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Pentek BBF1-20MB

Pentair Pentek BBF1-20MB Big Blue Deionization Water Filter User Manual

Model: BBF1-20MB

Introduction

The Pentair Pentek BBF1-20MB is a high-capacity Big Blue deionization cartridge designed for applications requiring ultra-pure water. This 20" x 4.5" cartridge utilizes semiconductor-grade mixed bed DI resin to reduce dissolved ions, achieving water resistivity up to 16 megohm. It is suitable for pharmaceutical labs, medical facilities, cosmetics production, and electronics manufacturing. With an 1,850 grain capacity, it offers extended service life. The cartridge features a polypropylene shell, endcaps, and integrated pre/post-filters for durability and chemical compatibility. Buna-N gaskets ensure a secure seal in standard 20" Big Blue housings. It operates with a suggested flow rate of 1.25 gpm and a minimal 1.1 psi pressure drop, maintaining consistent output quality within operating temperatures of 40-100 degrees F (4.4-37.8 degrees C). Applications include boiler makeup, cooling towers, humidification systems, laser equipment, and steam applications.




PENTAIR
PENTEK®
BBF1-20MB
Mixed Bed Deionization Resin
Filter Cartridge
RATING:
30 micron (nominal)
TEMPERATURE RANGE:
40-100°F (4.4-51-7°C)
RECOMMENDED FLOW RATE:
1.25 gpm (4.73 Lpm)
CAPACITY (GRAINS):
1,850
INSTALL THIS END UP
Fits Pentair® Pentek® Big Blue®, 3M/Cuno®, Culligan®, Filterite®, Harmsco®, Keystone Filter™, Watts® and most heavy duty filter housings. All registered and unregistered trademarks are the property of their respective owners.
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Made in China SH147720 REV C NV13



Image: The Pentair Pentek BBF1-20MB Big Blue Deionization Water Filter cartridge.

Safety Information

Important Safety Precautions:

- Always turn off the main water supply and relieve system pressure before installing or replacing the filter cartridge.
- Ensure all connections are secure to prevent leaks.
- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection during installation and maintenance.
- Dispose of used cartridges according to local regulations.

Setup

Pre-Installation Checks

- Verify that you have the correct filter housing compatible with 20" x 4.5" cartridges (e.g., 20" Big Blue housing).
- Inspect the filter cartridge for any visible damage.
- Ensure all necessary tools (housing wrench, bucket, new O-rings if needed) are available.



Image: The Pentair Pentek BBF1-20MB deionization filter cartridge, ready for installation.

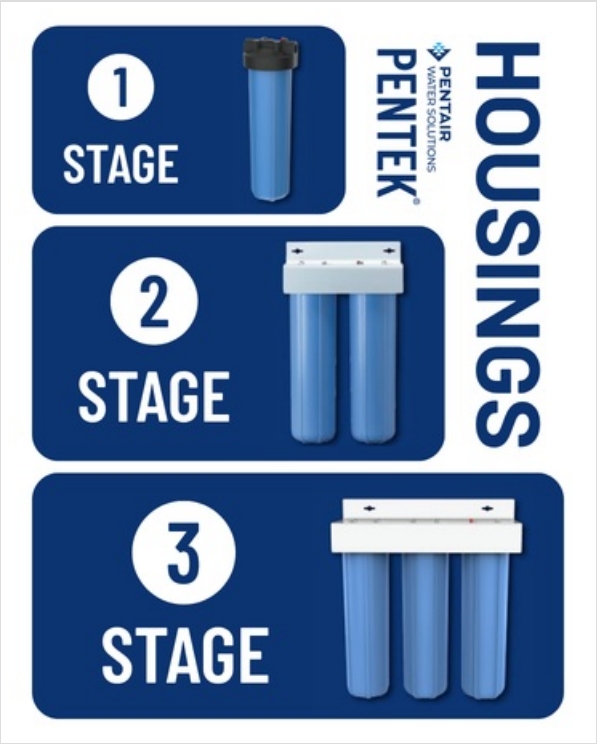


Image: Illustration of various Pentek filter housings, demonstrating compatibility with 20" Big Blue systems.

Installation Steps

1. Turn off the main water supply to the filter system.
2. Relieve pressure from the system by opening a nearby faucet or pressing the pressure relief button on the housing (if available).
3. Using a housing wrench, unscrew the filter housing sump. Place a bucket underneath to catch any residual water.
4. Remove the old filter cartridge and discard it properly.
5. Clean the filter housing sump and inspect the O-ring. Replace the O-ring if it is damaged or stretched, and lubricate it with a silicone lubricant.
6. Insert the new Pentair Pentek BBF1-20MB deionization cartridge into the housing, ensuring it seats correctly.
7. Screw the housing sump back onto the cap, hand-tightening it first, then using the wrench for a snug fit (do not overtighten).
8. Slowly turn on the main water supply, allowing the housing to fill. Check for leaks.
9. Flush the system by running water through a nearby faucet for several minutes to remove any air or loose resin particles.

Operating

The Pentair Pentek BBF1-20MB deionization filter operates by passing water through a mixed bed of semiconductor-grade ion exchange resins. These resins remove dissolved mineral salts and other ionized impurities, producing ultra-pure water with resistivity up to 16 megohm.

- **Flow Rate:** The suggested flow rate for optimal performance is 1.25 gallons per minute (gpm).
- **Pressure Drop:** The cartridge is designed for a minimal pressure drop of 1.1 psi at the suggested flow rate.
- **Operating Temperature:** The filter is effective within a temperature range of 40-100 degrees F (4.4-37.8 degrees C).
- **Water Quality:** This filter is specifically designed for deionization, producing high-purity water.

Maintenance

Filter Cartridge Replacement

The BBF1-20MB cartridge has an 1,850 grain capacity. The actual service life will vary depending on the influent water quality and usage. Replace the cartridge when the water quality deteriorates (e.g., increased conductivity or total dissolved solids) or when the rated capacity is reached.

Refer to the "Installation Steps" in the Setup section for detailed instructions on replacing the filter cartridge. The process is similar to initial installation.

Your browser does not support the video tag.

Video: This video demonstrates the general process of replacing a whole house water filter cartridge, which is applicable to the Pentair Pentek BBF1-20MB.

Housing Cleaning

During cartridge replacement, it is recommended to clean the inside of the filter housing sump with warm, soapy water and a non-abrasive brush. Rinse thoroughly with clean water before reassembling. Inspect and replace the O-ring as needed to ensure a watertight seal.

Troubleshooting

Problem	Possible Cause	Solution
Low Water Flow	Clogged filter cartridge; Air in the system; Partially closed shut-off valve.	Replace the filter cartridge; Bleed air from the system by opening a faucet; Ensure all valves are fully open.
Poor Water Quality (e.g., high TDS, low resistivity)	Exhausted deionization resin; Improper cartridge seating; Bypass valve open.	Replace the filter cartridge; Reinstall cartridge ensuring proper seating; Close any bypass valves.
Water Leakage	Loose housing sump; Damaged or improperly seated O-ring; Cracked housing.	Tighten housing sump; Inspect and replace O-ring, apply silicone lubricant; Replace damaged housing.

Specifications

Feature	Detail
Model Number	BBF1-20MB
Manufacturer Part Number	155281-44
Dimensions (D x W x H)	5"D x 5"W x 21.18"H
Item Weight	8.3 pounds
Material	Polypropylene (PP)
Filter Media	Semiconductor-Grade Mixed Bed DI Resin
Capacity	1,850 grains
Resistivity Output	Up to 16 Megohm

Feature	Detail
Suggested Flow Rate	1.25 gpm
Minimal Pressure Drop	1.1 psi
Operating Temperature	40-100°F (4.4-37.8°C)
External Testing Certification	FDA
Manufacturer	Pentair Industries
UPC	051678281031

Warranty and Support

For warranty information and technical support, please contact Pentair customer service. Details regarding specific warranty terms and conditions are typically provided with the product packaging or can be found on the official Pentair website.

Contact Information:

- Visit the official Pentek Store on Amazon for product information.
- Refer to the manufacturer's website for the most current support and warranty details.

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