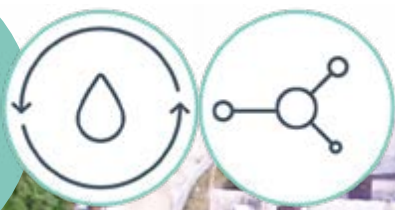


CASE STUDY



Aspical™ Smart Packaged Wastewater Treatment System

Rural Wastewater Treatment, Hunan Province, China

Background

Xilingang Town is located in the high-tech zone of Yiyang City, Hunan Province, adjacent to Zhixi River. In the past, domestic wastewater gathered from local residents was discharged directly into the river without treatment, which seriously affected the

sustainability of the local environment. To address this, and to comply with stringent Class 1A Standards set by the 13th five-year plan, the local municipality needed a wastewater treatment system.

Solution Criteria

- Meets Class 1A effluent standards
- Capacity: 800 m³/day (211,300 GPD)
- Low energy consumption
- Economical CapEx and OpEx
- Environmentally friendly
- Effluent discharged back to Zhixi river



With a total plant footprint of 3,544 m² and a treatment capacity of 800 m³/day, the Aspical™ MABR-based wastewater treatment system overcomes several significant challenges of a traditional wastewater treatment plant, including lowering energy consumption, reducing the required footprint, and simplifying installation and operation.

CASE STUDY • Yiyang City, Hunan | 800 m³/day Aspiral™



The Solution

Based on innovative MABR technology, the Aspiral™ treatment system was selected for the project to support the local government in improving the local ecosystem and habitat. This is the first Aspiral™ application in Hunan Province.

Design Parameter (mg/L)	pH Range	NH ₄ -N	COD	TN	TP	TSS	BOD
Influent	6~9	29	300	35	4	220	150
Effluent	6~9	<5(8)	<50	<15	<0.5	<10	<10

- Pre-treatment: screen filter and selection tank
- Secondary treatment: four Aspiral™ L4 containerized system
- Secondary clarifier
- Tertiary treatment: media filter and disinfection unit



3rd Party Wastewater Test Report

Released by Hunan Gelin Cheng Yuan Environmental Testing & Consulting Co., Ltd. Report No. 04-067 2019

Item (mg/L)	pH	NH ₄ -N	COD _{cr}	TN	TP	TSS	BOD ₅
Influent	7.02	21.2	146	25.8	1.62	48	29.2
Effluent	7.52	0.592	19	4.24	0.28	7	3.8
Class 1A Standard	6 ~ 9	< 5/8	< 50	< 15	< 0.5	< 10	< 10

* Class 1A Standard refers to the National Standard of P.R.China GB18918-2002 Pollutant Discharge Standard of Municipal Wastewater Treatment Plants