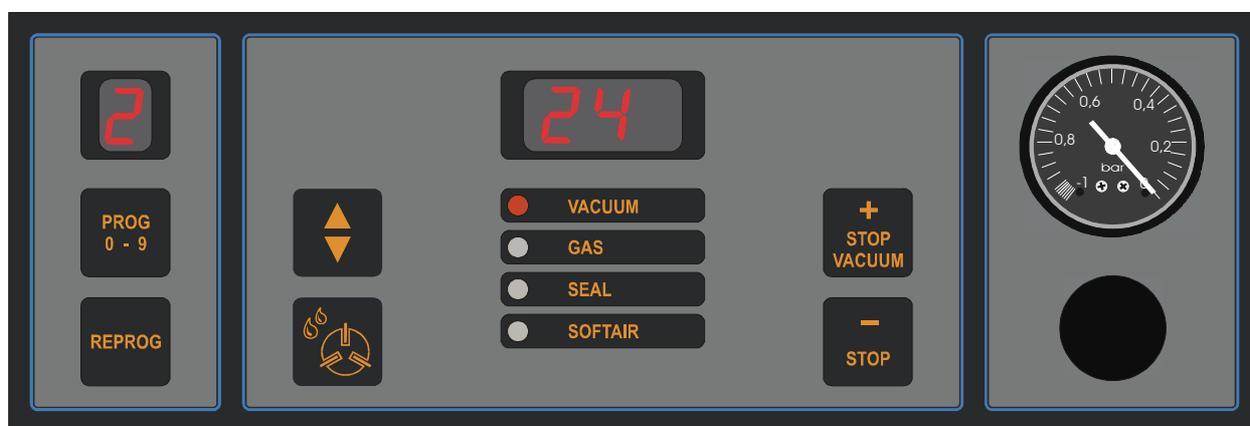


# DEALER MANUAL

# DIGITAL CONTROL PANEL

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## CONTROL PANEL VERSIONS

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### General

The digital control panels are implemented with 9 pre-select programs that can be individually set with different function values (to be able to pack different products) Program 0 can not be set and is used for servicing and testing. A program cycle is the complete program of set functions that the machine runs through to package a product.

The control panels are designed with a operation mode and a program mode. The operation mode is used during operational activities for selecting the program number with the required program cycle. The set values of the function program can also be seen in the operation mode but not changed.

The program mode is used to change the function values within the programs.

The control panels are implemented standard with an automatic conditioning program for the regular maintenance of the pump and two STOP keys for complete cycle interruption or for only active function interruption. There are also a number of built-in service programs. Contact the supplier or South Coast Systems Ltd for more information about these programs.

### Digital Time Control

The value of all active functions can be set for a certain time period.

The vacuum function, gas flush function (if installed), and soft air function can be set in whole seconds up to a maximum of 99 seconds.

The seal function can be set with an interval of 0.1 seconds and a maximum of 6.0 seconds.

### Digital Sensor Control

The value of the vacuum function and the gas flush function (if installed) can be set as a percentage of the vacuum. This is the percentage of the under pressure in the vacuum chamber related to the outside pressure 1 atmosphere/ATO (0%).

The maximum vacuum percentage setting of the vacuum function is 99%.

The minimum vacuum percentage setting of the gas flush function is 30%. This means that the chamber is flushed with gas to 30% under pressure in relation to 1 atmosphere. It is often expressed as 70% is flushed with gas ( $99\% - 30\% = 70\%$ ).

The time for the soft air function can be set on whole seconds (max. 99 seconds).

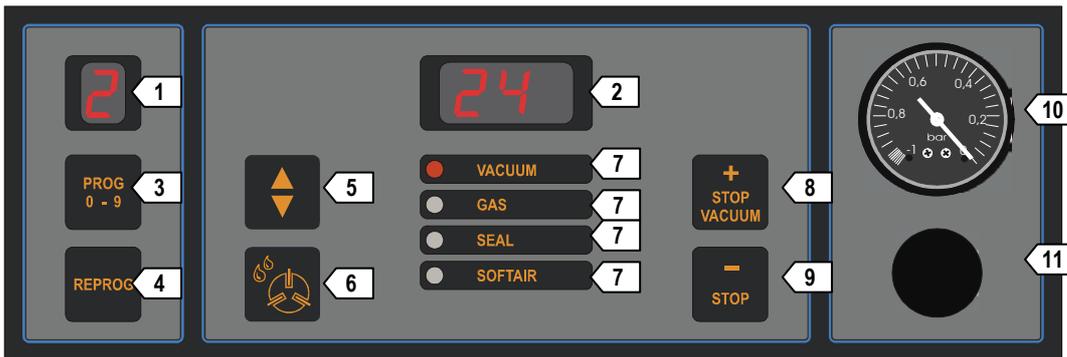
The time for the seal function can be set on 0.1 seconds (max. 6.0 seconds).

The digital sensor control comes standard with the VACUUM PLUS function. The VACUUM PLUS function is a time operated additional vacuum function for setting extra time after reaching the 99% value of the vacuum function (only applicable if 99% is set for the vacuum function). This function provides additional vacuum time for vacuuming any trapped air out of the package.

### Digital Multi-cycle Option

The digital multi-cycle control is a special option on the digital time control for running more vacuum and gas flush or rest sub-cycles continuous before going to seal function. The control is useful for packaging applications which require a very low rest-oxygen in the package or which requires rest times between vacuum to let the air out of the package or product. The maximum number of vacuum-gas flush (or rest) sub-cycles before proceeding to seal function is five. The value specifications of the option is the same to the digital time control. For activating and setting the multi-cycle option, please review on page 24.

## CONTROL PANEL LAY-OUT



### 1. Small Display

Displays active program in operating and program modes.

### 2. Large Display

Displays the current value of the active function during the program cycle or the set value of the selected function in operation or program mode.

### 3. PROG 0-9 Key

Selects program number in operation or program mode.

### 4. REPROG Key

Switch from operation mode to program mode (for setting function values) and vice versa. After setting new function value(s) within a selected program in program mode, this key must always be used to store the new values for the program in memory.

### 5. FUNCTION SELECT Key

Selects function within selected program in operation and program mode. The function is selected if the function light is on in front of the function description under the large display.

### 6. CONDITIONING PROGRAM Key

Start the conditioning program for pump (duration 15 minutes). For instructions on the program, see page 13.

### 7. FUNCTION Lights

A light in front of the function indicates that the function is active during the program cycle or that the function is selected during the operation or program modes.

#### *Special Remark*

*There is an additional time operated vacuum function available at digital sensor control, the VACUUM PLUS function. This function is not displayed on the panel. The VACUUM PLUS function can only be activated if the standard vacuum function is set to 99%*

*VACUUM PLUS function display during the cycle (if activated) : The vacuum indicator light remains on after 99% is reached and during the time set for VACUUM PLUS. During the VACUUM PLUS vacuum cycle a dot appears in the right lower corner of the large display.*

*Display during operation and program mode : If the VACUUM PLUS time is activated during the selected program then a dot appears in the lower right-hand corner of the large display during the operation and program mode. If the functions are selected using the function selection keys then the indicator light in front of VACUUM comes on twice, and the vacuum percentage and VACUUM PLUS time are shown consecutively.*

#### *Special Remark*

*If the machine has the gas flush function implemented and the function is activated within the selected program then a dot appears in the lower right hand corner of the small display when selecting the program no..*



### **8. + / STOP VACUUM Key**

Function during cycle

Interruption of the active function during the program cycle. The cycle immediately continues with the next function.

Function in program mode

Raise the value of the selected function within the program selected in the program mode.

### **9. - / STOP Key**

Function during cycle

Terminates the program cycle completely. The cycle immediately switches to the ventilation function.

Function in program mode

Lower the value of the selected function within the program selected in the program mode.

### **10. Vacuum meter**

Displays the pressure in the vacuum chamber. See the following table for the relationship between the vacuum meter and the percentage vacuum.

<i>Position vacuum meter</i>	<i>Vacuum percentage</i>
0	0
0.2	20
0.3	30
0.4	40
0.5	50
0.6	60
0.7	70
0.8	80
0.9	90
- 1.0	99+

### **11. ON/OFF Switch**

The ON/OFF switch is used to turn the machine on and off before and after operation. The switch turns on the control panel for operating the machine. Caution, the switch does not completely remove all power from the machine.



## OPERATION MODE

When the machine is turned on, the machine switches to operation mode after displaying two START codes. Please note START codes in user manual which has been delivered with machine. The operation mode is the standard setting of the control panel for packaging products. Set values cannot be modified in operation mode.

With the PROG key and function selection keys the set values within the various programs can be viewed. If the machine is ready to package a product (the product is already in the chamber), then all that needs to be done is to choose the program (PROG key) and close the lid. The program cycle starts automatically running through the set functions in the program.

### Description of the program cycle for digital time control

#### 1. Select the program number with the PROG key and the small display.

*If the selected programme is programmed with the active gas flush function then a dot appears in the lower right hand corner of the small display.*

#### 2. Close the lid.

#### 3. Vacuum function

The machine starts to vacuum the chamber.  
The light in front of [VACUUM] goes on.  
Large Display: decrementing time per second starting at the time set (max. 99 sec.).  
Vacuum meter starts increasing to the left.

#### 4. Gas flush function (if installed)

Once the vacuum function has completed then the gas flush function starts to flush gas into the vacuum chamber.  
The light in front of [GAS] goes on.  
Large Display: decrementing time per second starting at the time set (max. 99 sec.).  
Vacuum meter starts decreasing to the right.

#### 5. Seal function

When the vacuum function or gas flush function (if installed) ends, the seal function starts to seal the vacuum bag(s).  
The light in front of [SEAL] goes on.  
Large Display: decrementing time per 0.1 second starting at the time set (max. 6.0 sec.).  
The reading on the vacuum meter stays the same.

#### 6. Soft-air ventilation function (if installed)

After ending the seal function the soft air function starts to slowly ventilate the vacuum chamber.  
The light in front of [SOFT AIR] goes on.  
Large Display: decrementing time per second starting at the time set (max. 99 sec.).  
Vacuum meter starts slowly decreasing to the right.

#### 7. Ventilation function

After ending the seal function or the soft air function (if installed) the ventilation function starts ventilating the chamber to 1 atmosphere/ATO and the lid opens.  
There are no longer any lights on in front of the functions.  
Large Display: lines going up and down until the lid is opened.  
The vacuum meter runs back to the right to zero and the lid opens automatically.

#### 8. The product is packed and ready to remove.



## **Description of the program cycle for digital sensor control**

### **1. Select the program number with the PROG key and the small display.**

*If the selected program is programmed with the active gas flush function then a dot appears in the lower right hand corner of the small display.*

*If the selected program is programmed with the active VACUUM PLUS function then a dot appears in the lower right hand corner of the large display.*

### **2. Close the lid.**

### **3. Vacuum function**

The machine starts to vacuum the chamber.

The light in front of [VACUUM] goes on.

Large Display: incrementing percentage vacuum until the percentage set (max.. 99%) and a dot in the lower right hand corner if the VACUUM PLUS function is activated.

Vacuum meter starts increasing to the left.

### **4. VACUUM PLUS function**

(if installed)

The machine continues vacuuming the chamber after 99% value is reached.

The light in front of [VACUUM] goes on.

Large Display: decrementing time per second starting at the time set (max. 99 sec.) and a dot in the lower right hand corner.

The vacuum meter will very slowly increment to the left (hardly noticeable).

Remark: can only be installed with a vacuum function whereby the value is set to the maximum of 99%.

### **5. Gas flush Function**

(if installed)

Once the vacuum function has completed then the gas flush function starts to flush gas into the vacuum chamber.

The light in front of [GAS] goes on.

Large Display: decrementing percentage vacuum until the set percentage (min. 30%).

Vacuum meter starts decreasing to the right.

### **6. Seal function**

When the vacuum function or gas flush function (if installed) ends, the seal function starts to seal the vacuum bag(s).

The light in front of [SEAL] goes on.

Large Display: decrementing time per second starting at the time set (max. 6.0 sec.).

The reading on the vacuum meter stays the same.

### **7. Soft-air ventilation function**

(if installed)

After ending the seal function the soft air function starts to slowly ventilate the vacuum chamber.

The light in front of [SOFT AIR] goes on.

Large Display: decrementing time per second starting at the time set (max. 99 sec.).

Vacuum meter starts slowly decreasing to the right.

### **8. Ventilation function**

After ending the seal function or the soft air function (if installed) the ventilation function starts ventilating the chamber to 1 atmosphere/ATO and the lid opens.

There are no longer any lights on in front of the functions.

Large Display: lines going up and down until the lid is opened.

The vacuum meter runs back to the right to zero and the lid opens automatically.

### **9. The product is packed and ready to remove.**

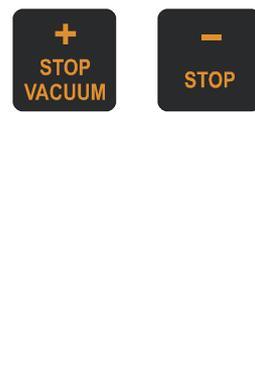
## PROGRAM MODE

The function values in a selected program number can be changed using either manual or automatic programming. For units, range and limits of the function values refer to the previous chapters.

10 programs can be selected and set, number 0 to 9. Note: program 0 cannot be programmed for user. The values in this program are set for service and reference use. Authorized suppliers can open program 0 for changing values for testing by pushing REPROG button for 5 seconds. After program 0 switches to PROGRAM MODE

### MANUAL PROGRAMMING

Starting situation: machine is in normal operation mode and the lid is open

- |    |   |  |
|----|---|--|
| A. |    | <p>Select the correct program with <b>PROG 0-9 key</b> for setting function values. Program number is displayed on the small display.</p>  |
| B. |    | <p>Press <b>REPROG key</b> to switch into program mode.<br/>The program number now starts to blink on the small display.</p>   |
| C. |   | <p>Select the required function for programming with the <b>FUNCTION SELECT Key</b>. The indicator lights will turn on for the active functions when selected.<br/><b><u>Remark on Seal function for option 1-2 cut-off seal</u></b><br/>At option 1-2 cut-off seal, the indicator SEAL lights up twice when selected. The first time is for setting the seal time and the second time for setting the cutting time.<br/><b><u>Remark on option Digital Sensor Control</u></b><br/>At option sensor control, the indicator VACUUM lights up twice when selected. The first time for the vacuum function (vacuum percentage)<br/>The second time for the vacuum plus function (time duration), see page 4</p> |
| D. |  | <p><b><u>Digital Time Control</u></b><br/>Set the amount of time required for the selected function by using the <b>+ and - keys</b>.<br/><b><u>Digital Sensor Control</u></b><br/>Set the percentage of vacuum required or the amount of time required for the selected function by using the <b>+ and - keys</b>.<br/><b><u>Remarks</u></b><br/>Set values are displayed on the large display.<br/>The functions vacuum plus (sensor control), gas flush and soft air can be turned off in the programme if required. For turning off a function press the <b>- key</b> until OFF appears on the large display.</p>  |
| E. |  | <p>Repeat steps C and D for setting other function values.</p>   |
| F. |  | <p>Press the <b>REPROG key</b> after setting all relevant functions to store the changes in the program. The control then automatically switches back to operation mode and the machine is ready for use. The newly set values are now the new default values.</p>   |

## ACTIVATION QUICK STOP H<sub>2</sub>O SENSOR PROGRAM

Starting situation: machine is in normal operation mode and the lid is open

- A.  Select the correct program with PROG 0-9 key. Program number is displayed on the small display.
- B.  Press REPROG key to switch into program mode. The program number now starts to blink on the small display.
- C.  Press PROG 0-9 key, in the right display H<sub>2</sub>O will appear. The indicator lights for vac will turn on. The function is only activated for the selected program number
- D.  Select the required function for programming with the FUNCTION SELECT Key. The indicator lights will turn on for the active functions when selected.
- E.  Set the percentage of vacuum required or the amount of time required for the selected function by using the + and – keys.
-  Repeat steps D and E for setting other function values.
- F.  Press REPROG key to switch into program mode. The program number now stops to blink. Program is now ready for use.

To switch off the Quick Stop H<sub>2</sub>O sensor, open the program by pressing Reprog key and push the Prog 0-9 key, the H<sub>2</sub>O will disappear from the display and the previous vacuum value will be shown again. Press Reprog key to return to normal user mode.

## AUTOMATIC PROGRAMMING

Starting situation: machine is in normal operating mode and the lid is open

- A.  Select the correct programme with the **PROG 0-9 Key** for setting function values. The programme number is displayed on the small display.

- B.  Then press the **REPROG key** to switch into programme mode. The programme number now starts to blink on the small display.

Close the lid. The machine cycle starts automatically.

- C.   **VACUUM FUNCTION**  
Digital Time Control  
 Time is increasing. As soon as the vacuum meter gets to -1 press the STOP VACUUM Key. The machine cycle automatically switches to the following function.  
Remark Digital Time Control  
 Let the vacuum function run 2 to 4 seconds longer after reaching -1 on the vacuum meter so that “trapped air” in the packaging is also extracted.  
Digital Sensor Control  
 The percentage vacuum increases. As soon as the value 99% is reached press the STOP VACUUM Key. The machine cycle automatically switches to the following function.  
Remark  
 If full vacuum is not required press the STOP VACUUM Key when the required value has been reached.

- D.   **VACUUM PLUS FUNCTION (only with digital sensor control)**  
Digital Sensor Control  
 Time is increasing. Press the STOP VACUUM Key at the required time. The machine cycle automatically switches to the following function.  
Remarks  
 The VACUUM PLUS function can only be de-activated (OFF) by manual programming. The VACUUM PLUS function will only run when VACUUM function has been set at 99%.

- E.   **GAS FLUSH FUNCTION (optional)**  
Digital Time Operation  
 Time is increasing. As soon as the vacuum meter gets to the required under-pressure, press the STOP VACUUM Key. The machine cycle automatically switches to the following function.  
Digital Sensor Control  
 The percentage vacuum decreases. As soon as the required value is reached press the STOP VACUUM Key. The machine cycle automatically switches to the following function.  
Remarks  
 The minimal under-pressure advised is 0.5 bar or 50% vacuum. The minimum under pressure that can be set is 0.3 bar or 30%. GAS FLUSH function can only be de-activated (OFF) by manual programming.

## F. SEAL FUNCTION

Can only be programmed manually. For automatic programming, the set time length will be run and the machine cycle will automatically carry on with the next function.

## G.



### SOFT AIR FUNCTION / STORE FUNCTION VALUES IN PROGRAM

#### Digital Time and Sensor Control

Time is increasing. As soon as the desired setting is reached press the STOP VACUUM Key. After this operation the machine cycle ventilation starts and the lid opens. The values are automatically stored and control panel reverts automatically to the operation mode. The machine is ready for use.

#### Remarks

The soft air function can only be de-activated (OFF) with manual programming.

## SPECIAL REMARKS ON PROGRAMMING

### For Digital Sensor Control

The value which is set for the gas flush function is the final vacuum percentage in the vacuum chamber after flushing gas. For example, the vacuum function is set to 99% and gas flush function is set to 60%. This means that after the vacuum function the chamber will be flushed with gas until there is 60% vacuum and 40% (actually 39%) gas in de vacuum chamber.

### For automatic programming.

Ensure that all functions are activated in the selected program. Activation means that the function in the program is assigned a value. If the value is OFF then that means that the function is not activated and will not be included in the automatic programming cycle.

### For machines with optional gas flush function.

If a program is setup with the active gas flush function then this is indicated by a dot in the lower right hand corner of the small display when selecting the program in the operation mode.

### For machines with optional sensor control.

If a program is setup with the active VACUUM PLUS function then this is indicated by a dot in the lower right hand corner of the large display when selecting the program in the operation mode.

If the function's value is OFF then it can only be activated using manual programming.



## DILSWITCH SETTINGS / STARTING CODES

The dip switches on the printed circuit board are used for physically activating and setting the several (optional) functions on the control.



ON POSITION	ACTIVATION
1	Multi-cycle control
2	Continuous pump running Pre-seal factory setting 1.0 seconds / After-seal factory setting 2.5 seconds
3	Pump conditioning program on separate conditioning program button
4	Soft air ventilation
5	1-2 Cut off seal (separate time settings for seal and cut)
6	Gas flush injection function
7	Digital sensor control function
8	not activated

### FIRST STARTING CODE / DIP SWITCHES CONTROL PANEL

CONFIGURATION MACHINE					Dilswitch ON	Display code
Standard					2-3	006
Soft air					2-3-4	014
	Gas flush				2-3-6	038
		1-2 Seal-Cut			2-3-5	022
			Sensor		2-3-7	070
Soft air	Gas flush				2-3-4-6	046
Soft air		1-2 Seal-Cut			2-3-4-5	030
Soft air			Sensor		2-3-4-7	078
Soft air	Gas flush	1-2 Seal-Cut			2-3-4-5-6	062
Soft air	Gas flush		Sensor		2-3-4-6-7	110
Soft air		1-2 Seal-Cut	Sensor		2-3-4-5-7	094
Soft air	Gas flush	1-2 Seal-Cut	Sensor		2-3-4-5-6-7	126
	Gas flush	1-2 Seal-Cut			2-3-5-6	054
	Gas flush		Sensor		2-3-6-7	102
	Gas flush	1-2 Seal-Cut	Sensor		2-3-5-6-7	118
		1-2 Seal-Cut	Sensor		2-3-5-7	086
	Gas flush			Multi-cycle	1-2-3-6	039
Soft air	Gas flush			Multi-cycle	1-2-3-4-6	047
	Gas flush	1-2 Seal-Cut		Multi-cycle	1-2-3-5-6	055
	Gas flush		Sensor	Multi-cycle	1-2-3-6-7	103
Soft air	Gas flush	1-2 Seal-Cut		Multi-cycle	1-2-3-4-5-6	063
Soft air	Gas flush		Sensor	Multi-cycle	1-2-3-4-6-7	111
	Gas flush	1-2 Seal-Cut	Sensor	Multi-cycle	1-2-3-5-6-7	119
Soft air	Gas flush	1-2 Seal-Cut	Sensor	Multi-cycle	1-2-3-4-5-6-7	127

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## SERVICE MODE – PUMP CONDITIONING PROGRAM

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The conditioning program ensures that the pump is thoroughly rinsed. During the program the pump and oil reaches operation temperature so that the oil can better absorb any moisture and contaminants and filter them. The high temperature enables any moisture in the pump to evaporate minimising the risk for rust spots.

The program lasts 15 minutes and it is advisable to run it at least once a week. Turn on the machine, press the key [conditioning program], and close the lid. The program runs automatically. During the program the large display will display moving lines.

The program can be interrupted at any time using the [STOP] key. It is however important for the sake of good maintenance that the program completes a full 15 minute cycle and therefore advisable only to interrupt the cycle for something urgent.

It is also advisable to run the program before using the machine for the first time, after the machine has been stationary for a lengthy period of time, and especially prior to changing oil.

---

## SERVICE MODE - SLEEPER TIME FUNCTION

Sleeper time function is used for automatic stop of vacuum pump running after set time in sleeper time function when machines has not been used during the set time.

When machine is used again by closing the lid, the vacuum pump starts automatically running again.

Sleeper time function is only useful when dilswitch (continuous pump running) is ON.

Standard factory setting function is OFF position.

### ACTIVATE AND SET SLEEPER TIME FUNCTION



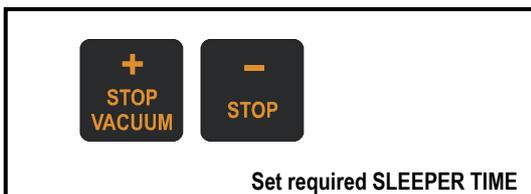
1. Machine is off
2. Push [ FUNCTION SELECTION ] button and [ + | VACUUM STOP ] buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing both buttons for at least 5 seconds. First the starting codes appear and after 5 seconds { SL o } appears in large display. { SL o } indicates sleeper function in OFF position.
4. Release buttons



5. Push [ + | VACUUM STOP ] button once and { SL o } changes to { SL 1 }. This means sleeper function is activated.



6. Push [ FUNCTION SELECTION ] button and { 001 } appears in screen. This indicates the time interval for the sleeperfunction. The time interval is 6 seconds so { 001 } means that after 6 seconds not using the machine, the pump stops running.



7. Push [ + | VACUUM STOP ] or [ - | STOP ] buttons to increase or decrease the number of time intervals with a minimum of { 001 } which is 6 seconds and a maximum of { 999 } which is 5.994 seconds (appr. 100 minutes)



8. After setting the desired time interval, push [ REPROG ] button to store activation and setting. Control panel returns automatically to standard operation mode.

## SERVICE MODE – SERVICE HOURS COUNTER FUNCTION

The service hours counter function is used for setting time intervals (per 10 hours) for regular maintenance purposes on machine and/or pump.



After expiration of set time interval, the control panel will provide the signal { OIL } that the interval has expired and maintenance can be done. Machine can still be used for normal operation after appearance but the signal keeps coming back.

Moreover, the function also displays the already consumed hours within the set time interval.

Pay attention that the function only counts the hours that the pump is actually running. So when the sleeper function is active, only the actual hours that the pump is running will be counted.

Standard factory setting function is OFF position.

### ACTIVATE AND SET SERVICE HOURS COUNTER FUNCTION



1. Machine is ON
2. Push [ FUNCTION SELECTION ] button for at least 3 seconds  
After 3 seconds, the already consumed time (per hour) will appear on display for 2 seconds (value between 0 and 99). After display switches to originally set service hours interval (per hour). When function has not been activated, there will be no appearance of already consumed time and OFF will appear on display after 3 seconds.



3. Push [ + | VACUUM STOP ] or [ - | STOP ] buttons to activate and/or reset the required service hours interval. The number on the display reflects 10 hours of operation. So minimum value 1 indicates 10 hours and maximum 99 means 990 hours. When set to value 0, this means that the function will be de-activated (next time when function mode is entered, OFF will appear on display).

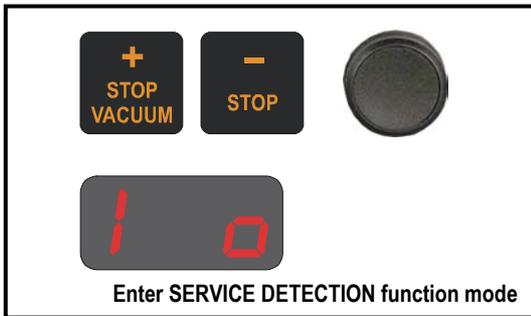


4. Push REPROG button to store new value in function. Consumed hours will also be reset by this procedure. Control panel will return automatically to operation mode.

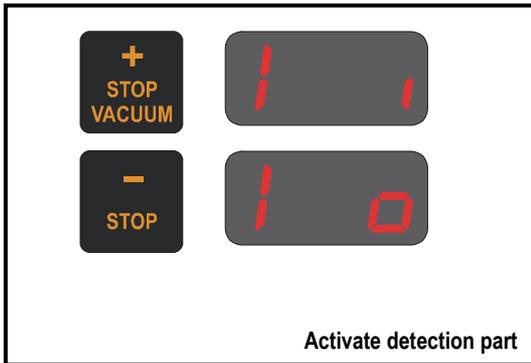
## SERVICE MODE – SERVICE DETECTION (GATE TEST) FUNCTION

The service detection function can detect whether certain selected parts will be activated during operation or not. This is convenient when the machine has a problem and the technician has not idea yet where might be the cause of the problem.

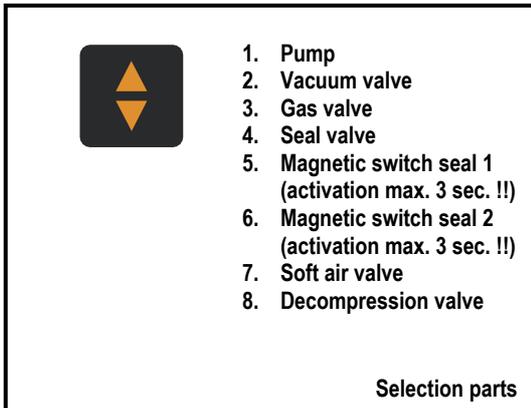
### ACTIVATE AND USE SERVICE DETECTION FUNCTION



1. Machine is OFF.
2. Push [ + | VACUUM STOP ] and [ - | STOP ] buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing both buttons for at least 5 seconds. First the starting codes appear and after 5 seconds { 1 o } appears in large display. { 1 o } indicates part 1 in OFF position.



4. Push [ + | VACUUM STOP ] button to activate the selected part . Push [ - | STOP ] button to de-activate the selected part. When the part is physically activated and de-activated (you hear a click).



5. Push SELECTOR button to select part no. which is required to be detected. See list of part no. in overview. Please pay attention that for part numbers 5 or 6, the maximum activation time is 3 seconds. Longer activation time will result in burns on sealing bar or other relevant parts.



6. Push REPROG button to return to operation mode.

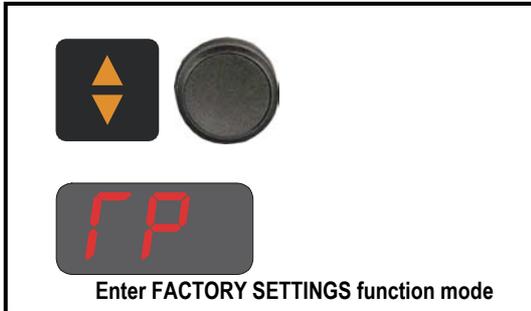
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## SERVICE MODE – FACTORY SETTINGS FUNCTION

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The factory settings function is used for returning all values and settings (operation mode and service mode) in the control panel to the original factory setting.

### ACTIVATE FACTORY SETTINGS FUNCTION

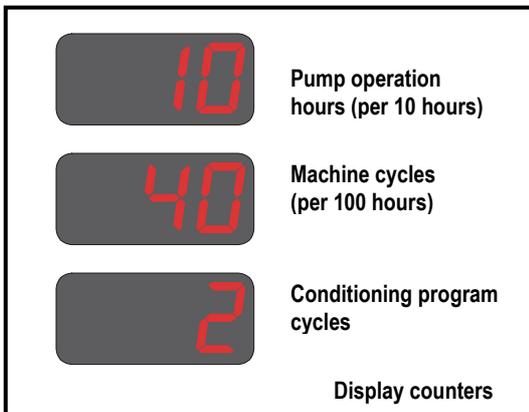


1. Machine is OFF.
2. Push SELECTOR button and turn on machine with ON/OFF switch while pushing button.
3. Keep pushing button for at least 3 seconds. First the starting codes appear and after 3 seconds { rP } appears in large display.
4. Release SELECTOR button and control panel returns automatically all values and setting to original factory settings. Only machine counter values (see next page) remain on present value.

## SERVICE MODE – MACHINE COUNTER FUNCTION

The machine counter function registers the use of machine and certain functions for a solid reference on the state and use of the machine. Total hours which the pump has run, total number of cycles which the machine has run, and total number of cycles which the pump conditioning program has run will be displayed in the function.

### ACTIVATE MACHINE COUNTER FUNCTION



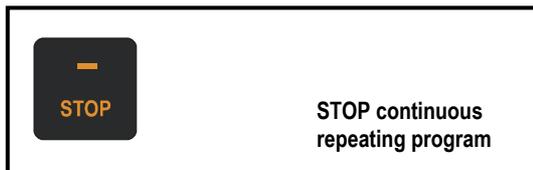
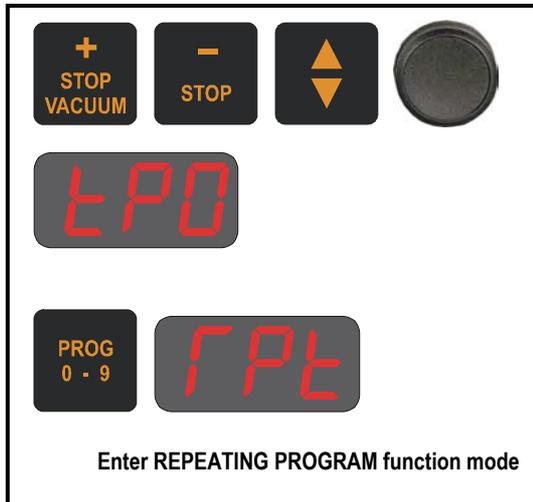
1. Machine is OFF.
2. Push SELECTOR and CONDITIONING PROGRAM buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing button for at least 5 seconds. First the starting codes appear and after 5 seconds { co } appears in large display.
4. Release buttons and after 5 seconds control panel displays subsequently machine hours (per 10 hours) which the machine has run, number of cycles (per 100 cycles) which the machine has run, and last the number of cycles which the conditioning program has run. The three indications appear each for 2 seconds in display.
5. After control panel return automatically to standard operation mode.

*The values cannot be deleted. When the values reach 99, it returns automatically to 0 and starts again.*

## SERVICE MODE – REPEATING PROGRAM FUNCTION

The repeating program function is used for continuously repeating a program for testing whether problems would arise when machine is running for longer time.

### ACTIVATE REPEATING PROGRAM FUNCTION

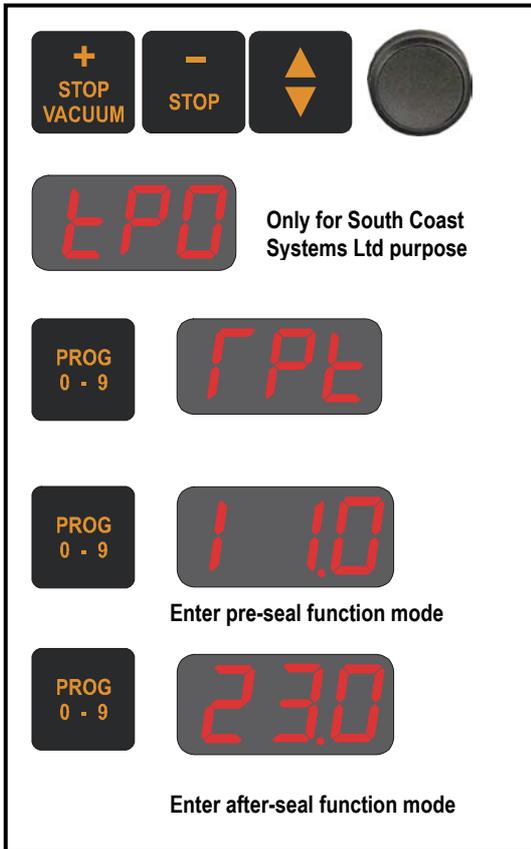


1. Machine is OFF.
  1. Push [ + | VACUUM STOP ], [ - | STOP ] and SELECTOR buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
  2. Keep pushing button for at least 5 seconds. First the starting codes appear and after 5 seconds { tPO } appears in large display. This function is only for South Coast Systems Ltd internal purposes.
  3. Push [ PROG 0-9 ] button once and mode changes to REPEATING PROGRAM function mode. { tPO } changes to { rPt }.
  4. Close the lid and the program which has been selected in operation mode will start running continuously.
  
5. Push [ - | STOP ] button to interrupt the function and push [ REPROG ] button to return to operation mode.
  
6. Push [ REPROG ] button for returning to operation mode

## SERVICE MODE – PRE-SEAL AND AFTER-SEAL FUNCTION

The pre-seal and after-seal function enables to change the time settings for pre-seal and after-seal.

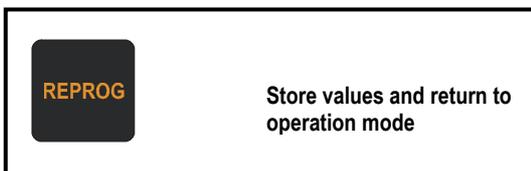
### ACTIVATE PRE-SEAL AND AFTER-SEAL FUNCTION



1. Machine is OFF.
2. Push [ + | VACUUM STOP ], [ - | STOP ] and SELECTOR buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing button for at least 5 seconds. First the starting codes appear and after 5 seconds { tPO } appears in large display. This function is only for South Coast Systems Ltd internal purposes.
4. Push [ PROG 0-9 ] button twice and mode changes to PRE-SEAL function mode, { 1 1,0 }. The first value 1 indicates pre-seal mode. The second value 1,0 indicates the pre-seal time.
5. Push [ PROG 0-9 ] button once more and mode changes to AFTER-SEAL function mode, { 2 3,0 }. The first value 2 indicates after-seal mode. The second value 3,0 indicates the after-seal time.



6. Change time settings by using [ + | VACUUM STOP ] and [ - | STOP ] buttons when selected either mode.

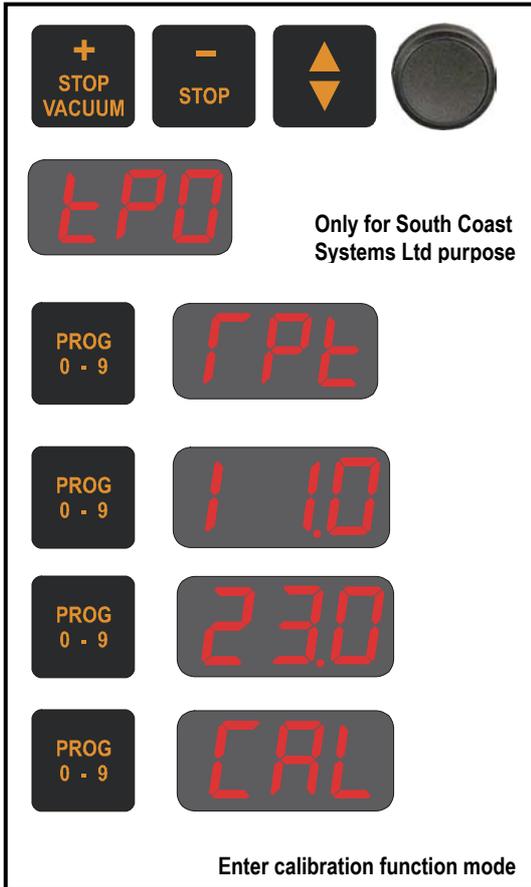


7. When settings have been changed upon required time, push [ REPROG ] button to store new values and return to operation mode.

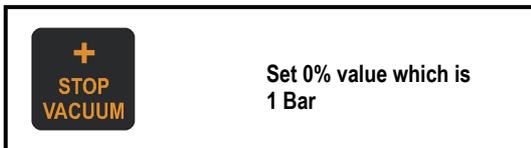
## SERVICE MODE – SENSOR CALIBRATION FUNCTION

The sensor calibration function sets the right pressure values to the corresponding vacuum percentage values. For this calibrating the sensor function, a digital vacuum meter is required

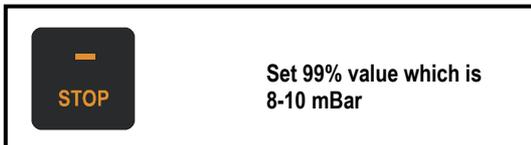
### ACTIVATE SENSOR CALIBRATION FUNCTION



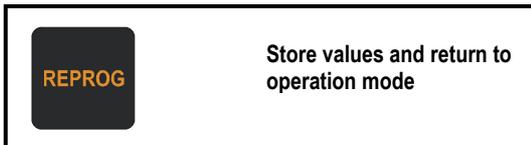
1. Machine is OFF.
2. Push [ + | VACUUM STOP ], [ - | STOP ] and SELECTOR buttons at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing button for at least 5 seconds. First the starting codes appear and after 5 seconds { tPO } appears in large display. This function is only for South Coast Systems Ltd internal purposes.
4. Push [ PROG 0-9 ] button 4 times for entering the CALIBRATION function , { CAL }.
5. Place digital vacuum meter in chamber.



6. Push [ + | VACUUM STOP ] button for setting the 0% vacuum value (which is 1 Bar).



7. Close the lid and keep it closed while pushing [ - | STOP ] button. The pump starts to run now. Keep pushing the [ - | STOP ] button until the digital vacuum meter shows appr. 9-10 mBar.



8. Release [ - | STOP ] button. This is the setting for 99% vacuum value.
9. Push [ REPROG ] button to store new values and return to operation mode.



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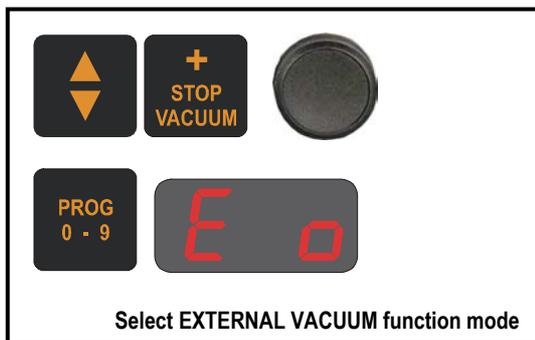
## ERROR CODES

- F 1 = De-activation of micro switch during cycle run. For example when gas flush function is set at a too high value and lid opens.
- F 2 = For sensor control panel. Starting pressure is not equal to set start pressure of sensor. For example, when there is a tube bended and still under pressure in the system.

## SPECIAL OPTION - EXTERNAL VACUUM FUNCTION

External vacuum function is used for vacuuming special food containers. The function comes with a special adaptor which should be connected to the vacuum opening of the machine and suction opening of the food container. The function should be activated and set through the control panel as well. See operation procedures in user manual. See for setting and activation procedures below :

### ACTIVATE AND SET EXTERNAL VACUUM FUNCTION



1. Machine is off
2. Push [ FUNCTION SELECTION ] button and [ + | VACUUM STOP ] button at same time and turn on machine with ON/OFF switch while pushing buttons.
3. Keep pushing both buttons for at least 5 seconds. First the starting codes appear and after 5 seconds { SL o } appears in large display. This is the SLEEPER TIME function mode.
4. Release buttons
5. Push [ PROG 0-9 ] button once and mode changes to EXTERNAL VACUUM function mode. { SL o } changes to { E o }.
6. Push [ + | VACUUM STOP ] button once and { E o } changes to { E I }. This means EXTERNAL VACUUM function is activated.
7. Push [ REPROG ] button for storing the activation of function.
8. Control panel returns automatically to operation mode.

EXTERNAL VACUUM function can be selected in operation mode through button [ PROG 0-9 ] until { E } appears in small display.



## SPECIAL OPTION – MULTI-CYCLE CONTROL FUNCTION

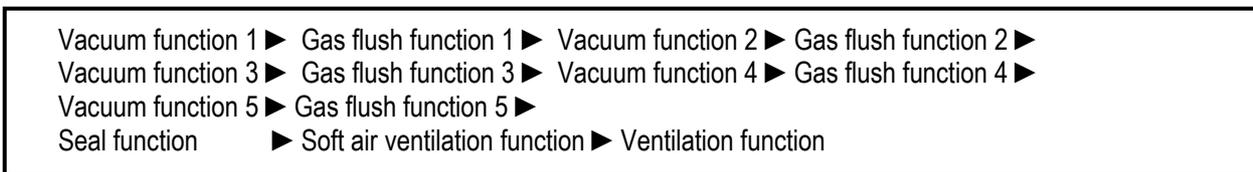
The multi-cycle control option is used for packaging applications which require very low oxygen rests in package. The operation mode cycle of the multi-cycle control is automatically repeating vacuum and gas flush functions with a maximum of five times before proceeding to seal function.

The repetition of the vacuum and gas flush functions results in an optimum reduction of oxygen rests because during each repetition the oxygen rests mix with gas and being then vacuumed again. So the oxygen percentage left in package is reduced to minimum.

### Special note :

For normal industrial or retail applications, the multi-cycle control does not create any considerable benefits for the package or product shelf life. The vacuum achieved with normal controls are more than sufficient. Multi-cycle control is only used for highly special laboratory or product applications.

### MASTER CYCLE MULTI-CYCLE CONTROL



For setting the suitable program, functions can be set on OFF position so it is possible to have for example only 2 or 3 repeating cycles.

### ACTIVATE MULTI-CYCLE CONTROL

Change dilswitch 1 to ON position. Switch off and turn on machine and multi-cycle control is activated.

### PROGRAM & SET MULTI-CYCLE CONTROL FUNCTION VALUES (ONLY MANUAL)

 Machine is ON and multi-cycle control is activated.  
Push [ PROG 0-9 ] button for selection program to be programmed.

 Push [ REPROG ] button to switch to program mode

There are five sets of vacuum-gas flush sub-cycles before going to seal function. The active set is indicated by the number of lines at the left side of the value for digital time control and at the right side of the value for digital sensor control.



So for example for digital time control when in program mode (program number is blinking), the light is on before VACUUM and there are two lines in front of value, it indicates that the vacuum function value of the second sub-cycle is displayed and ready to be changed.





Push SELECTOR key for selecting the functions in the different (sub) cycles for programming. When relevant function is selected, use [ + | VACUUM STOP ] or [ - | STOP ] buttons to increase or decrease the function value.

When all functions have been programmed (or set on OFF position), push [ REPROG ] button for storing the new values.

### **Special notes PROGRAMMING MULTI-CYCLE**

- Values cannot be conflicting. For example for digital sensor control , vacuum function is programmed at only 50%, gas function in same sub-cycle cannot be set at 60%.
- When digital sensor control, there is also VACUUM PLUS function available at each vacuum-gas flush sub-cycle.
- For multi-cycle, only manual programming is possible.



## DIGITAL TIME CONTROL FACTORY SETTINGS

Program	0**	1	2	3	4	5	6	7	8	9
Vacuum time	30	25	20	15	10	30	25	20	20	15
Gas flush time*	OFF	OFF	OFF	OFF	OFF	5	5	10	15	15
Sealing time	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Soft-air time*	3	3	2	2	2	OFF	OFF	2	OFF	OFF

\* Only applicable if the machine is equipped with the options in question.  
If the machine is not equipped with the gas flush system and/or soft air ventilation then these options will not be available on the control panel.

\*\* Program 0 cannot be modified

## DIGITAL SENSOR CONTROL FACTORY SETTINGS

Program	0**	1	2	3	4	5	6	7	8	9
Final vacuum pressure %	99	90	99	99	99	80	90	50	90	60
Vacuum plus time	15	OFF	15	10	10	OFF	OFF	OFF	OFF	OFF
Final vacuum pressure % after gas flush*	OFF	OFF	80	70	60	50	80	OFF	80	30
Sealing time	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Soft-air time*	3	3	2	2	2	OFF	OFF	2	OFF	OFF

\* Only applicable if the machine is equipped with the options in question.  
If the machine is not equipped with the gassing system and/or soft air ventilating then these options will not be available on the operating panel.

\*\* Program 0 cannot be modified



**DIGITAL TIME CONTROL MULTI-CYCLE FACTORY SETTINGS**

	Program	0*	1	2	3	4	5	6	7	8	9
Sub 1	Vacuum time	30	25	20	15	10	30	25	20	20	15
	Gas flush time	OFF	OFF	OFF	OFF	OFF	5	5	10	15	15
Sub 2	Vacuum time						20	15	20	20	15
	Gas flush time						5	5	10	15	15
Sub 3	Vacuum time						20	15	20	OFF	15
	Gas flush time						5	5	10		15
Sub 4	Vacuum time						20	15	20		15
	Gas flush time						5	5	10		15
Sub 5	Vacuum time						20	15	20		15
	Gas flush time						5	5	10		15
	Sealing time	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	Soft-air time	3	3	2	2	2	OFF	OFF	2	OFF	OFF

\* Program 0 cannot be modified

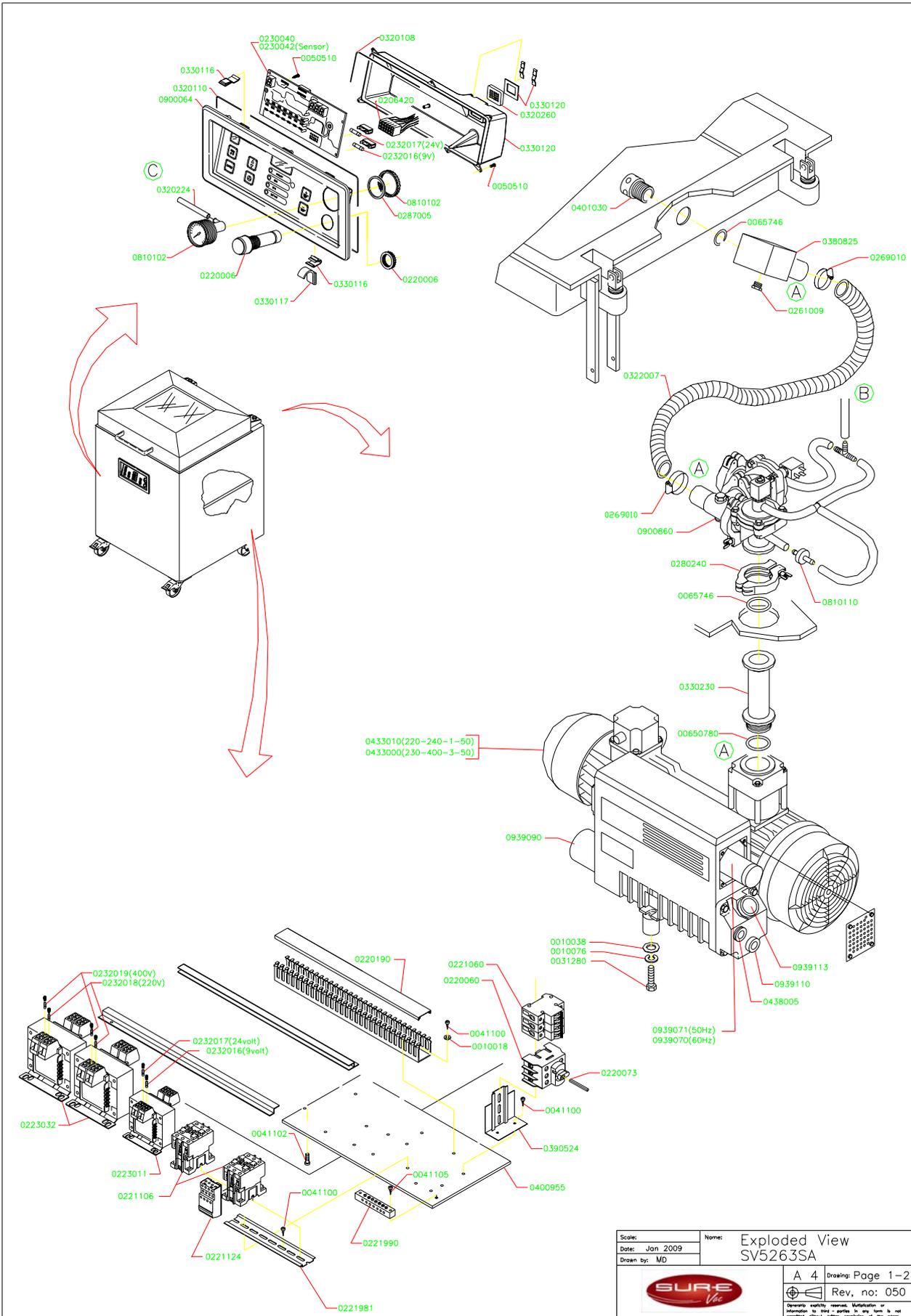
**DIGITAL SENSOR CONTROL MULTI-CYCLE FACTORY SETTINGS**

	Program	0*	1	2	3	4	5	6	7	8	9
sub 1	Final vacuum pressure %	99	90	99	99	99	80	90	50	90	60
	Vacuum plus time	15	OFF	15	10	10	OFF	OFF	OFF	OFF	OFF
	Final vacuum pressure % after gas flush	OFF	OFF	80	70	60	50	80	OFF	80	30
sub 2	Final vacuum pressure %			90	80	95	80	90		OFF	60
	Vacuum plus time			OFF	OFF	OFF	OFF	OFF			OFF
	Final vacuum pressure % after gas flush			50	50	40	50	80			30
sub 3	Final vacuum pressure %			80	70	95	80	OFF			60
	Vacuum plus time			OFF	OFF	OFF	OFF				OFF
	Final vacuum pressure % after gas flush			50	50	40	50				30
sub 4	Final vacuum pressure %			80	70	95	80				60
	Vacuum plus time			OFF	OFF	OFF	OFF				OFF
	Final vacuum pressure % after gas flush			50	50	40	50				30
sub 5	Final vacuum pressure %			80	70	60	80				60
	Vacuum plus time			OFF	OFF	OFF	OFF				OFF
	Final vacuum pressure % after gas flush			50	50	40	50				30
	Sealing time	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	Soft-air time	3	3	2	2	2	OFF	OFF	2	OFF	OFF

\* Program 0 cannot be modified



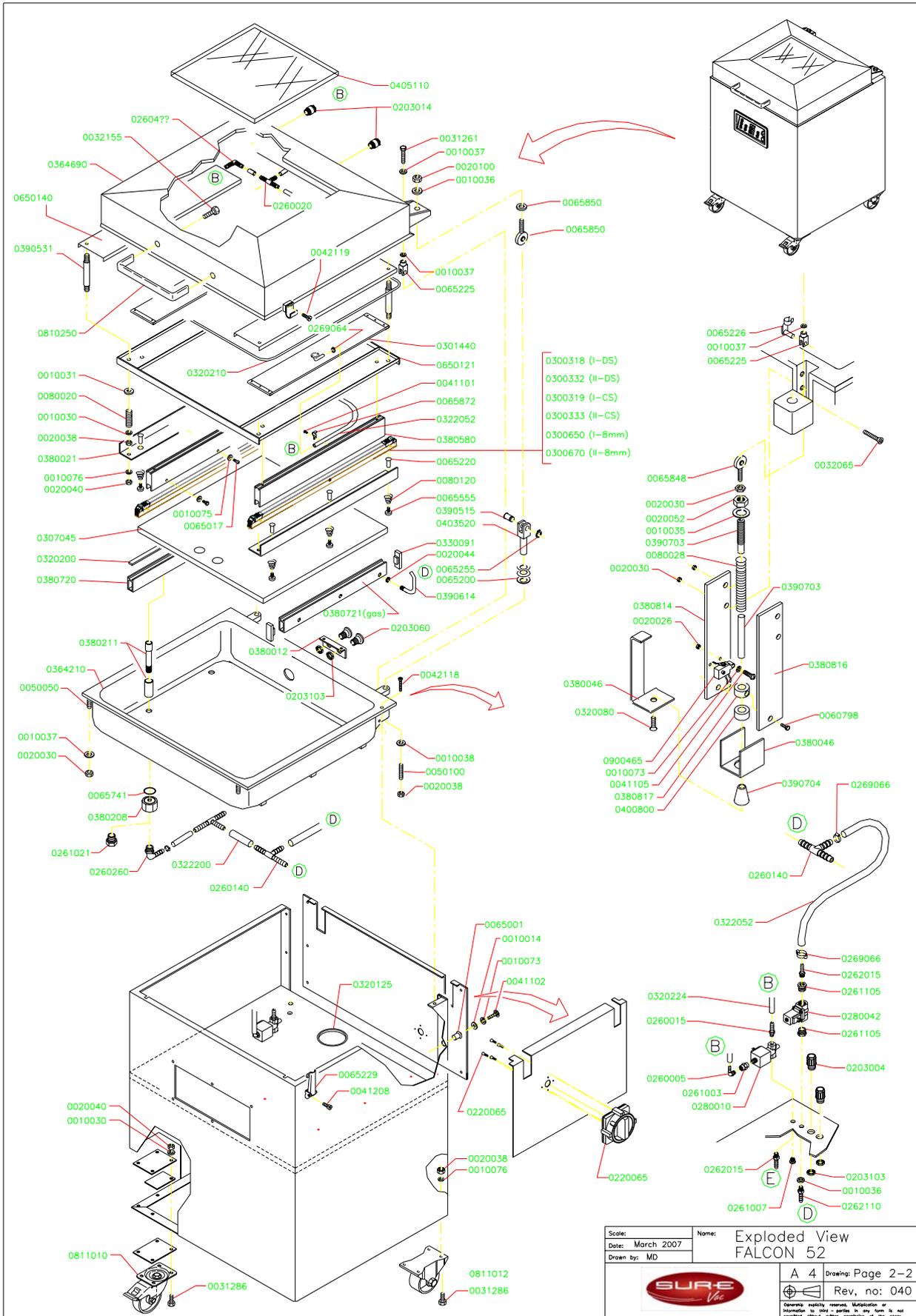
EXPLODED VIEW (page 1-2)



Scale:	Name:	Exploded View
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Drawn by:		
A 4		Drawing: Page 1-2
		Rev. no: 050
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EXPLODED VIEW (page 1-2)



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Date: March 2007	FALCON 52	
Drawn by: MD		
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		Rev. no: 040
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