



**ATAL Multi-Stages
Flocculation Magnetic System
磁力净化系统
(AMSFM)**

Introduction 简介

ATAL Multi-Stages Flocculation Magnetic System (AMSFM) 磁力净化系统

ATAL Multi-Stages Flocculation Magnetic System (AMSFM) is a technology developed by ATAL Engineering Limited. Our Group has accumulated rich experience and good performance in the process design, equipment integration and "turnkey" project. We have a team of engineers with strong technical capabilities and rich experience in project management. In the process design, equipment supply, installation, commissioning and operation of the process package, it is practical to achieve safety, reliability, economical application, advanced technology, and ensure that the effluent meets the standards.

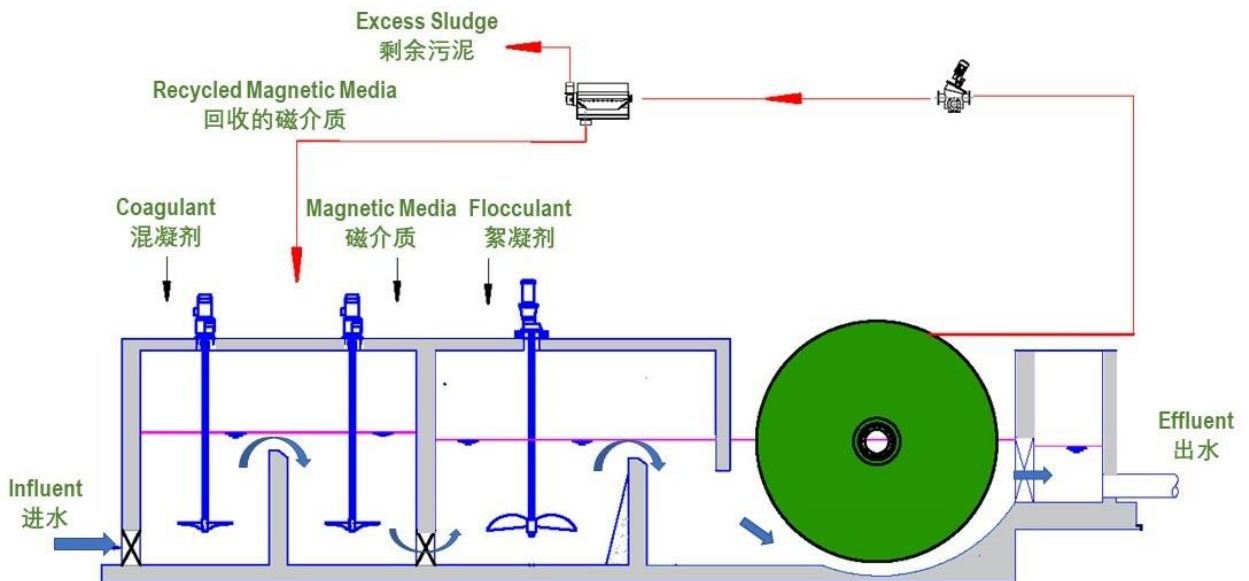
How It Works

In AMSFM, the sewage subsequently mixes and reacts with coagulant, magnetic media, and flocculant in Coagulation Zone, Magnetic Media Mixing Zone, and Flocculation Zone, respectively, to form flocs. The flocs of magnetic media flows through the magnetic clarifier composed of multiple disks. When the water flows through the space between the disks, the magnetic flocs are attracted by the magnetic disks and separated from the water. The treated water becomes clarified and then discharged through the weir. In specific areas, the flocs on the disk is scraped off by the scraper. The magnetic sludge falls into the sludge collecting channel by gravity, and then is pumped to the magnetic sludge cutter and the magnetic sludge separator for magnetic media recovery. The excess sludge is discharged into the dewatering system or other sludge treatment systems.

磁力净化系统 (AMSFM) 是安乐工程有限公司研发的技术。我司在此工艺的设计、成套设备集成和“交钥匙”工程上积累了丰富的经验和良好的业绩，并拥有一支专业技术能力强、工程管理经验丰富的工程师队伍。在工艺包的工艺设计、设备选购、施工、安装、调试和运营中，切实做到安全可靠、经济适用、技术先进、确保出水达标。

工作原理

在磁力净化系统中，污水分别和混凝剂、磁介质、絮凝剂、在混凝区、磁粉混合区、絮凝区分别混合反应，形成含磁粉的絮体即：磁泥。这些磁泥自流经由多片磁盘组成的磁力净化器。磁泥水流过磁盘之间的空隙时，磁泥在磁盘的磁力作用下被吸附在磁盘上，与水分离。处理后的水则变澄清，然后经堰排放。在特定的区域内，磁盘上的磁泥被刮片刮离磁盘。磁泥在重力作用下掉入集泥槽中，而后由泵打到剪切机和磁粉回收机上，进行磁粉回收。剩余污泥排则排入脱水系统或其他污泥处理系统中。



Schematic diagram of AMSFM process
磁力净化系统工艺示意图

Advantages 优点

Excellent Treatment Performance

- Short sludge separation time
- The hydraulic retention time of AMSFM is only 5-8 minutes
- The same effluent quality as the traditional clarifier
- Small footprint: about 10% that of the traditional clarifier
- Low operation cost: about 80% that of the traditional clarifier
- It can be designed to be transported by vehicle under emergency condition or containerised system, which is convenient for transportation
- High surface loading:
 - The surface loading of traditional clarifier is up to 0.8 m/h
 - The surface loading of AMSFM is up to 60 m/h

处理能力出色

- 泥水分离时间短
- AMSFM水力停留时间只需5-8分钟
- 出水水质达到相同效果
- 占地面积小：是传统混凝沉淀池的10%
- 运行费低：是传统工艺的80%
- 可以设计为应急车载或集装箱式系统，便于转场应用
- 表面负荷高：
 - 常规沉淀池的表面负荷为 0.8 m/h
 - AMSFM的表面负荷为 60 m/h



Job Reference 案例

Treatment Performance 案例处理效果

	COD (mg/L)	BOD ₅ (mg/L)	SS (mg/L)	Color 色度	TP (mg/L)
Polluted River Water 污染河道					
Influent 进水	60	50	40	60	3.5
Effluent 出水	≤54	≤45	≤10	≤20	≤0.5
Removal Efficiency 去除率 (%)	10	10	75	67	85
Municipal Wastewater 市政污水					
Influent 进水	420	220	220	70	6.0
Effluent 出水	≤210	≤110	≤10	≤30	≤0.5
Removal Efficiency 去除率 (%)	50	50	95	57	92



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