



**ATAL High Loaded
Anaerobic Digestion
高负荷污泥厌氧消化系统
(AHLAD)**

Introduction 简介

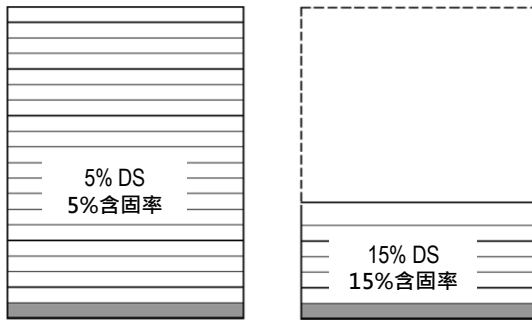
ATAL High Loaded Anaerobic Digestion (AHLAD) 高负荷污泥厌氧消化系统

ATAL High Loaded Anaerobic Digestion (AHLAD) is a technology developed by ATAL Engineering Limited. With traditional sludge digestion technology, the solid content of sludge entering the anaerobic digestion tank is 5%. The ATAL High loaded Anaerobic Digestion (AHLAD) technology can achieve a solid content of 15%. Under the same sludge treatment capacity, the volume of the digestion tank for AHLAD can be reduced to one third.

In addition, the digestibility of sludge is better due to the increase of sludge concentration. Therefore, the production of biogas can be improved. Moreover, the odour of the digested sludge is also greatly reduced. Equipped with a specially designed sludge homogeniser, the sludge digestion is more effective. Biogas production can be increased by up to 30%.

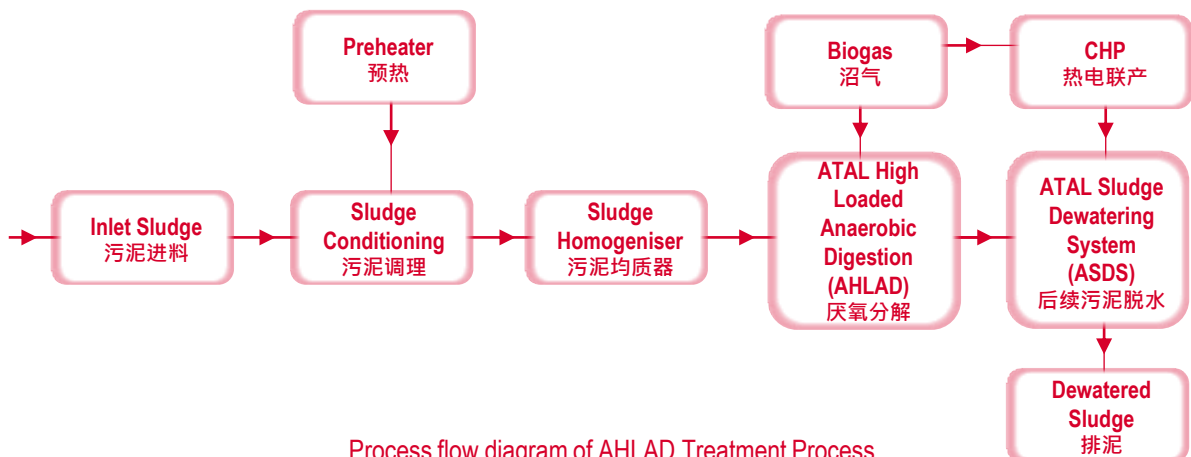
高负荷污泥厌氧消化系统 (AHLAD) 是安乐工程有限公司研发的工艺。传统的污泥消化技术，污泥进入厌氧消化罐的含固率为5%。高负荷污泥厌氧消化 (AHLAD) 能提升进泥含固率至15%。同样的污泥处理量下，高负荷污泥厌氧消化系统的消化罐的体积可以减少至三分之一。

除此以外，由于污泥浓度的提高，污泥的消化率更好，所以沼气的产气量得以提升。而且，消化后污泥的异味也大大降低。再配备经特别设计的污泥均质器处理污泥，令污泥的消化效果更佳。沼气的产量可增加达30%。



Conventional technology
传统技术

AHLAD
高负荷污泥厌氧
消化技术



Process flow diagram of AHLAD Treatment Process
高负荷污泥厌氧消化工艺流程

Major Features 主要特点

Sludge Treated by Homogenizer 经均质器处理后的进料



Before
处理前



After
处理后

Advantages of AHLAD 高负荷污泥厌氧消化技术优点

- Produces odorless end products
- Minimizes preheating energy
- The best carbon credit benefits
- Higher biogas production
- Small footprint
- Save material cost and increase economic benefits
- 制造无气味的终端产品
- 预热需要能量大幅减少
- 最好的碳排放额度收益
- 沼气产量更高
- 占地少
- 节省建造时的物料成本，带来更高经济效益

Full Use of Treated Sludge and Biogas 污泥与沼气的完善运用

Solid End Product (Humus Mass) 消化后污泥应用 (腐殖质)

- Nutrient soil
- Soil mixtures (mixed with sand and others)
- Landscaping
- Landfill covering
- Burning
- 营养土
- 混合土 (与砂砾和其他混合)
- 园林土壤
- 堆埋填料
- 焚烧

Biogas utilization 沼气利用

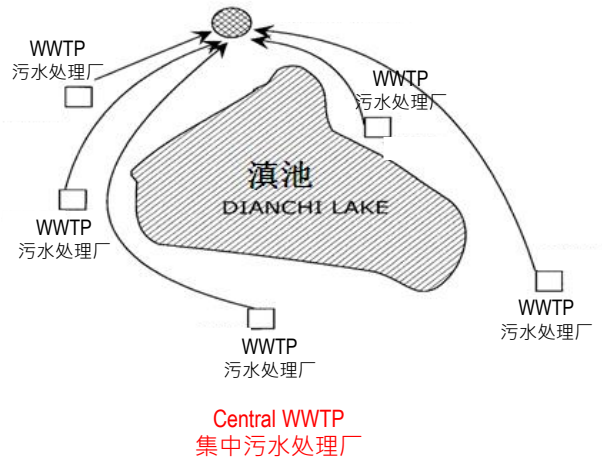
- Sludge preheating and drying
- Combined heat and power (CHP)
- Boiler
- Vehicle fuel
- 厂内预热与污泥干化
- 电热发动机
- 锅炉
- 车用燃料

Job Reference 案例

Central Sludge Treatment Plant of Kunming City, China 中国昆明市污泥中央处理厂

In central sludge treatment plant at Kunming, sludge is firstly dewatered in the surrounding 5 sewage plants and sent to the central treatment plant, whose treatment capacity is 100 tonnes of dry solid per day. The conventional technologies are compared with the AHLAD technology below.

在昆明的污泥中央处理厂，污泥由周边的5个污水厂经脱水后送往中央处理，处理量为100吨干泥/天。以下传统技术跟高负荷污泥厌氧消化技术作比较。



Conventional technologies VS AHLAD technology 传统技术 VS 高负荷污泥厌氧消化技术

Parameters 参数	Units 单位	Conventional Technologies 传统技术	AHLAD Technology 高负荷污泥厌氧消化技术
Treatment Capacity 处理能力	tonnes DS / day 吨干泥/天	100	100
Inlet sludge DS 进泥含固率	/	5%	15%
Inlet sludge volume 进泥体积	m ³ /d	100/5% = 2,000	100/15% = 666.7
Duration of stay 停留时间	d	20	20
Sludge volume 停留污泥量	m ³	20x2000 = 40,000	20x666.7 = 13,334
Tank volume 厌氧罐容积	m ³	5,000	5,000
Number of Tanks 厌氧罐数量	/	8	3

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