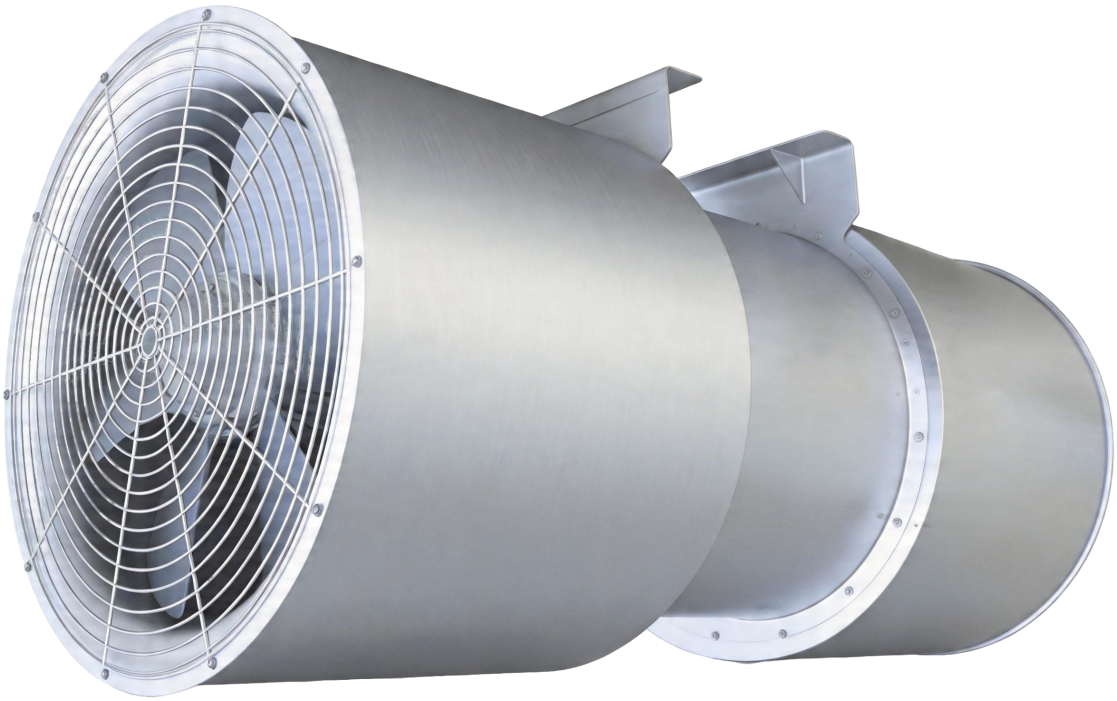
INFINAIR™

YFTNV SERIES

INSTALLATION, OPERATION AND MAINTENANCE MANUAL



Read and retain these instructions for future reference. Review all information carefully before assembling, installing, operating, or servicing the product described.

To reduce the risk of injury or property damage, all safety instructions and precautions must be strictly followed. Failure to comply with these instructions, as well as applicable codes and regulations, may result in serious injury, death, or property damage.

Improper installation, operation, or maintenance may also void applicable warranties. It is the responsibility of the user to ensure that all procedures are performed by qualified personnel and in accordance with these instructions.

Included sections

Naming Convention

YFTNV — 2000 D6 / a — 132

Group：1 2 3 4 5

Group	Length（Character）	Type	Description
1	3～5	Product Name	Represented by letters. Mandatory.
2	3～4	Impeller Diameter (mm）	Represented by numbers. Mandatory.
3	1～2	Drive Type	D = Direct Drive; 6 = Motor Poles. Mandatory
4	1～2	Blades Angle	Represented by numbers or letters. For jet fans, a, b, c, d, e, f. Mandatory.
5	1～4	Motor Power kW	Numeric value, up to 4 digits with decimal allowed. Mandatory.

General Safety Information

Installation of this equipment shall be performed by qualified personnel only. Personnel must read and understand these instructions and be familiar with general safety practices before proceeding.

Improper installation, operation, or maintenance may result in electric shock, serious injury, death, or damage to equipment. Contact with moving parts presents additional hazards. Additional design and installation considerations may be required for applications subject to high winds, seismic conditions, or other site-specific factors. When in doubt, consult a licensed professional engineer prior to installation or operation.

1. Comply with all applicable local, state, and national codes.
   Failure to comply with applicable codes and standards may result in personal injury, property damage, or legal liability.Verify that the fan propeller rotates freely and does not contact any stationary components.
2. Ensure the motor is properly and securely grounded in accordance with applicable codes.
3. Do not operate the fan above the maximum cataloged RPM. Use of Variable Frequency Drives (VFDs) may affect motor load. If fan speed is adjusted, verify that motor current does not exceed the nameplate rating.
4. Prevent power cables from kinking or contacting oil, grease, hot surfaces, or chemicals. Replace damaged cables immediately.
5. Confirm that the power supply is compatible with the equipment nameplate requirements prior to connection.

⚠ DANGER

Always disconnect, lock out, and tag out all power sources before installing, servicing, or performing maintenance on the equipment. Failure to do so may result in electric shock, fire, serious injury, or death. It is the responsibility of the user to ensure that all energy sources are properly isolated in accordance with applicable lockout/tagout procedures and regulations.

⚠ CAUTION

The motor surface may become hot during operation and could cause burns upon contact. Allow sufficient time for the motor to cool before performing any service or maintenance.

Use appropriate personal protective equipment as necessary to reduce the risk of injury.

⚠ CAUTION

This equipment is not intended for use in explosive or hazardous atmospheres unless specifically designed and certified for such applications.

Use in such environments may result in fire, explosion, serious injury, or death. It is the responsibility of the user to verify that the equipment is properly rated and suitable for the intended application.

Receiving, Unpacking, Handling and Storage

Receiving

Upon receipt of the shipment, verify that all items have been received by comparing the delivery documents with the packing list. Inspect all crates and cartons for visible shipping damage prior to acceptance. Any damage or shortage must be noted on the delivery receipt and bill of lading and acknowledged by the carrier.

Failure to properly document damage at the time of delivery may limit the ability to file a claim with the carrier. If damage or shortages are identified, notify the carrier and your sales representative immediately. The manufacturer is not responsible for damage or loss occurring during transit or for damage identified after acceptance of the shipment.

Unpacking

Carefully unpack the equipment and verify that all components and quantities match the packing list. Report any missing items to the appropriate representative without delay.

Due to shipping constraints, items associated with a single unit may arrive in multiple shipments. Verification should be limited to items listed on the applicable bill of lading.

Handling

Handle all equipment in a manner that prevents damage to the protective coating and components. Do not lift the unit by the motor shaft, motor housing, or any accessories.

Damage to finishes or components may reduce the equipment’s performance and resistance to corrosion. The user is responsible for ensuring proper handling practices are followed.

Storage

If the equipment cannot be installed and placed into operation immediately, proper storage precautions must be taken to prevent damage or deterioration. The user assumes full responsibility for the condition of the equipment and accessories during storage. The manufacturer shall not be responsible for damage resulting from improper storage conditions.

These recommendations are provided as general guidelines only. Site-specific conditions may require additional measures.

For belt-driven units in storage, the fan impeller and drive assembly shall be rotated periodically to prevent belt deformation.

If the unit remains idle for an extended period (e.g., longer than six months), the belts may develop permanent deformation due to sustained tension at fixed contact points. This can result in uneven stress distribution, reduced belt life, and potential premature failure during operation.To avoid this, rotate the fan impeller by hand at regular intervals to redistribute belt tension and prevent localized deformation.

Indoor Storage

Whenever possible, store equipment indoors in a clean, dry environment above grade, protected from moisture, dust, and temperature fluctuations. Maintain temperatures between -1°C and 43°C. Sudden temperature changes may result in condensation and moisture accumulation on metal surfaces.

All accessories must be stored in a clean, dry indoor location. Remove any accumulation of water, ice, snow, or debris prior to storage and ensure all components are dry. Allow cold equipment to reach room temperature before storage to prevent condensation.

If necessary, use temporary heating to maintain dry conditions. Covers should be loosely applied to allow for air circulation and periodic inspection.

Elevate the unit a minimum of 89 mm above the floor using wooden blocks with moisture-resistant barriers. Provide adequate spacing around equipment to allow for airflow and inspection access.

Outdoor Storage

Outdoor storage should be avoided whenever possible. If required, equipment must be protected from standing water, snow accumulation, and ground moisture.

Place the unit on a level surface and elevate it on suitable supports to prevent contact with water and soil. Ensure sufficient support to prevent settling.

Position components to allow for air circulation, drainage, and inspection. Do not tightly cover equipment with plastic film or tarps, as this may trap moisture and promote condensation during temperature changes.

The user is responsible for implementing adequate protection measures based on environmental conditions.

Removing from Storage

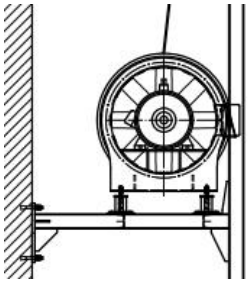
When equipment is removed from storage and prepared for installation, it shall be protected and maintained under conditions similar to those described in the storage section until placed into operation.

Prior to installation, inspect the unit and all associated components to verify that the equipment is in proper working condition. Any damage, deterioration, or missing components must be corrected before proceeding. Failure to do so may result in equipment damage, reduced performance, or personal injury.

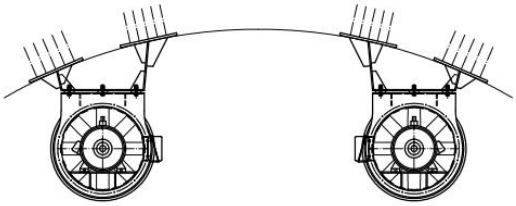
1. Verify that all fasteners, including those on the fan, propeller, motor base, and accessories, are securely tightened.
2. Manually rotate the fan propeller to ensure it rotates freely and does not contact any stationary components.

3. Do not lift or handle the unit by the motor shaft, motor housing, or any accessories. Use appropriate lifting methods and equipment.
4. The user is responsible for ensuring that all inspections and corrective actions are completed prior to installation and operation.

Lifting



Side-supporting



Hanging-mounted

For Fan model YFTNV lifting, use only the designated lifting eye bolts provided on the fan casing, as illustrated. Ensure that all lifting connections are properly engaged and secured prior to initiating the lift.

For installation and suspension details, please refer to the “Typical Installation” section.

Improper attachment or use of non-designated lifting points may result in loss of load control, equipment damage, or serious injury. It is the responsibility of the user to verify that all lifting hardware and procedures are suitable, properly rated, and in accordance with applicable safety standards.

Controlling Vibration

Vibration Isolators（optional）

Although axial fans are generally designed for smooth operation, residual vibration may be transmitted and amplified through building structures, including floors, ceilings, and connected ductwork.

To minimize vibration transmission and the resulting noise, the use of vibration isolators is recommended for floor-mounted or ceiling-suspended installations.**The fan mounting holes are Ø18 mm. Bolts used to fasten(by others) the vibration isolators to the fan shall be selected accordingly.**

Selection and application of vibration isolators shall be based on system requirements and installation conditions. Improper or inadequate vibration isolation may result in increased noise, vibration transmission, or structural impact.

Vibration Probe（optional）

Vibration levels at both the drive end and non-drive end of the motor, in the horizontal direction, shall be monitored. A vibration acceleration sensor (e.g., BMASLD723 or equivalent) with integrated signal conditioning

may be installed at the drive-end bearing location. The sensor shall provide a 4–20 mA output signal to a local vibration monitoring and protection device for real-time display and two-level alarm indication.

As a supplementary measure to continuous vibration monitoring, a portable diagnostic instrument (e.g., Leonova Infinity or equivalent) may be used for periodic inspection. Collected vibration data should be trended and analyzed, including frequency spectrum analysis, to detect potential issues such as imbalance, misalignment, looseness, blade defects, and bearing faults.

Typical Installation

NOTE

For units supplied with or operated in conjunction with a Variable Frequency Drive (VFD), refer to the VFD manufacturer's documentation for specific installation requirements, start-up procedures, parameter settings, and troubleshooting guidelines.

VFDs provided by INFINAIR are factory programmed with basic motor parameters, incoming voltage settings, and maximum operating speed (Hz). Final configuration and verification are the responsibility of the installer based on the specific application.

All wiring and installation practices shall comply with applicable local, state, and national electrical codes.If the cable length between the VFD and the motor exceeds 30.5 m (100 ft), additional measures such as dv/dt filters or properly rated VFD cabling may be required. Determination of suitability, calculations, and proper application of these components are the responsibility of others.

The examples shown below illustrate typical installation configurations for the various housing options. These examples are provided for reference only and may not represent all possible installation conditions.

Prior to installation, verify the intended airflow direction as indicated by the airflow direction label affixed to the fan. Incorrect installation may result in improper operation, reduced performance, or equipment damage.

For axial units equipped with straightening vanes, airflow direction is opposite that of standard axial casing designs. It is the responsibility of the installer to confirm proper orientation before installation and operation.

Installation Instructions

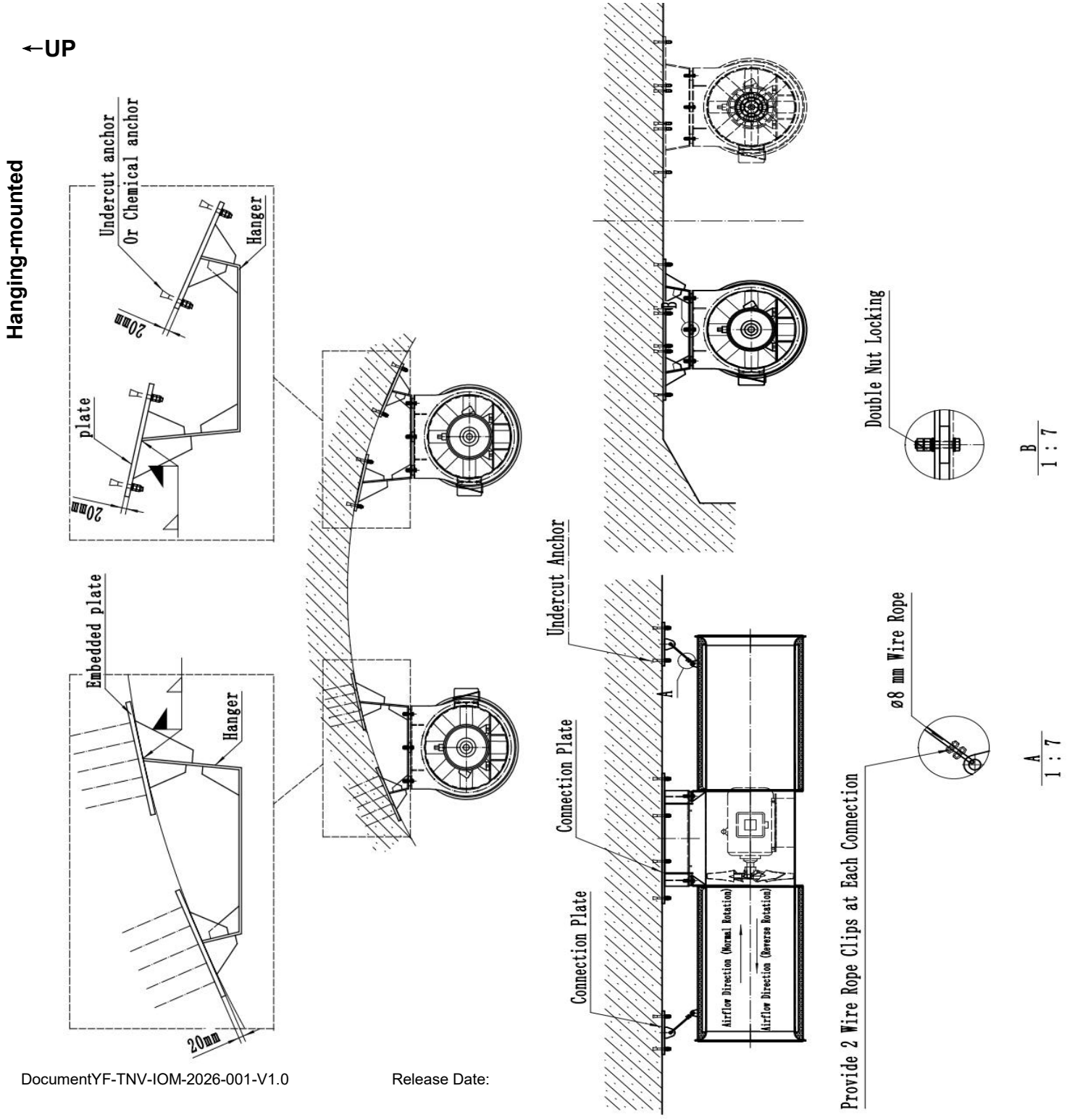
A. Installation with Embedded Steel Plate

1. The embedded steel plate shall be cast into the concrete in advance.
2. After the hanger is welded to the embedded steel plate on site, all welding slag shall be removed, and the affected area shall be touch-up coated with zinc-rich paint.
3. Before fan installation, the supporting structure shall be load-tested. The structural strength of the fan support shall be no less than 15 times the actual load.

B. Installation without Embedded Steel Plate

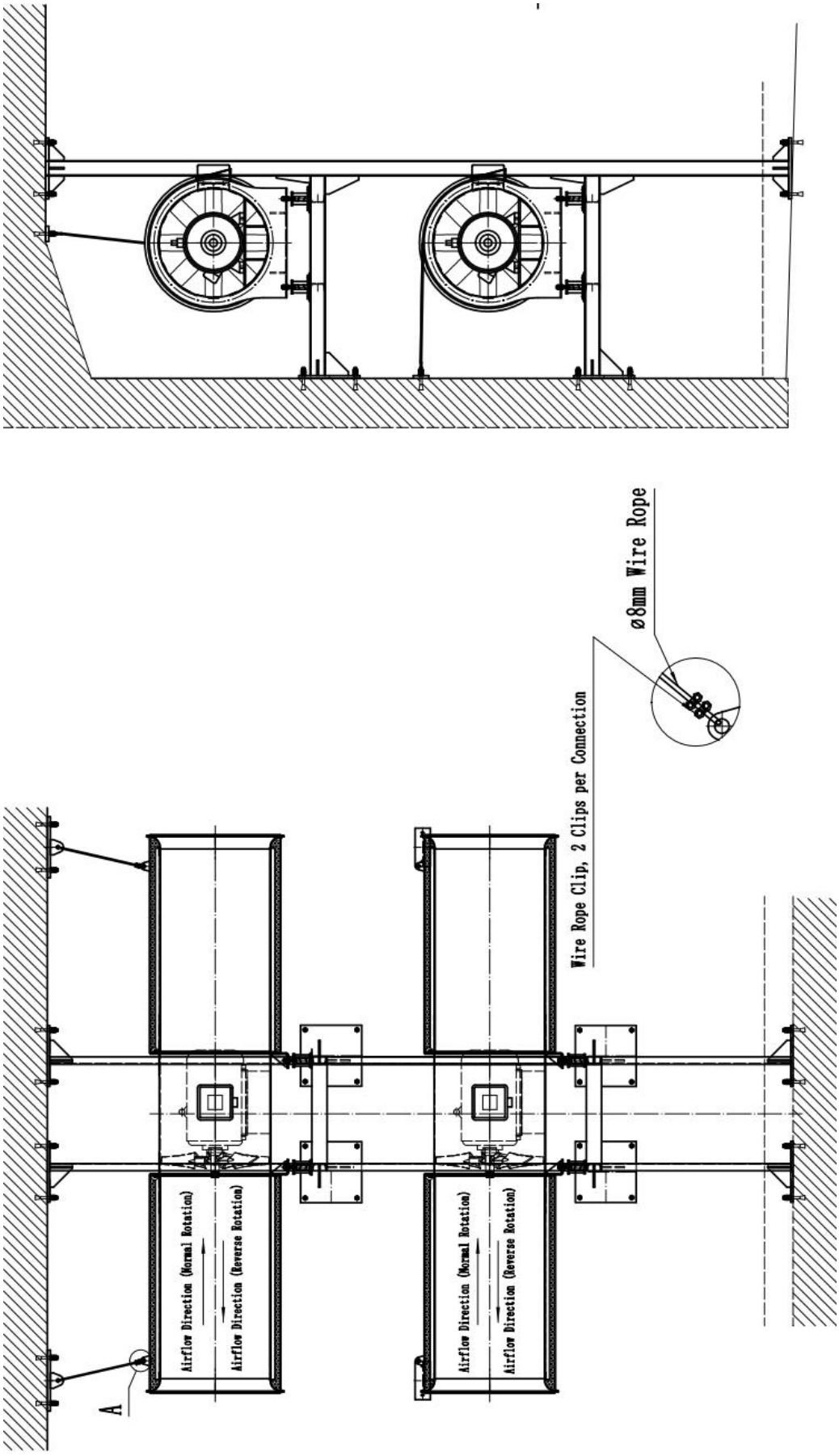
1. The hanger shall be secured to the tunnel crown using expansion anchors or chemical anchor bolts.
2. After on-site welding of the hanger, all welding slag shall be removed, and the affected area shall be touch-up coated with zinc-rich paint.
3. Before fan installation, the supporting structure shall be load-tested. The structural strength of the fan support shall be no less than 15 times the actual load.

Note: The hanger configuration shall be designed in accordance with project requirements.

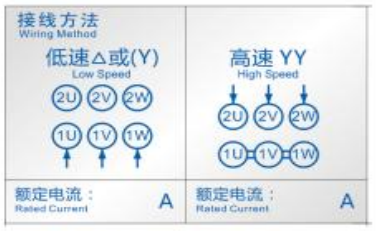


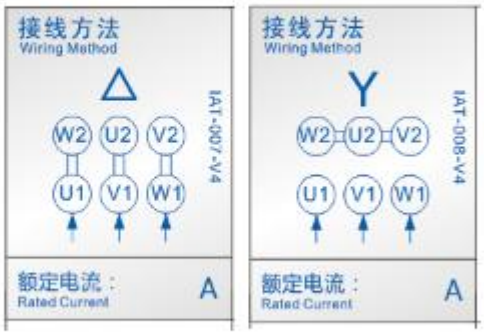
←UP

Side-supporting

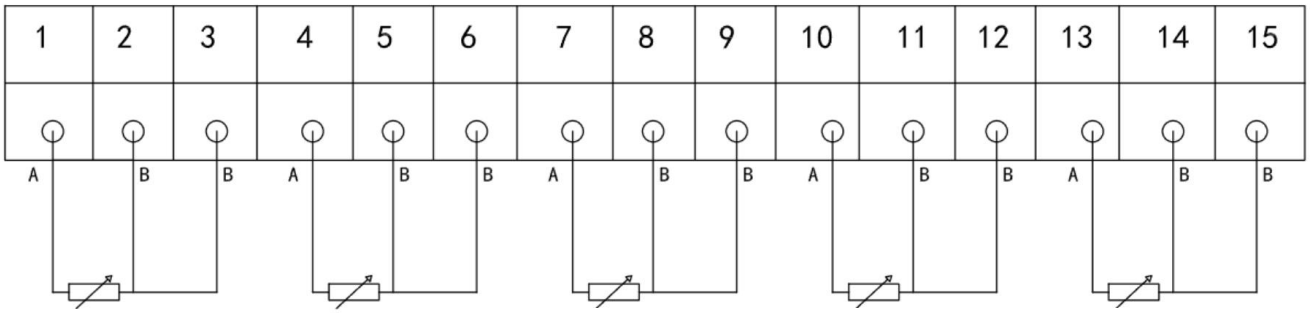


Motor Wiring Method

Motor Type	Motor Wiring Method	Motor Wiring Method
Single-speed three-phase motors	 Y (star) connection is often used for low power motors	 △ (delta) connection is often used for high power motors
Two-speed three-phase motor	 Low-speed Y-connection, high-speed Y-connection	 Low-speed △ (or Y) connection, high-speed YY connection

Motor Type	Variable motor wiring diagram
Three-phase variable motor	Main motor △-type wiring method, cooling fan Y-type wiring method
Three-phase variable motor	 Main motor △-type wiring method, cooling fan Y-type wiring method

Motor DE/NDE Bearing and 3-Phase Winding PT100 Temperature Measurement Wiring Diagram(Option available for motor frame size 160 and above)



Drive End (DE) Bearing Temperature

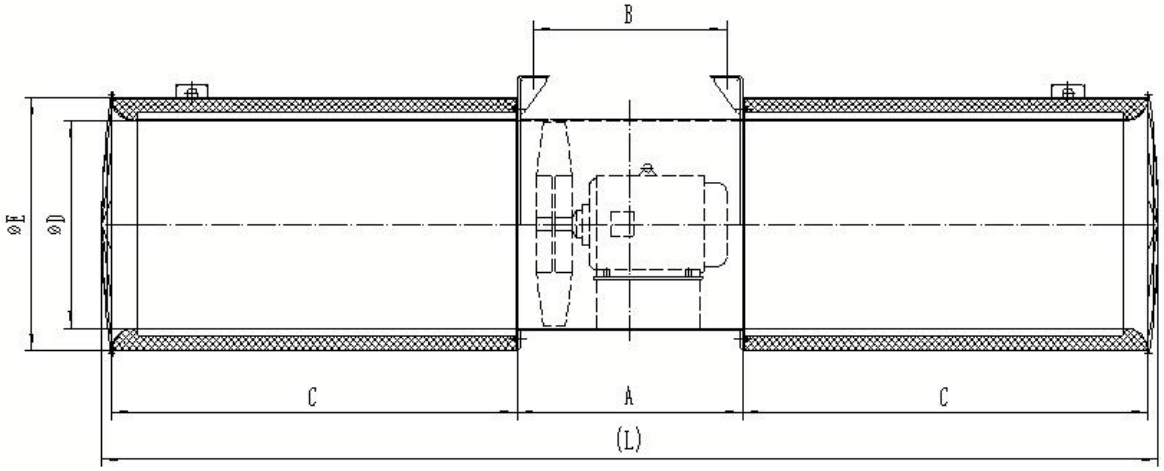
Non-Drive End (NDE) Bearing Temperature

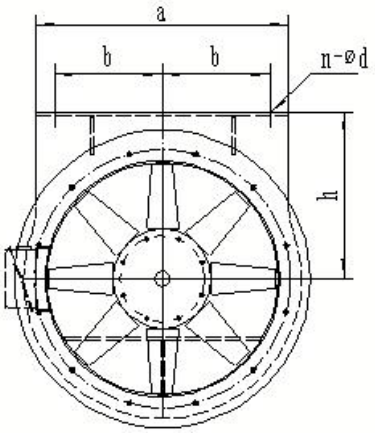
Phase A Winding Temperature

Phase B Winding Temperature

Phase C Winding Temperature

Fan Dimension





Dimension table(unit:mm Kg)

Impeller Diameter	Motor Efficiency	Frame Size	Silencer Length	A	B	C	ΦD	ΦE	L	a	b	h	n-Φd	Weight
630	IE3	132S	1D	490	390	630	640	780	1772	630	210	460	4-Φ18	284
630	IE3	160M	1D	650	550	630	640	780	1932	630	210	460	4-Φ18	345
630	IE3	160L	1D	690	590	630	640	780	1972	630	210	460	4-Φ18	371
630	IE3	180M	1D	690	590	630	640	780	1972	630	210	460	4-Φ18	428
630	IE3	132S	2D	490	390	1260	640	780	3032	630	210	460	4-Φ18	385
630	IE3	160M	2D	650	550	1260	640	780	3192	630	210	460	4-Φ18	446
630	IE3	160L	2D	690	590	1260	640	780	3232	630	210	460	4-Φ18	471
630	IE3	180M	2D	690	590	1260	640	780	3232	630	210	460	4-Φ18	528
710	IE3	160M	1D	650	550	710	720	860	2092	720	240	480	4-Φ18	395
710	IE3	160L	1D	690	590	710	720	860	2132	720	240	480	4-Φ18	411
710	IE3	180M	1D	690	590	710	720	860	2132	720	240	480	4-Φ18	467
710	IE3	200L	1D	750	650	710	720	860	2192	720	240	480	4-Φ18	513
710	IE3	160M	2D	650	550	1420	720	860	3512	720	240	480	4-Φ18	516
710	IE3	160L	2D	690	590	1420	720	860	3552	720	240	480	4-Φ18	531
710	IE3	180M	2D	690	590	1420	720	860	3552	720	240	480	4-Φ18	588
710	IE3	200L	2D	750	650	1420	720	860	3612	720	240	480	4-Φ18	633
800	IE3	112M	1D	490	390	800	810	970	2112	800	260	530	4-Φ18	392
800	IE3	132S	1D	490	390	800	810	970	2112	800	260	530	4-Φ18	406
800	IE3	132M	1D	550	450	800	810	970	2172	800	260	530	4-Φ18	436
800	IE3	160M	1D	650	550	800	810	970	2272	800	260	530	4-Φ18	474
800	IE3	112M	2D	490	390	1600	810	970	3712	800	260	530	4-Φ18	583
800	IE3	132S	2D	490	390	1600	810	970	3712	800	260	530	4-Φ18	597
800	IE3	132M	2D	550	450	1600	810	970	3772	800	260	530	4-Φ18	626
800	IE3	160M	2D	650	550	1600	810	970	3872	800	260	530	4-Φ18	665
900	IE3	132M	1D	550	450	900	910	1070	2372	900	375	600	6-Φ18	500
900	IE3	160M	1D	650	550	900	910	1070	2472	900	375	600	6-Φ18	540
900	IE3	160L	1D	690	590	900	910	1070	2512	900	375	600	6-Φ18	569
900	IE3	180M	1D	690	590	900	910	1070	2512	900	375	600	6-Φ18	611
900	IE3	132M	2D	550	450	1800	910	1070	4172	900	375	600	6-Φ18	711
900	IE3	160M	2D	650	550	1800	910	1070	4272	900	375	600	6-Φ18	751
900	IE3	160L	2D	690	590	1800	910	1070	4312	900	375	600	6-Φ18	781
900	IE3	180M	2D	690	590	1800	910	1070	4312	900	375	600	6-Φ18	823
1000	IE3	160M	1D	650	530	1000	1010	1170	2672	950	375	670	6-Φ18	590
1000	IE3	160L	1D	690	570	1000	1010	1170	2712	950	375	670	6-Φ18	621
1000	IE3	180M	1D	690	570	1000	1010	1170	2712	950	375	670	6-Φ18	663
1000	IE3	180L	1D	750	630	1000	1010	1170	2772	950	375	670	6-Φ18	691
1000	IE3	200L	1D	750	630	1000	1010	1170	2772	950	375	670	6-Φ18	741
1000	IE3	160M	2D	650	530	2000	1010	1170	4672	950	375	670	6-Φ18	821
1000	IE3	160L	2D	690	570	2000	1010	1170	4712	950	375	670	6-Φ18	852
1000	IE3	180M	2D	690	570	2000	1010	1170	4712	950	375	670	6-Φ18	894
1000	IE3	180L	2D	750	630	2000	1010	1170	4772	950	375	670	6-Φ18	923
1000	IE3	200L	2D	750	630	2000	1010	1170	4772	950	375	670	6-Φ18	972
1120	IE3	180M	1D	690	570	1120	1130	1310	2952	1100	400	735	6-Φ18	775
1120	IE3	180L	1D	770	650	1120	1130	1310	3032	1100	400	735	6-Φ18	810
1120	IE3	200L	1D	770	650	1120	1130	1310	3032	1100	400	735	6-Φ18	858
1120	IE3	225S	1D	770	650	1120	1130	1310	3032	1100	400	735	6-Φ18	908
1120	IE3	225M	1D	800	680	1120	1130	1310	3062	1100	400	735	6-Φ18	941
1120	IE3	250M	1D	880	760	1120	1130	1310	3142	1100	400	735	6-Φ18	1030
1120	IE3	180M	2D	690	570	2240	1130	1310	5192	1100	400	735	6-Φ18	1057
1120	IE3	180L	2D	770	650	2240	1130	1310	5272	1100	400	735	6-Φ18	1091
1120	IE3	200L	2D	770	650	2240	1130	1310	5272	1100	400	735	6-Φ18	1139
1120	IE3	225S	2D	770	650	2240	1130	1310	5272	1100	400	735	6-Φ18	1189
1120	IE3	225M	2D	800	680	2240	1130	1310	5302	1100	400	735	6-Φ18	1223
1120	IE3	250M	2D	880	760	2240	1130	1310	5382	1100	400	735	6-Φ18	1312
1250	IE3	225S	1D	770	650	1250	1260	1440	3292	1250	550	800	6-Φ18	1041
1250	IE3	225M	1D	770	650	1250	1260	1440	3292	1250	550	800	6-Φ18	1072
1250	IE3	250M	1D	880	760	1250	1260	1440	3402	1250	550	800	6-Φ18	1173
1250	IE3	280S	1D	980	860	1250	1260	1440	3502	1250	550	800	6-Φ18	1355
1250	IE3	280M	1D	980	860	1250	1260	1440	3502	1250	550	800	6-Φ18	1440
1250	IE3	225S	2D	770	650	2500	1260	1440	5792	1250	550	800	6-Φ18	1362
1250	IE3	225M	2D	770	650	2500	1260	1440	5792	1250	550	800	6-Φ18	1393
1250	IE3	250M	2D	880	760	2500	1260	1440	5902	1250	550	800	6-Φ18	1494
1250	IE3	280S	2D	980	860	2500	1260	1440	6002	1250	550	800	6-Φ18	1677
1250	IE3	280M	2D	980	860	2500	1260	1440	6002	1250	550	800	6-Φ18	1762
630	IE4	132S	1D	550	450	630	640	780	1832	630	210	460	4-Φ18	291
630	IE4	160M	1D	690	590	630	640	780	1972	630	210	460	4-Φ18	351
630	IE4	160L	1D	750	650	630	640	780	2032	630	210	460	4-Φ18	379
630	IE4	180M	1D	800	700	630	640	780	2082	630	210	460	4-Φ18	440
630	IE4	132S	2D	550	450	1260	640	780	3092	630	210	460	4-Φ18	392
630	IE4	160M	2D	690	590	1260	640	780	3232	630	210	460	4-Φ18	452
630	IE4	160L	2D	750	650	1260	640	780	3292	630	210	460	4-Φ18	480
630	IE4	180M	2D	800	700	1260	640	780	3342	630	210	460	4-Φ18	540
710	IE4	160M	1D	690	590	710	720	860	2132	720	240	480	4-Φ18	402
710	IE4	160L	1D	750	650	710	720	860	2192	720	240	480	4-Φ18	421

710	IE4	180M	1D	800	700	710	720	860	2242	720	240	480	4-Φ18	482
710	IE4	200L	1D	880	780	710	720	860	2322	720	240	480	4-Φ18	531
710	IE4	160M	2D	690	590	1420	720	860	3552	720	240	480	4-Φ18	523
710	IE4	160L	2D	750	650	1420	720	860	3612	720	240	480	4-Φ18	542
710	IE4	180M	2D	800	700	1420	720	860	3662	720	240	480	4-Φ18	603
710	IE4	200L	2D	880	780	1420	720	860	3742	720	240	480	4-Φ18	651
800	IE4	112M	1D	490	390	800	810	970	2112	800	260	530	4-Φ18	405
800	IE4	132S	1D	550	450	800	810	970	2172	800	260	530	4-Φ18	416
800	IE4	132M	1D	550	450	800	810	970	2172	800	260	530	4-Φ18	449
800	IE4	160M	1D	690	590	800	810	970	2312	800	260	530	4-Φ18	482
800	IE4	112M	2D	490	390	1600	810	970	3712	800	260	530	4-Φ18	596
800	IE4	132S	2D	550	450	1600	810	970	3772	800	260	530	4-Φ18	607
800	IE4	132M	2D	550	450	1600	810	970	3772	800	260	530	4-Φ18	640
800	IE4	160M	2D	690	590	1600	810	970	3912	800	260	530	4-Φ18	673
900	IE4	132M	1D	550	450	900	910	1070	2372	900	375	600	6-Φ18	516
900	IE4	160M	1D	690	590	900	910	1070	2512	900	375	600	6-Φ18	550
900	IE4	160L	1D	750	650	900	910	1070	2572	900	375	600	6-Φ18	584
900	IE4	180M	1D	800	700	900	910	1070	2622	900	375	600	6-Φ18	632
900	IE4	132M	2D	550	450	1800	910	1070	4172	900	375	600	6-Φ18	727
900	IE4	160M	2D	690	590	1800	910	1070	4312	900	375	600	6-Φ18	761
900	IE4	160L	2D	750	650	1800	910	1070	4372	900	375	600	6-Φ18	795
900	IE4	180M	2D	800	700	1800	910	1070	4422	900	375	600	6-Φ18	843
1000	IE4	160M	1D	690	570	1000	1010	1170	2712	950	375	670	6-Φ18	602
1000	IE4	160L	1D	750	630	1000	1010	1170	2772	950	375	670	6-Φ18	637
1000	IE4	180M	1D	800	680	1000	1010	1170	2822	950	375	670	6-Φ18	686
1000	IE4	180L	1D	800	680	1000	1010	1170	2822	950	375	670	6-Φ18	701
1000	IE4	200L	1D	880	760	1000	1010	1170	2902	950	375	670	6-Φ18	770
1000	IE4	160M	2D	690	570	2000	1010	1170	4712	950	375	670	6-Φ18	833
1000	IE4	160L	2D	750	630	2000	1010	1170	4772	950	375	670	6-Φ18	868
1000	IE4	180M	2D	800	680	2000	1010	1170	4822	950	375	670	6-Φ18	917
1000	IE4	180L	2D	800	680	2000	1010	1170	4822	950	375	670	6-Φ18	933
1000	IE4	200L	2D	880	760	2000	1010	1170	4902	950	375	670	6-Φ18	1001
1120	IE4	180M	1D	800	680	1120	1130	1310	3062	1100	400	735	6-Φ18	804
1120	IE4	180L	1D	800	680	1120	1130	1310	3062	1100	400	735	6-Φ18	819
1120	IE4	200L	1D	880	760	1120	1130	1310	3142	1100	400	735	6-Φ18	890
1120	IE4	225S	1D	840	720	1120	1130	1310	3102	1100	400	735	6-Φ18	924
1120	IE4	225M	1D	930	810	1120	1130	1310	3192	1100	400	735	6-Φ18	973
1120	IE4	250M	1D	980	860	1120	1130	1310	3242	1100	400	735	6-Φ18	1056
1120	IE4	180M	2D	800	680	2240	1130	1310	5302	1100	400	735	6-Φ18	1085
1120	IE4	180L	2D	800	680	2240	1130	1310	5302	1100	400	735	6-Φ18	1100
1120	IE4	200L	2D	880	760	2240	1130	1310	5382	1100	400	735	6-Φ18	1172
1120	IE4	225S	2D	840	720	2240	1130	1310	5342	1100	400	735	6-Φ18	1205
1120	IE4	225M	2D	930	810	2240	1130	1310	5432	1100	400	735	6-Φ18	1255
1120	IE4	250M	2D	980	860	2240	1130	1310	5482	1100	400	735	6-Φ18	1338
1250	IE4	225S	1D	800	680	1250	1260	1440	3322	1250	550	800	6-Φ18	1056
1250	IE4	225M	1D	880	760	1250	1260	1440	3402	1250	550	800	6-Φ18	1112
1250	IE4	250M	1D	980	860	1250	1260	1440	3502	1250	550	800	6-Φ18	1209
1250	IE4	280S	1D	1110	990	1250	1260	1440	3632	1250	550	800	6-Φ18	1403
1250	IE4	280M	1D	1110	990	1250	1260	1440	3632	1250	550	800	6-Φ18	1487
1250	IE4	225S	2D	800	680	2500	1260	1440	5822	1250	550	800	6-Φ18	1378
1250	IE4	225M	2D	880	760	2500	1260	1440	5902	1250	550	800	6-Φ18	1434
1250	IE4	250M	2D	980	860	2500	1260	1440	6002	1250	550	800	6-Φ18	1530
1250	IE4	280S	2D	1110	990	2500	1260	1440	6132	1250	550	800	6-Φ18	1724
1250	IE4	280M	2D	1110	990	2500	1260	1440	6132	1250	550	800	6-Φ18	1809

NOTE

Dimensions are for reference only. Refer to the factory-approved drawings for final confirmation.

Operation and Unit Start-Up

⚠ DANGER

This fan generates strong suction during operation. Contact with the air inlet may result in serious injury or death.

Keep clear of the air inlet at all times while the fan is operating. Do not place hands, tools, or any objects near the inlet. Ensure all protective guards and safety devices are properly installed and secured before operation.

Electrical Connections

Prior to making any electrical connections, verify that the supply voltage, phase, and current capacity are compatible with the motor nameplate ratings.

All wiring shall be properly protected and installed in accordance with applicable local, state, and national electrical codes. Improper electrical connections may result in equipment damage, fire, or serious injury.

Power supply conductors may be connected to an optional safety disconnect switch, an optional wiring pigtail, or directly to the motor junction box, as applicable. It is the responsibility of the installer to ensure all connections are secure, properly rated, and in compliance with applicable codes and standards.

Pre-Start-Up Checks

Before placing the unit into operation, perform the following checks to verify proper installation and safe operating condition:

1. Verify that all fasteners are securely tightened. Fasteners may loosen during shipment or handling. This includes motor mounting bolts, mounting hardware, and bushing bolts securing the propeller to the motor shaft.
2. Verify that the propeller rotates in the correct direction as indicated by the rotation decal on the unit.
3. Confirm that motor wiring is correct, grounding is properly established, and insulation resistance has been tested and meets applicable requirements.
4. Verify that all control components, including control panels, variable frequency drives (VFDs), and sensors, are in proper working condition and that all parameters are correctly configured.

No-Load Trial Operation

Perform the following procedures during initial no-load operation:

1. Momentarily energize (“jog”) the fan to verify correct rotation direction. Rotation must match the direction indicated on the fan housing. If rotation is incorrect, immediately disconnect power and correct phase sequence before proceeding.

2. Operate the fan under no-load conditions for a minimum of two (2) hours. Monitor motor bearing temperature, unit temperature, vibration levels, current, and voltage.
3. Acceptable operating limits:
   (1) Bearing temperature ≤ 80°C; temperature rise ≤ 40°C
   (2) Vibration velocity ≤ 4.5 mm/s
   (3) Motor current shall not exceed the rated value
   (4) Voltage fluctuation within ±5% of rated voltage
4. Verify that the fan operates without abnormal noise, looseness, or air leakage, and that the control system responds properly.

Load Commissioning and System Integration

After successful completion of the no-load test, proceed with load operation and system integration:

1. Operate the fan under load and integrate with the ventilation control system.
2. Verify start/stop, speed control, and directional operation for single and multiple fan configurations. Operation shall be stable with appropriate system response.
3. Measure airflow, velocity, and pressure to confirm compliance with design requirements.
4. Perform fire/emergency simulation testing, including high-speed operation and smoke exhaust/reversal functions, to verify proper system response.
5. Conduct continuous load operation for a minimum of eight (8) hours. All operating parameters shall remain stable with no abnormal conditions.

Successful completion of the above procedures is required prior to final acceptance. It is the responsibility of the system integrator and commissioning personnel to ensure all tests are performed in accordance with applicable standards and project requirements.

For three-phase installations, rotation can be corrected by interchanging any two of the three power leads. For single-phase installations, follow the wiring diagram provided on the motor.

Failure to perform these checks may result in improper operation, equipment damage, or personal injury. It is the responsibility of the installer to ensure all pre-start inspections are completed prior to operation.

Maintenance

Once the unit has been placed into operation, a routine maintenance schedule shall be established to ensure safe operation and maintain performance.

The maintenance program should include, but is not limited to, the following:

1. Lubricate the motor as required.
2. Verify that the propeller, housing, and all fasteners are securely tightened.
3. Remove any dirt or debris from the propeller and housing to prevent imbalance and potential equipment damage.
4. Inspect the fan propeller and housing for signs of fatigue, corrosion, or wear.
5. Failure to perform routine maintenance may result in reduced performance, equipment damage, or personal injury.

Before performing any service or maintenance, disconnect, lock out, and tag out all power sources and ensure the fan propeller is secured to prevent rotation.

Motors

Motor maintenance is generally limited to external cleaning and lubrication. Cleaning shall be limited to exterior surfaces only. Removal of dust and grease accumulation from the motor housing is necessary to maintain proper cooling.

Do not wash down the motor or expose it to high-pressure water or steam.

Lubrication is required only for motors equipped with grease fittings. Many motors are permanently lubricated and do not require additional lubrication. For motors with grease fittings, follow the motor manufacturer's recommendations for lubrication intervals and procedures.

Improper maintenance or lubrication practices, including failure to lubricate in accordance with the lubrication section, may result in motor damage or reduced service life.

Fasteners and Set Screws

A periodic inspection shall include verifying that all fasteners, bolts, and set screws are securely tightened. Particular attention should be given to the bushing connecting the propeller to the motor shaft and the motor mounting hardware.

Loose components may result in vibration, equipment damage, or personal injury.

Removal of Dust and Dirt

Accumulation of dirt and debris may obstruct motor cooling passages, contaminate bearing lubrication, and cause imbalance of the propeller.

The exterior surfaces of the motor and propeller shall be cleaned periodically to maintain proper operation. Use caution to prevent water or cleaning agents from entering the motor.

Under no circumstances should the motor be exposed to steam or direct water spray.

The user is responsible for ensuring that appropriate cleaning methods are used and that maintenance is performed in accordance with these instructions and applicable safety practices.

Lubrication

Fan Bearings

Axial bearings are lubricated through a grease fit- ting on the exterior of the fan housing and should be lubricated by the schedule, Lubrication Conditions Chart.

For best results, lubricate the bearing while the fan is in operation. Pump grease in slowly until a slight bead forms around the bearing seals. Excessive grease can burst seals thus reducing bearing life.

Before lubricating, the grease nipple and immediate vicinity should be thoroughly cleaned without the use of high pressure equipment. The grease should be supplied slowly as the bearing rotates until fresh grease slips past the seal. Excessive pressure should be avoided to prevent seal damage.

Use no more than three injections with a hand-operated grease gun.

Lubrication Conditions Chart

Fan Class	Fan Status	Fan Operating Temperature (°C)	Maximum Interval (operation hrs)
Inlet Axial Blowers	Normal Conditions (clean, dry & smooth)	up to 49°C	4500
		49–71°C	1500
		72–93°C	700
		94–204°C (*)	200
	Extreme Conditions (dirty/wet/rough)	up to 71°C	700
		72–93°C	400
		94–204°C (*)	200

*Exceptions to the greasing interval chart:

- Periodic Applications (any break of one week or more): it is recommended that full lubrication be performed prior to each break in operation.
- Higher Temperature: it is recommended to halve the intervals for every 17°C increase in operating temperature above 50°C not to exceed 110°C for standard bearings; high temperature bearings (optional) can operate up to 200°C.
- Vertical Shaft: it is recommended that the intervals should be halved.

INFINAIR Corporation uses petroleum lubricant in a lithium base. Other types of grease should not be used unless the bearings and lines have been flushed clean. If another type of grease is used, it should be a lithium-based grease conforming to NLGI grade 2 consistency.

A NLGI grade 2 grease is a light viscosity, low-torque, rust-inhibiting lubricant that is water resistant. Its temperature range is from -35°C to +90°C and capable of intermittent highs of +120°C. For temperatures above 120°C, Mobiltemp SHC 32 is recommended.

Motor Bearings

Motors are provided with pre-lubricated bearings. Any lubrication instructions shown on the motor nameplate supersede instructions below.

Motor bearings without provisions for re lubrication will operate up to 10 years under normal conditions with no maintenance. In severe applications, high temperatures or excessive contaminates, it is advisable to have the

maintenance department disassemble and lubricate the bearings after 3 years of operation to prevent interruption of service.

For motors with provisions for re-lubrication, follow intervals of the table below.

Relubrication Intervals

Service Conditions	IEC Frame Size					
	Up to and Including 112		132-225		250 and Larger	
	1800 RPM and Less	Over 1800 RPM	1800 RPM and Less	Over 1800 RPM	1800 RPM and Less	Over 1800 RPM
Standard	3 yrs.	6 months	2 yrs.	6 months	1 yr.	3 months
Severe	1 yr.	3 months	1 yr.	3 months	6 months	1 month

Motors are provided with a polyurea mineral oil NGLI #2 grease. All additions to the motor bearings are to be with a compatible grease such as Exxon Mobil Polyrex EM and Chevron SRI.

The above intervals should be reduced to half for vertical shaft installations.

Parts List

Each fan is provided with a manufacturer's nameplate that includes the model number and serial number. This information, along with the applicable parts diagram, is required when requesting service, technical support, or replacement parts.

Nameplates are typically located in a visible area on the unit, commonly near the fan outlet. The exact location may vary depending on the fan model and size.

It is the responsibility of the user to ensure that the nameplate remains legible and accessible. Failure to provide accurate identification information may delay service, support, or parts replacement.

Field Coating Touch-Up Procedure

Standard coating/color: RAL9006, or the other color card specified in the order. The procedure outlines the correct method for repairing minor scratches in the coating.

TOUCH-UP PAINT REPAIR KIT CONTENTS

- One pint of primer
  including a technical data sheet
- One pint of industrial enamel
  including a technical data sheet
- Four disposable foam brushes
- One sheet sand paper
- Repair procedure details

1. Prepare the affected area by lightly abrading the surface using medium-grit sandpaper or a medium Scotch-Brite™ pad. Feather the edges to ensure a smooth transition.

2. Clean the prepared area using an alkaline-based cleaner, then rinse thoroughly and allow the surface to dry.

3. Apply primer using a suitable applicator. Follow the primer manufacturer's technical data sheet for application instructions.

4. Allow the primer to dry for a minimum of 2.5 hours, or as specified by the product technical data sheet, prior to applying the topcoat.

5. Apply the topcoat using an industrial enamel coating in accordance with the manufacturer's technical data sheet. Allow sufficient time for air drying and curing before placing the unit into service. Refer to the technical data sheets for detailed curing schedules based on ambient conditions.

NOTE

While the equipment is manufactured with durable coatings suitable for demanding environments, periodic inspection and touch-up may be required, particularly in coastal or marine environments where exposure to salt air can accelerate coating degradation.

Damage such as scratches, chips, or abrasions may compromise the protective coating and should be repaired promptly to prevent corrosion. Environmental conditions may significantly affect coating life, and additional maintenance may be required based on site-specific exposure.

Please contact factory with your fan's serial number for colors other than our standard.

Tips to Prolong Coatings Integrity

- Remove debris, metal shavings, or installation residue from surfaces that may promote coating damage.
- Inspect the unit at least annually for signs of corrosion or coating damage, and perform touch-up as required.
- Clean exterior surfaces periodically using a mild detergent and rinse thoroughly.

The user is responsible for establishing an appropriate inspection and maintenance schedule based on operating conditions and environmental exposure.

Troubleshooting

Problem	Cause	Solution
Excessive Noise or Vibration	Friction between Impeller and casing	Adjust clearance between impeller and casing
	Damaged motor bearings	Replace bearing
	Loose fasteners	Inspect and tighten all fasteners
	Contaminated impeller or incorrect rotation direction	Clean impeller and verify correct rotation direction
Increased Pressure with Reduced Airflow	Abnormal air density due to impurities or temperature variation	Check air conditions and correct as required
	Damaged outlet duct or leaking flange	Repair duct work or replace flange gasket
	Fluctuation of rotate speed	Stabilize fan speed
	Blocked inlet or outlet	Inspect and clean ducts and valves
Fan and Motor vibration	Severe impeller corrosion or excessive buildup	Clean impeller or replace if necessary
	Motor	Check motor condition and ensure overload protection is properly set
Excessive motor current and overheating	Start before wind damper are closed	Open the valve when starting fan
	Fan system fault	Check fan system duct net, Adjust system working condition.
	Motor fault	Examine and repair motor
	Power supply issue	Verify power supply and electrical connections

Warranty

INFINAIR warrants that products manufactured under the “INFINAIR™” brand shall be free from defects in material and workmanship for a period of eighteen (18) months from the date of shipment.

During the warranty period, INFINAIR will, at its option, repair or replace defective components at no charge, provided the product has been installed, operated, and maintained in accordance with this manual. This warranty does not cover consumable or wear items, including but not limited to belts, filters, or similar components.

Except as expressly stated herein, INFINAIR shall not be responsible for any additional costs, losses, or damages, including but not limited to labor, downtime, or consequential damages.

Limitations and Exclusions

This warranty does not apply to damage or failure resulting from, but not limited to, the following conditions:

- Operation of the product outside of specified design or contractual conditions, including but not limited to temperature, corrosive environment, gas composition, power supply, or system resistance.
- Improper handling, transportation, storage, or site conditions leading to equipment damage.
- Improper maintenance, site incidents, lack of required protection (such as overheat protection), prolonged reverse operation, or any use not in accordance with this Installation, Operation, and Maintenance manual.
- Unauthorized disassembly, modification, or reassembly of the product.
- Alteration, removal, or misuse of the product serial number.

Product Identification

Each fan is equipped with a nameplate bearing a unique serial number. This information is required for service support and replacement parts.

It is the responsibility of the user to record and retain this information. Failure to provide accurate identification may delay service or parts replacement.

End of Life Disposal

At the end of the product service life, this equipment must be disconnected from all power sources before removal or dismantling. Disassembly and removal shall be performed by qualified personnel in accordance with applicable local, state, and federal regulations.

This product and its components shall not be disposed of as unsorted municipal waste. Metal components should be separated and recycled where appropriate facilities exist. Motors, wiring, switches, and any other electrical or electronic components shall be handled through authorized recycling or disposal channels in accordance with applicable regulations.

Any lubricants, grease, oil-contaminated materials, coatings, or other potentially regulated substances shall be collected and disposed of in accordance with applicable environmental and waste handling requirements. Do not discharge oils, grease, or other residues into drains, soil, or waterways.

Packaging materials, including wood, cardboard, plastic film, and foam, should be sorted and recycled or disposed of in accordance with local waste management regulations.

The owner/operator is responsible for proper end-of-life handling, recycling, and disposal of the equipment and its components. Improper disposal may result in environmental harm and may violate applicable regulations.

CERTIFICATIONS AND STANDARDS

REGULATORY COMPLIANCE & CERTIFICATIONS

This equipment is designed and manufactured in accordance with recognized industry standards, including but not limited to OSHA, NFPA, NEC, AMCA, and ASHRAE, where applicable. This equipment may be provided with certifications or listings such as AMCA Certified Ratings and UL/ETL Listing depending on model and configuration. Certification status varies by model and configuration. Refer to the equipment nameplate, product labeling, or project submittals for specific certification details.

All installations shall comply with applicable local, state, and national codes and the requirements of the Authority Having Jurisdiction (AHJ).

Certifications apply only to specific models and configurations and are subject to project requirements.

Our Commitment

As part of its ongoing product development and improvement efforts, INFINAIR reserves the right to revise product specifications and design features without prior notice. It is the responsibility of the user to verify that the information provided is current and applicable to the specific equipment in use.

Warranty terms, conditions, and limitations are available on the INFINAIR website, either on the applicable product page or within the literature section. Users are responsible for reviewing all warranty information prior to installation, operation, or maintenance.

Additional details regarding equipment characteristics, performance data, available accessories, and application considerations can be found in the High Performance Axial Fans catalog. It is the responsibility of the user to ensure proper selection, installation, and operation in accordance with all applicable guidelines and requirements.

Reliable · Responsive · Rewarding

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Maintenance Log

Use this page as a repeatable field log. Duplicate it as needed for the final manual issue.

Date	Service Performed	Observed Condition	Corrective Action	Initials