



**HXBOT** 慧兮



# 智能运维机器人

Intelligent Operation and Maintenance Robot

磁吸附爬壁机器 负压光伏清洗机器人

# 公司简介

Company Profile

慧兮（北京）科技有限公司是一家从事运维智能机器人自主研发、生产和服务的高科技公司，安全、智慧、高效是我们的服务宗旨。公司的主营产品为磁吸附爬壁机器人和光伏清洗机器人。其中磁吸附爬壁机器人已升级至第三代，具有曲面适应能力强、负载自重比高、智能化程度高等特点，可广泛应用于风电、船舶、化工等行业；光伏清洗机器人采用无水或少水清洗，具有适应大倾角斜面、自主定位与导航、污水回收、多功能清洗等优点，适用于戈壁、丘陵、渔光互补等场景下光伏场站的清洗作业任务。

HXBOT is a high-tech company engaged in independent research and development, production and service of intelligent robots. Safety, intelligence and efficiency are our service tenet. The main products of the company are magnetic adsorption wall climbing robots and photovoltaic cleaning robots. The magnetic adsorption wall-climbing robot has been upgraded to the third generation, which has the characteristics of strong surface adaptability, high load-to-weight ratio and high intelligence, and can be widely used in wind power, shipbuilding, chemical industry, etc. The photovoltaic cleaning robot uses no water or less water cleaning, which has the advantages of adapting to large inclination plane, autonomous positioning, sewage recovery and navigation and multi-function cleaning, and is suitable for the cleaning tasks of photovoltaic sites in the Gobi, hills, and fish-light complementary scenes.



# 磁吸附爬壁机器人

## Magnetic Adsorption Wall Climbing Robot



慧兮科技磁吸附爬壁机器人融合了机器人学、人工智能、自动控制、定位和导航、多机协同等多学科核心技术，能够开展油污清洗、除锈补漆、缺陷检测等多种极限高空作业任务，有效解决人工高空运维工作存在的高风险、低效率、劳动强度大、成本高等痛点问题，从根本上解决安全风险问题，提高作业效率，降低运维成本。

Huixi Technology's magnetic adsorption wall-climbing robot integrates multi-disciplinary core technologies such as robotics, artificial intelligence, automatic control, positioning and navigation, and multi-machine collaboration. It can carry out a variety of extreme high-altitude operating tasks such as oil stain cleaning, rust removal and paint repair, and defect inspection, effectively to solve the key points of high risk, low efficiency, high labor intensity, and high cost in manual high-altitude operation and maintenance work. It can help to fundamentally solve the safety issue, improve operating efficiency, and reduce operation and maintenance costs.

- 小型化、轻量化，方便易携  
Small, Lightweight, Easy to carry
- 曲面适应强，负载自重比高  
Excellent Surface Adaptability and High Load-to-Weight Ratio
- 智能自主作业，无操作门槛  
Intelligent and Autonomous Operation, No Operation Threshold
- 模块化设计，快速更换作业模块  
Modular Design, Fast Switch Function Modules



## 核心技术



**曲面适应能力强**  
Excellent Surface Adaptability



**Kg 负载自重比高**  
High Load-to-Weight Ratio



**自主定位和导航**  
Autonomous Positioning and Navigation



**污水回收**  
Sewage Recovery

## 基本参数

重量/Weight: 25kg

负载/Load Capacity: 80kg

尺寸/Size: 600×425×170mm

最大速度/ Max Speed: 0-20 m/min

越障高度/Obstacle Climbing Height: 18mm

最小曲率半径/Minimum Curvature Radius: 1.3m

轨迹追踪精度/Trajectory Tracking Accuracy: ±1cm

定位精度/Positional Accuracy: ±0.5mm

吸附方式: 永磁吸附  
Adhesion Mechanism: Permanent Magnet Adsorption

操作方法: 全自动/半自动/手动  
Operation Method: Automatic, Semi-Automatic and Manual

功能: 油污清洗、除锈补漆等，可定制  
Function: Oil Stain Cleaning, Rust Removal and Repainting, etc., Customizable

# 光伏清洗机器人

## Photovoltaic Cleaning Robot



慧兮科技光伏清洗机器人搭载了公司自主研发的多功能清洗模块、污水回收模块以及自主定位与导航模块，有效解决了现有人工和机器人清洗存在的污物清洗种类少、斜面适应性弱、污染环境、智能化程度低等问题，能够高效执行清洗作业，为企业降本增效。

HuiXi Technology's photovoltaic cleaning robot integrates the company's self-developed multifunctional cleaning module, sewage recovery module, and autonomous positioning and navigation module. This advanced system effectively addresses issues in manual and robotic cleaning, such as only a few pollutants can be cleaned up, weak adaptability to inclined surfaces, environmental pollution, and low intelligence. The robot performs photovoltaic cleaning operations efficiently, helping enterprises to reduce costs and increase efficiency.

- 模块化设计，快速安装  
Modular Design, Quick Installation
- 全自动/半自动模式  
Automatic, Semi-Automatic Mode
- 污水回收，保护环境  
Wastewater Recycling, Protecting the Environment
- 防滑设计，爬坡能力强  
Anti-Slip Design, Strong Climbing Ability



## 核心技术



**多功能清洗模块**  
Multifunctional Cleaning



**污水回收**  
Sewage Recovery Module



**自主定位与导航模块**  
Autonomous Positioning and Navigation

## 基本参数

质量/Weight: 15kg

尺寸/Size: 700\*500\*150mm

最大速度/Max Speed: 20-40m/min

清洗效率/Cleaning Efficiency: 340m<sup>2</sup>/h

供电方式/Power Supply Mode: Battery

续航时间/Endurance: 2h

最大防滑角度/Maximum Anti-Slip Angle:  $\leq 30^\circ$

传动方式: 履带

Transmission Mode: Crawler Track

水源: 内嵌水箱

Source of Water: Built-In Water Tank

污水回收: 污水自主回收

Sewage Recovery: Able to Recycle Sewage

工作方式: 自动/半自动, 多机协同

Working mode: Automatic/Semi-Automatic,  
Multi-Machine Coordination

清洗沉淀物: 沙尘、鸟粪等, 可定制

Cleaning Sediment: Dust, Bird Droppings, Etc.,  
Customizable

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**HXBOT 慧兮**

**专注智能 · 守护安全**

**Focus on Intelligence and Protect Safety**

**慧兮智能机器人让运维工作：安全、智能、高效！**

**Huixi Intelligent Robots Make Operation and Maintenance Work Safe, Intelligent and Efficient**