



Pilot Water Treatment Plant

BI Pure Water (Canada) Inc. has several pilot water treatment plants available for short term rental. The goal is to cost-effectively provide assurance that a full-scale treatment plant process equipment operates effectively. These pilot plants are mounted on skids for quick delivery and setup. The media can be changed to suit the contaminants shown by the water analysis.



Figure 1 – Backside of the pilot plant showing the backwash tank and pump

Chlorinated water at a flow rate of 15 – 30 LPM (4 - 8 USGPM) flows into the pilot plant contact tank and is pumped into the vessel containing the Iron and Manganese removal media. GreensandPlus is one of the types of media used.

GreensandPlus is effective at higher operating temperatures and higher differential pressures than ordinary manganese greensand. Tolerance to higher differential pressure can provide for longer run times between backwashes and a greater margin of safety. The bonus is that GreensandPlus is one of the few medias that only needs to use Chlorine for continuous regeneration.

GreensandPlus is an exact replacement for manganese greensand. It can be used in CR or IR applications and requires no changes in backwash rate or times or chemical feeds. GreensandPlus has the WQA Gold Seal Certification for compliance with NSF/ANSI 61.

The GreensandPlus CR process has been found to be successful in removing radium and arsenic from well water. For radium removal, soluble manganese must be present in or added to the raw water for removal to occur. Arsenic removal requires iron to be present in or added to the raw water to accomplish removal. Pilot plant testing is recommended in either case.

Raw waters having natural pH of 6.2 or above can be filtered through GreensandPlus without pH correction. Raw waters with a pH lower than 6.2 should be pH-corrected to 6.5-6.8 before filtration. Additional alkali should be added following the filters if a pH higher than 6.5-6.8 is desired in the treated water. This prevents the possible adverse reaction and formation of a colloidal precipitate that sometimes occurs with iron and alkali at a pH above 6.8.



Figure 2 – Frontside of the pilot plant showing the control panel, chlorination system and media vessel

BIPW's quality plans, environmental considerations, design and 3D CAD drawings meet the unique requirements and standards of major corporations and utilities. This includes "Design for Resilience", taking into account seismic forces, flooding, extreme storms and other factors. As well as COR safety certification, BI Pure Water has these technical certifications: CSA A660, CSA A277, CWB and ETL.

BIPW specializes in reviewing water quality test results, analyzing customer needs, then prescribing the most cost-effective solution. Our engineers and staff pilot, design, manufacture, install, start-up and commission package water & wastewater treatment plants. The operators are then trained and the plants can be serviced on a regular basis.

BIPW focuses on small and medium-sized package water treatment plants to meet the needs of Federal, Provincial and Municipal Governments, Industrial Process, Mining Camps, Private Water Systems, Resorts and First Nations communities.

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