

INFINAIR™

YFIAM

Highly Efficient Inline Vane Axial Fan



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:

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- 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):

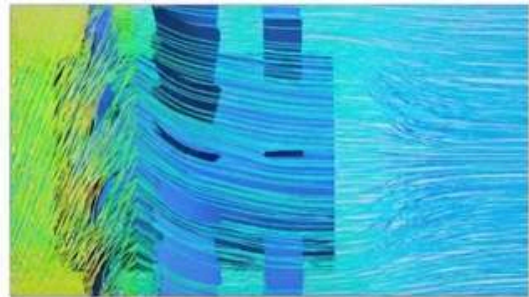
National High-Tech Enterprise



Shark Series Airfoil Blades Medium and High Pressure Axial Impeller

High-efficiency
High-efficiency Air Performance

- Using airfoil blades of optimum air performance
- Vortex hub
- Optimized design through CFD simulation and experimental verification
- Advanced process used to reduce clearance between the impeller and the cylindrical fan body
- High efficiency and lower operation costs



High Balance Quality Grade
High Balance Quality Grade

- The balance quality grade as high as G2.5 (Just G6.3 for general products)
- Vibration reduced and reliability improved
- Sound greatly lowered



Variable Angles Available

- 14 impeller sizes in total ranging from 315 to 1400mm
- 8 blade angles in total from 0 to 35 degrees
- 4 speeds in total determined by four poles of 2/4/6/8
- Optimized model selection to help reduce upfront investment and operation costs

Unique Hub-to-tip Ratio

- Hub-to-tip ratio as high as 0.56
- High pressure rise rates to improve airflow movement
- Reducing airflow loss caused by insufficient pressure
- Particularly suitable for long distance airflow delivery in ducts

Reliable Structural Design

- Advanced casting process to ensure accuracy and consistency
- Optimized CAE aided design through repeated tests
- High-strength and more reliable vortex hub
- Innovative hub connection that makes operation safer

产品特点
Product Features

High Efficiency and Dramatically Reduced Operation Costs

- Airfoil blades of optimum air performance
- Vortex hub that smoothes the flow of air and reduces turbulence
- Advanced process used to reduce clearance between the impeller and the cylindrical fan body for greater efficiency
- Guide vanes mounted behind the impeller

Great Reliability and Long Service LifeReady for Continuous Operation

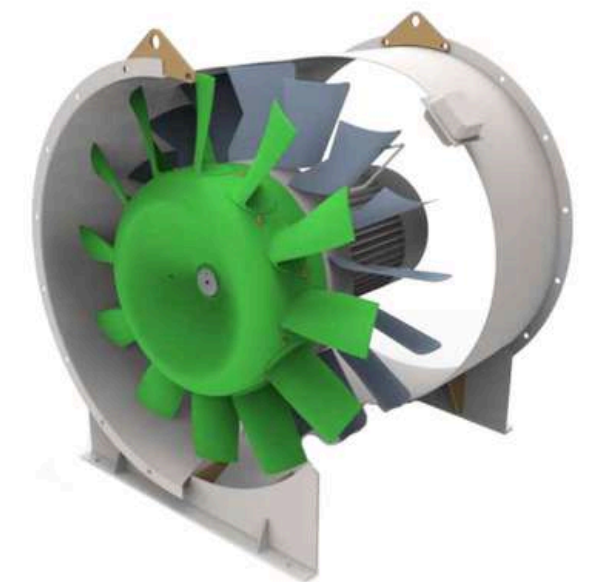
- Optimized design through the FEA method and experimental verification
- Casting process used for core components and high strength achieved
- Die formed for better accuracy and consistency
- Higher balance quality grade and more reliable operation

Direct Driven,Highly Efficient and Maintenance-free

- Airflow delivery of higher efficiency
- No quick wear parts and less maintenance
- Easier and more effective maintenance
- Sealed and lubrication-free motor bearing for longer service life
- Compact design that saves space

Applications

- General air supply and exhaust
- Explosion proof air supply and exhaust
- Positive pressure air supply, smoke removal
- Two-speed air supply and exhaust



INFI-KOAT Modular Film™ Coating, Unfading Over Time

- Pickling, parkerizing and alkaline wash combined to ensure a clean surface
- Powder adherence through electrostatic attraction to ensure a uniform coating
- Processed in the high temperature furnace for strong adhesion
- Resistant to ultraviolet radiation, moisture and marine climate
- Resistant to uniform corrosion over large areas and localized pitting corrosion

Optional Accessories

Flexible Connectors and Companion Flanges

Flexible connectors and companion flanges are to be fitted at both the inlet and outlet for easy onsite installation.

Volume Control Damper

The volume control damper, made of square galvanized steel, has electrical and manual actuators available.

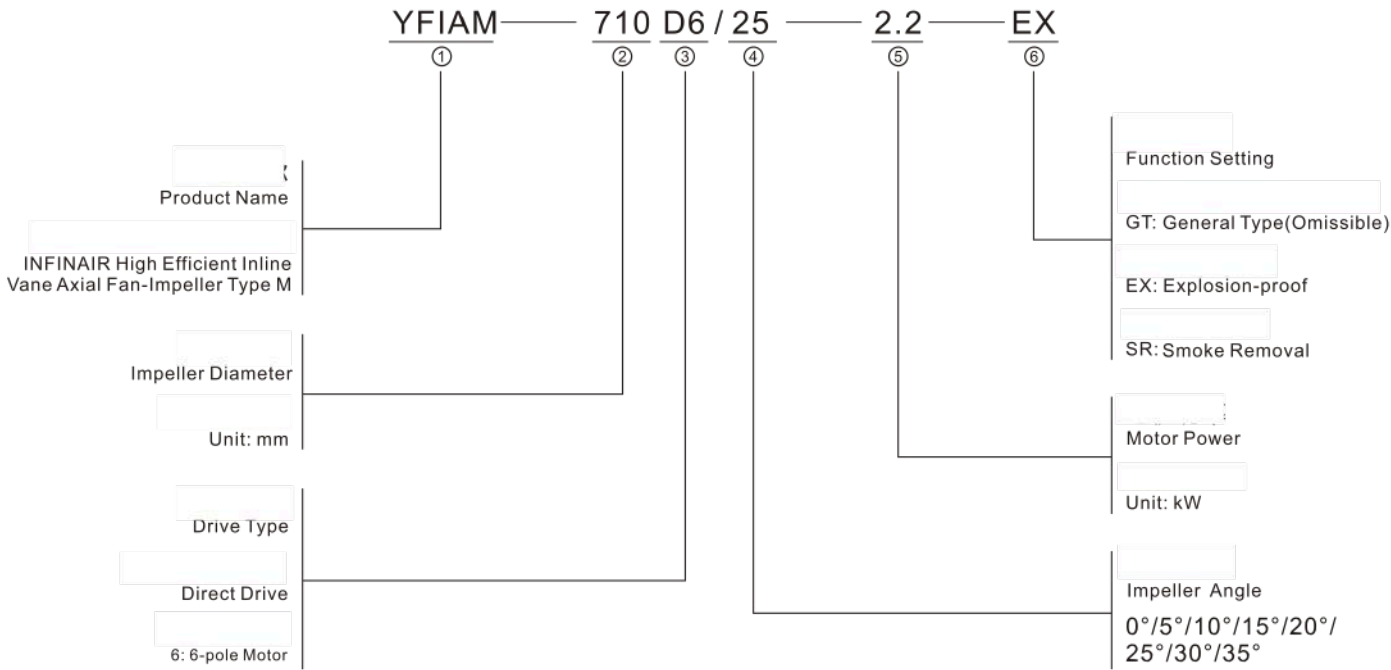
Vibration Isolators

Vibration isolators can be ceiling hung or floor-mounted. Neoprene or spring isolators are available.

Silencer

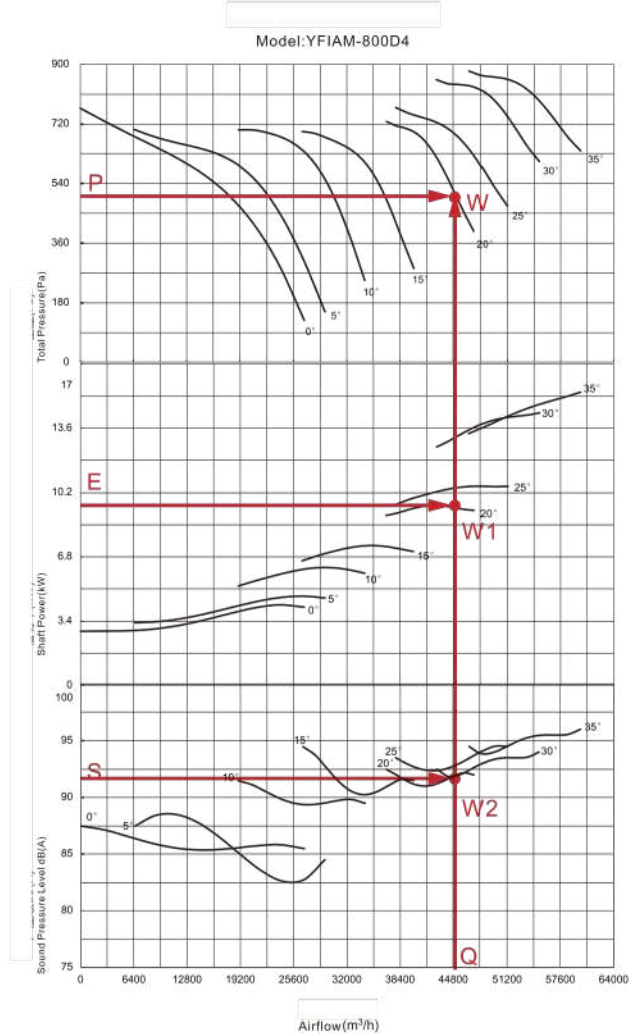
Silencers are made of galvanized steel and can be mounted at both the inlet and outlet. They can help dramatically reduce sound and improve efficiency.

Naming Convention



Catalog Introduction

- Fans of each model have performances at different speeds described by curves.
- The curves represent fans of direct drive type which means the wheel is directly driven by the motor. A letter D and the number of motor poles are added to the wheel diameter of all the direct drive fans. How the fan RPM is matched to the motor pole is shown in the table.
- Shaft Power Curve shows the actual power consumption of fans.
- Sound Pressure Level curve shows the sound level 1.5meters from the fan.



Example: Airflow: 45,000 m³/h Total Pressure: 490Pa

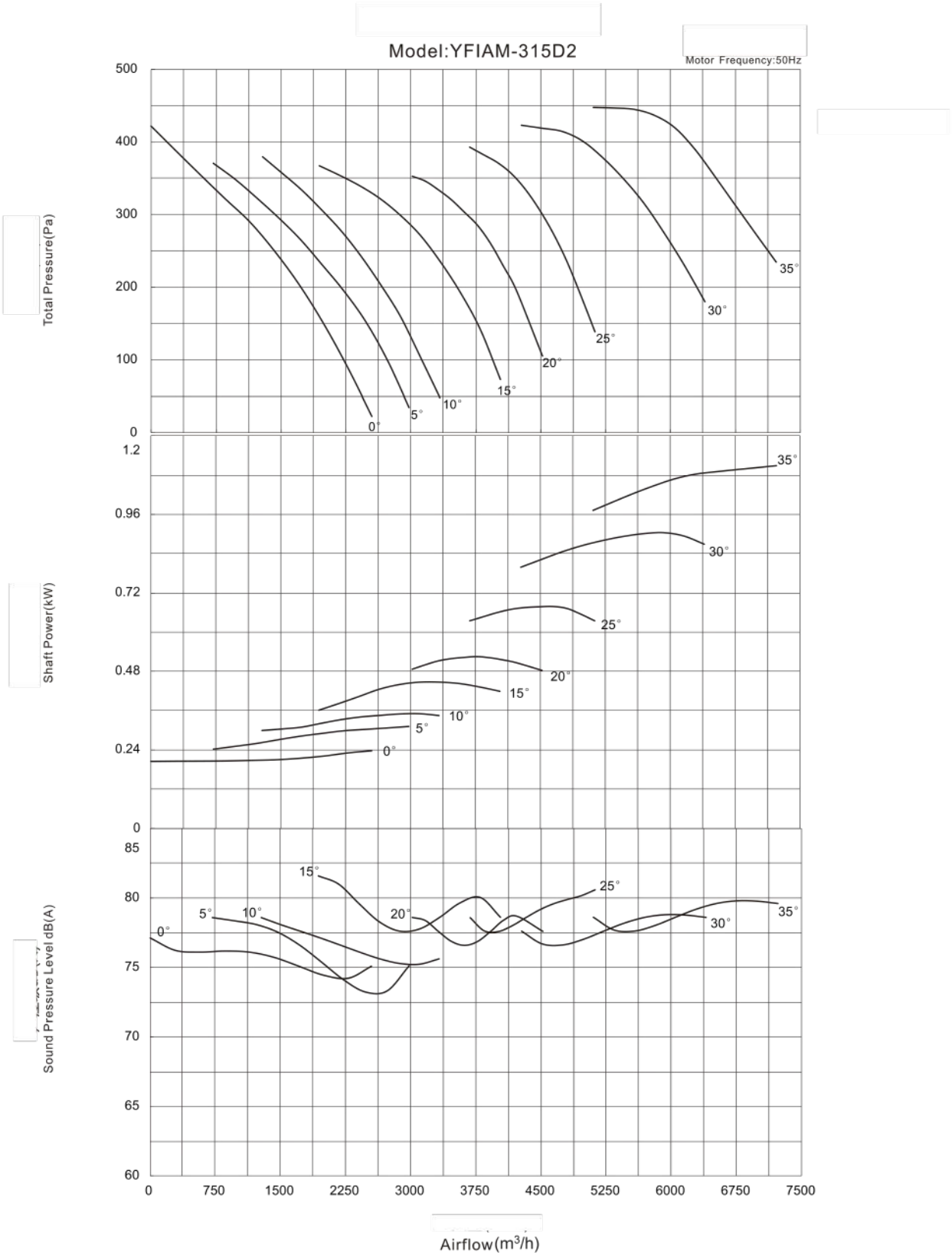
Step One: A vertical line is drawn from the given airflow (Point Q: 45,000 m³/h) and a horizontal line from the given total pressure (Point P: 490 Pa). The intersection point (Point W) is the operating point. Then find a performance curve closest to Point W (in this case, it is curve 20° at 1,450 RPM as shown). If the operating point is far from the performance curve, please choose other models and repeat the same procedure as above until the right performance curve can be found.

Step Two: From the intersection point (Point W1) between the vertical line and Shaft Power Curve is drawn a horizontal line. Its intersection point with the Shaft Power axis (Point E: about 9.35kW) represents the actual power consumption. Based on the coefficient of power reserve (1.15), the required power of 11kW is figured out.

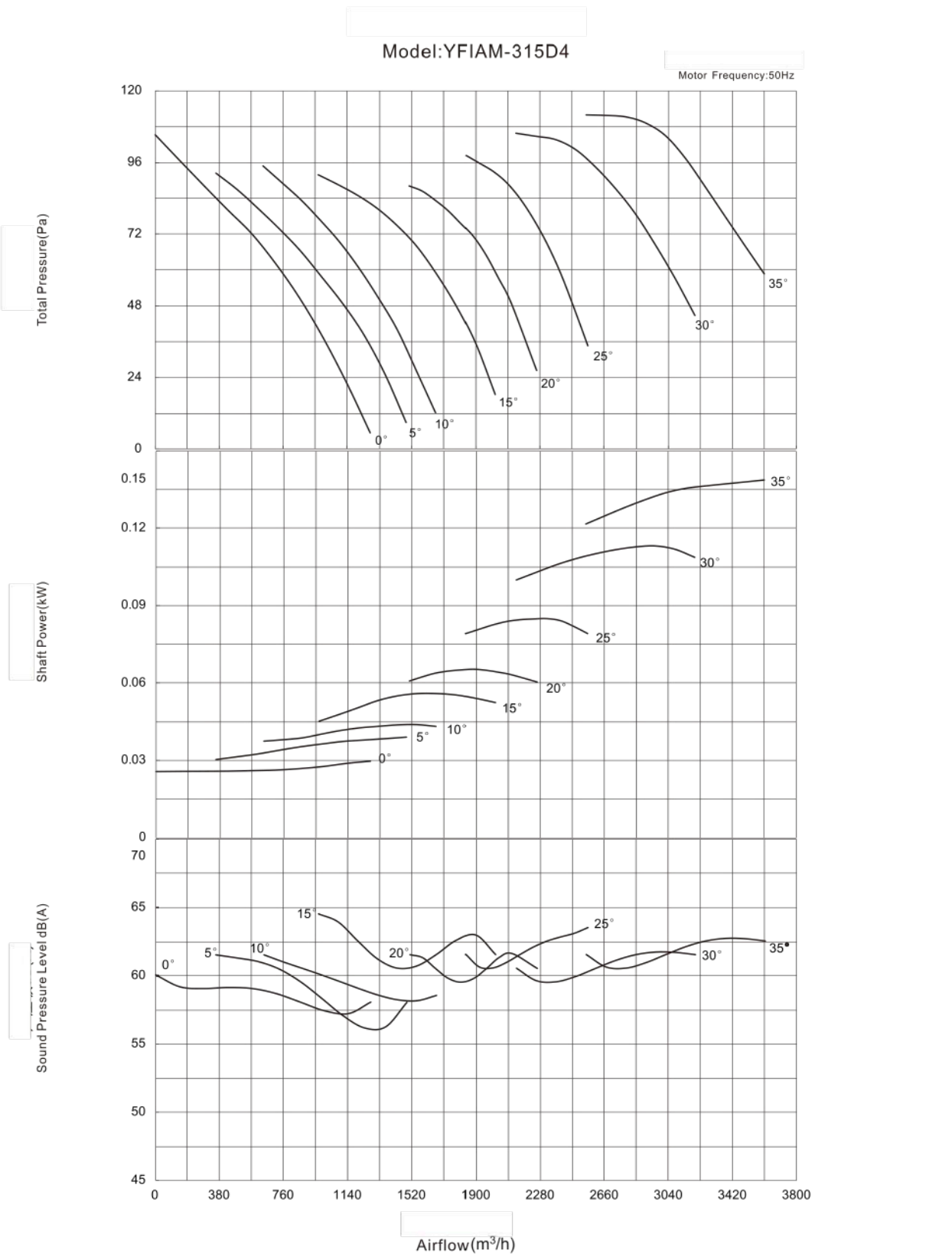
Step Three: From the intersection point (Point W2) between the vertical line and Sound Pressure Level curve is drawn a horizontal line. Its intersection point with the Sound Pressure Level axis (Point S: about 92 dB (A)) represents the sound level for the operating point of W.

Step Four: From the above steps, the model of the fan is identified as YFIAM-800D4/20° - 11 of direct drive type at 1,450RPM. If fans of lower shaft power are preferred, please refer to larger fans for further comparison. It should be noted that the primary investments for larger fans would increase.

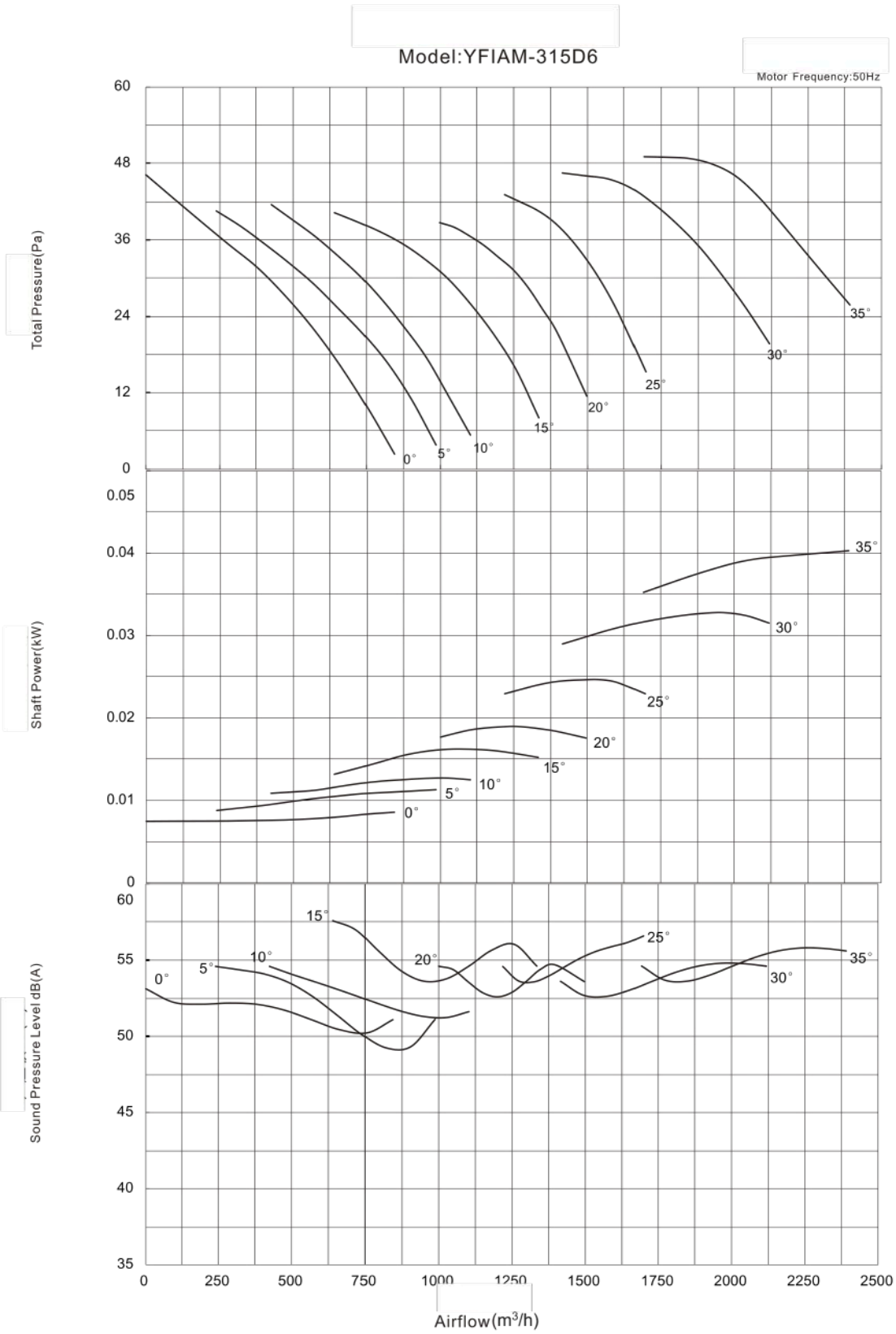
Note: The coefficient of power reserve is determined by model selection staff based on actual needs (typically 1.15).



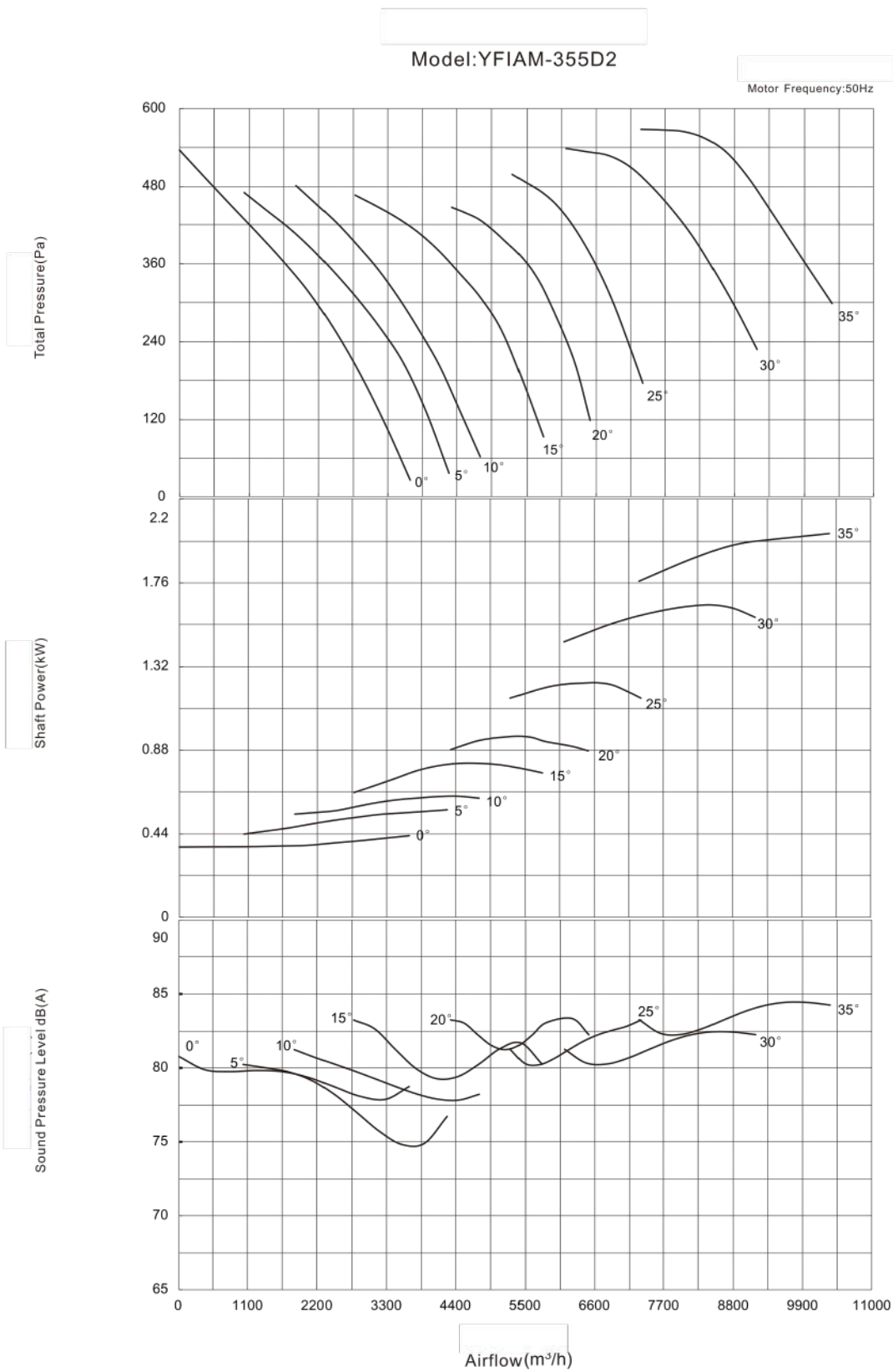
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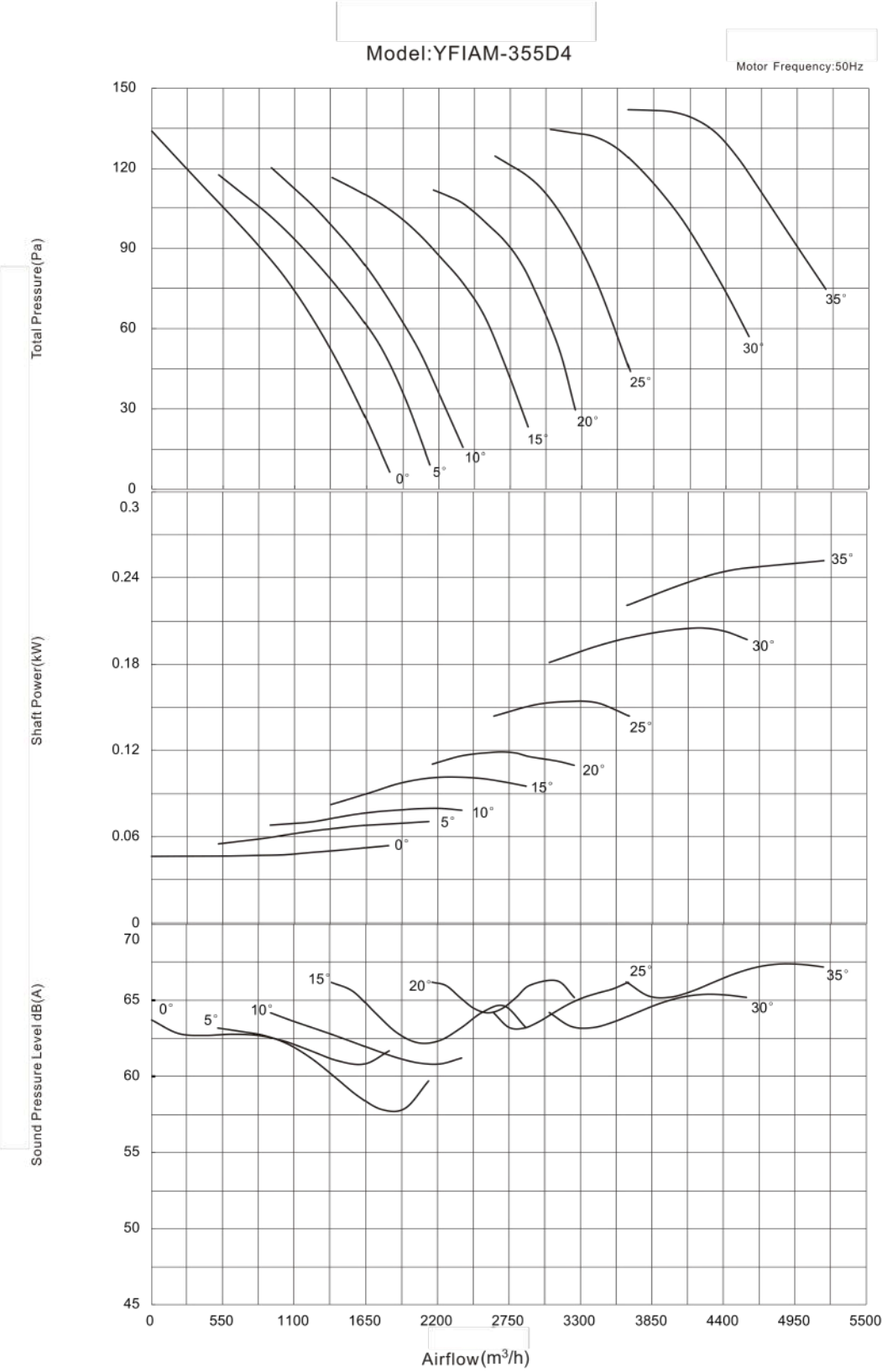
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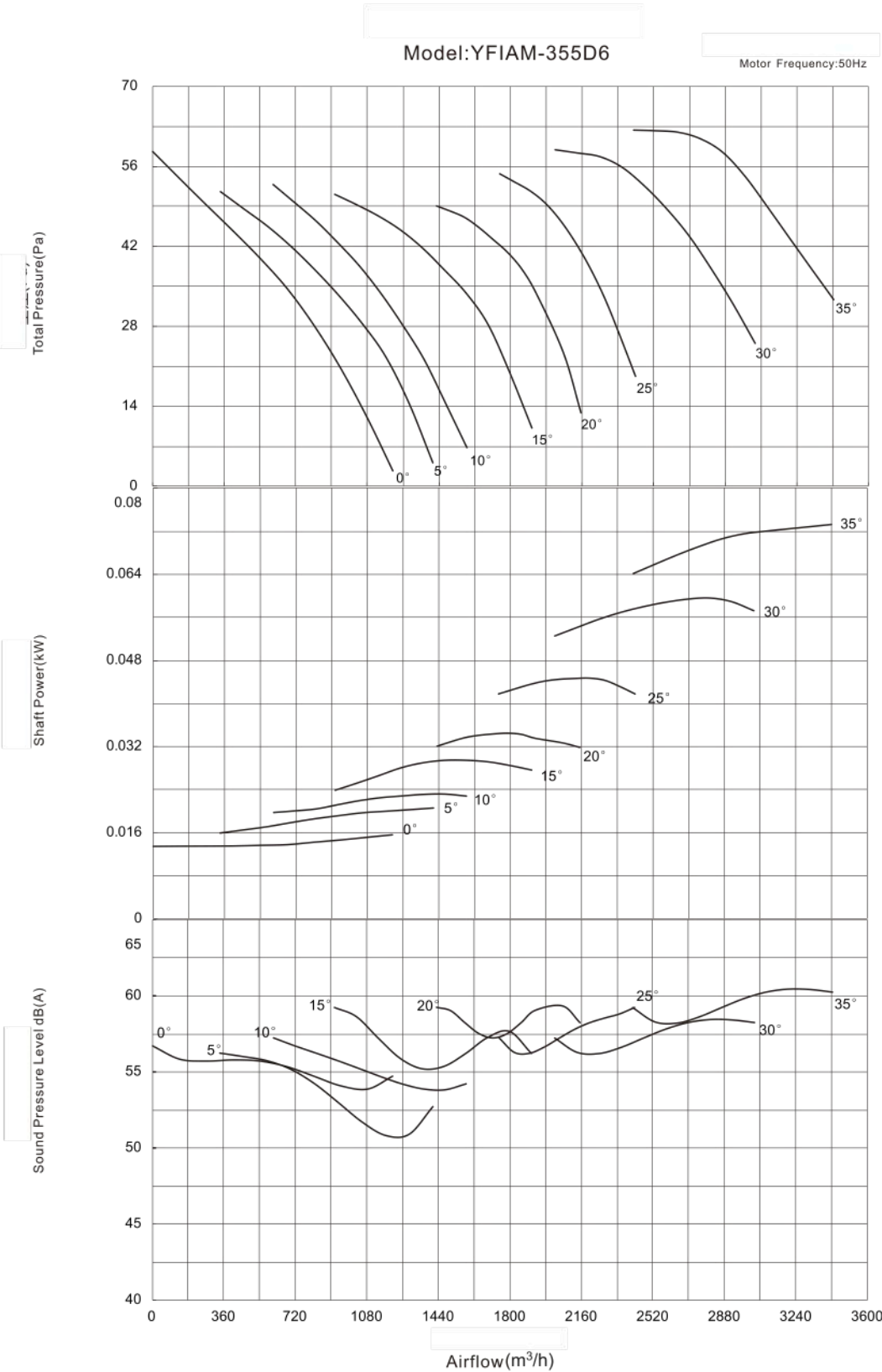
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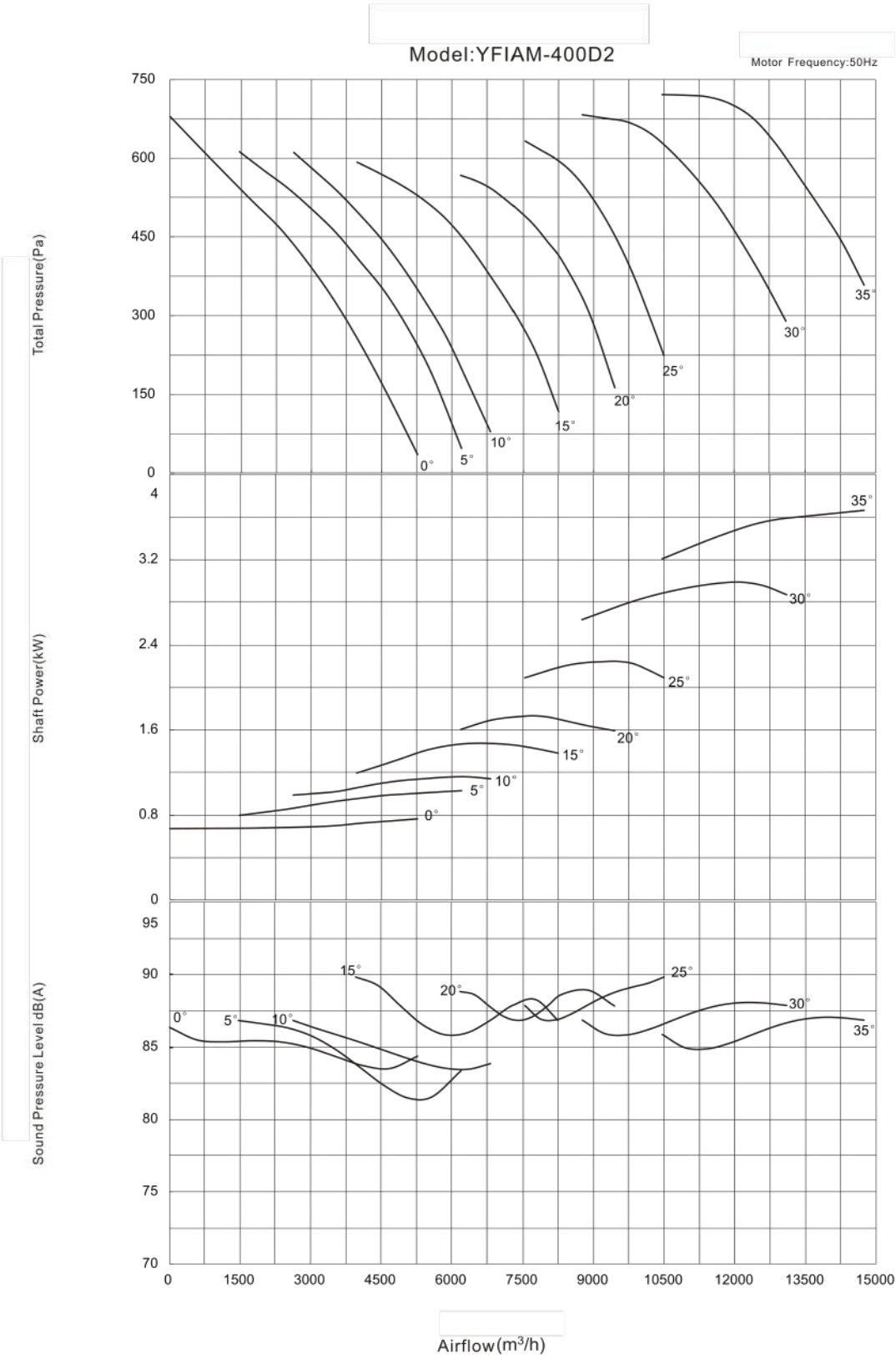
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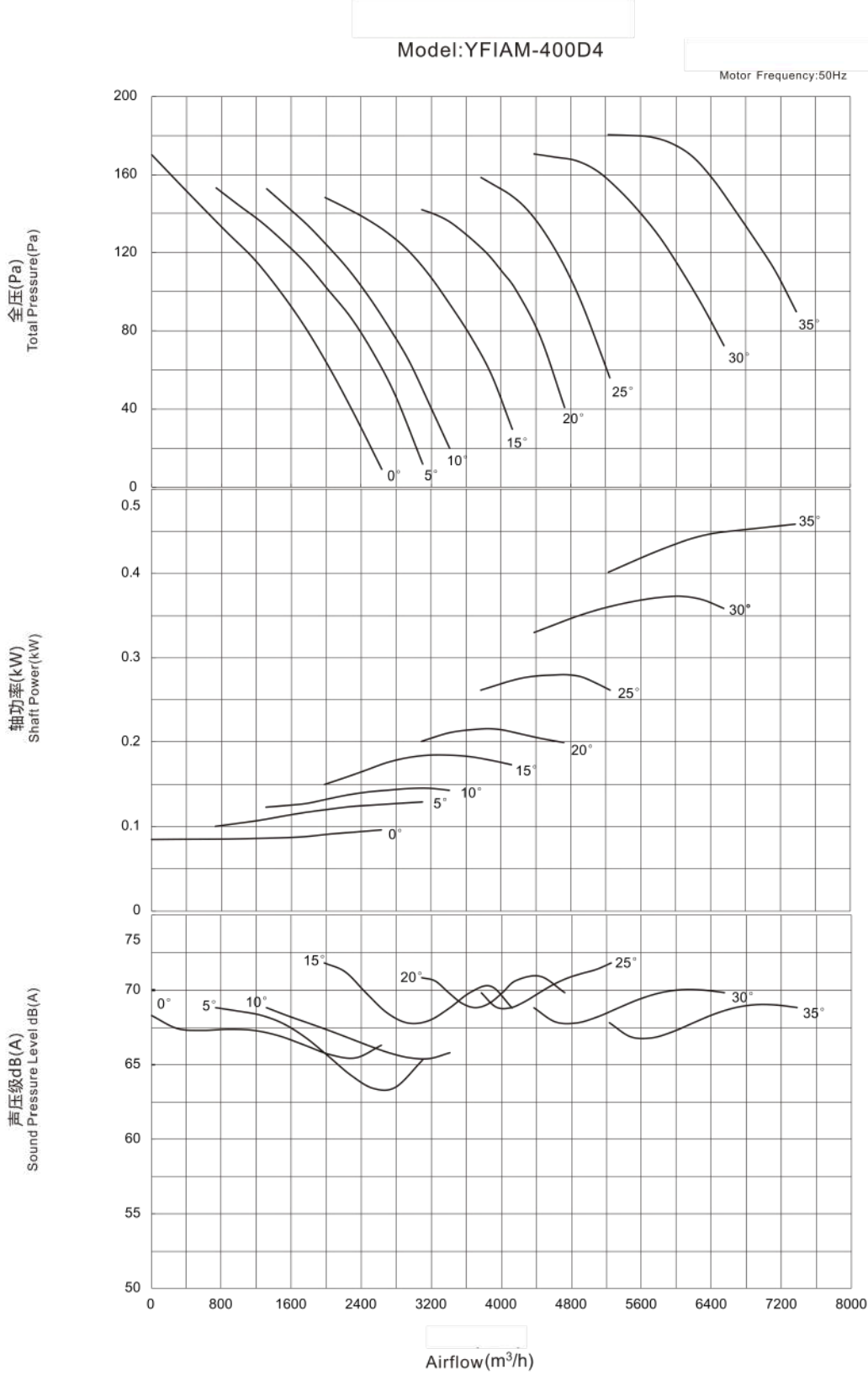
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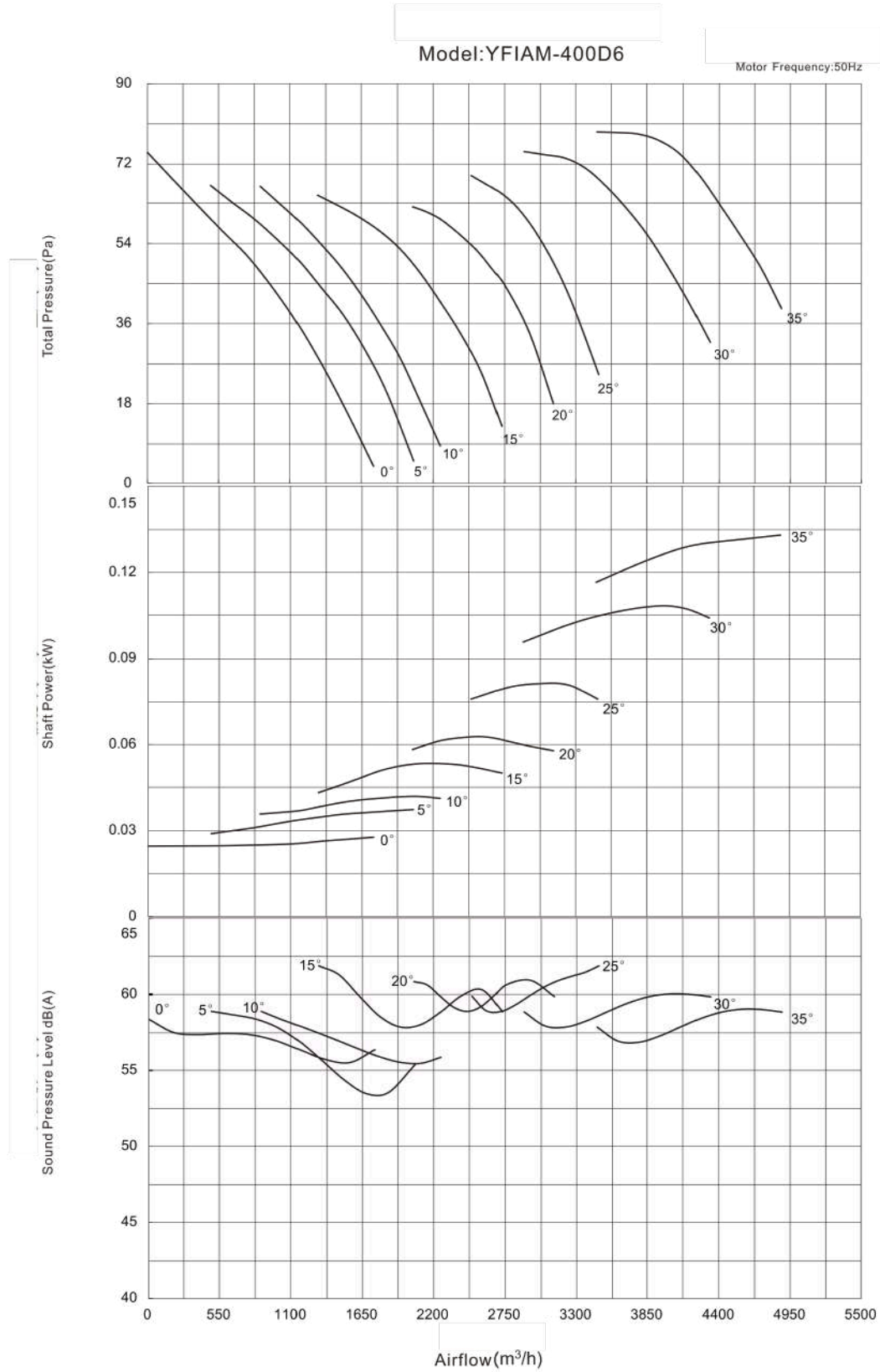
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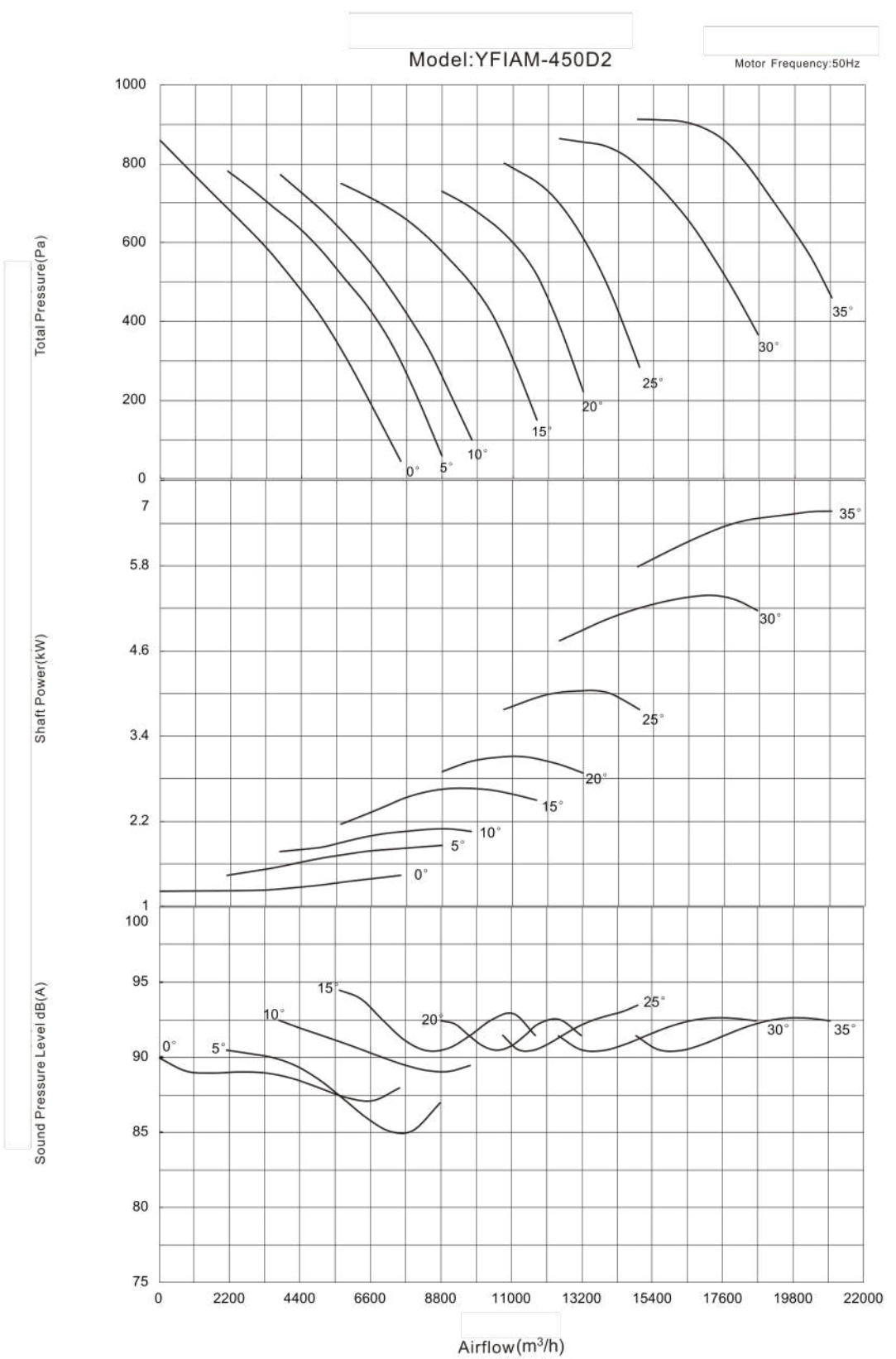
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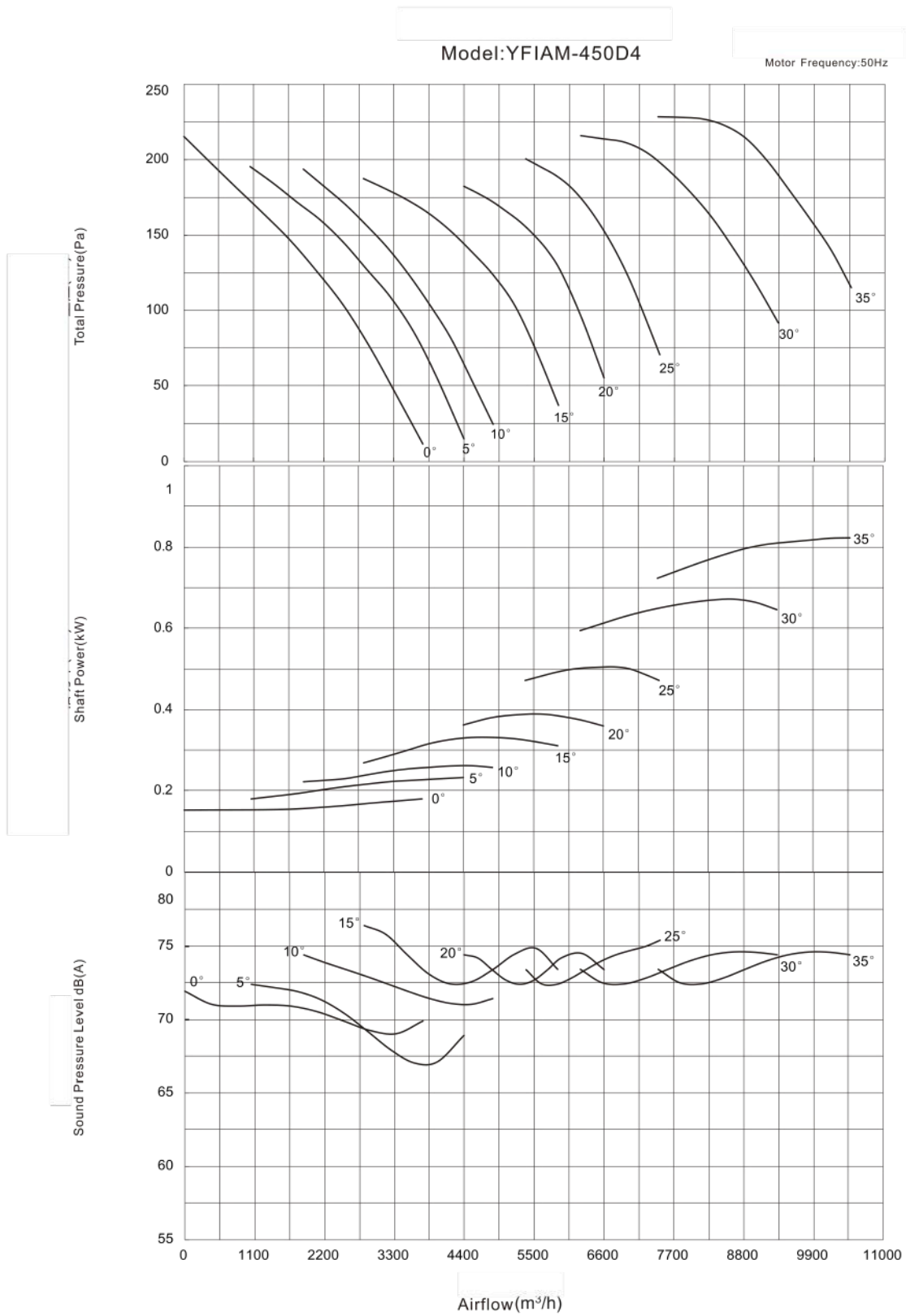
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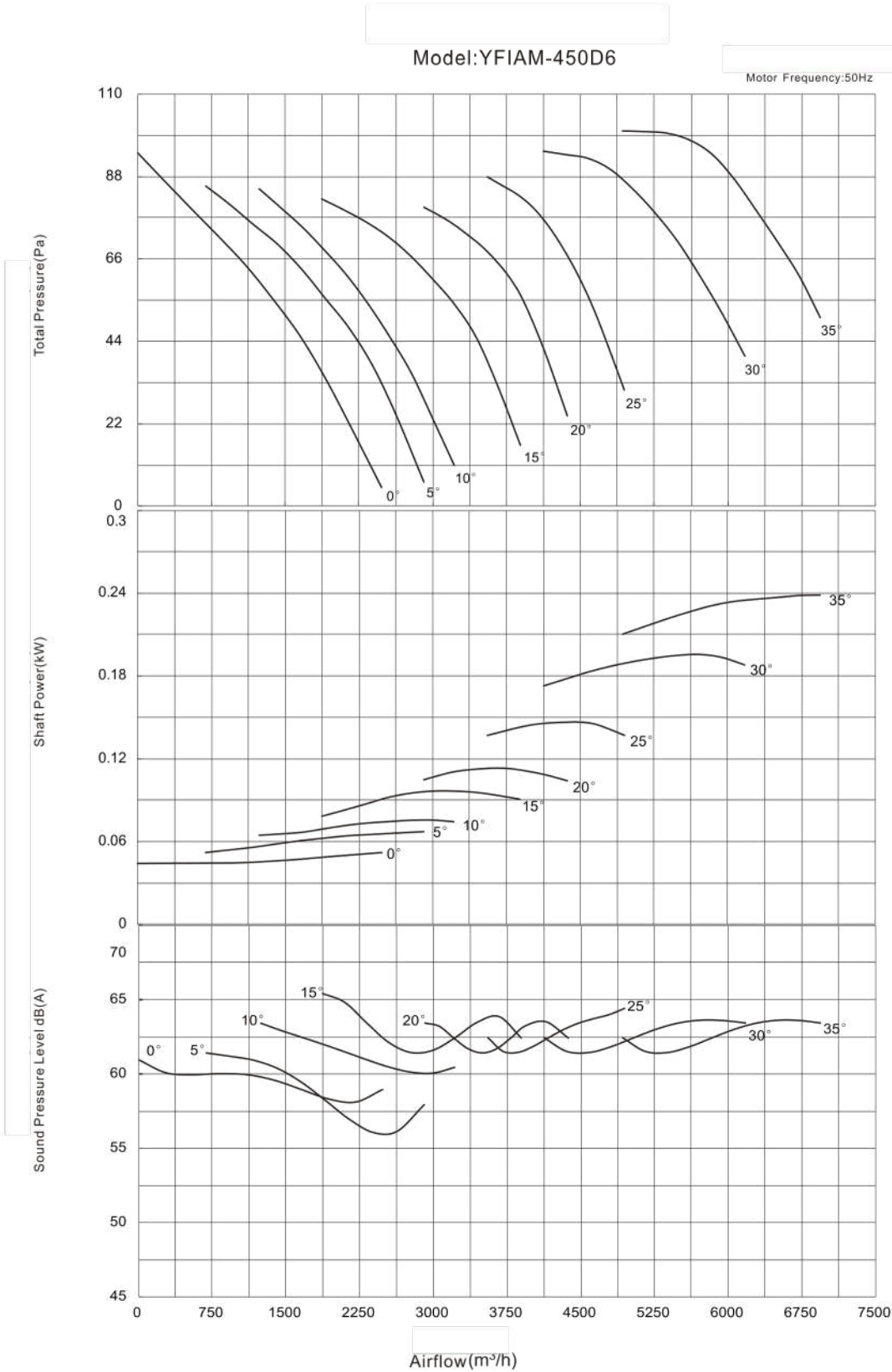
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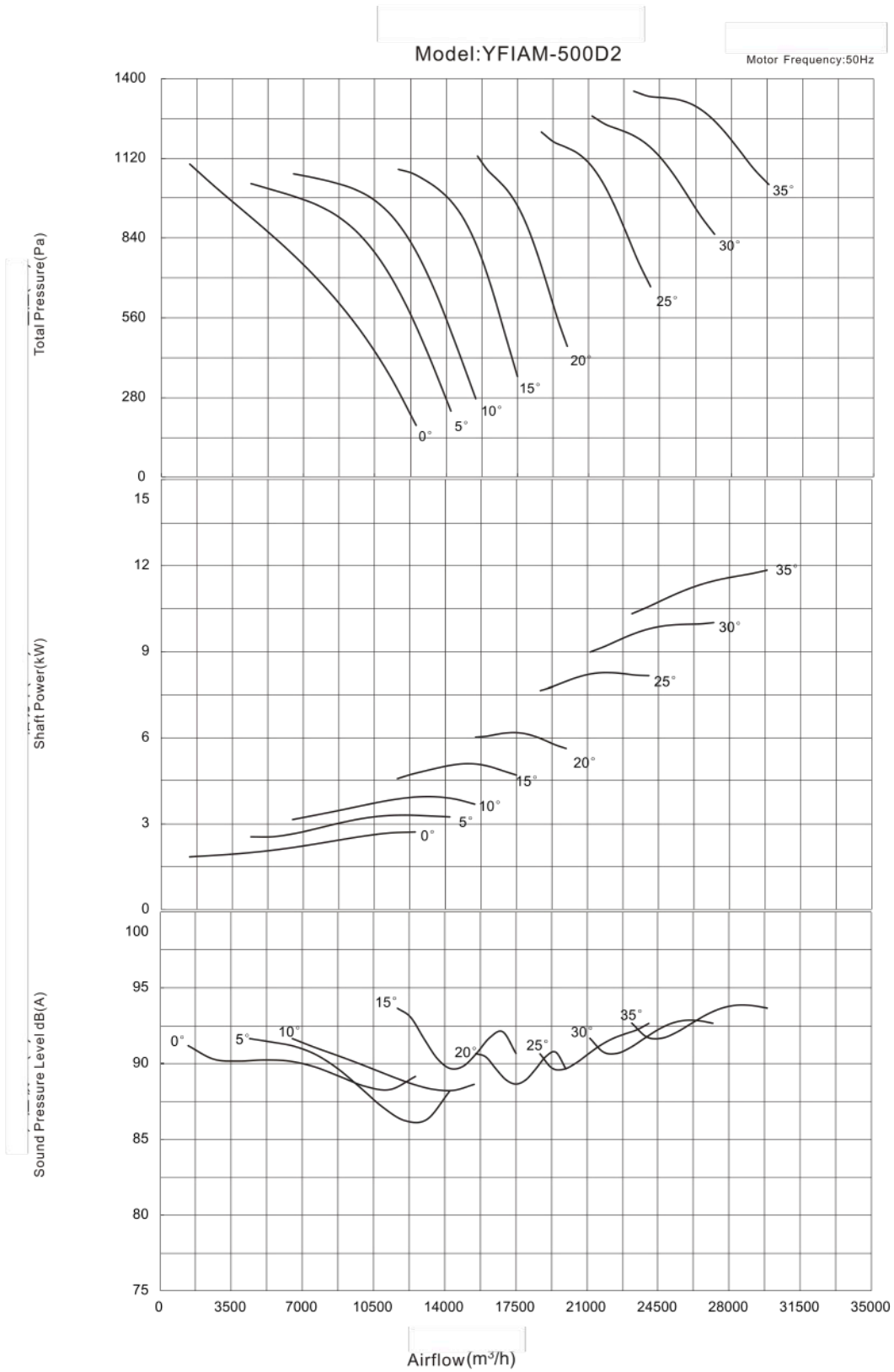
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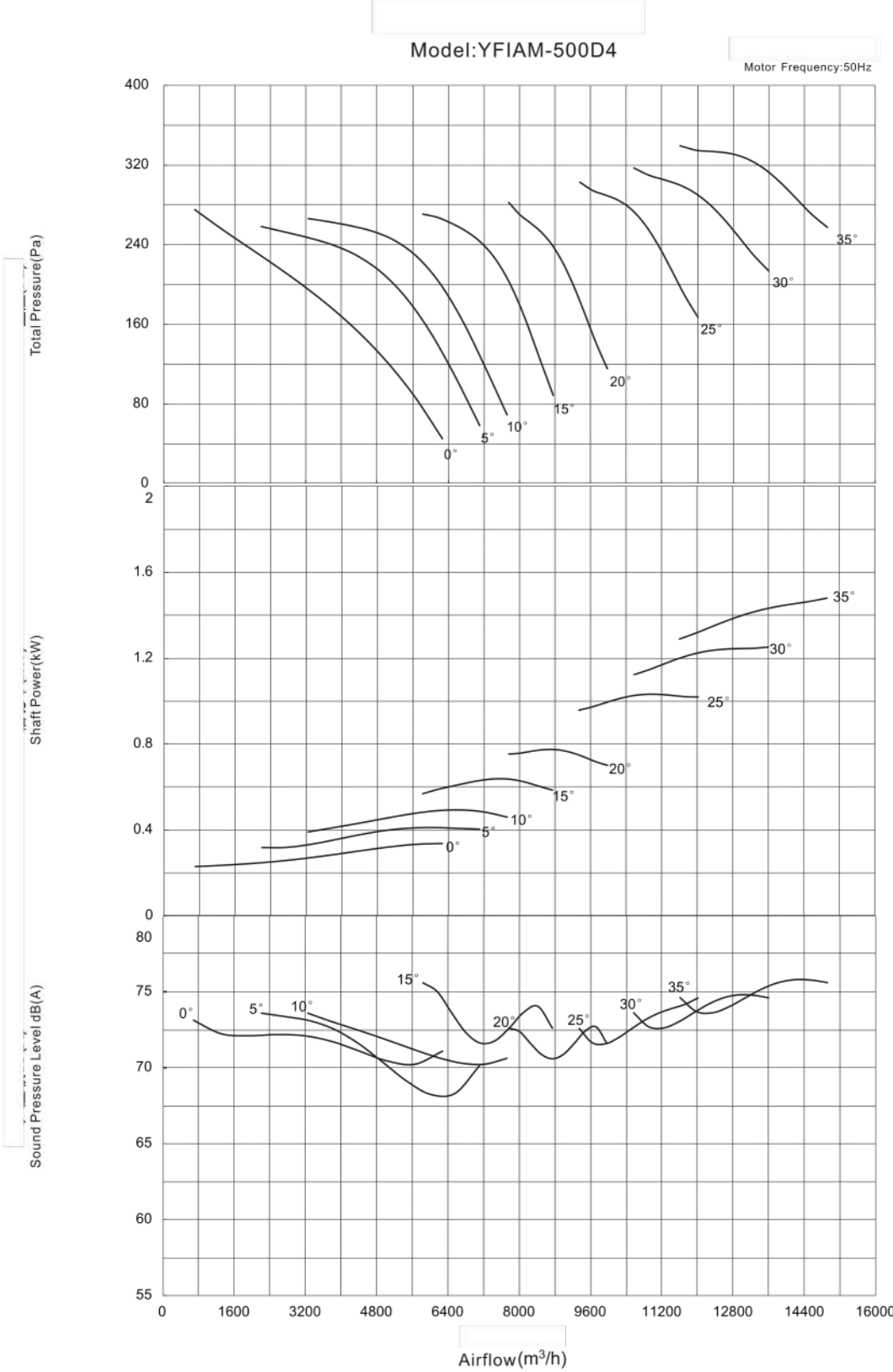
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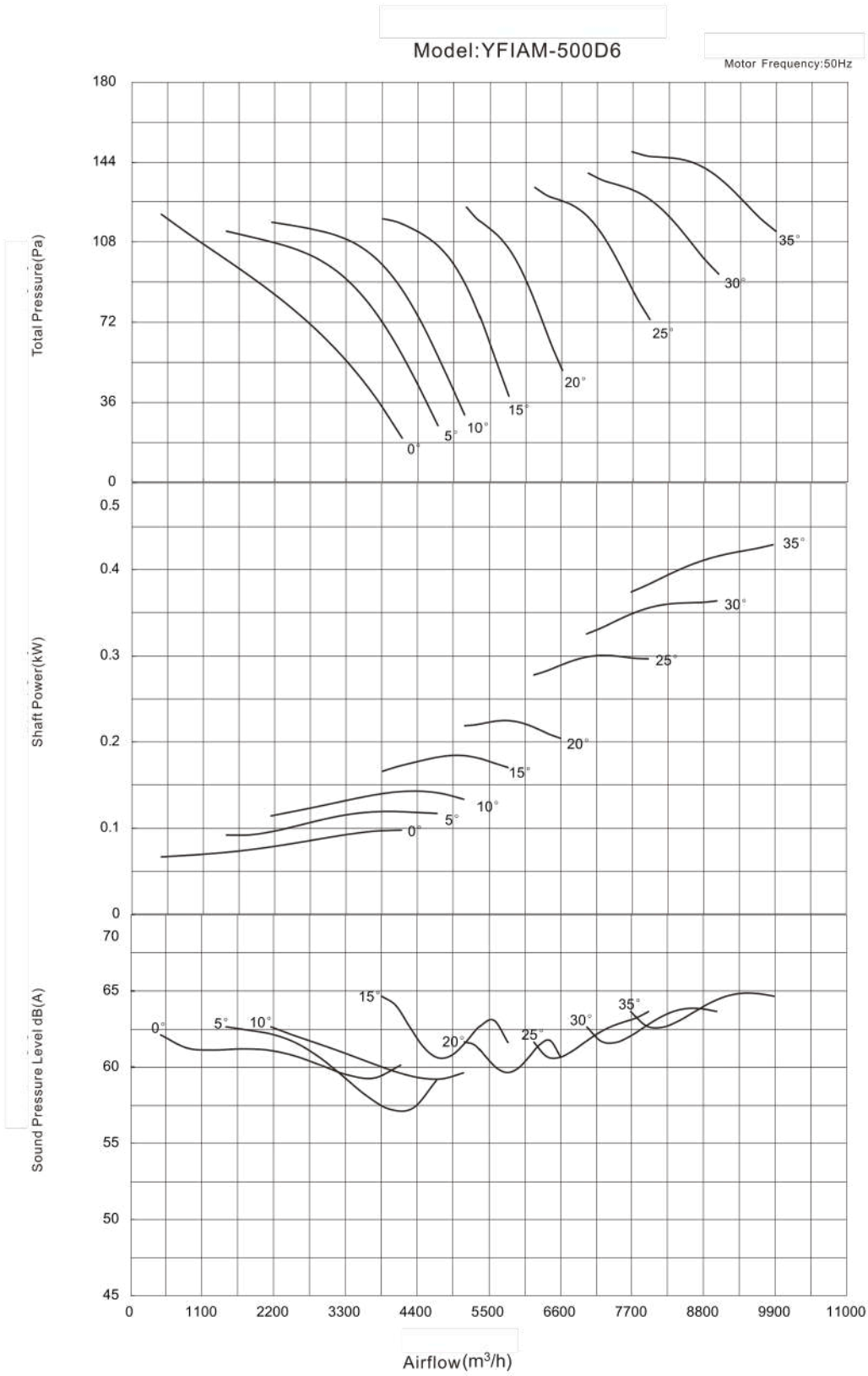
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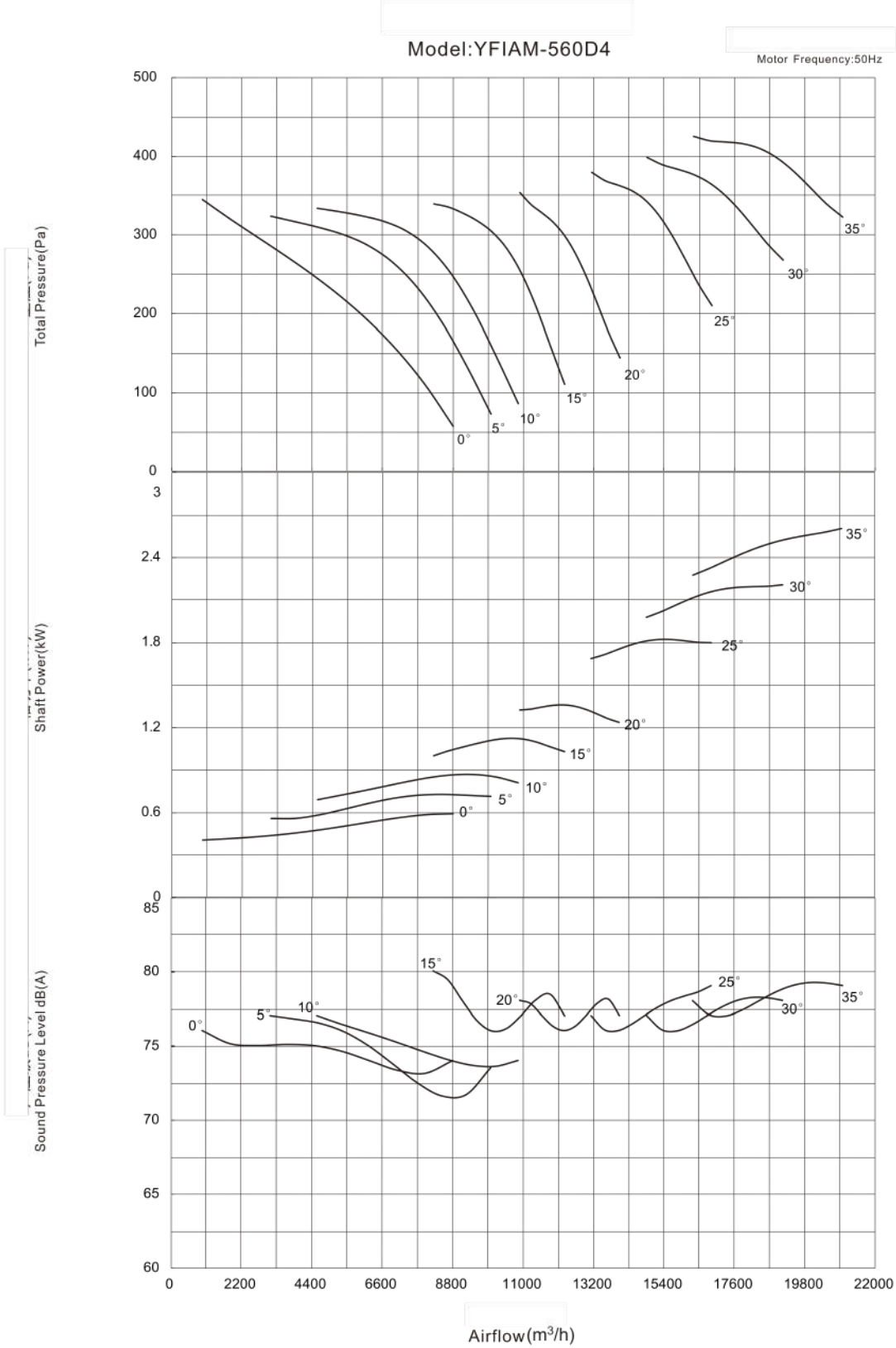
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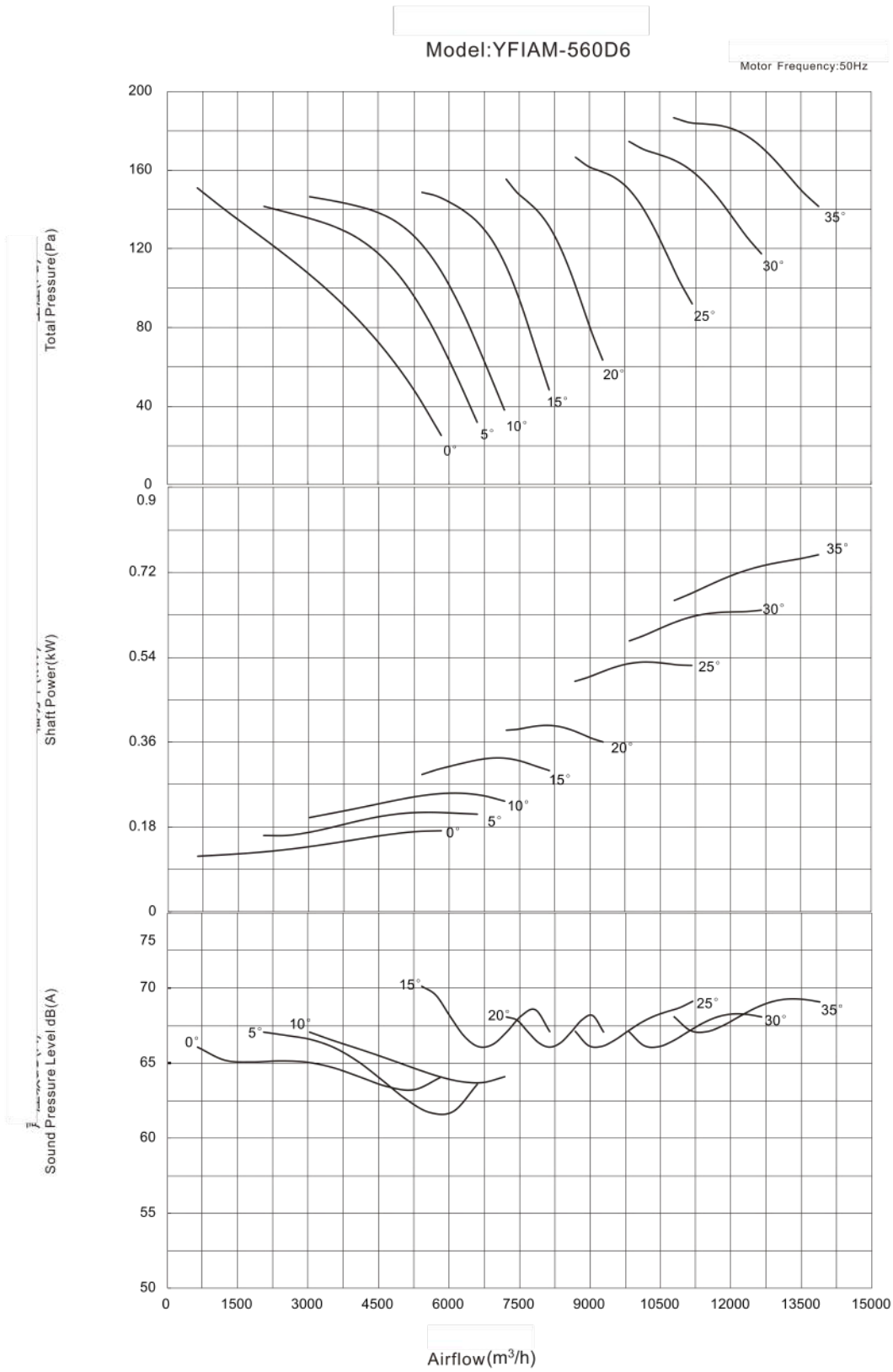
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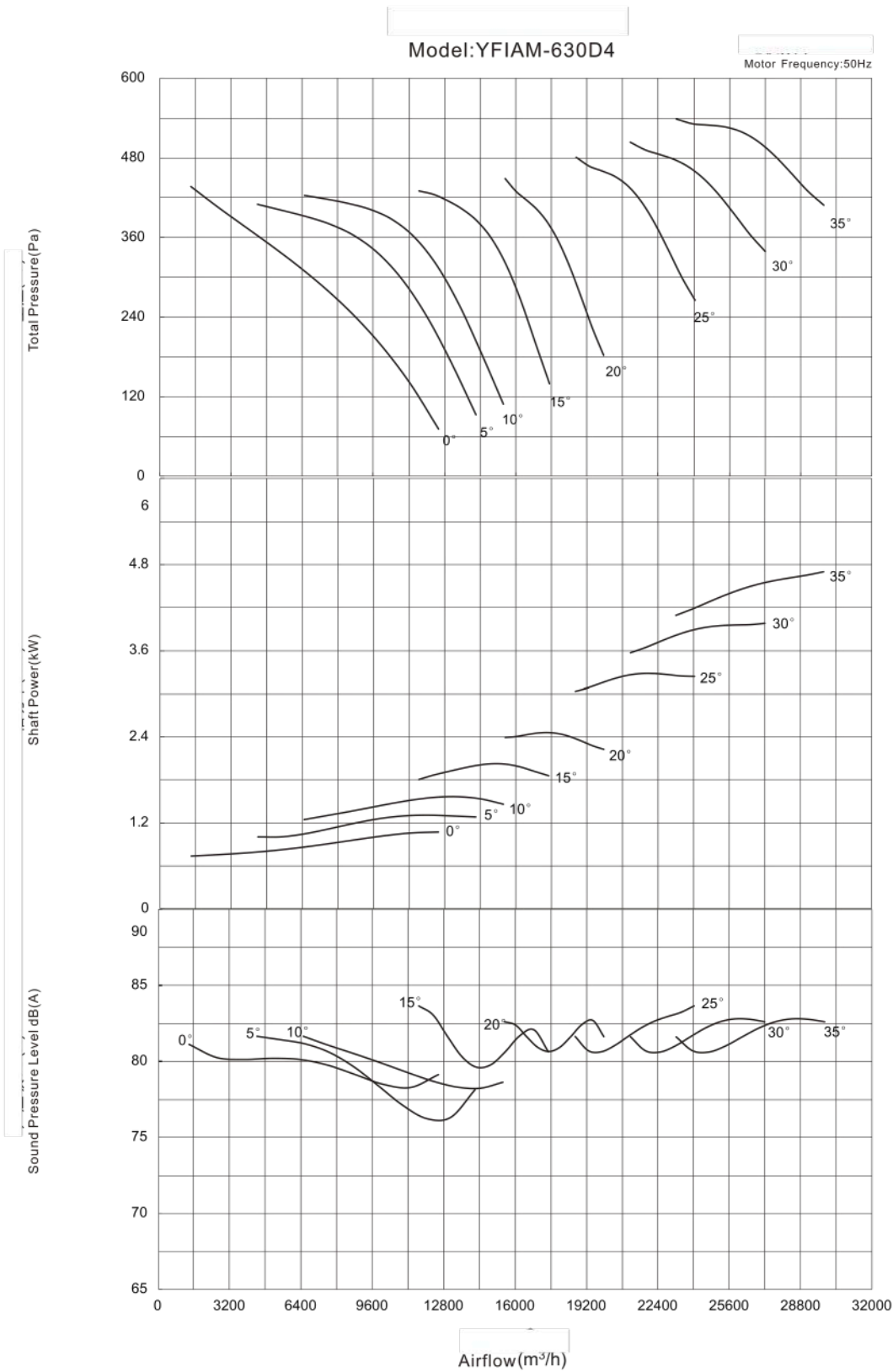
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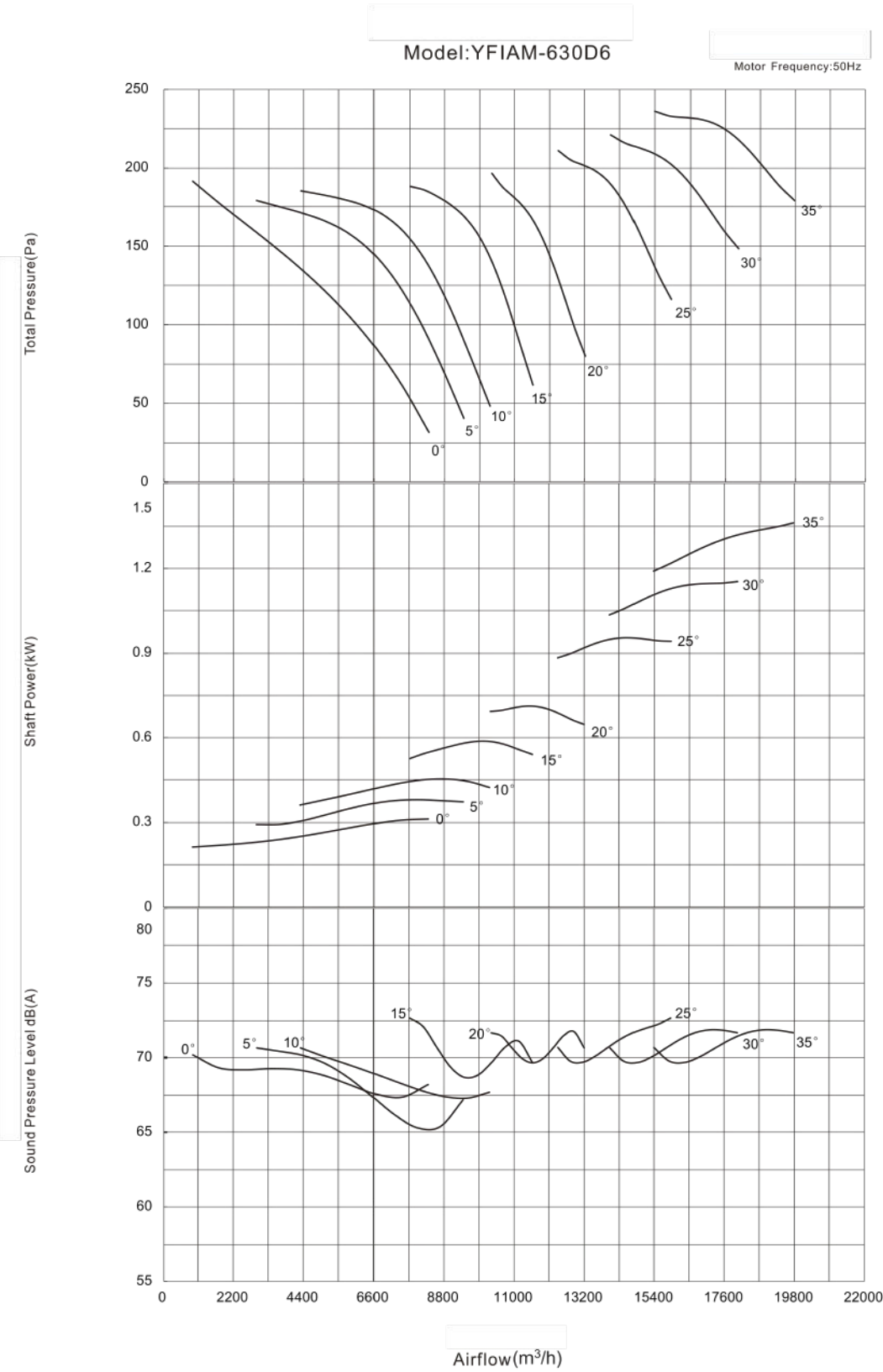
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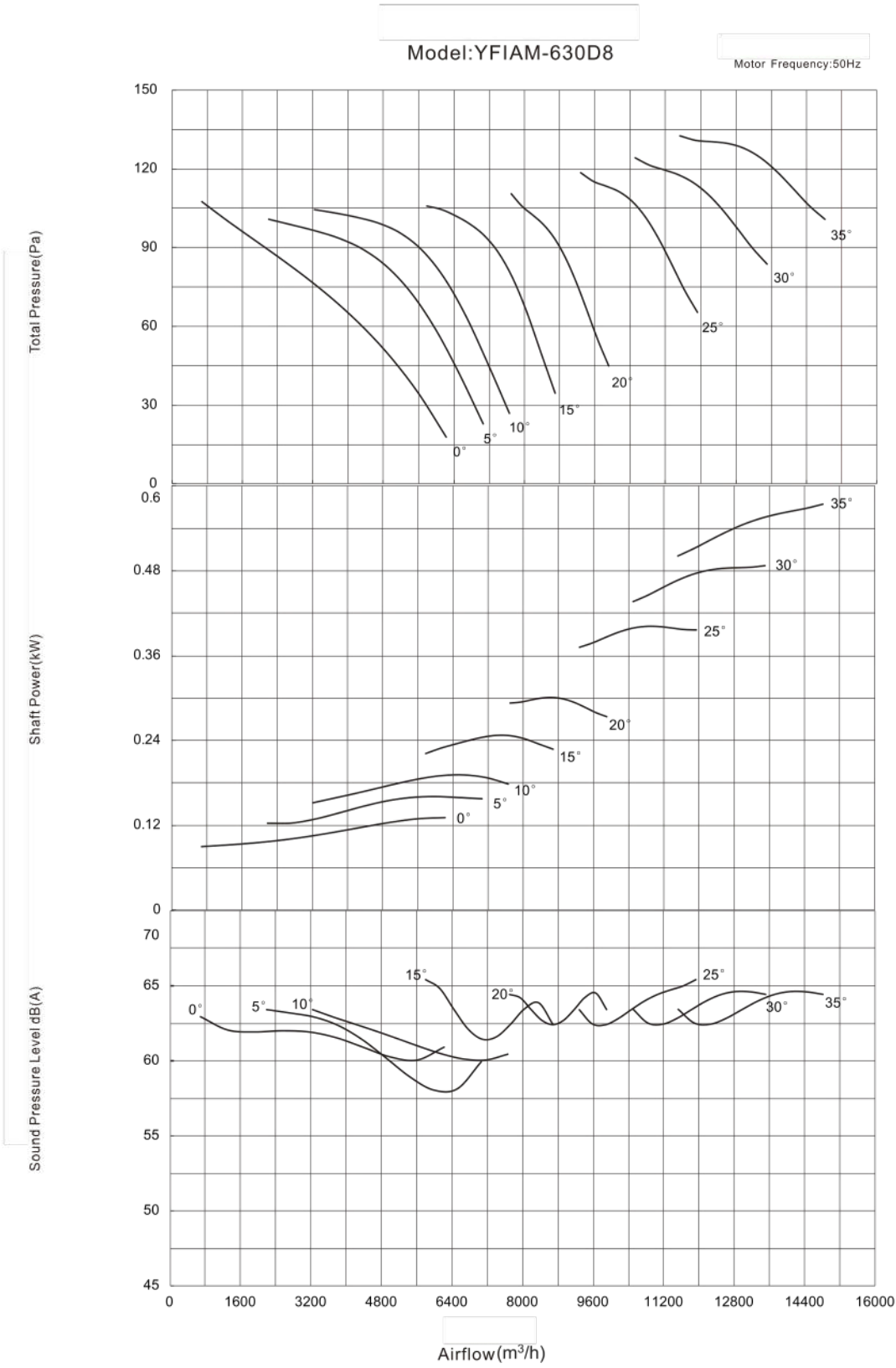
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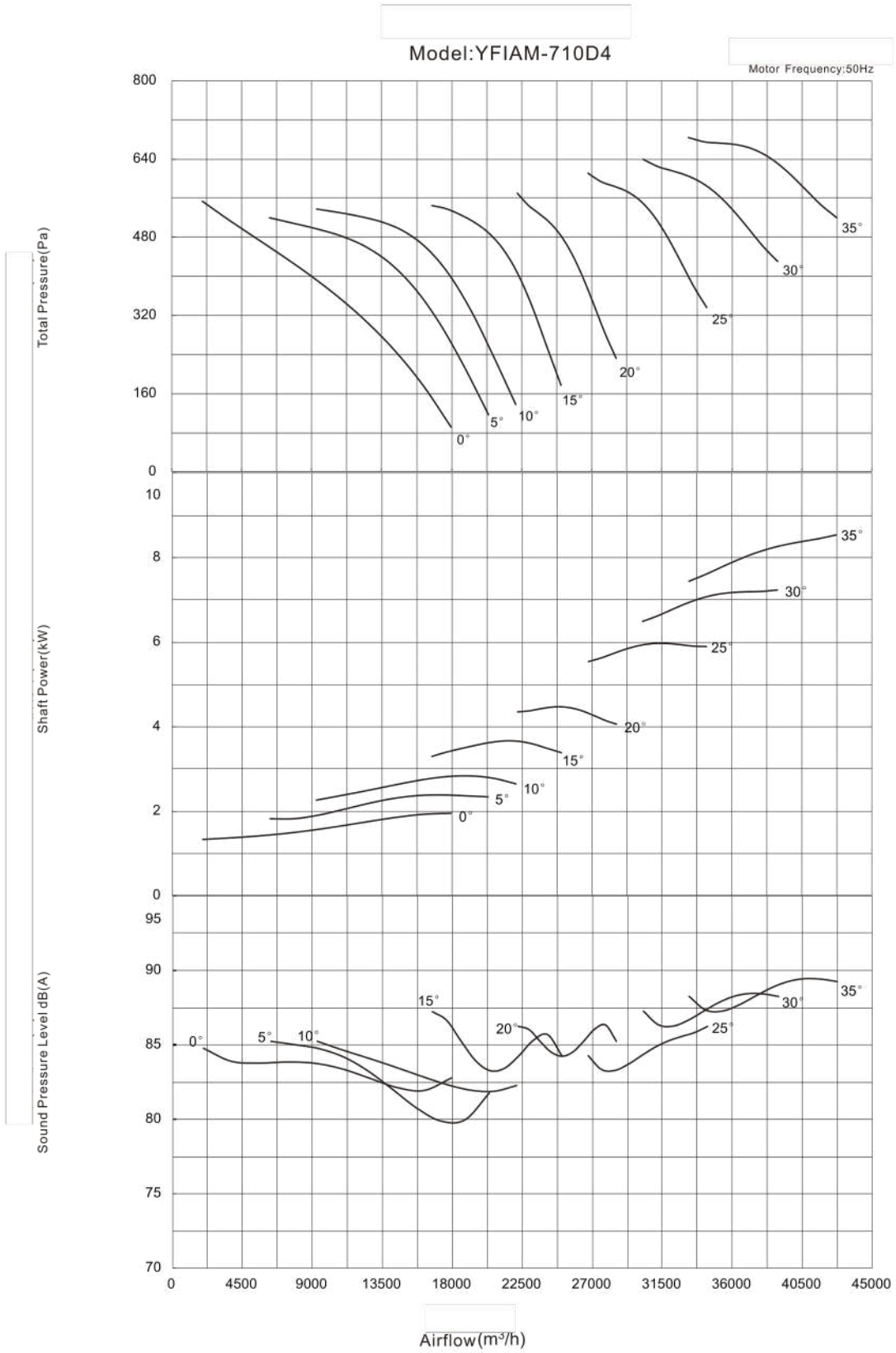
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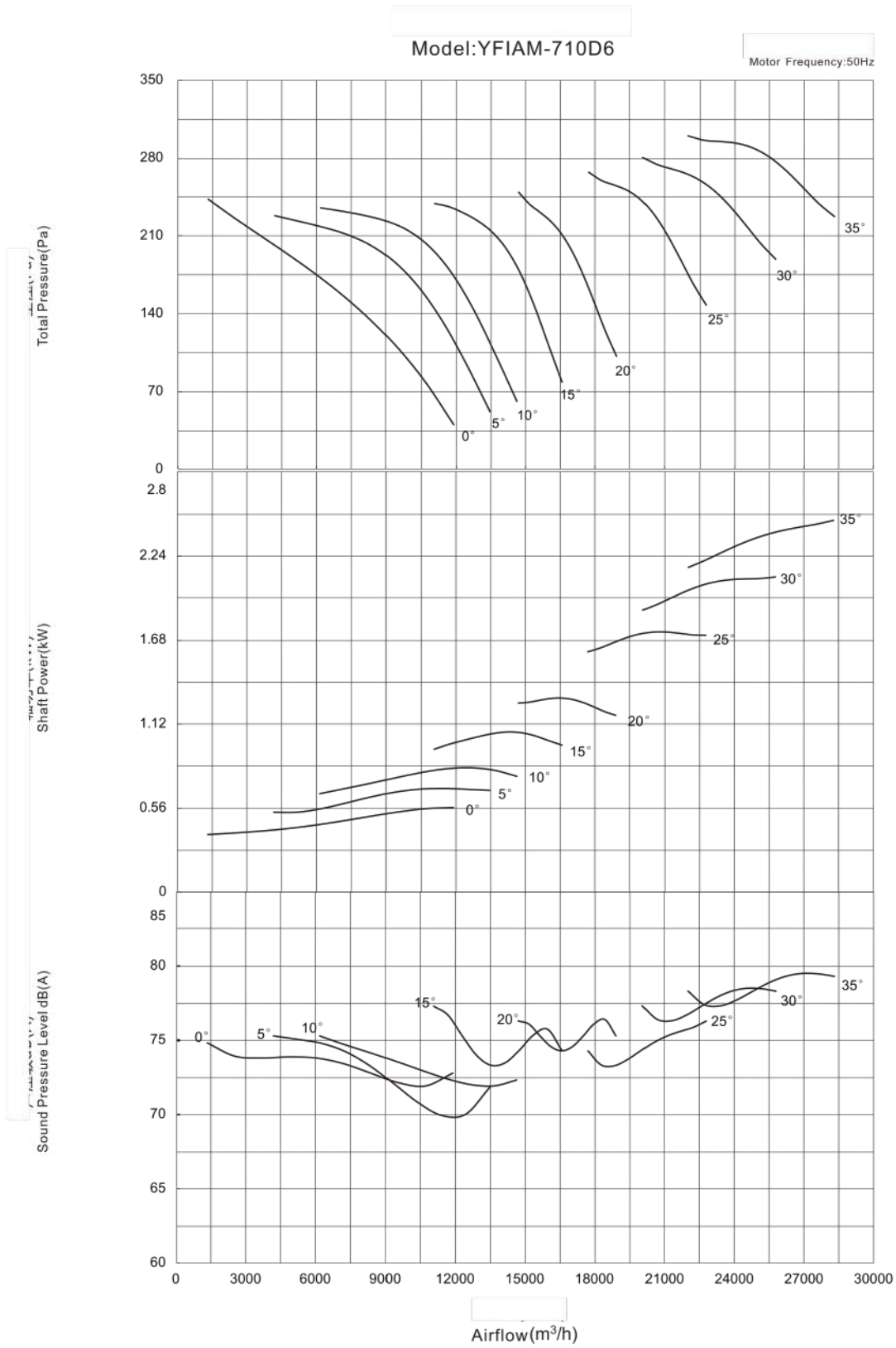
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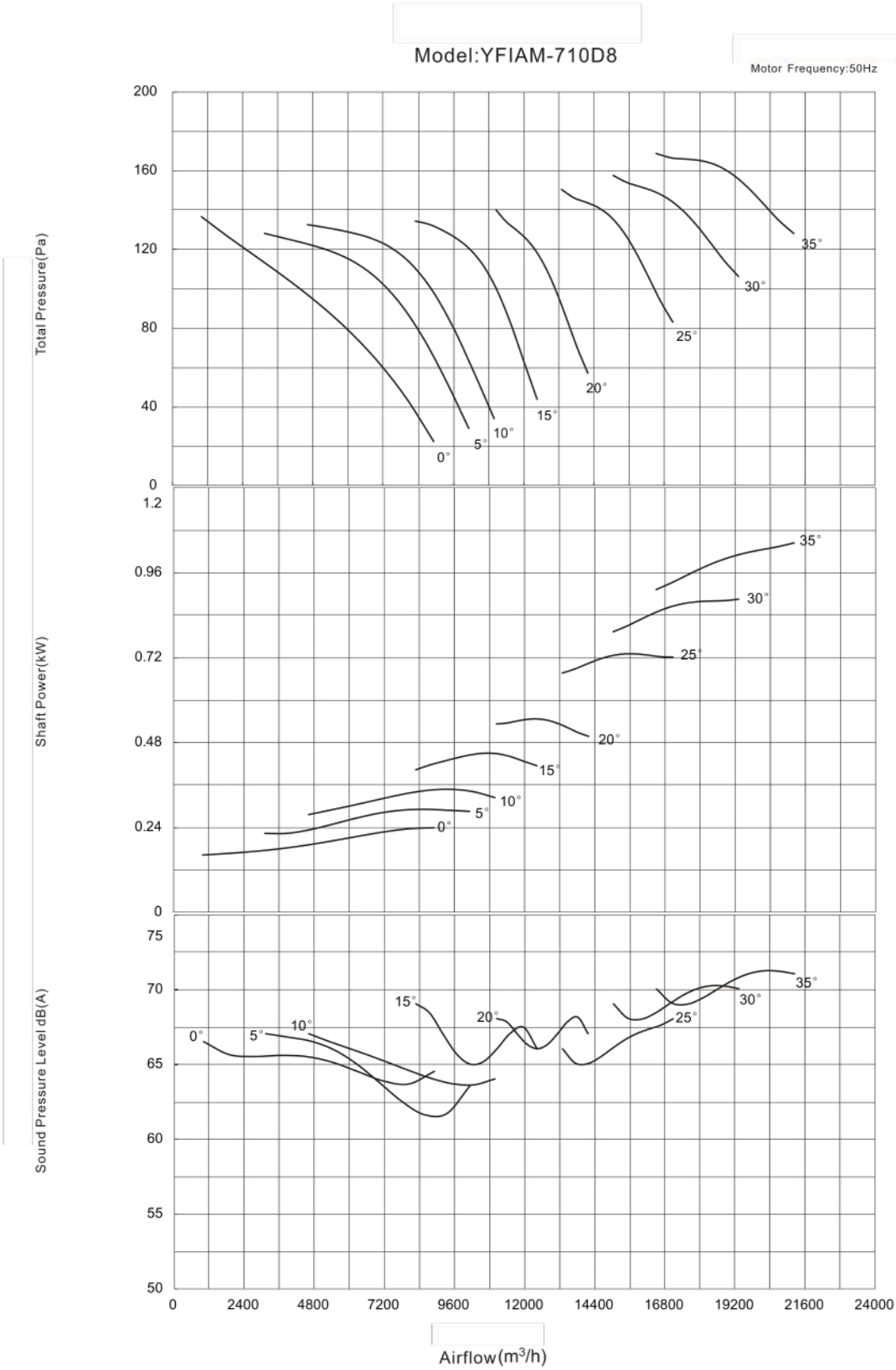
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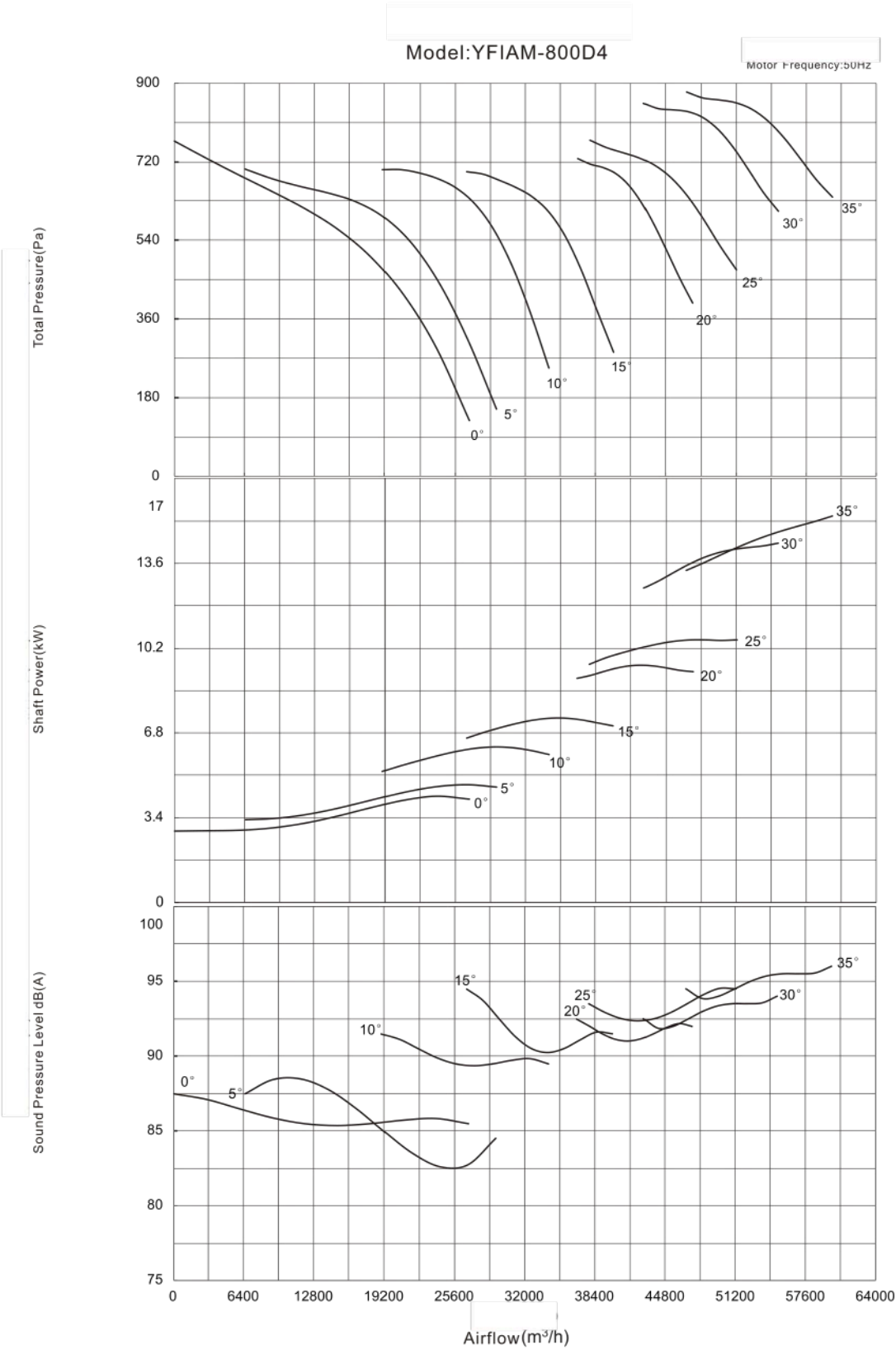
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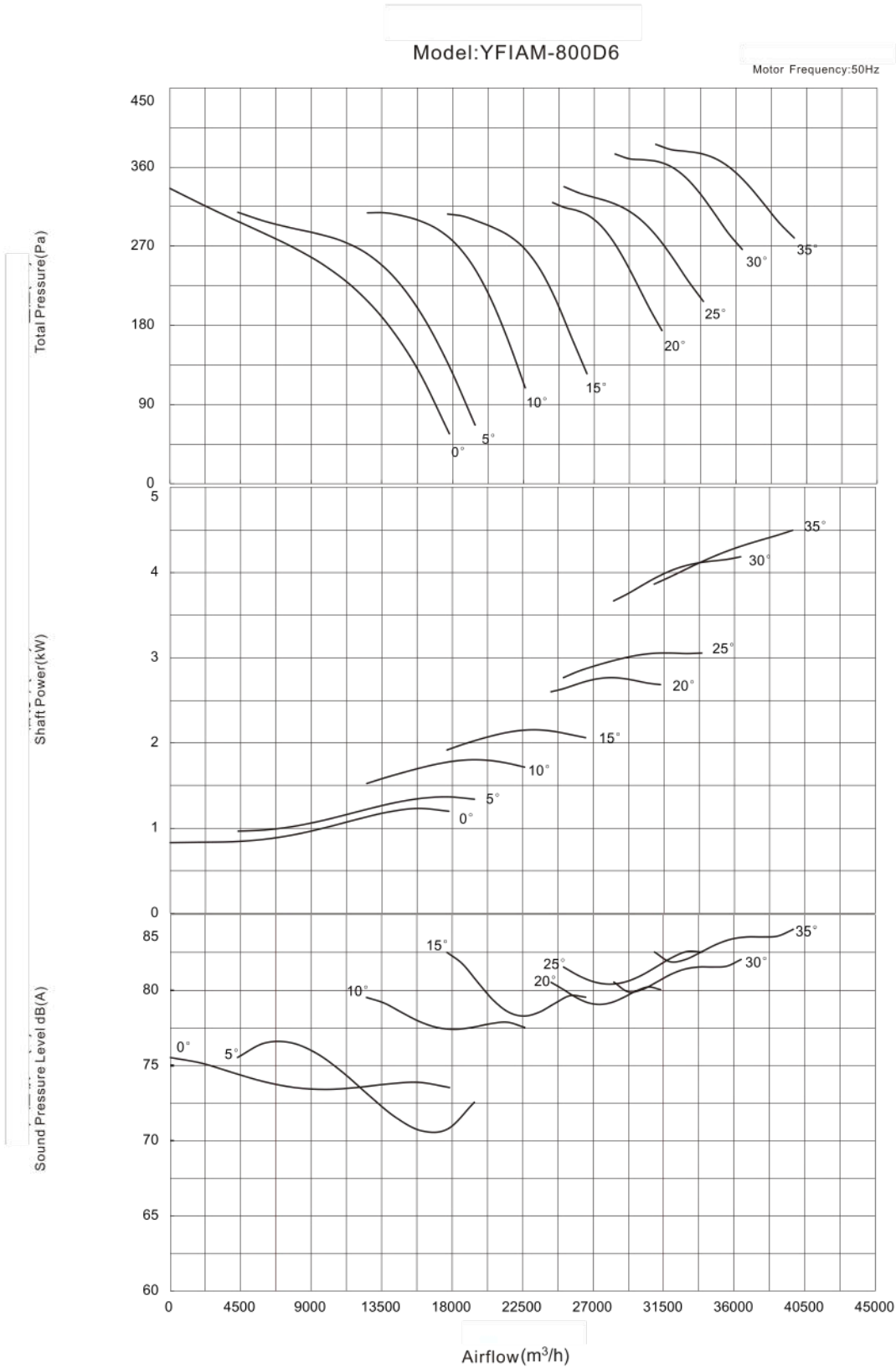
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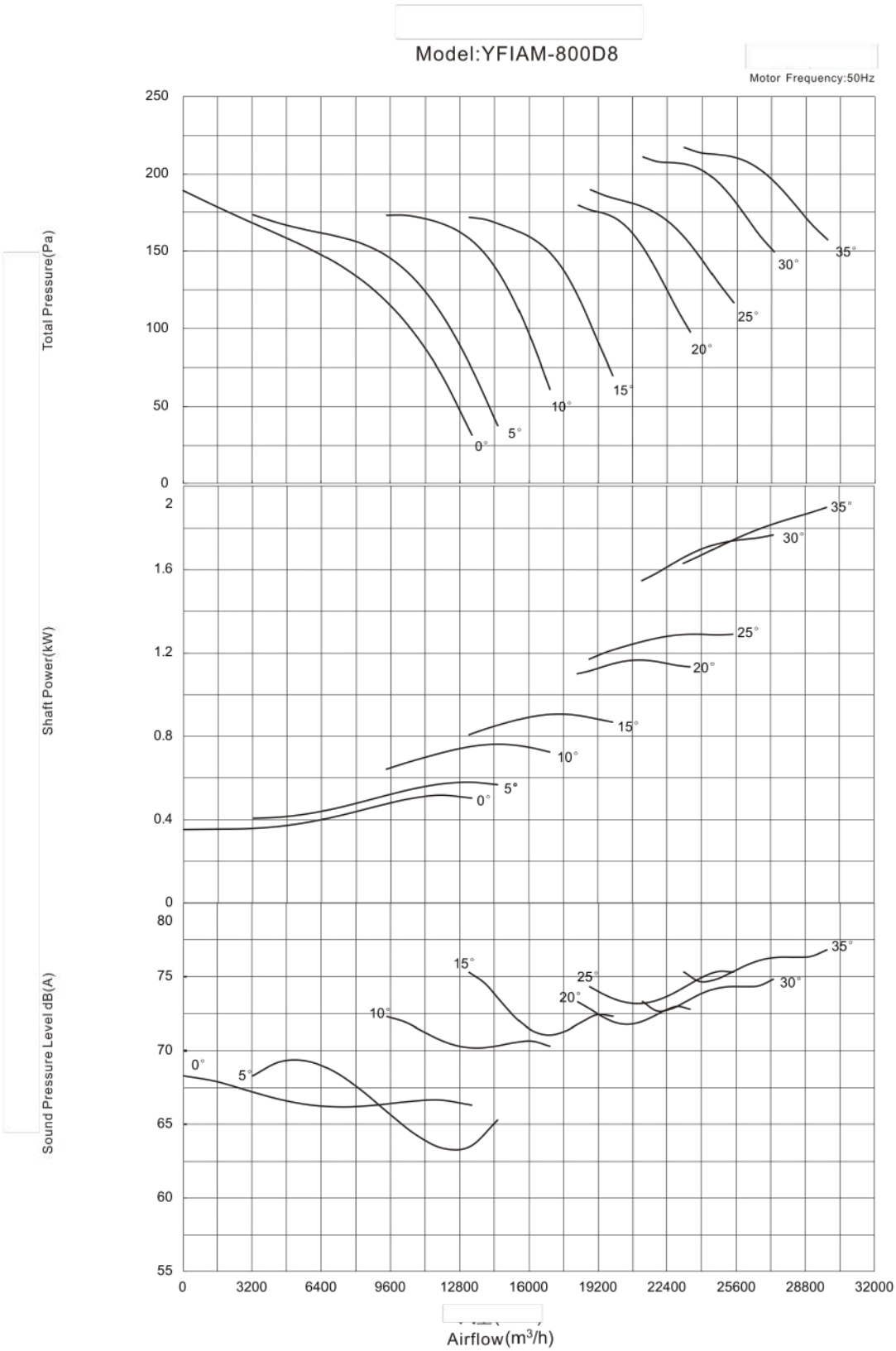
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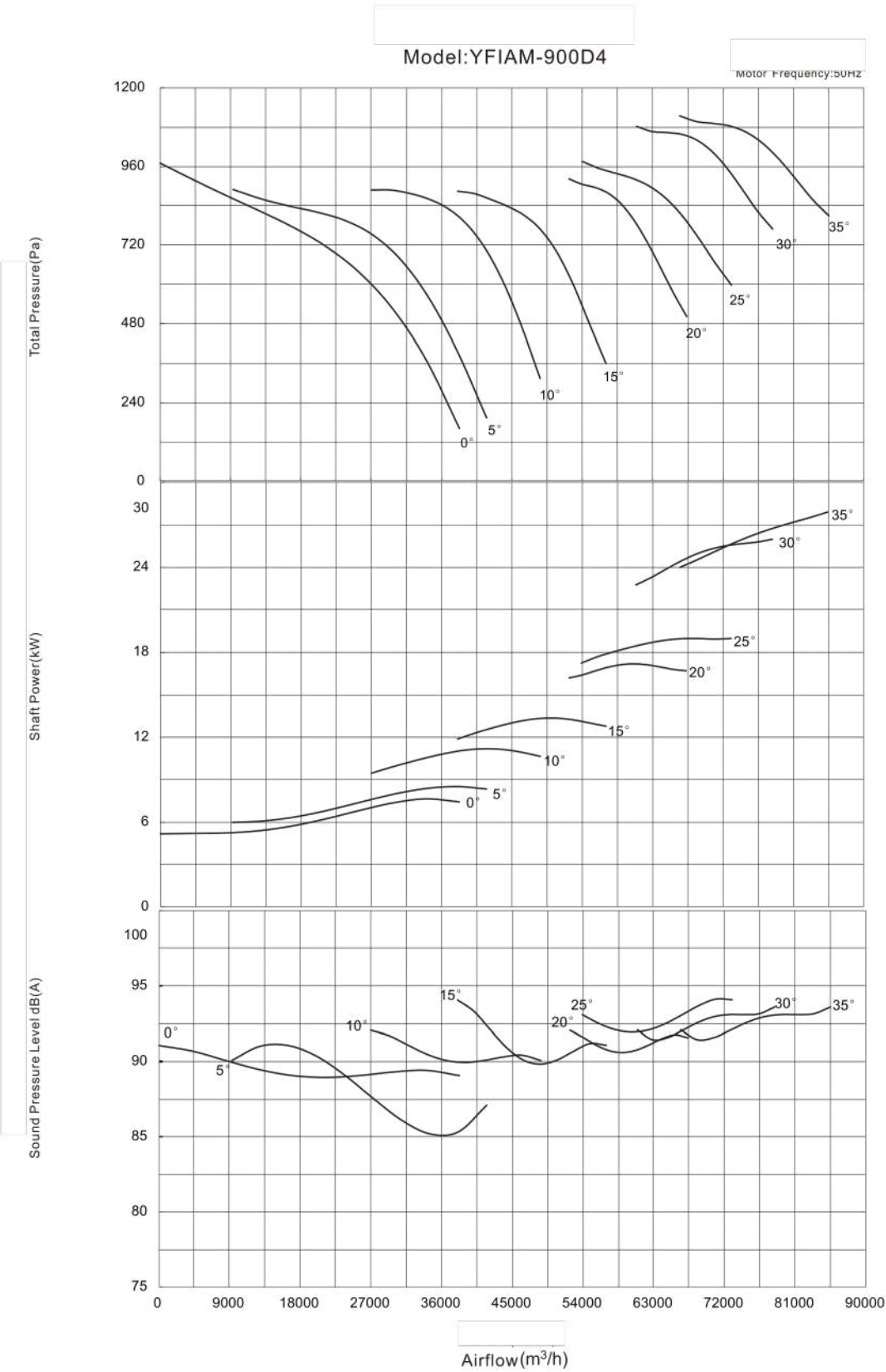
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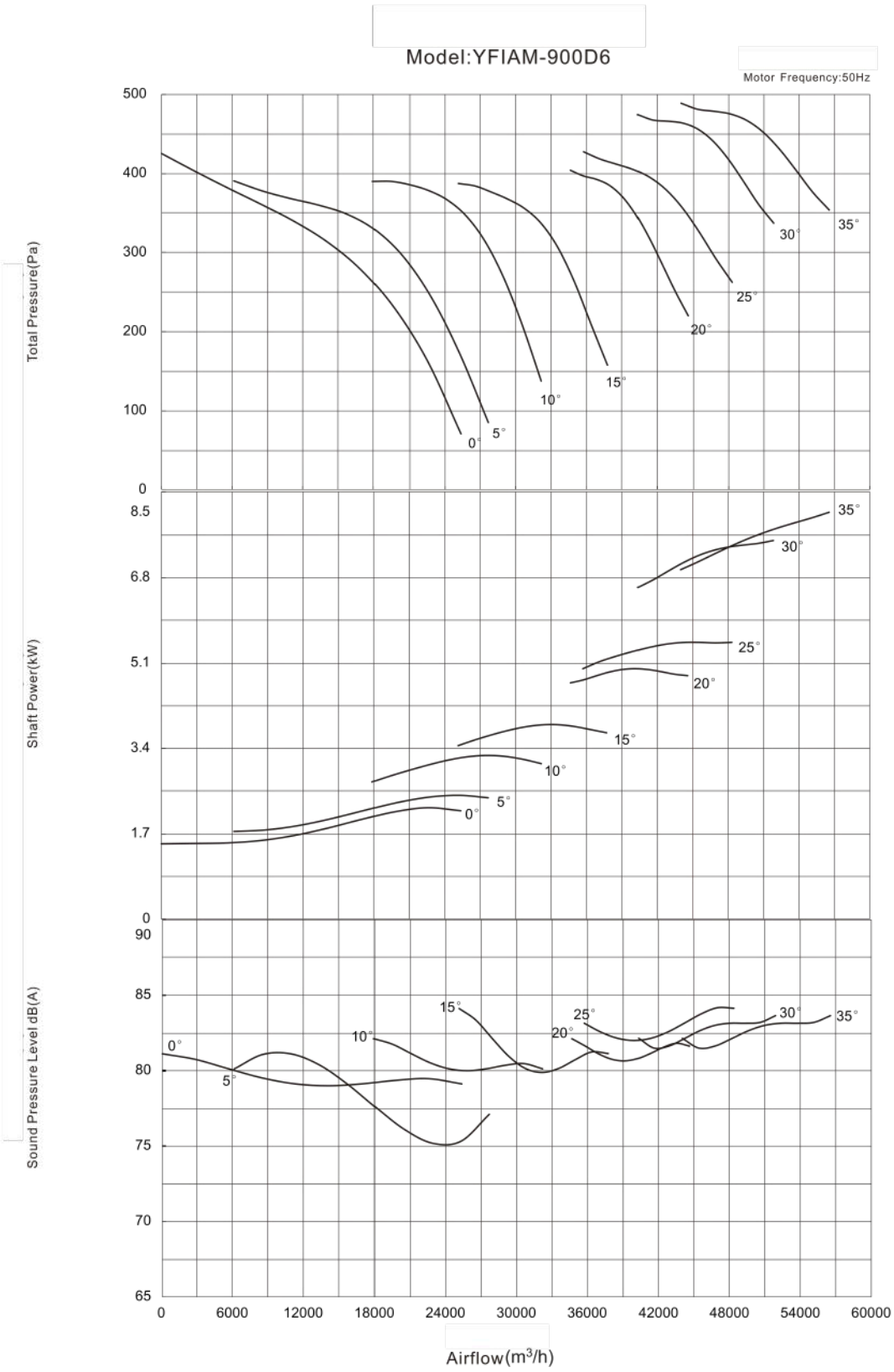
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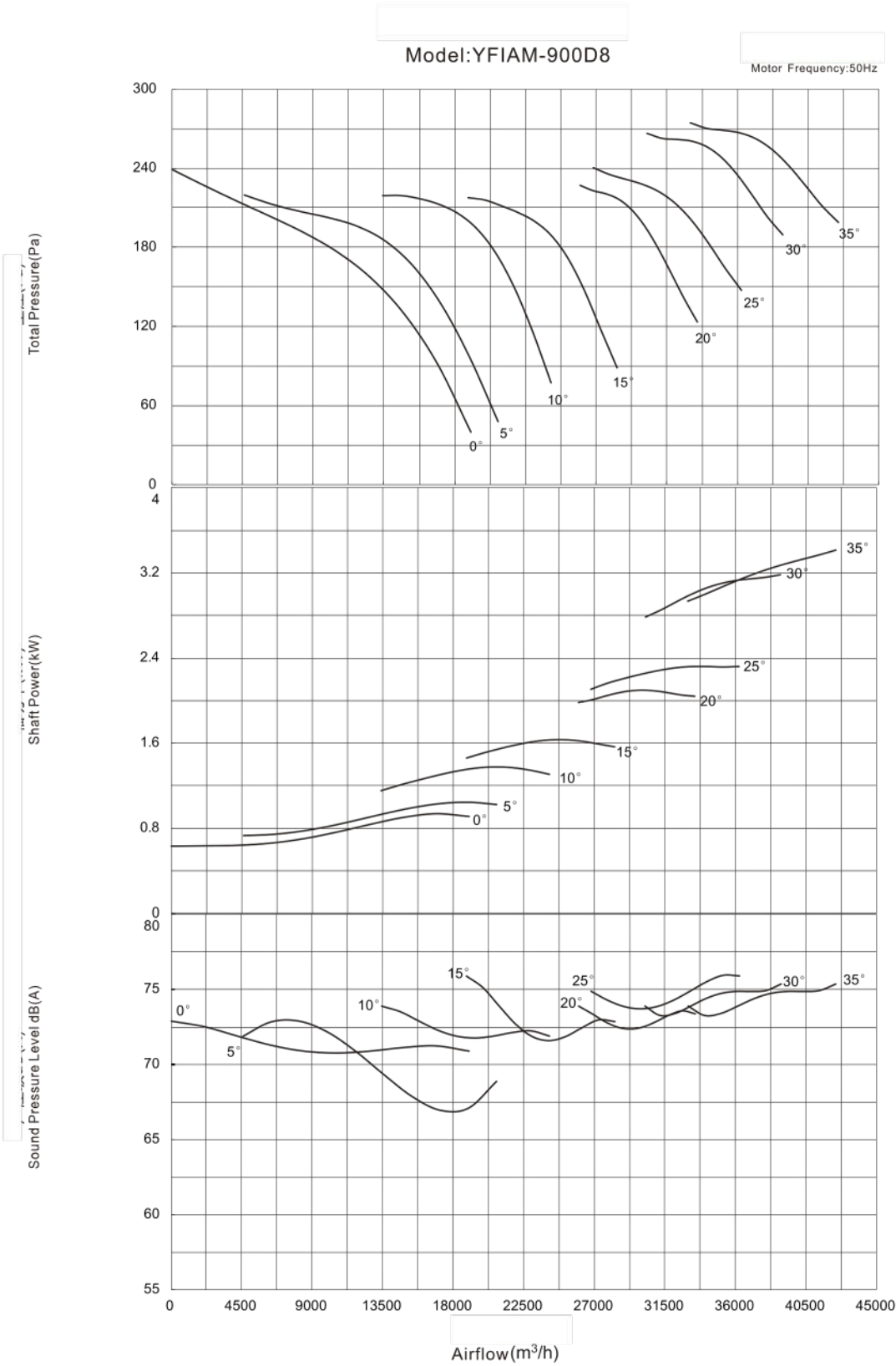
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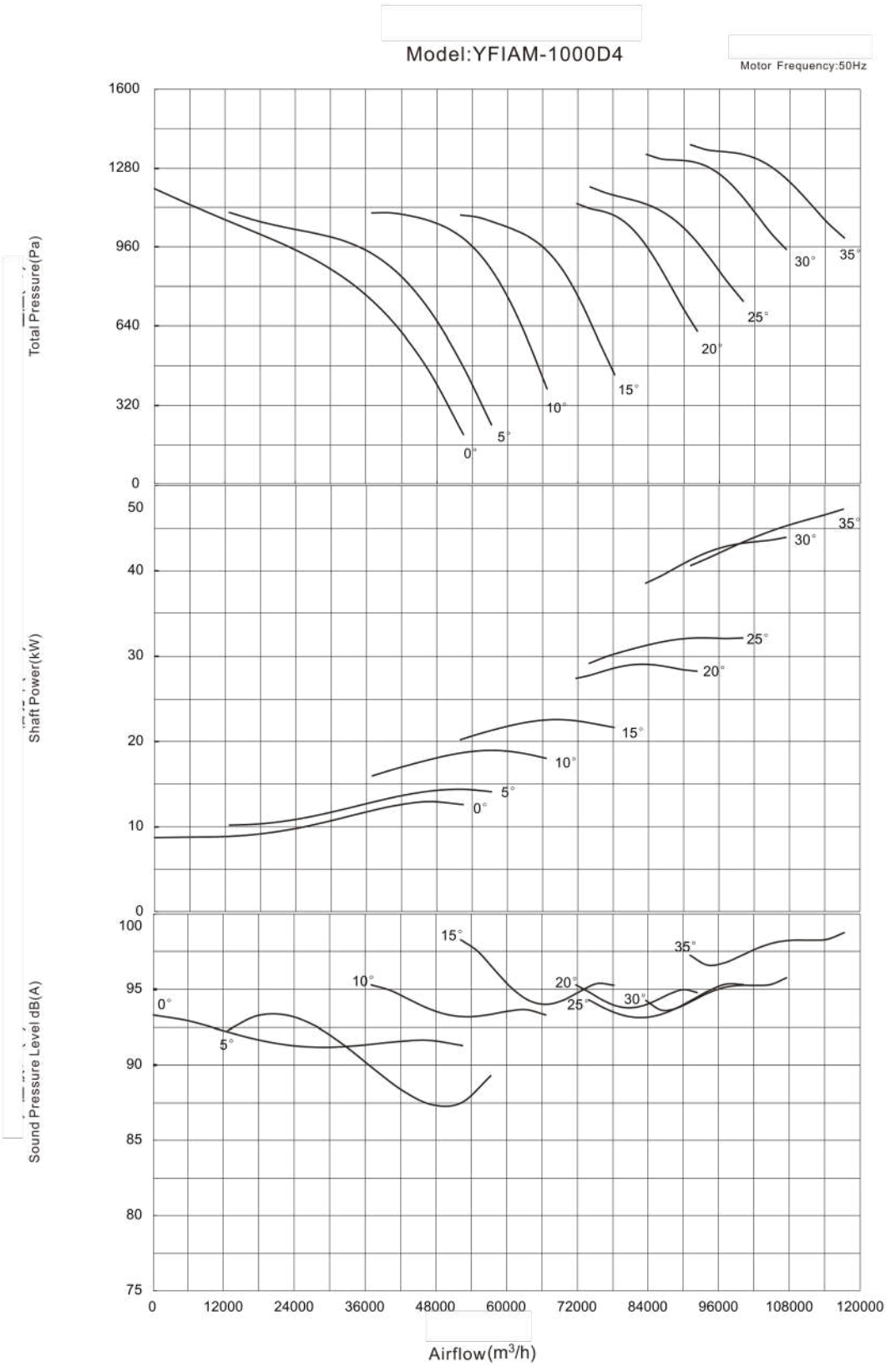
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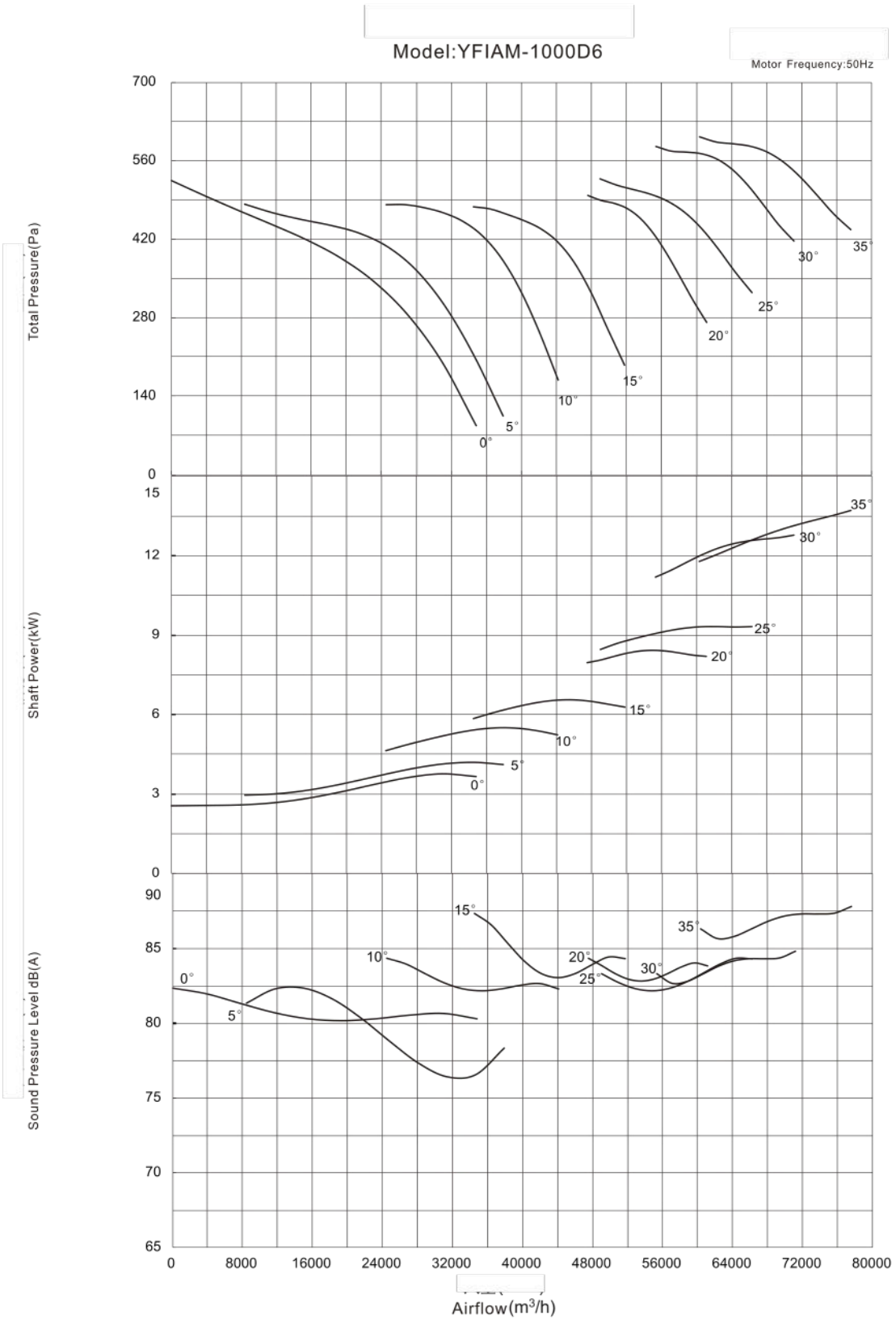
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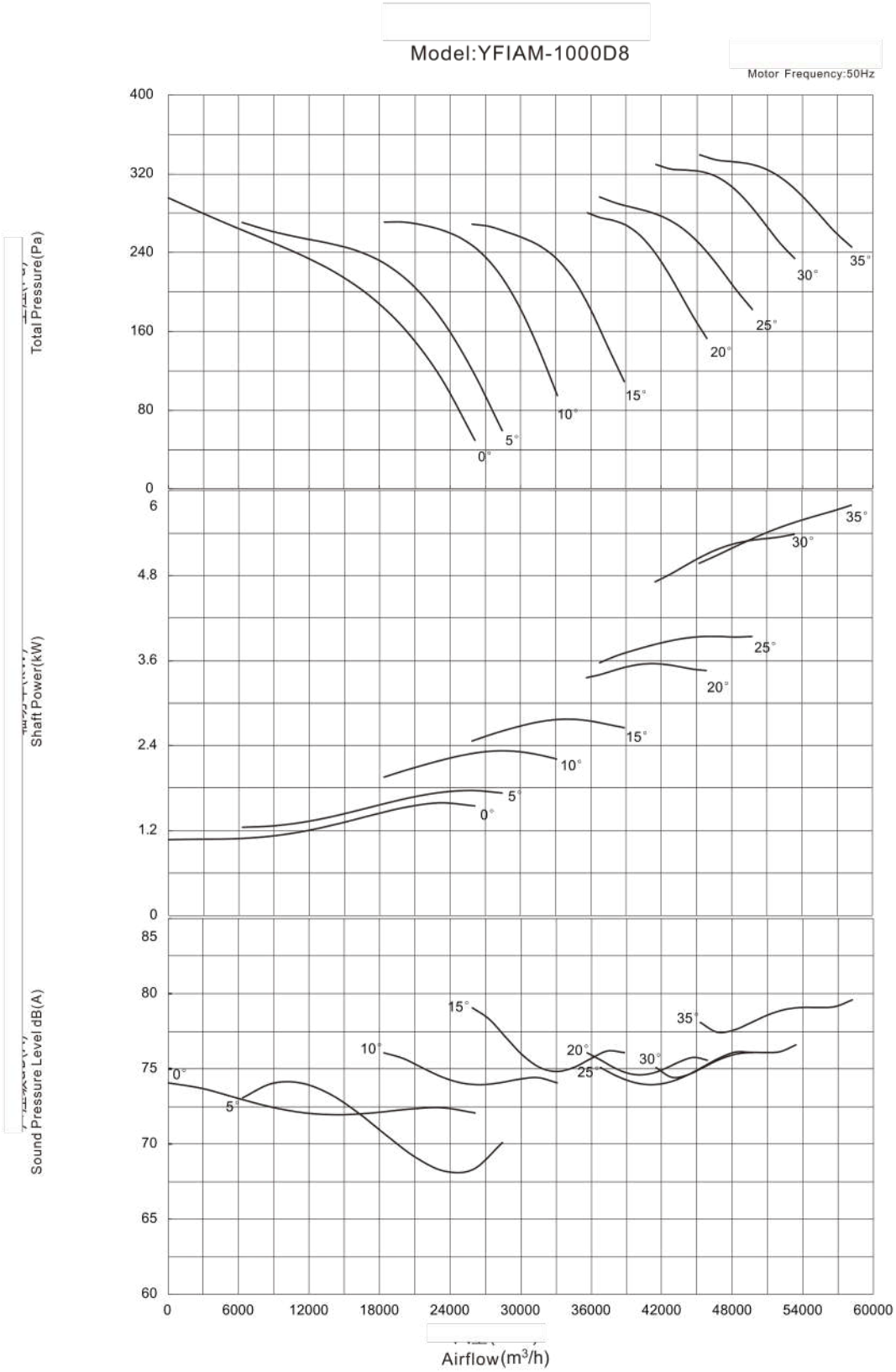
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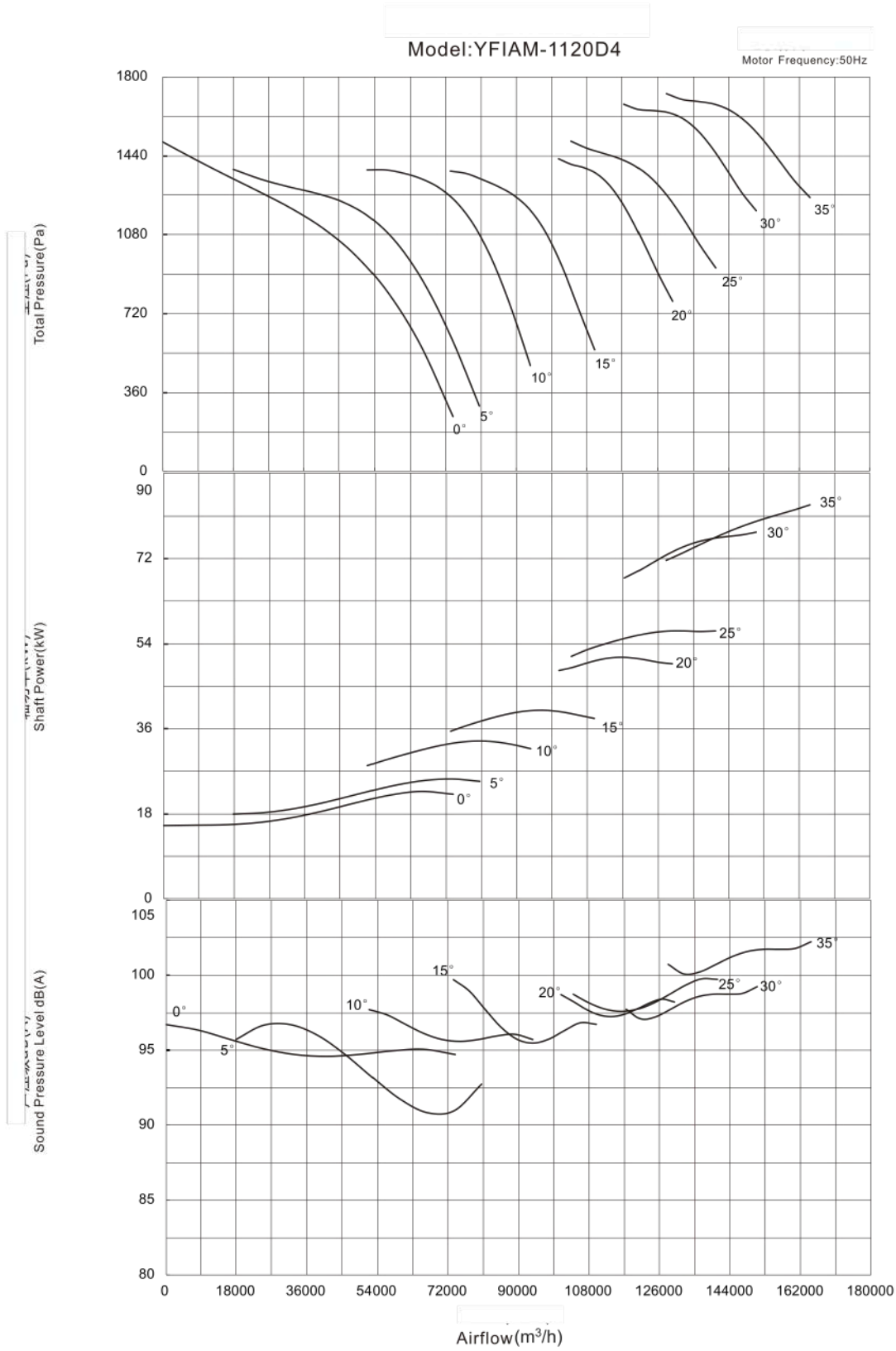
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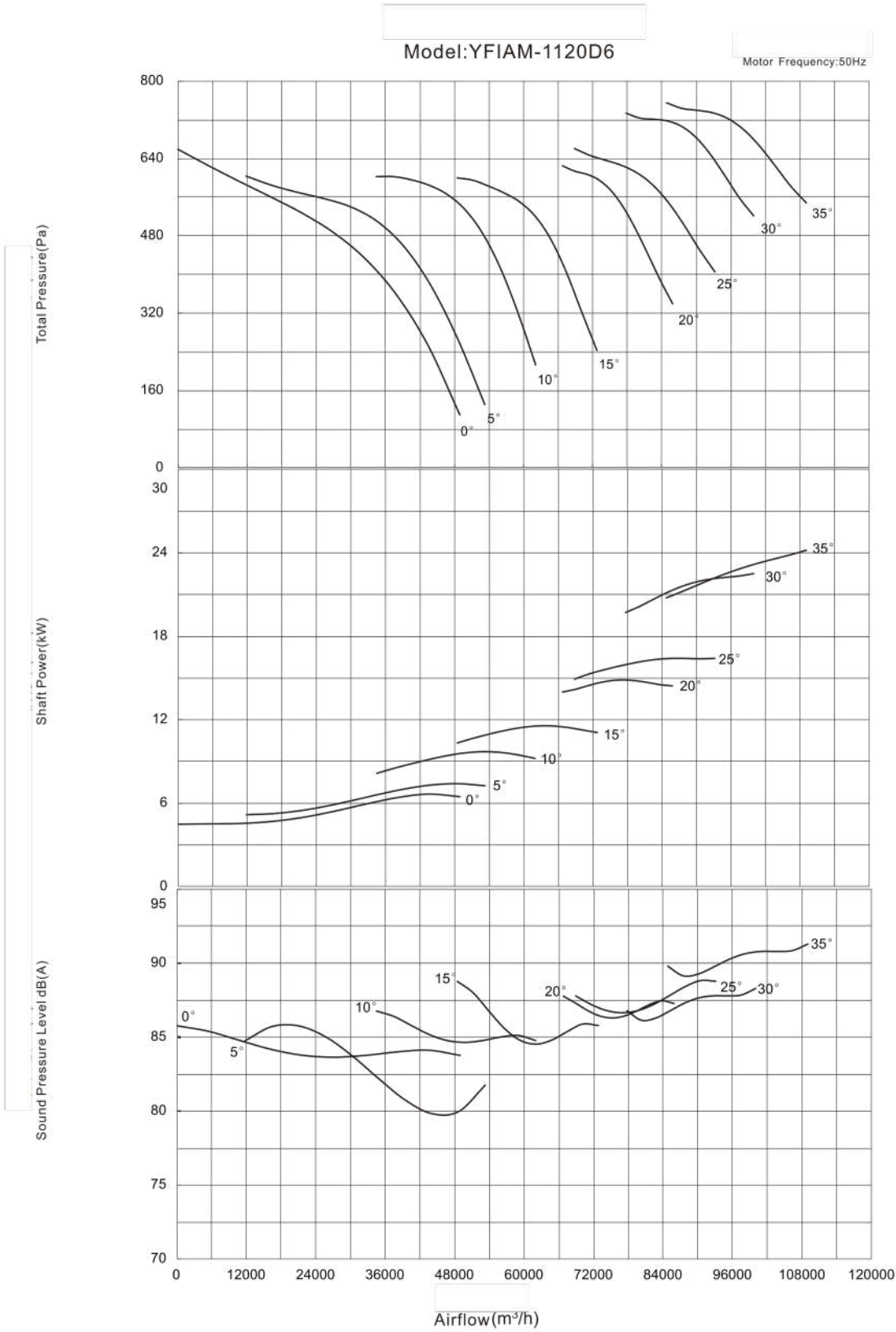
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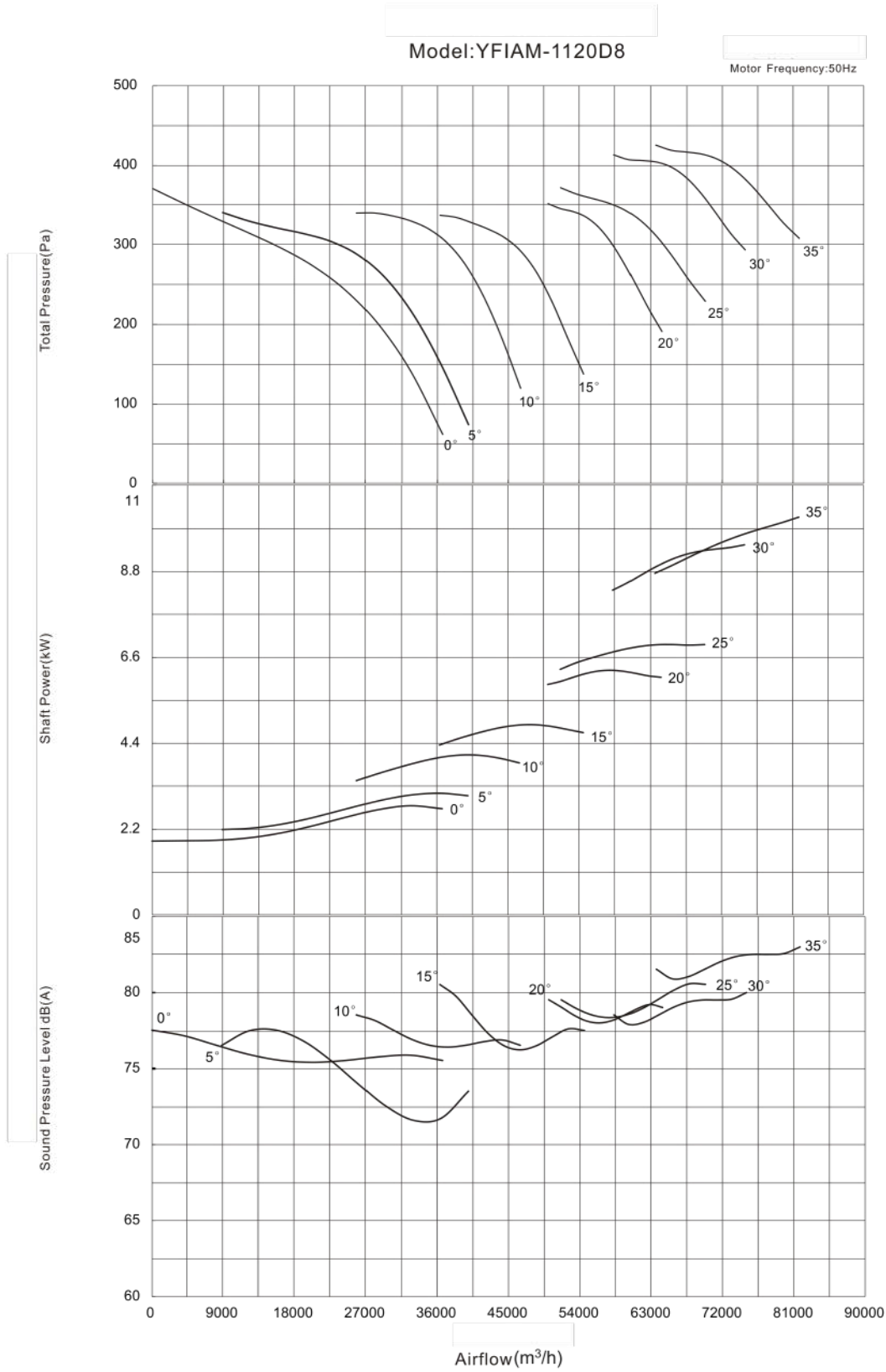
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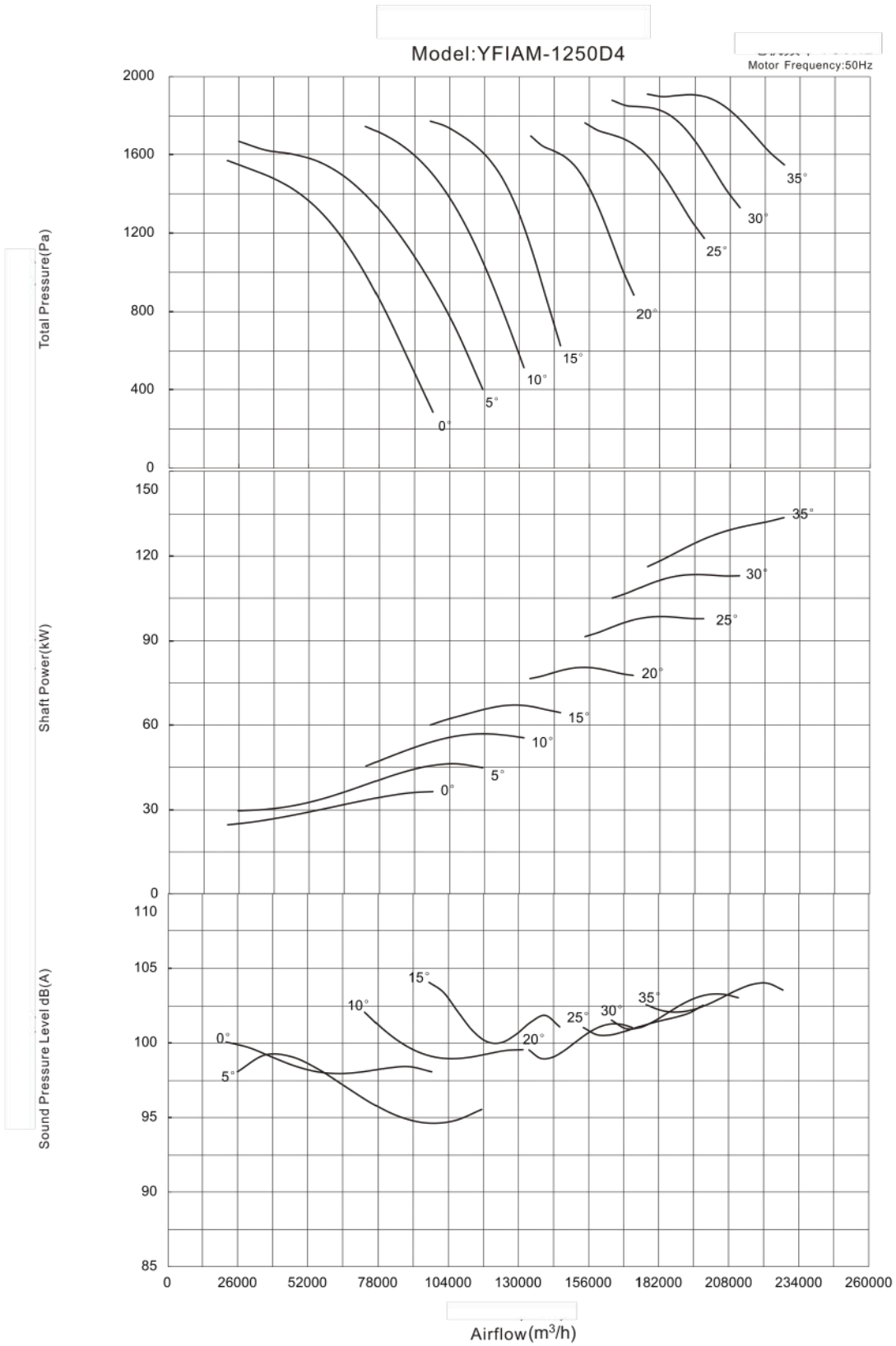
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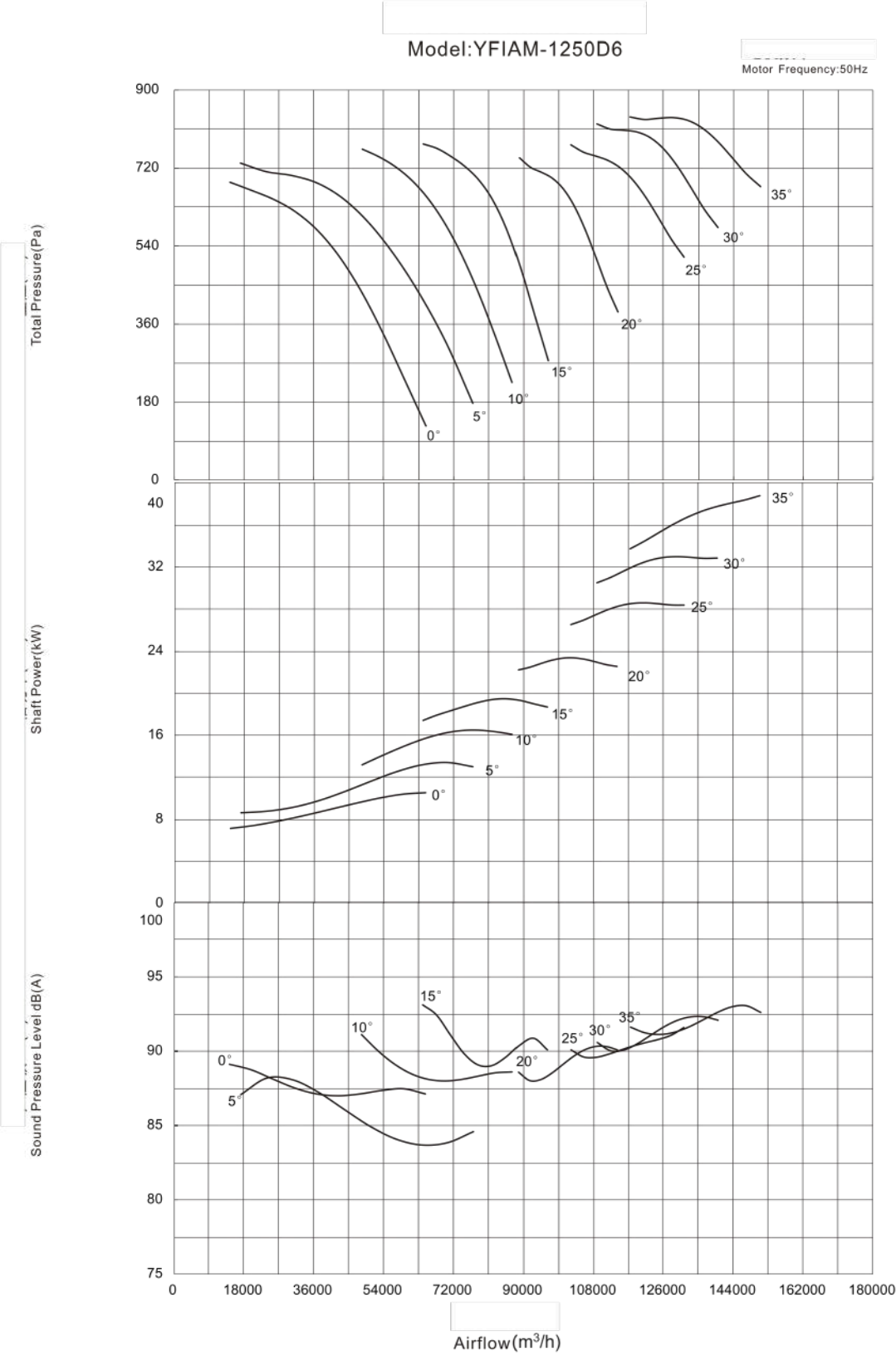
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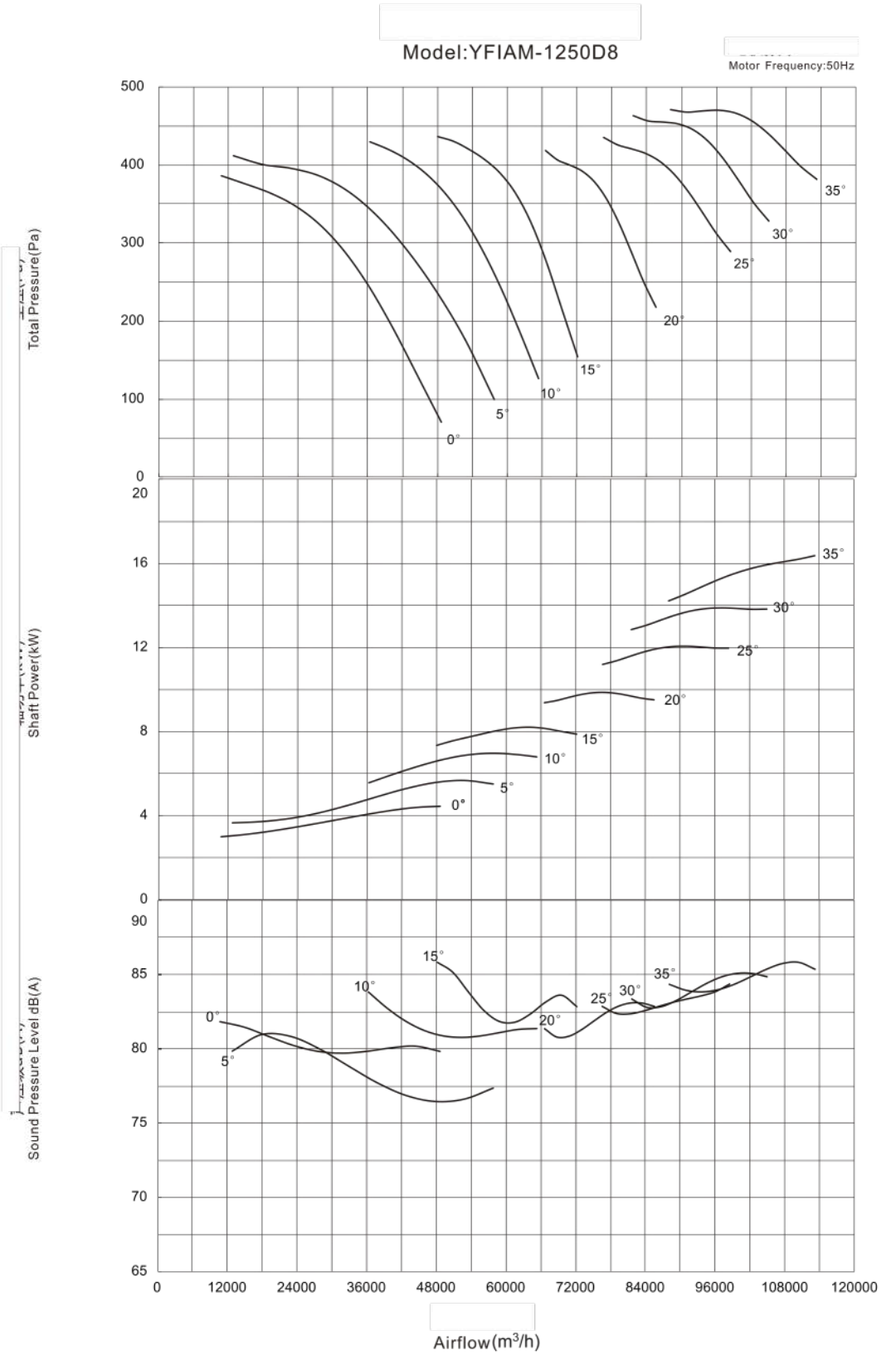
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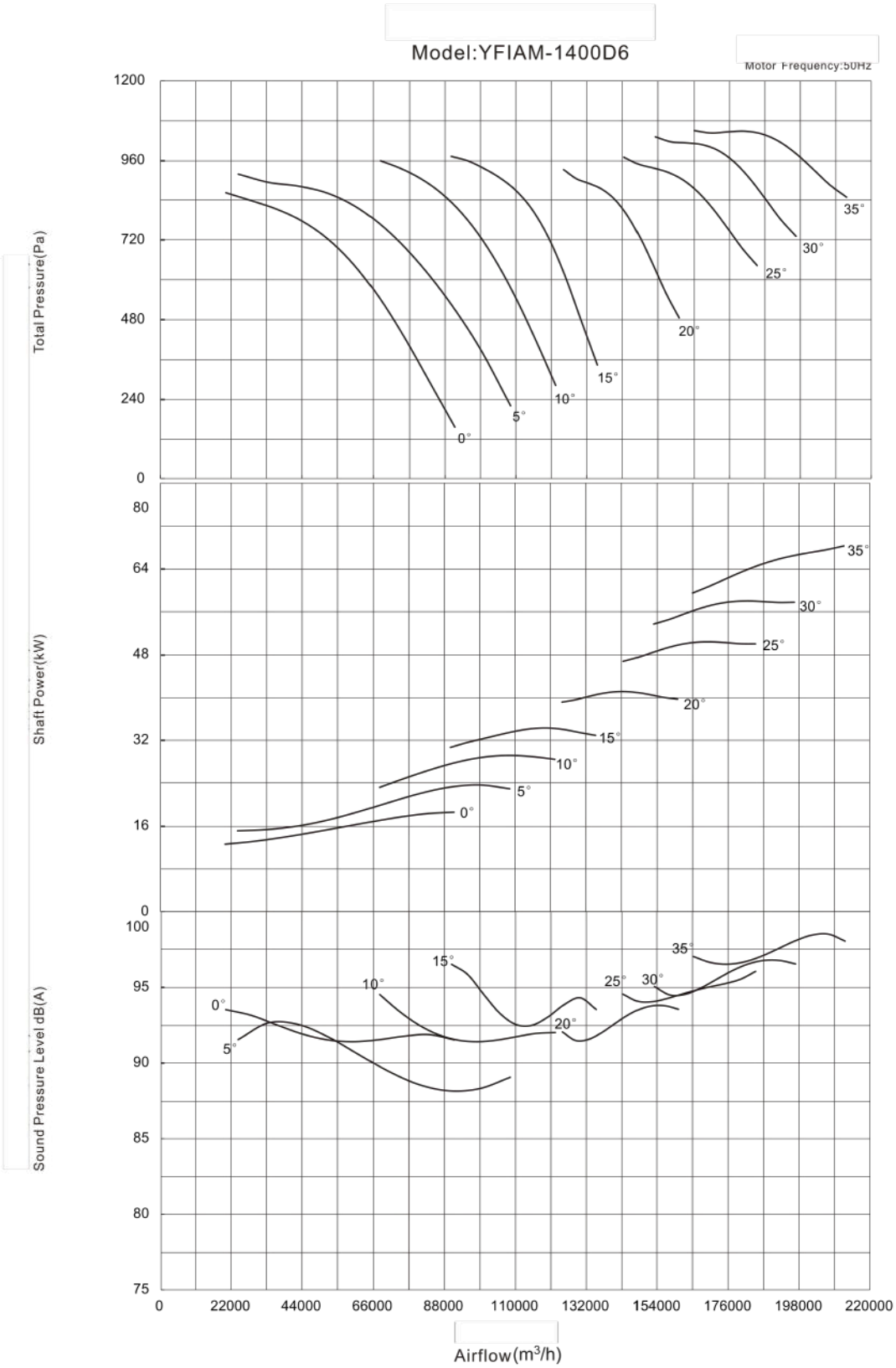
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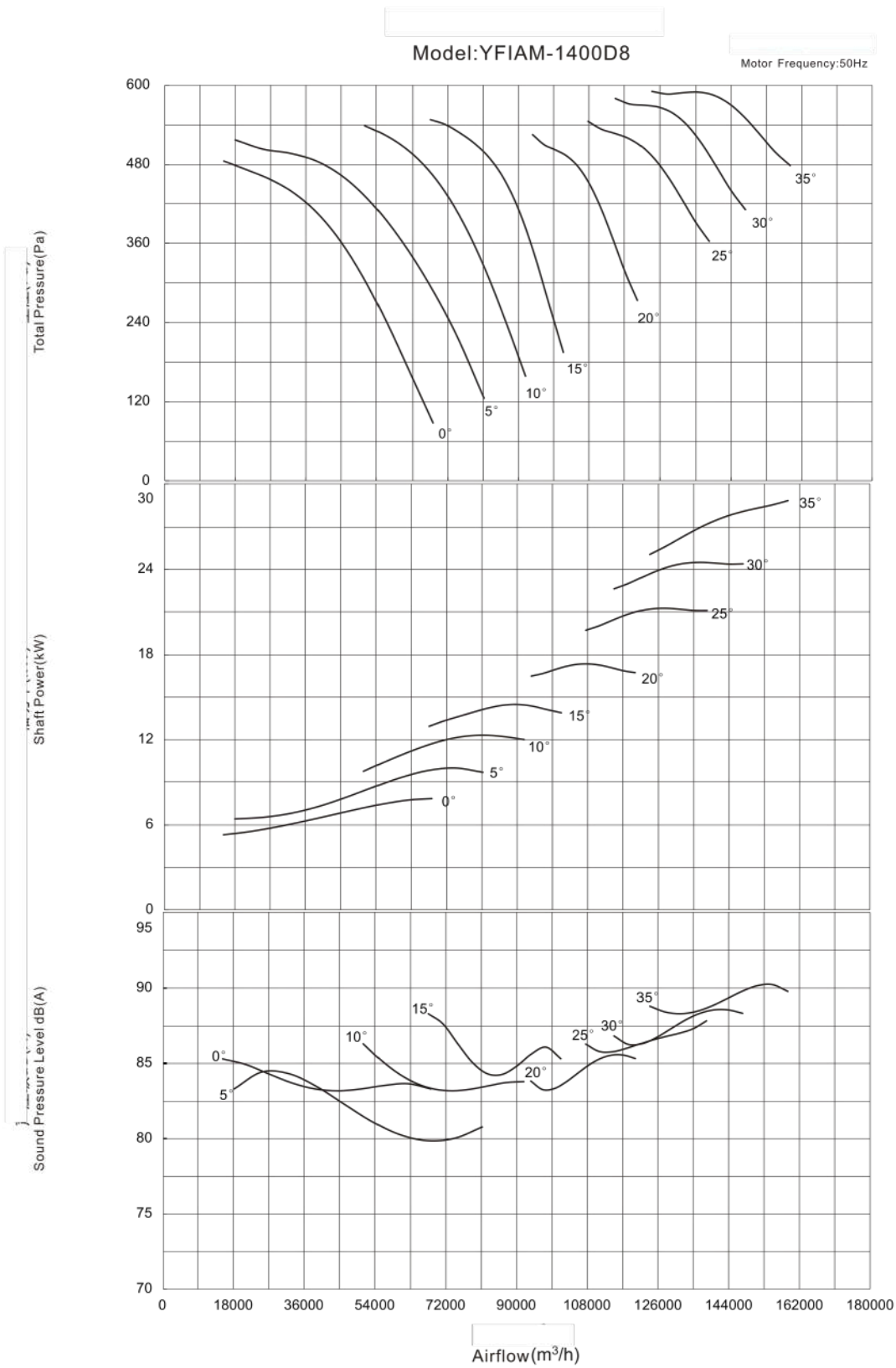
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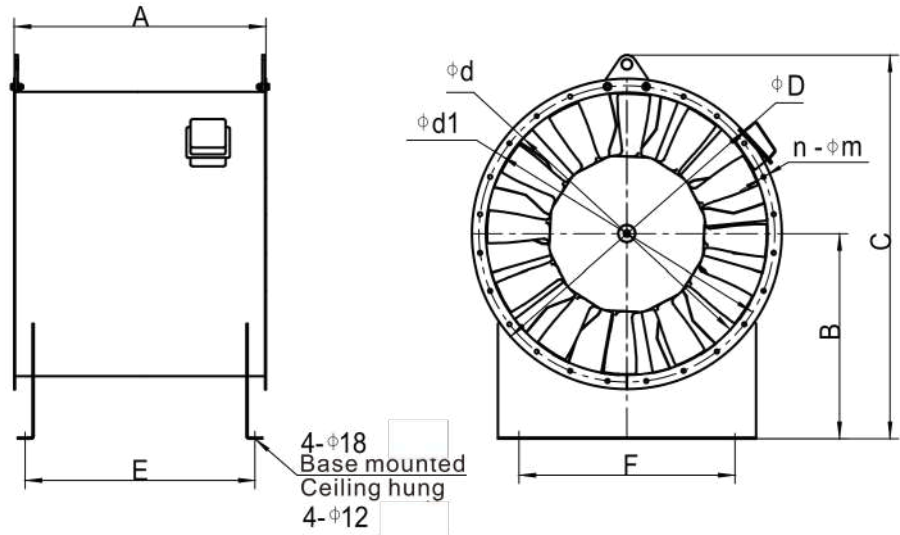
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Performance certified is for installation type B-free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). dB(A)A-weighted sound pressure level is based on 11.5 dB sound attenuation per octave band at 1.5 m. Note that LpA-dB(A) levels are not licensed by AMCA International.

Dimensions and Weight

YFIAM315-1400



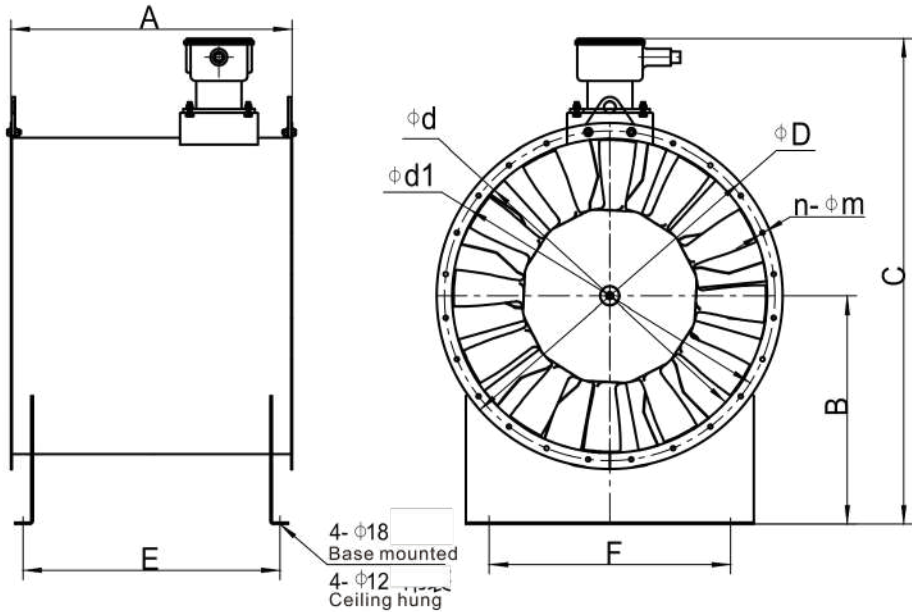
Model	Frame Size	A	B	C	φ D	φ d1	φ d	E	F	n-φ m	Weigh (kg)
YFIAM-315-GT/SR	-	388	210	405	390	356	320	337	220	8-φ 10	11
YFIAM-355-GT/SR	-	388	240	455	430	396	360	337	240	8-φ 10	14
YFIAM-400-GT/SR	-	478	270	515	485	449	405	427	280	8-φ 12	18
YFIAM-450-GT/SR	-	478	310	580	535	499	455	427	325	8-φ 12	21
YFIAM-500-GT/SR	-	478	340	635	585	549	505	417	350	8-φ 12	34
YFIAM-560-GT/SR	-	478	370	695	645	609	565	417	400	8-φ 12	39
YFIAM-630-GT/SR	-	553	400	820	716	679	636	492	470	12-φ 12	45
YFIAM-710-GT/SR	80~112	553	445	910	796	759	716	492	520	12-φ 12	62
	132~160	680						619			65
YFIAM-800-GT/SR	90~132	680	500	1015	887	849	807	612	600	12-φ 12	82
	160~180	780						712			86
	100~132	680						612			98
YFIAM-900-GT/SR	160	780	550	1115	988	954	908	712	680	16-φ 14	118
	180~200	930						862			118
	112~160	780						711			123
YFIAM-1000-GT/SR	180~225	930	600	1215	1089	1054	1009	861	730	16-φ 14	143
	132~180	910						845			195
	200~250	1010						945			200
YFIAM-1120-GT/SR	280	1160	680	1360	1230	1182	1130	1095	790	16-φ 14	212
	160~225	1010						944			239
	250~280	1160						1094			256
YFIAM-1250-GT/SR	160~225	1010	745	1490	1361	1312	1261	944	900	20-φ 14	289
	250~280	1160						1094			309

Note:

1. All the dimensional data are for reference only, subject to the final drawing.
2. Motor is not included in the weight data above. Please refer power and weight of motor to the attached list.

Dimensions and Weight

YFIAM315-1400



Model	Frame Size	A	B	C	φ D	φ d1	φ d	E	F	K	n-φ m	Weigh (kg)
YFIAM-315-EX	-	388	210	405	390	356	320	337	220	460	8-φ 10	12
YFIAM-355-EX	-	388	240	455	430	396	360	337	240	500	8-φ 10	16
YFIAM-400-EX	-	478	270	515	485	449	405	427	280	555	8-φ 12	20
YFIAM-450-EX	-	478	310	580	535	499	455	427	325	605	8-φ 12	21
YFIAM-500-EX	-	478	340	635	585	549	505	417	350	783	8-φ 12	36
YFIAM-560-EX	-	478	370	695	645	609	565	417	400	858	8-φ 12	42
YFIAM-630-EX	-	553	400	820	716	679	636	492	470	928	12-φ 12	48
YFIAM-710-EX	80~112	553	445	910	796	759	716	492	520	1025	12-φ 12	66
	132~160	680						619		1025		70
YFIAM-800-EX	90~132	680	500	1015	887	849	807	612	600	1120	12-φ 12	88
	160~180	780						712		1120		92
	100~132	680						612		1250		105
YFIAM-900-EX	160	780	550	1115	988	954	908	712	680	1250	16-φ 14	126
	180~200	930						862		1250		126
	112~160	780						711		1350		129
YFIAM-1000-EX	180~225	930	600	1215	1089	1054	1009	861	730	1350	16-φ 14	150
	132~180	910						845		1515		205
	200~250	1010						945		1515		210
YFIAM-1120-EX	280	1160	680	1360	1230	1182	1130	1095	790	1515	16-φ 14	223
	160~225	1010						944		1645		251
	250~280	1160						1094		1645		269
YFIAM-1250-EX	160~225	1010	745	1490	1361	1312	1261	944	900	1800	20-φ 14	303
	250~280	1160						1094		1800		324

Note:

1. All the dimensional data are for reference only, subject to the final drawing.
2. Motor is not included in the weight data above. Please refer power and weight of motor to the attached list.

Reference Weight and Power of Motor

(kW)	2P		4P		6P		8P	
	Frame Size	Weight (kg)	Frame Size	Weight (kg)	Frame Size	Weight (kg)	Frame Size	Weight (kg)
0.18					711-6	14	801-8	16
0.25			711-4	14	712-6	14.5	802-8	17
0.37	711-2	15	712-4	14.5	801-6	16	90S-8	24
0.55	712-2	16	801-4	15	802-6	17	90L-8	28
0.75	801-2	17	802-4	18	90S-6	23	100L1-8	33
1.1	802-2	19	90S-4	22	90L-6	25	100L2-8	38
1.5	90S-2	21	90L-4	27	100L-6	33	112M-8	45
2.2	90L-2	25	100L1-4	34	112M-6	45	132S-8	63
3	100L-2	33	100L2-4	38	132S-6	63	132M-8	79
4	112M-2	45	112M-4	43	132M1-6	73	160M1-8	110
5.5	132S1-2	64	132S-4	68	132M2-6	84	160M2-8	121
7.5	132S2-2	70	132M-4	81	160M-6	121	160L-8	147
11	160M1-2	110	160M-4	118	160L-6	145	180L-8	182
15	160M2-2	120	160L-4	132	180L-6	178	200L-8	290
18.5			180M-4	164	200L1-6	200	225S-8	376
22			180L-4	182	200L2-6	228	225M-8	303
30			200L-4	245	225M-6	265	250M-8	400
37			225S-4	258	250M-6	370	280S-8	522
45			225M-4	290	280S-6	490		
55			250M-4	388	280M-6	540		
75			280S-4	510				
90			280M-4	606				

Note: The weight data of motor above are only for reference as different brands of motors are also different in weight.

Installation

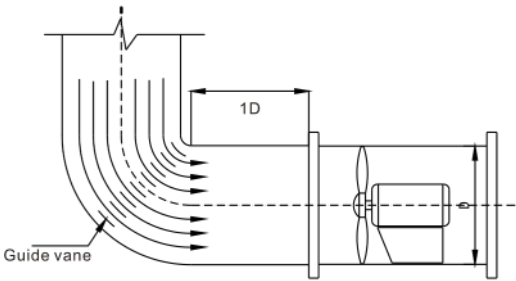


Base mounted

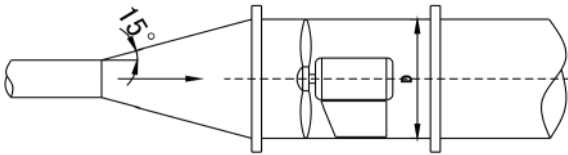


Ceiling hung

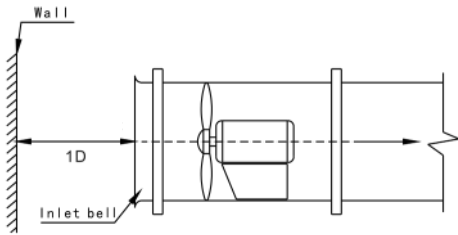
Typical Applications



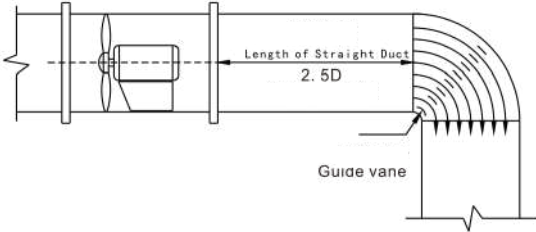
Ducted inlet application



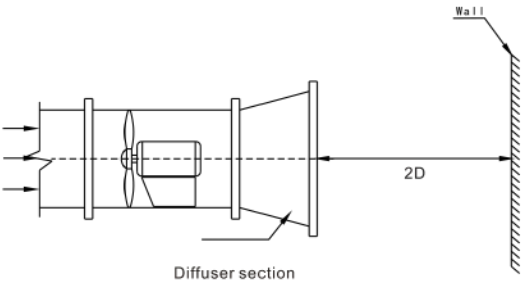
Ducted inlet application



Non-ducted inlet application



Ducted outlet application



Non-ducted outlet application

Technical Specification

Section One: Fan Type

It shall be vane-axial fan with airfoil blades. The fan shall be direct driven and in a cylindrical structure. Behind the impeller in the cylindrical body, there shall be guiding vanes for airflow straightening. The guiding vane shall have a three-dimensional curved surface in line with flow field characteristics for better air performance and static pressure efficiency.

Section Two: Impeller

It shall be an axial impeller with airfoil blades of variable angles to ensure that right models can be selected for various operating conditions. The impeller shall have a vortex hub to eddy formations and airfoil blades of optimum air performance. Stable airflow and low sound shall be ensured at the maximum running speed. Die formed with cast aluminum, the hub and blades shall be strong enough to maintain operational reliability and safety at a speed 120% of the maximum speed. The impeller should be subject to dynamic balancing tests up to AMCA 204- G2.5 balance quality grade so that its operational stability can be improved and service life extended.

Section Three : Quality Standards

Fan performance shall be tested in accordance with the International Air Movement and Control Association (AMCA) No. 210 and 300 standards. AMCA seal for sound, air performance and FEG shall be tagged on each fan before leaving the factory. The manufacturer shall pass the ISO9001, ISO14001 and ISO45001 system certifications issued by SGS.

Section Four: Fan Housing

The fan housing shall be made of quality carbon steel and continuously welded and use lap joint flanges. For the fan housing with the impeller diameter of less than 500mm, the carbon steel thickness should be no less than 2mm; For the fan housing with the impeller diameter between 500 and 1000mm, the carbon steel thickness should be no less than 2.5mm; For the fan housing with the impeller diameter of over 1000mm, the carbon steel thickness should be no less than 3mm. All these are to ensure the fan's operational safety and reliability over a long period of time and extend its service life.

Section Five: Surface Processing

The surface of the fan shall be polished to remove any protuberances, welding spatters, burrs, sharp edges and scrap iron. Then it shall undergo the processes of oil removal, pickling, parkerizing, applying putty before being finished with electrostatic epoxy coatings processed under high temperature for strong adhesion. The surface shall be a level one without sags, cracks, cockles or detachment to avoid corrosion over a long period of time.

Section Six:Motor

It shall be B5 motor or B14 motor. The motor is IP55 rated with Class F Insulation (Class H Insulation for Smoke Removal) and Temperature Rise Class B. Lubrication-free ball bearings shall be used. The coefficient of power reserve of the selected motor shall be over 110% to ensure safe operation. As the motor is located inside the fan, it is the supplier that shall provide the appropriate external junction box based on the actual application.

Section Seven:Explosion-proof Structure (Only for explosion-proof type)

The wheel of the explosion-proof fan shall be made in cast aluminum and the motor shall adopt explosion-proof type. The whole fan should own CNEX certification.

Section Eight:Fire fighting Certification(Only for smoke removal duty)

The fan shall be tested OK in complying with the General Usage Axial Fan technical Specification (China National Standard JB/T 10562-2006). A test report issued by licensed authorities shall be provided. The fan must be tested according to China National Standard XF 211-2009, Fire Fighting Smoke Removal Fan High Temperature Testing Method, running continuously over 30 minutes when the main duct air temperature is 280 degrees centigrade. The high temperature resistance character must be qualified by presenting an official certificate.

Section Nine: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.

Section Ten:Qualified suppliers

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

INFINAIR Intelligent Ventilation Technology

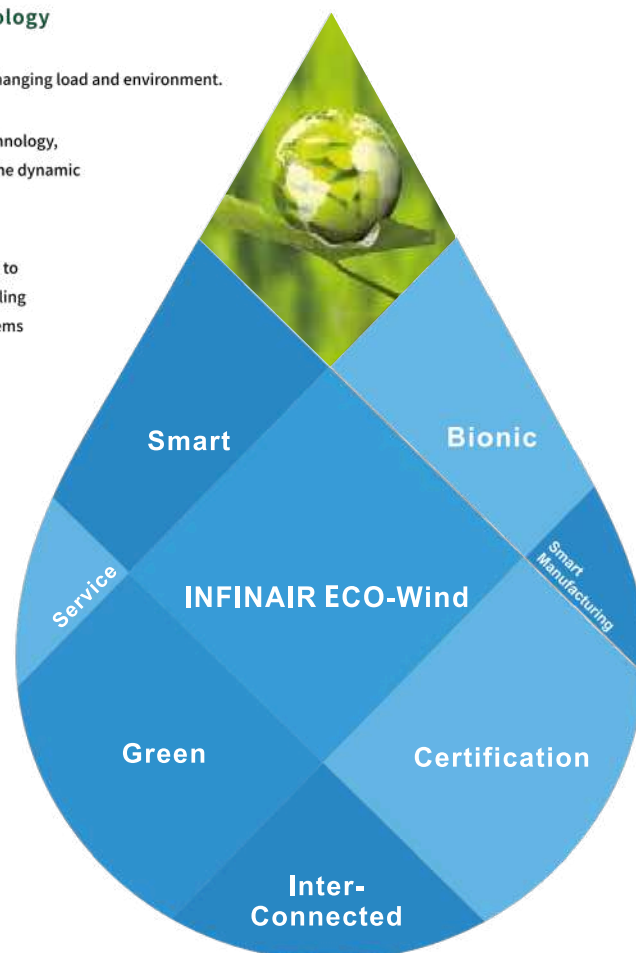
- **Smart Needs Identification**
Dynamically adjusting the operation target to the changing load and environment.
- **Intelligent Adjustment**
Utilizing variable frequency or EC smart control technology, performance is finely tuned to actual needs under the dynamic control of intelligent speed regulation 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
- 6 Σ 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.

