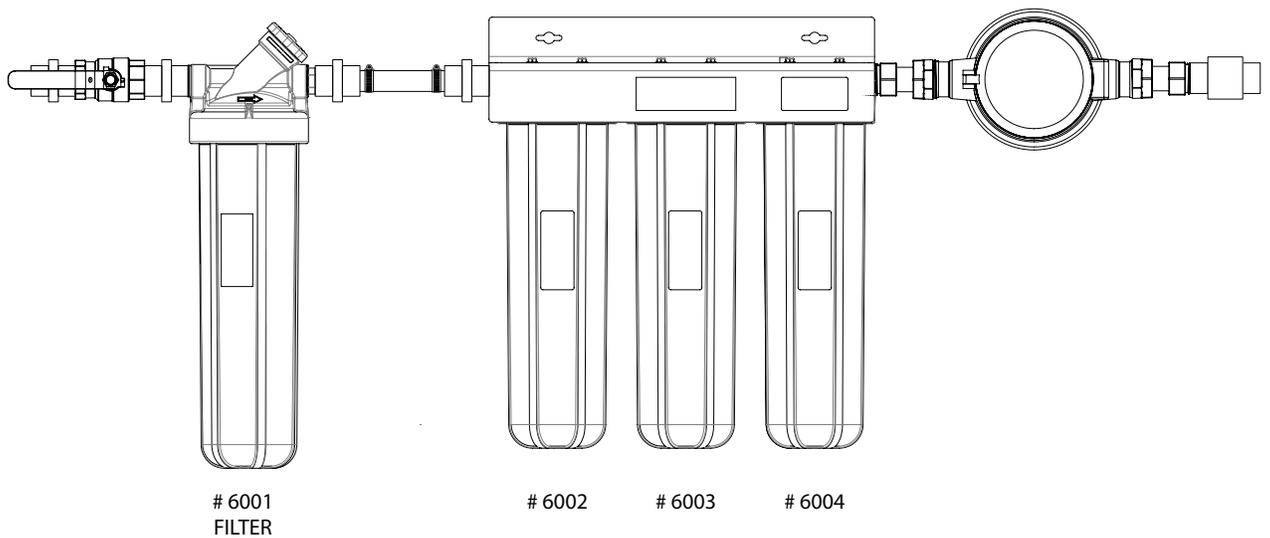




## INSTALLATION AND OPERATING INSTRUCTION MANUAL



System tested and certified to meet the requirements of NSF Protocol P231 and NSF/ANSI Standards 42 & 53.





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## WARRANTY

### ONE YEAR LIMITED WARRANTY ON MICROBIOLOGICAL DRINKING WATER PURIFIER

Warrantor: B. David Company, 9333 Sheridan Ave. S., Bloomington, MN 55431

B. David Company warrants to the original owner (under normal use): all products and parts to be free from defects in material and workmanship for a period of one (1) year from the date of purchase. Any replacement products furnished will be free from defects in material and/or workmanship for the remainder of the original warranty period or 30 days, whichever is longer. This warranty does not cover: (1) defects not reported within the above time period, (2) problems arising from failure to comply with B. David Company instructions, (3) problems and/or damage arising from acts of nature, abuse, misuse, negligence or accident by any party other than B. David Company, (4) problems and/or damage resulting in whole or in part from alteration, modification, repair or attempted alteration, modification or repair by any party other than B. David Company, (5) noncompliance with applicable codes/ordinances.

If a defect in workmanship and/or material in a product or part covered by the warranty should arise, B. David Company, at its sole discretion, will repair or replace the defective product or part (B. David Company will consider the customer's preference in good faith).

All claimed defective product must: (1) be authorized for return by B. David Company with an RGA number (2) include proof of the purchase date of the product or part (3) returned to B. David Company prior to the expiration of the warranty date at the customer's expense, shipment pre-paid (4) be accompanied by a letter detailing the Model Number, Serial Number (if any), and a brief description of the problem.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, B. DAVID COMPANY DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE PRODUCTS, PARTS AND ANY ACCOMPANYING WRITTEN MATERIALS.

To the maximum extent permitted by applicable law, B. David Company shall not be liable for any damages whatsoever (including, but not limited to, loss of time, inconvenience, expenses, labor or material charges incurred in connection with the removal or replacement of the products or parts, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use the defective products or parts even if B. David Company has been advised of the possibility of such damages.

The B. David Company maximum liability under any provision of this Limited Warranty shall be limited to the amount actually paid for the products or parts.

This warranty is effective if the Microbiological Drinking Water Purifier is operated at water pressured between 40-150 psig and a water temperature between 38-125°F. Furthermore, the purifier must not be subject to mistreatment, system modification, disregard, freezing, carelessness, or damage as a result of any unusual force of nature (i.e. hurricane, flood, earthquake, or tornado). Warrantor is excused if failure to perform its warranty obligations is the result of material shortages, government regulation, strikes, or any other circumstances beyond its control.



## Congratulations!

*Thank you for choosing the B. David Company BDC-6000BB Certified Nanotechnology Whole House Purification System. This system is certified to NSF standards P-231 (bacteria, cyst, virus), NSF/ANSI 42 (particulate class 3) and NSF/ANSI 53 (cyst).*

The BDC-6000BB Certified Nanotechnology Whole House Purification System is designed to treat water for the whole house – shower, bath, laundry, and kitchen. This system incorporates various media with Nanotechnology to microbiologically treat your water.

This is a green system as no electricity is required, there is no water waste, and chemicals are not utilized.

The BDC-6000BB treats water with a four-stage process. First, a sediment filter removes dirt, debris, and other sediment down to 10 microns in size. The second stage cartridge (purification) reduces cysts such as Cryptosporidium and Giardia, bacteria and viruses by mechanical and electrostatic means. The third stage filter treats Volatile Organic Chemicals (VOCs), contaminants, and chlorine utilizing a proprietary carbon blend. This stage also polishes the water removing taste and odor issues. The fourth and final stage uses a patented electrostatic media that also removes bacteria, viruses and cysts. The flow meter provides a simple method for recording water usage and assists in determining the need for cartridge replacement.

### **Do not use this system with microbiologically unsafe water.**

- Reduces chlorine taste and odor and chloramines
- Reduces dirt, rust, and other particulates
- Removes bacteria, cysts and viruses
- Effectively reduces Volatile Organic Chemicals (VOCs), including Trihalomethanes (THMs)
- No electricity or chemicals are required
- No water wastage

### **Before You Start**

- In order to receive all of the benefits of your microbiological drinking water purifier, be sure to read all steps in this guide carefully and follow steps exactly.
- This system is intended for use with municipal and/or well-supplied water only. It is not intended for use with surface water such as a lake or runoff.
- Do not use for treatment of water that is visually contaminated (cloudy) or has an obvious contamination source such as raw sewage.
- Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.
- System is not intended to convert wastewater or raw sewage into drinking water.
- Installation and plumbing should comply with all local laws and regulations. Consult with your licensed plumber. Note: In Massachusetts, plumbing code 248 CMR 3.00 and 10.00 shall be adhered to.
- Do not use with water that is microbiologically unsafe or of unknown quality without disinfection before or after the system.
- Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

## OPERATING SPECIFICATIONS



Specification	Metric	American Standard
Dimensions	71.12H x 55.88D x 101.6W (cm)	28H x 9D x 40W (inches)
Weight	25.59 Kg	52 lbs.
Flow Rate*	30.28 liters per minute	8 gallons per minute
Operating Temperature	3.34 – 51.67 Degrees C	38 - 125 Degrees F
Operating Pressure	Min 11,750,586 g/mm2 Max 43,895,947 g/mm2 5,600 g/mm2 maximum	Min 40 PSI Max 150 PSI

*\*Depends on incoming line pressure and flow*

*Note: Flow meter volume is listed in US Gallons, 264 Gallons = 1,000 Liters*

## CARTRIDGE CAPACITIES

Item Cartridge	Metric	Maximum Capacity	Replacement
6001	Sediment with S2 reduction	5,000 - 15,000 Gallons	6 - 12 Months
6002	Parallax Nano Filter	35,000 Gallons	18 Months
6003	Advanced Carbon TCO-3	35,000 Gallons	18 Months
6004	Anti-Bacterial with H1A	35,000 Gallons	18 Months

*\*Capacities are approximations and actual service needs are dependent upon the quality of the raw water source*

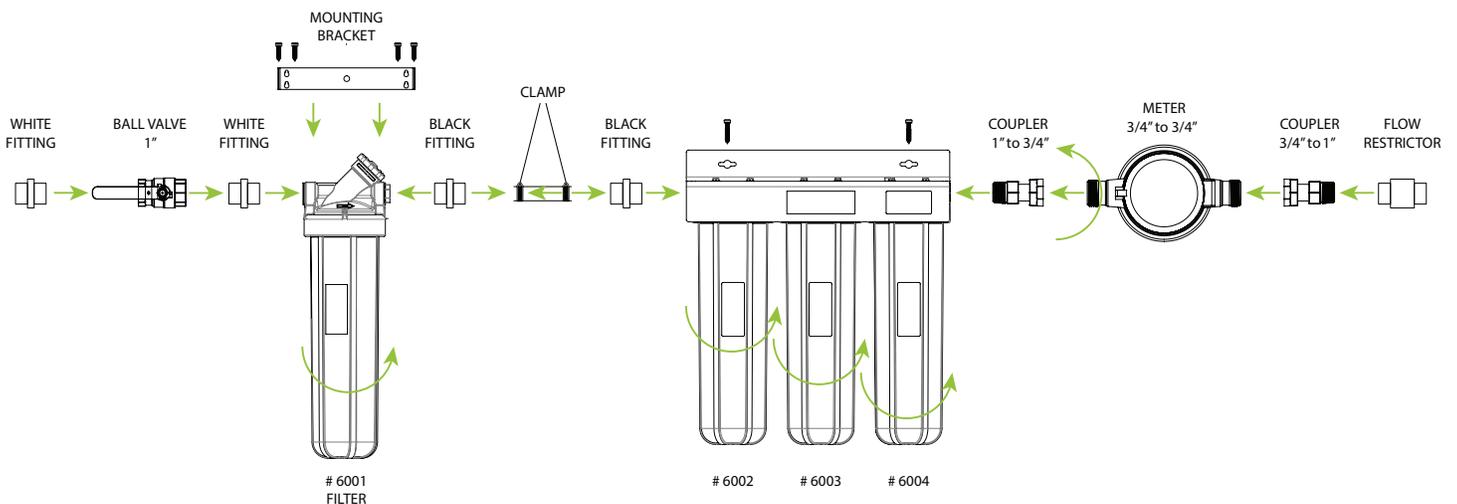
## READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY

### A. Rules for Safe Installation

1. Because of possible damage when dealing with highly pressurized water, a professional should install this system.
2. This system was assembled for water flow from the left to right. Water should always flow through the following filters: 6001 first, 6002 second, 6003 third, and finally the 6004 cartridge.

### B. Before You Begin – Wash your hands thoroughly

1. There is a master shut-off valve installed in your plumbing line. Most often it is located near the point where the water enters the building. Use this master valve to shut off the water flow to the entire building prior to installation.
2. The plastic heads of the BDC-6000BB water purification system housings are tapped in to the “National Pipe Thread” (NPT). Clean the connecting pipes of all oils before assembly. Do not over-tighten the pipe into the plastic head or use heat in the vicinity of this system.



## INSTALLATION PROCEDURES

### C. System Installation



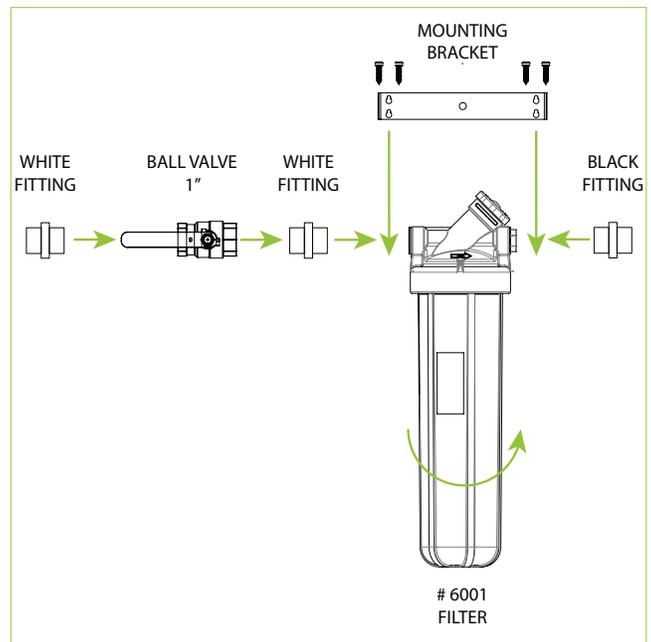
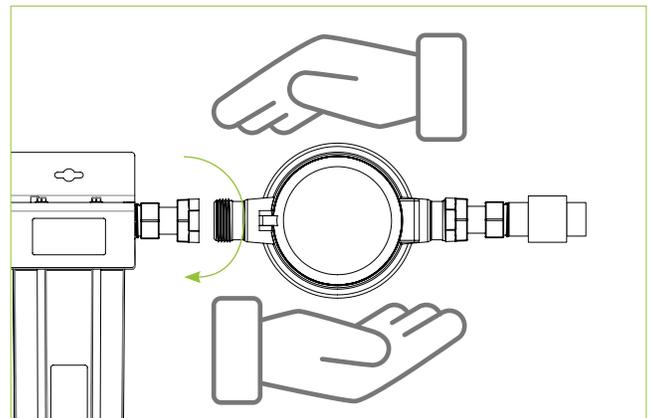
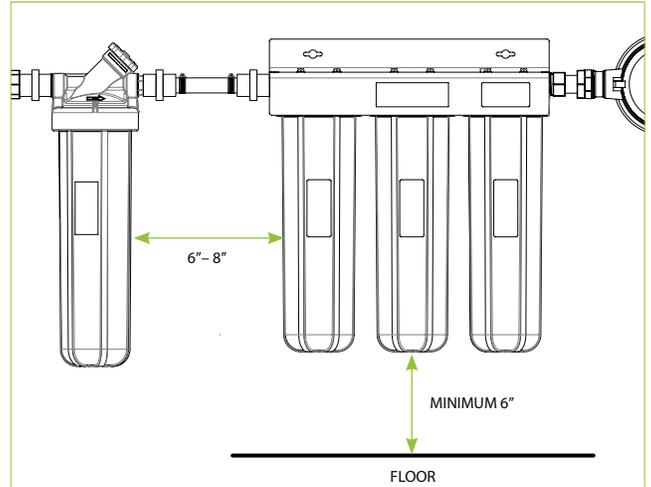
**1. This system is designed to treat cold water,** therefore it must be installed before any heating equipment or installed directly into the cold-water line.

**2.** Select a location which allows the BDC-6000BB system to be in a vertical position with a **minimum** of 6 inches (15 cm) unobstructed clearance below the cartridge housings to allow cartridges to be changed in the future. This system requires about 6 – 8 inches (15 cm – 20.3 cm) horizontally from the single stage bracket and housing to the three-stage bracket and housings. The blue tubing provided will be inserted into the outlet side of the single stage housing and the inlet side of the three-stage housings.

**3.** Once proper location and height have been determined, remove filter housings and cartridges to make it easier to mount the bracket on the wall.

**4.** Before attaching the brackets to the wall, thread one black fitting to the left-hand (inlet) side of the three-stage bracket and housings. Then thread the first coupler to the outlet side of the 3-stage bracket. Thread the flow meter to the coupler. An arrow on the flow meter provides the correct flow direction. Thread the second coupler on the right-hand (outlet) side of the flow meter. Lastly, thread the flow restrictor onto the open coupler. Again, an arrow on the flow restrictor provides the correct flow direction.

**5.** Thread and tighten white fittings to each side of the shut-off ball valve. Once the single mounting bracket is placed over each opening of the single stage housing, thread the shut off ball valve on the left-hand side of the single housing and bracket. Thread the first black fitting on the right-hand (outlet) side of the single housing and bracket. Thread the first black fitting on the right-hand (outlet) side of the single housing and bracket.

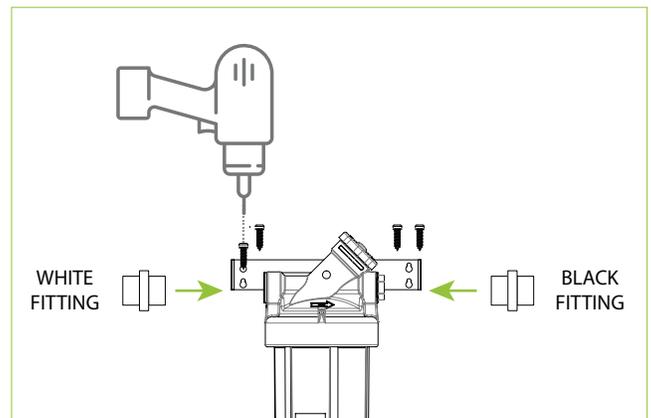
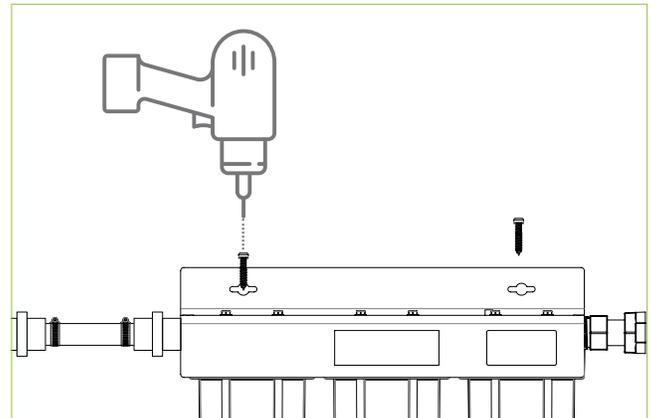
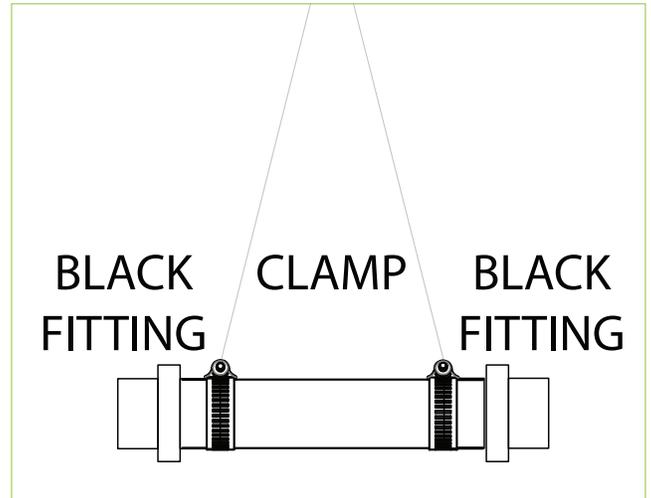


## INSTALLATION PROCEDURES



6. Slide each (two) clamps over the blue tubing. Insert the blue tubing over each black fitting. Slide one clamp over one end of the blue tubing which is over the black fitting. Tighten as necessary. Repeat this process for the other end of the blue tube that is over the black fitting.

7. Mount the system to the wall using the wall anchors and screws provided for each specific bracket. Be sure that the system is **NOT** supported by any existing pipes. Also, be sure that each bracket is securely anchored to the wall as the system is very heavy when filled with water during operation.





## INSTALLING CARTRIDGES

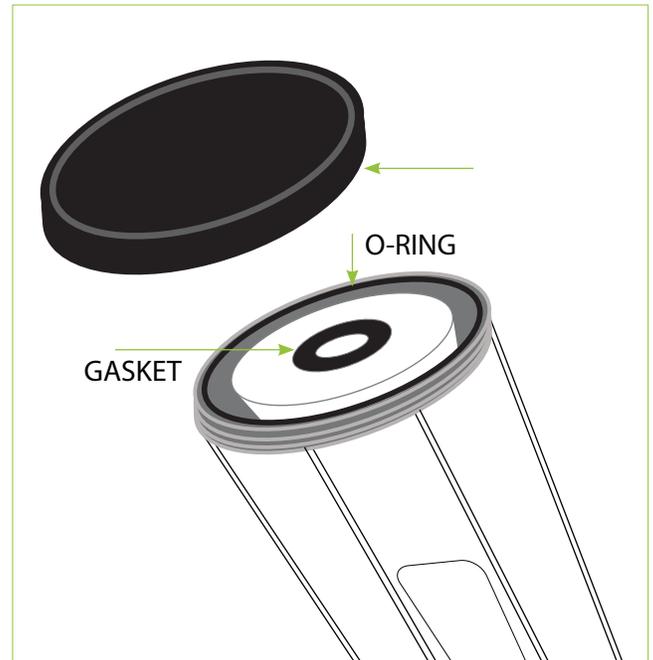
Before installing a new cartridge, wash the inside of the housing with a mixture of bleach and water. Rinse with clean water.

Place cartridge in housing as shown in the image. Ensure the gaskets on both ends of the cartridge and the O-ring around the housing(s) are seated properly. Carefully screw housing into filter head attached to the bracket.

**Note:** Ensure cartridges are properly seated before tightening with the provided wrench.  
**DO NOT FORCE.**

To ensure the bottom gasket remains in place, follow these steps:

- A.** Place new cartridge on firm surface.
- B.** Ensure gasket is in place on both ends.
- C.** Lower housing down onto cartridge.
- D.** Hold the cartridge in place and turn the housing and cartridge 180 degrees.
- E.** Check to make sure gasket is in place at the top of the cartridge as shown and O-ring is in the groove.





## REPLACING CARTRIDGES

**A.** Shut off the water supply - using the ball valve connected to the left-hand (inlet) side of the single stage housing.

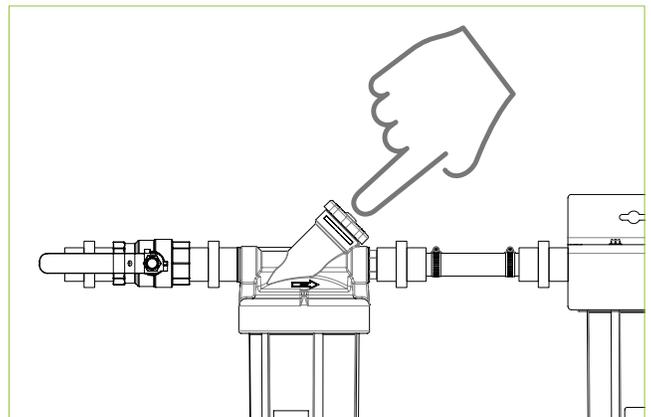
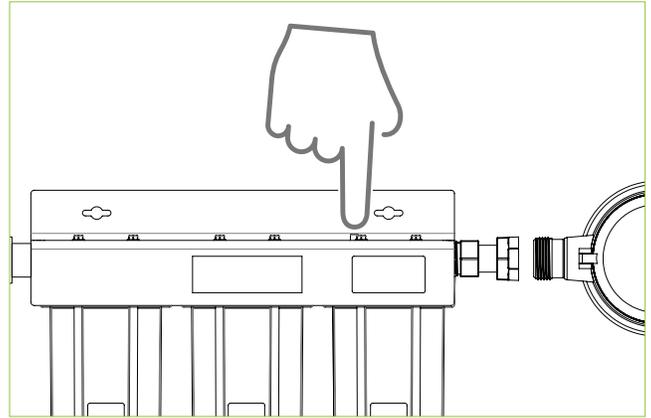
**B.** Release pressure – prior to attempting to remove the filter housing, the pressure will need to be released. Push red pressure release buttons on each housing to release the pressure.

**C.** Removing cartridges – using the wrench provided, unscrew the appropriate housings containing the cartridge(s) that you wish to replace. This can be done by turning the cartridge housing counter clock-wise until loose. Unscrew the cartridge housing carefully as it will be filled with water and quite heavy. Remove and discard the exhausted cartridge.

**D.** When removing the cartridge housing, it is common for the O-ring seal to lift out of the groove and, at times, may even stick to the head of the filter housing. Do not lose the rubber O-ring seal.

**E.** Check the runner O-ring for nicks and use a replacement if necessary. Rub Vaseline™ onto the O-ring and place back onto the housing. Do not wipe off residual Vaseline™. Ensure O-ring is well seated into groove.

**F.** For convenience, the single stage bracket and housing containing the sediment filter (stage one - 6001) can be bypassed individually. The valve lists options to “bypass” and “filter.” Turn the valve clockwise to bypass the water flow. Press the red pressure release in the middle of the valve. Follow steps C. – E. for replacement. **Ensure that you twist the valve counter-clockwise after the sediment filter has been replaced. Failure to do so will diminish the system’s function and the following filters’ lifespan.**



## FLUSHING THE SYSTEM

### A. To flush the down-line plumbing, complete the following steps:



- A. Install all cartridges.
- B. Slowly turn the water back on at the ball valve on the left-hand (inlet) side of the single stage housing. Check for leaks.
- C. Open the down line faucets one at a time, and let the water run for a minimum of four (4) minutes per faucet.

## STORAGE

For brief periods of non-use (days), flush the entire system thoroughly (4 – 5 minutes) before and after periods of storage and before drawing water for consumption.

Do not allow the system to freeze. Water contained within the system will expand and damage the system and its capacity to purify any water. For longer periods of non-use (weeks or months), the following steps must be taken:

- A. Empty water from the entire system.
- B. Remove cartridges from their housings.
- C. Clean cartridge housings thoroughly.
- D. Clean and air-dry exterior of the cartridges.
- E. Record activity in a service log.
- F. Place cartridges in clean plastic bags once dry.
- G. Remember to replace all cartridges in the proper order and flush the system for 5 – 7 minutes when reactivating the system.

## SERVICING

Wash hands thoroughly before beginning.



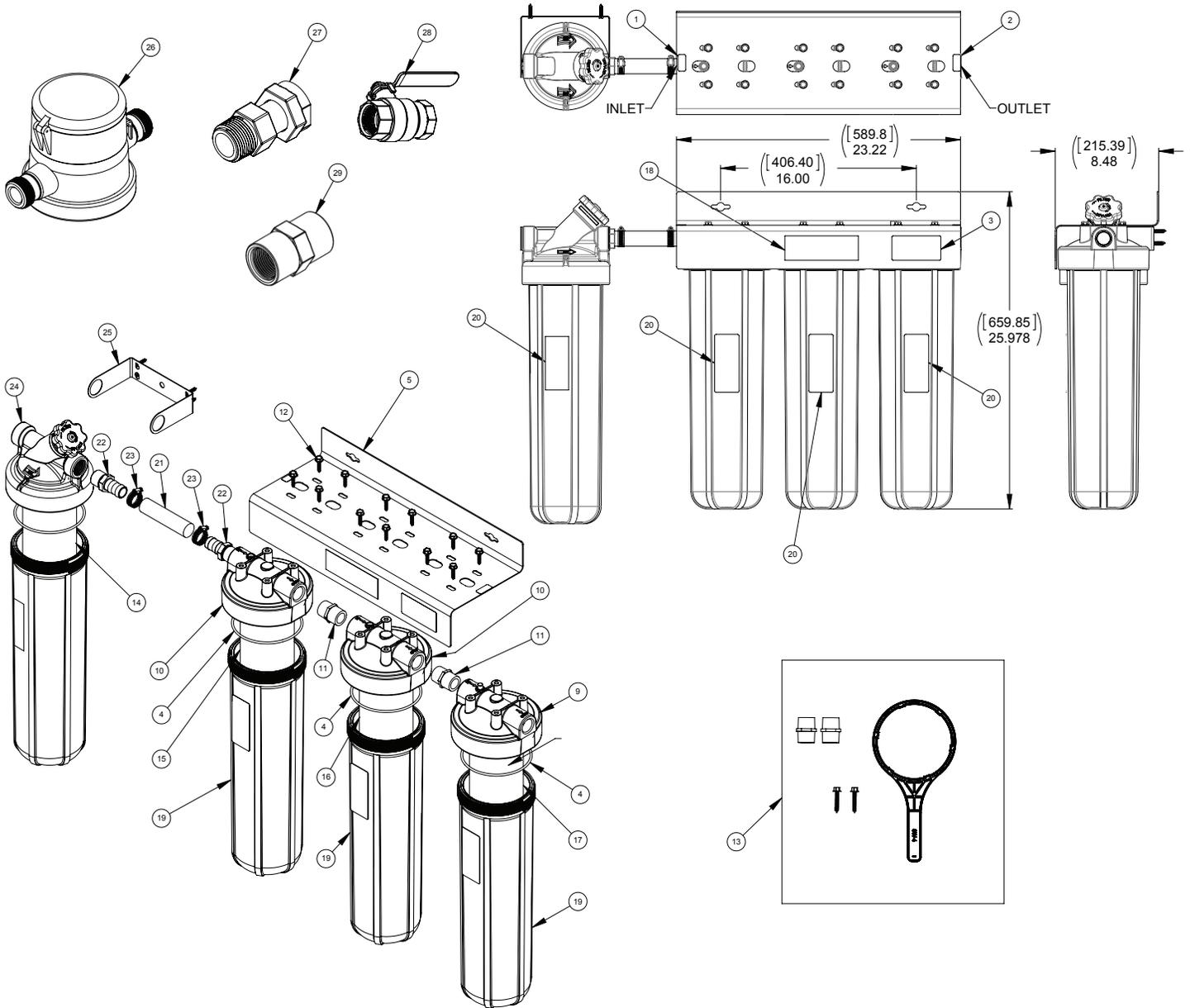
- A.** Close the inlet shut-off valve. Relieve the system pressure by turning on a faucet. Once the pressure is relieved, depress the pressure relief buttons at the top of each housing to ensure there is no pressure in the system.
- B.** Unscrew the appropriate housing that contains the cartridge that needs replacing using the provided wrench. When opening the housings, it is common for the O-ring to lift out of the groove, and at times, stick to the housing head. Do not misplace the rubber O-ring.
- C.** Remove the exhausted cartridge and discard.
- D.** Clean the interior of the housing:
  - 1.** Rinse out and fill approximately 1/3 full of water.
  - 2.** Add two caps full of 5% household bleach (5% sodium hypochlorite) and scrub with a brush or a sponge. If bleach is not available, wash thoroughly with soap and warm water.
  - 3.** Rinse thoroughly.
- E.** Insert new cartridge to housing.
- F.** Lubricate the O-ring seal with a thin coat of petroleum jelly (Vaseline TM). Do not wipe the O-ring clean of lubricant. This prevents the O-ring from “crawling” when tightening the housing to the head.
- G.** Place the O-ring in the groove of the housing and press it down completely – all the way around the housing.
- H.** Each time a cartridge is changed, the plumbing should be flushed again. To flush the down-line plumbing review “Flushing the system” steps on page 10.

## PARTS LIST



Item No.	Part No.	Description	Quantity
4	SH143273	O-RING, BB, BUNA-N 70 DURO (AP)	4
5	144259	MTG BRACKET, 3BB, WHITE (AP)	1
9	154166	CAP, BLACK HFPP W/PR 1"	1
10	154077	CAP, BLACK HFPP WO/PR 1" (AM)	2
11	SH143396	1" HEX NIPPLE (AM)	2
12	143434	SCREW, LAG 5/16 X 1-1/4" LG HWH HEX WASHER HEAD D240. X 31.0125Z	12
13	244971	INSTALL KIT STAGE BB	1
14	6001	Sediment with S2 reduction	1
15	6002	Parallax Nano Filter	1
16	6003	Advanced Carbon TCO-3	1
17	6004	Anti-Bacterial with H1A	1
19	153070	#20 SMP BB HFPP BL	3
20	142929	CAUTION LABEL, 20" OPAQUE BB	4
21	4005160	HOSE, 1" ID X 1.375" OD	16 IN.
22	4005151	FITTING, 1" NPT X 1" BARB PP	2
23	4005161	CLAMP, HOSE, SS	2
24	655107	#20 WH/WH, BB W/BY-PASS 1" 4/C	1
25	244994	WB-UB-KIT BRACKET 1/C	1
26	4005208	METER, 3/4"	1
27	4005209	COUPLER (PAIR), 3/4" TO 1"	1
28	5005210	BALL VALVE, 1"	1
29	BR60701-8.0	1" x 1" Flow Restrictor - 8 GPM	1

## EXPLODED PARTS VIEW



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