

Super Filter

Model NFF

Iron, Manganese, Hydrogen Sulfide Reduction

Operating and Maintenance Manual



Enjoy clean, stain-free laundry and dishes . . . and fresher tasting water. The Super Filter Model NFF removes Iron, Manganese and Hydrogen Sulfide with no chemicals required for regeneration.

NFF Specifications

Item No.	Model Description	Media Cu Ft	Flow Rates USGPM		Installation Space Inches - W x D x H	Fiberglass Tank Size - Inches	Shipping Weight - Lbs
			Service	Min. Backwash			
9069	NFF10	1.0	6	12*	14 x 14 x 62	12 x 52	180
9070	NFF20	2.0	12	15*	16 x 16 x 60	14 x 50	330
9082	NFF710	1.0	6	12*	14 x 14 x 62	12 x 52	180
9083	NFF720	2.0	12	15*	16 x 16 x 60	14 x 50	330

Maximum Water Temperature = 110°F (43°C)
 Maximum Operating Pressure = 100 PSIG (689 kPa)
 Pipe Size = 1"
 Electrical = 110V / 60Hz (standard)

At the stated service flow rates, the pressure drop through these devices will not exceed 15 psig. The manufacturer reserves the right to make the product improvements which may deviate from the specifications and descriptions stated herein, without obligation to change previously manufactured products or to note the change.

For satisfactory operation, the pumping rate of the well system must equal or exceed the indicated backwash flow rate. Simply set the unit to backwash every day.

Removal Capacity

Iron	30 ppm	Minimum Bed Depth	20"
Hydrogen Sulfide	15 ppm	pH Range	5.0 - 9.0
Manganese	10 ppm	Freeboard Required	30 - 50%

The Super Filter Model NFF uses an oxidizing filter media. The media uses the dissolved oxygen in the water supply to oxidize target contaminants. Through the use of an air eductor (not included), additional oxygen introduced to the water can greatly enhance the performance of the NFF filter models. We recommend the installation of either;

Item #33354 — Hydrocharger, PVC Plastic, 1" FNPT

Item #32393 — Micronizer, Noryl Composite Construction, 1" MNPT

The Hydrocharger or Micronizer assembly should be installed upstream of the Super Filter Model NFF and adjusted to draw air for approximately one third of the pump cycle.

Operating Instructions

How Your Automatic Filter Works

Raw water enters your home through the main supply line, enters your filter, and passes downward through the media bed. The filtered water then flows up and into your household water lines.

Water Pressure

Your water filter is designed to operate under normal water pressures from 20 psi to 100 psi.

Regeneration and Automatic Bypass

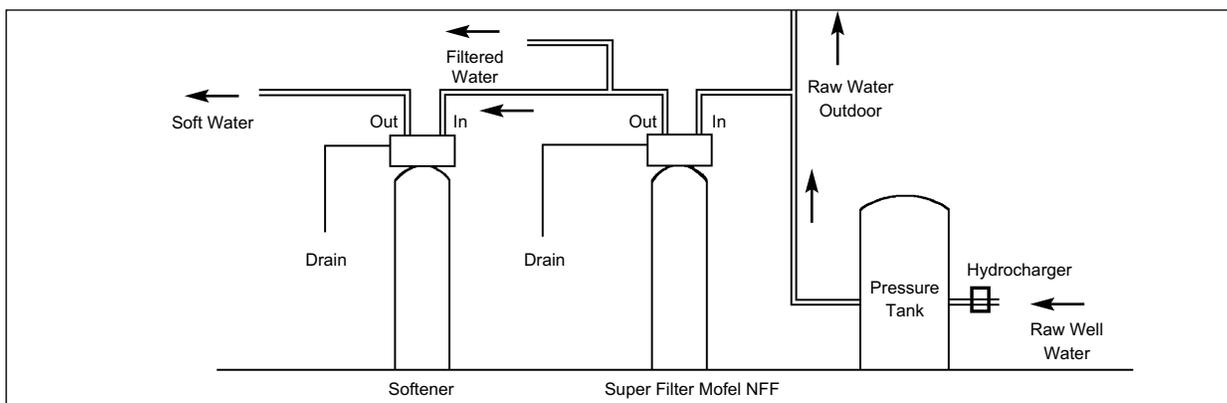
Water filters are factory set to regenerate at 1:00 a.m. during a period of little or no water use. The regeneration cycle lasts approximately 15 minutes, after which filtered water service is restored. While regeneration is taking place, "raw water" automatically bypasses the filter if required. If possible, avoid using water during regeneration to prevent unfiltered water entering your household plumbing system.

NOTE: When more than one filter is being used, regeneration should be staggered by 15 minute intervals from 1 a.m.

New Sounds

You will notice new sounds, such as the hum of the timer, as your filter operates. During regeneration, it will not be uncommon to hear water running to the drain.

Typical Installations



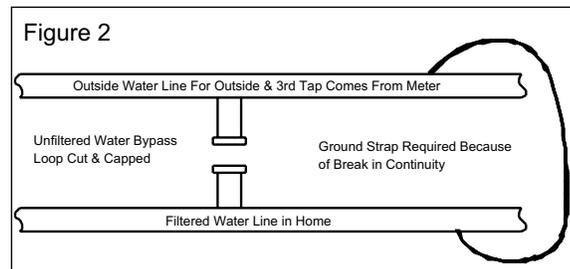
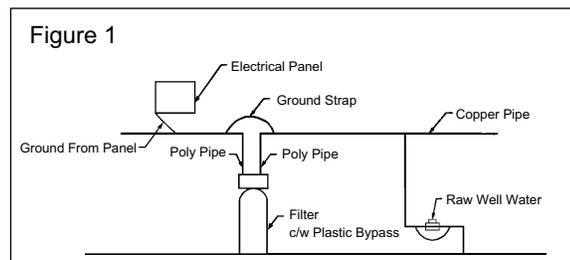
Installation and Start-up Procedure

CAUTION:

If the ground from the electrical panel or breaker box to the underground copper pipe is tied to the copper water lines and these lines are cut during installation, an approved grounding strap must be used between the two lines that have been cut in order to maintain continuity. The length of the grounding strap will depend upon the number of units being installed and/or the amount of copper pipe being replaced with poly. See Figure 1.

In all cases where metal pipe was originally used and is later interrupted by poly pipe, as in Figure 1 or by physical separation as in Figure 2, to maintain proper metallic pipe bonding, an approved ground clamp c/w not less than #6 copper conductor must be used for continuity.

Check your local electrical code for the correct clamp and cable size.



1. Place filter on a flat surface in desired location, near a drain and 115 volt AC outlet. Subjecting your filter to freezing or to water temperatures above 120°F (49°C) will void the warranty.
2. Load media in filter. All filters are supplied with the media separate. **Please refer to page 3 Installation and Replacement of Filter Media Pak.**
3. Remove the valve from the carton. Carefully position the valve over it and turn securely on to the fiberglass tank.
4. Make inlet and outlet water connections to meet applicable plumbing codes. A 1" inlet line is recommended. When sweat fittings are used, solder the adapters for the inlet and outlet to the copper pipe first. This procedure is necessary because the controls **must not** be subjected to temperatures above 160°F (71°C). Then, using teflon tape, screw the adapters for the inlet, outlet and drain into the valve. CAUTION: do not use pipe thread compound as it may attack the materials in the valve body.
5. On the drain, use 1/2" hose barb supplied and full 1/2" hose (not supplied) for the drain line and make the shortest run to a suitable drain. The drain line must be secured in position at the end which discharges into the drain so it cannot be inadvertently moved from the drain.
6. Loosen the two screws on the timer cover to remove it from the timer. See page 4 for Programming Instructions for all units.

7. Automatic water filters are supplied from the factory in the BACKWASH position, ready for start up. Turn on the water supply to the unit. Open the supply line slowly and allow the air to escape from the filter before turning the supply water on all the way. Allow the unit to backwash until all the air is no longer showing at the drain. This may take up to 15 minutes so you need to unplug the timer until you are ready to continue.
8. Plug the timer in, set the time and frequency of regeneration to regenerate daily. Allow the unit to complete the cycle on its own from this point.

ALL GOVERNMENT CODES GOVERNING INSTALLATIONS OF THESE DEVICES MUST BE OBSERVED.

Installation & Replacement of Filter Media Pak

Check to ensure all components and media parts are received.

Loading the Media-Pak

Place the distributor tube down the center of the tank. The top of this tube should be plugged with a rag or cork to prevent media from entering. Pour the bag of coarse gravel into the tank, then pour the bag of fine gravel into the tank.

It is important that the distributor tube is not moved or pulled out as it would not be possible to put it down to the bottom of the tank once gravel or media are in the tank.

Finally pour the larger bag(s) of media into the tank.

Once this is done, the rag or cork should be removed from the distributor tube. Clean off the top of the tank. Finally place the control valve on the tank and onto the distributor tube. Tighten the control valve onto the tank. Connect or reconnect the inlet and outlets and drain. The control valve should be in the backwash position. Slowly open the inlet valve water supply and slowly fill the filter tank until water appears at the open drain line. Return the control to the service position and shut the inlet off for approximately one hour to allow the media to soak in the water.

After one hour, turn inlet water on slowly and place the control into the backwash position and plug the unit's electrical cord into a constant power source. Let the unit continue through its regeneration cycle automatically.

The regeneration is necessary so all media fines are backwashed down the drain to ensure clean filtered water. After this media has been replaced, it may be necessary to reset the present time of day on the control valve timer as it will have been unplugged for some time.

Replacing the Media

The first step in replacing the media bed is to shut off the water supply to the filter. Then place the unit into the backwash position to release any pressure in the lines. At this point, you must disconnect the plumbing from the inlet and outlet. Then unscrew the control valve (Item A) from the fiberglass tank. Once this has been done, remove the distributor tube (Item B). Then you can remove the filter media and two types of gravel from the tank. The quickest way to do this is by simply tipping the tank upside down into a large drum or pail. The tank must be rinsed out completely and have no media or gravel left in it at all.

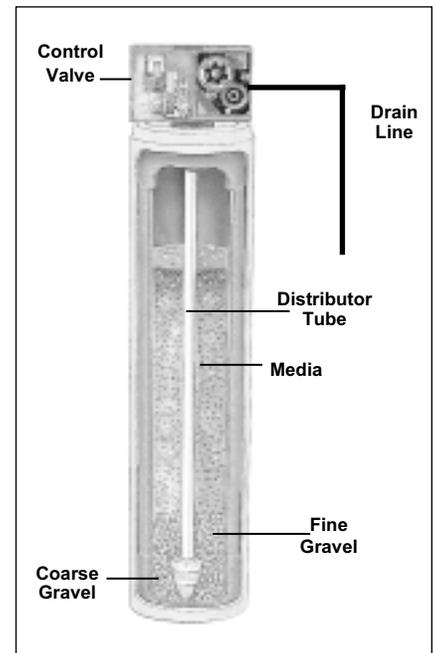


Figure 4

Programming Backwash Controls for NFF10 & NFF20

Setting The 24-Hour Timer

Press and hold the red button in to disengage the drive gear. Turn the large dial until the actual time of day is opposite the time of day pointer. Release the red button to re-engage the drive gear.

Setting The Backwash Frequency

The filter control features a skipper wheel with twelve numbered tabs and trip fingers. Each represents one day of a twelve day schedule. The control is shipped with all the skipper wheel tabs pushed outwards. **Leave the tabs to regenerate every day for proper operation.**

Manual Regeneration

Turn the manual regeneration knob clockwise. This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration process. The back center knob will make one revolution in approximately three hours and stop in the position shown in the drawing. Actual backwash time is 14 minutes. In any event, treated water may be drawn after rinse water stops flowing from the filter's drain line.

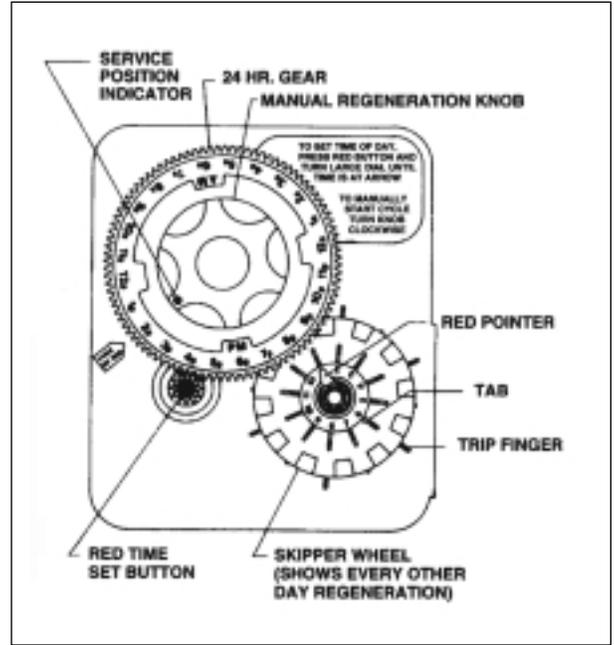


Figure 3

NOTE: The NFF10 and NFF20 timer's programs will be out of sync if you turn the knob too far or do not allow the drive motor to stop completely before continuing to the next step. If this happens while doing any procedure, rotate the knob clockwise until the white dot lines up with the time of day arrow and the unit will return to the service position. You can then start again.

Programming Guide for NFF710 & NFF720

After correctly installing the Super Filter Model NFF, follow the steps below to program the control valve.

- Step 1** Set the time of day to 12:01 P.M. by using the Up and/or Down arrows.
- Step 2** Push and Hold both the Up and Down arrows (Together) for 5 seconds or until the display reads U--1.
- Step 3** Press the Recycle button once.
- Step 4** Press the Down arrow until the display reads (Fltr), then press the Recycle button once.
- Step 5** Be Sure that the display now reads (7--1) and then press the Recycle button once.
- Step 6** Display should now read 2:00. This is the time the filter will regenerate. To change, this time, use the Up and/or Down arrows. When the desired time is displayed, press the Recycle button once.
- Step 7** The display should now read (A--7). This tells you how many days between regenerations. **WE RECOMMEND REGENERATING EVERY DAY.** To adjust the days, use the Up and/or Down arrows. When the desired numbers of days are displayed, press the Recycle button once.
- Step 8** The display will now read (1-10). This tells you how many minutes the First Backwash stage will run. To adjust this time, use the Up and/or Down arrows. When the desired number (**10 minutes**) is displayed, press the Recycle button once.
- Step 9** The display will now read (2-60). This tells you how many minutes the Second Backwash stage will run. To adjust this time, use the Up and/or Down arrows. When the desired number (**10 minutes**) are displayed, press the Recycle button once.
- Step 10** The display will now read (LF60). Press the Recycle button once.
- Step 11** The valve will now quickly run through its cycles. This will take about 90 seconds. When it is finished, the time will be displayed.
- Step 12** Adjust display to the correct time by using the Up and/or Down arrows.

Set up is now complete. Please reference the valve manual and master programming sheet for further details.

Maintenance Instructions

Maintenance of your new water filter requires very little time or effort but it is essential. Regular maintenance will ensure many years of efficient and trouble free operation.

Care of All Water Filters

To retain the attractive appearance of your new water filter, clean occasionally with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your filter to freezing or to water temperatures above 120°F.

Trouble Shooting Guide

PROBLEM	CAUSE	CORRECTION
1. Filter bleeds iron, manganese and/or hydrogen sulfide.	<ul style="list-style-type: none"> a. Bypass valve is open b. Electrical service to unit has been interrupted c. Defective or stripped media bed d. Quality of water has worsened e. Filter capacity too small f. Filter not backwashing enough g. Excessive water usage h. Not regenerating every day. 	<ul style="list-style-type: none"> a. Close bypass valve b. Assure permanent electrical service (check fuse, plug or switch). c. Replace media. d. Have water sample analyzed to determine any change. e. Replace with larger unit or add another filter. f. Be sure control is not clogged or drain line restricted. Be sure water pressure has not dropped and that pump has sufficient capacity. g. Make sure there are no leaks in toilets or sinks. h. Reprogram control valve (see page 4).
2. Filter fails to regenerate	<ul style="list-style-type: none"> a. Electrical service to unit has been interrupted b. Timer is defective c. Power failure d. Timer motor does not run 	<ul style="list-style-type: none"> a. Assure permanent electrical service (check fuse, plug or switch). b. Replace timer. c. Reset time of day. d. Replace defective motor.
3. Loss of water pressure	<ul style="list-style-type: none"> a. Not enough water volume or pressure to backwash properly 	<ul style="list-style-type: none"> a. Correct water supply problem.
4. Loss of media through drain line	<ul style="list-style-type: none"> a. Air in water system b. Backwash rate too fast 	<ul style="list-style-type: none"> a. Assure that well system has proper air eliminator control. Check for dry well condition. b. Check drain flow control for proper flow rate.
5. Drain flows continuously	<ul style="list-style-type: none"> a. Foreign material in control b. Timer motor stopped or jammed 	<ul style="list-style-type: none"> a. Remove piston assembly and inspect bore, remove foreign material and check control in various regeneration positions. b. Replace timer motor.

Repair Parts

NFF10 Filter

<u>Item #</u>	<u>Description</u>
100400	12 x 52
21509	Media, 1/2 cf bag (2)
22002	Medium Gravel, 100 lbs. (0.15 cf)
2750100	2750 FC RWBP Clock Valve
60232-110	Black Cover
33077	High Flow Bottom Basket, 1"
48036	Distirbutor Tube
60700-12	12 gpm Flow Control
16735	12 gpm Flow Washer
60700-00	Flow Control Housing

NFF20 Filter

<u>Item #</u>	<u>Description</u>
114506	14 x 50 Tank
21509	Media, 1/2 cf bag (4)
22002	Medium Gravel, 100 lbs. (0.2 cf)
2750100	2750 FC RWBP Clock Valve
60232-110	Black Cover
33077	High Flow Bottom Basket, 1"
48036	Distirbutor Tube
81041	Tank Adapter
60700-15	15 gpm Flow Control
16736	15 gpm Flow Washer
60700-00	Flow Control Housing

Please call Customer Service at 1-800-354-7867 to order the 7000 Valve for the NFF710 and NFF720.

Guarantee

WaterGroup guarantees that your new water filter is built of quality material and workmanship. When properly installed and maintained, it will give years of trouble-free service.

Five Year Complete Parts Guarantee:

WaterGroup will replace any part which fails within 60 months from date of manufacture, as indicated by the serial number, provided the failure is due to a defect in material or workmanship. The only exception shall be when proof of purchase or installation is provided and then the warranty period shall be from the date thereof.

Ten Year Guarantee on Mineral Tanks:

WaterGroup will provide a replacement mineral tank to any original equipment purchaser in possession of a tank that fails within 10 years, provided that the water filter is, at all times operated in accordance with specifications and not subject to freezing.

General Provisions:

WaterGroup assumes no responsibility for consequential damage, labor or expense incurred as a result of a defect or for failure to meet the terms of these guarantees because of circumstances beyond its control.

WaterGroup

193 Osborne Road, Fridley, MN 55432
www.watergroup.com