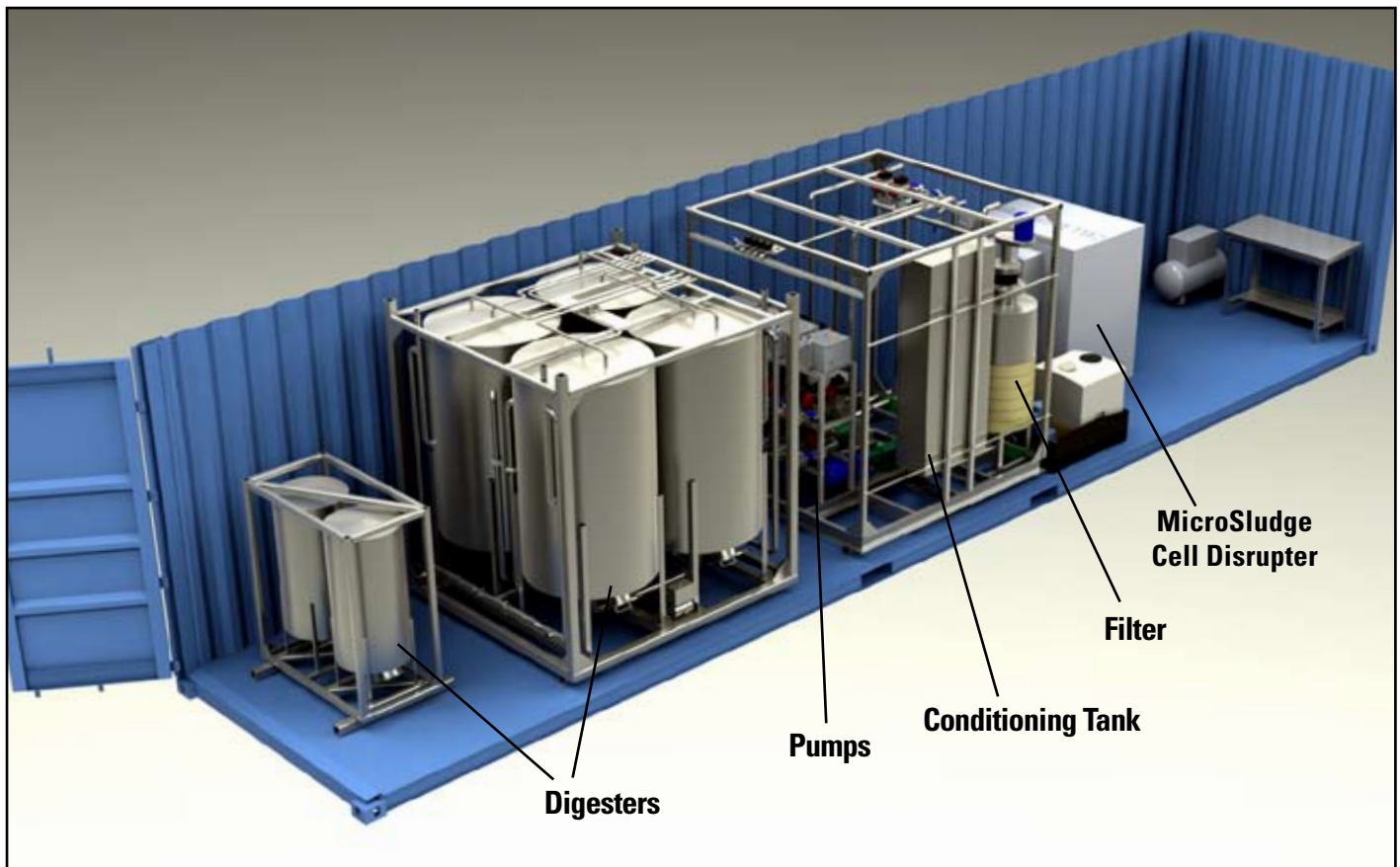


The MicroSludge Portable Pilot

The MicroSludge Portable Pilot allows plants to easily evaluate the performance of MicroSludge without disrupting existing operations. The pilot includes a fully automated MicroSludge processing skid, and four 400 gallon digesters. It is ideal for plants wanting to test the effectiveness MicroSludge to improve digester performance prior to full-scale implementation.



VERIFYING BENEFITS OF MICROSLUDGE

Plant managers looking for ways to test options for digester optimization face a number of challenges. Lab testing on small-scale digesters may provide data that cannot be replicated at full scale. Full scale trials can be costly and disruptive. The MicroSludge pilot overcomes these challenges by providing a controlled, side-by-side trial on 400 gallon digesters operating with and without MicroSludge processed TWAS. The MicroSludge pilot allows plant managers to evaluate the benefits of MicroSludge on site, and to quantify

the potential operational and economic benefits of full scale implementation. Increased biogas production and reduced HRT can be easily measured, and an automated sampling system allows for quick and convenient testing of VS_r, COD_r, and other parameters.

EASY INSTALLATION AND COMMISSIONING

The MicroSludge pilot is delivered inside an intermodal container and is fully automated - requiring about 1-2 hours of operator time per day. Paradigm staff will commission the system, provide training, maintenance,

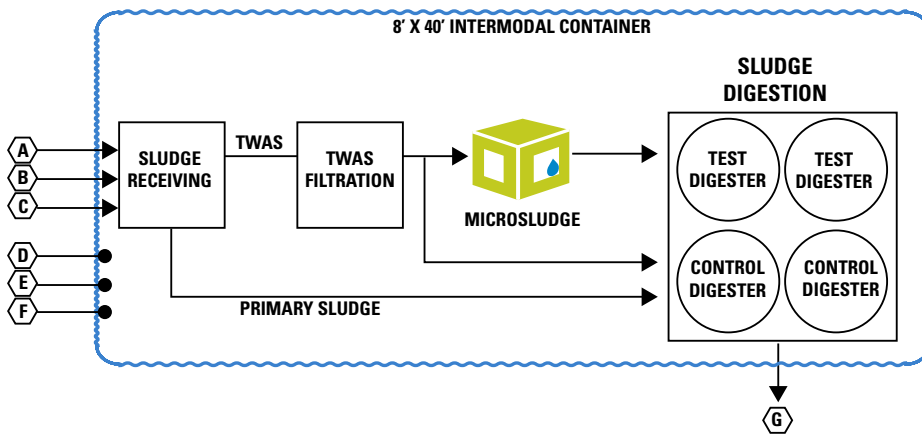
and 24/7 support. Additional digester modules can be supplied for plants wanting to test options such as acid-phase digestion, two stage digestion, or WAS-only digestion.

FIND OUT MORE

The MicroSludge pilot is available for a minimum lease of 6 months. Rental fees are credited to the purchase price of a full scale MicroSludge System. To learn more about the MicroSludge pilot contact us at sales@microsludge.com



SIMPLIFIED PROCESS FLOW



INPUT REQUIREMENTS:

- (A) THICKENED WASTE ACTIVATED SLUDGE: 4-6% TS, 200 GPD, 20 PSI
- (B) PRIMARY SLUDGE: 4-6% TS, 200 GPD, 20 PSI
- (C) SODIUM HYDROXIDE: 1.5 GPD
- (D) WATER: POTABLE FOR SEALS, 50 GPD
FLUSH WATER 150 GPD
- (E) ELECTRICITY:
3 PHASE, 460/575 VAC, 30 AMP
1 PHASE, 110 VAC, 30 AMP
- (F) COMPRESSED AIR: CLEAN, DRY, OIL FREE, 20 CFM, 90 PSI
(PERIODIC USE)

OUTPUT REQUIREMENTS:

- (G) DIGESTED SLUDGE EFFLUENT: 250 GPD
FLUSH WATER: 150 GPD

MICROSLUDGE PORTABLE PILOTS MAIN EQUIPMENT COMPONENTS

Housing	Self contained 40 ft shipping and operational shelter. Secured, insulated, and temperature controlled for sub-zero environment. All components skid mounted for optional deployment in an existing building.
Central Processing Skid	Provides control via PLC, PC-based HMI. Automatic control of NaOH addition, mixing, conditioning, cell disrupter feed, digester recirculation and temperature control, and gas metering.
Cell Disrupter	500 L / Hr (~ 130 USG / Hr) High Pressure Cell Disrupter.
Digester Quad Pack Skid	4 x 1500 L (400 USG) digesters equipped with temperature control and gas measurement.
Conditioning Tank	TWAS and primary sludge feed, measuring and preheating tank.
Screening	TWAS automatic screening and filtering system.
Automatic Sampler	Automatic daily collection of primary sludge, TWAS, MicroSludge processed TWAS, and digester effluent samples for convenient testing.
Sump / Waste Drainage	Separate sump container and pump supplied if needed.
Portable Dewatering	Lab scale unit available to test residuals dewaterability.
Performance Measurement	The pilot system enables easy measurement of the following (or additional) parameters: <ul style="list-style-type: none"> • Biogas production • CODr • VSS • VSr • TSS • Digester solids loading