



290 Legion Court S.W. Cedar Rapids, Iowa 52404
Phone: (319) 373-5006 Fax: (319) 373-5008

ABS[©]
Petit Levain
Operating Instructions



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TABLE OF CONTENTS

1	DESCRIPTION.....	3
2	SAFETY TIPS.....	4
3	STARTING THE MACHINE.....	6
3.1	SETUP.....	6
3.2	CLEANING PRIOR TO STARTUP.....	6
4	CONTROL FUNCTIONS.....	7
4.1	OVERVIEW OF THE FERMENTATION PROCESS.....	7
4.2	OPERATION.....	9
5	SOURDOUGH PREPARATION.....	10
5.1	REFRESHING THE SOURDOUGH - A SHORT DESCRIPTION.....	12
6	TROUBLESHOOTING.....	13
6.1	MACHINE ERRORS.....	13
6.2	SOURDOUGH ERRORS.....	14
7	TECHNICAL DATA.....	16



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1 Description

The Petit Levain sourdough fermenter is a machine for sourdough production with a last stage minimum dough yield (TA) of 220. The minimum dough yield varies, which means that it is dependent on the types of flour or grain used. To make sourdough, first place water into the tank, then add the dry ingredients (breadslurry, flour, etc.) and mix all ingredients.

The Petit Levain consists of the following basic components:

- | | |
|-------------------------------------------|-----------------------|
| 1. Mixer motor | 5. Double-walled tank |
| 2. Control panel with operator interfaces | 6. Outflow spout |
| 3. Opening for loading ingredients | 7. Cooling system |
| 4. Conduit protection pipe | |

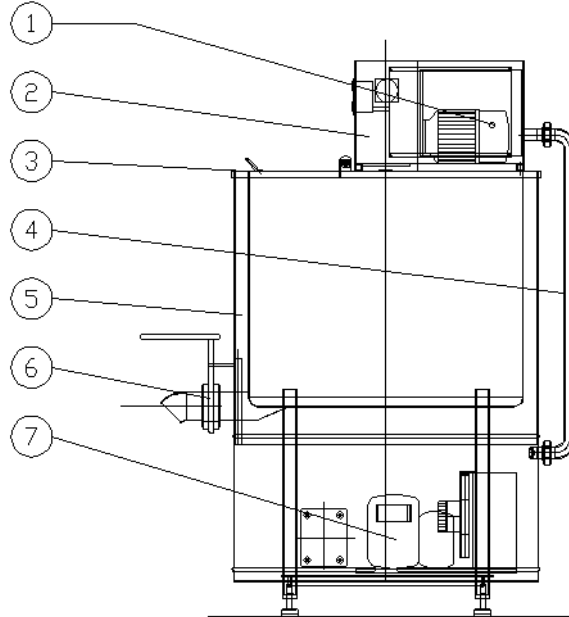


Figure 1: Basic design of the Petit Levain (Implementation may vary)



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2 Safety Tips

- The machine is intended exclusively for the production of poolish and rye sour. You must obtain written permission from the machine's vendor prior to using the machine for different purposes. Without this written permission, the vendor's guarantee is null and void.

- Prior to operating the machine, you should read and understand all operating instructions in their entirety.

- Before switching on the machine, always check all electrical connections for damage, and make sure that all safety features are working properly. All damages must be repaired prior to operating the machine.

- If the machine is operated improperly or in violation of the operating instructions, the vendor's guarantee is null and void.

- Make sure that you have access to the correct electrical plug with the appropriate safety features according to the electrical drawings. Have the plug certified by a licensed electrician.

- The machine always has the potential to cause injuries. You must absolutely not remove or circumvent any of the safety features.

- You must not place the electrical cables into traffic areas. In order to prevent damage to the cables, you must make sure that no vehicles or other equipment drive over the cables.

- The machine must be operated only in well-ventilated areas, since fermentation gases that are created during operation pose a health hazard. A second person must be present when another



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performs cleaning work on the machine. Never place your head inside the tank and never breathe in the fermentation gases.

- The lid can potentially cause crush injuries. To ensure safe operation, you must ensure that the lid is latched when in the up position.
- To prevent operators from reaching into the machine while it is running, the lid contains a safety switch. If the safety switch is malfunctioning, reaching into the vessel while the mixing gear is running will cause injuries.
- Avoid skin contact with the sourdough. Rinse off affected areas with water immediately.
- Do not use high pressure cleaning gear to clean electrical components, junction boxes, connections, etc., since doing so may cause short circuits.
- Maintenance on electrical components may be performed only by qualified electricians or by factory Authorized Personnel.
- To guarantee the machine's maximum performance, you must not make changes to the connection cable yourself.
- Do not place any objects on the machine, since they pose a hazard if they fall inside.



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3 Unpacking the Machine

3.1 Setup

1. **Danger! May cause injuries!** Wear sturdy shoes and protective gloves.
2. Remove plastic over wrap, taking care to remove the packing slip and make sure that the items listed on the packing slip match the products that were actually delivered.
3. Remove all packaging materials and loosen any fasteners used to secure the machine to the pallet. Then lift the machine off the pallet by tank bottom flanges. See attached sheet (page 17)
4. Place the machine at its intended location. The area where it is placed must be firm and level.
Lock casters (if provided)

3.2 Cleaning prior to startup

1. To clean the machine, fill it up with water no hotter than 140°F and a cleaning solution whose alkaline content does not exceed 2%. A mild dish detergent works great in this application.
2. Insert the plug into its intended socket. Make sure that you have the correct socket (see electrical drawings).
3. Use the main switch to turn on the machine.
4. Press the "Storage" switch and check the mixing gear's direction of rotation. The direction should be in a clock-wise rotation, otherwise the dough mixing function may not work properly.
5. Use the hand valve to remove the water.
6. Use clear water and repeat steps 1 through 5 under "Cleaning prior to startup".



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4 Control Functions

4.1 Overview of the fermentation process

All parameters for creating sourdough are factory-installed. Use the display to select the control functions for rye sourdough or wheat sourdough. The essential difference between the control functions are temperature control and fermentation time (see Table 1).

The following figures illustrate the fermentation process.

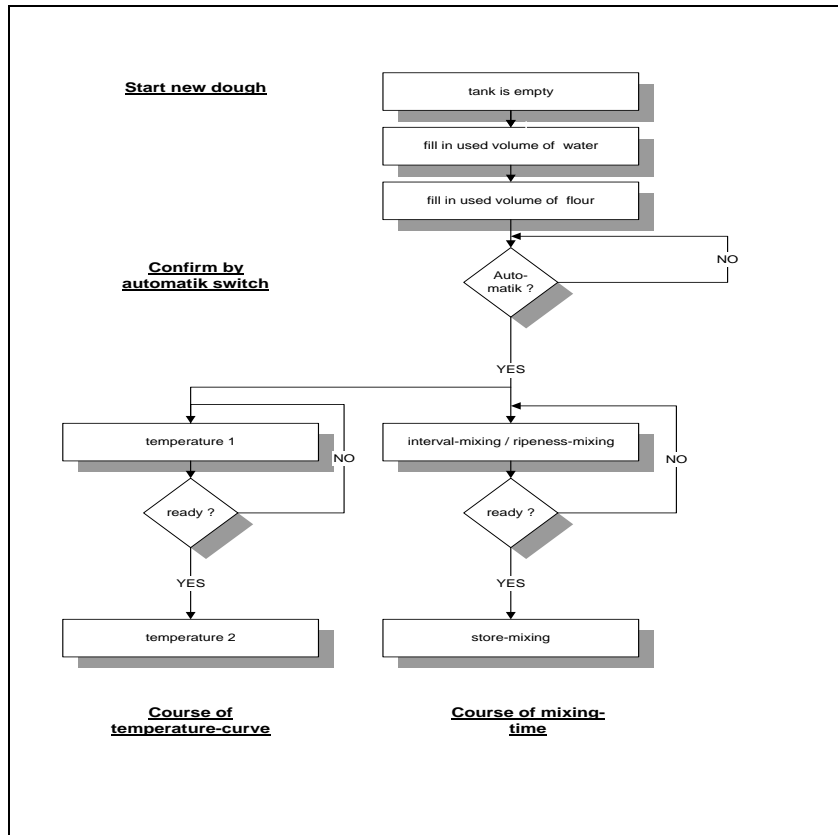


Figure 2: Flowchart of Petit Levain Functions



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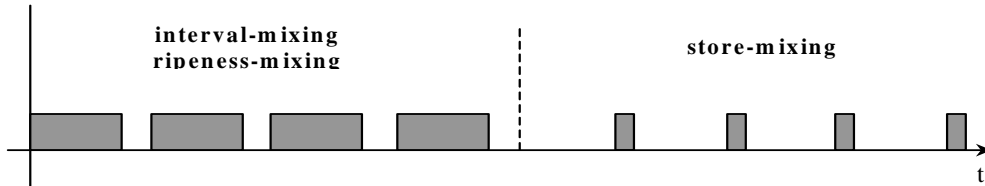


Figure 3: Mixing Time Table

Rye sour will be ready after 16 hours.

Poolish will be ready after 8 hours.



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4.2 Operation

1. Select dough control type from the display

- a) Press the <MOD> button
- b) Use the <↑> key to select "rye sour" or "Poolish"
- c) Press <ENTER> to confirm your selection

2. Startup of automatic control:

Briefly press the <Automatic Start> button

3. Early cancellation of automatic control with transition into storage mode:

Briefly press the <Storage> button to activate the storage mixing function and the corresponding storage temperature.

4. Manual mixing in storage mode:

Hold down the <Storage> key for at least three seconds => Mixing gear will run for five minutes without interruption.



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5 Sourdough Preparation

Do not deviate from the sequence of steps described below under any circumstances!

1. Add water

Use the recipe function to fill the machine with the specified volume of water. The water temperature should be about 104°F

-Temperature too low => Sourdough cannot ripen

After mother and water are finished being loaded into tank, press the Automatic Start button.

2. Add bread slurry - Always add the slurry before adding the flour!

a) Dry bread granules

Add the bread granules from a hammer mill (e.g., Junior Mini). Let the machine run for about 5-10 seconds in manual mode. Bread ground by methods other a hammer mill should steep in mixing mode for at least 10 minutes.



290 Legion Court S.W. Cedar Rapids, Iowa 52404
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b) Moist bread mixture

When placing the bread mixture into the machine, take the bread mix water percentage into account when determining the volume of water to add. Also make sure that the mixture contains no lumps. We recommend the use of High-Speed Breadslurry Mixers, which produce a lump-free bread emulsion.

Warning! Do not use inedible bread, bread containing conservation chemical or baked goods with oily seeds for making sourdough under any circumstances!

3. Add flour

1. Add the desired amount of flour through the front lid. Add half of the desired amount of flour and close lid so that the mixing motor stirs. After a few minutes of stirring, open the lid and add remaining flour slowly. This process will help you avoid making lumps of flour.
2. Close the machine's lid. If the lid is left open, the safety switch will prevent the mixing gear from functioning.



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Refreshing the Sourdough - A Short Description

Refreshing the sourdough is a procedure identical to the one described under "Sourdough Preparation", with the sole difference that some amount of dough remaining in the container is used for Starter material.

Refresh the sourdough:

1. Check to see if Starter material is inside the vessel.
2. As specified by the recipe function, first add the water, then the flour.
3. Start automatic control.



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6 Troubleshooting

6.1 Machine errors

<u>Error</u>	<u>Possible causes and solutions</u>
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Mixing gear not running, even though mixing time was specified.

1. Press <Automatic Start>.
2. Check to make sure that the lid is closed, Since it is coupled to off switches, which prevent the mixing gear from functioning as long as the lid is open.
3. An electrician should check to make sure that the machine is receiving the correct amount of voltage.



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6.2 Sourdough errors

<u>Sourdough error</u>	<u>Possible cause</u>	<u>Solution</u>
Bread too small, small-pored crust, sour taste	1. Too much sourdough	1. Reduce the amount of sourdough
	2. Sourdough too sour	2. Check sourdough
	3. Dough control too firm	3. Edit dough control
Inelastic crust, soggy	1. Not enough sourdough	1. Increase amount of sourdough
	2. Sourdough has not yet ripened	2. Check sourdough
Bland taste	1. Not enough sourdough	1. Increase amount of added sourdough
	2. Sourdough has not yet ripened	2. Check sourdough
Broken crust, crust baked off at the bottom	1. Not enough sourdough	1. Increase amount of added sourdough
	2. Sourdough has not yet ripened	2. Check sourdough
Bread too flat, runny	1. Dough too soft	1. Firmer dough control
	2. Dough too ripe	2. Add dough sooner

Note: When you experience quality problems, ALWAYS check the flour quality!



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<u>Sourdough error</u>	<u>Possible cause</u>	<u>Solution</u>
Sourdough too cold	1. Added water too cold	1. Add warmer water
Sourdough not sour enough	1. Dough did not cool long enough	1. Increase cooling time to at least 16 hours
	2. Added water too cold	2. Add warmer water
Sourdough too sour	1. Cooling time too long	1. Refresh sourdough
	2. Too much Starter	2. Reduce Starter amount
Sourdough doesn't smell or taste right	1. Sourdough contamination	1. Clean machine at least once a week
		2. Regularly prepare new sourdough with pure cultures or fresh Starter material

Note: When you experience quality problems, ALWAYS check the flour quality!



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7 Technical Data

Required electrical plug: NEMA 520-p Plug 220 Volt 1 Phase 14 Amps

Vessel

Vessel volume:	79.35 gallons
Overall height:	67 inches
Height to upper edge of lid:	55 inches
Vessel diameter:	35.5 inches
Weight:	748 lbs.



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DO NOT PICK THE TANK UP FROM BELOW THE REFRIGERATION COMPRESSOR, AS DAMAGE TO THE COOLING SYSTEM CAN OCCUR.

PICK THE UNIT UP FROM THE OUTSIDE OF THE TANK ON THE LEFT AND RIGHT SIDES OF THE UNIT.

DO NOT USE HAND TRUCK OR APPLIANCE DOLLY TO MOVE THIS UNIT –EVER !



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Programming the Recipe Controller:

Press and Hold Storage button for 15 seconds to reach parameter pages.

Display will change to Ryesour T1 t1

T2 t2 ...

T1 is the temperature of the first parameter, t1 is the length of time that it stays at that temperature, then moves on to T2 and so on up to T4. T4 is then held for up to 99 hours.

The total production time for Poolish is 8 hours, Ryesour 16.

To change any settings, press the MOD button until the parameter that you want to change begins to blink. Then change with your Up arrows until the number you desire is realized.

Press Enter when you are finished making changes.

Scroll between pages using the RIGHT arrow and the ESC key to go back.

Temperature curves are four steps for Ryesour and Poolish. After the poolish steps, you will find mixing and offset parameters. Init Mix is your initial stirring time after Automatic Start button is pressed (set at 30 minutes from factory). Interval Stirring is the time during holding that the tank stirs (example: 10/10 means that for every 10 minutes, the tank stirs 10 seconds). Temp Off is settable to offset a thermocouple (if necessary).