



# PFBC Pneumatic Bag Cart

Flow rate available from 3.4 GPM to 49 GPM

## OPERATORS MANUAL

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## 1. GENERAL INFORMATION

The System is designed to filter ISO Propanol 100 cleanliness specifications. The system is designed to remove particulate contamination from a wide variety of fluids, and it is typically equipped with 1 $\mu$ m Polypropylene Filter Bag.

The fluid is drawn from an existing reservoir to the filtration system by means of a self-priming pneumatic pump. The fluid passes through the filter bag housing before exiting through the pump outlet, at which point it is pumped back to the existing reservoir.



## 2. STANDARD FEATURES

Features	Advantages	Results
<b>Bag Filtration</b>	Oil Quality	<ul style="list-style-type: none"><li>• Hit Target ISO Codes Faster</li></ul>
<b>Pneumatic Pump</b>	No Need to Prime System	<ul style="list-style-type: none"><li>• Less Operator Labor</li><li>• No additional equipment required</li></ul>
<b>Regulator</b>	Variable Flow	<ul style="list-style-type: none"><li>• Easily adjust flow rate to your application</li></ul>
<b>Stainless Steel Components</b>	Fluid Compatibility	<ul style="list-style-type: none"><li>• More applications</li></ul>





## 3. MODEL CODE

Model Number: PFBC50-3.4-**-B-PP-X100-DP-H		
Classification	Code	Description
Product Type	LCFC	Liquid Cartridge Filter Cart
Connection Size	50	0.50" FPT (Inlet and Outlet)
Flow Rate	3.4 - 49	3.4 to 49 Gallons Per Minute (Variable Flow)
Element Style	**	Micron Rating
Seal Material	B	Buna-N
Material	PP	Polypropylene
Housing Style	X100	X100 Bag Style Housing
Gauge	DP	Differential Pressure Gauge
Hose	H	Hose



## 4. SPECIFICATION SHEET

Installation Requirements	
Air Supply	1/4"
Inlet Connection Size	1/2" FPT
Outlet Connection Size	1/2" FPT
Electrical Operating Specifications	
Air Supply Pressure	20-100 PSI (1.4-7 kgf/cm <sup>2</sup> )
Mechanical Operating Specifications	
Flow Rate	3.4 to 49 GPM
Discharge Volume Per Cycle	0.0078 gallons (29cc)
Maximum Cycles Per Minute	400
Maximum Dry Suction Lift	5 ft.

Product Restrictions
<b>IMPORTANT:</b> This system should never be used to remove particulates from volatile fluids such as gasoline since the pump cannot be used for solvents with low lubricity. In addition, the unit should not be used on liquids with a flash point below 200°F (93°C).



## 5. ENGINEERING PRODUCT WARRANTY

For a period of one (1) year from the date of delivery, Precision Filtration Products (Seller) engineered products are warranted to be free from defects in materials and workmanship when properly installed, maintained, or operated within the specific working parameters for which the equipment was designed. If the engineered product does not perform as warranted, it will be repaired or replaced at the Seller's discretion. The Seller will provide parts and labor, free of charge if the defect had occurred within the first year.

This warranty does not apply to consumable components such as filter elements, light bulbs, etc. This warranty shall not apply to product altered by anyone other than Seller or their representative.

At the Purchaser's option, the defect may be handled by one of the following methods:

- Ship (freight pre-paid) the unit in its entirety to Seller for repair or replacement.
- Remove the defective component and ship (freight pre-paid) to Seller for inspection and test. Upon completion of the evaluation typically fourteen (14) business days, Seller will notify Purchaser if the claim is warranty related. If the claim is valid, a replacement component will be immediately shipped. If the claim is found to be due to improper installation, maintenance, or operation, a Purchase order will be required for the replacement component.
- Remove defective component and ship (freight pre-paid) to Seller with an open Purchase Order. Seller will immediately ship a replacement component and begin evaluation concurrently. Upon completion of the evaluation, typically fourteen (14) business days, Seller will notify Purchaser if the claim is warranty related. If the claim is valid, the open Purchase Order will be returned without any charges. If the claim is found to be due to improper installation, maintenance, or operation, the open Purchase Order will be invoiced for the amount of the replacement component.

**SELLER SHALL NOT BE RESPONSIBLE OR LIABLE FOR DOWNTIME, LOSS OF INCOME, LIVING EXPENSES, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY ARISE OUT OF THE USE OF THIS PROPERTY. THIS WARRANTY IS THE SOLE WARRANTY MADE BY PRECISION FILTRATION PRODUCTS IN REGARDS TO THIS EQUIPMENT. PRECISION FILTRATION PRODUCTS MAKES NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**





## 6. SAFETY INSTRUCTIONS

This system has been examined and tested for safety. If there is any possibility that the oil being purified is contaminated with a solvent or materials which could be considered hazardous, either with toxicant or flammable explosives, the purifier should not be used unless precautions are taken to vent the vapors in a safe manner according to local, state, and federal codes and the flash point is above 200°F (93°C). This caution is necessary to prevent the possibility of fire, explosion, or toxic injury to persons and property.

**NOTE: Normal safety practices and common sense should always be exercised when operating this unit.**

\*Supplied air to the unit should be disconnected before the housing head is removed. Only authorized and trained personnel should attempt service.

## 7. FLUID COMPATIBILITY

**Depending on the model number, the following seals apply:**

The process fluid must be compatible with Viton seal material. Viton is good in the temperature range of -15°F to +400°F. It is generally recommended for lubricating, fuel, and hydraulic oils. The unit may be ordered with other seals to provide compatibility with specialty fluids.

The process fluid must be compatible with Buna seal material. Buna-N is generally recommended for petroleum, water, diesel, and water glycol. This unit may be ordered with other seals to provide compatibility with specialty fluids. Buna-N is good in the temperature range of -65°F to +250°F.





## 8. INSTALLATION AND START-UP PROCEDURES

### 8.1 Unpacking

This system is delivered with maximum protection during transportation and handling.

**NOTE: All damage attributed to the handling and deliver of the unit must be recorded and brought to the attention of the shipper immediately.**

This unit has been thoroughly tested for a minimum of one (2) hours run time. The unit was tested with H<sub>2</sub>O. It is recommended that you flush the unit with the application fluid prior to operation. The unit has been thoroughly inspected for defects prior to the delivery. All connections, however, should be checked prior to operating this unit, as vibration and/or rough handling during delivery could adversely affect component alignment and/or connection tightness.

### 8.2 Mechanical Installation

With the system in place, connect the inlet and outlet hoses from the reservoir to the system. The inlet port has been sized to provide enough flow to operate the unit efficiently. A hose diameter equal to inlet/outlet port size (see specification sheet) is required to provide adequate oil supply to this unit.

**NOTE:** Use of a smaller diameter line will restrict the flow and will adversely effect the automatic operation of the unit.

The inlet/outlet connections have been sized for maximum hose lengths. Use of longer hose lengths must be approved prior to installation. Use of a "quick disconnect" on the inlet line is not recommended. This can restrict flow to the unit in specific applications. Fluid is drawn into the unit by vacuum created by the PFBC Unit. For applications that exceed normal operating conditions, please consult the factory.

## 8.3 Operating Instructions

It is preferred and recommended that fluid be added to the system while the unit is off and the system is purged, depressurized, and safe for atmospheric contact. For this case, follow the manufacturer's instructions below:

1. Connect inlet and outlet hoses to the fluid supply reservoir and system. Close all drain valves and open the inlet & outlet valves on the filtration system and the fluid supply reservoir.
2. First turn connect air line supply to the regulator. Set regulator to the desired pressure rating.
3. Once desired pressure is set, slowly open the valve until it is completely open and flow is established. Allow system to operate until desired fluid level is reached.
4. Pressure gauges on the system indicates the filter life. The filter bag should be changed when the gauge reaches the indicated rating. If the gauges reaches the red, the filter is in by-pass.
5. To shut down the system, turn the valve handle so that it is perpendicular to the tubing, and disconnect the air supply line.





## Gasket Installation:

1. Clean the gasket groove
2. Slip the gasket over the filter and into the groove.
3. Make sure the gasket is not twisted and the bevelled edges are facing out.
4. Apply a small amount of sanitary O-ring lubricant to the outside of the gasket.
5. Use only FSI replacement gaskets.

Refer to figure 2 (see warning).

## Opening and Closing the Filter:

Opening -

1. Turn off and lock out pump
2. Turn off inlet shutoff valve
3. Turn off outlet shutoff valve
4. Drain filter (vent valve may have to be cracked open)
5. Filter should have no internal pressure
6. Check pressure gauge for zero PSI
7. Remove lid manually by turning counterclockwise (a gentle tape against the handle may be necessary, if the lid was over tightened)
8. Remove filter bag or cartridge with caution. Insert a new filter bag or cartridge.

NOTE: The recommended differential pressure across a filter element before changing is: 10-15 PSI for bag filters, and 10-15 PSI for cartridges.

Closing -

1. Lubricate the gasket with a small amount of sanitary O-ring lubricant.
2. Turn the lid clockwise until it bottoms out. STOP: Additional force will not enhance the seal; it may cause the threads to stick.
3. Before opening the inlet valve, close the drain valve and vent valve.

Refer to figure 3.

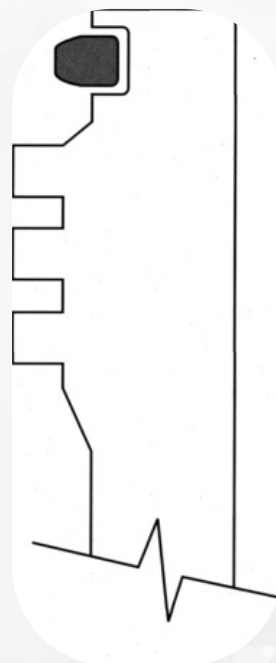


Figure 2

### Warning

Vent valve exhaust can be dangerous - direct exhaust to a safe place. Do not open vessel under pressure; escaping fluid under pressure can cause serious injury. Gasket can fail, causing serious injury. Gasket material must be chemically and temperature compatible with the fluid being filtered.

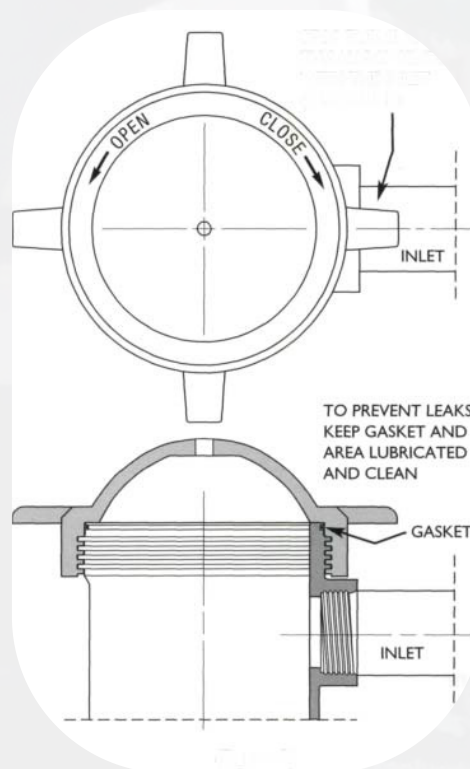


Figure 3

\*Gasket seals on the sides. Tightening beyond the inlet center line WILL NOT increase sealability.



## Converting from a cartridge filter to a bag filter:

1. Clean the inside of the filter housing. Do not scratch the molded interior surface.
2. Pull out the cartridge conversion plate.
3. Drop the basket in.

Refer to figure 4.

## Converting from a bag filter to a cartridge filter:

1. Remove the basket.
2. Clean the inside of the filter housing.
3. Do not scratch the molded interior surface.
4. Lubricate the cartridge conversion plate with a small amount of sanitary O-ring lubricant.
5. Slide the plate into the housing with the boss facing down. Push the plate firmly against the support ribs.

Refer to figure 5.

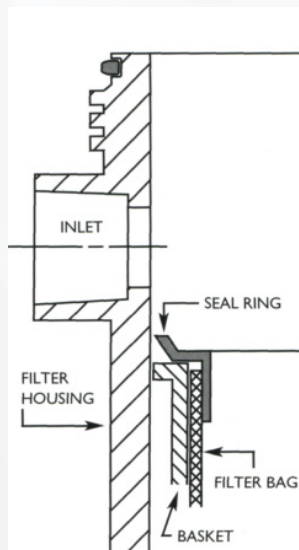


Figure 4

Insert filter bag into the basket. Make sure the bag seal ring bottoms out against the basket shoulder. The ring seals against the filter wall.

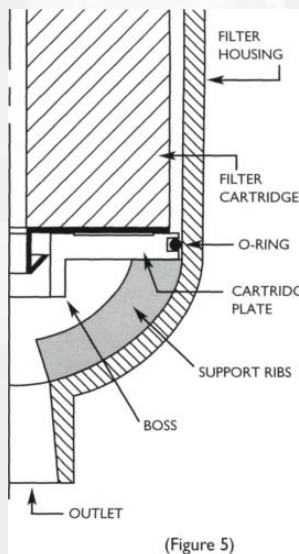


Figure 5

Insert the self-centering filter cartridge. Stop when it bottoms out on the cartridge plate.



## 9. TROUBLESHOOTING

Problem	Cause	Solution
Unit fails to start when valve is opened	<ul style="list-style-type: none"><li>Improper air pressure</li></ul>	<ul style="list-style-type: none"><li>Adjust regulator to pressure</li><li>Check pressure at the source</li><li>Check to make sure valve is open</li></ul>
Unit fails to pump fluid	<ul style="list-style-type: none"><li>Inlet valve is partially or fully closed</li></ul>	<ul style="list-style-type: none"><li>Position inlet valve to full open</li><li>Valve should be "full port" type valve to reduce restrictions and should be sized as large as the inlet hose</li></ul>
	<ul style="list-style-type: none"><li>Air leak on inlet supply line</li></ul>	<ul style="list-style-type: none"><li>Check all fittings to ensure no air leaks exist</li></ul>
	<ul style="list-style-type: none"><li>Strainer screen blocked</li></ul>	<ul style="list-style-type: none"><li>Remove encasement housing from strainer assembly. Remove screen and clean with clean lint free rag or blow with air</li></ul>
	<ul style="list-style-type: none"><li>Outlet valve partially or fully closed</li></ul>	<ul style="list-style-type: none"><li>Ensure that outlet valves on both filtration system and reservoir are fully open</li></ul>
Unit pump making excessive noise	<ul style="list-style-type: none"><li>Inlet valves partially or fully closed</li></ul>	<ul style="list-style-type: none"><li>Ensure that all inlet valves on system and reservoir are fully open</li></ul>
	<ul style="list-style-type: none"><li>Strainer obstructed</li></ul>	<ul style="list-style-type: none"><li>Remove and clean screen with air</li></ul>
	<ul style="list-style-type: none"><li>Inlet hose sized incorrectly</li></ul>	<ul style="list-style-type: none"><li>Inlet hose should be sized to match system inlet diameter with a maximum length of 20'. In the event that a longer inlet hose is needed a larger diameter should be used to ensure proper supply to the system</li></ul>

## 10. SYSTEM COMPONENTS

