

LX Loader Screens and Recipe Setup



Blockwise Engineering LLC

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Run Screen – Displays the selected recipe’s name, number, and steps, as well as live indications of crimp diameter and force, load force, loader position and speed, temperature, and gripper pressure.

The screenshot shows the Run Screen interface with the following elements and callouts:

- CRIMP** section: DIAMETER: MIN 0.00, 14.00 mm, FORCE: MAX 0.0, 0.0 N.
- LOAD** section: FORCE: MAX 0.0, 0.0 N, POSITION: 0.0 mm, SPEED: 0.00 mm/s.
- RECIPE** dropdown: 1.
- STEP** table:

STEP	TYPE	SETTING 1	SETTING 2	TIME
0	DIAMETER	14.00 mm	3.00 mm/s	
1	DIAMETER	2.00 mm	10.00 mm/s	0.0
2	FORCE	50.0 N	10.00 mm/s	Button
3	COOL	ON	-100.0 c	3.0
4	LOAD FOR	5.0 N	105.0 mm	0.0
- TEMP**: 24.4 c, **GRIPPER PRESS**: 0.82.
- Buttons**: SETUP, ABORT, JOG (left and right arrows), MODIFY RECIPE.

Callouts:

- Blue box: Live crimp and loader data is displayed, including minimum or maximum measurements.
- Orange box: The “time” settings allow a user to determine whether the next step starts automatically, after a delay, or after pressing the start button.
- Green box: The “jog” buttons allow the user to manually control the powerfeed function.
- Black box: Recipe steps are displayed here. Step 0 is the “home” position; the diameter prior to starting execution of the recipe.

Modify Recipe Parameters Screen – Displays and allows changes to the general parameters of the currently-selected recipe.

The screenshot shows the Modify Recipe Parameters Screen with the following elements:

- RECIPE** dropdown: 1, **NAME** field: empty.
- GRIPPER PRESSURE**: 3.45 bar.
- POWERFEED RATE**: 7.5 Hz.
- COOLING DUTY CYCLE**: 0 %.
- LOADER STALL SPEED**: 0.02 mm/s.
- LIMITS** section:
 - CRIMP FORCE LIMIT DURING DIA STEP: 100.0 lb
 - MIN DIA DURING FORCE STEP: 0.25 mm
 - LOAD FORCE LIMIT DURING SPEED: 31.0 lb
 - LOAD SPEED LIMIT DURING FORCE: 15.0 mm/s
- LOADER OFFSET**: 0.00 mm.
- Buttons**: RUN SCREEN, EDIT STEPS (with right arrow).

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Edit Recipe Steps Screen – Displays and allows changes to the individual steps of the currently-selected recipe. There can be up to 50 steps in a recipe, and up to 500 recipes.



On "Load Force" and "Load Speed" steps, the "Step Options" button allows users to turn the powerfeed function on/off

Recipe Step Types			
Step Type	Description	Setting1	Setting2
Diameter	Moves the compression actuator until the encoder-measured diameter equals the set diameter	Diameter setting [mm or inch]	Speed [mm/s or inch/s]
Force	Moves the compression station in the closing direction until the transducer-measured compression (actuator) force equals the set force.	Force setting [N or lbf]	Speed [mm/s or inch/s]
<i>Note: this is ACTUATOR FORCE, NOT radial force. See MORE ADVICE below. Speed setting is an upper limit. Actual speed may be much slower, depending on the force setpoint.</i>			
Load Speed	Moves the pushrod at the set speed until the distance in setting 2 is reached	Load Speed [mm/s or in/s]	Distance [mm or in]
Load Force	Moves the pushrod at the set force until the distance in setting 2 is reached	Load Force [N or lbf]	Distance [mm or in]
Cool	Turn On/Off Cooling. When On, cooling is activated until set temperature is reached, then activated at specified duty cycle	ON/OFF	Temperature [C]
Verify Diameter	Check of diameter within limits	Minimum diameter limit [mm or inch]	Maximum diameter limit [mm or inch]
<i>Measured diameter outside the limits causes a DIAMETER VERIFICATION FAILED error, shown on a pop-up screen. This can be used as gross check of the size of the product, to reduce errors such as "wrong product inserted".</i>			
Verify Force	Check of force within limits	Minimum force limit [mm or inch]	Maximum force limit [mm or inch]
<i>Measured actuator force outside the limits causes a FORCE VERIFICATION FAILED error, shown on a pop-up screen. This can be used as gross check of the size of the product, to reduce errors such as "wrong product inserted".</i>			

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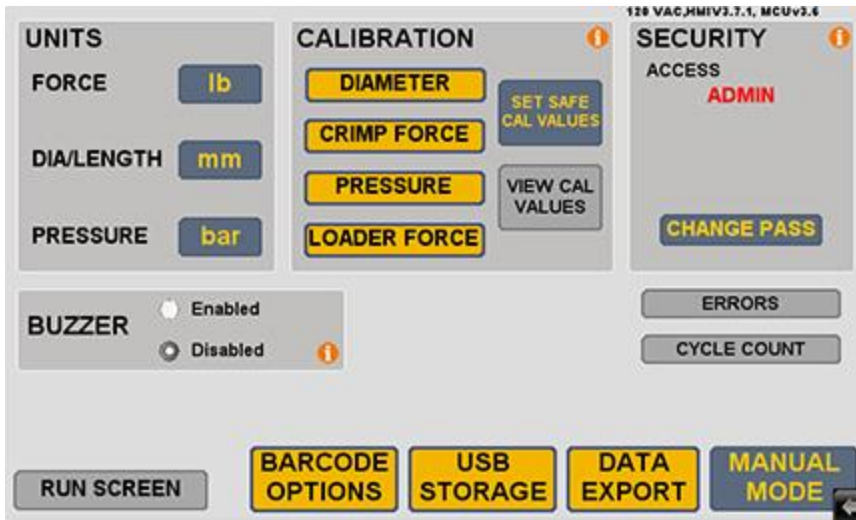


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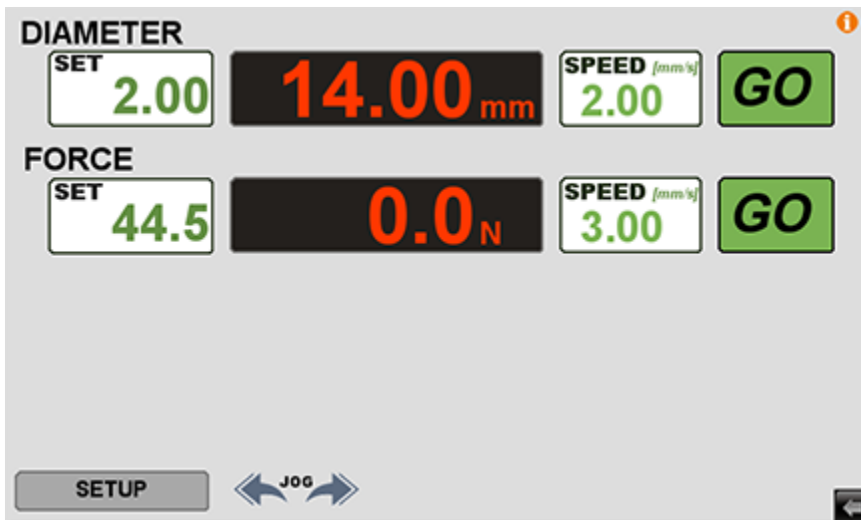
Setup Screen – Displays and allows changes to the machine setup parameters.

The setup screen allows changing of parameters that apply to the whole machine (not just one recipe), and allows access to other functions such as:



- Changing the displayed units of measure
- Calibrations of the machine's measured values
- Administering of the machine's security levels and passwords
- Viewing the error history
- Setup for export of data to an external computer
- Copying and restoring recipe and setup data (for backups or for cloning machines)
- Setup for barcode scanning to select recipes

Manual Mode Screen– Allows machine functions to be commanded manually (instead of executing a recipe sequence).



In this screen, the operator can type setpoint values and command the machine functions of diameter and force.

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UNITS
FORCE: lb
DIALENGTH: mm
PRESSURE: bar
BUZZER: Enabled/Disabled

CALIBRATION
DIAMETER
CRIMP FORCE
PRESSURE
LOADER FORCE

SECURITY
ACCESS: ADMIN
CHANGE PASS
ERRORS
CYCLE COUNT

RECIPE 1
NAME: []
GRIPPER PRESSURE: 3.45 bar
POWERFEED RATE: 7.5 Hz
COOLING DUTY CYCLE: 0 %
LOADER STALL SPEED: 0.02 mm/s
LOADER OFFSET: 0.00 mm

LIMITS
CRIMP FORCE LIMIT DURING DIA STEP: 100.0 lb
MIN DIA DURING FORCE STEP: 0.25 mm
LOAD FORCE LIMIT DURING SPEED: 31.0 lb
LOAD SPEED LIMIT DURING FORCE: 15.0 mm/s

RECIPE LIST

STEP	TYPE	SETTING 1	SETTING 2	TIME
0	DIAMETER	14.00 mm	3.00 mm/s	
1	DIAMETER	2.00 mm	10.00 mm/s	0.0
2	FORCE	50.0 N	10.00 mm/s	Button
3	COOL	ON	-100.0 C	3.0
4	LOAD FOR	5.0 N	105.0 mm	0.0

RECIPE STEPS

STEP	TYPE	SETTING 1	SETTING 2	CONTINUE TIME AFTER
0	DIAMETER	14.00 mm	3.00 mm/s	
1	DIAMETER	2.00 mm	10.00 mm/s	STEP DONE
2	FORCE	50.0 N	10.00 mm/s	START BUTTON
3	COOL	ON	-100.0 c	STEP DONE
4	LOAD FORCE	5.0 N	105.0 mm	STEP DONE

DIAMETER
SET: 2.00 | 14.00 mm | SPEED: 2.00 | GO

FORCE
SET: 44.5 | 0.0 N | SPEED: 3.00 | GO

Navigation: SETUP, ABORT, JOG, MODIFY RECIPE, EDIT STEPS, RUN SCREEN, SAVE CHANGES, CANCEL, COPY RECIPE

LX Loader Screen Navigation