

INDION[®] New Generation Packaged Sewage Treatment Plant - Nitrogen Removal (NGPSTP NR)



INDION NGPSTP NR is a unique combination of Fixed film reactor and Lamella clarification that results in a ready-to-operate, pre-fabricated solution of outstanding performance and efficiency for sewage treatment.

Process

Primary Settlement: Sewage enters the primary settlement tank. The tank incorporates lamella parallel plates which aid in reducing the suspended solids by 75% and the BOD by 25%. This zone is relatively maintenance-free and contains no moving mechanical or electrical devices.

Aerobic and nitrification treatment: The effluent then enters the aerator bio-zone which is a combined fixed film reactor and active aeration system mounted on a horizontal shaft. The aerator provides a solid surface area for micro-organisms to attach themselves; these then feed on the organic matter present in the effluent. Rotation of the drums aerates the liquid. The organic matter gets converted to CO_2 and the nitrifying bacteria convert the ammonia (NH_{4+}) into nitrate (NO_3). The bio-zone is self-cleansing and does not require extraneous pumping or sludge return.

Final Settlement: The treated effluent then moves to the settlement area. This area contains a lamella parallel plate assembly for settling finer particles. Post the splitter box arrangement, a part of the treated effluent (Nitrified) is recycled to the denitrification zone to reduce total nitrogen to the desired level.

Denitrification/Anoxic zone: In this zone the denitrifying bacteria utilizes combined oxygen in nitrate (NO_3) and nitrite (NO_2) with reduction of these nitrogen species to nitrogen gas (N_2).

Features

- All-in-one single tank packaged sewage treatment plant with denitrification
- Modular design: 10 – 100 m^3/day
- Compact and simple to operate
- High quality effluent
- Minimal maintenance
- MS with FRP lined construction tank – no corrosion

Advantages

- Minimal land usage
- Minimum power and chemical requirement
- Low operating cost

Applications

- Hotels & Restaurants
- Holiday Resorts
- Golf & Country Clubs
- Townships & Housing Complexes
- National Parks
- Industrial Estates
- Existing Plan Upgradation
- Construction Sites

Technical Specifications

Model	Flow Rate (litres/day)	Length (m)
NGPSTP NR 500	11,500	5.62
NGPSTP NR 1000	23,000	6.62
NGPSTP NR 1500	34,500	7.12
NGPSTP NR 2000	46,000	9.482
NGPSTP NR 3000	57,500	9.982
NGPSTP NR 3500	74,750	10.622

2.32 m width and 3.3 m overall height for all units

- INDION NGPSTP NR is available as modular units in various sizes as per the sewage treatment requirements.
- All units are road transportable.

Specialised sewage and effluent treatment processes such as sequential batch reactor (SBR), fluidised media reactor (FMR) and submerged membrane bio-reactor (MBR) are also available for high flow rates.

Our state-of-the-art manufacturing facilities are ISO 9001, ISO 14001 & ISO 45001 certified.

To the best of our knowledge, the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice. Please contact our regional/branch offices for current product specifications.

INDION® is the registered trademark of Ion Exchange (India) Ltd.



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