

Pre-Treat + Set Up Guide

NOTE: Pretreat Plus must be diluted before using with purified water.



Pretreat Plus should be injected into the feedstream prior to the RO cartridge filter. Effective pH range is 5 -10. If frozen, may be thawed and mixed before use. Stability is excellent, but best used within 12 months.

Pre-Treat + Guide

- **Effective in retarding polymerization and precipitation of silica**
- **Effectively controls inorganic scales over a large concentration range.**
- **Certified under ANSI/NSF Standard 60 for drinking water production.**
- **Compatible with major manufacturer's RO, NF, and UF membranes.**

Pretreat Plus is a highly effective antiscalant, specially formulated for feedwaters with the highest levels of metal oxides, silica, and scale-forming minerals. Use of this product is recommended for reducing the operating and capital costs of reverse osmosis (RO), nanofiltration (NF) and ultrafiltration (UF) systems.

Dosing Recommendations:

Pretreat Plus is applied in feed water in the range of 5 to 15 PPM. For most applications, we recommend 10 PPM applied dosage.

Pretreat Plus must be diluted for most applications. Add 6 oz of Pretreat Plus concentrate for every five gals of water. This will achieve a solution strength of 10,000 ppm.


Next, set your dosing pump based on the total flow rate of your RO system.

To determine the total flow rate, add the gallons per minute of the permeate (pure water) and concentrate (wastewater).

For example, say you have a 3000-gallon-per-day RO system.

This means that each minute, the RO system might produce 2.08 gallons per minute of purified water (permeate).

Questions?

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 **Email us:** support@cleanwaterstore.com

 **See more information on our website:** <https://www.cleanwaterstore.com/resource>

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The wastewater (concentrate) flow meter might be showing 4.0 GPM. Your total flow rate is, therefore, 6.0 GPM.

Select the 6.0 GPM below.

Flow Rate (GPM)	GPD Required (5 ppm)	GPD Required (10 ppm)
2	1.44	2.88
4	2.88	5.76
6	4.32	8.64
8	5.76	11.52
10	7.2	14.4
12	8.64	17.28

See the row for 6 GPM flow rate. If you are using a 10,000 PPM solution strength as recommended and you have a total of 6 PGM of permeate and concentrate water, you need a pump that can deliver 8.64 Gallons Per day (GPD).

For example, the JPRO-22 pump can pump 22 gallons in a 24-hour period, "GPD". Simply divide 8.64 by 22 to see that you need to set the JPRO pump at 40%.

If you used a different dosing pump that can pump (for example) 10 GPD, you would set the speed at 86%. ($8.64 / 10 = 0.86$)

Here is the formula to follow:

1. Determine the total water usage in gallons per minute (GPM) by adding the permeate and concentrate flow rates.
2. Calculate the required gallons per day (GPD) of the diluted PreTreat Plus concentrate based on the desired ppm. (either 5 or 10)
3. Adjust the calculation for different flow rates and ppm requirements.

The formula to calculate the output of the dosing pump in gallons per day is:

$$\text{GPD required} = \text{GPM} \times \text{PPM} \times 1440 / 10,000$$