



# OWNER'S MANUAL

Version 2.0 | 10/06/2026  
66FBX-MAN-EN

## GLASS BEAD FILTRATION SYSTEM





## Introduction

Thank you for choosing the glass bead filter from CDL Maple Sugaring Equipment. We are proud to offer you high-quality products designed to meet the demanding needs of the maple sugaring industry. This user manual has been created to help you get the most out of your equipment by providing clear and detailed instructions for installation, operation, and storage.

## Models and Specifications

Stock Code	66FB83	66FB167
Capacity	83 GPM	167 GPM
Height (In)	30.687	41.850
Diameter (In)	27.717	39.528
Volume (imp. Gal.)	77	172
Volume (Liters)	350	782
Filtration surface (In <sup>2</sup> )	542.5	1209
Ferrule size (In)	2	2.5
Operating pressure	30 PSI	30 PSI
Design pressure	40 PSI	40 PSI
Required Media	MEDIA BEAD BAG 0.5 TO 0.8 MM 25 KG #66FBS25	MEDIA BEAD BAG 0.5 TO 0.8 MM 25 KG #66FBS25
Glass Beads Qty (kg)	200	400
Number of Bags (Units)	8	16
Target washing flow rate	43 GPM	69 GPM

## Components

### Included components

- 1 stainless steel filter
- 1 strainer with internal plumbing
- 1 lid with bolts and gasket
- 1 inlet and 1 outlet
- 1 drain outlet

### Components not included and configurable

- Glass beads
- Sight Glass
- Stainless steel "T" ferrule
- Manual valves or automatic valves
- 0–100 psi pressure gauge
- Manual air vent or automatic air vent
- Manual drain valve
- Double cart with complete external stainless steel plumbing
- Feed pump
- pH papers 10–13
- Replacement lid gasket

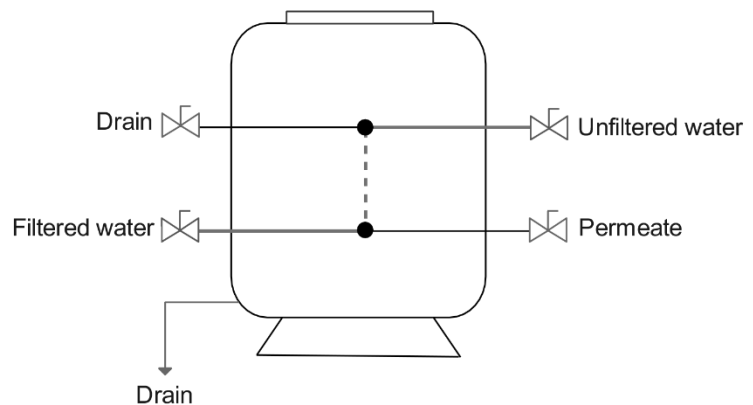
## Installation

1. **Position** the filter in the desired location, on a stable and accessible surface for maintenance.
2. **Connect the plumbing** according to the provided diagrams. A minimum of **four butterfly valves** per filter is required.
  - Install the pressure gauge (included) on the top lid of the filter.
3. **Add the filter media** (recommended reference: **CDL 66FBS25**) through the top lid opening, then securely close the lid.
 

*Note: The beads have a lifespan of 3 to 5 years, depending on usage.*
4. **Rinse the system** for 5 to 10 minutes.
  - To do this, set the valves to **"Filtration"** mode and circulate permeate through the filter.
5. Once rinsing is complete, **the filter is ready for use.**

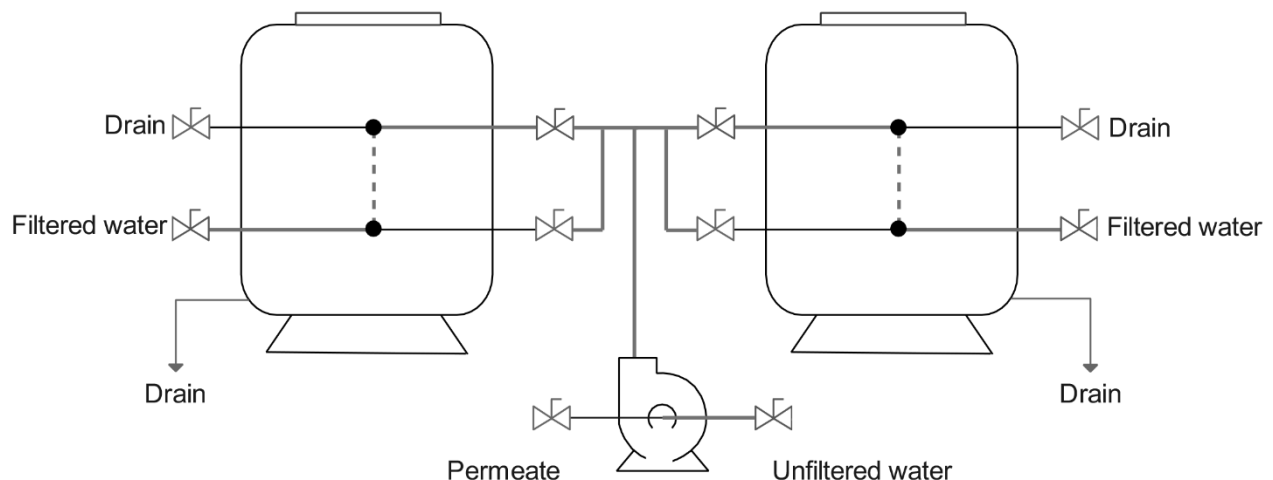
### Diagram 1

Installation of a single filter



### Diagram 2

Installation of double filters



## Operation

**Rinsing indicator:** If the pressure inside the filter increases by 5 psi, it is time to perform a rinse.

- **Valve positioning:** Position the valves to allow permeate to enter. Open the drain valve. Set the valves to backwash position to rinse the filter. Close the maple sap inlet and outlet valves.
- **Action:** Circulate cold permeate at the target wash flow rate for 5 to 10 minutes, until the water coming out of the drain is clear.

### Optional Desugaring

Before rinsing, it is possible to recover the remaining sweet sap in the filter.

To do so, circulate the permeate through the maple sap inlet valve (top) and collect the sugar via the filtered sap outlet valve (bottom).

### Notes:

- Always stop the pump between each change of operating mode (filtration ↔ backwash).
- Rinse the filter regularly to maintain optimal performance.



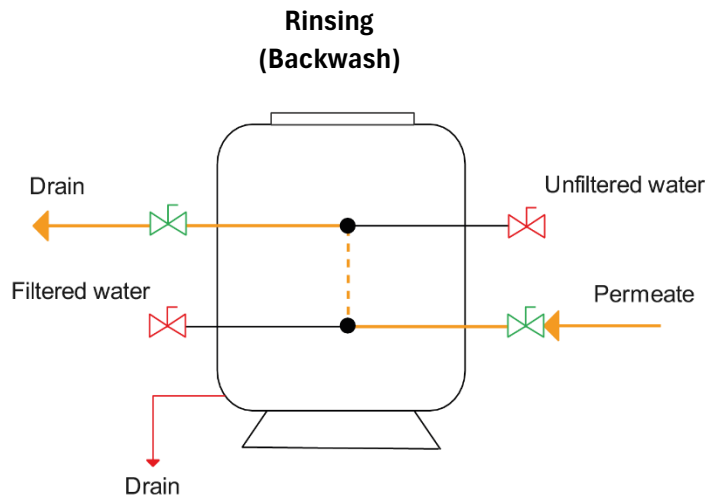
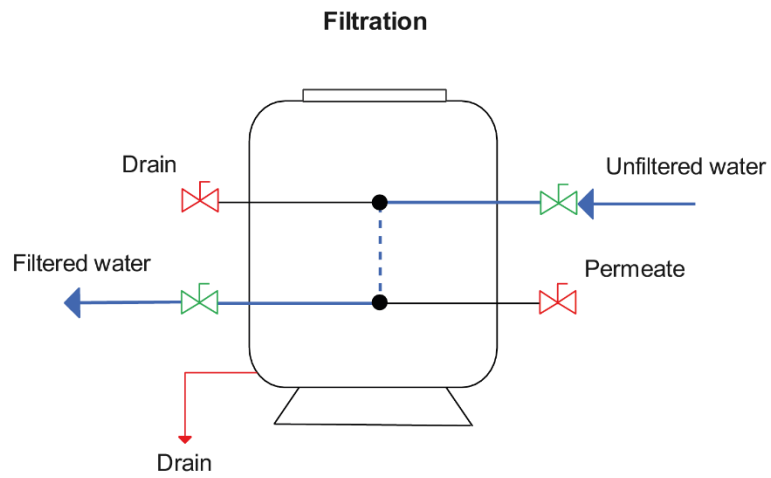
**Maximum operating pressure: 30 PSI.**

Never operate a single filter on a double filter setup. The pump may generate pressure exceeding the maximum limit.

Always operate the filters in parallel to ensure safe and optimal performance.

## Filtration and rinsing of a single filter

Refer to the valve positions for each operation sequence.

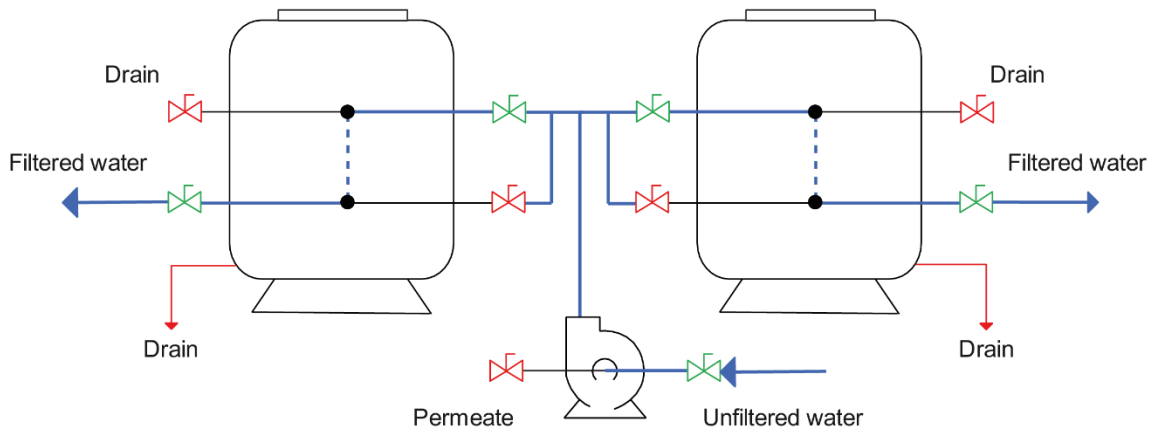


Legend:  
Open  
Closed

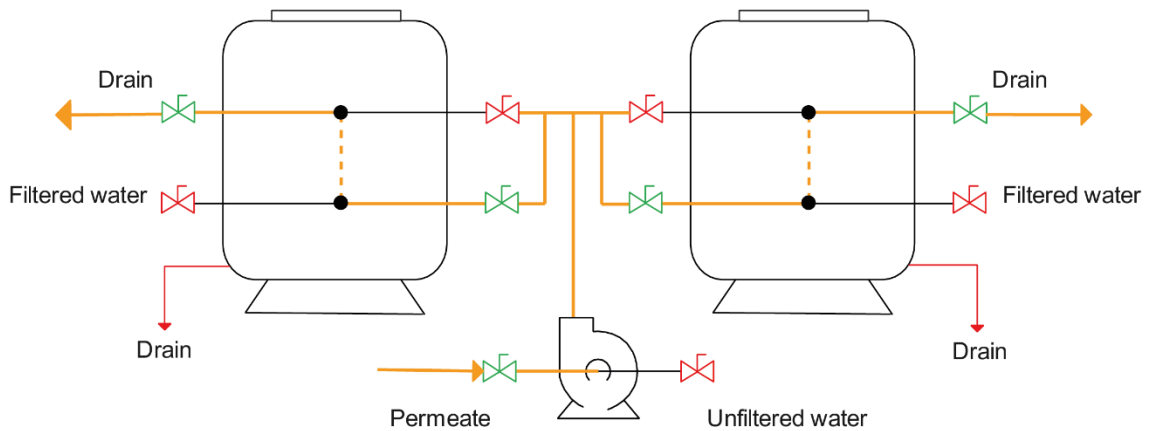
## Filtration and rinsing of double filters

Refer to the valve positions for each operation sequence.

**Filtration**



**Rinsing  
(Backwash)**



Legend:  
 Open  
 Closed

## Storage

### Storage Cleaning Procedure from a Tank

#### Step 1: Preparing the Soap Solution (CDL Superflow Soap)

Prepare the soap solution in the tank according to the following volumes:

- **Model #66FB83:** Prepare the solution in 350 L (92 US gal) of water/permeate.
- **Model #66FB167:** Prepare the solution in 782 L (92 US gal) of water/permeate.

**Soap proportions:** Unlike acid, the amount of soap to use is measured by pH. There is no fixed volumetric dosage. Gradually add soap to the tank until a pH between 10 and 12 is reached.

#### Step 2: Soap Circulation

- **Valve positioning:** Position the valves, inlet and outlet, to recirculate in a closed loop from the tank containing the soap solution.
- **Action:** Recirculate for 20 to 30 minutes at a maximum temperature of 60°C.

#### Step 3: Intermediate Rinse

- **Valve positioning:** Set the valves to backwash position to rinse: close the inlet and outlet valves, then open the permeate and drain valves.
- **Action:** Rinse with potable water until chemical neutrality is reached, pH 7.

#### Step 4: Acid Wash (CDL Citric Acid)

Dosages, based on 250 ml per 100 L:

- **Model #66FB83 (350 L):** Mix 875 ml of citric powder in the tank.
- **Model #66FB167 (782 L):** Mix 1,955 ml, or 1.95 L, of citric powder in the tank.
- **Valve positioning:** Position the valves, inlet and outlet, to recirculate in a closed loop from the tank containing the acid solution.
- **Action:** Recirculate at a flow rate of 43 GPM for model #66FB83 and 69 GPM for model #66FB167, at a maximum temperature of 25°C, for 20 to 30 minutes.

#### Step 5: Intermediate Rinse

- **Valve positioning:** Set the valves to backwash position to rinse: close the inlet and outlet valves, then open the permeate and drain valves.
- **Action:** Rinse with potable water to completely purge the acid solution from the filter.

**Step 6: Sanitizing Wash / Sanitizer (CDL Peracetic Cleaner)**

Dosages, based on 700 ml per 100 L:

- **Model #66FB83 (350 L):** Mix 2,450 ml, or 2.45 L, of peracetic cleaner in the tank.
- **Model #66FB167 (782 L):** Mix 5,474 ml, or 5.47 L, of peracetic cleaner in the tank.
- **Valve positioning:** Position the valves to recirculate in a closed loop from the tank.
- **Action:** Recirculate at a maximum temperature of 25°C.

**Step 7: Final Rinse**

- **Valve positioning:** Set the valves to backwash position to rinse: close the inlet and outlet valves, then open the permeate valve and drain.
- **Action:** Rinse thoroughly with potable water.

**Step 8: Draining and Storage**

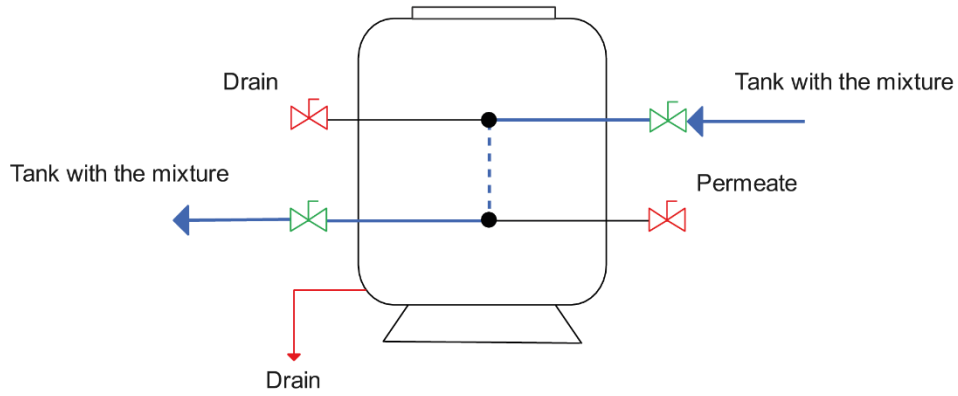
- **Draining:** At the end of the cleaning process, completely drain the filter using the drain located at the bottom of the filter.

**Storage:** Open all valves for storage.

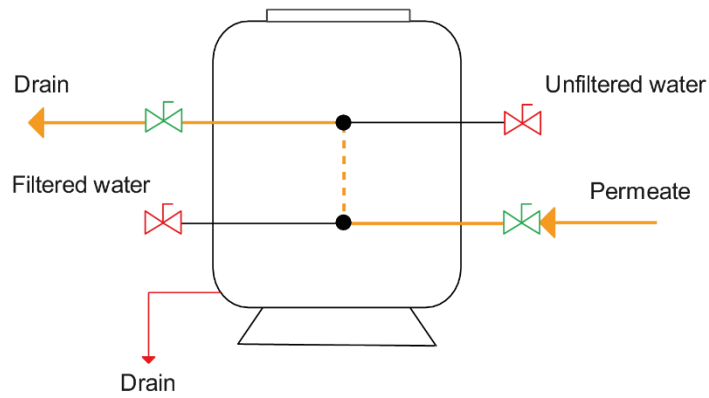
## Valve Positioning of a Single Filter for Storage

### End of season storage

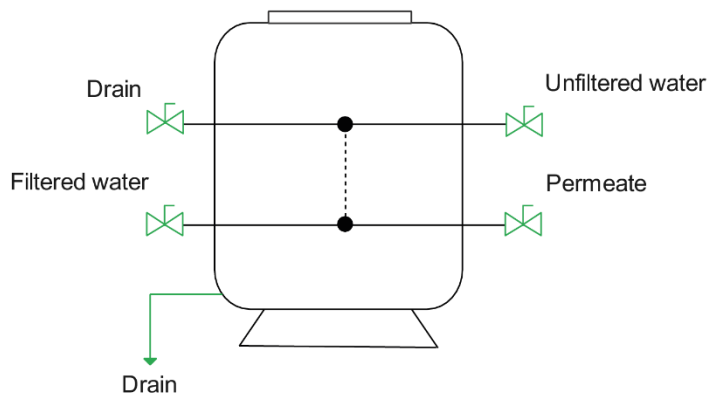
#### 1. Circulation of the soap or acid mixture



#### 2. Rinses



#### 3. Storage

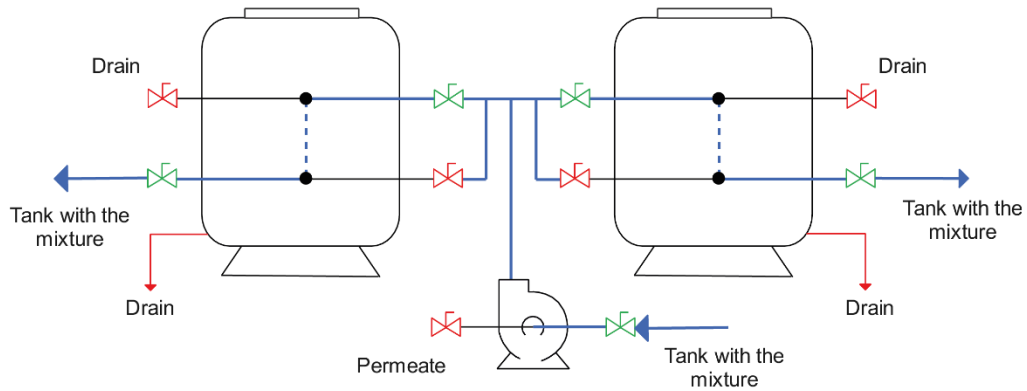


Legend:  
Open  
Closed

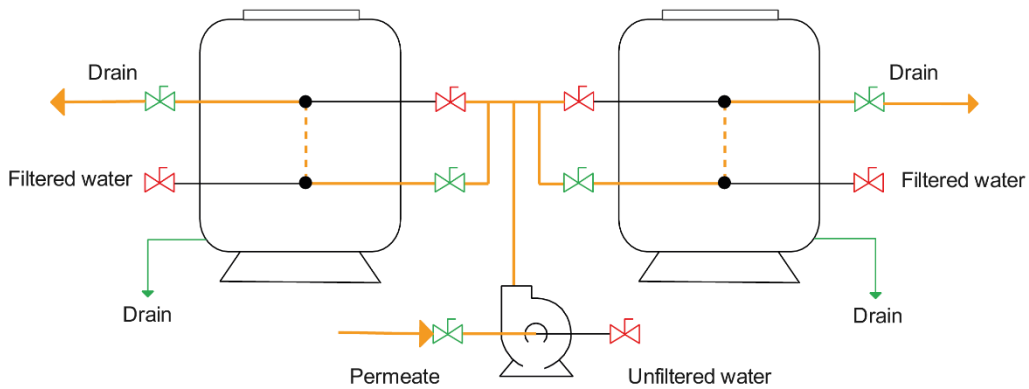
## Valve Positioning of Double Filters for Storage

### End of season storage

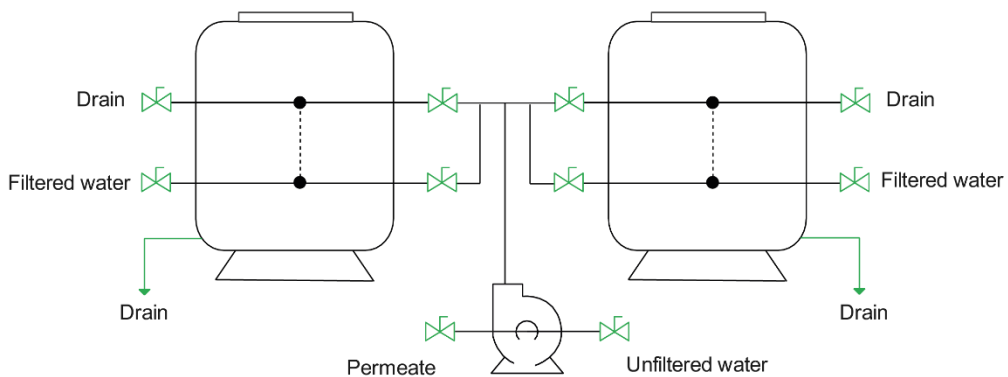
#### 1. Circulation of the soap or acid mixture



#### 2. Rinses



#### 3. Storage



Legend:  
 Open  
 Closed

## Warranty

This CDL glass bead filter is offered with a 2-year (two consecutive sugaring seasons) limited warranty against any manufacturing defects at a service center. Breakages related to frost, wear, abuse, poor maintenance or abnormal use are not covered.

This warranty covers only this equipment. CDL isn't responsible for product lost and any other damages that may result from the use of this product. This warranty will not cover products whose installations do not comply with the installation instructions in the CDL manual and whose use has been made under abnormal mechanical or environmental conditions.

Parts found to be defective are subject to inspection by CDL which will confirm or deny that said product is subject to a manufacturing defect. If so, the product will be replaced or repaired at CDL's sole discretion.

### Transport Costs

Transport costs and all other freight charges associated with replacing or repairing products shipped to CDL's factory must be prepaid by customer.

For technical assistance or support, contact your CDL representative, your local CDL store, or the CDL technical support team.

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