

## **SPECIFICATIONS for MyFAST® MODEL 160**

### **WASTEWATER TREATMENT SYSTEM**

#### **General Specifications**

The treatment plant described by these specifications is a Model No. MyFAST® 160 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 160 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® 160 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
- Four (4) 25 HP air blower assembly c/w controls and alarm package,
- Activated sludge collection pipe works and transfer pump package
- Sludge holding chamber duplex aeration system c/w controller and alarms

All of the MyFAST® 160 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 tank(s) for the MyFAST® 160 system shall have a minimum volumetric working capacity for the settling chamber of 302,764 litres (66,600 imp. gals.) and for chambers that hold the MyFAST® 160 BioFilters a minimum of 605,527 litres (133,200 imp. gals.) total and for the sludge holding chamber a minimum of 127,288 litres (28,000 imp. gals.) total.

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 605.67 m<sup>3</sup>. (133,232 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 BOD<sub>5</sub>, 250 mg/l of Total Suspended Solids, 25 mg/l of Fats, Oils, and Greases; with, an organic loading of 133.01 kg (293.23 lbs.) of BOD<sub>5</sub> per day. Load figures are based on a design of 1,640 people and a per capita daily BOD<sub>5</sub> of 0.081 kg (0.1788 lbs.) per day.

## **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 four (4) regenerative type blowers each capable of delivering 400 - 700 CFM. Each blower assembly shall include an inlet filter with metal filter element.

## **Remote Mounted Air Pump/Blower**

The blowers shall be mounted 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 pump/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 each of the 4 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.

## **SPECIFICATIONS for MyFAST® MODEL 160 cont'd**

## **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 either 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**

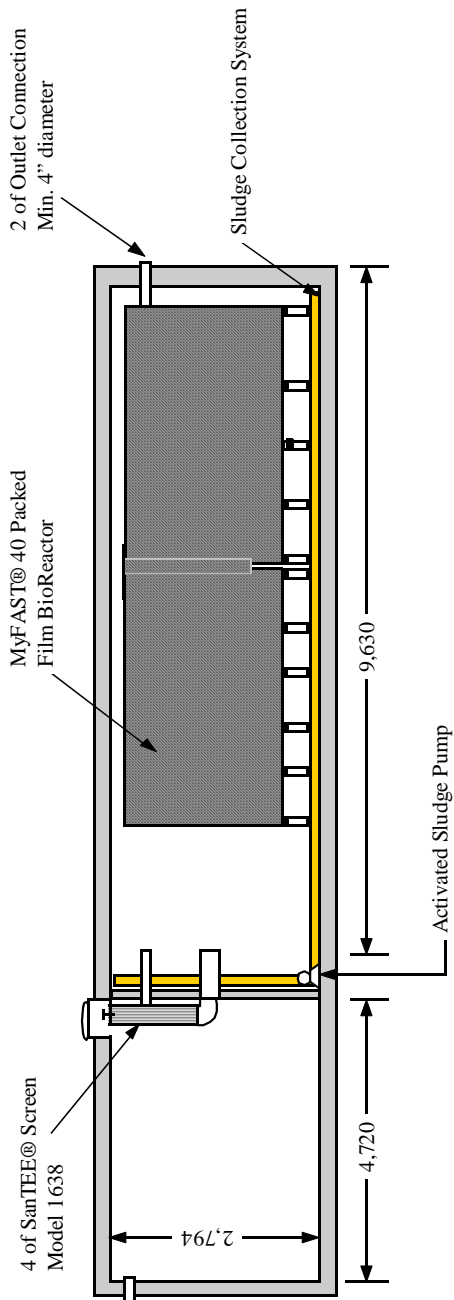
The settling chamber, main treatment chamber and sludge holding chamber may be constructed from concrete or epoxy coated steel with cathodic protection in accordance with local codes, bylaws and regulations.

### **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.





Inlet Connection  
Min. 4" diameter

**Flow Path Description**

Raw sewage enters the settling chamber.

Wastewater passes through the 4 effluent screens and enters the Bio Reactor from underneath and airlifted over the media pack.

Treated effluent exits out of the BioReactor to the discharge point.

The sludge pump collects the activated sludge from under and around the Bio Reactor and pumps to the Digester chamber.

Untreatable waste is vacuumed out for landfill.

Inlet Connection  
Min. 4" diameter  
(located as needed)

2 of LIXOR®  
Aeration

31,800 litres  
Digester Chamber

151,000 litres  
Treatment Chamber

2 of Outlet Connection  
Min. 4" diameter

Sludge Pump Out for Landfill



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**Project Title/Description**  
MyFAST@ 40  
Packed Film BioReactor

**Drawn By:** F Hay  
**Scale:** N.T.S.

**Drawing Title:** General Arrangement Layout  
**Revision No.:** 0

**Date:**  
**Sheet No.:** 1 of 1