

Yikang Ecological Fresh Air System Equipment

☑ Fresh Air Purification Equipment



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Company Profile

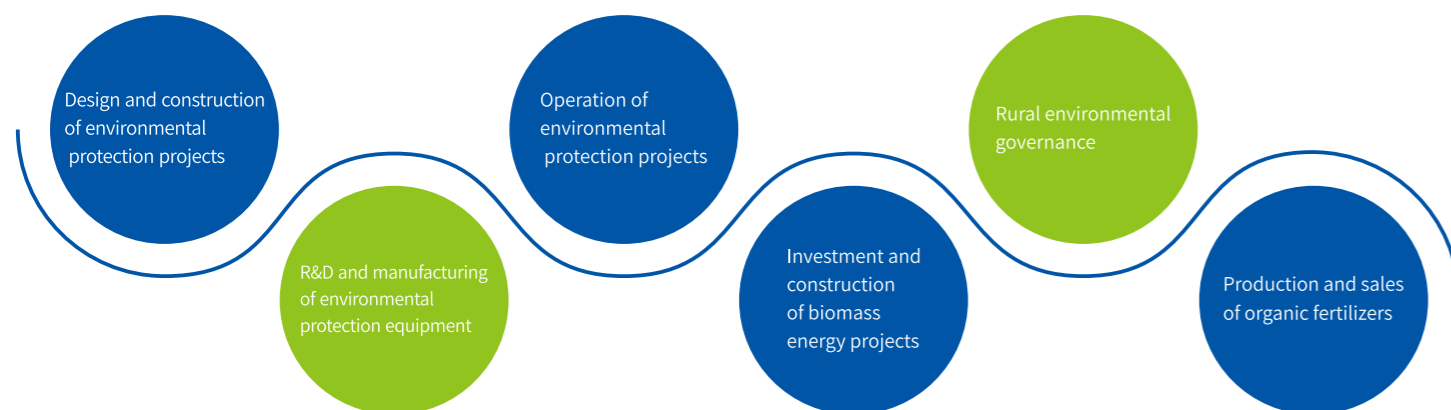
Founded in 2014, Guangdong Yikang Ecological Environmental Technology Group Co., Ltd. is an integrated environmental solution provider focusing on agricultural and rural environmental protection.

The company specializes in agricultural and livestock pollution control, biomass resource recycling, and rural ecological environmental management, providing comprehensive solutions for the treatment, recycling and resource utilization of solid, liquid and gaseous pollutants.

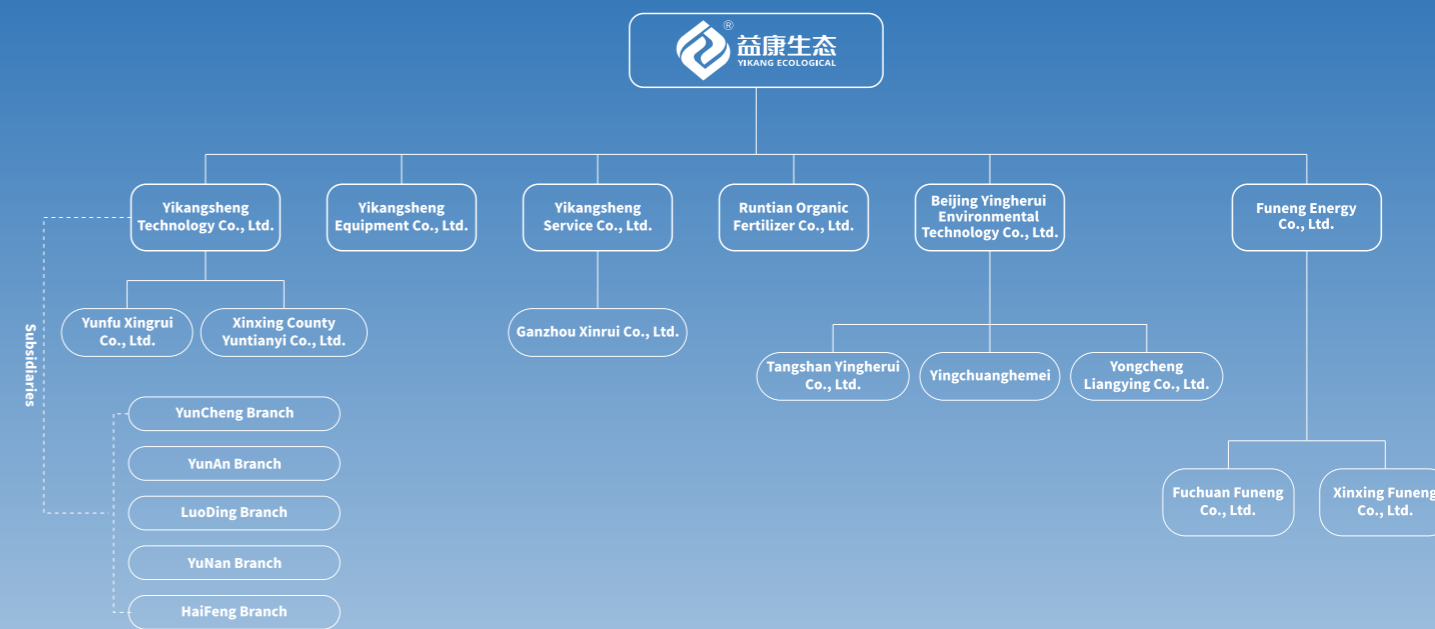
Our services cover the treatment and management of various agricultural and forestry wastes, including livestock wastewater, manure and straw.

With strong technological capabilities and extensive project experience, Yikang has become a leading enterprise in the agricultural and rural environmental protection industry.

Business Scope



Corporate Structure



Innovative Achievements
Capability
Verification
Customer Trust

420
Utility Model Patents

31
Invention Patents

25
Software Copyrights

12
Design Patents

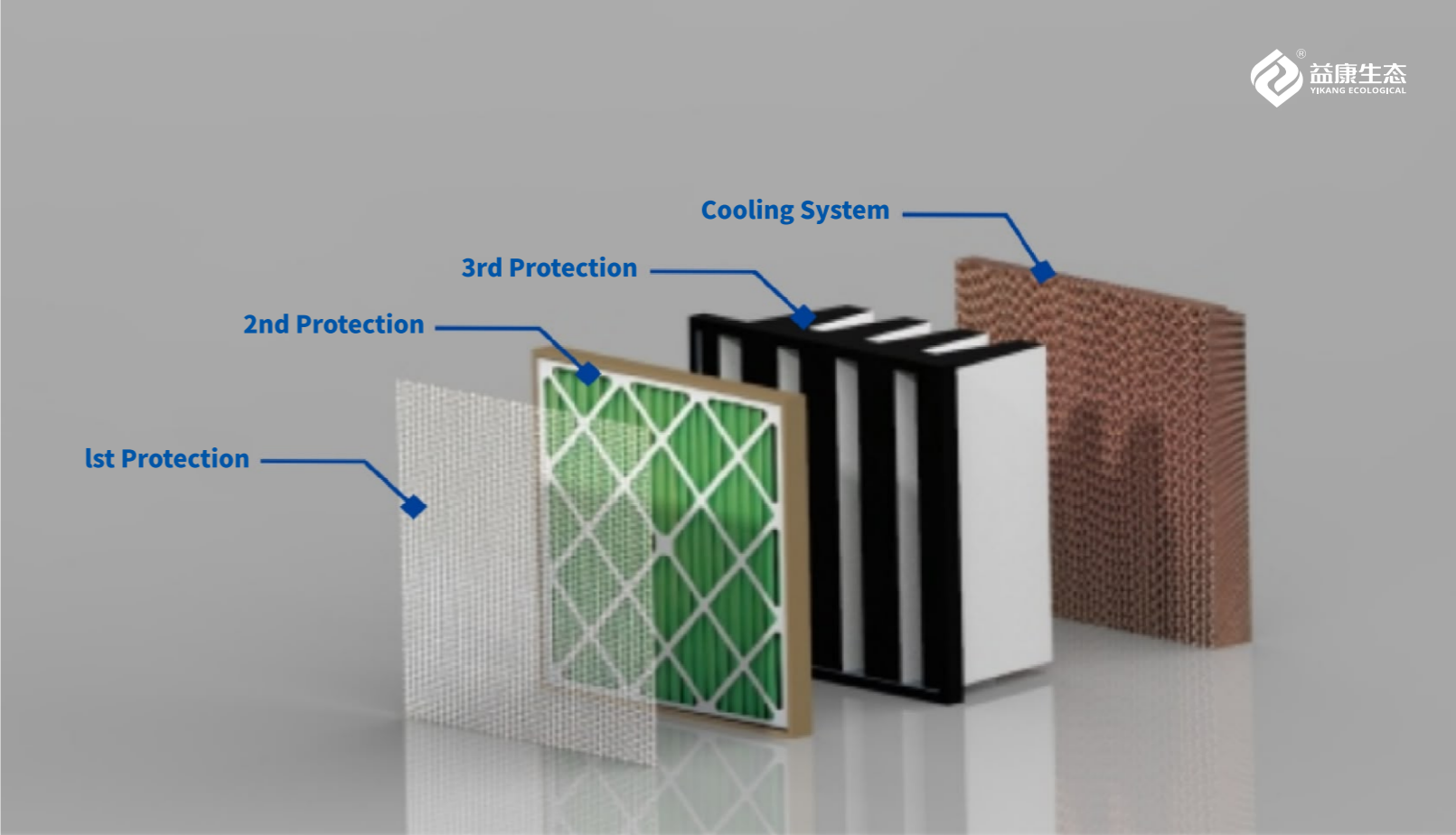
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Registered Trademarks



02 Fresh Air Purification Equipment

Fresh Air Purification System – Working Principle of Yikang Fresh Air Purification Equipment

The Yikang Fresh Air Purification Equipment is primarily used for fresh air filtration in pig houses. Its working principle is not to directly filter viruses or bacteria, but to intercept the carriers of virus transmission—namely, the incoming fresh air entering the pig house. The incoming air passes through three-stage filtration, including a pre-filtration screen, a primary air filter, and a W-type medium-efficiency air filter, effectively utilizing multiple filtration mechanisms such as interception, inertial impaction, and diffusion. Through this process, mosquitoes, pollen, as well as dust particles or bioaerosols carrying swine viruses are efficiently captured, achieving a filtration efficiency of up to MERV 15. Subsequently, the purified air is rapidly cooled through a high-density composite fiber evaporative cooling pad wall, providing clean, fresh, and cooled air to the pig house in a timely manner.



Triple Protection + Cooling System

First-Level Protection

Stainless steel mesh combined with high-density nylon mesh, mainly used to filter mosquitoes and large particulate dust.

Second-Level Protection

G4 primary efficiency filter with a filtration efficiency of $\geq 80\%$ for particles $\geq 5\ \mu\text{m}$, designed to intercept coarse particulate matter and effectively extend the service life of downstream filters.

Third-Level Protection

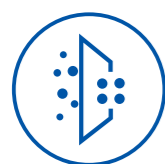
F9 medium-efficiency filter with a filtration efficiency of $\geq 95\%$ for particles $\geq 0.4\ \mu\text{m}$, serving as the final filtration barrier. Fine dust, viruses, and aerosols are intercepted and captured by the filter fibers.

Cooling System

Polymer-based evaporative cooling pad, used to regulate and maintain a comfortable indoor temperature during seasonal temperature increases, especially from winter to spring.



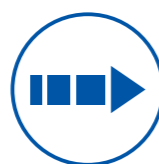
Can Intercept Multiple Virus Carriers



Filtration



Rapid Purification



Efficient Ventilation



Environmentally Friendly



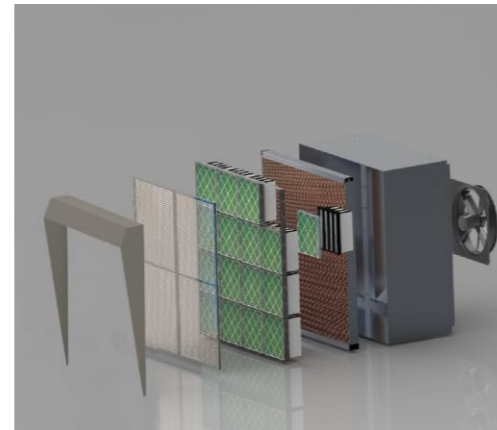
Corrosion Resistance

02 Fresh Air Purification Equipment

Front-End Air Quality Control for Livestock Farms

YiKang Ecological Fresh Air Purification Equipment

— Semi-Annual Seasonal Ventilation Mode —



Effectively intercepts fine particulate matter, bioaerosols, and other carriers of viral transmission, with filtration efficiency reaching MERV 15.

The Yikangsheng Fresh Air Purification Equipment is primarily used for fresh air filtration in pig houses. Incoming fresh air passes through a three-stage filtration system, effectively leveraging multiple filtration mechanisms such as interception, inertial impaction, and diffusion to efficiently capture mosquitoes, pollen, as well as dust particles or bioaerosols carrying swine viruses. Subsequently, the filtered air is rapidly cooled through a high-density composite fiber evaporative cooling pad wall, delivering clean, fresh, and cooled air to the pig house.

All completed projects have reported no infection cases, demonstrating remarkable and proven effectiveness.



Fresh Air Purification System – Equipment Operating Mode (Semi-Annual Seasonal Ventilation Mode)

Equipment Parameters

Equipment Model		3*4	4*4	3*6
Pre-filter	Quantity	12	16	18
	Specifications	Dimensions: 592*592*46mm; Material: Composite fiber Filtration Grade: MERV 8		
Medium-Efficiency Filter	Quantity	12	16	18
		Type: W-type filter Dimensions: 592 × 592 × 292 mm Material: Glass fiber, composite fiber, nano fiber Filtration Grade: MERV 15		
Housing Material		Material: Aluminum-magnesium-zinc coated steel plate, double-sided 275 g/m ² coating, stamped modular assembly process.		
Fan Parameters		Number of fans: 1 Fan power: 2.2 kW Airflow & Static Pressure: 27900 m ³ /h @ 0 Pa, 21700 m ³ /h @15 0 Pa, 18890 m ³ /h @20 0 Pa	Number of fans: 1 Fan power: 4 kW Airflow & Static Pressure: 32800 m ³ /h @10 0 Pa, 29200 m ³ /h @15 0 Pa, 27400 m ³ /h @20 0 Pa	Number of fans: 2 Fan power: 1.8 kW Airflow & Static Pressure: 21700 m ³ /h @ 0 Pa, 17000 m ³ /h @15 0 Pa, 14500 m ³ /h @20 0 Pa
Secondary Protection Mesh		Insect-proof mesh: 304 stainless steel, 30 mesh Dust-proof mesh: Nylon material, 60 mesh		
Fabric Air Duct		Material: Polyester fiber air duct fabric; Thickness: ≥ 0.16 mm Fabric weight: ≥ 110 g/m ² or ≥ 240 g/m ² Flame retardant rating: B2 coating		

Fresh Air Purification System – Fan Parameter Comparison

Fan Brand	FANST	ZIEHL-ABEGG	FUSHI
Impeller Material	Aluminum Alloy	Aluminum Alloy	Plastic
Motor Protection Rating	Ip55	Ip54	Ip55

FANST Fan Features

- 01** The fan adopts streamlined die-cast aluminum alloy impellers, delivering large airflow and high structural strength, making it suitable for high static pressure operating conditions.
- 02** The fan motor features an aluminum alloy housing with excellent corrosion resistance. The motor has Class F insulation and a protection rating of IP55, making it suitable for applications with high humidity and moisture exposure.
- 03** All fans undergo 100% dynamic balance testing before leaving the factory, ensuring low vibration, stable operation, and high reliability.

Front-End Air Quality Control for Livestock Farms



Aerial View of Yanggang Pig Farm



The Yikangsheng Fresh Air Purification Equipment is primarily used for fresh air filtration in pig houses. Incoming fresh air passes through a three-stage filtration system, effectively leveraging multiple filtration mechanisms such as interception, inertial impaction, and diffusion to efficiently capture mosquitoes, pollen, as well as dust particles or bioaerosols carrying swine viruses. Subsequently, the filtered air is rapidly cooled through a high-density composite fiber evaporative cooling pad wall, delivering clean, fresh, and cooled air to the pig house. All completed projects have reported no infection cases, demonstrating remarkable and proven effectiveness.



The company logo located on the gable wall of the gestation house interferes with pipeline installation and therefore needs to be removed. At Farm No. 2, the equipment installation position on one side of the gestation house gable wall is close to the internal road, which may affect vehicle access and traffic circulation at a later stage.

Fresh Air Purification System – Pangang Village Pig Farm



Aerial View of Pangang Village Pig Farm



For both the farrowing house and the gestation house, part of the equipment is installed within an enclosed corridor. Materials for this area must first be transported by crane into the first enclosed zone, and then manually transferred into the enclosed corridor, as auxiliary mechanical equipment cannot be used in this area.



There is a personnel access passage on one side of the gable wall of the gestation house. As an external galvanized main pipeline needs to be installed at this location and the space inside the enclosed area is insufficient, the equipment must be relocated to the feed silo area.

Fresh Air Purification System – Taiping Pig Farm (Site View)



Satellite Image of Taiping Breeding Pig Farm



Equipment for the farrowing house is installed within an enclosed corridor. Materials for this area must first be transported by crane into the first enclosed zone, and then manually transferred into the enclosed corridor, as auxiliary mechanical equipment cannot be used in this area.

Fresh Air Purification System – Shangtang, Andong Village, Zhuhu, and Shuangou Pig Farms



For all four fattening pig farms, the equipment installation positions are located on both sides of the pig houses, with sufficient installation space available outside the buildings. However, all installation areas are within the perimeter fence, which prevents normal material transportation.

Option I

All materials need to be transported by crane into the enclosed area, and then manually transferred by personnel to each installation location.

Option II

Part of the perimeter wall will be demolished, allowing transport vehicles (4.2 m) to directly deliver all materials to each installation location. The perimeter wall will be restored after installation.

- Option II is recommended due to its advantages in cost control and installation efficiency.