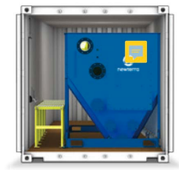
LongBox® Clarifiers

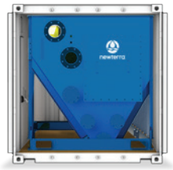
Flexible Configurations

Newterra LongBox® Clarifiers are available in several different configurations to address a wide range of flow rates, sites and operational considerations:

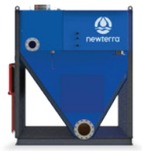
Series	Length	Width	Height	Advantages & Shipping Notes
LBN	4’ to 38’	5’4”	6’4”	• Insulated for cold weather applications, and fully enclosed for operation & maintenance within ISO shipping container • Flatbed trailer
LBI	4’ to 38’	7’7”	8’5”	• Fits within an ISO shipping container for simplified international transport • Flatbed trailer; configured for use with tilt & load trucks for easy deployment
LB	4’ to 40’	7’10”	9’8”	• Drop deck trailer; configured for use with tilt & load trucks for easy deployment • No permits req’d
LBW	8’ to 40’	11’	9’8”	• High flow rate • Drop deck trailer; no permits or escort req’d;
LBWT	8’ to 48’	10’8”	11’4”	• High flow rate • Stretch double drop trailer; permit req’d; no escort req’d
LBXWT	16’ to 40’	12’4”	11’4”	• High flow rate • Stretch double drop trailer; permit & escort req’d



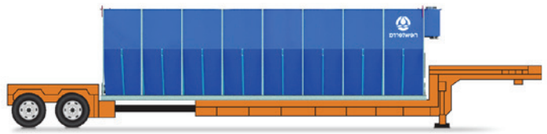
LBN



LBI



LB, LBW



LBWT/LBXWT

Optional Features

Insulated Clarifier: Available as a stand-alone, cold-weather product where the tank is enclosed in rigid, insulated steel panels. Panels are removable, providing access to the top of the tank and equipment spaces around the clarifier. Heating can be incorporated for cold-weather applications.

Enclosed Top: Features hatches and removable sections to facilitate maintenance requirements.

Inclined-Plate Settlers: Standard equipment tube settling media can be replaced with optional flat inclined plates made from carbon steel, stainless steel or PVC.

Open Gravity Clarifier: Available without settling media for applications where there is high potential of plugging the settling media.

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technical datasheet

LongBox® Advantages

- Pre-built & fully assembled
- Multiple configurations with flow rates up to 2,500 GPM
- Available as insulated, self-contained system for cold weather applications
- Fast, simple on-site set-up
- Operates on non-level ground
- Easy sludge monitoring and removal
- Operator access platform for easy access and maximum safety
- Durable carbon steel construction
- Designed for easy shipping

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LongBox® Clarifiers

Modular, High Flow Sediment & Suspended Solids Removal

Newterra’s LongBox® high-flow Clarifiers are designed specifically for efficient sediment and suspended-solids removal on groundwater treatment and dewatering projects. These innovative, rectangular clarifiers are also extremely well suited for potable water pretreatment, and the treatment of process water, mine groundwater and wastewater. They are built for easy transport on flat-bed trucks to sites and remote areas. Once on location, installation, setup and operation are fast and simple – even on uneven ground. Available with tube settlers or inclined plates, Newterra LongBox® Clarifiers provide excellent removal efficiencies compared to traditional weir tanks and settling or frac tanks commonly used for sediment treatment on construction sites and in other applications.

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clean water. modular solutions. *simple.*

LongBox® Clarifiers

Innovative, Operator-Friendly Clarification Technology

Quick Leveling On-Site: Level ground is not required at the job site. Newterra LongBox® Clarifiers allow simple field adjustments to accommodate non-level ground up +/-2" on the width of the tank and +/-4" across the length of the tank.

Operator Access Platform: A integrated, fold-away catwalk provides safe, convenient access to the top of the clarifiers for inspection, determining sludge depth, cleaning and operational adjustments.

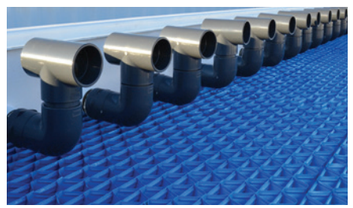
Easy-Access Sludge Removal: Side access to the clarifier allows access to the sludge below the clarifier media while standing on the operator access platform. Sludge can be pumped out without removing the media, draining the tank or even stopping the process flow.

Higher Solids Load Handling Capacity: The innovative design features a shorter plate pack – allowing tighter plate spacing than long or tall lamella clarifiers. The result: LongBox® Clarifiers are capable of treating higher solids loads without risk of overloading the clarifier. Shorter plate packs are also easier to remove, with lower headspace required above the clarifier.

Quiescent Settling Zone Configuration: Sludge from the quiescent zone and plate pack fall into same location for easier sludge removal.

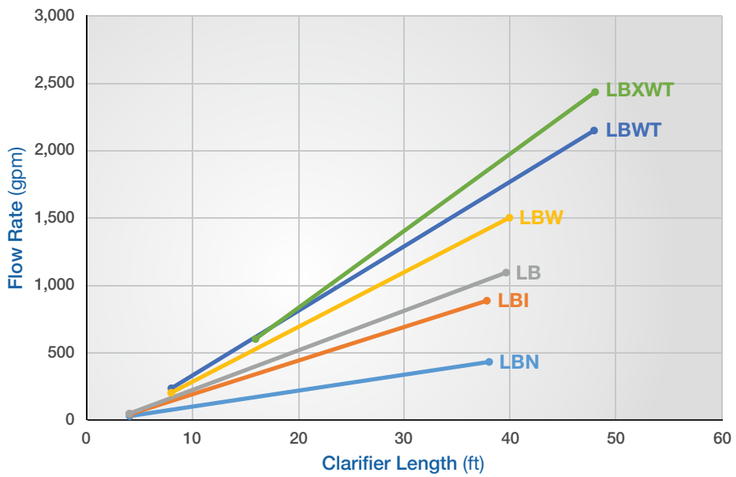
Durable, Carbon Steel Construction: Sand-blasted epoxy liner provides long-term chemical resistance. Other materials of construction are available.

Newterra Sludge Extractor: This flexible, broom-like wand features a suction head for easy removal of sludge from below the clarifier media. The optional accessory can pump sludge to a chemical-treatment process for dewatering or directly back into an excavation, where permitted.



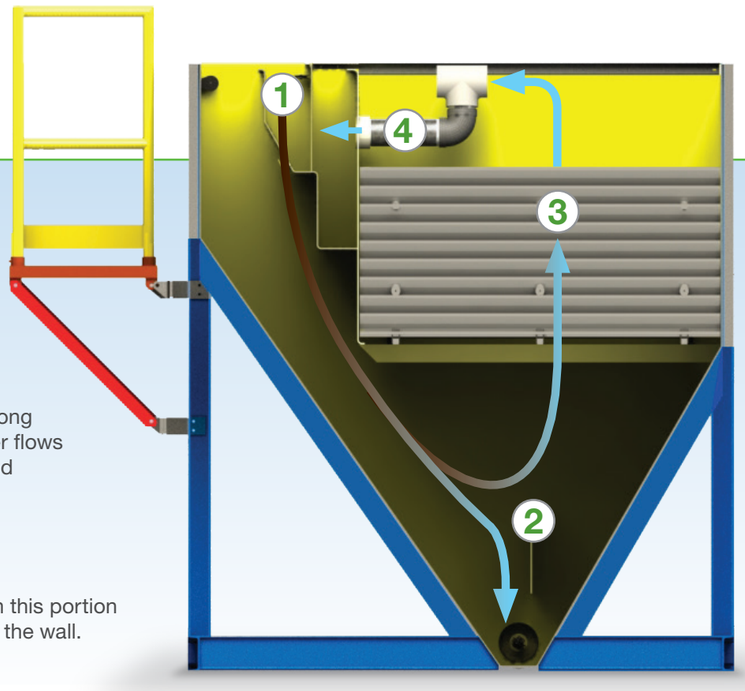
Space-Efficient Performance

Newterra LongBox® Clarifiers provide fast, effective removal of suspended solids in an extremely compact, self-contained unit. They offer almost **three times** the settling area of conventional weir tanks more than twice their size, and **25% more** settling area than similarly sized conventional tube clarifiers.



Performance of all clarifiers is dependent on the types of suspended solids and the temperature of the water. The Performance Curves above illustrate the nominal flow of Newterra LongBox® Series Clarifiers at a water temperature of 16 °C and particles of 10 microns and larger with a specific gravity of 2.65.

Operating Principles



1 Inlet

Solids-laden water enters the clarifier and is distributed along the inlet trough. The inlet trough has strategically-placed distribution holes to achieve even flow along the clarifier, even at maximum flow. Water flows out of the trough through these holes, and down towards the bottom of the unit.

2 Settling Area

Larger, heavier solids will settle quickly in this portion of the clarifier, aided by the high slope of the wall.

3 Settling Media

The water flows up through the settling media (tube or slant plates) that is designed to dramatically increase the available settling area for solids particles, and to decrease the distance particles need to fall before contacting this settling area. Upon settling, finer particles contact each other, forming increasingly larger particles which ultimately fall to the Settling Area **(2)**.

4 Skimming Tees

Upon exiting the settling media, the water flows to the outlet trough via the adjustable skimming tees – which help achieve distributed flow, and serve as levelling elements for the clarifier. Settled solids can be manually removed from the operator platform by lowering an extraction hose down to the Settling Area **(2)**. Automated sludge-removal options are also available.