

INFINAIR™

PIV/YFPIJ/YFPIM

Positive Inducing Fan Series

YFPIJ



YFPIM



PIV



Company Profile

Yingfei Tongren Fan Co., Ltd. was established in September 2003. It is a high-end system solution and service provider integrating R&D, manufacturing, and sales in the fields of building ventilation, industrial ventilation, heating, and air treatment.

Upholding the future development concepts of “Green Environmental Protection” and “Intelligent Interconnection,” Yingfei Tongren continuously invests in ventilation technology research and development, adheres to the core value of being “customer-centered,” and consistently provides customers with reliable, convenient, energy-efficient, environmentally friendly, and smart-connected products and services.

Shanghai Headquarters:

Yingfei Tongren Fan Co., Ltd.
Building Area: 31,865 m²
Address: No. 55 Jiade Road, Jiading District, Shanghai

Haimen Production Base (Wholly-owned Subsidiary):

Yingfei Tongren (Jiangsu) Fan Co., Ltd.
Building Area: 67,841 m²
Address: No. 1833 Guangzhou Road, Economic Development Zone, Haimen District, Nantong City, Jiangsu Province

Service Network:

The company’s sales and service network covers major regions across China and worldwide, including Shanghai, Beijing, Guangzhou, Shenzhen, Guangxi, Anhui, Shaanxi, Henan, Hunan, Hubei, Fujian, Chengdu, Qingdao, Tianjin, Chongqing, Nanjing, Suzhou, Xinjiang, as well as Asia, North America, Europe, and the Middle East, providing customers with timely technical support and reliable after-sales service.

(Note: The company was previously known as Shanghai Tongren General Equipment Manufacturing Co., Ltd.)



Yingfei Vision:

To become a trusted professional brand in air transportation, control, and regulation.

Yingfei Mission:

To provide reliable and convenient air transportation, control, and regulation services.

Yingfei Dream:

Exceptional customer experience, a happy life for employees’ families, and an entrepreneurial platform for partners.

Honors & Qualifications:

- National-level “Little Giant” Enterprise (Specialized and Innovative SME)
- National High-Tech Enterprise
- Shanghai Famous Trademark: INFINAIR®
- Shanghai Brand Product
- Shanghai Technology-Based SME
- Shanghai “Specialized and Innovative” Enterprise
- Shanghai Enterprise Technology Center
- SGS ISO9001, ISO14001, ISO45001 Management System Certifications

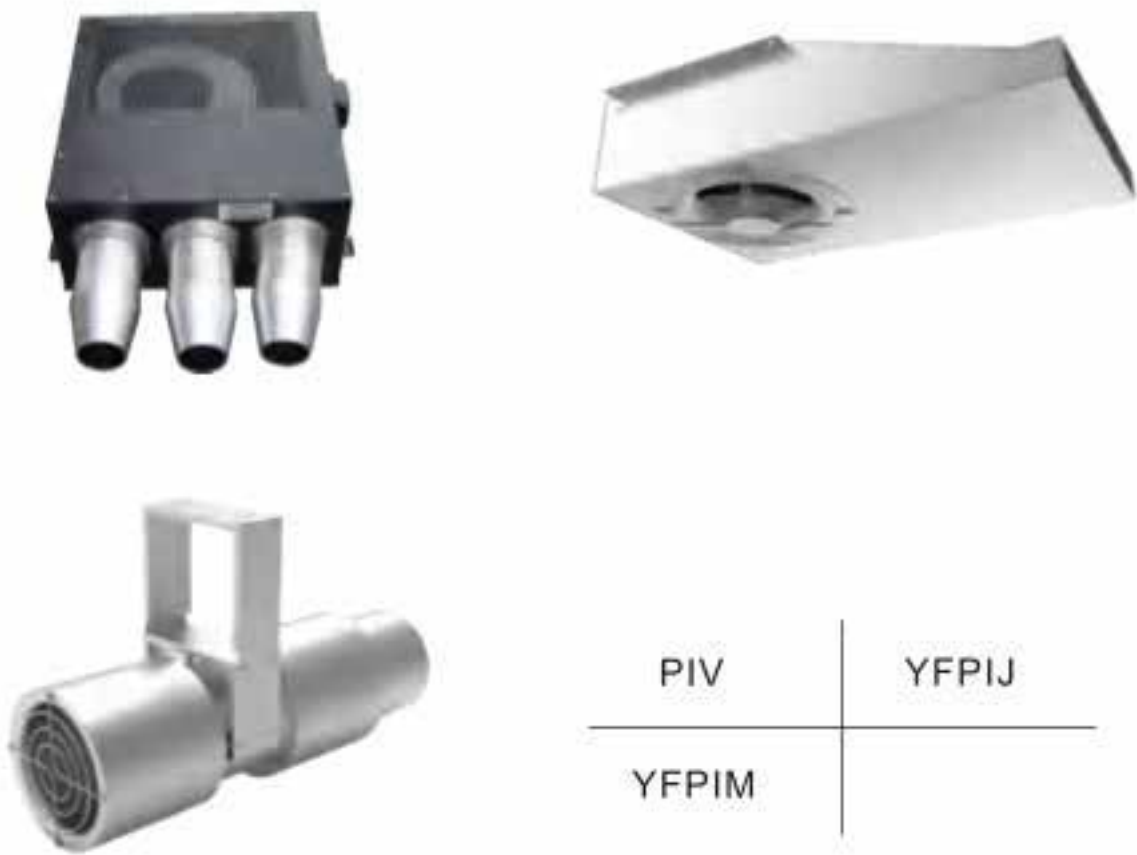
Haimen Production Base (Wholly-owned Subsidiary):

National High-Tech Enterprise



Positive Inducing Fan Series

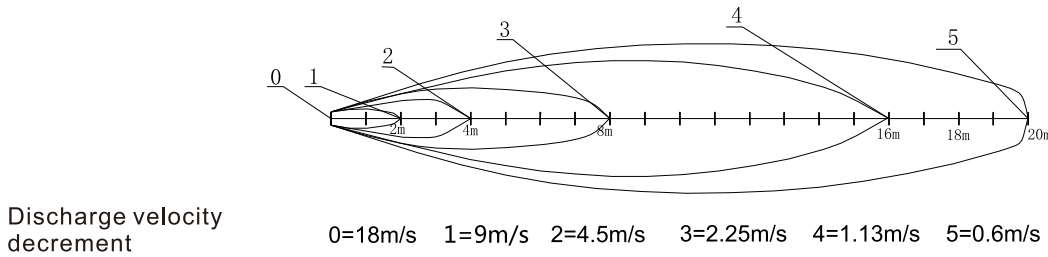
- Designed according to the principles of aerodynamics, positive inducing fans induce and disturb surrounding air through the high velocity discharge produced and then guide the air in specified directions. The central discharge velocity gradually comes down with the increasing distance away from the outlet nozzle, but the discharge area expands so that more air can be induced. By diluting indoor harmful gases and circulating air at the same time, positive inducing fans can gather these gases and bring them along the predefined flow passage quickly to the exhaust fan, thus making the air well ventilated in the underground car parks.
- Positive inducing fans can effectively dilute harmful gases and smoke in car parks, keeping air well ventilated and improving the environment. At the same time, Model YFPIJ fans can be used for emergency smoke extraction.



Applications

Guiding the surrounding air to predefined areas and in specific directions through the high velocity discharge produced, positive inducing fans help dilute the waste gases and improve air quality.

- Applications:
- Underground car parks
 - Underground entertainment venues
 - Large areas with certain parts polluted
 - Intelligent inducing ventilation that features regional linkage



Underground car parks



Underground entertainment venues



Large areas with certain parts polluted



Intelligent inducing ventilation that features regional linkage

PIV Positive Inducing Fans Series V



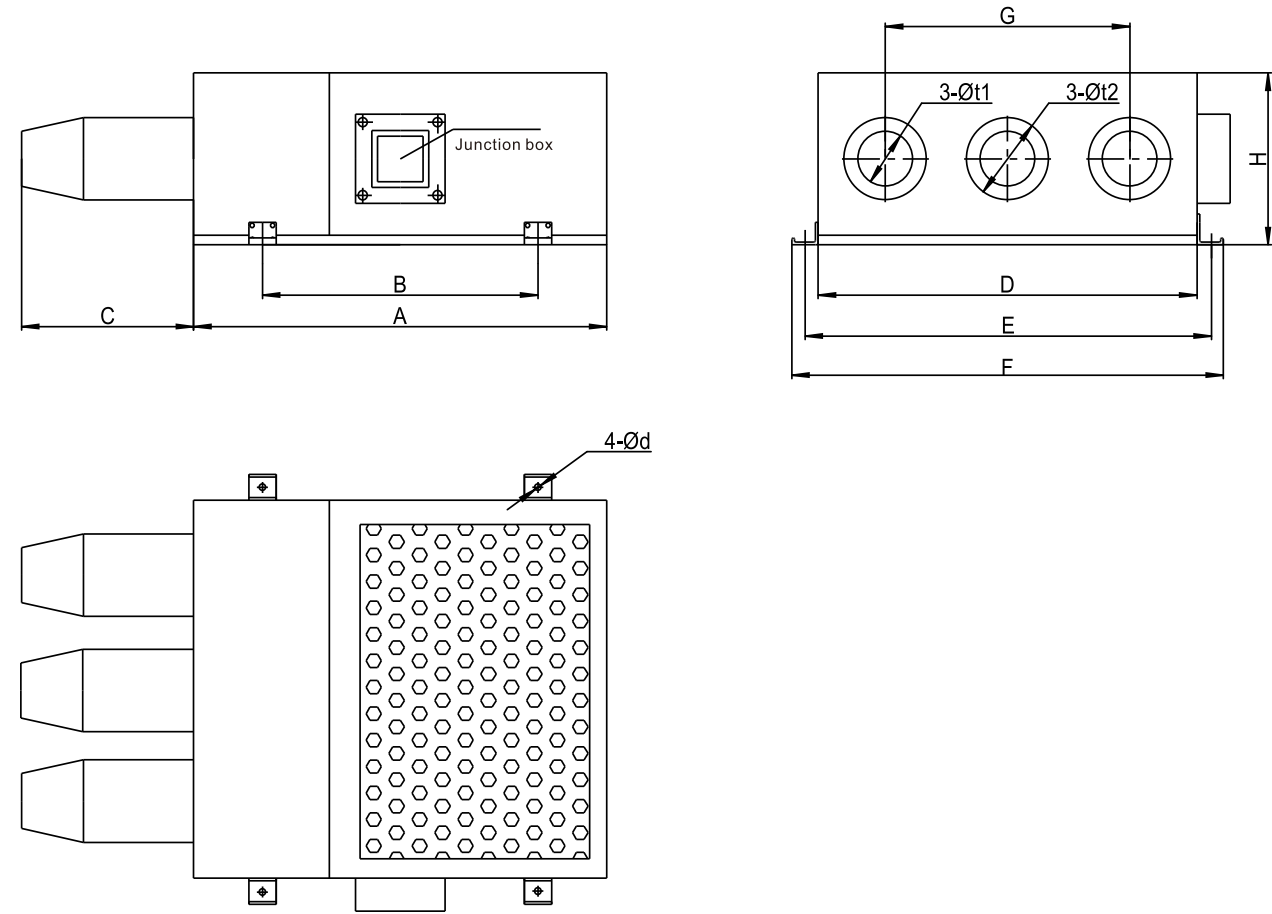
Product Features

- Small-size and light-weight; Easy installation with no additional ducts required; Highly targeted and cost-effective.
- Energy-efficient: inducing air through the high velocity discharge produced.
- Flexible metallic nozzle with easily adjustable discharge angles.
- Intelligent positive inducing function available: sub-regions interlinked to ensure energy efficiency and reliability.
- Housing made of quality galvanized steel sheet; housing finished with electrostatic epoxy coatings also available.

Technical Parameters

Model	Speed (rpm)	Thrust (N)	Airflow (m³/h)	Motor Power (kW)	Volt/Hz/Ph (V / Hz / Ph)	Sound Pressure Level (dB(A))	Outlet Velocity (m/s)	Weight (kg)
PIV-B-3	1450	6~11	980~1380	0.12	220 / 50 / 1	42	17~24	35

Outline Dimensions



Unit : mm

Model	A	B	C	D	E	F	G	H	d	t1	t2
PIV-B-3	600	400	250	550	590	630	335	250	9	80	120

Fan Installation

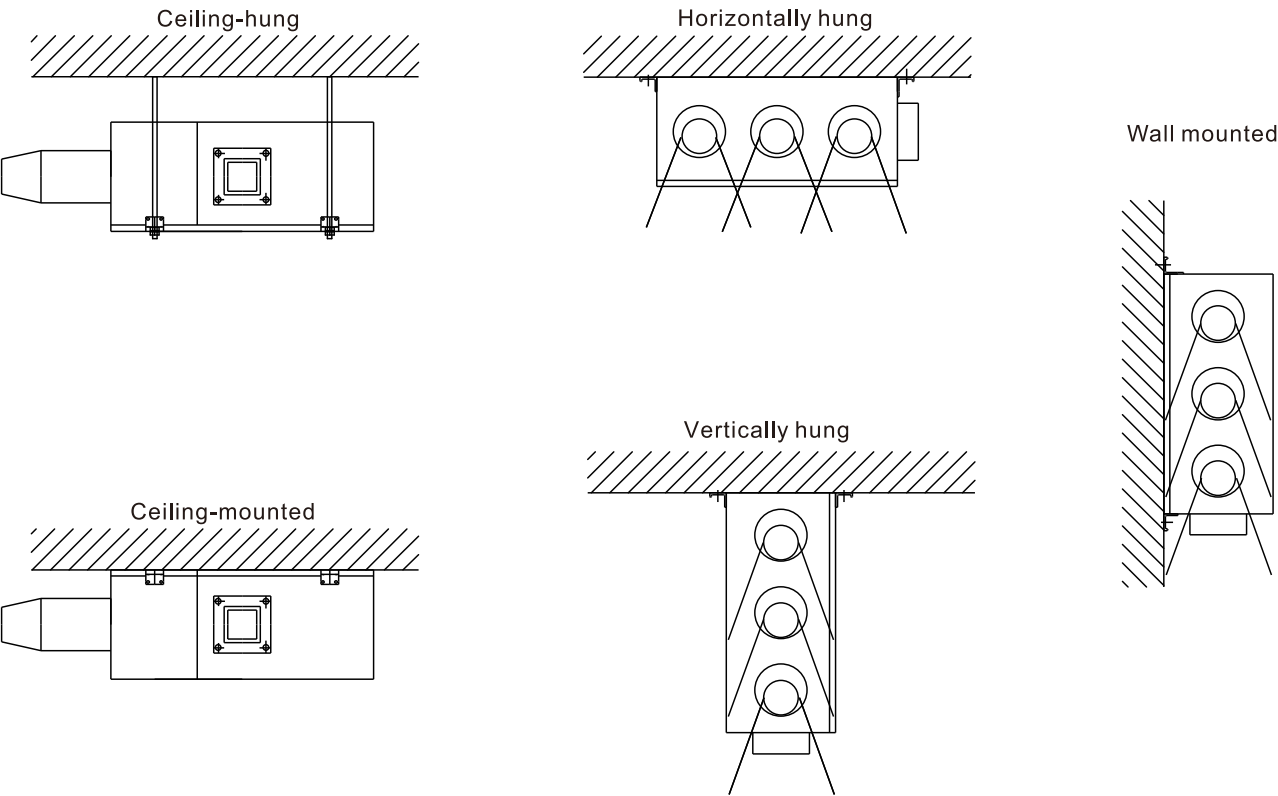
Positive inducing fans Series V can be ceiling-hung and ceiling-mounted. When ceiling-mounted, fans can be horizontally hung, vertically hung or wall-mounted. They should not be mounted too high (preferably 2.3~3 meters high above the ground) and there shall not be any obstructions within 500mm from inlets and outlets. When ceiling-hung, there shall be spring isolators. When ceiling-mounted, Neoprene isolators shall be added to screws. The spacing between fans shall be smaller than the discharge range so that airstreams from different outlets do not collide.

Intelligent Control Principles of Positive Inducing Fans Series V

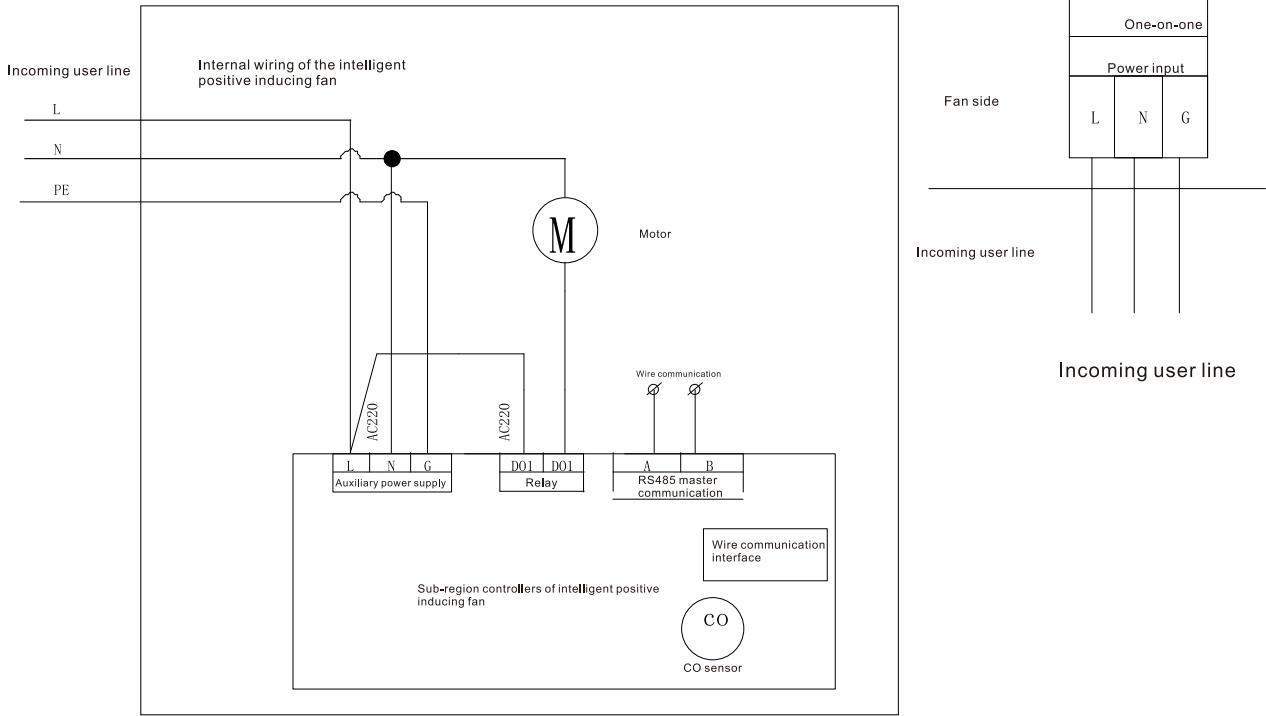
When the control switch is in the automatic mode, the system is controlled as below:

Inside each intelligent positive inducing fan, there is a sensitive waste gas concentration detector. Upon detection of a carbon monoxide (CO) concentration of over 30PPM, the intelligent positive inducing fan in this specific region will start automatically and run for 5 minutes. If the concentration level remains, the centralized controllers in the interlinked sub-regions will start all the intelligent positive inducing fans. Also, supply fans and exhaust fans will be started to exhaust indoor waste gases and send in fresh air. When the CO concentration level falls below 30PPM, the fans will continue to run for another 10 minutes before they turn off automatically.

Mounting Types



PIV
Wiring of PIV sub-region controllers



PIV Technical Specification

Fan Type

The fan shall be a positive inducing one with a centrifugal galvanized steel wheel. The wheel should be subject to static and dynamic balancing tests up to AMCA 204- G2.5 quality grade.

Fan Housing

The fan housing shall be made in galvanized steel sheet (or steel sheet finished with electrostatic epoxy coatings) for effective corrosion prevention. There has a removable access door for inspection and maintenance. There shall be baffle plates at the outlet, ensuring regular airstreams from each nozzle.

Motor

The motor shall be direct driven and well match the fan load. It shall be IP44 rated with Class F insulation.

Nozzle

Seamlessly formed by spinning with aluminum alloys, the flexible nozzle shall be directly embedded on the fan housing.

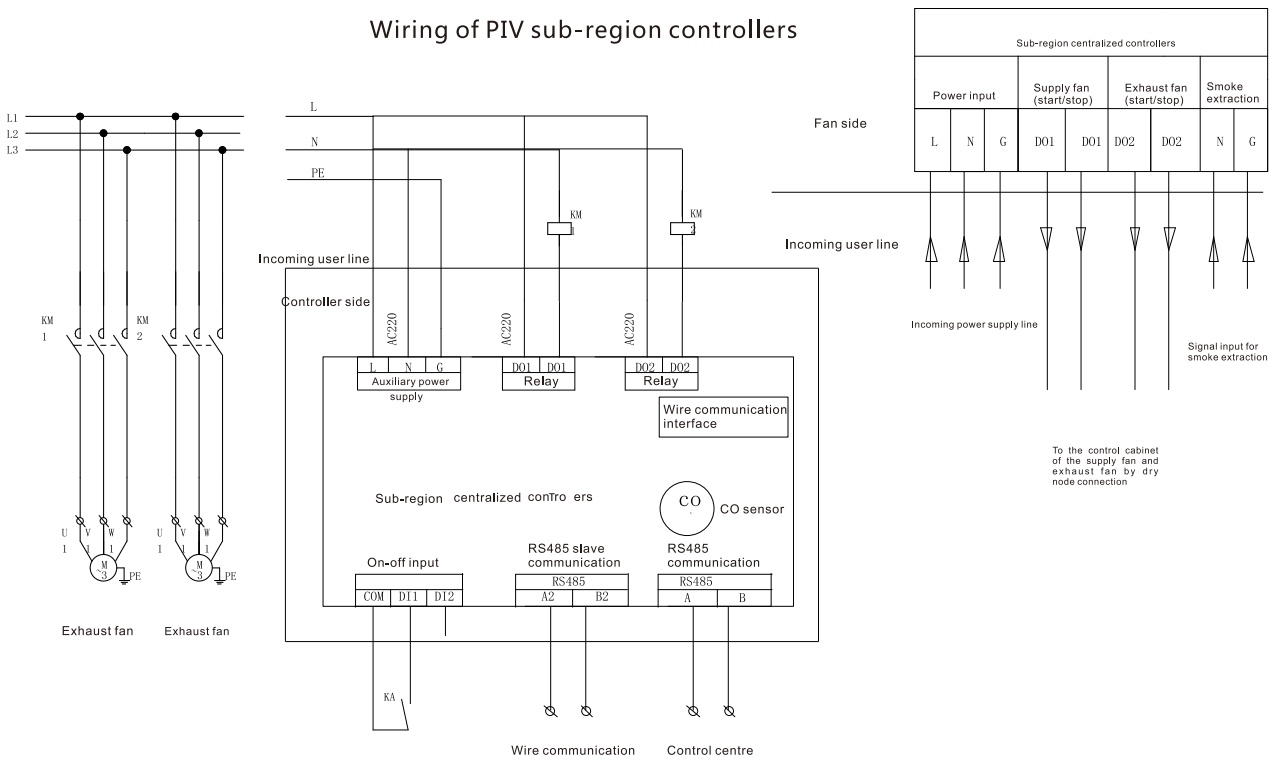
Nameplate

A permanently fixed aluminum nameplate shall clearly display the fan number, product model and serial number (a unique ID for each fan) so that the parts used can be traceable by customers.

Qualified Suppliers

Qualified suppliers shall be assigned a credit rating of "AAA". **INFINAIR** or similar products supplied are designed based on PIV models of **INFINAIR**.

Wiring of PIV sub-region controllers



YFPIJ Positive Inducing Fans Series J



Product Features

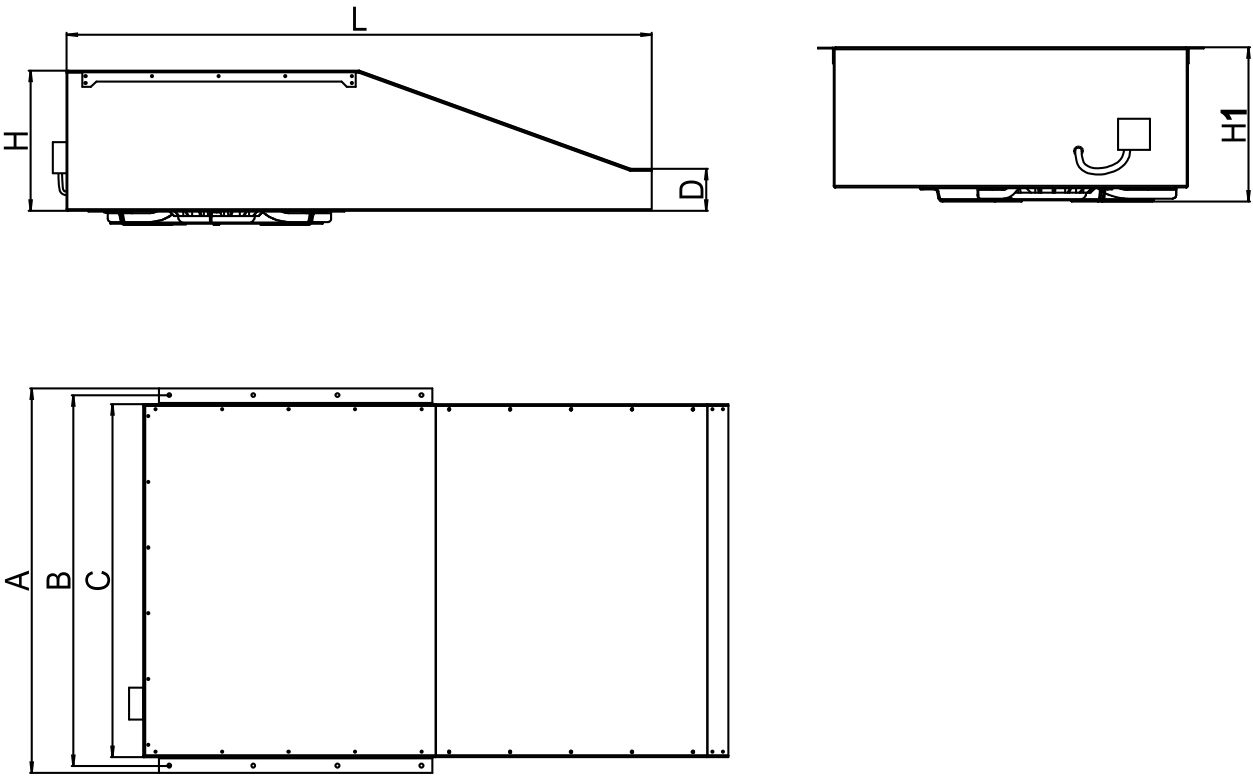
- Compact structural design and low height of the fan body making it especially suitable for underground car parks with low head room.
- Centrifugal backward curved steel wheel that features greater efficiency, large airflow, long discharge distance and low sound level.
- Dual purposes: Used for general ventilation and for smoke extraction.
- Operating temperature:
General ventilation: -20°C ~ 55°C.
Smoke extraction system: 300°C / 60minutes.
- Motor: IP55 rated with Class H insulation (For the sole purpose of general ventilation, Class F is also recommended).

- Fan housing made in quality cold-roll steel sheets finished with electrostatic epoxy coatings.
- Air inlet mounted with safety guard to ensure safe working conditions.
- Passed  heat resistance test F300 (300°C / 60minutes).

Technical Parameters

Model	Speed (rpm)	Thrust (N)	Airflow (m³/h)	Motor Power (kW)	Volt/Hz/Ph (V / Hz / Ph)	Sound Pressure Level (dB(A))	Outlet Velocity (m/s)	Weight (kg)
YFPIJ-450	1390/690	27/7	4467/2217	0.75/0.18	380 / 50 / 3	75/64	18.6/9.3	118
YFPIJ-500	1400/710	41/10	6171/3130	1.2/0.3	380 / 50 / 3	78/67	20.7/10.4	139
YFPIJ-560	1420/710	68/17	8794/4397	2.1/0.5	380 / 50 / 3	81/69	24.8/12.4	152
YFPIJ-450	1668/828	39/10	5360/2661	1.2/0.3	380 / 60 / 3	84/71	22.3/11.2	118
YFPIJ-500	1680/852	60/15	7405/3755	2.1/0.5	380 / 60 / 3	89/73	24.9/12.4	144
YFPIJ-560	1704/852	97/24	10552/5276	3.5/0.9	380 / 60 / 3	93/76	29.7/14.9	157

Outline Dimensions



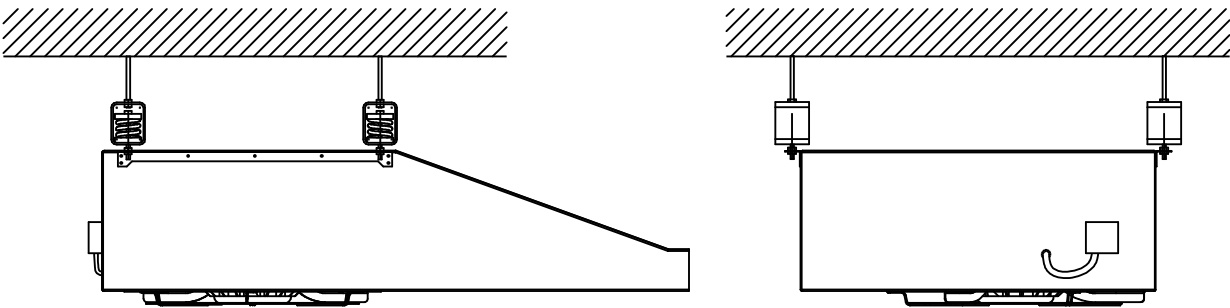
型号 Model	单位：毫米 Unit : mm						
	A	B	C	D	L	H	H1
YFPIJ-450	898	858	808	80	1340	295	335
YFPIJ-500	990	950	900	90	1490	325	365
YFPIJ-560	1100	1060	1010	100	1670	365	405

Fan Installation

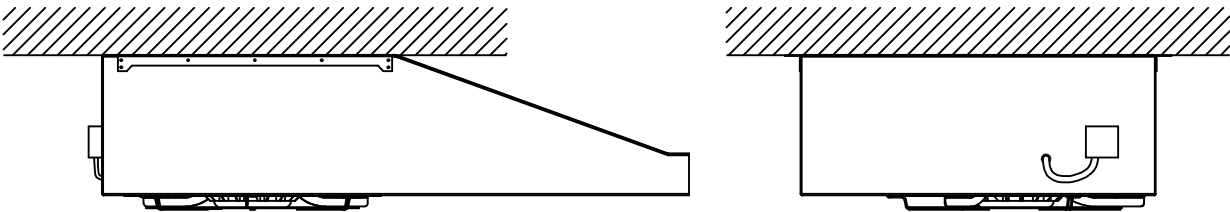
Positive inducing fans Series J can be ceiling-hung and ceiling-mounted. There shall not be any obstructions within 1000mm from inlets and outlets. When ceiling-hung, there shall be spring isolators. When ceiling-mounted, Neoprene isolators shall be added to screws. The spacing between fans shall be smaller than the discharge range so that airstreams from different outlets do not collide.

Mounting Types

Ceiling-hung



Ceiling-mounted



Intelligent Control Principles of Positive Inducing Fans Series J

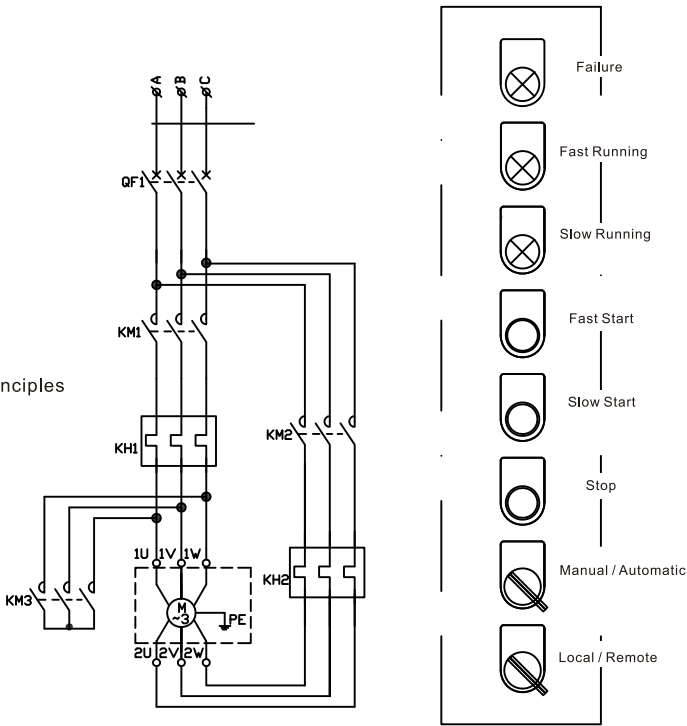
When the control switch is in the automatic mode, the system is controlled as below:

Inside each intelligent positive inducing fan, there is a sensitive waste gas concentration detector. Upon detection of a carbon monoxide (CO) concentration of over 30PPM, the intelligent positive inducing fan in this specific region will start automatically and run for 5 minutes. If the concentration level remains, the centralized controllers in the interlinked sub-regions will start all the intelligent positive inducing fans. Also, supply fans and exhaust fans will be started to exhaust indoor waste gases and send in fresh air. When the CO concentration level falls below 30PPM, the fans will continue to run for another 10 minutes before they turn off automatically.

To meet the requirements of the building automation system or the requirements of manual mode, the YFPIJ intelligent positive inducing fan reserves a pair of remotely-controlled passive dry nodes. When the nodes are closed circuit, the system will start. When the nodes are open circuit, the controllers will automatically start and stop the system based on the detected waste gas concentration.

When the knob is in the manual mode, three options are available for customers to choose from: high-speed, low-speed and stop. This also makes debugging and maintenance work easy.

YFPIJ
Schematic Diagram of YFPIJ Control Principles



KM1 closed circuit, KM2 and KM3 open circuit —— Low
KM1 open circuit, both KM2 and KM3 closed circuit —— High speed

YFPIJ Technical Specification

● Fan Type

The fan shall be in a flat structure and direct driven with a centrifugal backward curved steel wheel. The motor is located inside the inlet. The fan requires much lower head room of car parks, thus reducing the engineering cost. There shall be a steel safety guard at the inlet.

●Wheel

The wheel shall be centrifugal backward curved steel one and all welded. The wheel should be subject to static and dynamic balancing tests up to AMCA 204--G4.0 quality grade. Stable airstreams and low sound level shall be ensured when the wheel is running at the highest speed. When the operating point moves up or down, a decline in fan performance shall be avoided. The fan structure shall be designed so that the motor can be easy to be taken out for maintenance and cleaning.

● Fan Housing

The fan housing shall be in a flat structure and made in cold-roll steel sheets finished with electrostatic epoxy coatings. It shall be thick and strong enough to withstand the dynamic load generated.

● Inlet

The inlet shall be designed based on aerodynamic characteristics with a smooth streamline surface to reduce turbulence so that fan efficiency can be improved and sound lowered.

● Fire Certification(For smoke extraction only)

The fan shall pass the heat resistance test of TUV up to the standard F300 (300℃ / 60minutes) and a certificate issued by TUV shall be obtained.

● Motor

The motor shall match the fan load well and shall be IP55 rated with Class F or H insulation. Lubrication-free ball bearings shall be used.

● Nameplate

A permanently fixed aluminum nameplate shall clearly display the fan number, product model and serial number (a unique ID for each fan) so that the parts used can be traceable by customers.

● Qualified Suppliers

Qualified suppliers shall be assigned a credit rating of “AAA”.**INFINAIR**® or similar products supplied are designed based on YFPIJ models of **INFINAIR**®.

YFPIM Positive Inducing Fans Series M



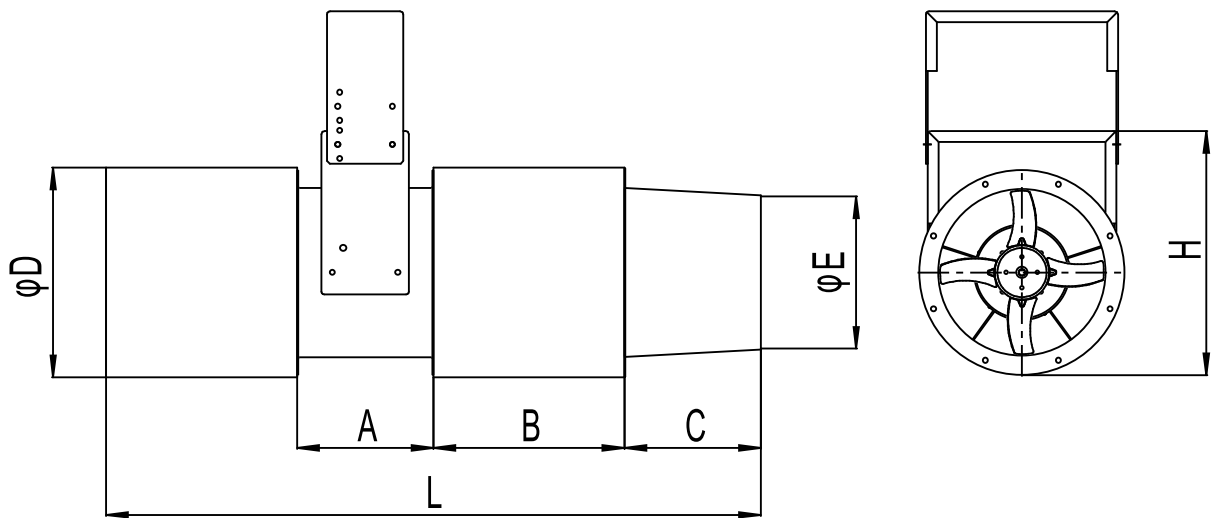
Product Features

- Suitable for ventilation in underground car parks and entertainment venues to reduce waste gas concentration and improve air quality.
- Greater efficiency and long discharge distance.
- Silencers fitted at both inlet and outlet for extremely low sound level.
- IP54 rated with Class F insulation, able to maintain safe and reliable operation over a long period of time under -20℃ ~ 55℃.
- Aesthetically pleasing, small-size, light-weight and space-saving.
- Easy installation with mounting brackets supplied and mounting angles adjustable.
- Air inlet mounted with safety guard to ensure safe working conditions.

Technical Parameters

Model	Speed (rpm)	Thrust (N)	Airflow (m³/h)	Motor Power (kW)	Volt/Hz/Ph (V / Hz / Ph)	Sound Pressure Level (dB(A))	Outlet Velocity (m/s)	Weight (kg)
YFPIM-280	3360	13	2500	0.37	220 / 60 / 1	62	16.5	40
YFPIM-300	3360	18	3400	0.55	220 / 60 / 1	66	16.5	48
YFPIM-350	3360	28	5000	1.1	220 / 60 / 1	69	17	65
YFPIM-280	2800	10	2080	0.25	220 / 50 / 1	58	13.7	39
YFPIM-300	2800	13	2800	0.37	220 / 50 / 1	62	13.7	48
YFPIM-350	2800	20	4150	0.75	220 / 50 / 1	65	14.2	63

Outline Dimensions



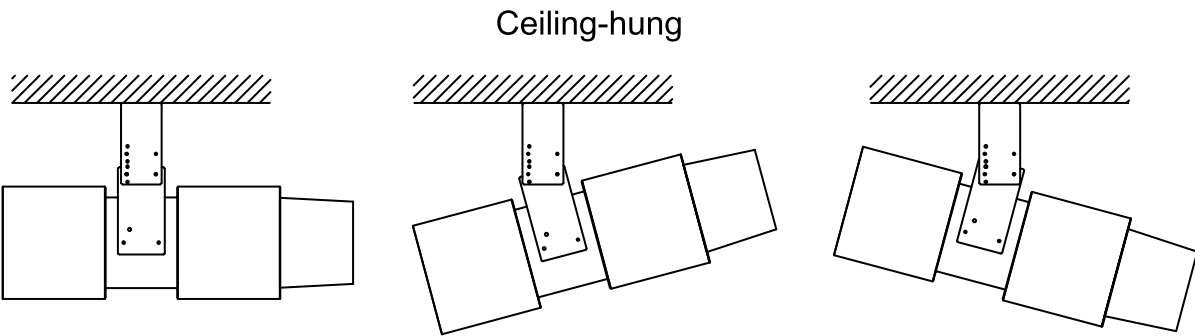
Unit : mm

Model	A	B	C	H	L	φD	φE
YFPIM-280	220	320	220	430	1110	364	230
YFPIM-300	250	350	250	450	1200	385	280
YFPIM-350	300	350	300	530	1300	436	320

Fan Installation

Positive inducing fans Series M can be ceiling-mounted. There shall not be any obstructions within 1000mm from inlets and outlets. The spacing between fans shall be smaller than the discharge range so that airstreams from different outlets do not collide. The outlet angle can be adjusted by ±15 degrees based on customer requirements.

Mounting Types

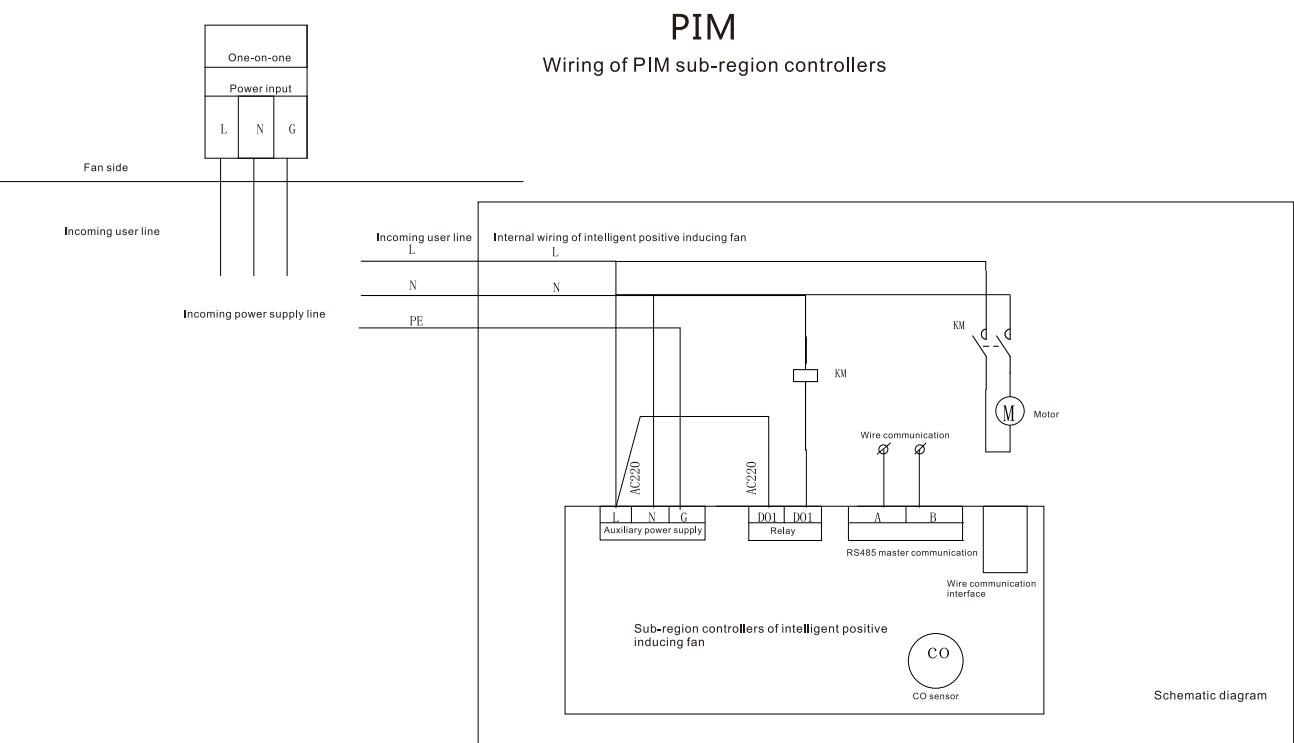


Intelligent Control Principles of Positive Inducing Fans Series M

- Intelligent positive inducing fans have control knobs in automatic and manual modes.

When the knob is in the automatic mode, the system is controlled as below:

- Inside each intelligent positive inducing fan, there is a sensitive waste gas concentration detector. Upon detection of a carbon monoxide (CO) concentration of over30PPM, the intelligent positive inducing fan in this specific region will start automatically and run with other linked ordinary positive inducing fans together. When the CO concentration level falls below 30PPM (or any predefined threshold value), the fans will continue to run for another 10 minutes before they turn off automatically.
- The power of ordinary positive inducing fans is provided by the linked intelligent positive inducing fan in the same region that also controls their start and stop.
- To meet the requirements of the building automation system or the requirements of manual mode, the YFPIM intelligent positive inducing fan reserves a pair of remotely-controlled dry nodes to acquisition the signal sent from the building automation system or manual control cabinets. When the nodes are closed circuit, the system will start. When the nodes are open circuit, the controllers will automatically start and stop the system based on the detected waste gas concentration.



YFPIM Technical Specification

● Fan Type

The fan shall be direct driven with an aluminum axial wheel. Tube silencer shall be mounted at both the inlet and outlet connected by high strength bolts. There shall be a steel safety guard at the inlet for safe operation. The wheel should be subject to static and dynamic balancing tests up to AMCA 204--G2.5 quality grade.

● Fan Housing

The fan stack shall be formed in quality steel sheet through the processes of rolling, continuous welding, spinning and flanging. Brackets for both the fan stack and motor shall be wholly welded to be strong enough to withstand the dynamic load generated.

● Silencers

Silencers shall be a two-layer cylinder structure. The inner layer is perforated sheet and the outer layer is quality steel sheet which is rolled and welded. Sound absorptive cotton panels shall be placed in between and they shall be flame retardant, insect-free and damp-proof.

● Surface Processing

The fan housing shall be finished with electrostatic powder coatings. The finished gloss level shall be greater than or equal to 70% and the surface shall be a level one without sags, cracks, cockles or detachment.

● Motor

The motor shall match the fan load well and shall be IP54 rated with Class F insulation. Lubrication-free ball bearings shall be used. The leading wire shall be connected to the junction box for convenient wiring.

● Nozzle

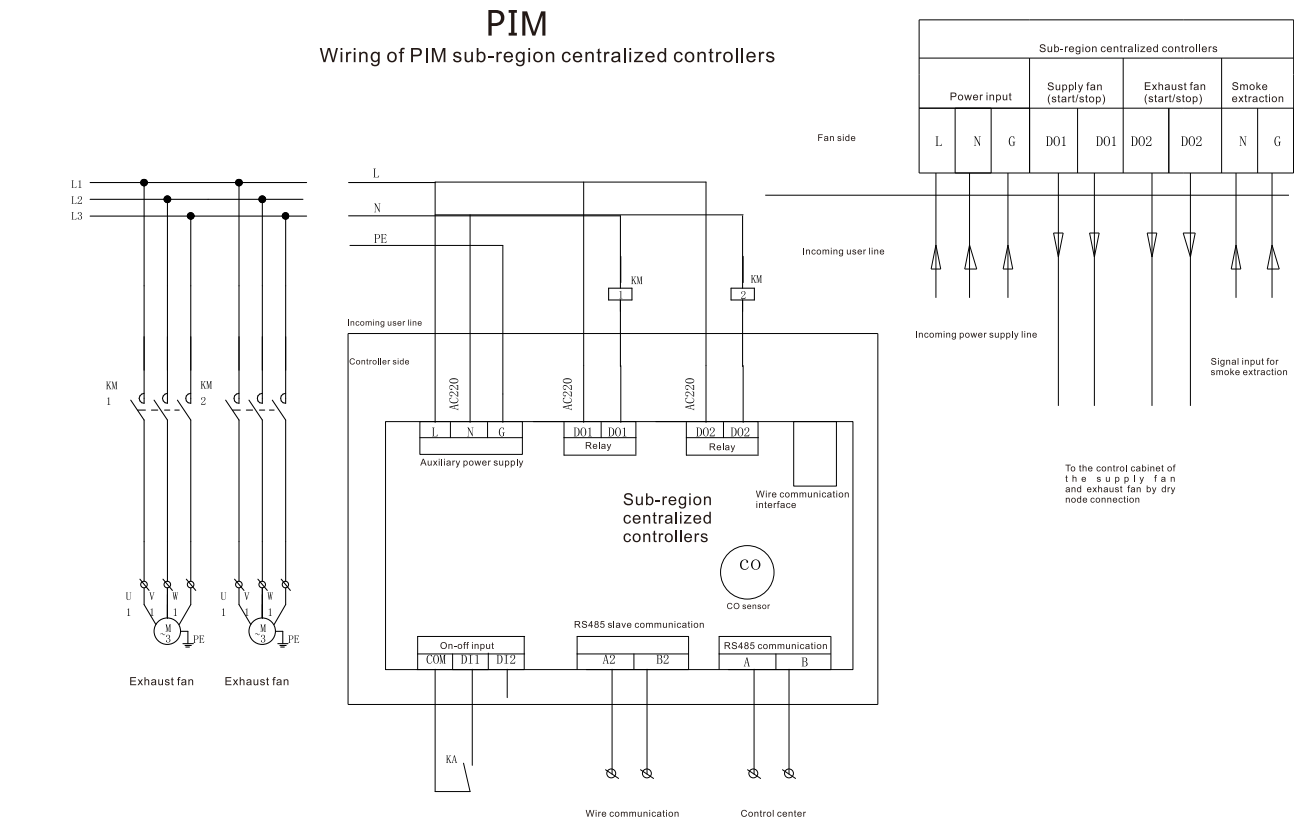
The nozzle shall be of tapered shape, high strength and low weight. It shall be formed by rolling and welding with aluminum alloys.

● Nameplate

A permanently fixed aluminum nameplate shall clearly display the fan number, product model and serial number (a unique ID for each fan) so that the parts used can be traceable by customers.

● Qualified Suppliers

Qualified suppliers shall be assigned a credit rating of "AAA". **INFINAIR** or similar products supplied are designed based on YFPIM models of **INFINAIR**.



INFINAIR Intelligent Ventilation Technology

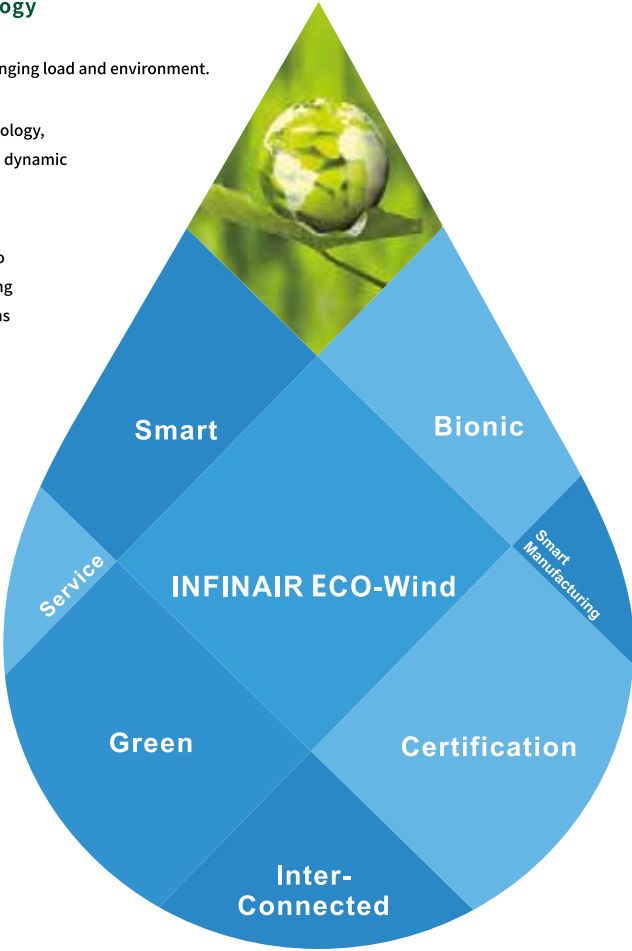
- Smart Needs Identification
Dynamically adjusting the operation target to the changing load and environment.
- Intelligent Adjustment
Utilizing variable frequency or EC smart control technology, performance is finely tuned to actual needs under the dynamic control of intelligent speed regulation software.
- Intelligent Real-time Information
Employing a variety of communication technologies to connect to the Internet or local area networks, enabling intelligent communication with central control systems and mobile devices.
- Intelligent Detection System
Reliable sensors can detect early symptoms and notify the user, ensuring stable operation

Green Smart Simulation Technology

- CFD Simulation & Analysis
Simulated calculations are performed for the performance (airflow, air pressure, power consumption, and noise) prediction of the wheel aerodynamic model, enabling the anticipation of performance without the need to construct physical prototypes, thus facilitating rapid optimization.
- Finite Element Analysis Technology
To analyze and provide accurate prediction of how material is likely to respond when subjected to structural and/or thermal loads.

Certifications and Tests

- Most of the products are certificated by: CCCf, AMCA, TUV, CE, ATEX, UL, RoHS and ErP2015
- Performance and Reliability Tests:
Air flow, air pressure, power, sound level, temperature durability, salt spray and water proof test, etc



Interconnected

- Matrix Connection
- Central Connection
- Terminal Connection

INFINAIR' s Bionic Technology

- INFINAIR' s Bionic Energy Conservation
Why can nautilus float and swim effortlessly?
How do birds soar thousands of miles with extremely low energy consumption?
For owls' silent flight, why are even sensitive mice unaware of it?
Over millions of years of evolution, how have creatures in nature conserved energy for migration or remained silent while hunting prey?
INFINAIR has gained inspiration in the research and development of its products by using the bionic technologies.

INFINAIR' s Intelligent Manufacturing

- Intelligent production process
- Power test, dynamic balancing test and communication test performed on the production line
- Robotic welding technology
- Lean production
- 6Σ system

Eagle Service

- Joint R&D
By collaborating with clients in co-development and implementing quality planning from the outset, we swiftly deliver genuinely effective solutions.
- Tailored Solutions
Our customized services guide you through a progressive clarification process to pinpoint your exact needs precisely.
- Agile Services
With an extensive network of INFINAIR after-sale service engineers, we promptly offer professional services wherever you are.

Eagle Service

