum of 5 times each before proceeding to seal process. Multi-cycle is also useful for packaging products containing air inside, which require rest times between vacuum cycles to let air out of itself.

1)	Open the lid	
2)	Turn the machine on	
3)	Select program	
4)	Press [REPROG] to enter programming mode.	
5)	Select process (for standard timer control) 	
6)	Set parameters with [+] and [-] buttons. VACUUM (1 – 5) 0 – 99 sec. GAS (1 – 5) 0 – 99 sec. SEAL 0 – 6.0 sec. SOFTAIR 0 – 99 sec.	
7)	Press [REPROG] to save the setting.	

(*1) 5 sub-cycles of vacuum and gas are described on the display as in below, with relevant values.

Sub-cycles (1) (2) (3) (4) (5)

(*2) If a process is set to OFF, the rest will be skipped and the cycle goes to the seal process directly.

(*3) In case of combining sensor control with multi-cycles, when the vacuum is set to 99%, the vacuum plus time is shown directly after that process. A dot will be shown on the right hand bottom corner if vacuum plus time (see § 3.2) is activated.

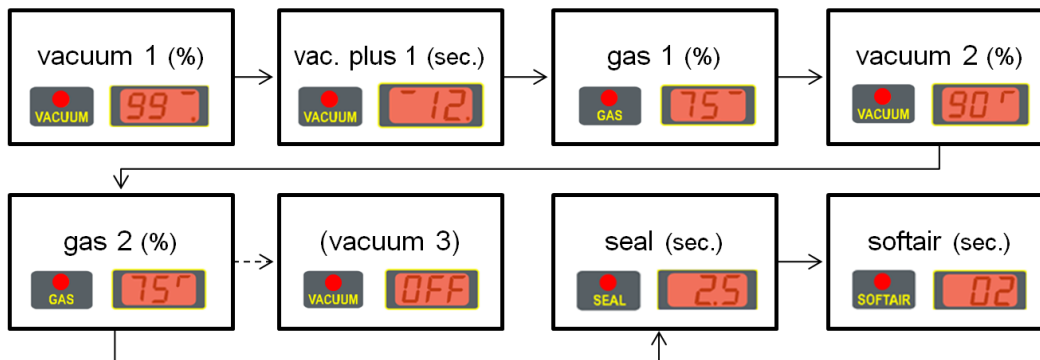


Figure 3.2: Process diagram for sensor control

3.5.2 Gas plus function

The gas plus function is an extra gas flushing time during the closing of the seal bars, allowing to put more gas inside the bag to make ballooning packages. This function is available only when the machine is equipped with the gas flush option.

3.5.3 Expansion reduction (for fresh meat product)

Expansion reduction is used to prevent bubbles appearing in the bag after vacuum packaging large piece of fresh meat. The bubbles are created by the gas trapped inside the cell of meat, which comes out of the meat due to low surrounding pressure. The gas stays inside the bag as the de-gassing occurs during sealing and cooling process. By using the expansion reduction, the decompression level in the chamber can be reduced by allowing external air to flow in for a short time (0.1 – 1.0 second) together with the closing of the seal bars, and it prevents the de-gassing of the meat, leaving no gas bubbles in the bag.

3.5.4 Sleeper time function

Sleeper time function enables to stop the vacuum pump from idling when a machine stays in stand-by for pre-set time. When the machine is used again by closing the lid, the vacuum pump starts running again automatically. Make sure to run the “Pump Conditioning Program” **every day** when working with this function enabled. (See § 4.2.1)