

- Eliminate lime scale formation
- Remove silt, sediment and other suspended matter
- Remove chlorine and other objectionable tastes and odors
- Complete treatment for up to six months

## Description

More than a filter, more than a feeder, Micro Plus is the complete treatment program for commercial ice makers, coffee urns and brewers, beverage machines and other water-using equipment such as humidifiers, steamers and residential refrigerator ice makers.

## Application

Micro-Plus Treatment Systems are available in a variety of size capacities, from the Micro-Plus 2, which can be used on equipment using up to 12.5 gallons of water per day, to the Micro-Plus 16 for treating up to 100 gallons of water per day. Micro-Plus systems are designed and manufactured to eliminate or control the three primary water-related problems: lime scale, silt and sediment, and objectionable tastes and odors encountered in ice makers, coffee urns and other equipment. These problems all reduce the designed capacities of this equipment, and they cause operation and service costs to increase.

## Lime Scale:

All water supplies contain hardness and alkalinity minerals. Without proper treatment, these minerals will cause lime scale formation in ice makers, coffee makers, humidifiers, etc., equipment that allows for the freezing or heating of the water.

### Solution:

Micro-Plus contains 6R Micromet®, an NSF-Listed, food-grade slowly soluble polyphosphate, which dissolves slowly into the water and stabilizes the hardness minerals, thereby preventing scale formation.

## Silt and Sediment:

When a water supply contains suspended matter, this can be troublesome in all types of equipment. The suspended particles will plug solenoid valves, distribution lines, small orifices.

## Ice Machine Filtration

# Micro-Plus® Treatment



### Solution:

Micro-Plus is equipped with a 100 micron screen to pre-filter the water as it enters the device and a 20 micron filter disc to filter the water as it leaves the device. This graduation of micron filtration (100 micron to 20 micron) enhances the devices service life in waters containing a high level of suspended particles, yet still provides 20 micron water.

## Objectionable Taste and Odor:

Compounds such as chlorine and hydrogen sulfide cause bad tastes and odors. In addition, chlorine can be corrosive and it can also inhibit or reduce the carbonation of water in beverage machines.

### Solution:

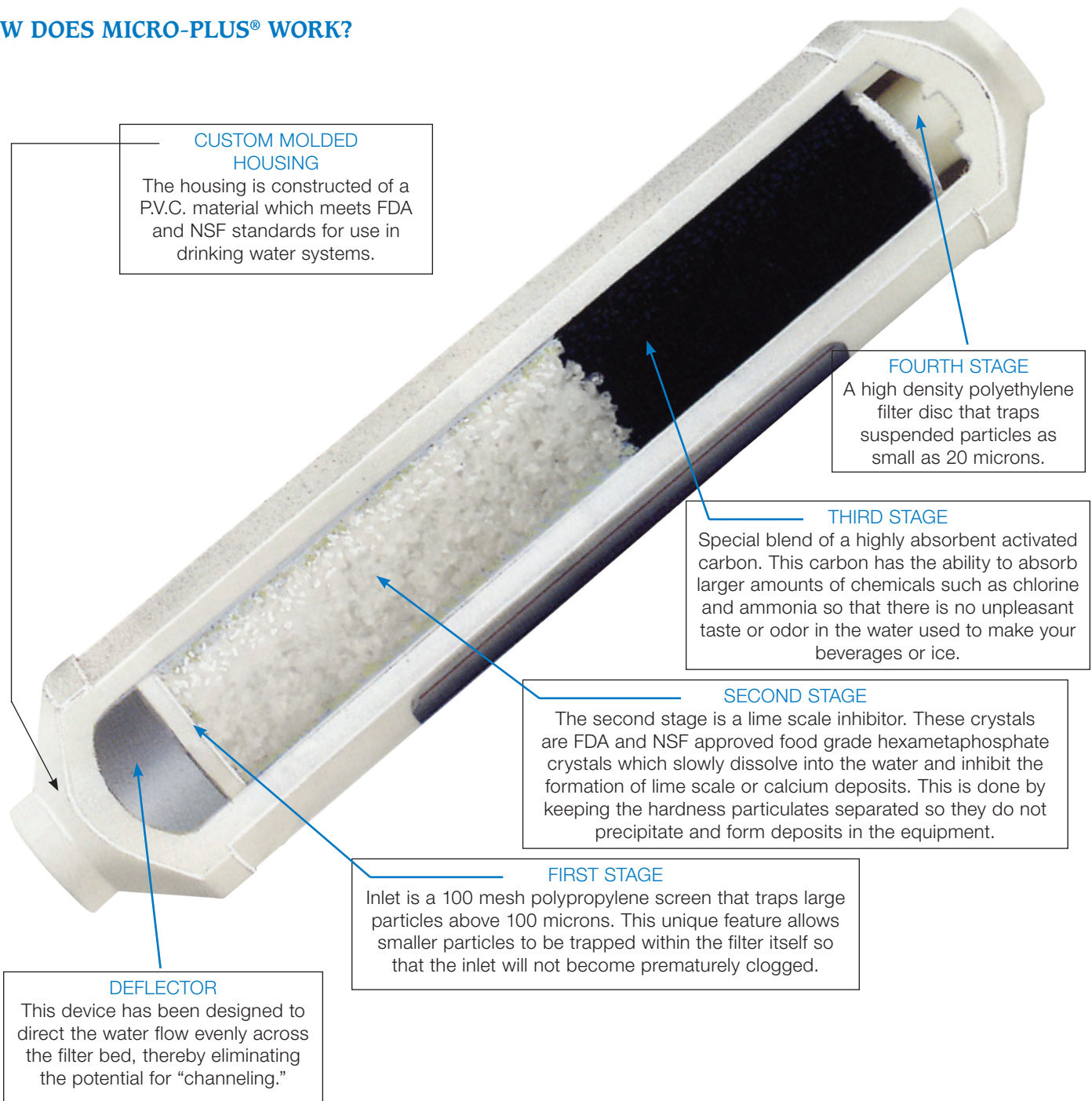
Micro-Plus contains the best available activated carbon for absorbing these contaminants. It will remove these objectionable tastes and odors, providing quality water or ice.

## Packaging

Micro-Plus 2	<b>4615-W3</b>
Micro-Plus 4	<b>4612-W3</b>
Micro-Plus 8	<b>4613-Y8</b>
Micro-Plus 16	<b>4614-Y8</b>

Tested and Certified by NSF International against ANSI/ NSF Standard 42 for Odor and Taste Reduction, Chlorine Reduction.

## HOW DOES MICRO-PLUS® WORK?



### How to Select The Correct Micro-Plus Device:

Whether you are going to treat an ice maker or a humidifier, the key to selecting the proper Micro-Plus is the amount of water to be treated per day. In the case of ice makers and coffee urns, this can also be addressed in terms of pounds of ice made per day or pounds of coffee per week. Simply consult the chart below:

APPLICATIONS						
Number	Systems	TREATMENT CAPACITIES				
		Operating Temperature Min./Max	Operating Pressure Min./Max	Gallons per Day	Ice Makers	Coffee Makers
4615-W3	MICRO-PLUS 2	40°-80°F	20-125 psi	12.5	Up to 125 lbs. of ice/day	25 lbs. of coffee (1,250 cup)/wk.
4612-W3	MICRO-PLUS 4	40°-80°F	20-125 psi	25	Up to 250 lbs. of ice/day	50 lbs. of coffee (2,500 cups)/wk.
4613-Y8	MICRO-PLUS 8	40°-80°F	20-125 psi	50	Up to 500 lbs. of ice/day	100 lbs. of coffee (5,000 cups)/wk.
4614-Y8	MICRO-PLUS 16	40°-80°F	20-125 psi	100	Up to 1000 lbs. of ice/day	200 lbs. of coffee (10,000 cups)/wk.

All are equipped with 1/4" FPT connections, and this allows for the selection and use of compression or flare fittings, or "quick-disconnect" plug fittings.

## Chlorine Reduction

As part of the NSF testing procedure, the Micro-Plus units were challenged by a highly chlorinated test water. As shown in the Reduction Table below, this water contained 2.0 mg/l (2 ppm) of chlorine, which is approximately 10 times the level of available chlorine seen in typical water supplies. Since the normal amount of chlorine is 0.1-0.2 ppm, the efficiency of chlorine removal (% reduction) in the normal or typical installation will be nearly 10 times greater than shown in the effluent tests below, resulting in an average chlorine affluent (amount allowed through the filter) of less than 0.1 ppm.

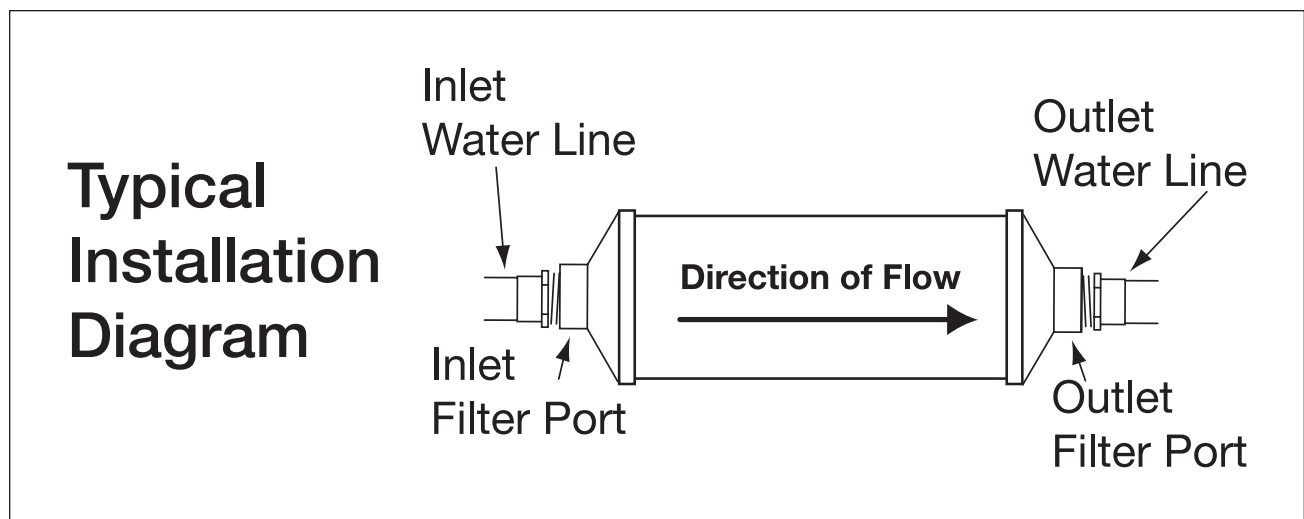
REDUCTION TABLE					
Model	Contaminant	Average Influent	Percent Reduction	Average Effluent	NSF Standard 42 Reduction Class
Micro-Plus 2	Chlorine	2 mg/l	63%	0.7 mg/l (ppm)	Class II
Micro-Plus 4	Chlorine	2 mg/l	79%	0.43 mg/l (ppm)	Class I
Micro-Plus 8	Chlorine	2 mg/l	93%	0.13 mg/l (ppm)	Class I
Micro-Plus 16	Chlorine	2 mg/l	93%	0.13 mg/l (ppm)	Class I

**Test Parameters:** Influent Challenge: pH 7.5 ± 0.5, temp 68°F ± 5°F, (20°C ± 3°C), Pressure 60 psig.

## Installation

### General Installation/Operation Conditions

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
- Installation must comply with state and local laws and regulations.
- Filters may be installed in any convenient location.
- Be sure to keep filters away from any heat source.
- Filters must be changed every six months or when capacity expires, whichever comes first.
- The standard period for storage and preservation of filter products is one year. This is simply a precaution, as under normal conditions these filters should last indefinitely.



### Installation Steps

1. Shut off water.
2. Disconnect existing filter or cut water line where filter is to be installed.
3. Install compression or flare fittings, or "Quick Connect" fittings.
4. Use thread seal tape where appropriate.
5. Insure proper direction of water flow and connect inlet. USE TWO WRENCHES.
6. Flush 5-6 gallons of water to drain as described above.
7. Turn off water and connect outlet. USE TWO WRENCHES.
8. Carefully turn on the water and check for leaks.
9. Check the filter after approximately 8 hours for slight leaks not visible during initial installation.

## Special Notes on the Equipment to be Treated

### Ice Makers:

Ice makers, both cubers and flakers, can be troubled by all three water-related problems. They are almost always troubled with scale since all water supplies contain some hardness and alkalinity minerals. Both air-cooled and water-cooled machines will need treatment. In the case of water-cooled machines, be sure to treat only the water being made into ice.

### Coffee Urns, Coffee Brewers:

This type of equipment is mostly troubled with scale formation on the heating elements and the presence of chlorine which can effect the taste of the coffee.

### Water Fountains:

These water using systems are usually troubled with objectionable tastes and odors, and occasionally silt and sediment. Micro-Plus will effectively remove those objectionable tastes and odors as well as silt and sediment.

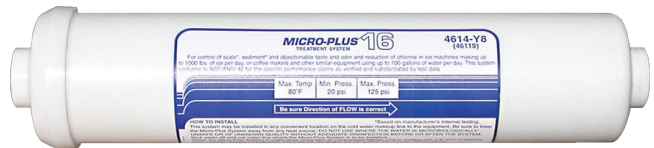
### Humidifiers:

Humidifiers are used to add moisture to ambient air. As a result, the water is changed in state from a liquid to a vapor, and scale is a definite problem. Humidifiers can be treated effectively with Micro-Plus, some form of a dump or bleed should be utilized.

## MICRO-PLUS CARTRIDGE DIMENSIONS



#4615-W3 – (Length 6.25", Diameter 2.09")



#4614-Y8 – (Length 14.125", Diameter 2.59")



#4612-W3 – (Length 10.25", Diameter 2.09")



#4613-Y8 – (Length 11.375", Diameter 2.59")

Read and understand the product's label and Safety Data Sheet ("SDS") for precautionary and first aid information.

The SDS is available on the Nu-Calgon website at [www.nucalgon.com](http://www.nucalgon.com).

