

FREEDOM NANO 2017

Freedom NANO 2017 is a point-of-use drinking water system for all municipal water supplies that do not add fluoride, as this system is not designed to remove fluoride. Freedom 2017 NANO includes five filtration components and eight filtration stages, with up to 99.5% removal rate of chlorine, chloramines, lead, mercury, heavy metals, MTBE, VOCs, giardia, Entamoeba, cryptosporidium, toxoplasma cysts and contaminants, while maintaining desired pH (alkalinity) and dissolved minerals. A special feature is the .01 micron nanofiltration filter, which blocks viruses, bacteria, pathogens and over 85% of pharmaceutical drugs.

The system features three types of carbon (activated carbon block, granulated activated carbon, and catalytic coconut shell carbon block) and 3 pounds of KDF media, with progressively finer 5 micron, 1 micron, .5 micron, and .01 micron filtration, producing great tasting mineral rich water.

Included Components:

1. Triple filter wall mount unit for installation under a sink or in a basement, to allow easy access to the system for future filter changes.
2. 5 micron inline dirt/rust/sediment filter attached by two 2" plastic clips to the top of the unit (Stage 1)
3. 10" 3 lb KDF media and 0.6 lb granulated activated carbon (GAC) filter. (Stage 2 & 3)
4. 10" Coconut Shell activated catalytic carbon block filter that removes chlorine and chloramines, and particulates down to 1 micron. (Stage 4 and 5)
5. 10" .5 micron carbon block microfiltration filter that removes MTBE, VOCs and chlorine, with up to 99% removal of lead and mercury, and particles as small as .5 microns. (Stage 6 / 7)
6. Horizontally mounted .01 micron nanofiltration filter, connected to 2" 5 micron sediment (Stage 8).
7. Quick connects throughout for all 1/4" tubing connections, including on the beautiful brushed nickel ceramic disk designer faucet.
8. Brushed nickel lead-free ceramic disk designer faucet with normal sink installation components, including a John Guest quick connect screwed onto the end, for quick and easy connection of the blue tubing from the output of the system.
9. Two 5 foot lengths of flexible LLDPE 1/4" tubing – one blue, and one red. Red is used to connect to the cold water source and to the John Guest ball valve (shut off valve) installed in the input of the system on the left side. The blue tubing is connected to the output on the right side of the system and to the supplied John Guest quick connect that is screwed onto the bottom of the supplied faucet.
10. John Guest ball valve, a convenient shut off valve that is installed with a short piece of 1/4" tubing on input of the horizontally mounted 5 micron filter. This shut off valve makes it easy to turn off the water to the system for filter flushing and filter changes.
11. Filter Wrench, to enable easy opening of the filter housings (the three vertical components) that hold the filters.
12. Five Year Limited Warranty



**OPUS Healthy
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FREEDOM 2017 NANO FILTRATION UNIT DESCRIPTION:

Stage 1 – 5 Micron Dirt/Rust/Sediment Filter: In normal use, this filter, which is mounted horizontally on the top of the unit by two 2" plastic clips, should be replaced annually; however, depending on the quantity of water purified and the level of dissolved solids and sediment in your water, you may need to change it more often. Change this filter if water pressure drops to unacceptable levels, or, at minimum, annually.

This filter is labeled **Stage 1 – 5 Micron Sediment Filter** on the filter unit.

Stage 2 & 3 – 3 lb KDF Media/0.6 lb GAC: This is the left vertical stage of the unit. This filter consists of two components (two stages), including 3 pounds of KDF media and over half a pound of granulated activated carbon (GAC). KDF media is a copper-zinc formulation that combines electrochemical and catalytic technology to remove chlorine, lead, mercury, iron, aluminum, arsenic, chromium, copper, manganese, nickel, chloroform, trichloroethane, lindane, nitrates, nitrites and hydrogen sulfide from water. KDF media has a mild antibacterial, algacitic, and fungicidal effect, and may reduce the accumulation of lime scale. Change this filter annually, even if less than 5 gallons per day is purified. This filter is labeled **Stage 2 & 3 – KDF/GAC** on the metal frame above the filter.

3. Stage 4 & 5 – 1 Micron Activated Catalytic Coconut Shell Carbon Block. This filter is installed in the middle (center) vertical stage. This filter adsorbs chloramines and chlorine, while blocking all particulate matter down to 1 micron. This filter must be changed annually even if less than five gallons of water are filtered daily. This filter has multiple functions, including

- Trapping particles as small as 1 micron, including particles from the KDF/GAC filter in the left vertical stage (which is why it is critical to flush the KDF/GAC filter prior to installing this, and the .5 micron filter (Stage 6 & 7).
- Adsorbing chlorine and chloramines, and improves taste and odor.

This filter is labeled **Stage 4 & 5 Chlorine and Chloramine Filter** on the metal frame above the centre vertical stage of the unit.

4. Stage 6 & 7 – .5 Micron MTBE/VOC/Lead/Mercury Microfilter: This is the right vertical stage of the unit. This filter must be changed annually even if less than five gallons of water are purified daily. This filter has multiple functions, including:

- Trapping particles down to .5 microns, including particles from the KDF/GAC filter in Stage 2 & 3, or particles from the 1 micron Stage 4 & 5 filter, which is installed in the middle filter container. (Stage 4)
- Removes chlorine, odors, dissolved and particulate lead, mercury (up to 99.5% removal rate for lead and mercury), giardia, cryptosporidium, entamoeba and toxoplasma cysts. A unique feature of this filter is the filtration of MTBE and VOCs – contaminants that very few filtration systems can remove. (Stage 5) This filter is labeled **Stage 6 & 7 – .5 Micron VOC/MTBE Carbon Filter** on the metal frame above the filter.

5. Stage 8 – .01 Micron Nanofiltration Filter: Clipped with two plastic clips to the 5 micron sediment filter, this filter blocks viruses, bacteria, and up to 85% of pharmaceutical drugs.

INSTALLATION INSTRUCTIONS

NOTE ABOUT QUICK CONNECTS:

All OPUS water purification systems utilize quick connects for all tubing connections, including the connection to the John Guest ball valve (shutoff valve), faucet (there is a small gray piece with the quick connect supplied with the faucet) and input and output of the water filtration system. The quick connect allows easy insertion and removal of 1/4" tubing. To remove the tubing, you must hold in the "ring" or collar that is on the outside of the tubing (the ring or collar surrounds the tubing and is part of the quick connect). When you hold in the ring (sometimes you need a flathead screwdriver, but usually your finger will do), the tubing will easily slide out. If you try to pull out the tubing without holding in the ring, you can damage the quick connect fitting.

STEP 1 – Install the Supplied Faucet to Your Sink

If your sink or countertop doesn't have a hole for the supplied faucet, a 5/8" hole must be drilled to allow faucet installation. After the faucet has been installed, mount the unit under your sink or in a location that provides easy access for future filter changes.

Note 1: Most plumbers cannot drill into quartz, granite, or similar solid countertops for faucet installation. If you have a solid countertop, check with your installer to ensure he can drill into your countertop without risking damage. It's usually best to contact the countertop supplier or manufacturer to drill the 5/8" hole required for faucet installation if you have a solid countertop.

Note 2: Your plumber must provide a connection to your cold water pipe and to the input of the system. We recommend SharkBite U362 1/2" TEE, and a Dahl straight shutoff ball valve (1/2" PEX 1/4" OD). These are included if you choose an Aviva-recommended plumber. If you choose to use your own plumber, these parts are available for \$42.00 plus tax.

Connect the supplied 5 foot length of 1/4" red tubing from the cold water source to the Freedom water input on the left side of unit. If the tubing is too long, use a tube cutter designed for 1/4" tubing to make it shorter.

Connect one end of the supplied 5 foot length of 1/4" blue water output tubing to the supplied faucet. The other end of the blue tubing is inserted into the output on the right side of the unit, by pushing the tubing into the quick connect.

Important: Before use, the filters must be flushed as described below.

STEP 2 – To prepare for flushing the Stage 2 & 3 KDF/GAC Filter installed in the left vertical housing (which is done in Step 3), remove the filters from the center and right filter housings, which are the two stage (Stage 4 & 5) 1 micron catalytic carbon block (blue caps on each end) installed in the centre housing, and the .5 micron MTBE/VOC (Stage 6 & 7) carbon block filter (green caps on each end) installed in the right housing.

Using the filter wrench, unscrew (turn to the left to open) the vertical white filter housings on the centre and right side of the unit and remove the filters which are installed when the unit is shipped. The filters are labeled "Stage 4 & 5 1 Micron Chlorine and Chloramine" (blue caps on each end), and "Stage 6 & 7 .5 Micron VOC/MTBE" filter (green caps on each end) on the metal housing above the filters.

Labels and plastic should already be removed from all installed filters when you receive the unit, but if there are labels or plastic wrapping on the filters, remove them prior to re-installing after flushing.

After opening the filter housing and removing the filters from the centre and right filter housings, replace the empty filter housings by turning to the right. Make sure the black O-ring is properly seated in the groove of the white filter housings before screwing it onto the system, or the system can leak. The centre and right housings must be empty to allow flushing of the KDF/GAC filter.

Step 3: Disconnect White Tubing That Connects Right Side of System to the Nanofiltration Filter: Ensure the small piece of 1/4" tubing that connects the output on the right side of the system to the final .01 micron nanofilter is disconnected. Normally these units are shipped with the tube disconnected, but it's critical to verify this, as the flushing of all filters must bypass the final nanofiltration filter. If this step is not followed, particles from the other filters will quickly clog this filter and render it unusable. For the flushing process, the tubing that connects to the faucet is temporarily connected to the output on the right side of the filtration system. Once the flushing is completed, the small piece of tubing will connect the right side of the system to the final nanofiltration filter, and the tubing that connects to the faucet will be connected to the John Guest quick connect output (left side) of the nanofiltration filter.

STEP 4 – KDF/GAC Filter Flush

With the 1 micron catalytic carbon filter removed from the centre filter housing, the .5 micron MTBE/VOC filter removed from the right filter housing, the 1/4" tubing that connects the right side of the system to the nanofiltration filter disconnected, and the tubing that connects to the faucet connected to the output on the right side of the system, turn on the water to the system by first opening the faucet (turn handle downwards), and opening the John Guest shut off valve that is connected to the horizontally mounted 5 micron dirt/rust/sediment filter. Allow water to pass through the system for 15 minutes to flush the KDF/GAC filter of fine particulates.

STEP 5 – Re-Install the 1 micron Catalytic Carbon Chlorine Chloramines filter in the centre (middle) stage.

After you have flushed the KDF/GAC filter as described in step 3, install the 1 micron catalytic carbon filter (white in color, with blue caps on each end) in the centre filter housing. This filter can be installed in either direction. Make sure the black plastic O-Ring is in the groove of the filter housing prior to screwing it on. Tighten the housing container with the included filter wrench, and flush this filter for 10 minutes.

STEP 6 – Re-Install the .5 micron MTBE/VOC filter in the right vertical filter housing.

After you have flushed the 1 micron catalytic carbon filter in the centre housing, turn off the water by closing the John Guest ball valve. Leave the faucet open to ensure no water is flowing through the unit.

Unscrew the Stage 6 & 7 vertical filter housing on the right using the supplied filter wrench and install the .5 micron MTBE/VOC filter. This filter is white in color, with green rings on each end. Remove any cellophane wrapping (if present) before installation. You can install this filter in either direction. Flush the .5 micron filter for five minutes.

Step 7: Remove the 1/4" tubing that connects to the faucet from the output on the right side of the system, and insert the tubing into the output on the left side of the nano filtration filter.

Step 8: Connect the small ¼" length of tubing from the output on the right side of the system, to the input on the right side of the nanofiltration filter.

Step 9: Run water through the system for another 30 minutes to flush the nanofiltration filter.

The system is now ready to use. Remember to change all filters annually, although the 5 micron sediment filter may require more frequent changes, depending on water quality.

Freedom NANO 2017 Description

PLU	Model	Height	Width	Depth	Flow Rate	Description	Price
22718	Freedom Nano 2017	17"	17"	6"	2 - 4 Litres Per Minute	5 Filter, 8 stage water purification system, with 1 micron chloramine and chlorine filtration, .5 micron lead, cyst, mercury, chlorine, heavy metal, major contaminant, and chemical filtration.	\$499.99

OPTIONS FOR FREEDOM NANO 2017:

- Upgrade to designer ceramic disk NSF certified faucet - \$60.00
- Grohe Concetto Designer Kitchen Faucet (matches NSF water filter faucet) - \$400.00
- John Guest Union "T" to allow connection to a refrigerator or second tap - \$5.00
- Additional LLDPE ¼" Tubing - \$1.00 per foot

Freedom NANO 2017 Filter Change Pricing and Frequency

PLU	Model	Stage	Location	Function	Change	Price
15261	5 Micron Sediment Filter	1	Top of Unit	Removes Dirt/Rust/Sediment	6-12 months	30.00
9395	3 lb KDF / 0.6 lb. GAC	2 & 3	Left Vertical	Chlorine, Heavy Metals, THMs	1 Year	100.00
10616	1 Micron Chloramines	4 & 5	Centre Vertical	Chlorine, Chloramines, 1 Micron Filtration	1 Year	50.00
14256	.5 Micron MTBE/VOC, Toxoplasma Cysts	6 & 7	Right Vertical	.5 Micron Microfiltration, removing lead, mercury, MTBE, VOC, chlorine.	1 Year	50.00
19761	.01 Nanofiltration Filter	8	Top of Unit	Viruses, Bacteria, Pathogens Drugs	1 Year	100.00
22719	Annual Filter Change	All	All	Annual Kit with 4 Filters	1 Year	\$330.00

Winnipeg Installation Options

13824	Standard Drinking Water System, Under Counter Installation, with included faucet, within Winnipeg City Limits	150.00
17549	Minimum Additional Charge for Basement Install, one floor below kitchen sink, including up to 40 feet ¼" tubing	100.00
19760	Annual Filter Change, on-site (not including filters, priced above) including filter flushing as required	90.00
18053	SharkBite ½" TEE (combine with PLU 18052 for highest quality installation)	16.00
18052	½" PEX ¼" OD DAHL Straight Ball Valve (combine with 18053 for highest quality installation)	26.00
11852	¼" John Guest Union "T" to allow two outputs from one input, to allow connection to a refrigerator, second tap, etc.	\$5.00
	¼" BPA Free Linear Low Density Polyethylene Tubing (LLDPE), per foot (White (9678), Blue (9679), or Red (9680))	\$1.00

ANNUAL COST OF OPERATION: APPROXIMATELY \$350.00

MONTHLY COST OF OPERATION: \$29.17; WEEKLY COST OF OPERATION: \$6.73

DAILY COST OF OPERATION: \$0.96 COST PER GALLON: \$0.19 COST PER LITRE: \$0.042

5 YEAR LIMITED WARRANTY

**Designed, Engineered, and Tested by Nathan Zassman, President
OPUS Water Purification Systems**