



Operation Manual

YEAST-BOOSTER PRO

Version 2.2



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1 General introduction

The **Yeast-Booster PRO** is a compact, mobile machine for optimal **rehydration**, **vitalization** and **propagation** of yeast.

This requires temperature control, nutrition management and regulated oxygenation.

1.1 Advantages

The yeast achieves optimal fitness and temperature at the start of fermentation.

The alcoholic fermentation starts without any delay. This results in time saving and quality gain.

Improved fermentation behavior, risk minimization of fermentation stagnation and elimination of sluggish fermentation lead to stress-free work in the cellar.

Simple operation, exact reproducibility and full automatic operation facilitate and improve the extremely important work of optimal yeast preparation for the fermentation phase.

1.2 Characteristics

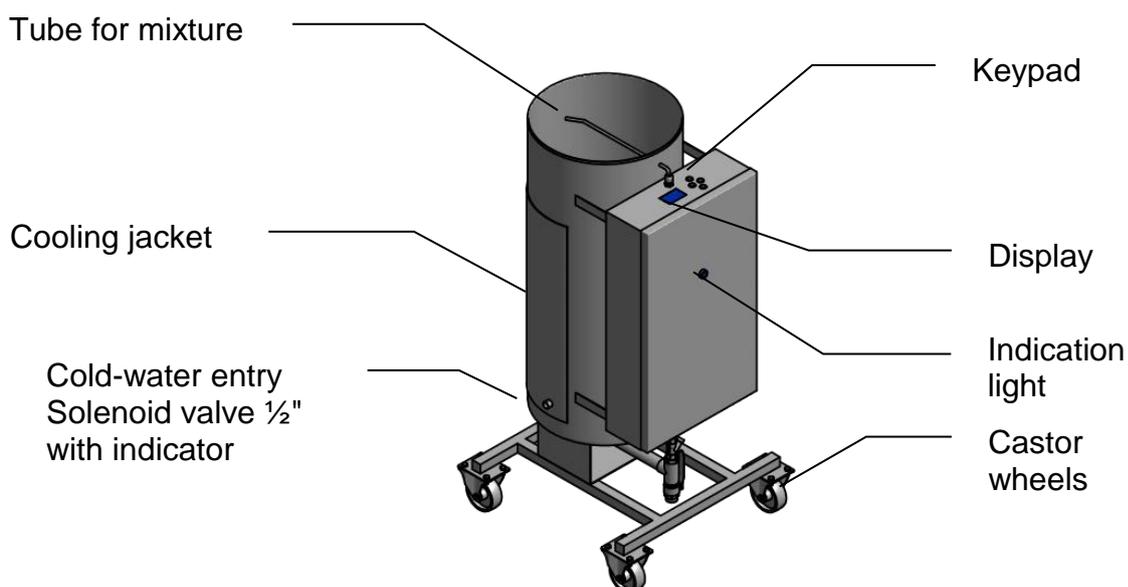
The **Yeast-Booster PRO** is processor controlled which allows all process factors to be operated via menu navigation.

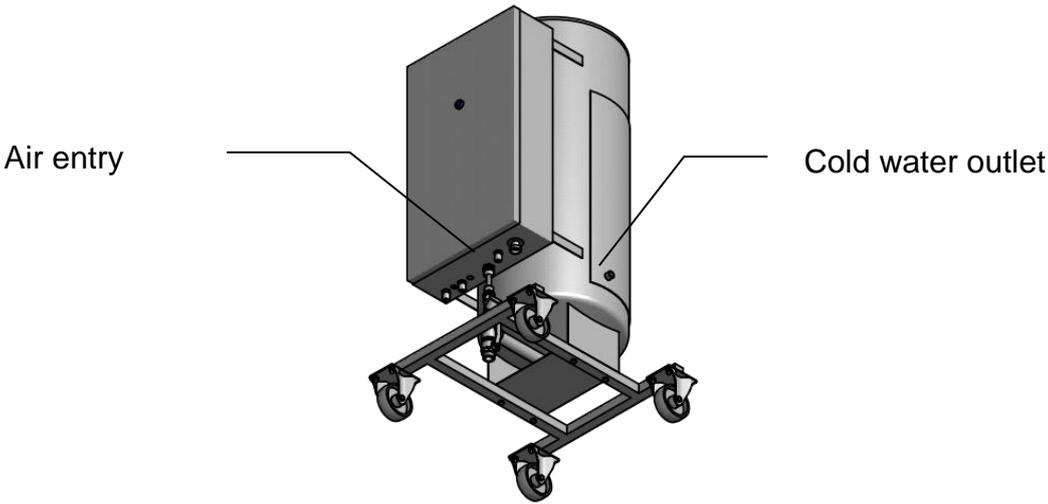
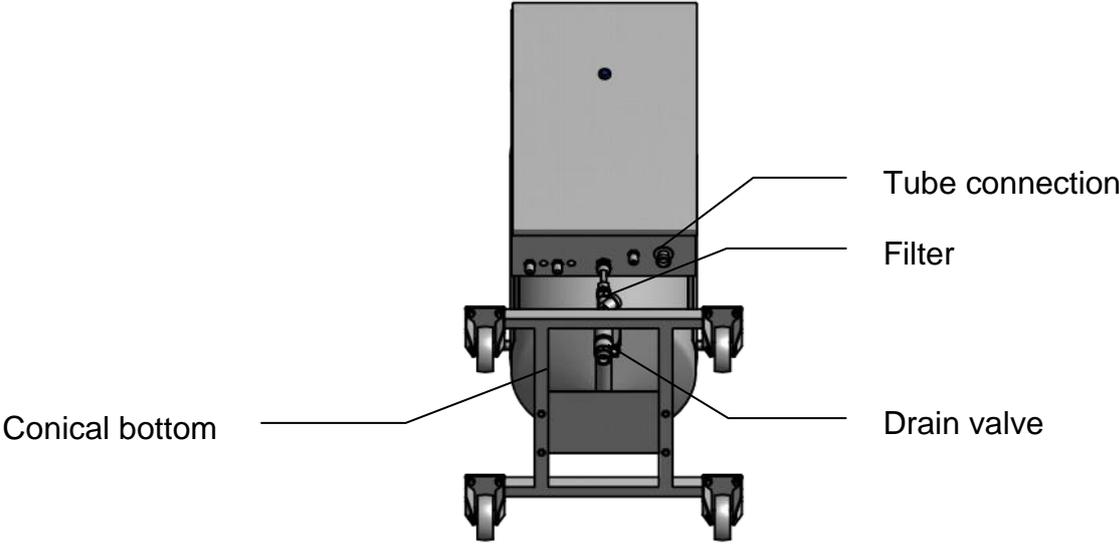
The container has a volume of 110 liters (50l + 60l reserve for foam formation) and is so that dimensioned for the preparation of dry yeast up to 2,5 kg.

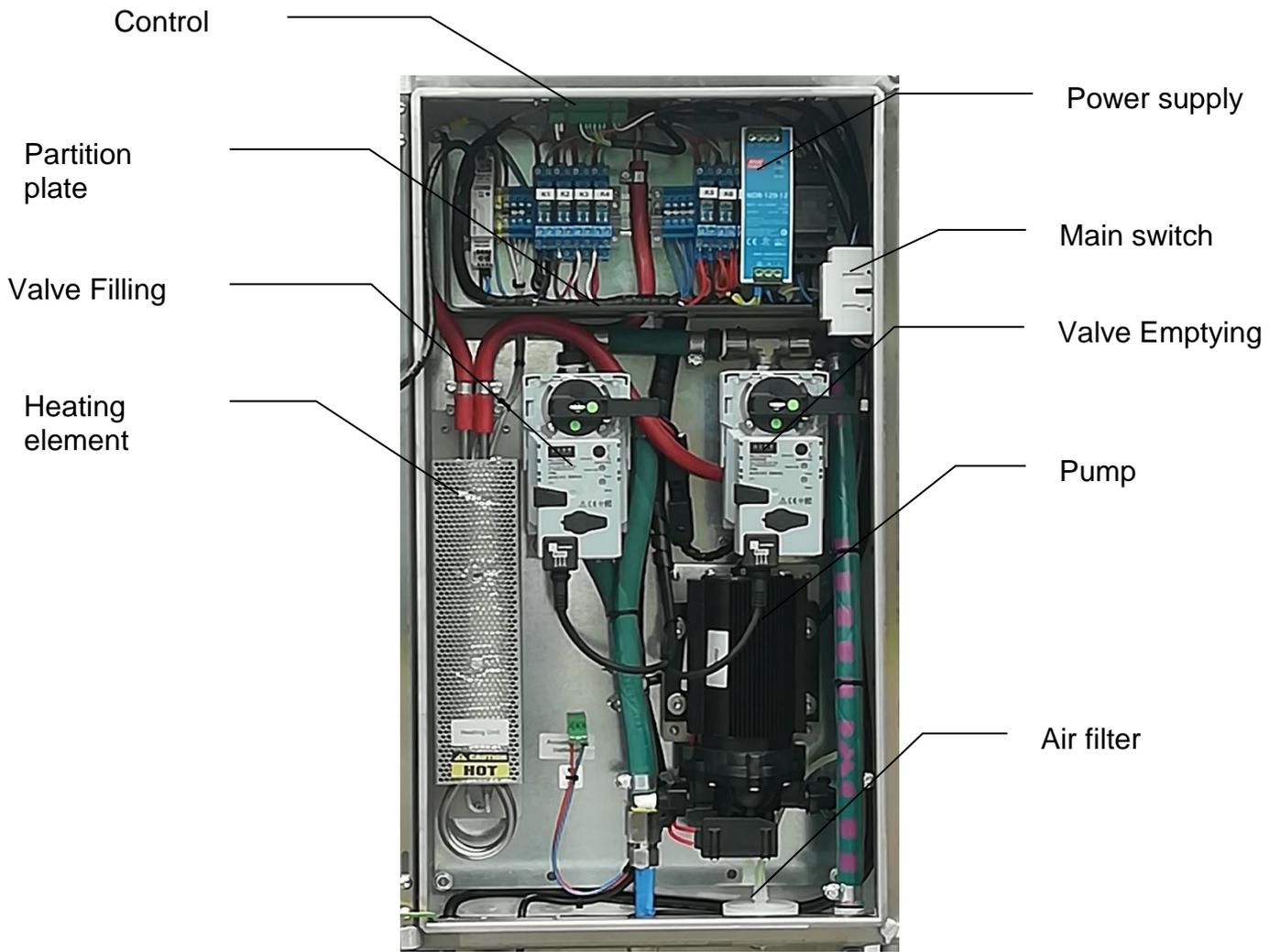
A single hose connection is available for the filling and pumping out of must, yeast mixture and cleansing water.

The Yeast-Booster is equipped with an integrated electrical heater and double-jacket with ½" connections for cooling water.

The aeration takes place at the fan nozzle during the over-pumping.

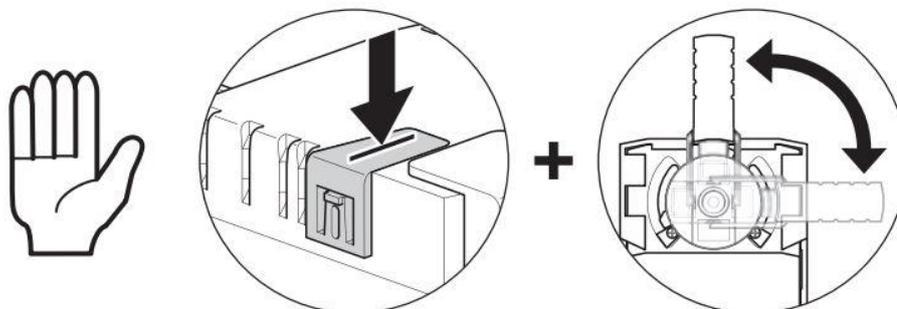






Manual valve operation (Filling/Emptying):

After removing the cover, the electrical motor rotary valves can be mobilized manually.



2 Settings

2.1 Start temperature

The dry yeast requires a “heat shock“ for their revitalization. The recommended temperature is 38,5 °C (Celsius).

2.2 Target temperature

The Yeast-Booster PRO cools the yeast mixture gradually during the propagation phase (min. 2 hours) from the start temperature, through the optimal multiplication temperature to the target temperature. The target temperature should be the temperature of the must in the target tank. On this way, the yeast cells will suffer no cold shock, when they are add to the target tank and cell-death is greatly reduced.

2.3 Start quantity

This start quantity example is commonly used for yeast in wine. Other start quantities may be valid for different types of yeast.

The start quantity should be 100 g pure yeast per liter water. At recommended maximum quantity in the **Yeast-Booster PRO**, this would be 25 L of water with added 2,5 kg of dry-yeast.

2.4 Target quantity

For example 50 l (doubling of the quantity for a fermentation of 2 hours). The Yeast-Booster calculates automatically the pumping times, so that must will be pumped from the target tank/must container into the Yeast-Booster every 15 minutes during propagation phase (nutrition management).

2.5 Timer

Setting the desired process duration (minimum duration 2 hours, recommended duration 3 hours).

2.6 Beispiele:

You wish to reactivate 1 kg dry yeast:

Start quantity: 10 Liter water (1 Liter per 100 g yeast).
Target quantity: 20 Liter water (double the start-amount by fermentation of 2 hours) or better 30 Liter (triple quantity) by fermentation duration 3 hours (recommended, if time permits)
Start temperature: 38,5 °C (recommended rehydration temperature for yeast)
Target temperature: 19,0 °C (e.g., temperature of the must in the tank, which has to start fermenting).
Timer: 2 hours, if the Yeast-Booster is needed quickly for another batch
3 hours, to receive more from the running batch. The yeast cells mixture will cool even slower and be even more gently prepared to start the fermentation.

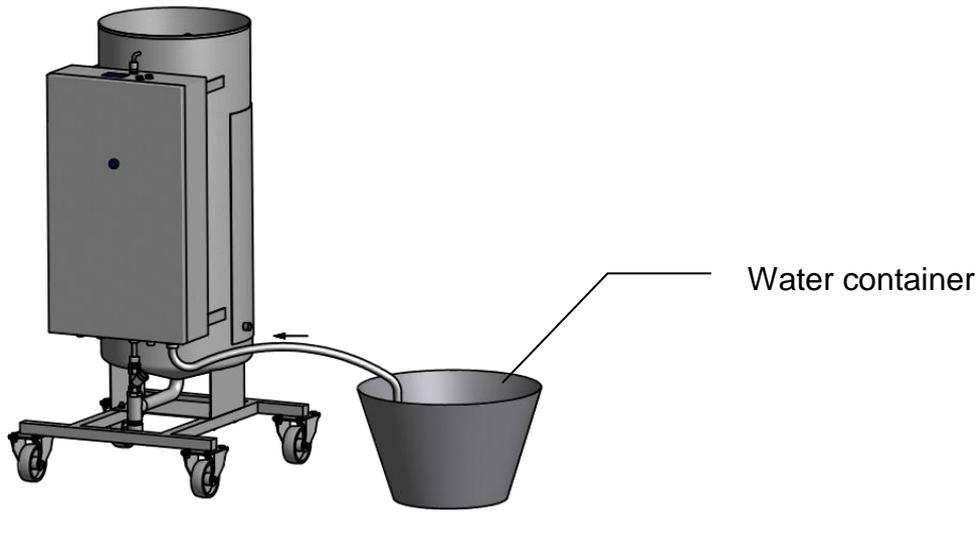
You wish to reactivate 0,5 kg dry yeast:

Start quantity: 5 Liter water (1 Liter per 100 g yeast).
Target quantity: 10 Liter water (double the start-amount by fermentation of 2 hours) or better 15 Liter (triple quantity) by fermentation duration of 3 hours (recommended, if time permits)
Start temperature: 38,5 °C (recommended rehydration temperature for yeast)
Target temperature: 18,5 °C (e.g., temperature of the must, which has to start fermenting).
Timer: According to the work conditions, at least 2 hours.

Additional settings of language and display contrast.

3 Adjustable phases

3.1 Filling



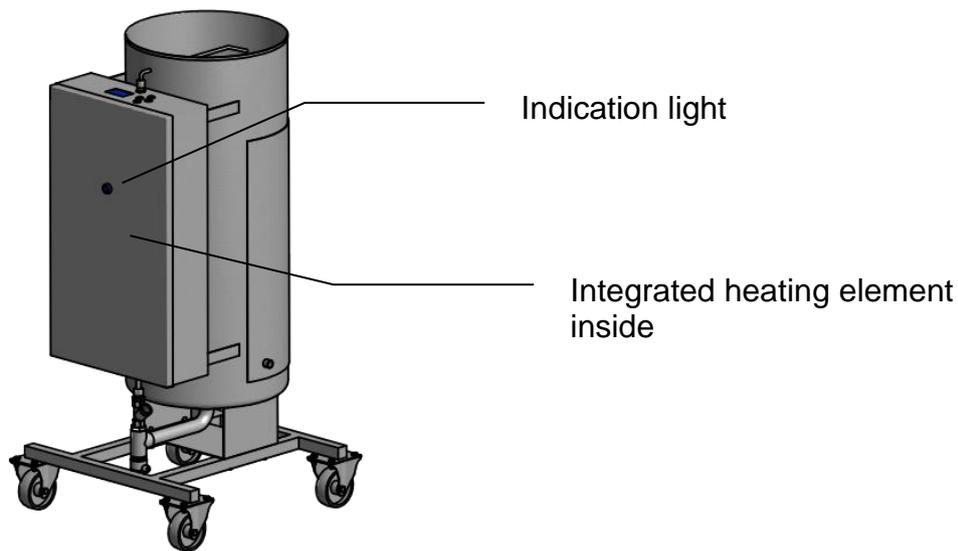
The **Yeast-Booster PRO** pumps the desired start quantity (e.g. 25 l water) in the container. The flow-rate is approximately 5,5 l/min. It takes less than 5 minutes to fill 25 l water.

You can of course also fill the Yeast-Booster over the top with a water-pipe.

In **manual operation** the Yeast-Booster signals with light and on its display when the filling process has been completed.

In **automatic operation** the Yeast-Booster switches directly after the filling is finished to heating mode, which is the next phase.

3.2 Heating



The Yeast-Booster heats the water to the required start temperature (e.g. 38,5 °C) and enriches the mixture simultaneously with Oxygen (filtered air). The Yeast-Booster indicates by light signal and on its display when the set temperature (e.g. 38,5 °C) has been reached.

Now you can add the dry yeast, mixing it **slowly** and **carefully** with the hand-mixer provided with the unit.

ATTENTION!

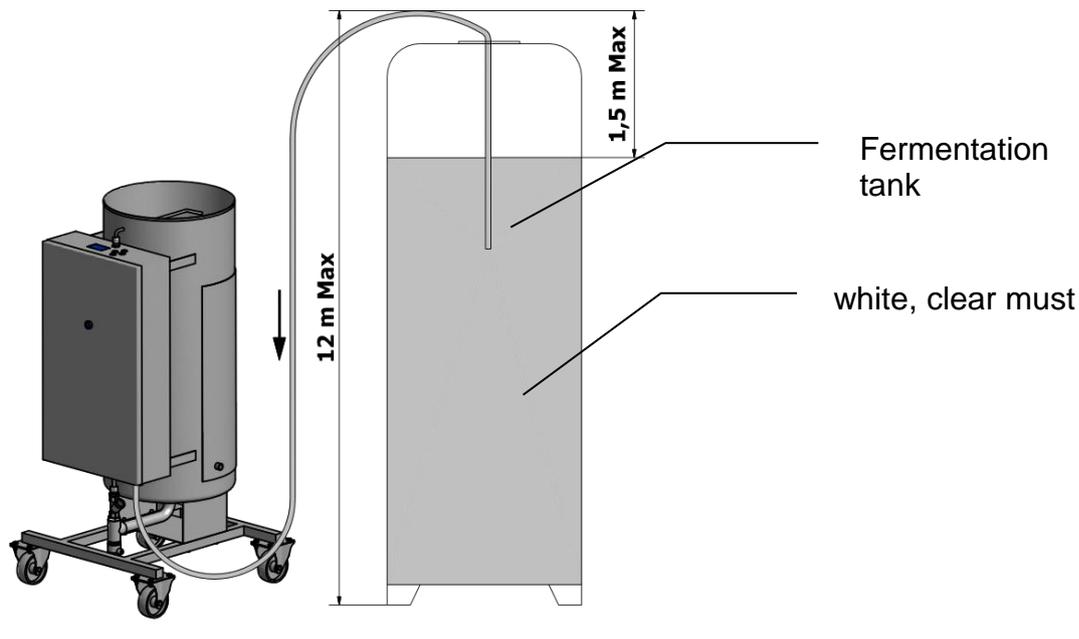
Adding dry yeast too fast can cause blockage of the filter!

ATTENTION!

Never operate the Yeast-Booster on heating mode when empty - risk of damage to the heating elements

If the Yeast-Booster is in heating phase and you are experiencing a power failure, the Yeast-Booster will continue to heat after the power returns.

3.3 Fermentation (Rehydration phase)

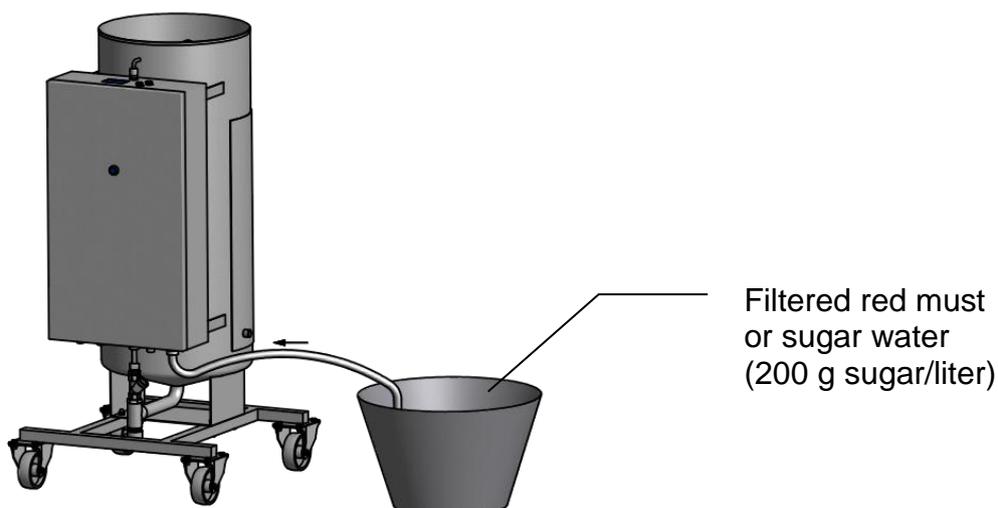


In the main phase, the yeast will be gently pumped-over, enriched with Oxygen, cooled to target temperature by water-cooling and continuously supplied with fresh must from the target tank to provide the mixture with nutrients.

The maximum suction-height of the pump is 1,5 meter and should not be exceeded. The maximum pumping height is 12 meter.

The foam created in this process shows that the yeast cells are developing well as they release large amounts of CO₂ (foam) due to its aerobic metabolism cycle.

Using red must, a pre-filtration is mandatory to prevent, that solid components like grape skins, grape seeds etc. get into the Yeast-Booster. If a pre-filtration is not possible, the nutrient supply can also be provided by sugar water.



In the display you will see the following status information:

| | |
|------------------------------|----------|
| O P E R A T I O N | F E R M |
| S H A L L 3 7 . 6 | ° C |
| R E A L 3 7 . 8 | ° C K |
| T I M E R 1 : 5 2 : 2 7 | P |

Operation: Fill, Heat, Ferm, Empty, Wash (cleansing)

Shall (= **Set**): the currently set target temperature

Real (= **Is**): the currently set measured temperature

Timer: remaining runtime (h, min, sec)

K ... Cooling or H ... Heating

P ... Pump-over and oxygenation

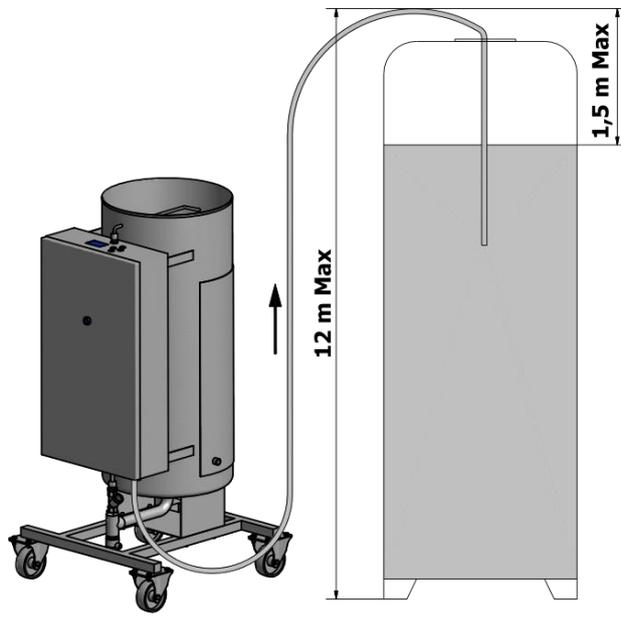
M ... Must – every 15 minutes automatically filling of must (nutrition management)

In **manual mode** the Yeast-Booster signals by light and on the display as soon as the fermentation phase has been completed.

In **automatic operation** at the end of fermentation phase, the Yeast-Booster pumps the yeast mixture into the target tank/must container (mode signaled: „Empty“).

If the Yeast-Booster is in fermentation phase and you are experiencing a power failure, the Yeast-Booster will continue to heat after the power returns.

3.4 Emptying



Now, the activated yeast will be pumped into the target tank/must container. The display shows the quantity of yeast, which is already pumped out.

The pump capacity is about 8 l/min and slightly depends on viscosity of the mixture and pump height. The Yeast-Booster PRO stops the emptying phase automatically after reaching the target content or partial emptying quantity (see point 5.6) to avoid a long phase of pumping air, if left unsupervised.

If the Yeast-Booster is not completely emptied, the emptying phase time setting can be adjusted under SYSTEM SETUP (page 19).

3.5 Cleansing (Wash)

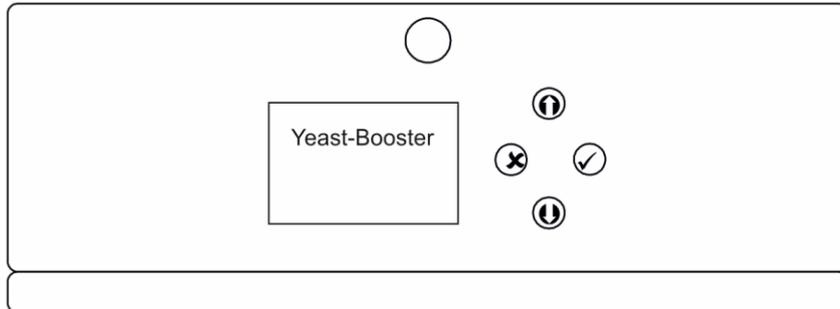
The cleansing cycle takes about 5 minutes and should run **immediately after each use**.

To do this, open the drain valve halfway to allow the Yeast-Booster to continue to pump-in water, and clean the container thoroughly with water all around the inside. To run a more effective cleansing, use warm water (max. 60°C). Continue washing with water until the water leaving the container is clear.

At the end of cleansing, it is recommended to set the Yeast-Booster to „Empty“, in order to flush the hose with clean water as well.

4 Control panel

The Yeast-Booster is controlled with four stainless steel buttons with the following functions:

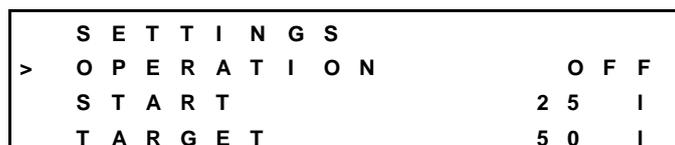


- Taste ☒: CLEAR/EXIT
- Taste ☑: ENTER
- Taste ⬅: SHIFT UP
- Taste ⬇: SHIFT DOWN

After switching on, the system tests itself then displays the message:



To reach the setting menu press ⬇.



To go back to the start menu, use the Exit button ☒ any time.

With the shift button ⬅ and ⬇ you can move the cursor ▶ to any place where you wish to change a setting.

5 Menu navigation

Before starting the Yeast-Booster PRO, you need to set the desired **start** and **target conditions** as well as the **duration time of the fermentation phase**. In this example: 25 start liters at 38,5 °C, 50 target liters at 20 °C, with a 2 hour fermentation duration.

To set the start quantity, move the cursor (▶) by pressing the arrow keys (⬅, ➡) to the menu item START and confirm with Enter (↵).

The digit of the decimal place is underlined.

| | | | |
|---|-------------------|--|--------------|
| | S E T T I N G S | | |
| | O P E R A T I O N | | O F F |
| > | S T A R T | | <u>1</u> 5 I |
| | T A R G E T | | 5 0 I |

Use the arrow keys (⬅) and (➡) to change the decimal digit. Confirm with Enter (↵). The cursor will move to the single digits.

| | | | |
|---|-------------------|--|--------------|
| | S E T T I N G S | | |
| | O P E R A T I O N | | O F F |
| > | S T A R T | | 2 <u>5</u> I |
| | T A R G E T | | 5 0 I |

After setting the start quantity (liters) confirm with Enter (↵) or reject with (⏏).

This method of using the control buttons (⬅, ➡, ⏏ and ↵) repeats itself in all menu phases and settings!

5.1 Timer function (Duration of fermentation)

Press (⏏) until you reach the following display:

| | | | |
|---|-----------------|--|---------------|
| | S E T T I N G S | | |
| > | T I M E R | | 2 : 0 0 : 0 0 |
| | S T A R T | | 3 8 . 5 ° C |
| | T A R G E T | | 2 0 . 0 ° C |

Set the timer for the required work time/duration of fermentation.
Due to the cooling rate, a minimal operation time of 2 hours is recommended.

5.2 Start and target temperature

Press **U** until you reach the following display:

| | | |
|-----------------|---------|-------------|
| S E T T I N G S | | |
| T I M E R | 2 | : 0 0 : 0 0 |
| > S T A R T | 3 8 . 5 | ° C |
| T A R G E T | 2 0 . 0 | ° C |

Now you can set the required start temperature (e.g. 38,5 °C) and the target temperature (e.g. 20,0 °C).

5.3 Emptying

Press Settings/Operation **U** until you reach the following display:

| | | |
|---------------------|-----------|---|
| S E T T I N G S | | |
| O P E R A T I O N > | E M P T Y | |
| S T A R T | 2 5 | L |
| T A R G E T | 5 0 | L |

Press to activate the pump.

5.4 Cleansing

Press Settings/Operation **U** until you reach the following display:

| | | |
|---------------------|-----------|---|
| S E T T I N G S | | |
| O P E R A T I O N > | C L E A N | |
| S T A R T | 2 5 | L |
| T A R G E T | 5 0 | L |

Press to activate the cleansing process.

5.5 Mode

Set the mode of operation of the Yeast-Booster PRO:

| | | |
|-----------------|---------------|---|
| S E T T I N G S | | |
| > M O D E | A U T O | |
| L A N G U A G E | E N G L I S H | |
| C O N T R A S T | 3 5 | % |

MANUAL:

In manual mode, after completion of the filling, heating and fermentation phase, the Yeast-Booster PRO will respond by light signal and display (sound signal as option).

AUTO:

In automatic mode, after completion of the filling phase, the Yeast-Booster PRO switches automatically to the heating phase.

After the completion of the fermentation phase, the Yeast-Booster PRO pumps the yeast mixture automatically into the target tank/must container.

5.6 Emptying of partial quantities

A partial emptying of the yeast mixture for several target tanks is possible (see following setting).

| | | |
|-----------------|-----------|-----------------|
| S E T T I N G S | | |
| M O D E | | M A N U A L |
| > | E M P T Y | C O M P L E T E |
| C O N T R A S T | | 3 5 % |

If you enter 0, the Yeast-Booster will be completely emptied.

5.7 Contrast

The contrast of the display lighting can be set as follows:

| | | |
|-----------------|-----------------|---------------|
| S E T T I N G S | | |
| M O D E | | M A N U A L |
| L A N G U A G E | | E N G L I S H |
| > | C O N T R A S T | 3 5 % |

5.8 Language

The change of language can be set as follows:

| | | |
|-----------------|-----------------|---------------|
| S E T T I N G S | | |
| M O D E | | M A N U A L |
| > | L A N G U A G E | E N G L I S H |
| C O N T R A S T | | 3 5 % |

6 System setup

To reach the SETUP menu, hold down the button  for 3 seconds.

```
Y E A S T - B O O S T E R P R O
```

```
S Y S T E M   S E T U P
> P U M P   I N           5 . 5
  P U M P   O U T        8 . 0
  H E A T I N G          O F F
```

PUMP IN: The pumping capacity of water or must is indicated in liter of water / minute. This value is set in the factory and should only be altered if the local conditions are significantly different.

PUMP OUT: The pumping capacity of activated yeast into the target tank is indicated in liter of water / minute. This value is set in the factory. It should only be altered if the local conditions are significantly different. If, for example, the Yeast-Booster does not empty completely when pumped-out, this value can be decreased. The Yeast-Booster will recalculate with the new value and extend the pumping-out time.

HEATING: Relates to the heating during the fermentation phase. When running a 2-3 hours fermentation process, the heating should be switched off, as the fermenting yeast create heat by themselves. When running a fermentation process over 1-2 days (e.g. fermenting from own yeast strain), keep the Yeast-Booster on a constant temperature by activating the Heating mode.

By pressing  you can reach further basic settings:

```
S Y S T E M   S E T U P
> F E E D           L I N
  V E R S I O N      2 . 2 1 S
  T A R G E T        - 0 M I N
```

FEED: Relates to the nutrition supply and should not be changed for standard rehydration process.

VERSION: Firmware – Version Number

TARGET: Here you can set (0 - 30 minutes) how many minutes before end of fermentation phase the target temperature should be reached.

Example:

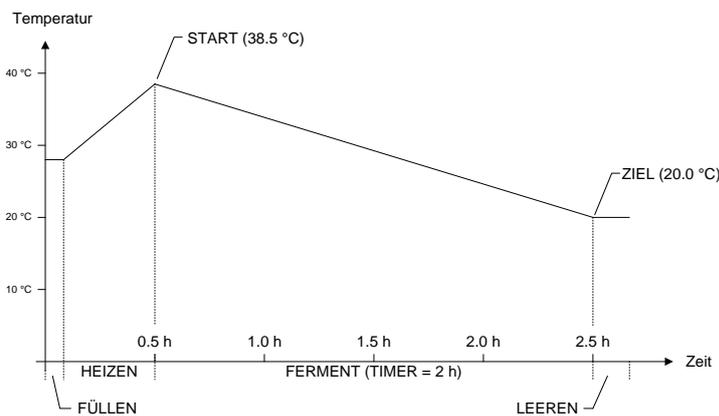
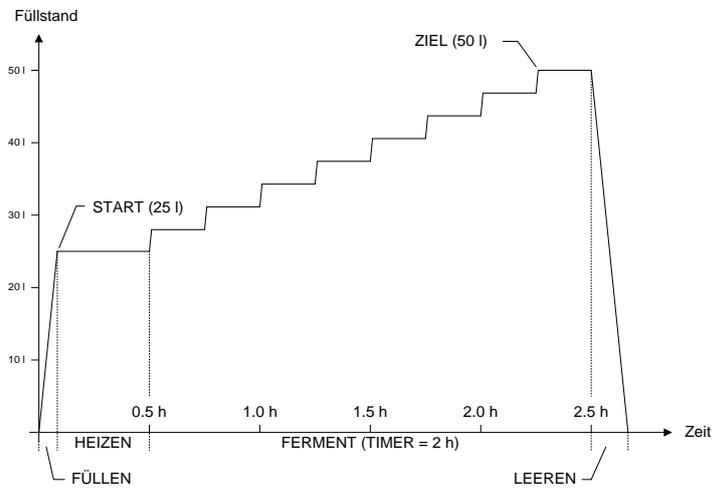
You wish to activate 1 kg dry yeast:

Start quantity: 10 Liter (1 Liter per 100 g yeast).
Target quantity: 20 Liter (doubling) by 2 hours of fermentation
Start temperature: 38,5 °C
Target temperature: 18,5 °C
Timer: 2 hours
Target: - 15 MIN

The target temperature of 18,5 °C is already reached after 1 hour and 45 minutes. The yeast mixture now has another 15 minutes to get used to the temperature of target tank.

7 Time diagrams

The diagrams shows the fill-amount and the optimal temperature curve of the presented example values.



8 Technical characteristics

Weight: 68 kg

Measurements: l = 125 cm
w = 70 cm
h = 60 cm

Container volume: 110 l

Heating capacity : P = 1500 W

Cooling jacket: operating pressure $P_{\max} = 2 \text{ Bar}$

Maximal medium temperature: $t_{\max} = 60 \text{ °C}$



Attention: Do not touch, danger of electrocution. Electric power inside the control cabinet. Before opening be sure to disconnect the unit from the electrical network by pulling the plug from the socket.

9 Maintenance

By daily use, cleansing with warm water (max. 60°C) is sufficient.

Cleansing should be done immediately after each use!

If the Yeast-Booster PRO is in seasonal use, a cleansing based on **caustic soda solution (not more than 0,5%)** before and after the season is recommended.

Additionally, please clean the front filter and fine filter before storage for longer periods of time.

10 Scope of delivery

Yeast-Booster Pro 2.2

Cover

6,25 m woven tube with pre-filter

2 hanging hooks

Keys for the control cabinet

Hand-mixer

User manual

Optional:

Bottom hole grille (tank outlet)

11 Repair and guarantee

WTG-Quantor GmbH gives a 12-month guarantee on spare parts and repair works from order date on.

The guarantee is valid for units, which were used correctly in the manner described and implied by this manual. Damages by misuse (e.g. exceedingly high medium temperature, use of aggressive cleaning materials etc.) will result be the guarantee being revoked. The guarantee will be revoked, if repairs or changes are made to the unit by unauthorized personnel.

Please present your purchase invoice with date of purchase when claiming repair under guarantee.

