

# NOMADIC™ TT MBR Mobile Sewage Treatment – Treatment Trailer Style

## General Specifications for Membrane Biological Reactor Models

### General

The NOMADIC™ TT Membrane Biological Reactor model system shall consist of:

1. a modified tandem axle pull-type trailer or multiple trailers.
2. an epoxy coated, multi-chamber steel tank,
3. settling,
4. Membrane Biological Reactor wastewater treatment system,
5. an ultra-violet light disinfection system,
6. an effluent discharge systems.

### Treatment Trailer

The pull-type treatment trailer shall be modified for openings for fresh air inlet, sewage inlet, electrical conduit inlet and final effluent discharge, and have a ball hitch and wiring harness for the running lights.

The trailer shall be modified with under carriage support, four (4) corner jacks and exterior jack rack.

The treatment trailer shall be insulated and heated.

### Operating Conditions

Each model number shall state the maximum number of persons that the system as designed to treat for the industrial / work camp.

Each person shall generate or contribute to not more than 227.3 litres of wastewater per day. The influent wastewater shall not have a combined sewage strength not exceeding a BOD5 of 250 mg/l, TSS of 250 mg/l, Fats, oils and greases of 35 mg/l and have a pH of 6.5 to 7.5 at all times.

Fats, oils and grease source control are solely the responsibility of the user of the NOMADIC™ TT mobile wastewater treatment system to ensure that the level of as set down above is not exceeded.

The effluent quality from the NOMADIC™ TT mobile wastewater treatment system shall have a BOD5 of < 5 mg/l, TSS of < 5 mg/l, Fecal Coliform of < 5 CFU/100 ml and a pH of 6.5 to 7.5

### Multi-Chamber Steel Tank

The steel tank shall be coated inside and outside, including all internal steel pipe works, with an epoxy coating that has a ten (10) year warranty suitable for use in a sewage wastewater vessel.

Each of the steel tank's chambers shall have a volumetric working capacity in accordance with the requirements as determined by Pinnacle Environmental Technologies Inc. for the corresponding NOMADIC™ TT model for the respective daily design flow rate.

Chambers used for settling and the MBR treatment shall be directly exhaust vented to the exterior of the treatment trailer.

Each chamber of the steel tank shall have a 100 mm diameter drain pipe connected to a brass knife/gate valve placed on the exterior of the steel tank complete with cam-lock fitting.

### Settling Chamber

The settling chamber shall have a volumetric capacity of not less than one-half day of the daily design sewage flow and shall be fitted with outlet baffle to flow by gravity into the MBR chamber.

### Membrane Biological Reactor (MBR)

The membrane biological reactor shall be submersed encased in a plastic liner.

The membrane biological reactor shall be accredited under the National Standard of Canada system and the Standards Council of Canada or the American National Standards Institute as meeting either of the NSF International Standard 40 and 350, Class 1 or the CAN/BNQ 3680.

The MBR shall be one of BioBarrier® as solely available from Pinnacle Environmental Technologies Inc. in Langley, British Columbia.

The MBR shall be supplied and installed by Pinnacle Environmental Technologies Inc. into the NOMADIC™ TT MBR system.

The MBR chamber shall have a volumetric capacity in accordance with the requirements as determined by Pinnacle Environmental Technologies Inc. for the corresponding daily design flow rate for the respective NOMADIC™ systems.

### Effluent Discharge System

All effluent discharge system shall be an on-demand duplex alternating ½ HP, 2” solids handling pumps with liquid level sensors for pump on, pump off and high level alarm.

A pump controller shall be installed in accordance with the requirements of Pinnacle Environmental Technologies Inc. and shall have event recording capabilities to determine actual daily flow rates.

### Redundancies (a.k.a. back up)

Liquid handling pumps shall be duplex with alternating frequencies as controlled by the pump controller,

Each cargo container’s air blowers shall have a spare or redundant blower installed and connected through pipe and valve system to be activated manually.

Spare parts shall be requested as determined by the buyer.

### Electrical

The NOMADIC™ TT MBR mobile wastewater treatment system shall be, at the Pinnacle factory, electrically wired by a Licensed Electrical Contractor who holds a “red seal” accreditation for Canada.

Electrical work to be conducted by qualified electrician at the location of the placement of the NOMADIC™ TT mobile treatment system shall be responsible for any electrical permits or compliance to local codes, bylaws or legislation in regards to connection and use of the NOMADIC™ TT MBR system

Warranty

The MBR, all air blowers and controls are warranted against defects in material or workmanship for one (1) year from date of shipping from the factory.

The steel tank is warranted against defects in material or workmanship for one (1) year from date of shipping from the factory.

The coating on the steel tank is warranted for ten (10) years from date of shipping from the factory.

Treatment Trailer as modified shall be warranted by Pinnacle Environmental Technologies Inc. against defects in material or workmanship for one (1) year from date of shipping from the factory.