

SPECIFICATIONS for MyFAST® MODEL 80

WASTEWATER TREATMENT SYSTEM

General Specifications

The treatment plant described by these specifications is a Model No. MyFAST® 80 as manufactured by Bio-Microbics, Inc., of the State of Kansas, USA (hereinafter referred to as "Bio-Microbics") and distributed in Canada by Pinnacle Environmental Technologies Inc. of Langley, BC, Canada (hereinafter referred to as "Pinnacle").

The Contractor shall furnish and install the MyFAST® Model 80 treatment system (hereinafter referred to as the "treatment system" or "treatment plant") as manufactured by Bio-Microbics and distributed by Pinnacle. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein.

The MyFAST® 80 components and equipment manufactured and/or supplied by Bio-Microbics shall include:

- SanTEEs Model ST1638,
- MyFAST® BioFilters c/w air lift assemblies factory installed into BioFilters
- Two (2) 25 HP air blower assembly c/w controls and alarm package,
- Activated sludge collection pipe works and transfer pump package
- Sludge holding duplex aeration system c/w controller and alarms

All of the MyFAST® 80 components shall be situated within a tank, as shown on the shop drawings/plans as approved by Pinnacle. The tank(s) must conform to local, state or provincial, and all other applicable codes and standards. The tank(s) shall have minimum volumetric capacities as stated herein.

The contractor shall supply items such as, but not limited to:

- Tank(s)
- Labour and equipment to install MyFAST® into the tank(s)
- All electrical installation hardware (wiring, conduit, junctions, etc.)
- All piping except sludge collection network
- Fasteners and other miscellaneous hardware

The tank(s) for the MyFAST® 80 system shall have a minimum volumetric working capacity for the settling chamber of 151,382 litres (33,300 imp. gals.) and for chamber that holds the MyFAST® 80 BioFilter a minimum of 302,800 litres (66,600 imp. gals.) and for the sludge holding chamber a minimum of 63,644 litres (14,000 imp. gals.).

Where the MyFAST® system and the tank are supplied separately, the Contractor shall provide coordination between Pinnacle and the tank fabricator with regards to fabrication of the tank, delivery to the job site and installation of the MyFAST® system.

Operating Conditions

The treatment system shall be capable of treating 302.84 m³. (66,616 imp. gals.) per day of Average Daily Flow (ADF) of domestic raw sewage wastewater with a typical biological loading of up to 250 mg/l of BOD₅, 250 mg/l of Total Suspended Solids, 25 mg/l of Fats, Oils, and Greases; with, an organic loading of 66.51 kg (146.62 lbs.) of BOD₅ per day. Load figures are based on a design of up to 820 people and a per capita daily BOD₅ of 0.081 kg (0.1788 lbs.).

Media

The MyFAST® media shall be manufactured of rigid PVC or polypropylene and shall be supported by the polyethylene casing. The media shall be of such a design that bacterial growth is uniform over all media surfaces and the said design shall be for the treatment of domestic strength sewage wastewater. The media shall be fixed in position and contain no moving or wearing parts and shall not corrode. The media shall be designed and installed to ensure that the sloughed solids immediately descend through the media to the bottom of the tank.

Air Pump/Blowers

The treatment system shall have air from two regenerative type blowers capable of delivering 400 - 700 CFM each. Each blower assembly shall include an inlet filter with metal filter element.

Remote Mounted Air Pump/Blower

The blowers shall be mounted remote, adjacent to the treatment system in accordance with the instructions stated in the installation section of the manual supplied with each MyFAST® system. The air blower elevation MUST be higher than the normal flood level. A plastic housing shall be provided with tamper-proof screws. The discharge airline from the air blower to the MyFAST® system shall be provided and installed by the Contractor.

Electrical

The treatment system shall be designed to operate on standard current. The input power required for the two (2) of 25 HP air pump/blower is 230/460 VAC, three (3) Phase, 60 Hertz, 119.4/62.1 Full Load Amps (FLA) and Locked Rotor Amps are 360 The Contractor shall furnish all conduit and wiring between the electrical control panel, the power supply, and the air pump/blower using a qualified licensed electrical contractor.

Alarms

The alarm system shall consist of a visual and audible alarm to indicate either a failure of the air pump/blower The alarm shall be located on site as shown on the plans and in accordance with local, state, provincial or other applicable code or standard. A manual silence switch is included. The treatment system's alarm control box shall be cUL and/or CSA rated and shall be supplied in an indoor/outdoor NEMA 4X plastic enclosure.

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Installation and Operating Instructions

In accordance with the written instructions provided by Pinnacle Environmental Technologies, the installation of the MyFAST® system shall be done by the Contractor onsite. A manual shall be furnished which will provide a description of the installation, operation, and system maintenance procedures.

Tank Internal Piping

The Contractor shall furnish and install PVC or ABS pipe and fittings where necessary for the following: (a) 100 mm diameter leg extensions for the BioFilter, (b) 100 mm diameter effluent outlet pipe (c) 100 mm diameter perforated pipe and solid pipe for the activated sludge collection system and (d) 100 mm diameter sludge holding tank pipe and fittings.

Tank External Pipe & Fittings

The Contractor shall furnish and install PVC or ABS pipe and fittings where necessary for any and all piping, fittings or valves outside the treatment system such as, but not limited to for the following:

- (a) the wastewater drain line to and from the treatment system,
- (b) steel air transport line,
- (c) air exhausting vent and
- (d) inspection port.

Workmanship and Experience

All workmanship and materials shall be of the highest quality. The wastewater treatment plant shall be the product of an experienced manufacturer actively engaged in the manufacturing and research and development of sewage treatment facilities.

Tank Construction

The settling chamber, main treatment chamber and sludge holding chamber may be constructed from concrete or epoxy coated steel with cathodic protection in accordance with local codes, bylaws and regulations.

Warranty

Refer to current published Warranty Statement in the Owner's manual.

Bio-Microbics and Pinnacle do not assume responsibility for contingent liabilities or consequential damages of any nature resulting from defects in design, material or workmanship, or delays in delivery, replacement, or otherwise.