Featuring Norweco’s exclusive Travalair® sludge return and surface skimmer system

- LOW INITIAL COST
- PERMANENT PRE-CAST CONCRETE TANK
- ADD ON DESIGN FOR FUTURE EXPANSION
- AUTOMATIC OPERATION
- FAST, EFFICIENT INSTALLATION
- EQUIPMENT FULLY GUARANTEED

- Capacities to 500,000 GPD
The Norweco Travalair plant operates on the Extended Aeration principle using microscopic organisms, in the presence of oxygen, to destroy organic compounds in the sewage.

First incoming sewage passes through a conditioning device that removes untreatable objects and prevents them from entering the aeration chamber. Pretreatment may be accomplished by using a comminutor, bar screen or trash trap. Trash traps are holding tanks used to settle out untreatable objects, bar screens merely screen incoming sewage and comminutors grind and screen the sewage before passing it to the second phase of treatment.

After pretreatment the conditioned wastewater enters the aeration chamber of the plant where the bulk of the organic compounds are eliminated. Norweco’s Travalair aeration chamber is designed to hold the wastewater for twenty-four hours while aerobic bacteria, present in the chamber, destroy all organic material. To obtain such complete treatment in just twenty-four hours it is necessary to provide just the right environment for the bacteria. This is accomplished by the controlled introduction of oxygen into the chamber. Norweco’s unique Evenair diffusers are designed just for this purpose. They are installed in the bottom of the chamber to provide even distribution of oxygen into the aeration tank. Stimulated by the abundant supply of oxygen the bacteria multiply rapidly and are thoroughly mixed with the tank contents to insure complete oxidation of all organic material.

After twenty-four hours in the aeration chamber the liquid flows into the settling chamber. Settling is provided to remove the small particles suspended in the liquid so the purified effluent may be discharged from the plant. The lower sidewalls of the chamber are slanted to form a hopper. As the suspended particles settle toward the bottom they are guided into a small area in the center of the hopper by the Travalair scraper assembly. Here the particles are picked up by the Travalair pump and returned to the aeration chamber for final treatment. This process of removing the small suspended particles from the liquid leaves only a clear, highly treated water at the top of the chamber. This treated liquid flows over the edge of the effluent weir and returns to the environment.

Norweco’s unique Travalair unit operates automatically. It travels from end to end in the settling chamber continuously pumping settled sludge back to the aeration chamber. At the same time a surface skimming system, installed as an integral part of the Travalair unit, continuously and automatically cleans the surface of the settling tank. A squeegee, connected to the lower portion of the Travalair unit, scrapes the slanted sidewalls of the hopper and eliminates accumulation of sludge in the bottom of the tank. This exclusive feature completely eliminates manual hopper scraping. It saves the operators time - and the owners money.

Operation and maintenance costs are greatly reduced because the Travalair unit may be completely serviced at grade. The Travalair drive unit is installed in a weatherproof cabinet at the end of the settling tank. No tank pumping is required - no complicated mechanical devices are installed inside the tank. All periodic maintenance and lubrication can be completed quickly and efficiently by a serviceman without the need for complicated disassembly of equipment or special tools.
UNEQUALED DOUBLE SEAL BEAM CONSTRUCTION

Pre-cast wall sections with Norweco’s double seal beam insure a positive tank seal and rugged structural stability. A reinforced pre-cast seal beam is installed to lock together adjoining wall sections. A primary seal is established by using a synthetic sealing strip. As an added feature - a secondary seal of grout is installed in the groove after the primary seal. The beam itself provides structural stability that is unmatched by poured in place concrete or steel tanks.

PRE-CAST GUIDE RAIL

Common only to the Travalair system - it eliminates the need for a poured foundation slab in the excavation prior to tank installation. All sidewalls of the plant are erected on pre-cast guide rails. Then the finished floor for the tank is poured inside, thus eliminating the problem of leaky seals between sidewalls and foundation slabs. In addition, the poured floor is provided as a standard part of the Travalair plant, eliminating the extra trouble and added expense required for a conventional foundation slab.
OPTIONAL ACCESSORIES

A. Comminutors
B. Bar screens
   • Pre-treatment tanks
   • Sewage lift stations
C. Gas chlorinators
D. Liquid chlorinators
E. Dry chlorinators
   • Flow meters
   • Flow recorders
F. Seven day time clocks
   • Aerated and Non-aerated sludge holding tanks
   • Tertiary treatment filters
   • Galvanized non-skid grating

TRAVALAIR® ADVANTAGES

• Automatic sludge collection and return - no daily or weekly hopper scraping
• Non-corrosive pre-cast concrete tanks - no tank pumping and repainting - no anode packs
• Automatic surface skimming - no manual cleaning of tank surface
• Non-clog Evenair® diffusers - eliminates periodic cleaning - reduces plant maintenance
• Galvanized pipe throughout - eliminates repainting and replacement of internal plant piping
• Central control panel - permits automatic operation - places all controls at your fingertips
• Norweco non-clog spray nozzles - control foaming in the aeration chamber - all brass construction
• Pre-cast guide rails - eliminate the need and extra expense of a concrete foundation slab
• Duplicate mechanical equipment - two motors, blowers and controls are provided with each plant - each set is capable of operating the entire system - virtually eliminates plant down time

TRAVALAIR® OPERATION

A complete comprehensive OPERATOR’S MANUAL is supplied with the system. This manual along with periodic inspections by a Norweco field technician provides complete training of the plant operator, eliminates all guesswork and insures highly efficient operation.
OTHER EQUIPMENT FROM NORWECO

LIFT-RAIL® PUMPING STATIONS
Featuring guide rails and telescopic hoist with winch for rapid pump removal and inspection. Available to handle any pumping application - installed and ready to operate in less than a week. Controls are installed at ground level in a weatherproof enclosure.

MODULAIR® WASTEWATER TREATMENT PLANTS
For semi-commercial applications - 1,500 to 100,000 GPD. Tanks are precast concrete covered with galvanized metal grating. Equipment is factory assembled and tested. Ideal for small subdivisions, factories, schools, shopping centers, etc.

SINGULAIR® HOME TREATMENT PLANTS
Individual home wastewater treatment systems for use in non-sewered suburban and rural areas. Norweco SINGULAIR plants automatically reduce all household wastewater to a clear, odorless effluent in just 24 hours.

SERVICE
A one year service program is included with the purchase of a Travalair Wastewater Treatment Plant. The policy includes periodic inspections during the first year and detailed operating reports are filed with the Health Department during this period.

Bi-weekly inspections are made by a Norweco serviceman during the first six to eight weeks of plant operation. These “start-up” inspections insure that the plant is adjusted to operate at peak efficiency and train the operator regarding routine operation and maintenance of the system.

Once the “start-up” portion of the program is completed our servicemen will continue to inspect the plant at bi-monthly intervals for the remainder of the first year. Norweco offers a number of service policies that provide continuing plant supervision and maintenance after the first year.

WARRANTY
Norweco’s Travalair Wastewater Treatment System is warranted against defective material and workmanship, under normal use and service, for a period of one year from the date of installation. This warranty is limited to replacement of any item that proves to be defective during the first year.

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