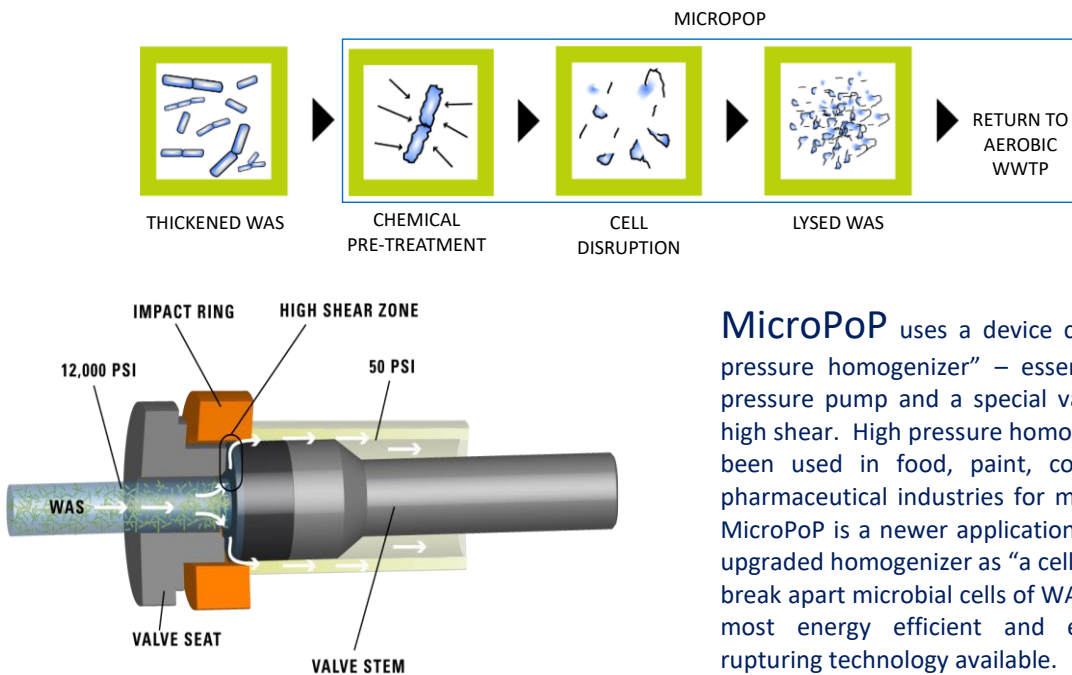


MicroPoP for Waste Activated Sludge

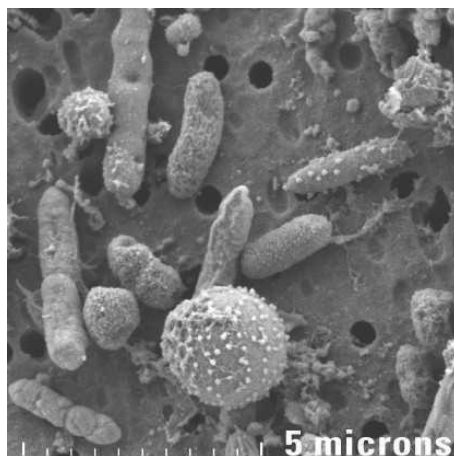
Bacteria eat liquids, not solids. Extremely tough cell membranes of microbial cells of waste activated sludge (WAS) limit their consumption by bacteria. By rupturing the cell membranes of WAS, the liquid cell contents (cytoplasm) are released as “fast food”, so bacteria can easily digest this along with waste inflow to facility.

1st step of MicroPoP is a sludge pre-treatment process that ruptures the microbial cell membranes in waste activated sludge.

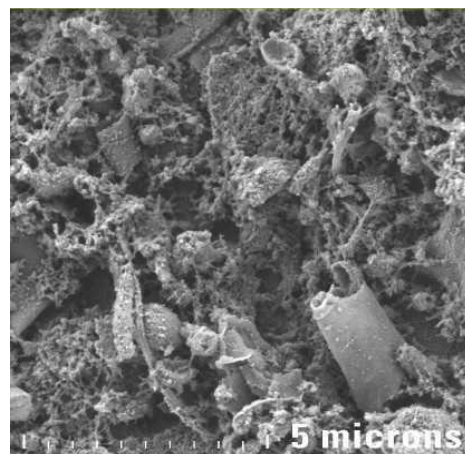


MicroPoP uses a device called a “high pressure homogenizer” – essentially a high pressure pump and a special valve to cause high shear. High pressure homogenizers have been used in food, paint, cosmetics, and pharmaceutical industries for many decades. MicroPoP is a newer application that uses an upgraded homogenizer as “a cell disrupter” to break apart microbial cells of WAS. This is the most energy efficient and effective cell rupturing technology available.

Before MicroPoP



After MicroPoP



MicroPoP for Waste Activated Sludge

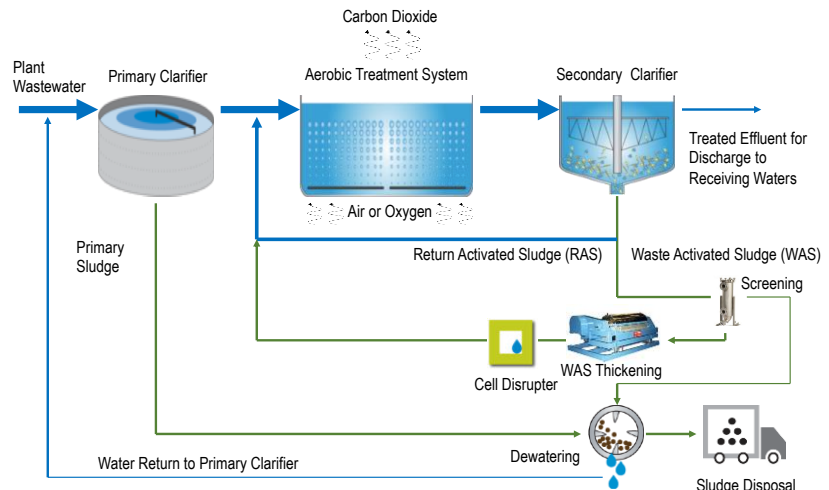
2nd step of MicroPoP uses the wastewater treatment plant's aerobic or anaerobic wastewater treatment system in a patented configuration to destroy waste activated sludge, eliminating secondary WAS for dewatering and disposal.

Processing Steps

Step 1. Remove and dewater non-degradable debris.

Step 2. Treat WAS using MicroPoP. Liquefied WAS is readily biodegradable.

Step 3. Return treated WAS back to the aerobic (shown in diagram) or anaerobic WWTP where microorganisms complete the destruction of secondary WAS.



Attribute	Benefit
Waste activated sludge is destroyed by aerobic or anaerobic WWTP, so only primary sludge is dewatered for disposal	<p>Lower on-going operating costs:</p> <ul style="list-style-type: none"> Eliminate secondary WAS for disposal Less polymer used for dewatering More biogas generated with anaerobic Drier solids (dewatered primary sludge)
Aerobic treatment system destroys sludge Anaerobic digesters can be used to increase biogas generation. MicroPoP optimizes the under-utilized capacity of the existing facility infrastructure.	<p>Avoided capital costs for:</p> <ul style="list-style-type: none"> Anaerobic digesters and land Sludge dewatering equipment Sludge storage and transport Suitable for smaller WWTPs

Financing Options

(1) Equipment Purchase includes full warranty coverage, with optional service contract for technical support and maintenance.

(2) Shared Savings: Eagleridge provides the equipment at no upfront cost, the client connects it, and cost savings are shared. Eagleridge owns and maintains the equipment, trains treatment plant staff in routine maintenance, monitors the equipment remotely, and provides specialized technical maintenance.