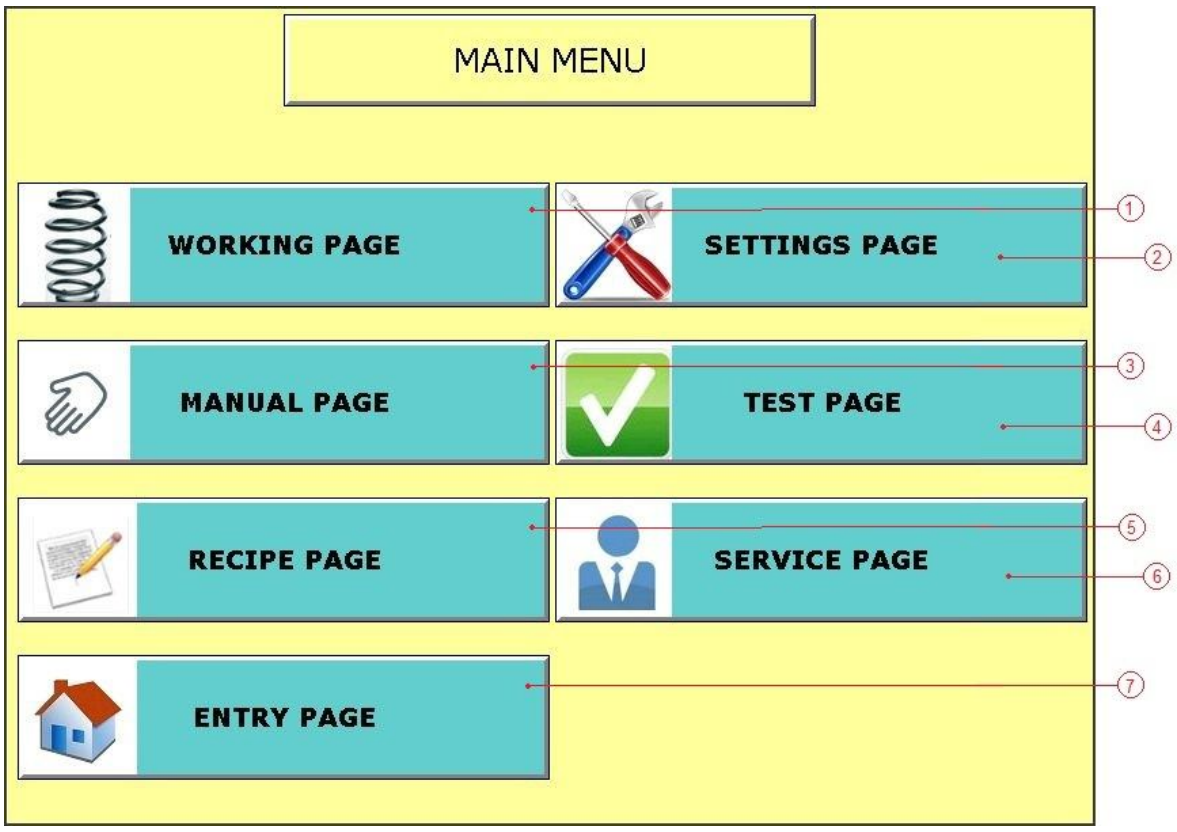
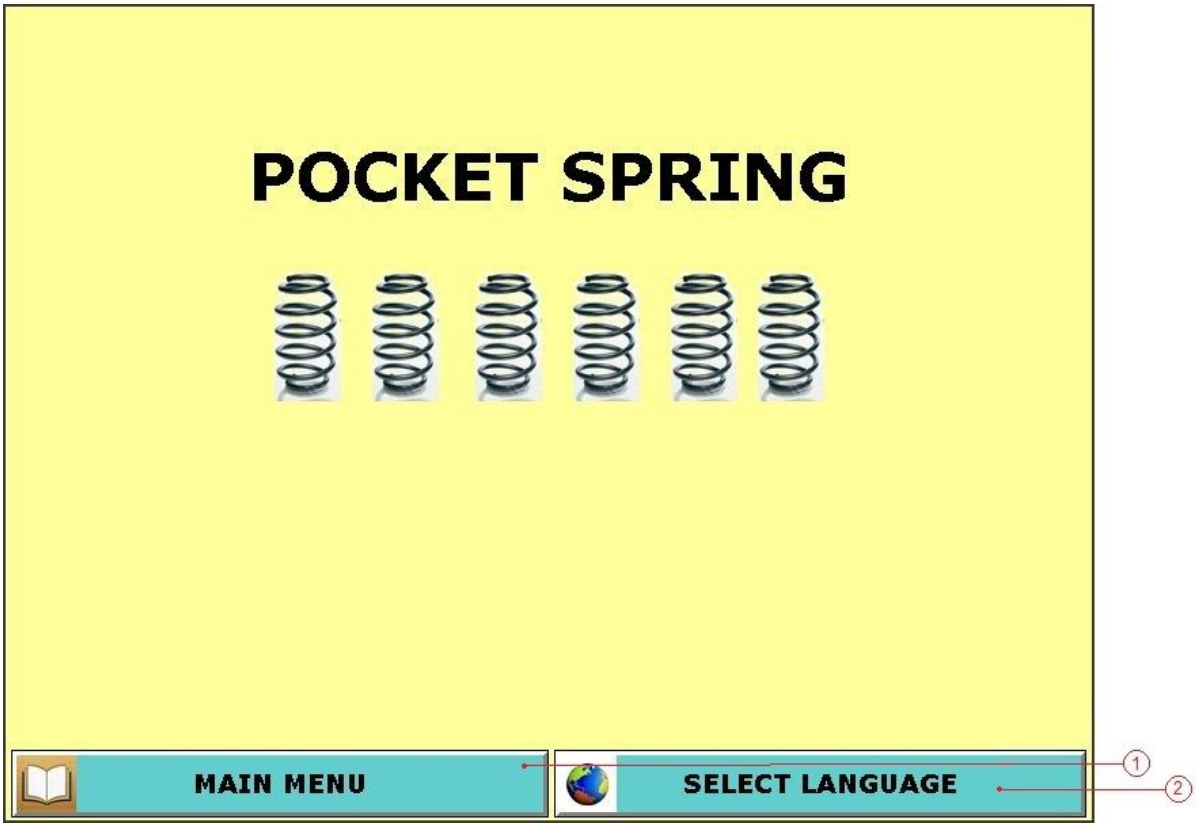
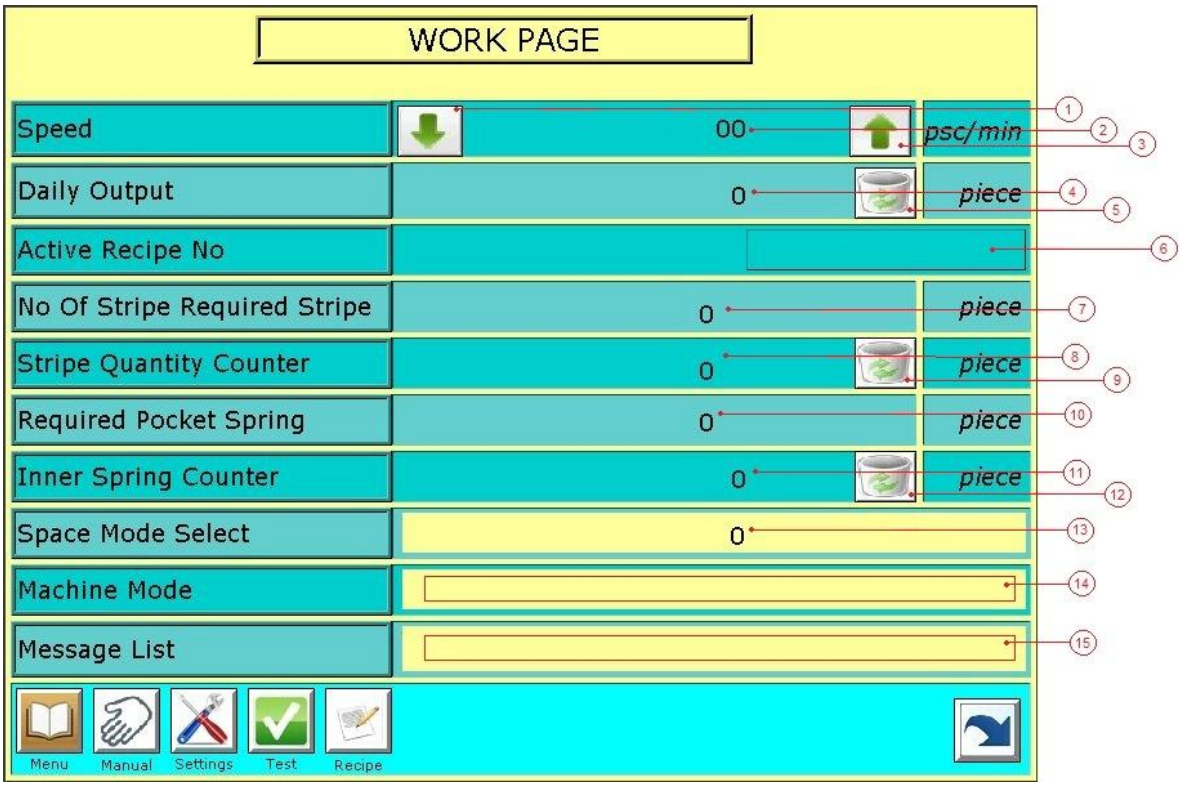


1. This button switches to the worksheet.
2. This button switches to the adjustments page.
3. This button switches to the main menu enabling manually control servomotors
4. This button switches to test page of digital inputs and outputs
5. This button switches to the instructions page used to record running parameters or to recall parameters prepared and recorded already.
6. This button switches to the page used for service purpose by machine manufacturer
7. This button is used to return entrance page



1. This button switches to the Main Menu.
2. This button switches to the page of language switching



1. This button is used to reduce production speed of the machine with the increments of 2 minutes
2. This parameter indicates instant production speed of the machine.
3. This button is used to increase production speed of the machine with the increments of 2 minutes.
4. This parameter indicates the number of springs manufactured during the day.
5. This button enables the operator reset the number of springs manufactured during the day. The button must be pressed and held on for 5 seconds to reset daily production.
6. It indicates the name of active instruction while in use during production stage.
7. Number of gut like spring requested from the machine to produce. The machine will stop automatically after specified quantity of gut like spring is produced.
8. The parameter counts the number of gut like spring requested from the machine to produce.
9. This button enables the operator reset the number of gut like spring manufactured during the day whenever it is required. The button must be pressed and held on for 5 seconds to reset.
10. This parameter is used to adjust how many springs are required in a gut like spring when intermittent operating mode is active.

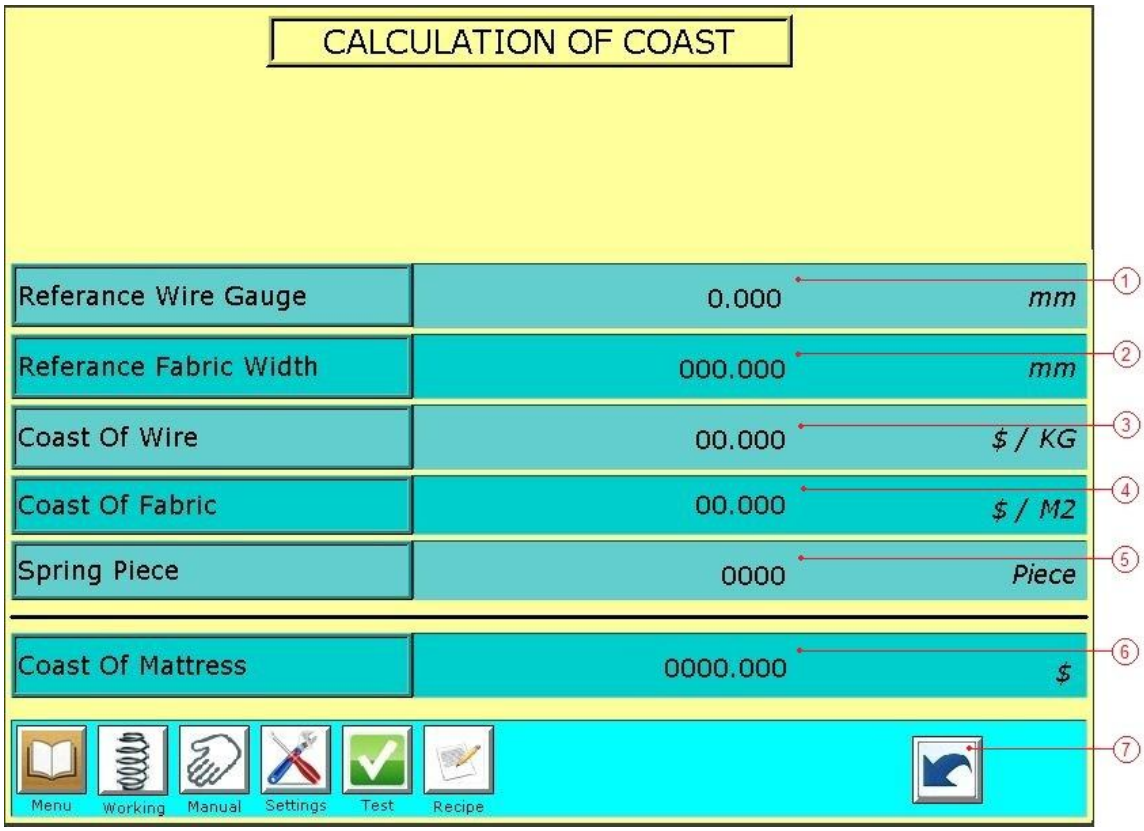
11. This parameter counts the number of spring in a gut like shape when intermittent operating mode is active

12. This button enables the operator reset the number of spring within gut like shape whenever it is required. The button must be pressed and held on for 5 seconds to reset.

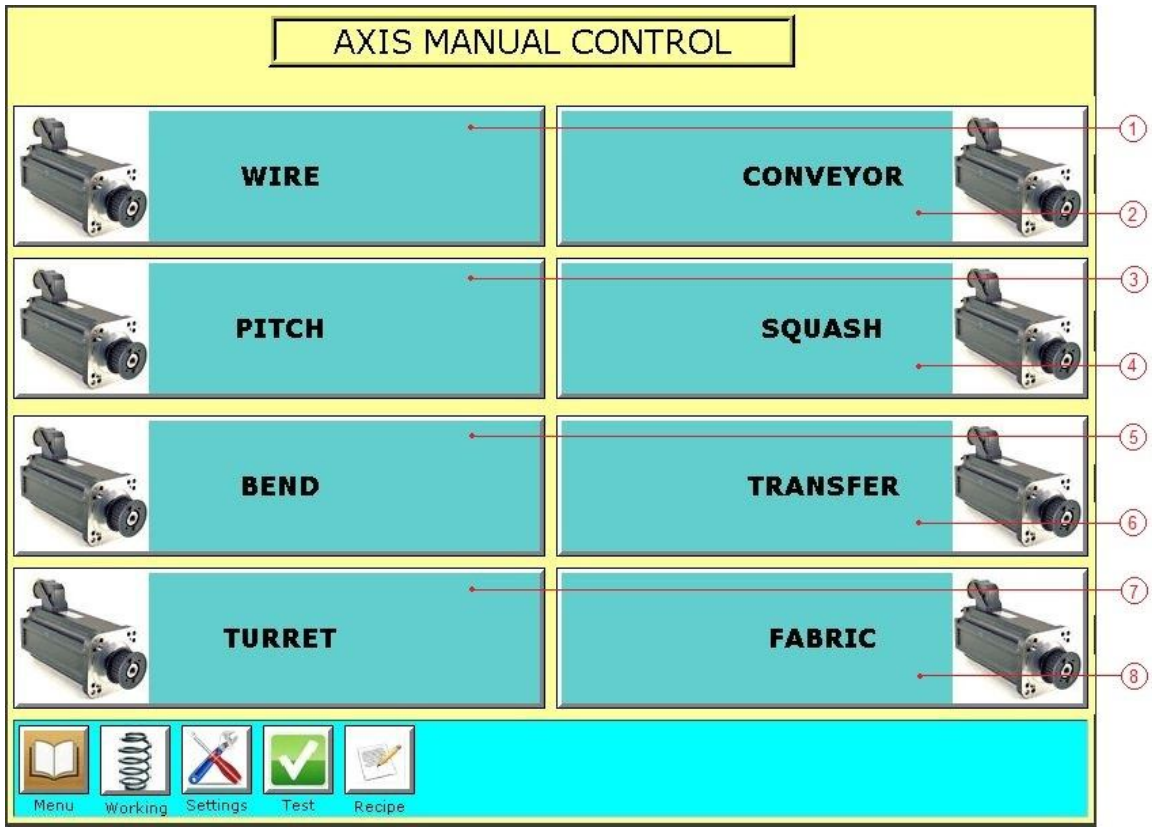
13. The parameter is used to enable/disable intermittent mode. (0 : Intermittent mode is disabled) (1: Intermittent mode is active)

14. Communication message informing which operating mode of the machine is active.

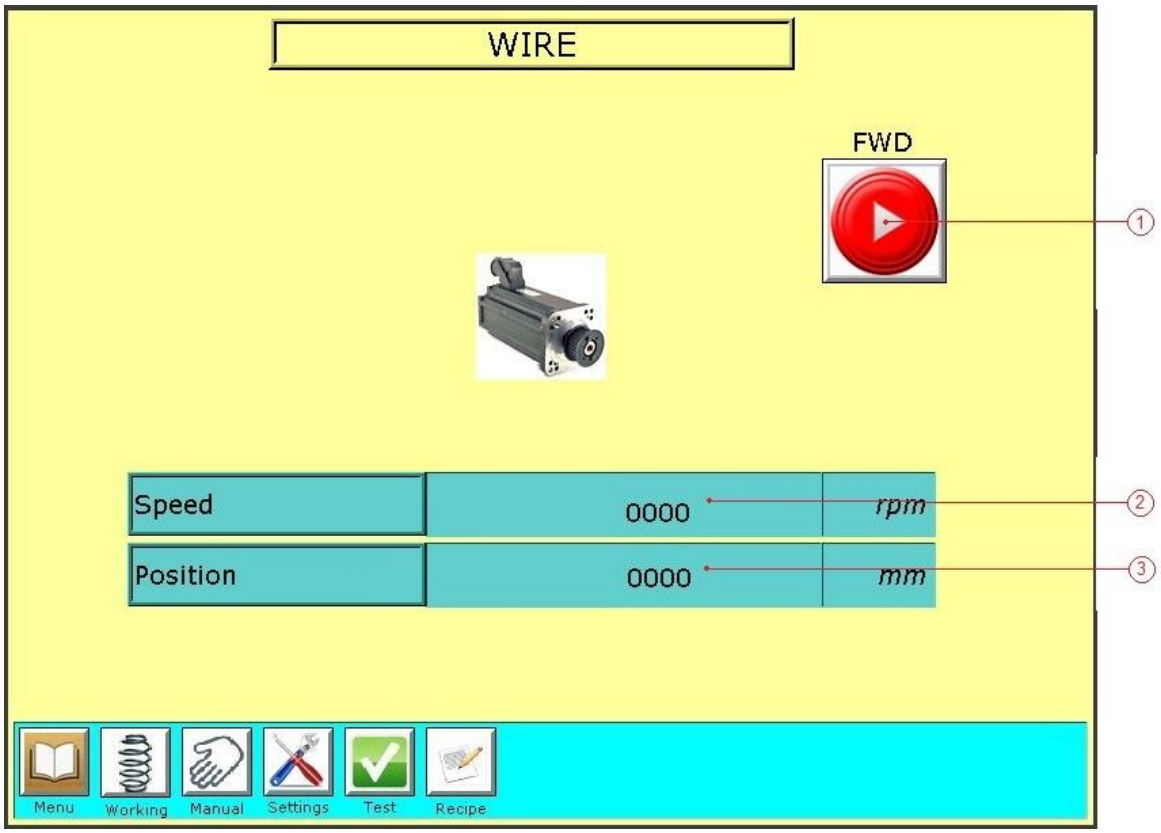
15. The Communication message providing information on Alarm or Warning event on the machine.



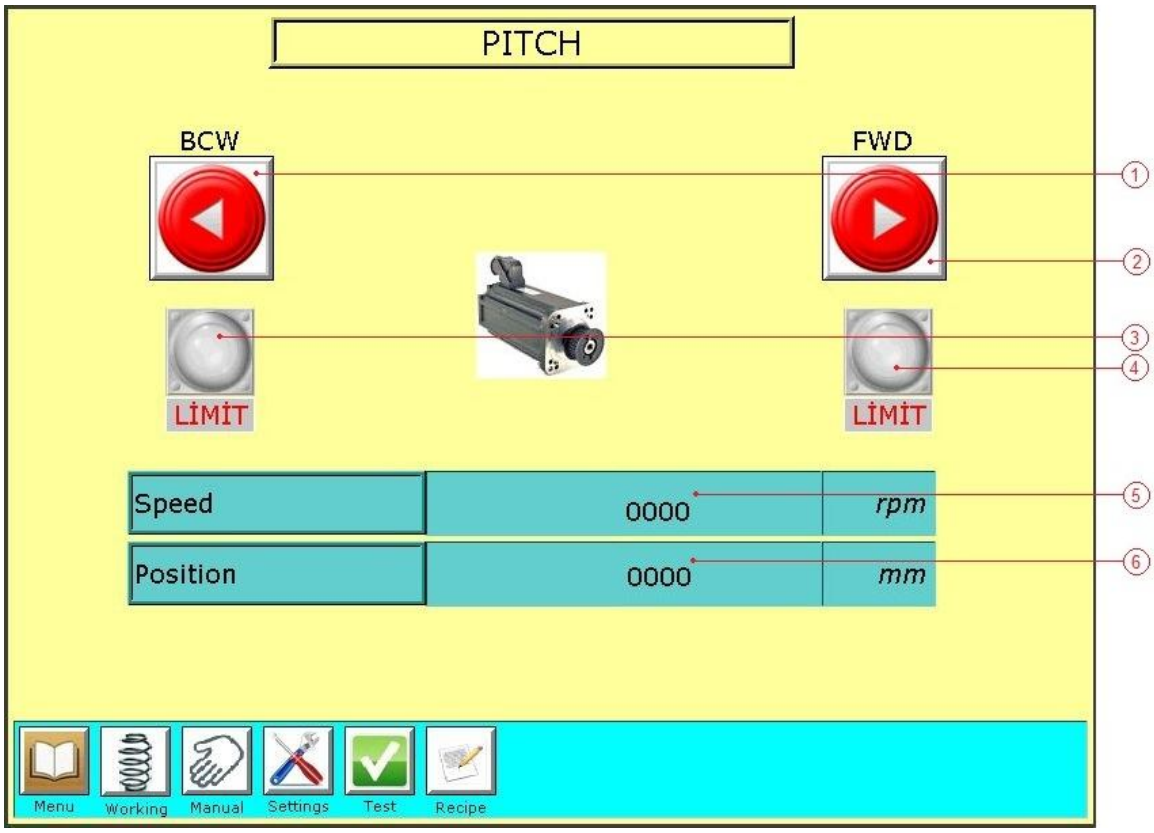
1. The parameter is used to input wire diameter used in the production to use in cost accounting.
2. The parameter is used to input interlining width used in the production to use in cost accounting.
3. This parameter is used to input cost per 1 kg of the wire used in the production.
4. This parameter is used to input cost per 1 kg of the interlining used in the production.
5. This parameter is used to input total number of springs used in a bed.
6. Production cost of 1 bed calculated according to wire and interlining data and cost accounting parameters used.
7. This button switches to worksheet 1.



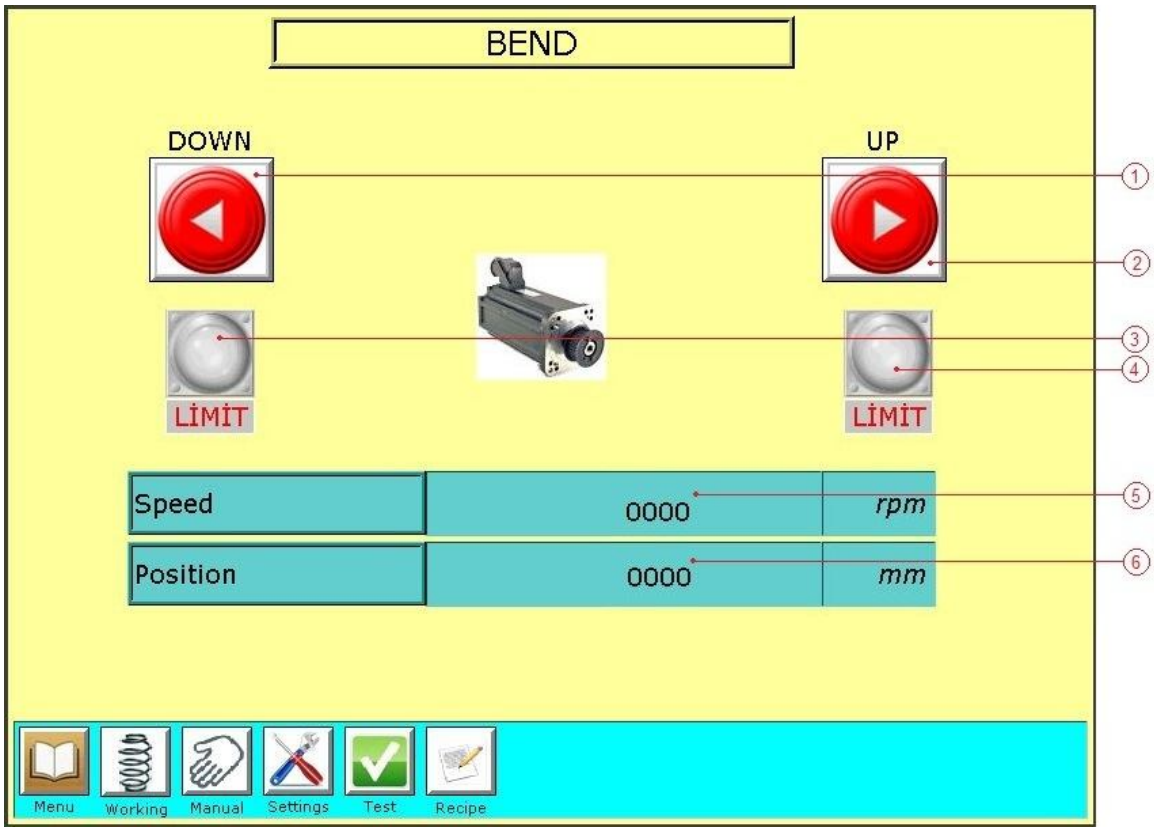
1. This button switches to the relevant page to move servomotor manually which is of wire driving axis.
2. This button switches to the relevant page to move servomotor manually which is of conveyor axis.
3. This button switches to the relevant page to move servomotor manually which is of pitch axis.
4. This button switches to the relevant page to move servomotor manually which is of crashing axis.
5. This button switches to the relevant page to move servomotor manually which is of bending axis.
6. This button switches to the relevant page to move servomotor manually which is of transfer axis.
7. This button switches to the relevant page to move servomotor manually which is of turret axis.
8. This button switches to the relevant page to move servomotor manually which is of interlining axis.



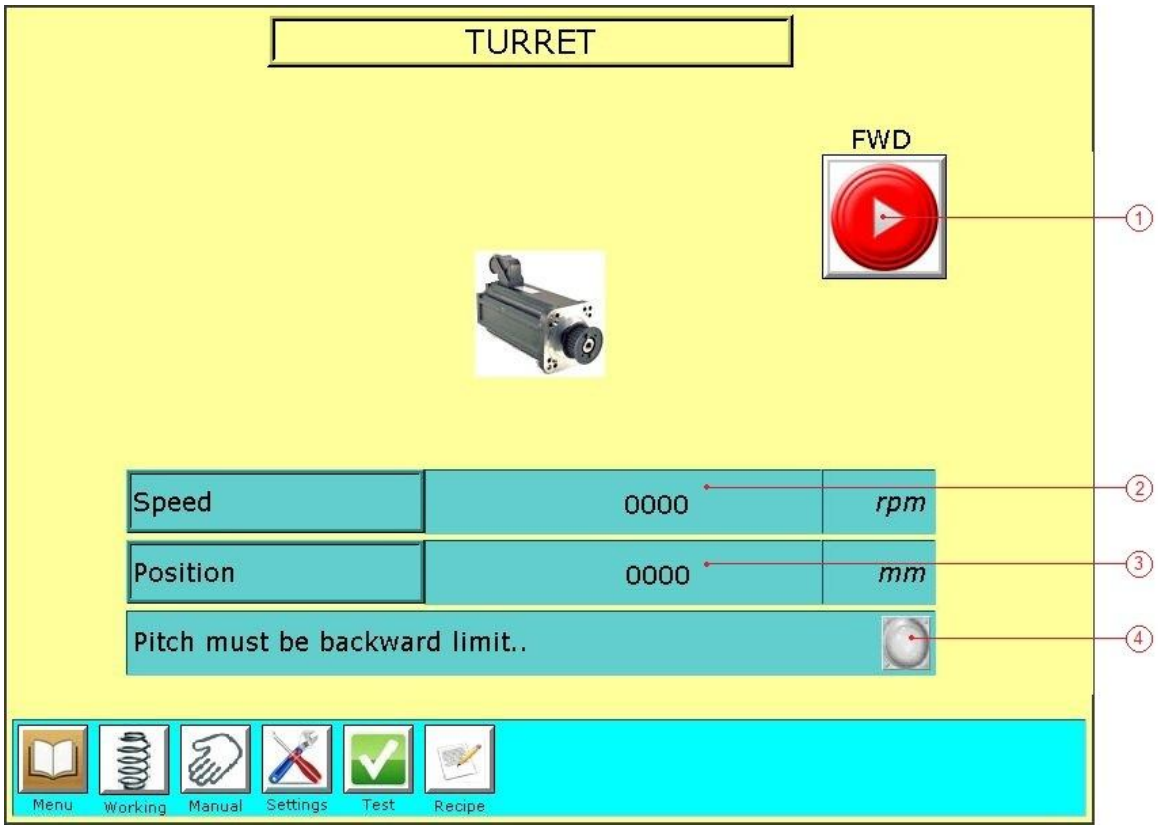
1. This button is used to move servomotor manually which is of wire driving axis.
2. This parameter is used to input speed values used to move servomotor manually which is of wire driving axis.
3. This parameter indicates instant position of servomotor of wire driving axis when it is moved manually.



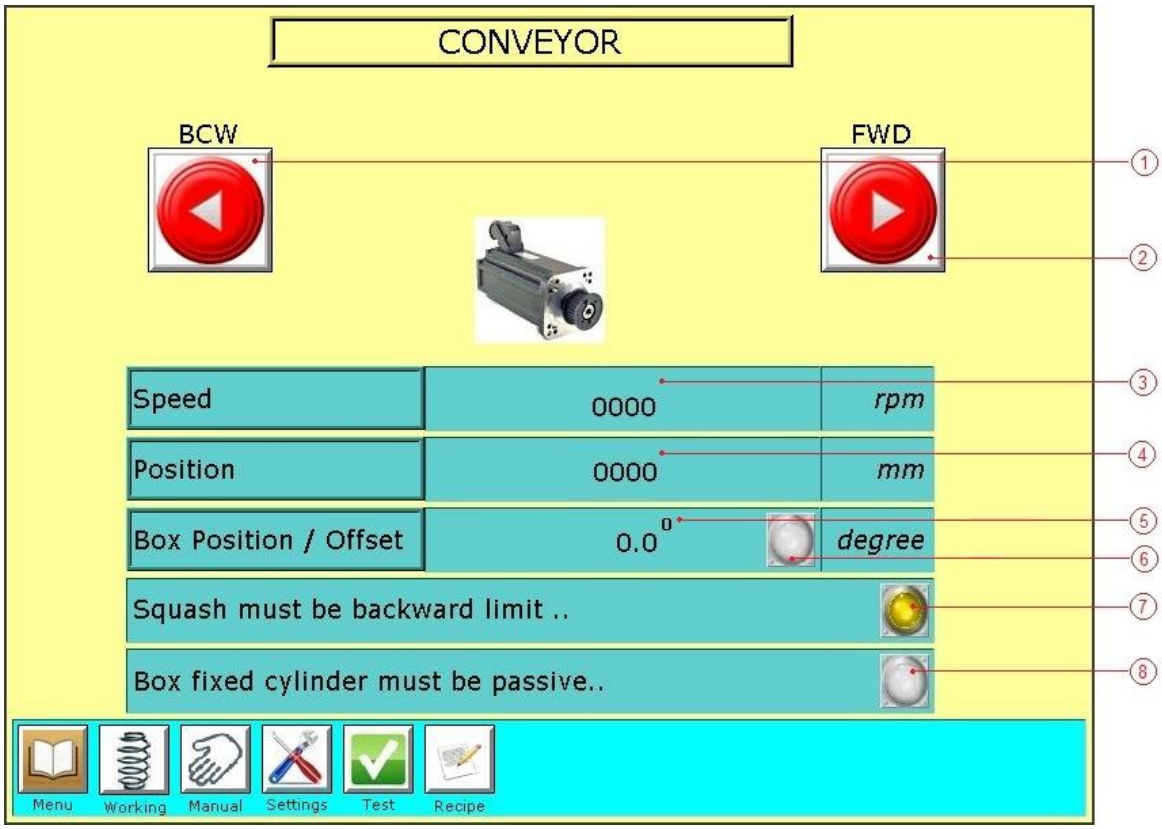
1. This button is used to move servomotor forward manually which is of pitch driving axis.
2. This button is used to move servomotor backward manually which is of pitch driving axis.
3. Pitch axis back limit sensor data.
4. Pitch axis forward limit sensor data.
5. This parameter is used to input speed values used to move servomotor manually which is of pitch axis.
6. This parameter indicates instant position of servomotor of pitch axis when it is moved manually.



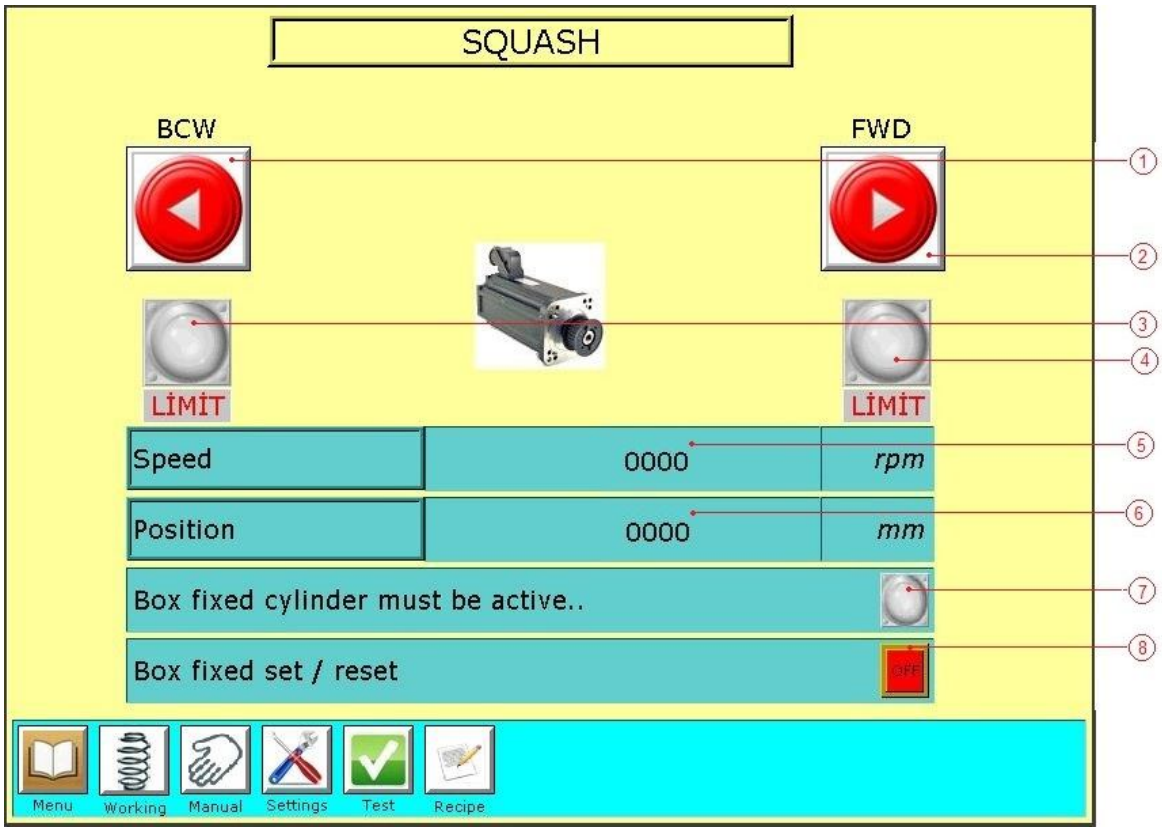
1. This button is used to move servomotor backward manually which is of bending axis.
2. This button is used to move servomotor forward manually which is of bending axis.
3. Bending axis back limit sensor data.
4. Bending axis forward limit sensor data.
5. This parameter is used to input speed values used to move servomotor manually which is of bending axis.
6. This parameter indicates instant position of servomotor of bending axis when it is moved manually.



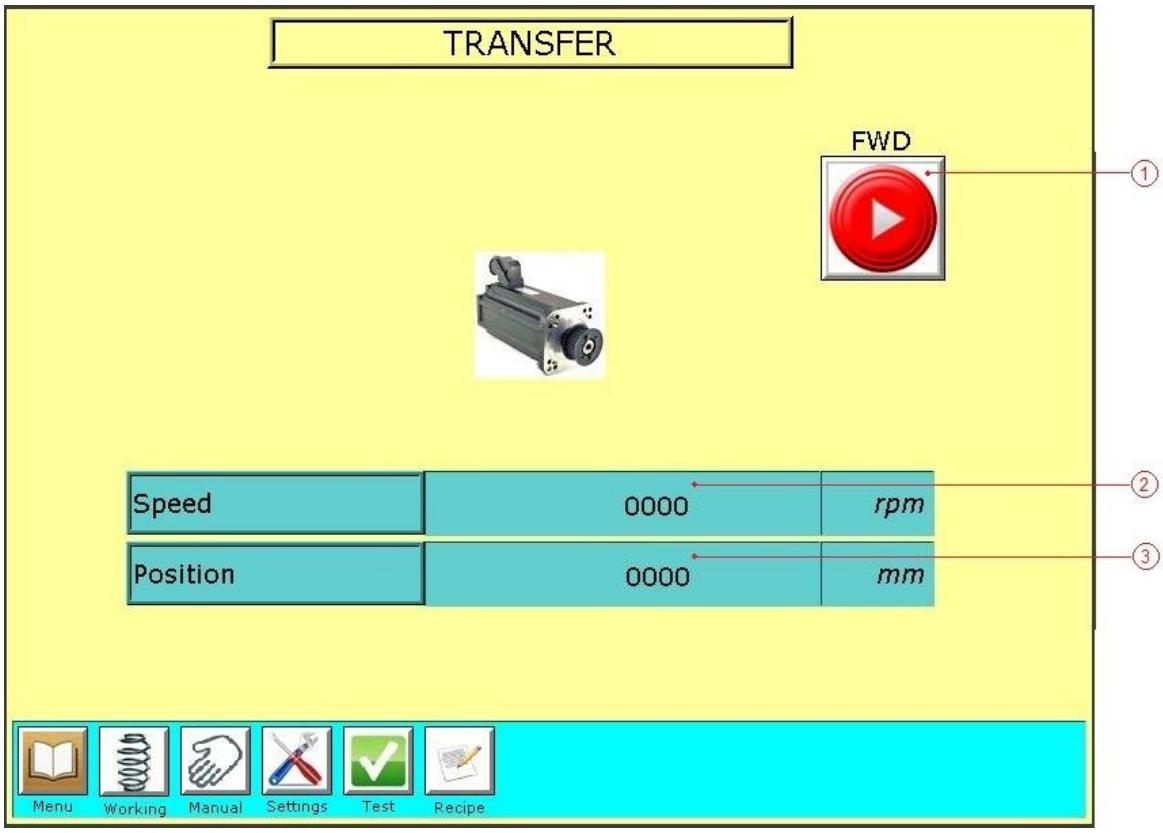
1. This button is used to move servomotor forward manually which is of turret axis.
2. This parameter is used to input speed values used to move servomotor manually which is of turret axis.
3. This parameter indicates instant position of servomotor of turret axis when it is moved manually.
4. The information whether the pitch limit is taken to back limit or not to move turret axis safely.



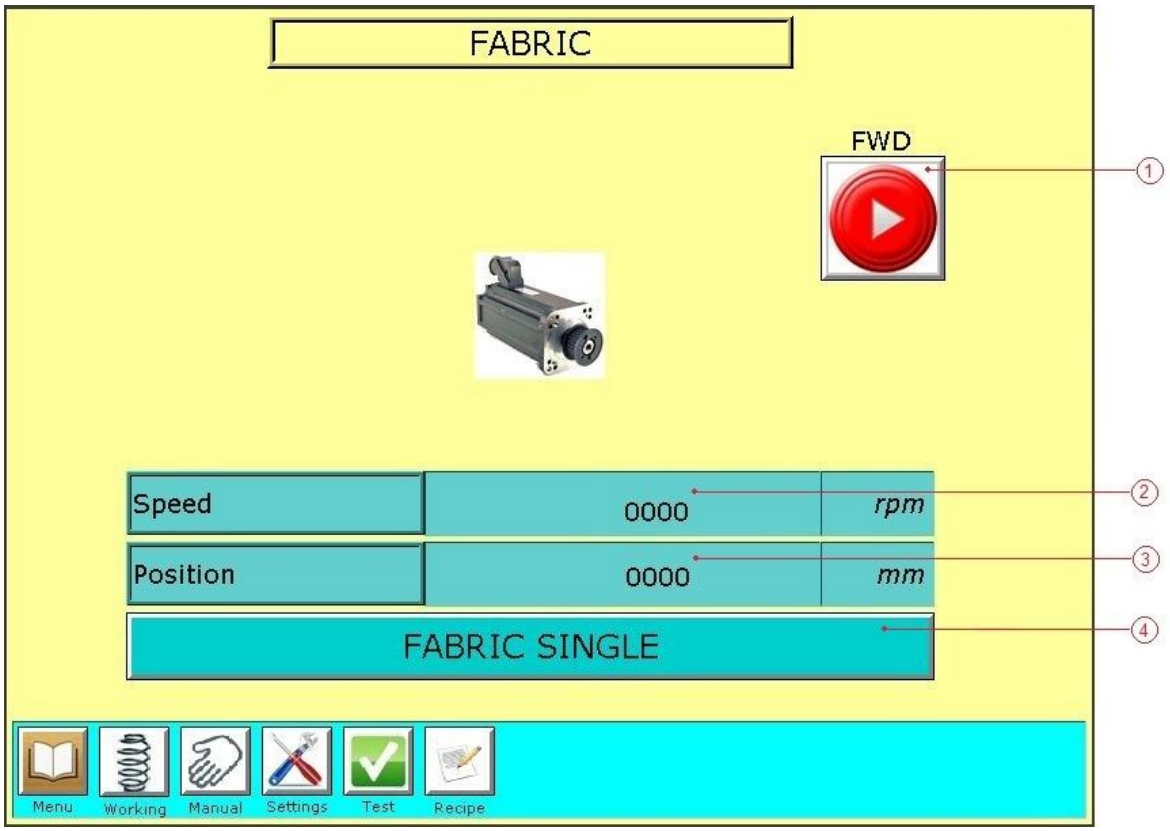
1. This button is used to move servomotor backward manually which is of conveyor axis.
2. This button is used to move servomotor forward manually which is of conveyor axis.
3. This parameter is used to input speed values used to move servomotor manually which is of conveyor axis.
4. This parameter indicates instant position of servomotor of conveyor axis when it is moved manually.
5. This parameter indicates the instant angle data of the boxes when conveyor axis is moved.
6. The marker indicates correct angle of the boxes with respect to crashing axis when conveyor axis is moved.
7. The marker indicates that conveyor axis is taken to back limit to move it manually.
8. The marker indicates that box fastening piston is taken down and the box is free to move conveyor axis manually.



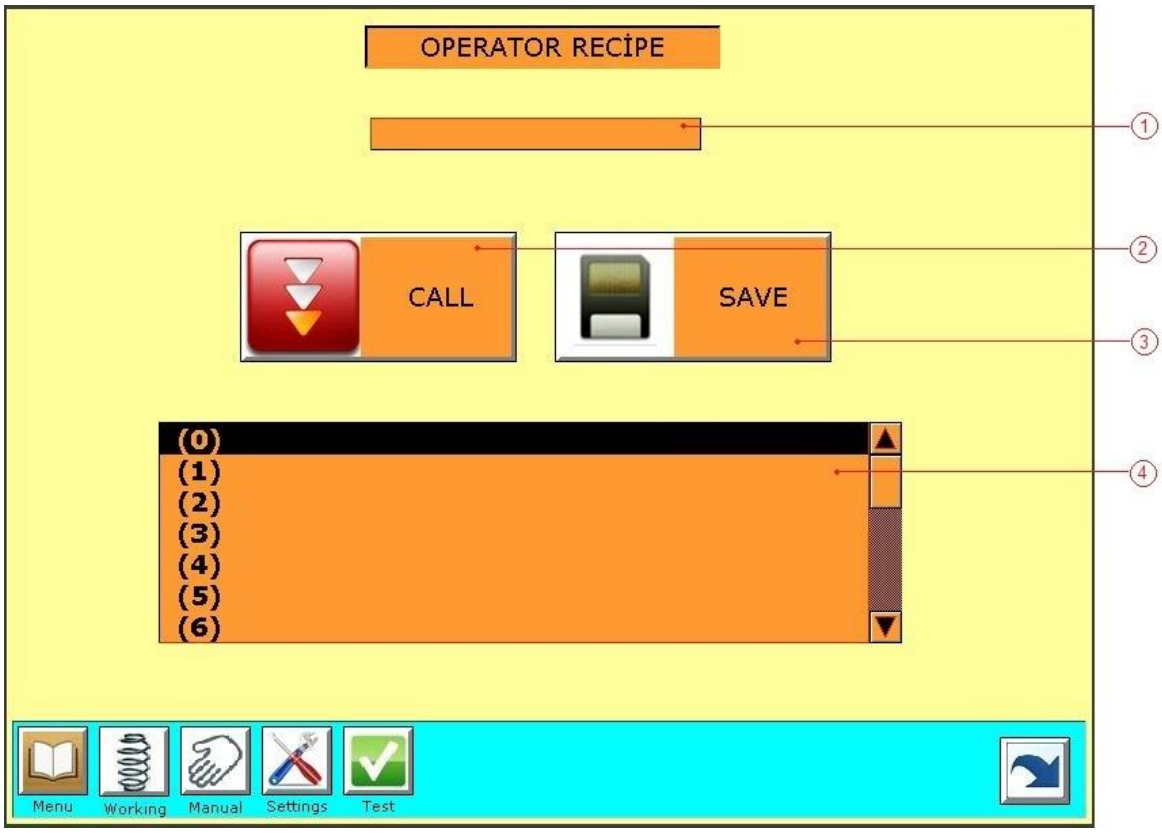
1. This button is used to move servomotor backward manually which is of crashing axis.
2. This button is used to move servomotor forward manually which is of crashing axis.
3. Crashing axis back limit sensor data.
4. Crashing axis forward limit sensor data.
5. This parameter is used to input speed values used to move servomotor manually which is of crashing axis.
6. This parameter indicates instant position of servomotor of crashing axis when it is moved manually.
7. The marker indicates that box is fastened lifting box fastening piston up to move crashing axis.
8. The button is used to change position of the box fastening piston to move crashing axis.



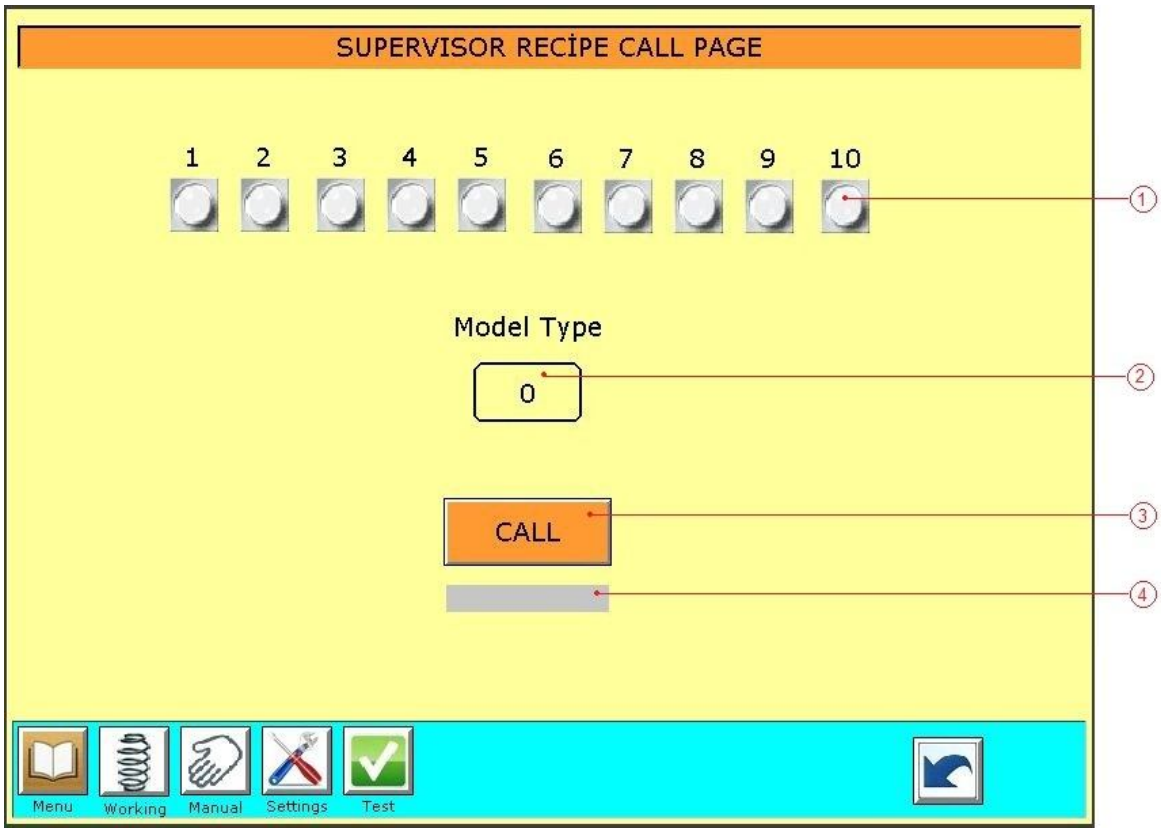
1. This button is used to move servomotor manually which is of wire transfer axis.
2. This parameter is used to input speed values used to move servomotor manually which is of transfer axis.
3. This parameter indicates instant position of servomotor of transfer axis when it is moved manually.



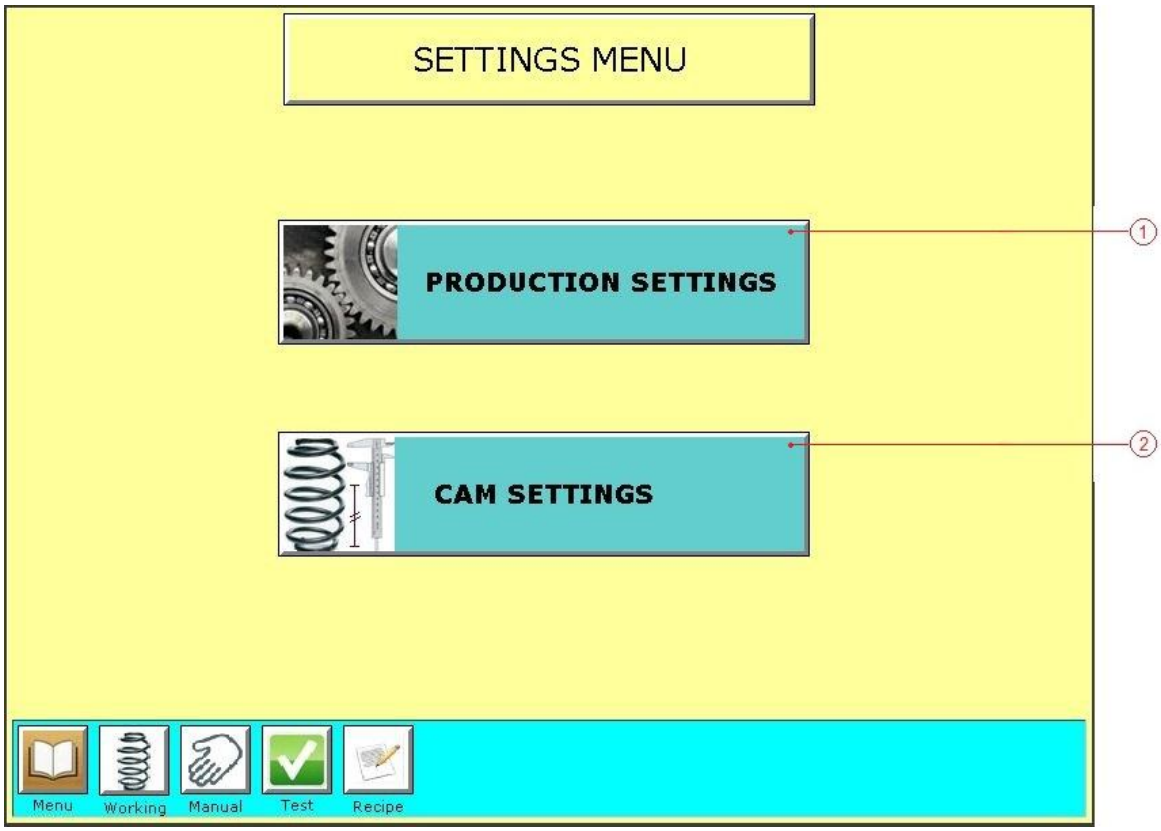
1. This button is used to move servomotor manually which is of wire transfer axis.
2. This parameter is used to input speed values used to move servomotor manually which is of transfer axis.
3. This parameter indicates instant position of servomotor of transfer axis when it is moved manually.
4. This button enables transfer axis run for once in simulation mode independent from the automatic operation of the machine.



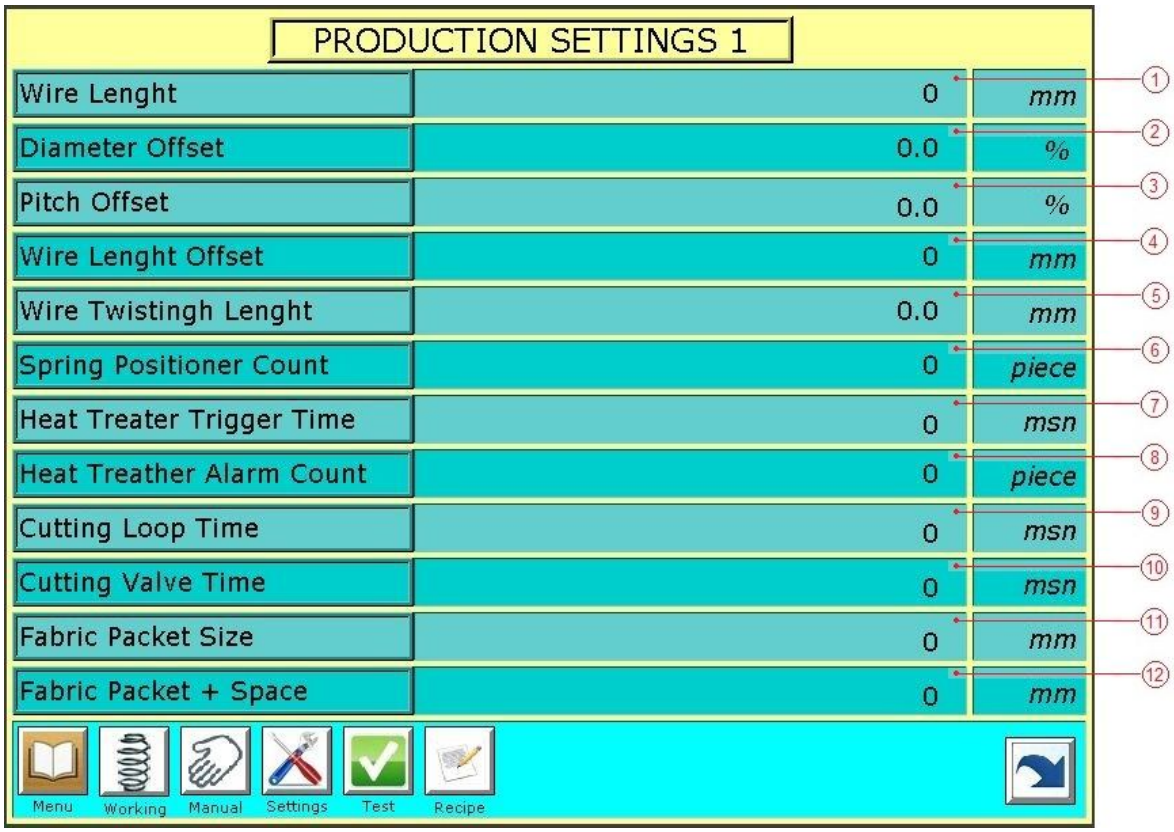
1. This parameter indicates the name of instruction used by the operator.
2. This button is used by the operator to recall the instruction named above.
3. This button is used by the operator to record recent work data as a formula.
4. This list arranges the names of formulas recorded.



1. This marker indicates how many formulas are available which are tested and ready to use during production stage of Umit Makina.
2. This parameter is entered which formula previously prepared by Umit Makina would be recalled.
3. This button enables to recall relevant model encoded formula for use.
4. The marker indicates whether formula is recalled or not.



1. This button switches to the production adjustments page.
2. This button switches to the page spring form production data are adjusted.



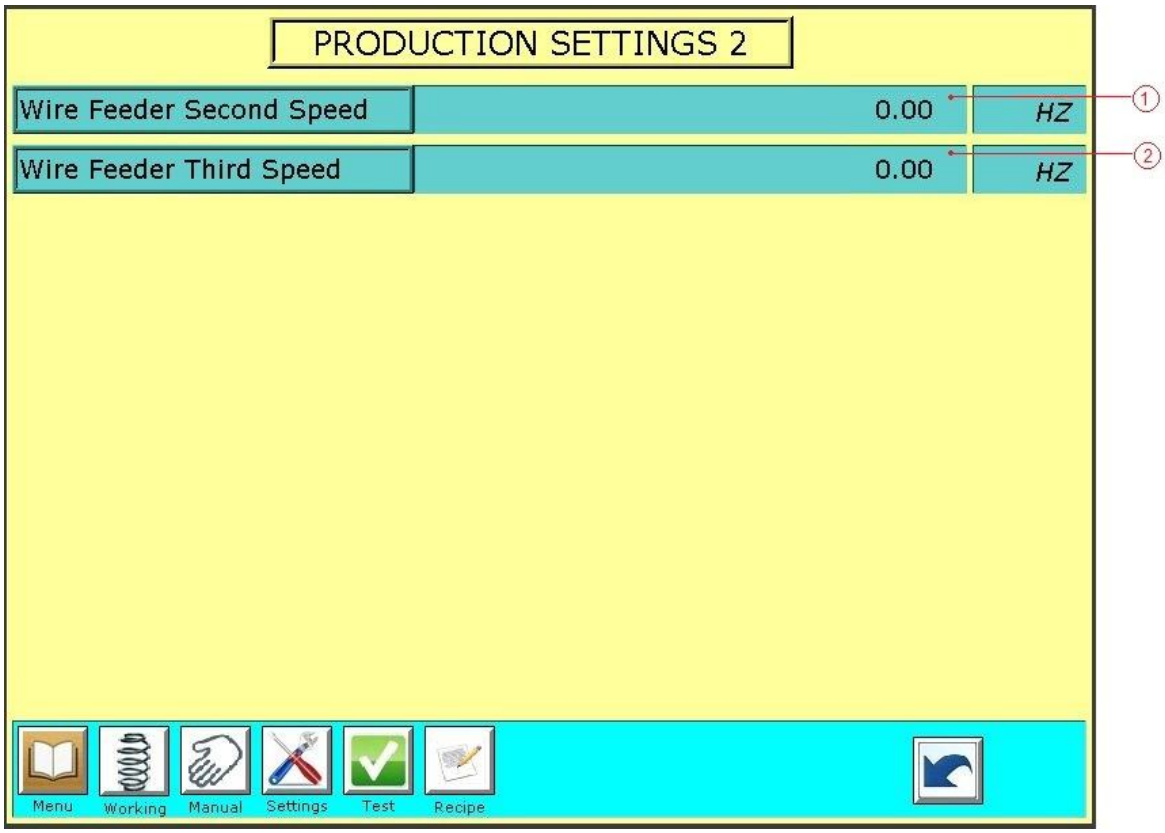
1. This parameter is entered the length of the wire to be used in spring production.
2. Extension or contraction coefficient related to the diameter of the spring produced.
3. This coefficient is used to enlarge or lower pitch intervals of the spring produced.
4. This coefficient enables to interfere wire length of the spring produced so as not to deform the spring.
5. This parameter is entered the length of plain part prior to shaping the wire as spring.
6. This parameter is entered for determining how often the mechanism is opened per package which ensures to open springs put into boxes compressing which is located output part of the machine.
7. This parameter is entered to determine how long it takes to temper.
8. This parameter is used to limit spring quantity to pass through tempering stage while the machine is working. If 0 is input, this control disables. But is a number other than zero is entered, the machine stops after the number of springs pass through tempering evaluating the situation as alarm condition.

9. When no spring remains in loop section of automatic cutting unit located in the output part of the machine, this parameter is entered how long loop sensor of the cutting machine would run after the sensor detected the product.

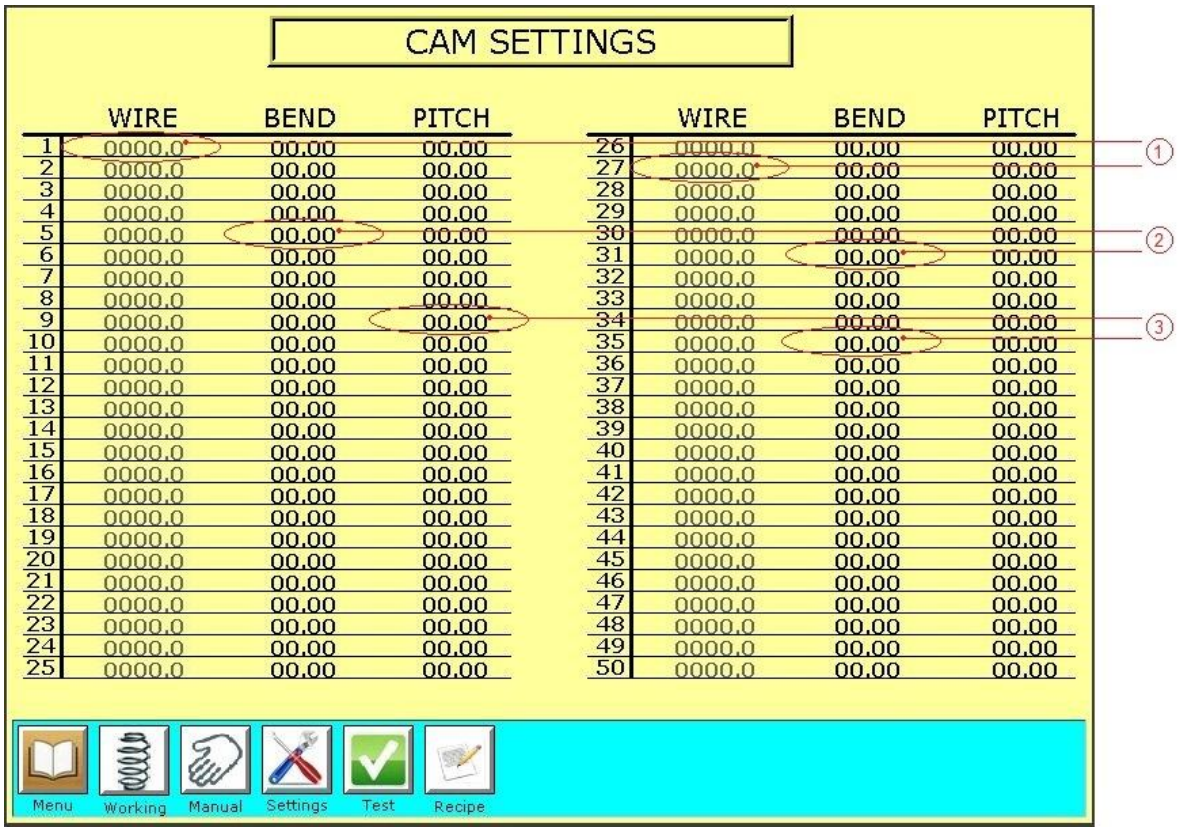
10. This parameter is entered how long it takes before the cutting unit lowered down when the blade is lifted for cutting operation.

11. This parameter is entered how many interlining would be pasted per each spring by interlining axis.

12. If intermittent work mode is selected, interlining axis would paste excess amount of interlining for cutting process in the output positioning as much as written value at the moment of intermitting of interlining axis.



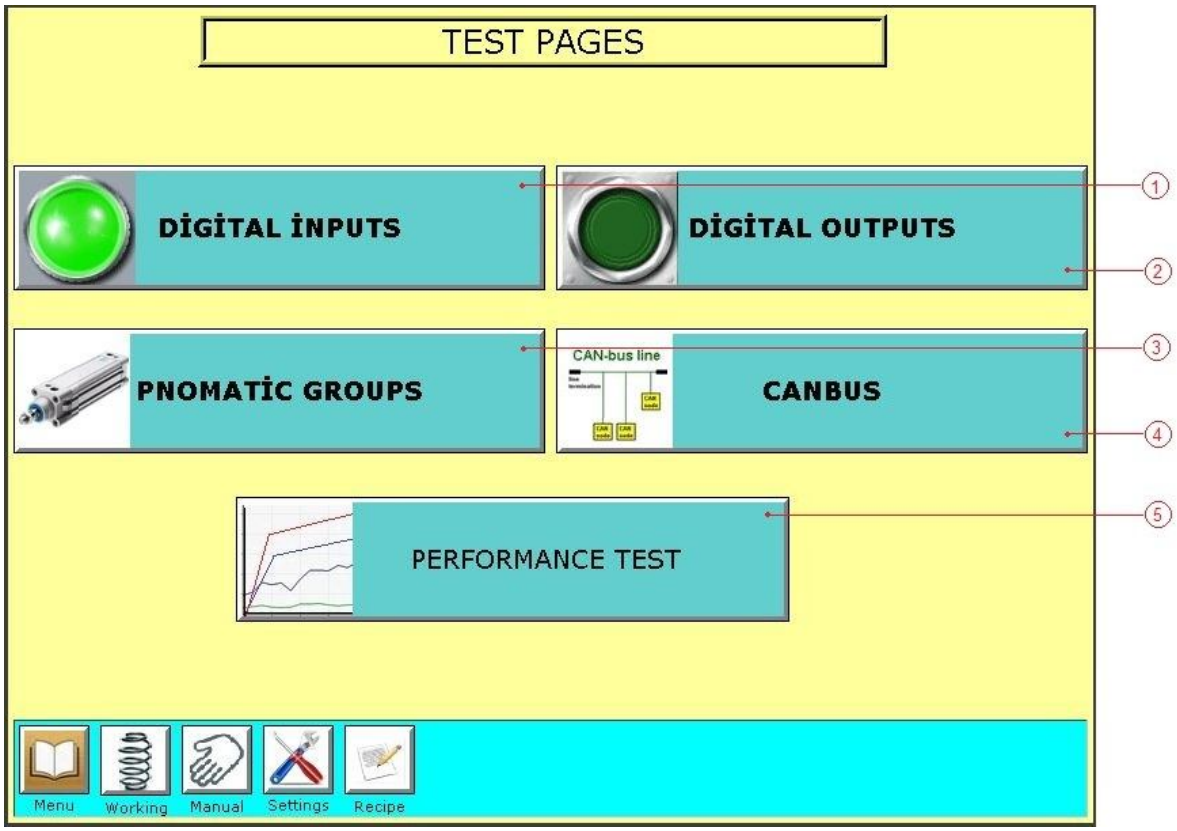
1. This parameter is entered which speed would be achieved when 2nd speed switch data of the wire reel is available.
2. This parameter is entered which speed would be achieved when 3rd speed switch data of the wire reel is available.



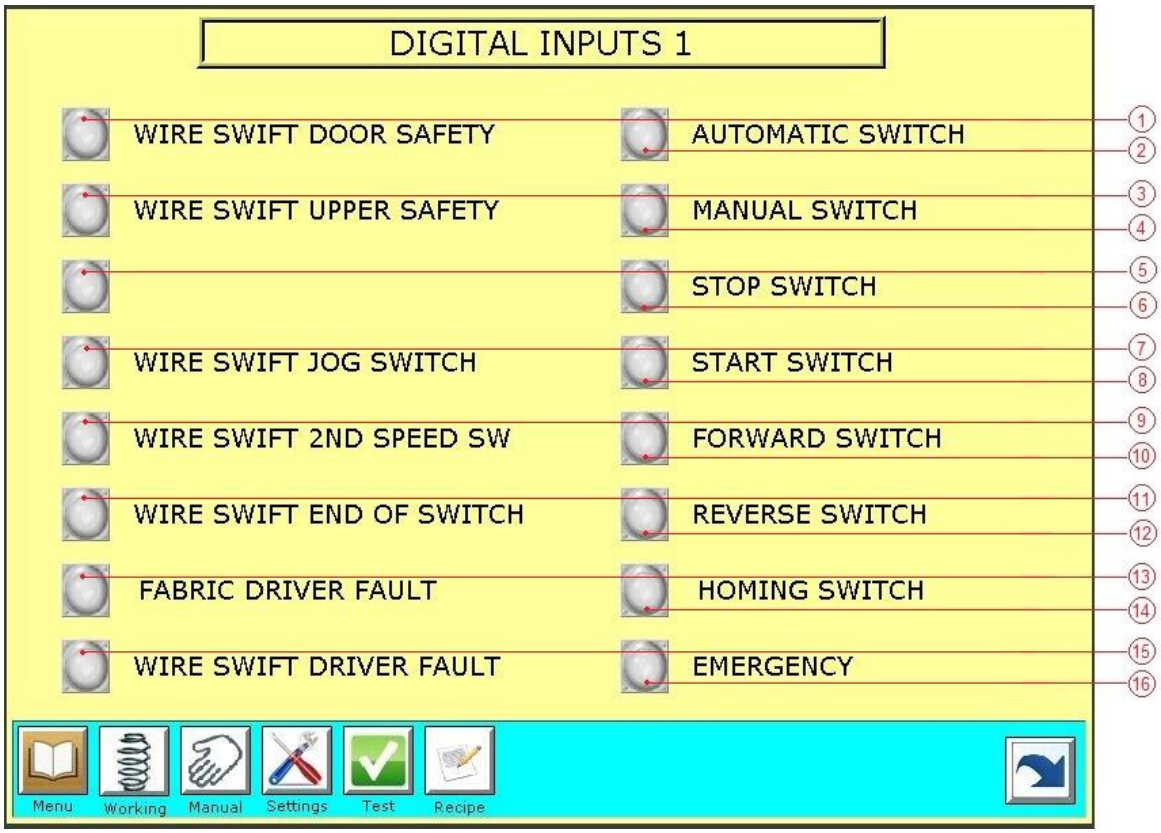
1. These are 50 Glass Master Data completed by the system automatically After wire length parameter is entered which will be used in the spring production. These data could not be changed by the operator.

2. These are 50 bending Glass data entered how would movement characteristic of bending axis be as compared to Glass Master data calculated automatically to determine spring form. These data have impact especially on the diameter of the spring.

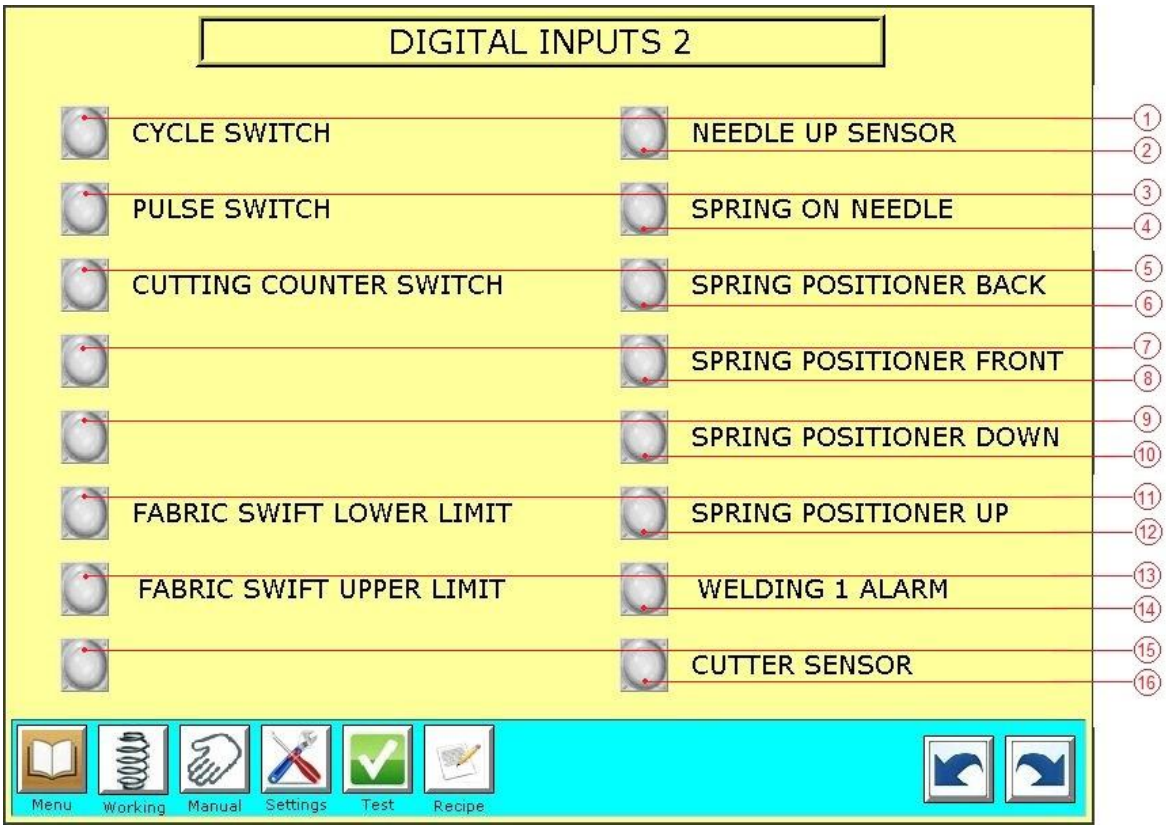
3. These are 50 Pitch Axis Glass data entered how would movement characteristic of pitch axis be as compared to Glass Master Data calculated automatically to determine spring form.



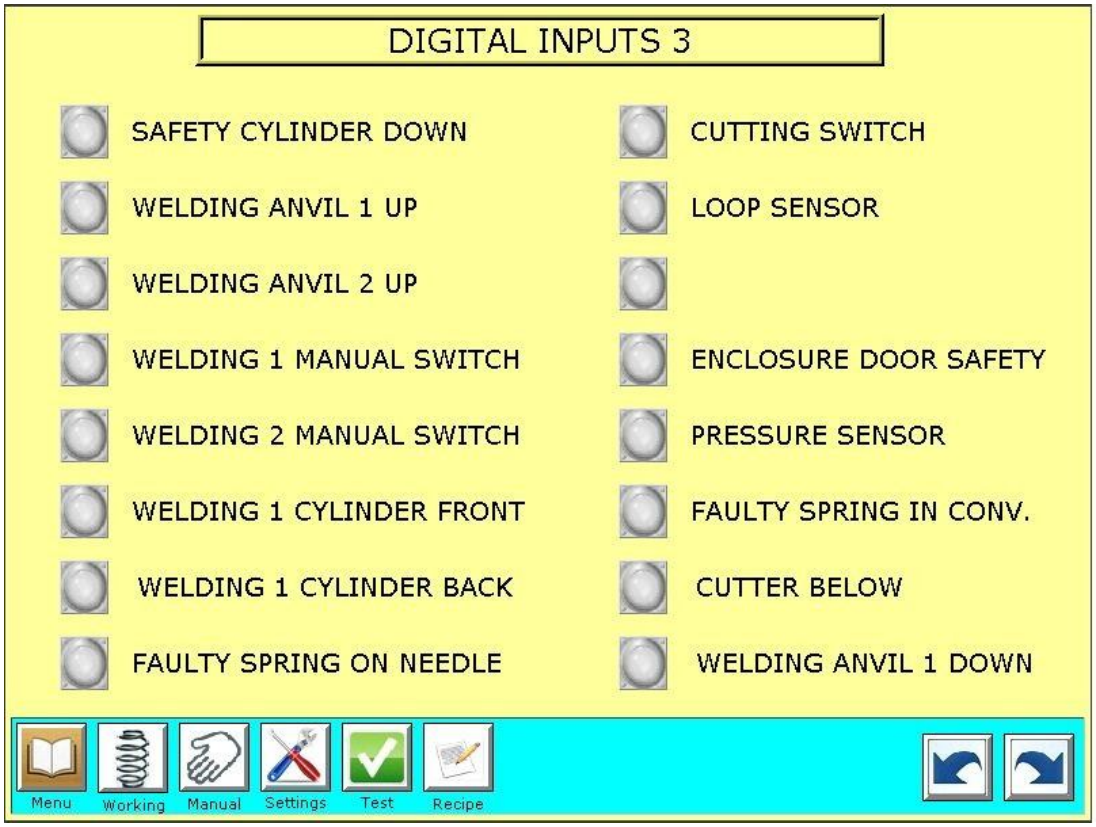
1. This button is used to switch test page used to test whether all sensor data are available on the machine.
2. This button is used to switch test page used to test whether all outputs are available on the machine.
3. This button is used to switch to the page on which it could be tested whether critical pistons completed their determined periods which has direct influence on the production capacity of the machine.
4. This button is used to switch information page in which communication status and alarm codes, if available of controller and electronic devices used
5. This button is used to switch to the page on which how many products could be produced by the machine per minute is indicated.



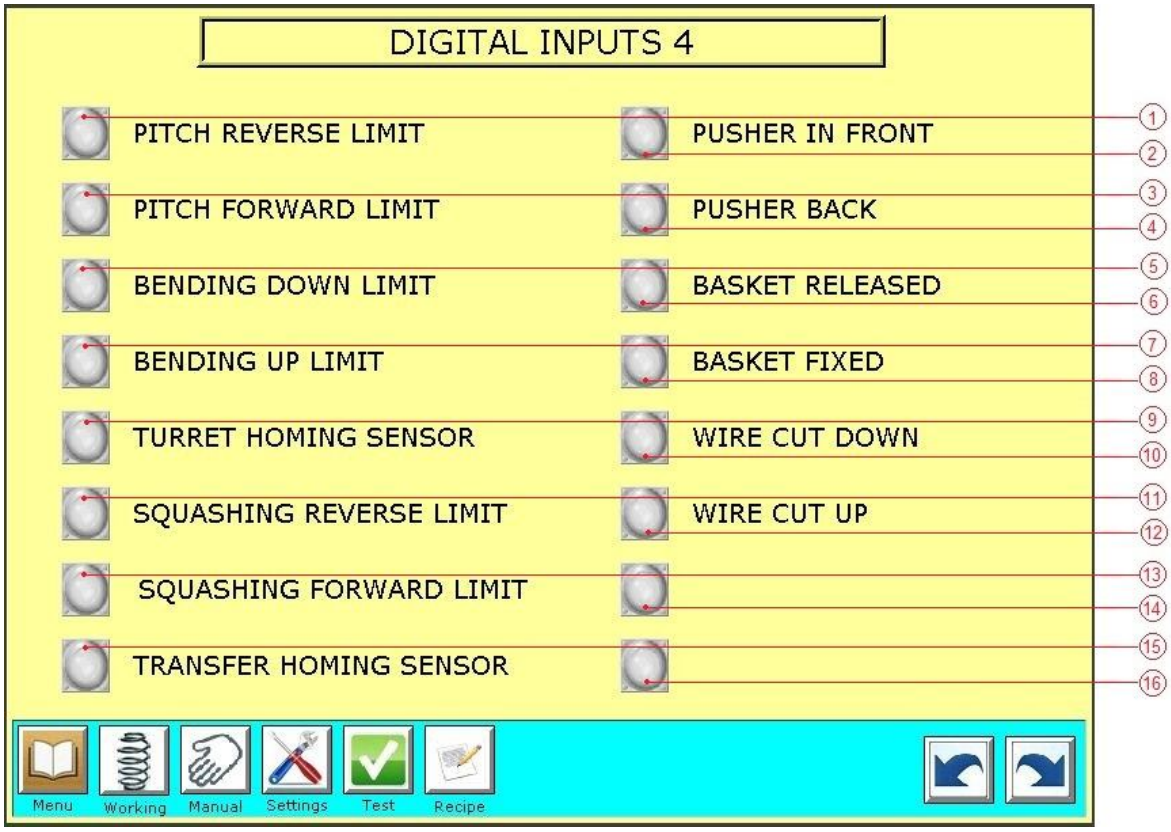
1. This is sensor data which indicates whether reel unit safety door is closed or not
2. This data indicates the status of the button used to switch the machine to auto mode.
3. Shows the status of the relevant digital input
4. Shows the status of the relevant digital input
5. Shows the status of the relevant digital input
6. Shows the status of the relevant digital input
7. Shows the status of the relevant digital input
8. Shows the status of the relevant digital input
9. Shows the status of the relevant digital input
10. Shows the status of the relevant digital input
11. Shows the status of the relevant digital input
12. Shows the status of the relevant digital input
13. Shows the status of the relevant digital input
14. Shows the status of the relevant digital input
15. Shows the status of the relevant digital input
16. Shows the status of the relevant digital input



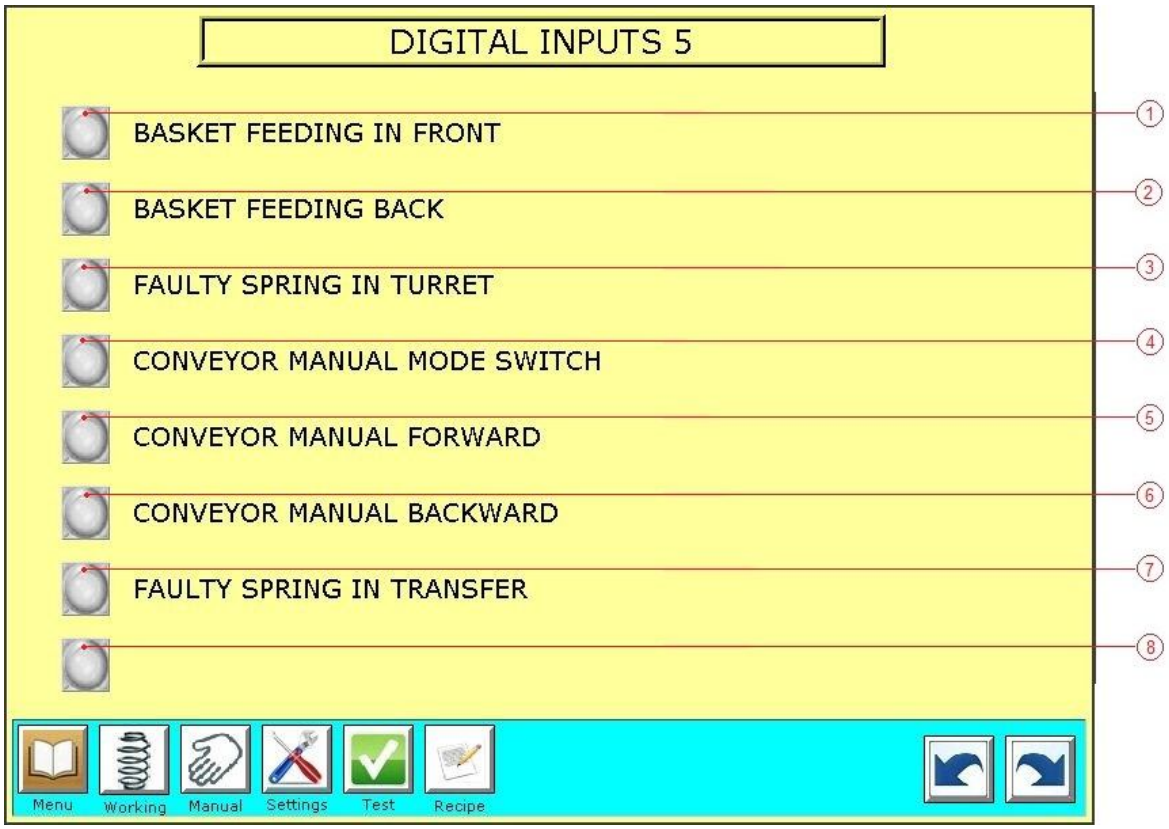
1. This data shows the status of the button used to run the machine for a single period.
2. The data show the status of the aforementioned sensor.
3. Shows the status of the relevant digital input
4. Shows the status of the relevant digital input
5. Shows the status of the relevant digital input
6. Shows the status of the relevant digital input
7. Shows the status of the relevant digital input
8. Shows the status of the relevant digital input
9. Shows the status of the relevant digital input
10. Shows the status of the relevant digital input
11. Shows the status of the relevant digital input
12. Shows the status of the relevant digital input
13. Shows the status of the relevant digital input
14. Shows the status of the relevant digital input
15. Shows the status of the relevant digital input
16. Shows the status of the relevant digital input



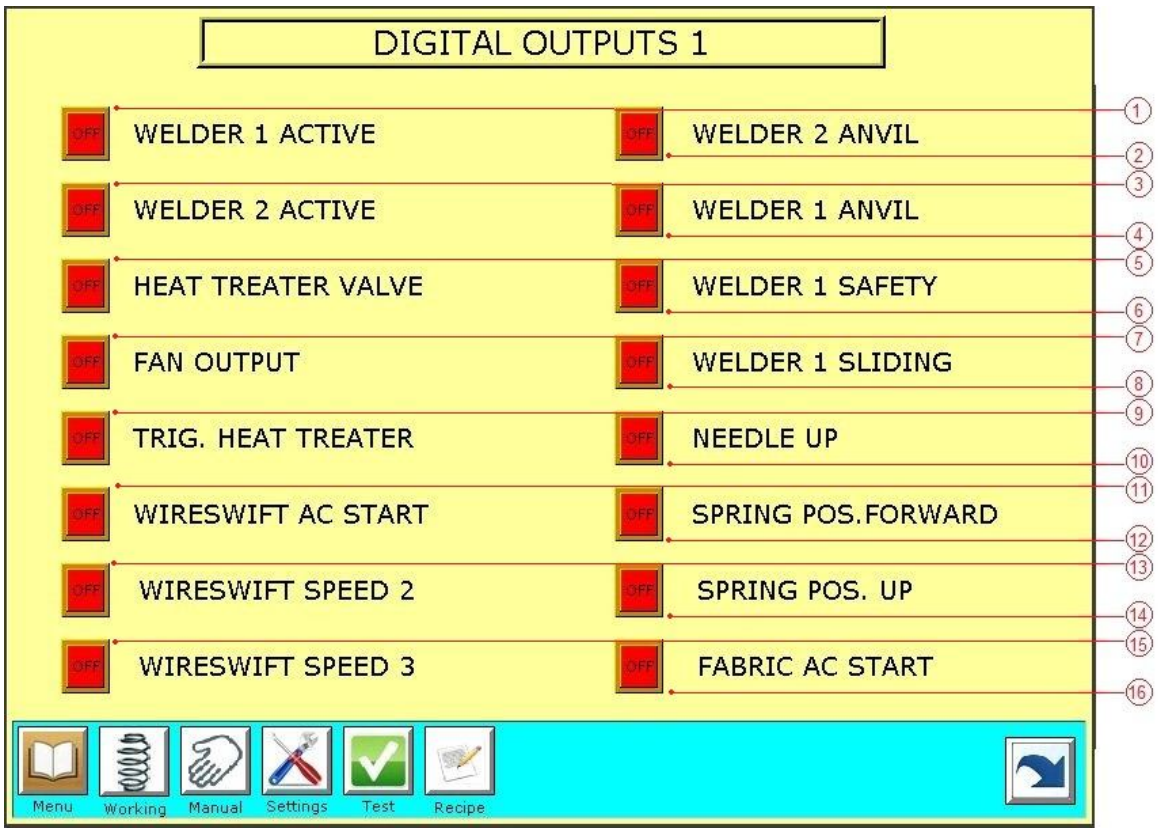
1. Shows the status of the relevant digital input
2. Shows the status of the relevant digital input
3. Shows the status of the relevant digital input
4. Shows the status of the relevant digital input
5. Shows the status of the relevant digital input
6. Shows the status of the relevant digital input
7. Shows the status of the relevant digital input
8. Shows the status of the relevant digital input
9. Shows the status of the relevant digital input
10. Shows the status of the relevant digital input
11. Shows the status of the relevant digital input
12. Shows the status of the relevant digital input
13. Shows the status of the relevant digital input
14. Shows the status of the relevant digital input
15. Shows the status of the relevant digital input
16. Shows the status of the relevant digital input



1. This data shows status of the back limit sensor of pitch axis.
2. This data shows the forward status of sliding piston.
3. Shows the status of the relevant digital input
4. Shows the status of the relevant digital input
5. Shows the status of the relevant digital input
6. Shows the status of the relevant digital input
7. Shows the status of the relevant digital input
8. Shows the status of the relevant digital input
9. Shows the status of the relevant digital input
10. Shows the status of the relevant digital input
11. Shows the status of the relevant digital input
12. Shows the status of the relevant digital input
13. Shows the status of the relevant digital input

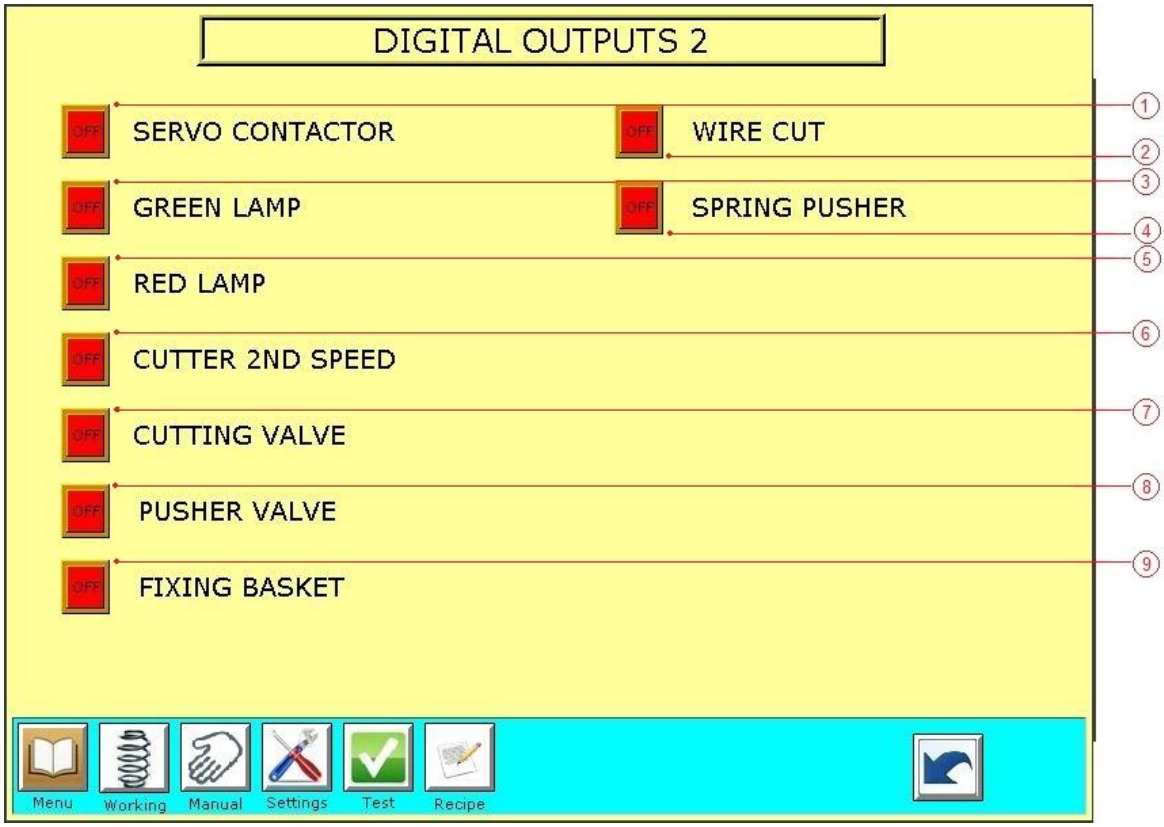


1. This data show forward status of box feeding piston ensuring springs from turret filled into boxes.
2. This data show backward status of box feeding piston ensuring springs from turret filled into boxes.
3. Shows the status of the relevant digital input
4. Shows the status of the relevant digital input
5. Shows the status of the relevant digital input
6. Shows the status of the relevant digital input
7. Shows the status of the relevant digital input
8. Shows the status of the relevant digital input



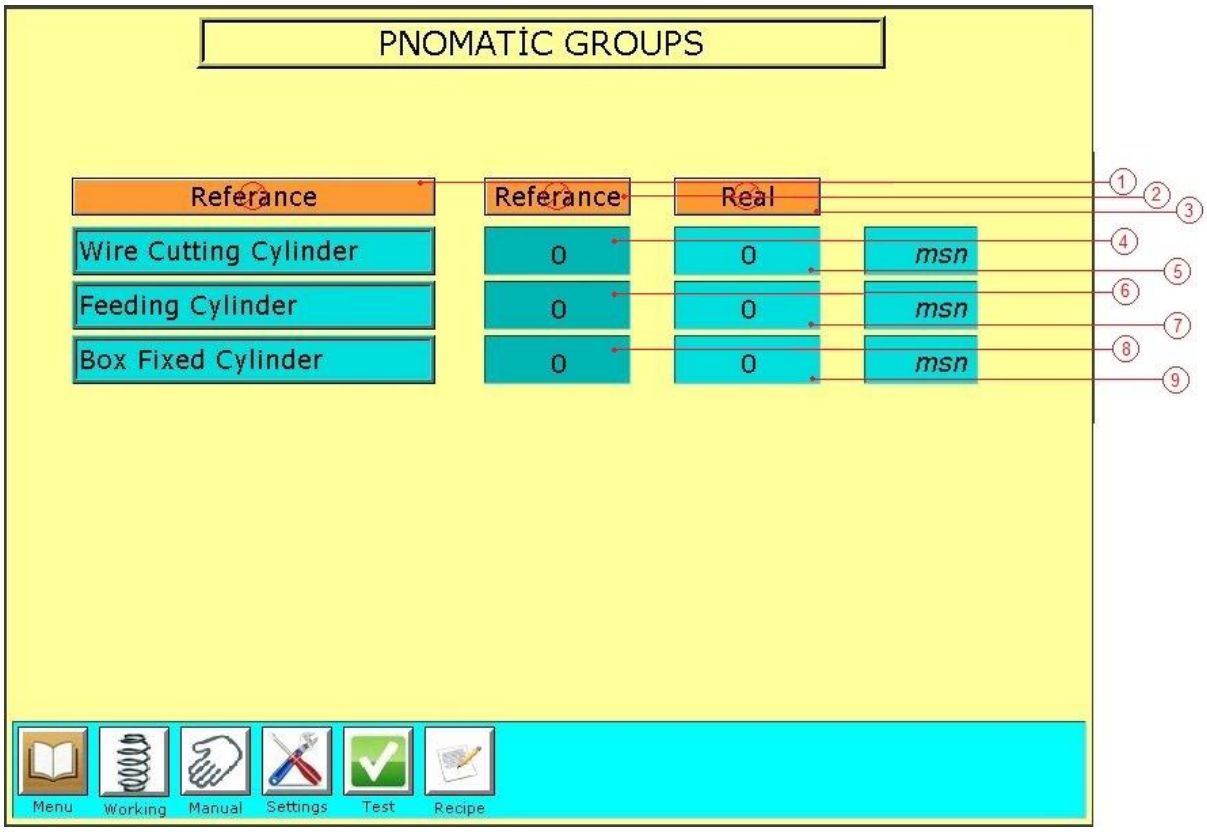
1. 1. This button could be used for manual testing of whether welding unit works or not.
2. 2. This button could be used for manual testing of whether anvil piston works or not.
3. This button may be used for manual testing of whether relevant digital output is running or not.
4. This button may be used for manual testing of whether relevant digital output is running or not.
5. This button may be used for manual testing of whether relevant digital output is running or not.
6. This button may be used for manual testing of whether relevant digital output is running or not.
7. This button may be used for manual testing of whether relevant digital output is running or not.
8. This button may be used for manual testing of whether relevant digital output is running or not.

9. This button may be used for manual testing of whether relevant digital output is running or not.
10. This button may be used for manual testing of whether relevant digital output is running or not.
11. This button may be used for manual testing of whether relevant digital output is running or not.
12. This button may be used for manual testing of whether relevant digital output is running or not.
13. This button may be used for manual testing of whether relevant digital output is running or not.
14. This button may be used for manual testing of whether relevant digital output is running or not.
15. This button may be used for manual testing of whether relevant digital output is running or not.
16. This button may be used for manual testing of whether relevant digital output is running or not.



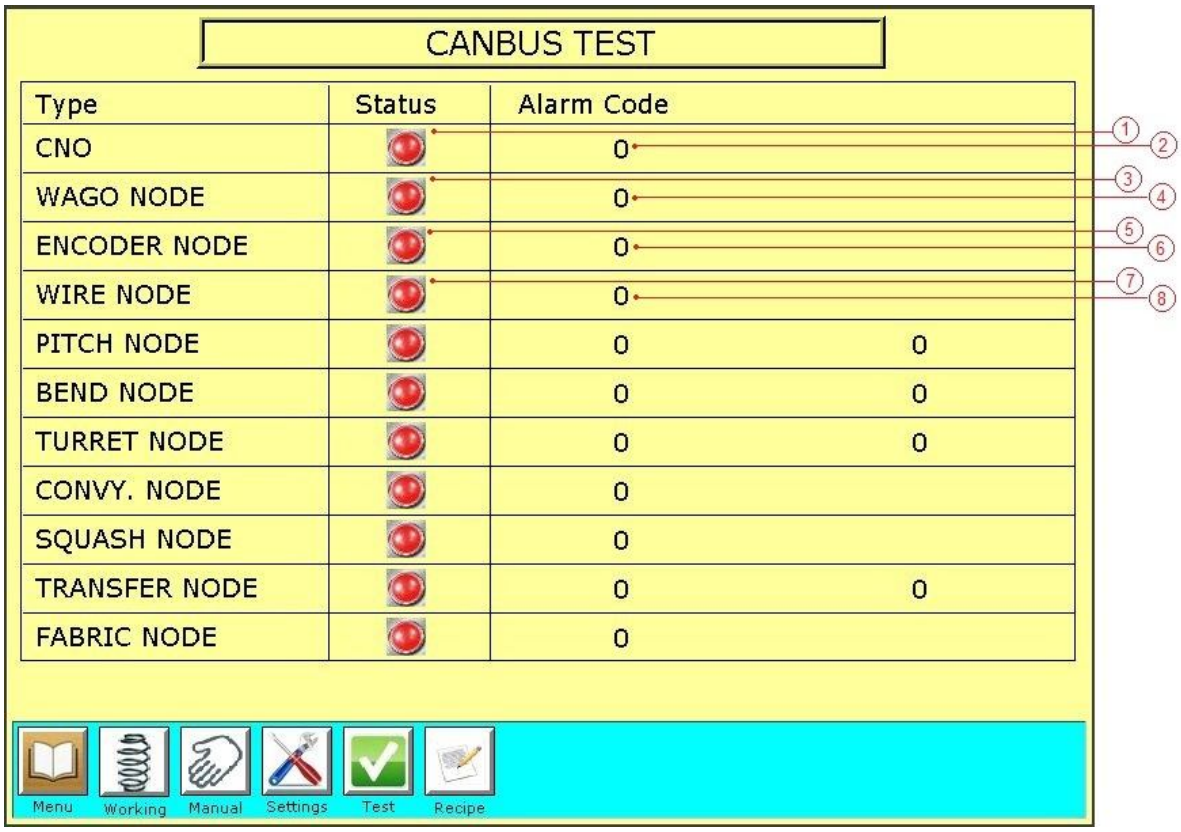
1. This button enables to manually draw contactor providing main feed of servomotor drivers.
2. This button could be used for manual testing of whether wire cutting unit works or not.
3. This button may be used for manual testing of whether relevant digital output is running or not.
4. This button may be used for manual testing of whether relevant digital output is running or not.
5. This button may be used for manual testing of whether relevant digital output is running or not.
6. This button may be used for manual testing of whether relevant digital output is running or not.
7. This button may be used for manual testing of whether relevant digital output is running or not.
8. This button may be used for manual testing of whether relevant digital output is running or not.

9. This button may be used for manual testing of whether relevant digital output is running or not.



1. This button enables to automatically calculate by the system how long in ms wire cutting, spring loading and box feeding pistons complete their work after first calibration during manufacturing stage of the machine which has direct influence on the capacity of the machine.
2. This button resets prior reference data received.
3. This button resets instant periods
4. This parameter shows how long it takes in ms by wire cutting piston complete per period.
5. This parameter shows how long it takes in ms by wire cutting piston complete per period while the machine is running.
6. This parameter shows how long it takes in ms by spring loading piston complete per period.
7. This parameter shows how long it takes in ms by spring loading piston complete per period while the machine is running.
8. This parameter shows how long it takes in ms by box feeding piston complete per period.

9. This parameter shows how long it takes in ms by box feeding piston complete per period while the machine is running.

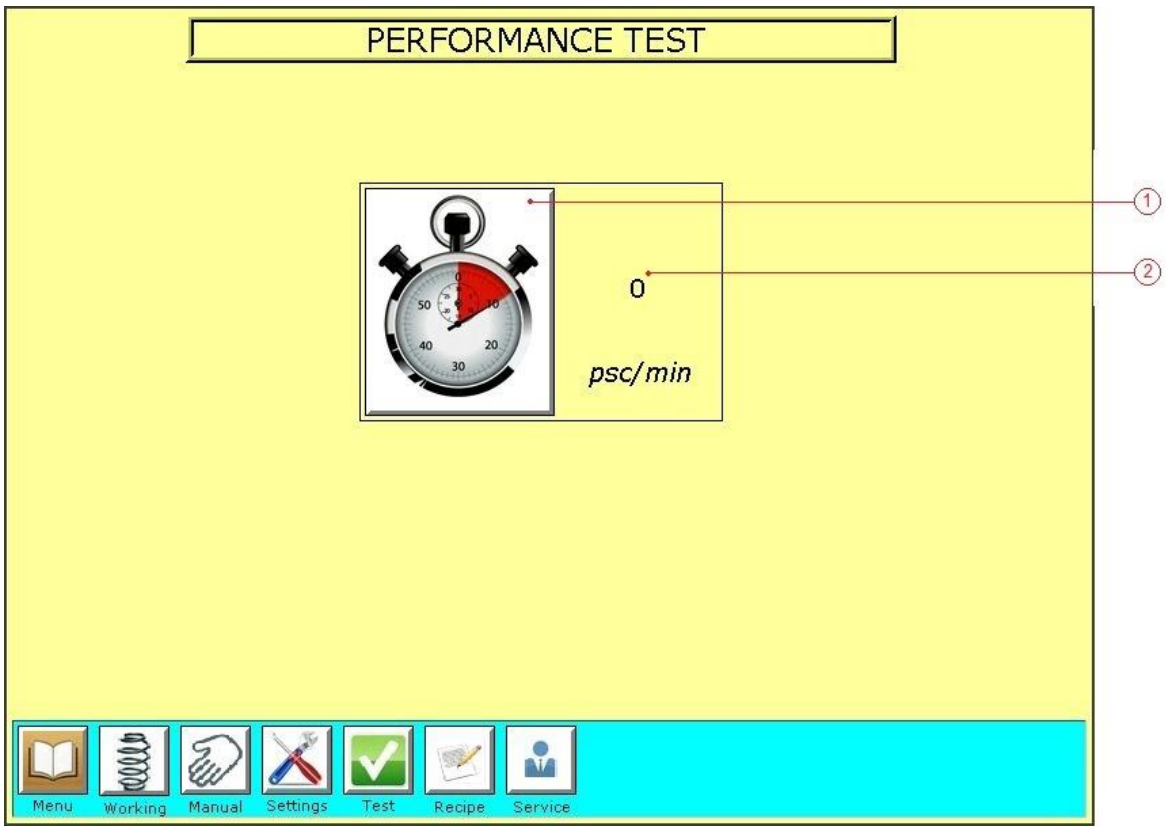


1. This marker indicates whether main communication line of the system is active or not. It should have green color under normal conditions.
2. This parameter shows relevant alarm code in the case there is a problem in main communication line of the system and it has red color. It should have "0" value under normal conditions.
3. This marker shows whether wago line is active or not which Digital Input and Output communication module is. It should have green color under normal conditions.
4. This parameter shows relevant alarm code in the case there is a problem in wago communication line of the system and it has red color. It should have "0" value under normal conditions.
5. This marker shows whether canbusAbsolute encoder communication line is active or not which enables reset in order conveyor axis position the boxes to correct point. It should have green color under normal conditions.
6. This parameter shows relevant alarm code in the case there is a problem in CanbusAbsolute communication line of the system and it has red color. It should have "0" value under normal conditions.

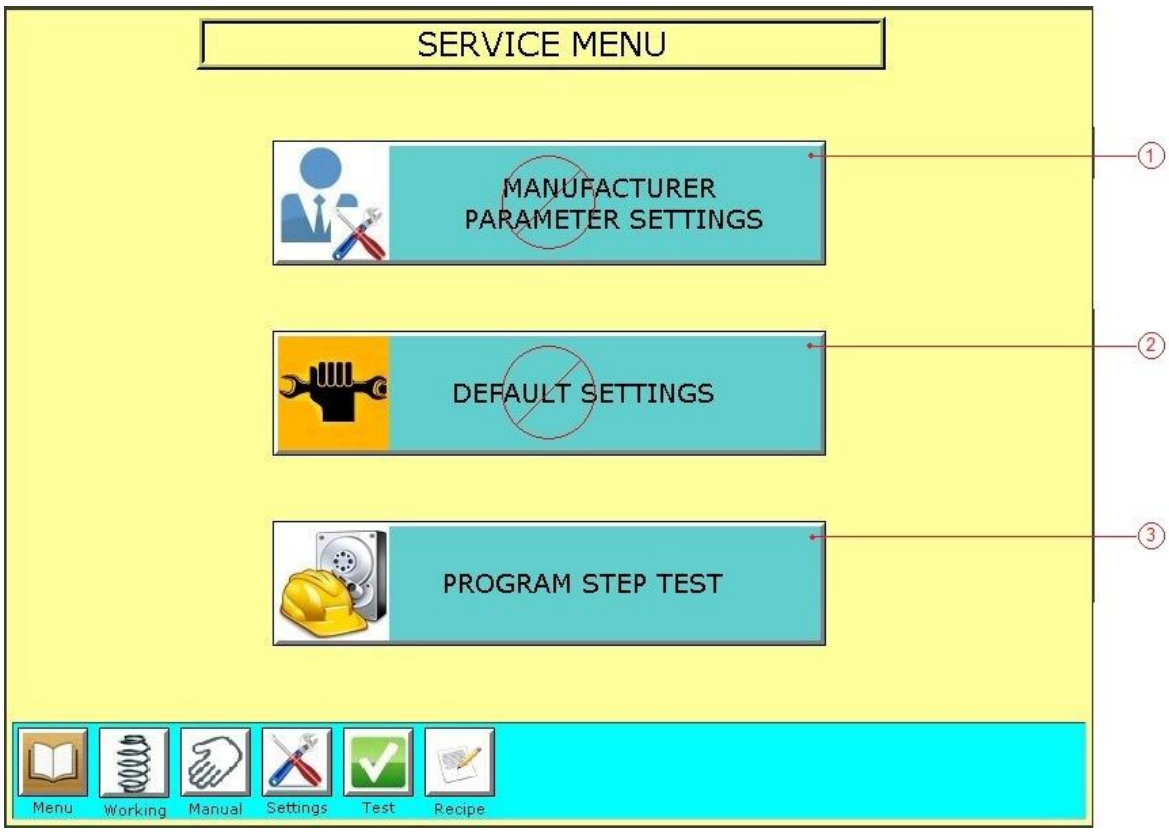
7. This marker shows whether communication line of servo driver of wire axis is active or not. It should have green color under normal conditions

8. This parameter shows relevant alarm code in the case there is a problem in communication line of the servo driver of the wire axis and it has red color. It should have "0" value under normal conditions.

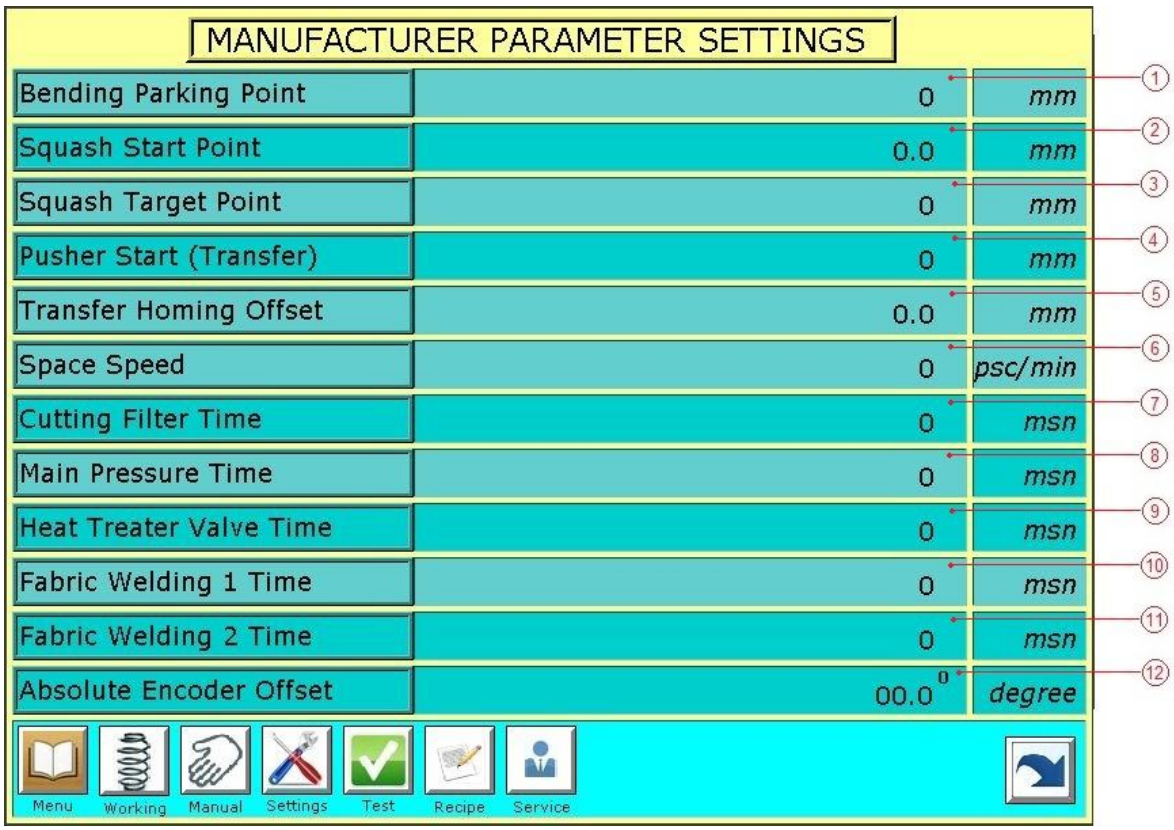
9. It is used for other axis related to markers and codes.



1. This button starts to count how many springs are produced by the machine per 1 minute.
2. This parameter indicates how many springs are produced by the machine per 1 minute.

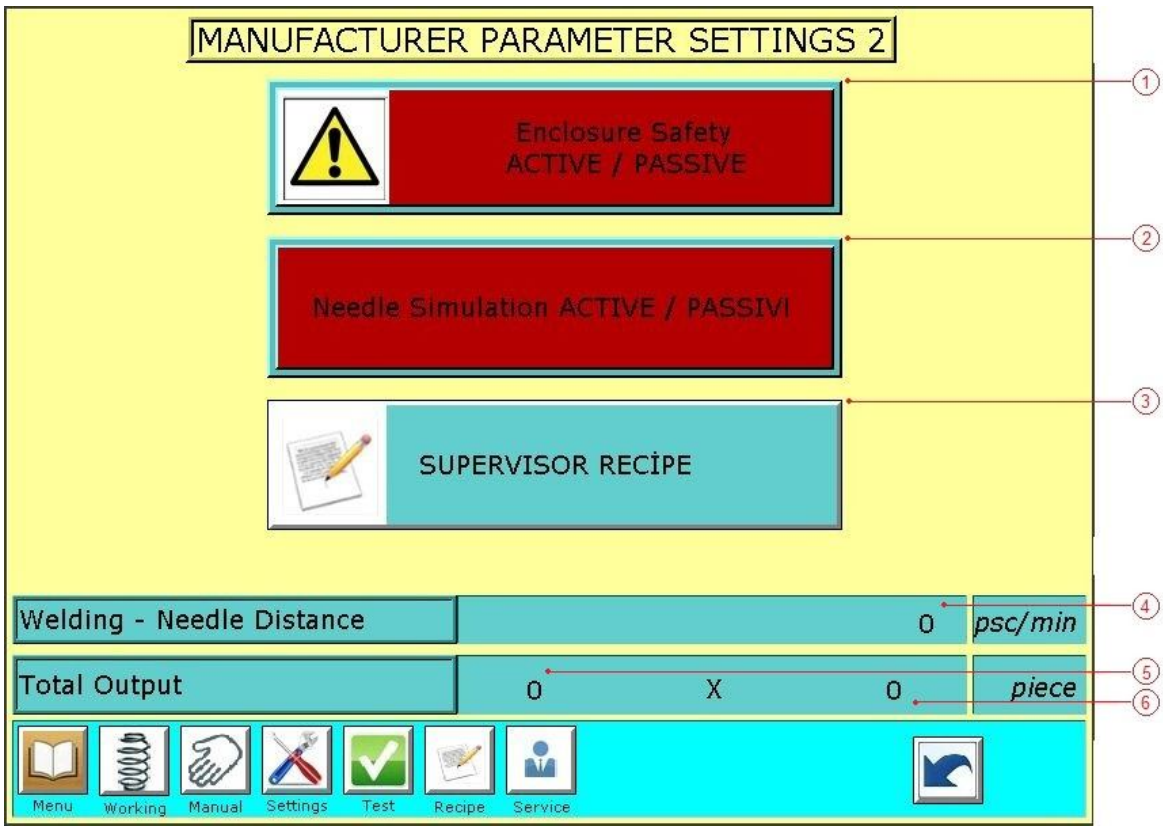


1. This button switches to settings page entered using password to adjust parameters to which only machine manufacturer could interfere.
2. This button enables to restore data saved making calibration adjustment when the machine is started up by Umit Makina.
3. This is test purpose page switching button indicating which part of the program is on which stage running within controller.

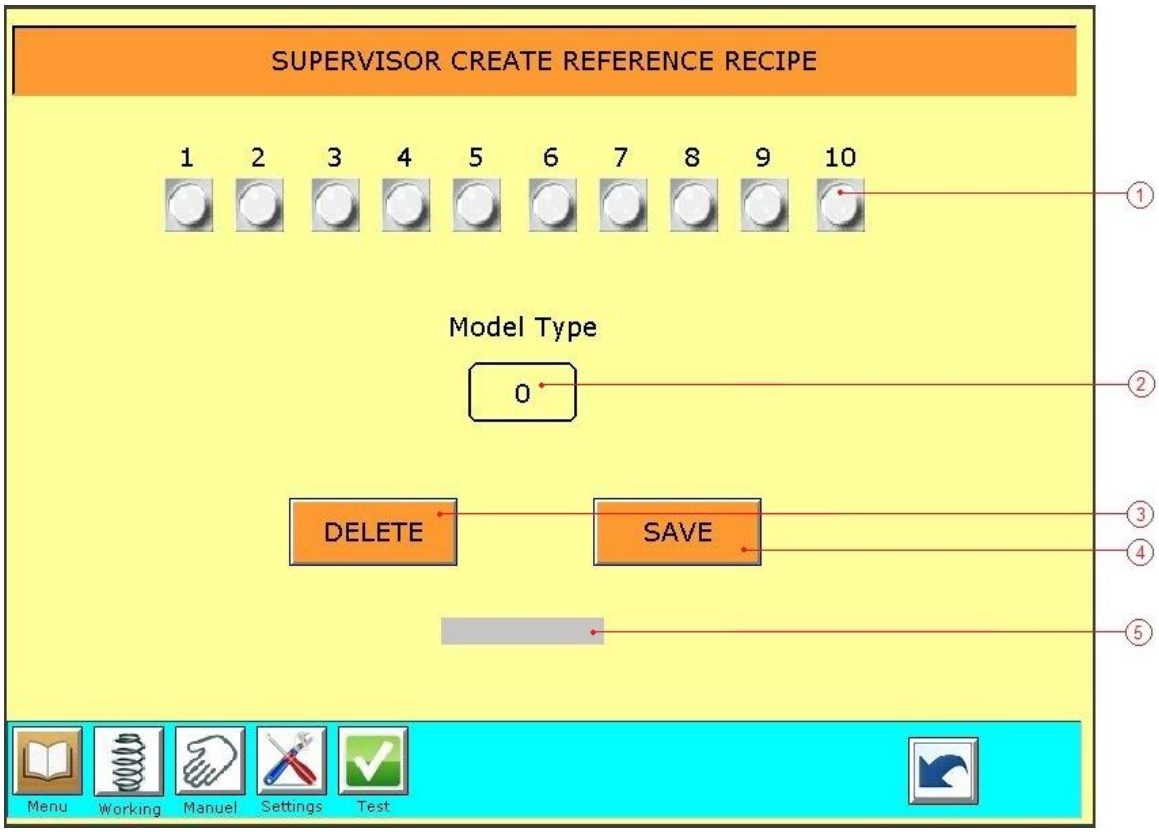


1. This parameter is entered the position of the wire for spring form drawing to which point after bending edge part of bending axis.
2. This parameter is entered data related to when transfer axis movement (mm) would be taken back after crashing axis is carried to spring transfer part.
3. This parameter is entered the distance mm taken by crashing axis to carry the spring to transfer axis.
4. This parameter is entered the data related to when sliding piston start to move forward after transfer axis took the spring.
5. This parameter is entered how long it takes to take the trap to waiting point to catch spring coming out of Crashing axis after reset sensor is detected during transfer axis resets.
6. This parameter is entered how the speed of the machine is needed to reduce during space is left for cutting operation if intermittent work mode is selected.
7. Filter time for cutting unit in the output of the machine.
8. This parameter is entered lag time required to discharge air immediately after pressing emergency stop button.

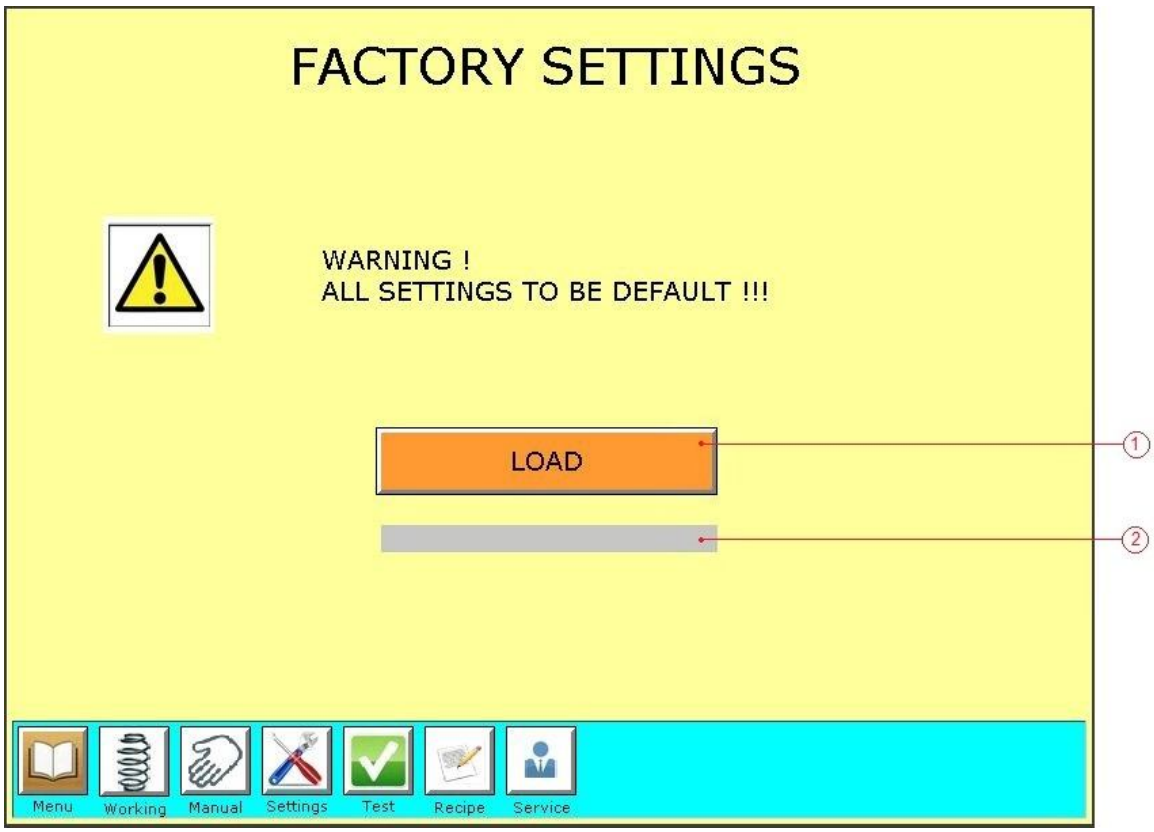
9. This parameter is entered to determine how long it takes to temper.
10. 1. This parameter is entered welding time required by welding unit.
11. 2. This parameter is entered welding time required by welding unit.
12. This parameter could be adjusted by + or - offset value to change forward or backward status of the box position of encoder angle dependent on conveyor axis.



1. This button enables to enable/disable accept mode that machine doors are closed for test purpose.
2. This button enables simulation as if there is spring in needle piston to ensure machine work automatically even the machine does not produce spring
3. This button switches to the page on which manufacturer standard formulas are written.
4. In order to leave a space in intermittent work mode in correct time, this parameter is entered the distance between welding unit and trap position of transfer axis.
5. This is a coefficient parameter showing number of springs produced by the machine which could not be reset.
6. This is a counter parameter showing number of springs produced by the machine which could not be reset.

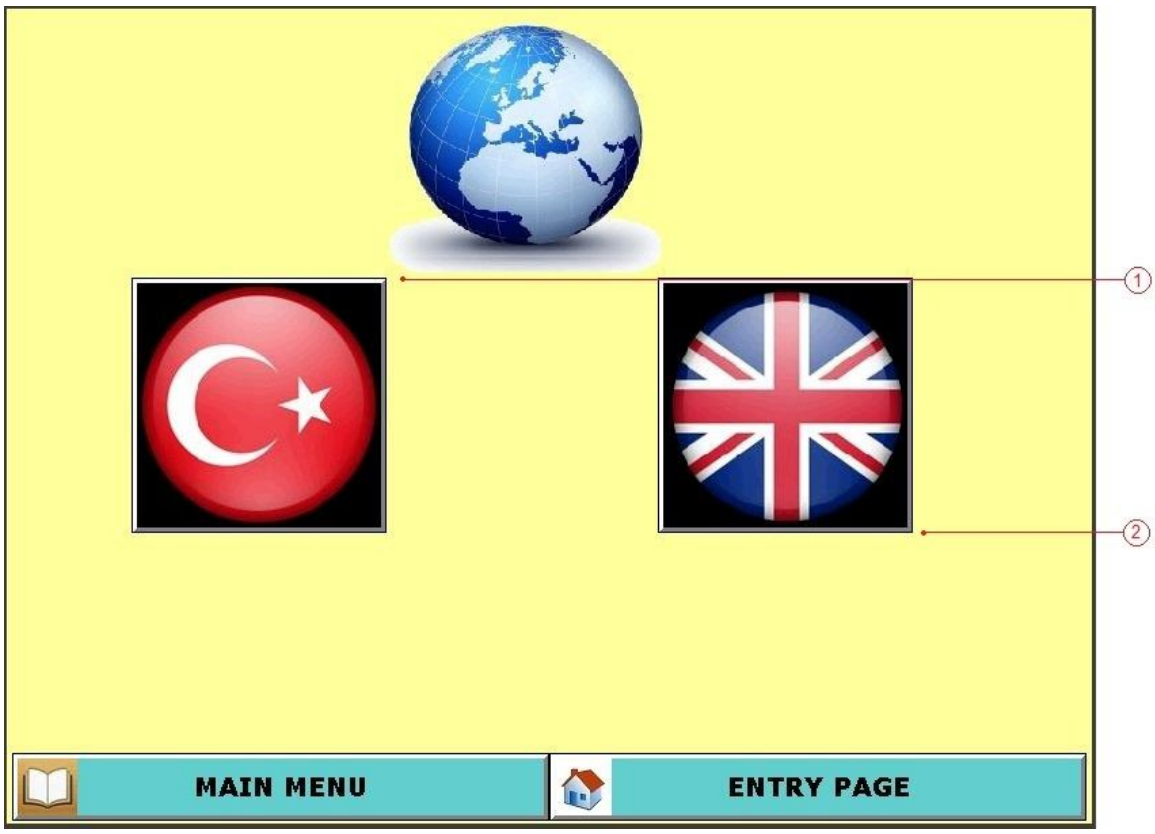


1. This marker indicates how many formulas are available which are tested and ready to use during production stage of Umit Makina.
2. This parameter shows that which formula code is used to record production data tested by Umit Makina and which formula will be deleted.
3. This button enables to delete relevant model encoded formula.
4. This button enables to create a formula with relevant model code.
5. The marker indicates whether formula is recorded or deleted.



1. This button enables to restore ready to use parameters tested previously by Umit Makina to use in current production.
2. The marker indicates whether default settings are recalled or not.

1. Wire Auto Step 0
2. Conveyor Auto Step 0
3. Transfer Auto Step 0
4. Interlining Auto Step 0
5. Welding Auto Step 0
6. Spring Release Auto Step 0
7. Bending Homing Step 0
8. Pitch Homing Step 0
9. Conveyor Homing Step 0
10. Crashing Homing Step 0
11. Transfer Homing Step 0
12. Turret Homing Step 0



1. This parameter shows which stage the part of program is which runs under title Wire Auto Run within controller.
2. This parameter shows the very instant stage of relevant program part.