

# WASTEWATER TREATMENT SYSTEMS

**Ecolo Chief**  
Chief Environmental Products



**CHIEF**   
Environmental Products

*We Engineer  
Relationships.*

# Ecolo-Chief means ease of operation, custom planning for your needs.

## Applications are many...

Since 1972, Chief Industries Inc. has offered the Ecolo-Chief Pre-engineered Wastewater Treatment System around the globe. The Ecolo-Chief System is designed for smaller cities and villages as well as a variety of other individualized uses, ranging from subdivisions, apartment buildings and motels to manufacturing and processing operations. The biological process employed by the Ecolo-Chief System can also be of use in certain industrial wastewater applications. Building on the corporation's commitment to quality through innovation, Ecolo-Chief strives to meet the ever-changing environmental challenges of wastewater treatment around the world.

## The Ecolo-Chief System offers many benefits...

**Bypass or Short Circuit** If maximum loading capacity isn't expected immediately, a portion of the Ecolo-Chief System can be bypassed to obtain optimum results during the initial low flow period. This feature is of particular value to new housing developments and seasonal operations.

**Expansion** Should greater capacity be needed, the Ecolo-Chief System can be easily upgraded to meet greater demand.

**Low Cost** Based on a per gallon cost, the Ecolo-Chief System is one of the most cost efficient systems available

**Performance** With proper operation, the Ecolo-Chief System consistently removes 90-95%+ of the Bio-chemical Oxygen Demand, Suspended Solids and Chemical Oxygen Demand.

**Shock Loads** The Ecolo-Chief's modular tank design and the primary tank at the head of the system greatly reduce the effects of shock loads. This feature is ideal for schools.

**Sludge Waste Off** Simply adjusting the wye valve diverts the waste sludge to the aerobic sludge digester rather than the first aeration tank.

## Other Benefits and Features

- Attractive above or below ground installation
- Factory epoxy powder coated galvanized steel for long life and durability
- Ease of operation and maintenance
- Duplex motor/blower units standard
- Pre-engineered and custom designed systems
- Minimal land area required



INNER-TANK CONNECTION



SYSTEM UNDER CONSTRUCTION



OPTIONAL - MECHANICAL SLUDGE COLLECTOR

## PRIMARY SEPARATION OF SOLIDS & DIGESTION OF FLOATABLES

- Reduces BOD<sub>5</sub> and suspended solids entering the aeration zone

## ROUND MODULAR AERATION ZONE

- Causes better mix of food to air over matter
- Allows easy expansion
- Allows operator excellent control in seasonal flow conditions

## GRID-TYPE AERATION PATTERN

- Assures better dissolved oxygen ratio

## HOPPER-BOTTOM SETTLING ZONE

- Airlift sludge return assures low operation costs
- Optional mechanical sludge collector reduces maintenance time

## ALSO AVAILABLE:

- Nutrient Removal
- Mechanical Sludge Collector
- Fine Bubble and Course Bubble Aeration
- Tertiary Treatment
- Noise Reduction Enclosures
- Chief Extended Aeration Systems

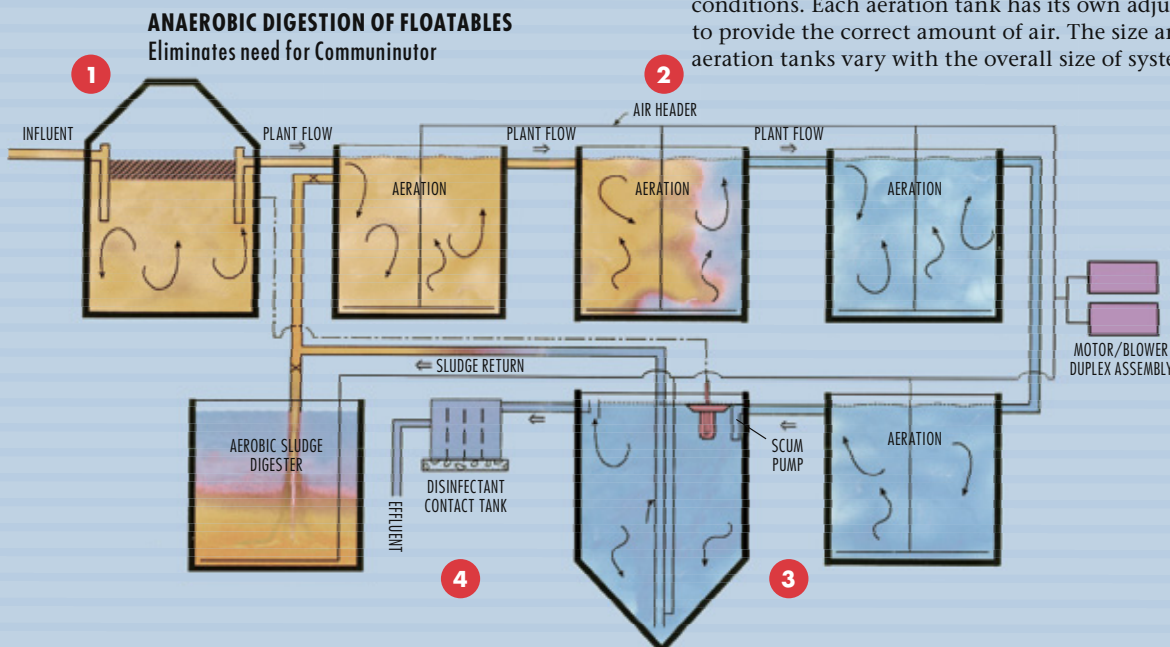
# ECOLO-CHIEF TREATMENT PROCESS

The Ecolo-Chief Wastewater Treatment System employs both primary and secondary treatment to ensure dependable and effective operation.

The net result is a clear, odorless liquid, which may be safely discharged into available waters or soils. The treated effluent can also be reused for landscape irrigation and fire protection.

- ① Raw sewage enters the covered primary separation tank and is retained for a minimum period of three hours. This allows for primary separation and digestion of floatables and reduces the BOD<sub>5</sub> and suspended solids entering the aeration zone.

- ② Duplex blower units supply the required air in the modular aeration zone. The modular aeration zone creates a better mix of food to air over matter, allows for easy expansion and affords the operator excellent control in seasonal flow conditions. Each aeration tank has its own adjustable air valve to provide the correct amount of air. The size and number of aeration tanks vary with the overall size of system required.



- ④ The final treatment phase is the disinfectant process, which is optional depending on local and state regulations. If required, the clear effluent enters a disinfectant tank, which is sized to allow the proper retention time, and the disinfectant media is applied. Disinfection options are tablet and gas chlorination, ultraviolet light or ozonization.

- ③ When the aeration cycle is completed, the flow enters a final settling tank and is directed downward to the hopper bottom where the activated sludge settles out. The sludge is returned to the first aeration tank for further treatment by means of an airlift pump. An adjustable diversion wye valve is located on the return sludge line so that sludge may be periodically wasted to the aerobic sludge digester. An airlift skimmer is used to collect and return nonactive floating scum to the primary separation tank. A v-notch weir in the settling tank prevents floating material from entering the effluent line or disinfectant tank.

# Ecolo-Chief Systems

CUSTOM SIZED UNITS ARE ALSO AVAILABLE

System	Lts / Sec	M <sup>3</sup> / Day	Gallons / Day	BOD <sub>5</sub>	BOD <sub>5</sub>	Foundation Dimensions	
Number				Kg / Day	Lbs/Day	Meters	Feet
EC-01	.31	26.50	7,000	6.803	15	5.23x8.31	17'-2" x 27'-3"
EC-02	.53	45.43	12,000	11.339	25	6.17x12.01	20'-3" x 39'-5"
EC-03	.61	52.99	14,000	13.154	29	6.17x12.95	20'-3" x 42'-6"
EC-04	.88	75.71	20,000	19.050	42	8.10x11.18	26'-7" x 36'-8"
EC-05	1.27	109.78	29,000	27.215	60	8.08x15.88	26'-6" x 52'-1"
EC-06	1.49	128.71	34,000	32.205	71	10.03x13.11	32'-11" x 43'
EC-07	2.19	189.27	50,000	47.173	104	10.03x19.43	32'-11" x 63'-9"
EC-08	2.85	246.05	65,000	61.680	136	10.97x19.38	36' x 63'-7"
EC-09	3.50	302.84	80,000	75.749	167	12.85x21.26	4'-2" x 69'-9"
EC-10	4.38	378.54	100,000	94.800	209	12.85x23.14	42'-2" x 75'-11"
EC-11	5.26	454.25	120,000	113.398	250	14.73x27.89	48'-4" x 91'-6"
EC-12	6.57	567.82	150,000	141.974	313	16.61x26.95	54'-6" x 88'-5"
EC-13	8.67	749.52	198,000	187.333	413	18.49x35.36	60'-8" x 116'
EC-14	11.39	984.21	260,000	245.846	542	27.05x29.77	88'-9" x 97'-8"
EC-15	15.33	1,324.90	350,000	331.12	730	20.37x43.23	66'-10" x 141'-10"



Treatment vessels are assembled from corrugated, galvanized steel panels that bolt together during installation. The Ecolo-Chief System can be shipped in one truck or 40-foot container. All components, coatings and cathodic protection are included. The electrical panel is pre-wired.

Established in 1954, Chief Industries, Inc. is a diversified organization providing a balanced range of products and services through its many divisions and subsidiaries.

For more information, contact us at **(308) 381-0585**

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