



## ATAL Automatic Refuse Collection System 自动垃圾收集系统 (AARCS)

## Introduction 简介

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### ATAL Automatic Refuse Collection System (AARCS)

Along with the growth in cities, the population density and living standards in cities have been substantial. So has been the increase in the quantity of solid refuse generated in the city. How to effectively handle the generated waste in a safe manner has been a matter of serious debate. As higher attention has been paid to control urban hygiene, odour and infectious disease, the collection, transport and treatment of solid waste has become an important topic.

Traditionally, the collection and transfer of solid waste have been handled by hand, resulting in poor efficiency, long hours in handling, generated odour and poor hygiene, making handling personnel more susceptible to disease. Facing with the challenge, our company has been seeking for advanced solid refuse collection and transfer systems – the vacuum pipe transfer AARCS – to try solving the problem once and for all.

Our company will provide clients with a complete solution tailored to the unique situation that the client faces with – from system planning, design, construction and after-sales services – all to be handled by our company with a one-stop solution. We have installed in Hong Kong with several AARCS systems. Our team is able to offer clients with a flexible and reliable solution with the vacuum pipe transfer AARCS that will address client's requirements and unique project characteristic.

### 自动垃圾收集系统 (AARCS)

随着城市化的发展，人口密度及生活水平较过去有着很大的提升，但同时也意味着城市居民每天所产生的固体垃圾也日渐增加，而如何安全有效处置这些固体垃圾已日渐成为一个关键的议题。由于对卫生、臭味及传染性等疾病等问题的日益重视，固体垃圾的收集、运送及处置等问题成为一个急需解决的课题。

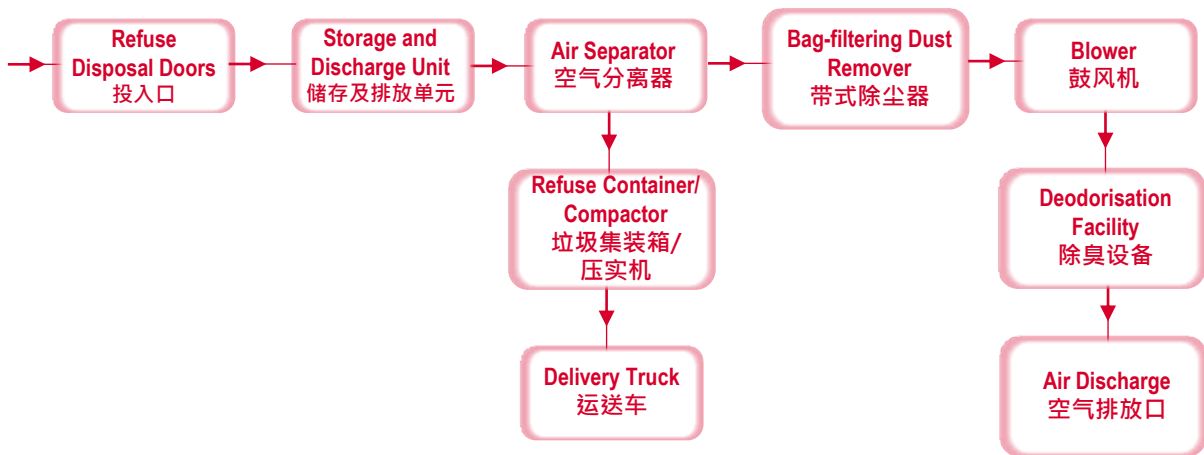
传统上，固体垃圾的收集及运送是全部依靠人手，此不但效率差，时间长，臭味及卫生问题严重，而且工人很容易因此而感染疾病。针对这些问题，本公司引进一套先进的固体垃圾收集输送系统——自动垃圾收集系统，一次性地把上述问题彻底解决。

本公司将为面临独特情况的客户提供量身定制的完整解决方案——从系统规划、设计、施工到售后服务，均由本公司一条龙服务到底。我们在香港安装了多个AARCS系统。我们的团队能够通过真空管道传输系统为客户提供灵活可靠的解决方案，以满足客户的要求和独特的项目特点。



**Cleaner, Higher Work Efficiency, More Economical – Vacuum pipe transfer AARCS offered by ATAL Engineering Limited**  
**更清洁、更高效、更经济——安樂工程有限公司的自动垃圾收集系统**

## Major Features 主要特点



Process flow diagram of AARCS  
自动垃圾收集系统流程图

### AARCS Major Equipment 自动垃圾收集系统主要设备

#### Refuse Disposal Doors

to be positioned on each floor of a building.

#### 投入口

设于大楼住户的每一层。

#### Air Intake Valve and Discharge Valve

Discharge valve is located at the discharge point of the refuse collection storage and discharge unit. Air intake valve is located at the end of the transfer pipe, allowing air to enter the system when refuse enters the pipe system for vacuum transfer, with both valves in open position.

#### 入口阀及出口阀

出口阀设于排放单元出口，入口阀设于管道末端，垃圾进行输送时，它们都是打开，让空气及垃圾进入管道进行输送。



Refuse Disposal Doors  
投入口



Air Intake Valve and Discharge Valve  
入口阀及出口阀

#### Transfer Pipe

Refuse is transferred via transfer pipe under vacuum to Central Refuse Collection Centre, with openings along the transfer pipe sections for inspection and services.

#### 输送管道

垃圾由输送管道真空送至收集中心，分段设有检修口方便维护。

#### Blower

Blower is the prime mover of the vacuum system, with design taking into account to mitigate vibration and noise through various means.

#### 鼓风机

鼓风机为整个真空收集系统提供动力，设备安装时已把震动、噪音等干扰进行有效处理及消除。

## Major Features 主要特点



**Transfer Pipe**  
输送管道

### Waste Separator

It separates all refuse from the incoming air, diverting the refuse downwards to the refuse compactor below.

### Deodorization Facility

It treats the separated air with dust collection and de-odouring before disposing the treated air to atmosphere.



**Waste Separator**  
分离器

### Refuse Containers / Compactor

Located directly underneath the Refuse Separators, the Refuse Compactor will compact the incoming refuse and store them in the Refuse Containers continuously.

### Central Control System

It ensures the automatic operation of the entire AARCS, monitoring various types of incoming refuse. Control system can also be adjusted to suit various operation modes.



**Refuse Containers / Compactor**  
垃圾集装箱/压实机



**Blower**  
鼓风机

### 分离器

将垃圾从运送的空气中分离并送至下方的压实机。

### 除臭设备

分离后的空气进行除尘/除臭处理后排至大气。



**Deodorization Facility**  
除臭设备

### 垃圾集装箱/压实机

垃圾集装箱/压实机设于分离器下方，压实机能连续将收集的垃圾压进集装箱内。

### 中央控制系统

确保整个自动垃圾收集系统的全自动运行，监控各种不同类型的垃圾，还可以调整控制系统以适应各种操作模式。



**Central Control System**  
中央控制系统

## Advantages 优点

### ATAL Automatic Refuse Collection System 自动垃圾收集系统

- AARCS is mainly adopted for medium to large communities, with collection pipe diameter in the range of 400-600mm for transfer of collected refuse to central AARCS collection centre. AARCS comprises refuse disposal doors, refuse collection chambers, vacuum transfer pipes, central refuse collection centre and centralized control system.
- 自动垃圾收集系统主要用于中至大型社区，收集管直径在400-600mm范围内，用于将收集到的垃圾运送到中央收集中心。自动垃圾收集系统亦包括垃圾投入口，垃圾储存单元，真空输送管，中央垃圾收集中心及中央集中控制系统。

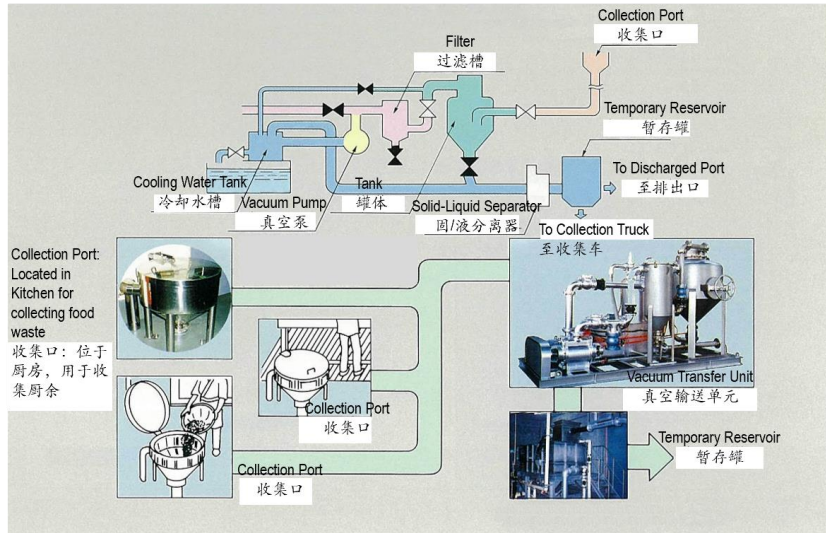
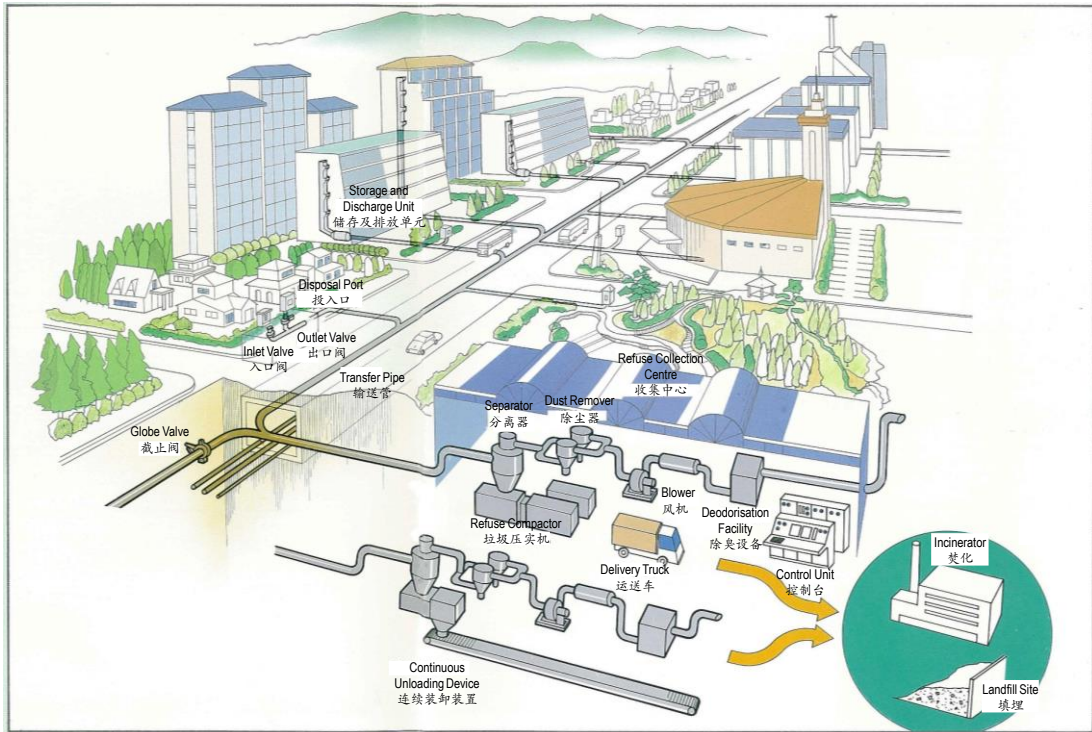
### Special Features 特点

- Hygienic and safe in operation
- Highly reliable
- Fully automatic in operation
- High economic benefits
- High refuse collection capabilities
- Suitable for communities that are constructed in stages
- Suitable for collecting different types of refuse and under various operation modes
- 安全卫生
- 高度可靠
- 全自动运行
- 高经济效益
- 收集能力高
- 适用于分期建设的社区
- 适用于不同的垃圾及收集模式

### Scope of Application 应用范围

- New communities
- Redeveloped communities
- Sizable hospitals
- Commercial facilities
- Leisure facilities
- Public parks
- 新建社区
- 重建社区
- 大型医院
- 商业设施
- 休闲设施
- 公园

# Advantages 优点



**Vacuum Food Waste Collection and Transfer System**  
真空厨余收集运输系统

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