

WASTE WATER TREATMENT



Blivet Marketing Services (North America) Ltd.



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BMS Blivet™ - How It Works

The BMS Blivet™ is an "all-in-one" packaged sewage treatment plant consisting of primary settlement, sludge storage, aerobic treatment and final settlement

Domestic raw sewage enters the BMS Blivet™ and is directed to the bottom of the unit by a baffle (wall) that is full tank width, top edge of the baffle being level with the top elevation or crown of the inlet pipe and extending down to approximately 400mm above the tank bottom.

The solids settle, allowing only the supernatant liquid to rise hydraulically through parallel or lamella plates; passes over a notched weir into a trough and enter the BMS Aerotor™. The lamella plates are sloped an optimum 60 degree angle and placed at 50mm spacing to reject the passage of any possible floatables from entering the BMS Aerotor™ unit. The solids settle to the bottom of the tank as sludge, to be removed latter for disposal.

Microorganisms, inherent in all sewage, attach themselves to the media of the BMS Aerotor™, which is a rotating fixed film reactor, and survive by consuming the "nutrients" suspended in the supernatant liquid. The active aeration process of the rotating drums present the biomass alternately to the air and into the liquid, which enhances the efficiency of this bio-filter.

The first section of the BMS Aerotor™ is effectively a pump, as the liquid enters through holes in the outer edge of the rotor, and carried by an intricate patented design of internal vanes, exits at the opposite side of the rotor at the center. This effectively raises the liquid level by 375mm, which allows re-circulation by gravity from the final rotor. The internal vanes of the media are constantly being scoured by the speed of rotation and the trapped air bubbles. This self-cleansing velocity of 6 rpm maintains a thin homogeneous biomass growth, preventing excess growth, thereby contributing to process efficiency. The flow pattern induces all the effluent to make contact with the media and biomass before passing to the next stage.

As the liquid exits the BMS Aerotor™, it is routed to the Final Settlement Area. This area allows for the settlement of small particles. The liquid hits a baffle and deflects to the bottom of the Final Settlement Area where, similar to the Primary Settle Area, the liquid must travel upwards through a set of lamella plates. The plates in this area are placed at 25mm spacing, as smaller particles require settling. A sludge pump, operated by a timer, is located in this area to remove the small amount of accumulated particles to the main sludge storage area. The treated effluent passes over a notched weir into a trough and exits the unit.

Final effluent quality from normal strength influent raw sewage of 250mg/litre Biochemical Oxygen Demand (BOD) and 300mg/litre Total Suspended Solids (TSS), will meet or exceed the Canadian Environmental Regulations for discharge of less than 20mg/litre BOD and less than 30mg/litre TSS.