

ZGF TECH BRIEF

WHAT IS A PPM & WHY DOES ANYBODY CARE?

The Most Advanced, Automatic,
Non-Disposable Liquid Filtration System



Parts per million or “ppm” is term used by water treatment companies, chemical companies (i.e. machining coolant, wash solutions, metalworking fluids, etc.), wastewater engineers, process engineers and filtration specialists on a regular basis.

But what is a ppm?

- A ppm is 1 part of something per 1 million parts of something.
- Parts per million (ppm) is quite often the measurement of the mass of a contaminant in a unit volume of water or water-based fluid. But ppm is also used when determining the amount of contaminant in an oil or solvent.
- ppm is often interchanged with mg/l → 1 mg/l = 1 ppm with water or water-based fluids
 - ✓ One ppm is equivalent to 1 milligram of something per liter of water (mg/l) because 1 liter of water weighs 1 kilogram or 1,000 grams or 1,000,000 milligrams
- ppm is also interchanged with %
 - ✓ $1 / 1,000,000 \times 100\% = 0.0001\%$ or 1% = 10,000 ppm

Why is knowing the ppm of contaminants in a fluid important when implementing a filtration system?

- You need to know how many solids that you can or need to remove from the fluid.
- You need the capability to handle the removed solids
- Your filtration must have the capacity to process the solids.

Example:

Flowrate: 100 gpm

Suspended Solids Concentration: 1% or 10,000 ppm. That is equal to:

- 1 gallon of solids every minute
- 1,440 gallons of solids every day or (26) 55-gallon drums

ZGF Spring Filter absolute gap filter elements will remove 99% of spherical particles larger than the gap.

ZGF Spring Filter systems can typically process aqueous fluids with suspended solids concentrations of 500 ppm. A 100 gpm system with 500 ppm of suspended solids can fill up one 55-gallon drum in day!

ZGF Maggie technology will remove most ferrous particles larger than 5 micron as well as sub-micron particles!

A ZGF Maggie can typically process aqueous fluids and oils with a suspended ferrous particle concentrations greater than 1,000 ppm. A MG2600 (250 gpm) can hold up to 8 pounds (3.63 kg) of ferrous fines between purge cycles. At 250 gpm with 500 ppm of suspended ferrous particles, the Maggie would capture 1 pound of solids every minute and be set up to purge every 5 – 6 minutes.

All ZGF filtration technology is fully automatic and media-free. Maggie and Spring Filter technology do not create waste (i.e. disposal of bags, cartridges or roll media) or labor (order, changeout and disposal of media). With ZGF Spring Filter and Maggie technologies the pile of contaminants removed from your system will grow and your operating costs and environmental footprint will diminish!