

INFINAIR™

YFBCQQ

Plenum Centrifugal Fan

- Operating Range: Airflow up to 80,000 m^3/h , static pressure up to 2500 Pa.
- Q-type backward steel centrifugal impeller: high efficiency, non-overloading.
- Spin-formed venturi inlet cone: minimal airflow loss.
- Impeller balance grade up to G4.0: reduces noise and vibration.
- Equipped with a variable frequency motor: achieves stepless speed regulation, wide selection range, and significant energy-saving potential.
- Direct-drive transmission: no wear parts, maintenance-free. Operating Temperature Range: $-40^\circ\text{C} \sim 80^\circ\text{C}$.



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



Impeller Features

Optimized Design

The Euro-Forest™ Series Q-type backward-curved centrifugal impeller is optimized using CFD (Computational Fluid Dynamics) simulation technology and validated by an AMCA-accredited laboratory. This ensures the impeller better aligns with flow field characteristics, providing high efficiency, low noise, and stable airflow.

Wide High-Efficiency Range

The impeller's aerodynamic performance curve is smooth and flat, offering a broad high-efficiency operating range. This effectively prevents performance degradation caused by deviations from the design operating point during use.

Advanced Manufacturing Process

The blades are made of steel using plasma cutting and positioned with precision fixtures. Utilizing a full-welding process, the blade edges are smooth, welding angles are accurate, and the overall structural strength is high. This ensures uniform stress distribution during long-term high-speed operation, resulting in smooth and reliable performance.

High Balance Grade

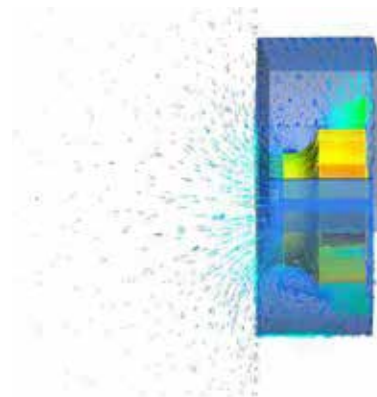
Every impeller undergoes dynamic balance testing, maintaining a G4.0 balance grade (whereas similar domestic and international products typically only reach G6.3). This fundamentally guarantees long-term quiet and stable fan operation.

Non-Overloading

Since this series of fan impellers features a peak shaft power, the motor is selected based on this peak value combined with a power safety factor. Consequently, regardless of the operating point within the stable working range, the fan's shaft power will never exceed the motor's rated power, providing users with complete peace of mind.



Q-type Impeller — Maximum Pressure 2500 Pa



Impeller Features

High Efficiency and Energy Saving

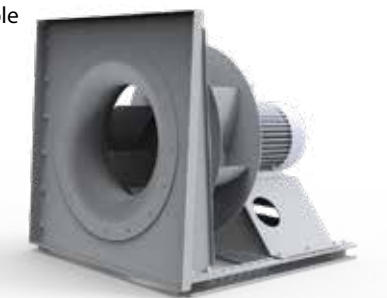
- Adopts CFD-optimized backward centrifugal impeller, reaching FEG85 efficiency level (AMCA Standard 205).
- The arc-shaped pressure expansion section between the impeller front shroud outlet and the base plate significantly improves the static pressure conversion capacity.
- Simulates real application scenarios to optimize aerodynamic performance; wide high-efficiency range ensures energy-saving operation under multiple working conditions.
- Aerodynamic and noise performance verified by AMCA accredited laboratory.
- Equipped with a variable frequency motor (VFD) for stepless speed regulation based on site requirements, offering great energy-saving potential.

High Reliability

- The backward centrifugal impeller inherently has a peak power consumption, featuring non-overloading characteristics.
- Adopts CAE structural simulation optimization design to enhance structural reliability.
- Airflow components are formed using advanced processes, ensuring high processing consistency and guaranteed performance.
- Impeller balance grade up to G4.0 (AMCA Standard 204).
- Factory-wide vibration testing, with vibration levels reaching BV-3.
- The structure adopts direct drive, with no easily wearable parts, ensuring more reliable operation.

High Cost-Performance

- High-efficiency and energy-saving features significantly reduce operating costs.
- Compact structure saves space and reduces initial investment.
- Achieves optimal airflow distribution, minimizing associated performance losses.
- Direct-drive structure with no wear parts reduces high maintenance costs.
- Reliable quality and long-lasting durability.



Laboratory

Established in 2006, the INFINAIR Laboratory underwent a major expansion in 2013 with an investment of over 13 million RMB. Today, it features four operational wind chambers, including two ultra-large chambers with a capacity of 200,000 m³/h, one medium chamber of 30,000 m³/h, and one high-precision micro chamber of 7,000 m³/h. The facility also includes a large reverberation room, a semi-anechoic chamber, a high-temperature lab, and an extra-large vibration testing platform, making it a world-class, industry-leading integrated testing and inspection center.

Garantía de Precisión:
The INFINAIR Aerodynamics and Acoustics Laboratory ensures accuracy through the following measures:

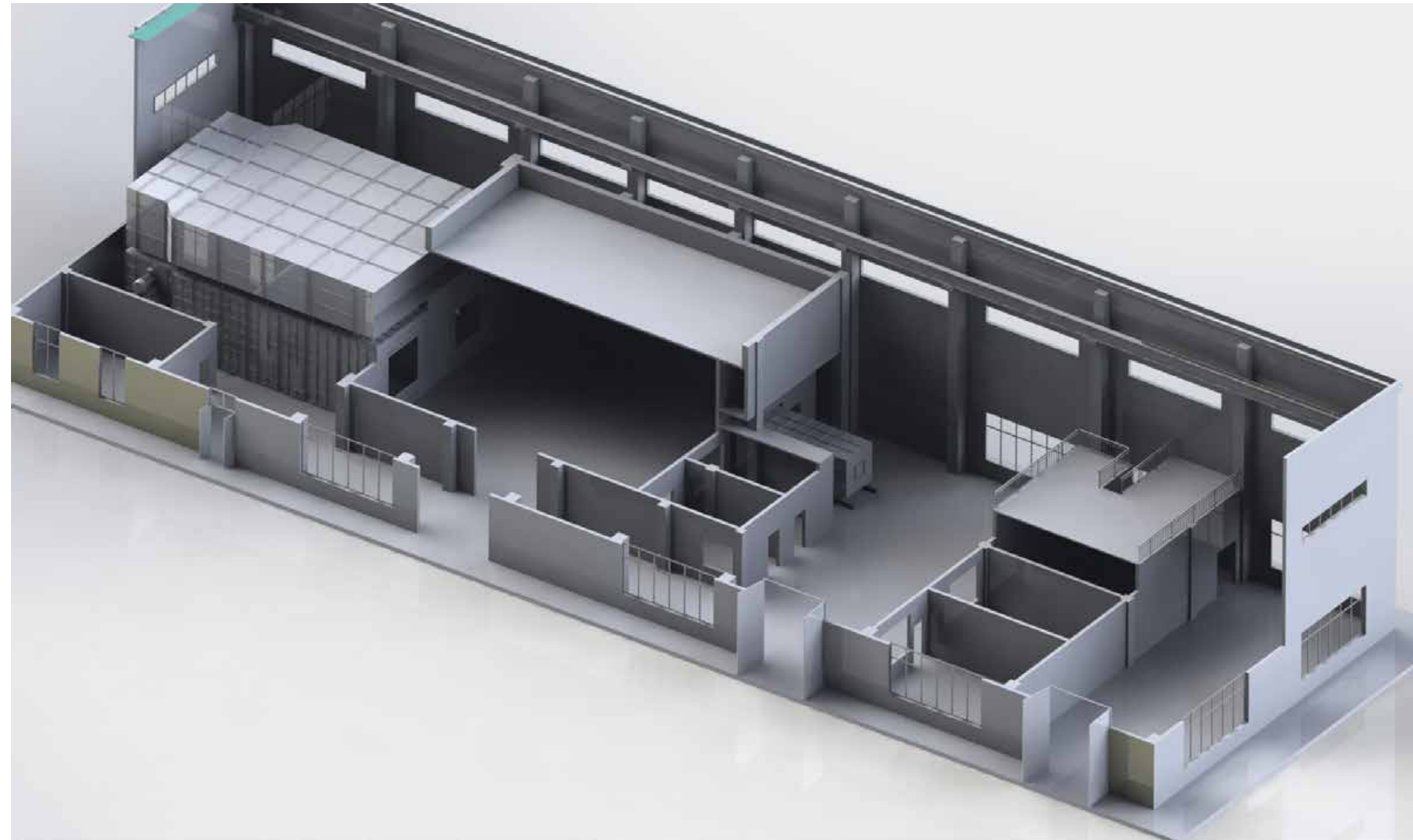
Standard Compliance: Design, construction, and testing operations strictly follow AMCA 210, AMCA 300, ISO 5801 (GB/T 1236), ISO 13350 (GB/T 19843), and ISO 5802 (GB/T 10178) standards.

Advanced Methodology: Aerodynamic performance testing utilizes the advanced multi-nozzle method instead of traditional Pitot static tubes to achieve higher precision in airflow measurement.

State-of-the-Art Equipment: Extensive use of the latest high-precision testing instruments and measuring devices.

Rigorous Calibration: Laboratory equipment and measuring tools undergo strict calibration, periodic re-inspection, and self-verification.

Alcance de las Pruebas:
The testing scope of the INFINAIR Laboratory includes: aerodynamic performance, acoustic testing, vibration testing, high-temperature fire safety testing, and jet fan thrust measurement. Additionally, the lab performs motor energy efficiency testing and physical/chemical analysis.



Test Verification Capability



Air Chamber:

Infinair Labs has constructed two air chambers for EC fans in accordance with AMCA 210 and GB/T 1236 standards, with a measurable airflow range of 300-30,000 m^3/h . Infinair Laboratory is the first laboratory in mainland China to receive AMCA accreditation. The Infinair air chambers can conduct performance tests on various fan models, ensuring that airflow, air pressure, and other performance metrics meet customers' actual needs during the R&D and production of EC fans.



Noise Test:

In accordance with GB/T 6882 and ISO 3745 standards, Infinair Labs has constructed a hemi-anechoic chamber for noise testing. Utilizing world-class equipment from the Danish brand B&K, we can measure the noise levels of fans and motors at 1/3 octave intervals. This provides an analytical basis for the noise control of Infinair fans, ensuring their low-noise performance.



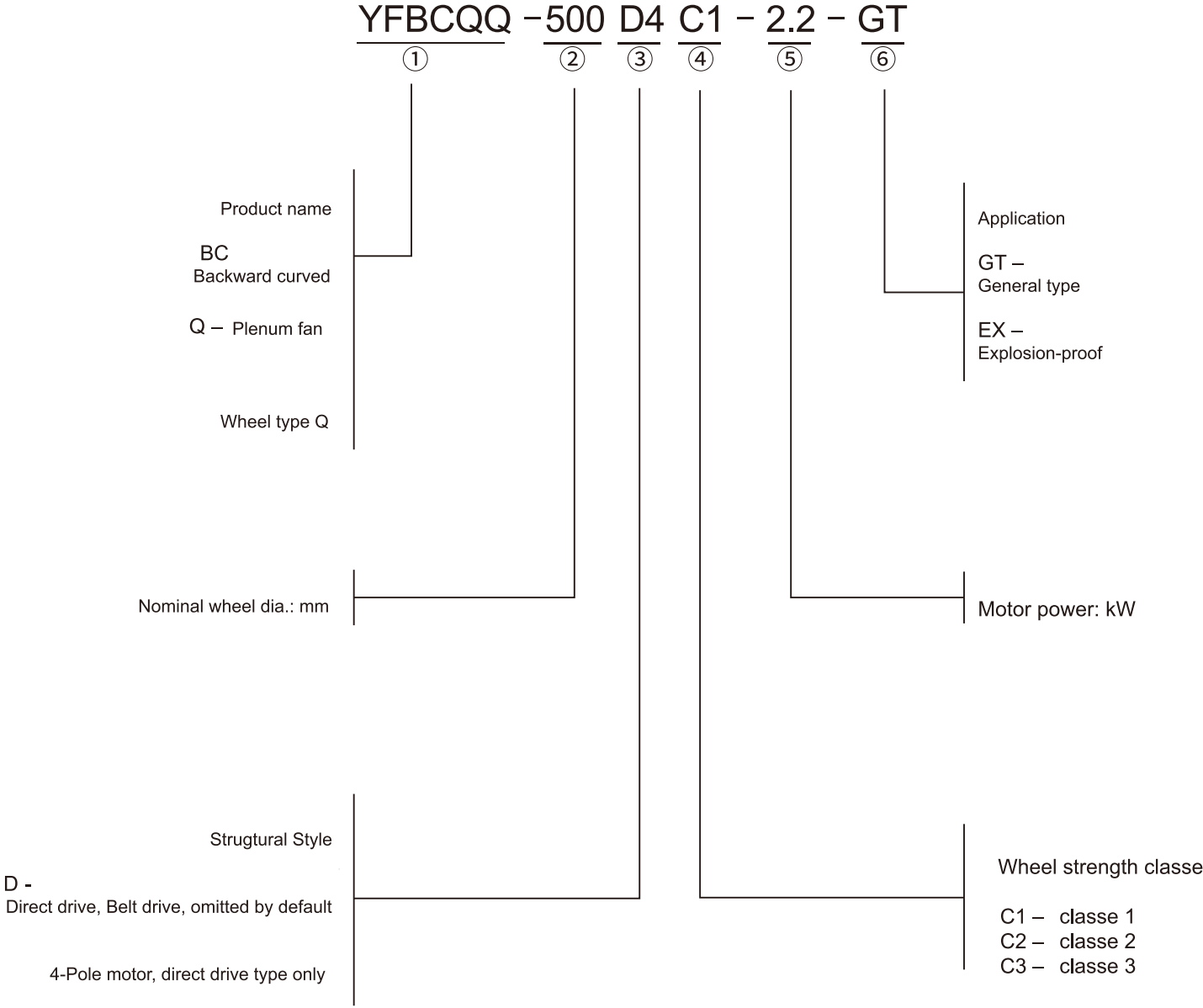
Salt Spray Test:

Corrosion is the damage or deterioration of materials or their properties caused by environmental factors. In accordance with GB/T 2423.17 and GB/T 2423.18 standards, Infinair Labs conducts salt spray testing and corrosion resistance rating evaluations on various product materials. By using accelerated artificial simulations of salt spray environments, we ensure that the selection of Infinair raw materials meets customer requirements for product corrosion resistance.



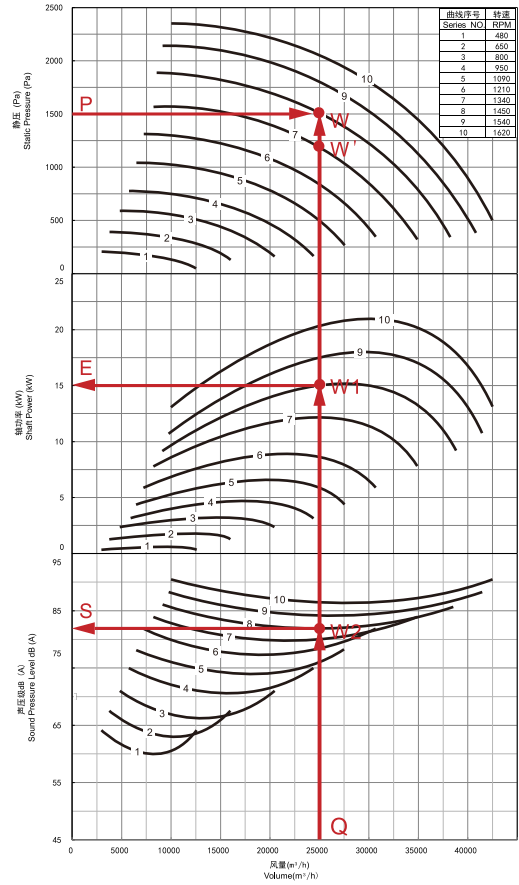
Environmental Simulation Test:

In accordance with GB/T 2423.1 and other relevant standards, Infinair Labs is equipped with sand and dust test chambers, rain test machines, and programmable high/low temperature test chambers. Based on specific customer requirements, we can conduct various tests, including sand and dust exposure, rain penetration, continuous high-temperature operation, continuous low-temperature operation, and cyclic damp heat testing. By simulating various environmental changes and characteristics, we ensure the continuous, stable, and reliable operation of our fans in real-world conditions.



- Each fan model is represented by a set of curves showing performance at different speeds.
- The static pressure curves show the fan's static pressure at various airflows and speeds.
- The shaft power curves show the actual electrical power consumed by the fan.
- The sound pressure level curves show the noise level at a distance of 1.5 meters from the fan.

YFBCQQ-800



Example:Airflow:25,000m³/h Total Pressure:1,500Pa

Step One: A vertical line is drawn from the given airflow (Point Q:25,000m³/h) and a horizontal line from the given total pressure (Point P:1,500Pa). 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 1,450RPM 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 15kW) represents the actual power consumption. Based on the coefficient of power reserve (1.1), the required power of 18.5kW is figured out.

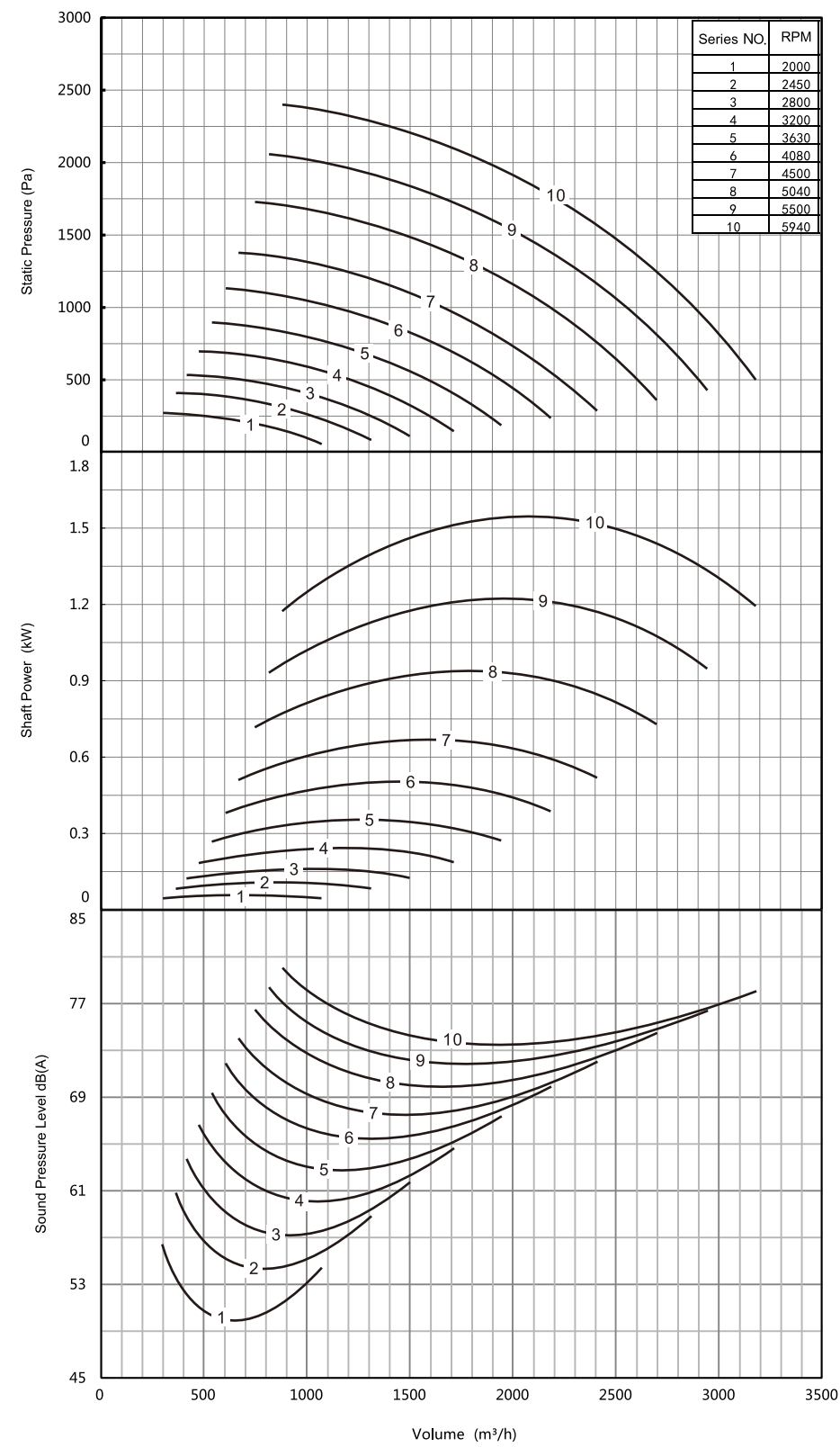
Step Three: From the intersection point (Point W2) between the vertical line and Sound Pressure Level curve is drawn a horizontal line. Its intersection point with the Sound Pressure Level axis (Point S: about 82dB(A)) represents the sound level for the operating point of W.

Step Four: From the above steps, the model of the fan is identified as YFBCQQ-800 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.

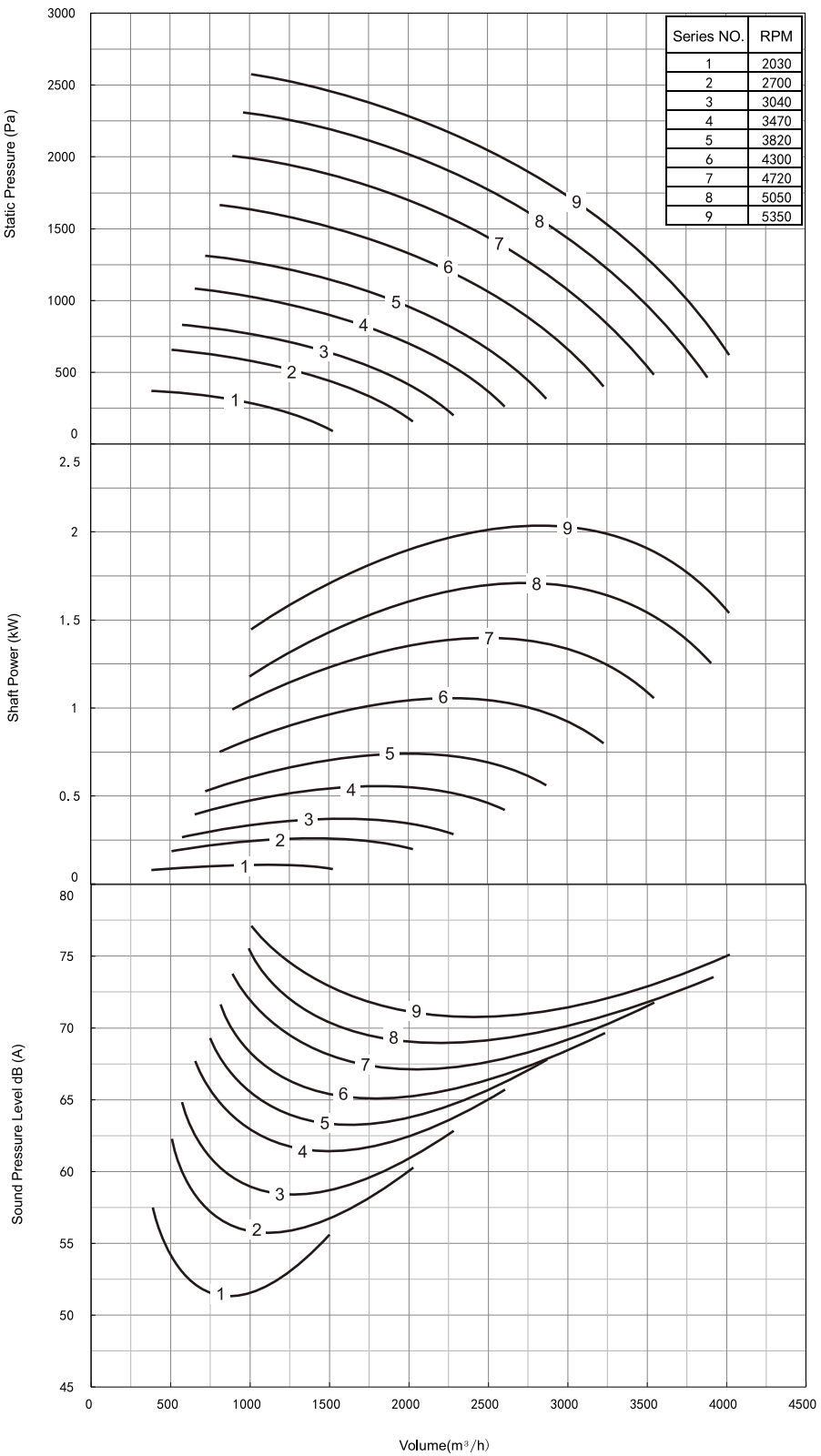
Step Five: If a fan of 20,000m³/h at 1,400Pa static pressure is needed, it is easy to know that Point w' is very close to Curve 7 shown is boldface(indicating a fan of 1340RPM).Then as is shown, the YFBCQQ-800C1D4 Fan equipped with 15kW motor is finally identified.

Note: The coefficient of power reserve is determined by model selection staff based on actual needs(typically 1.1)

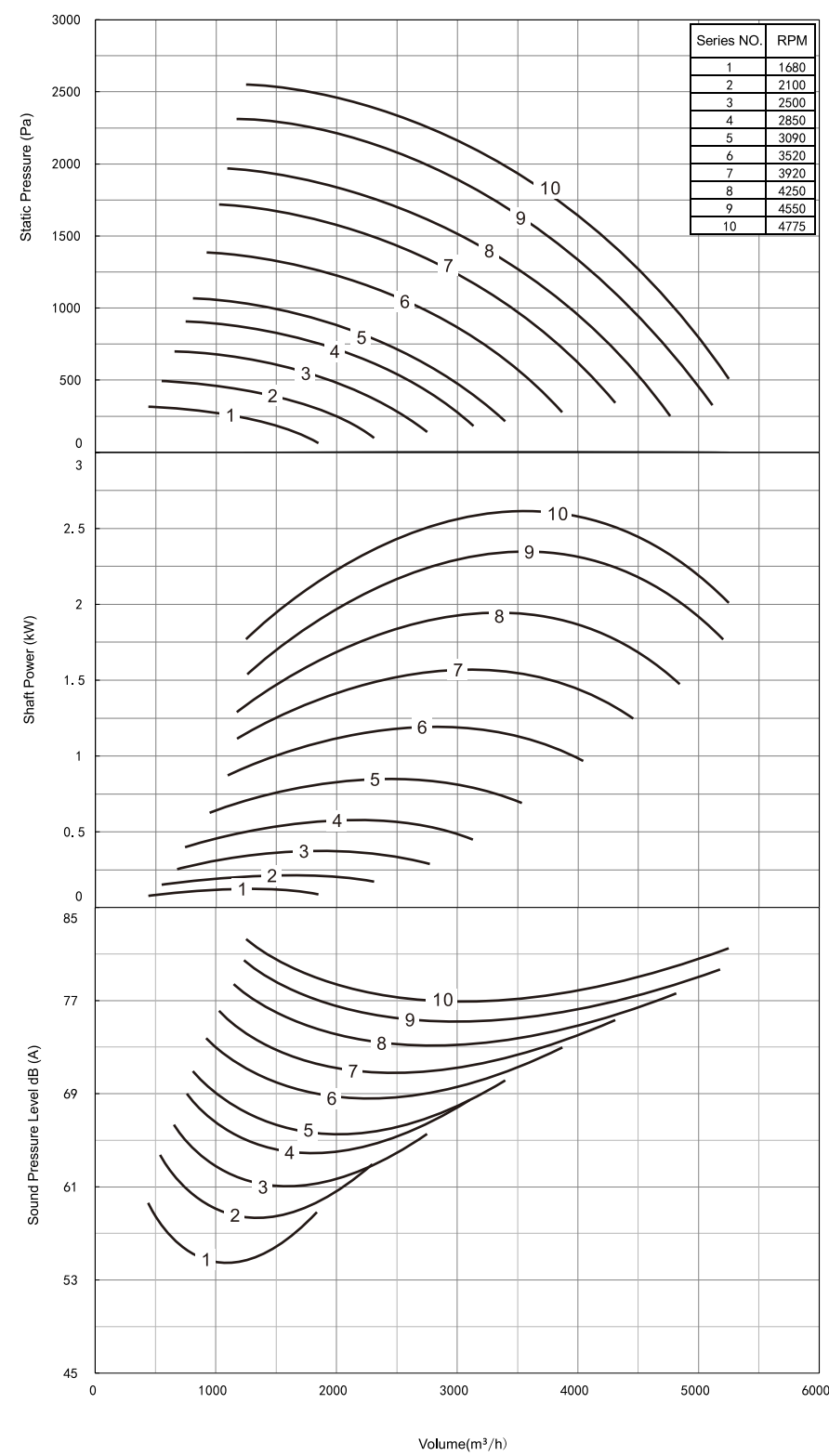
YFBCQQ-225



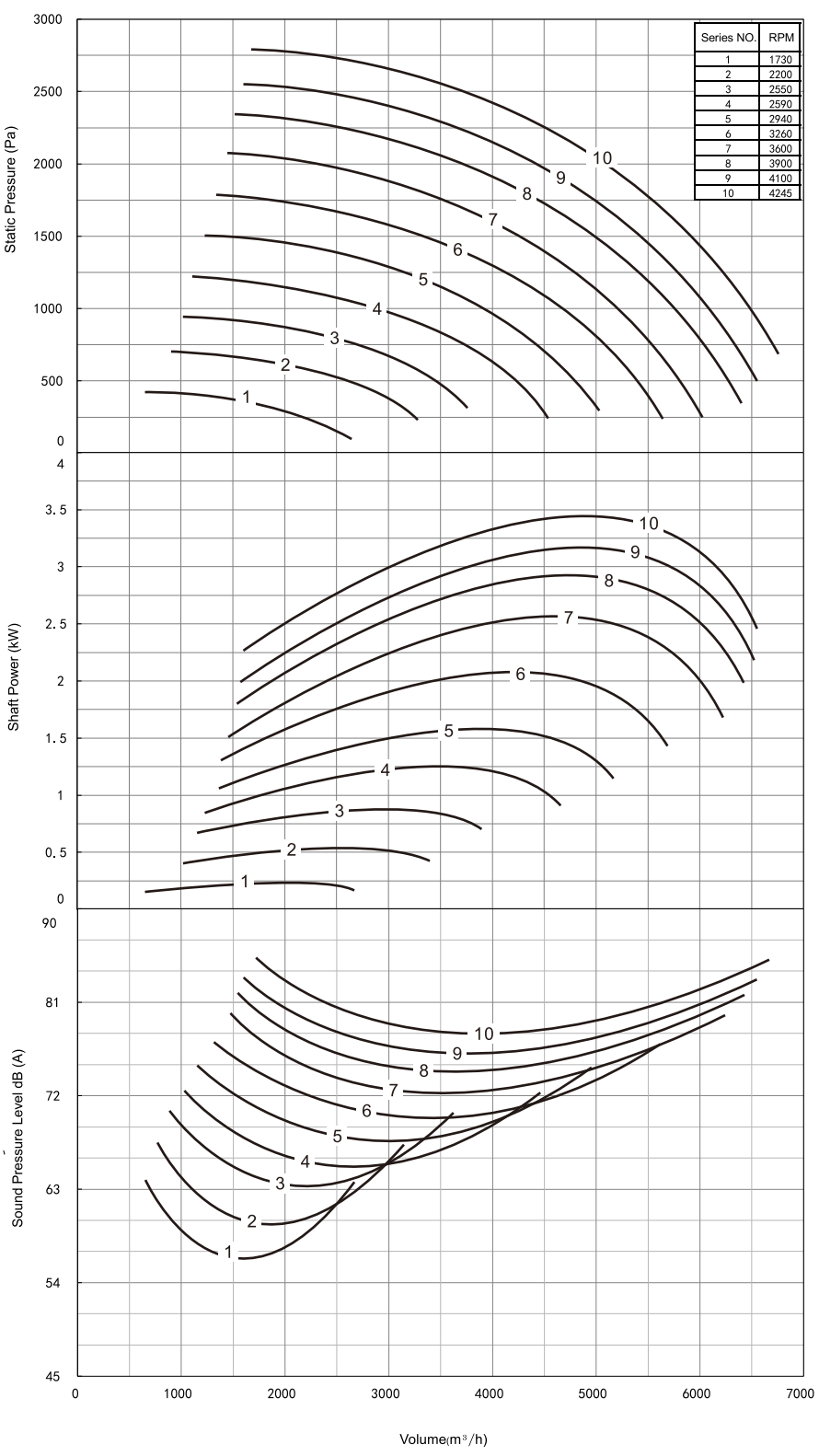
YFBCQQ-250



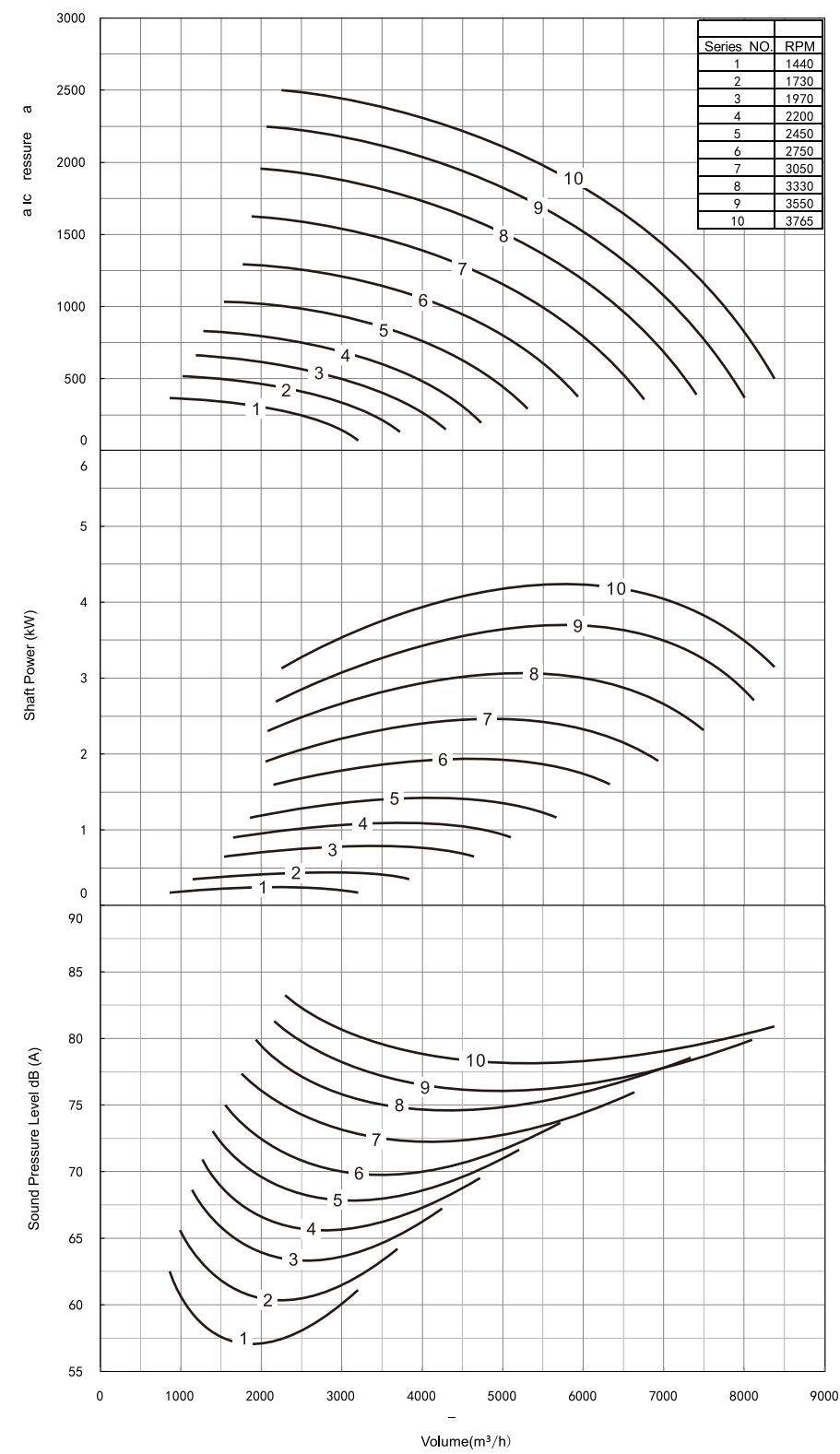
YFBCQQ-280



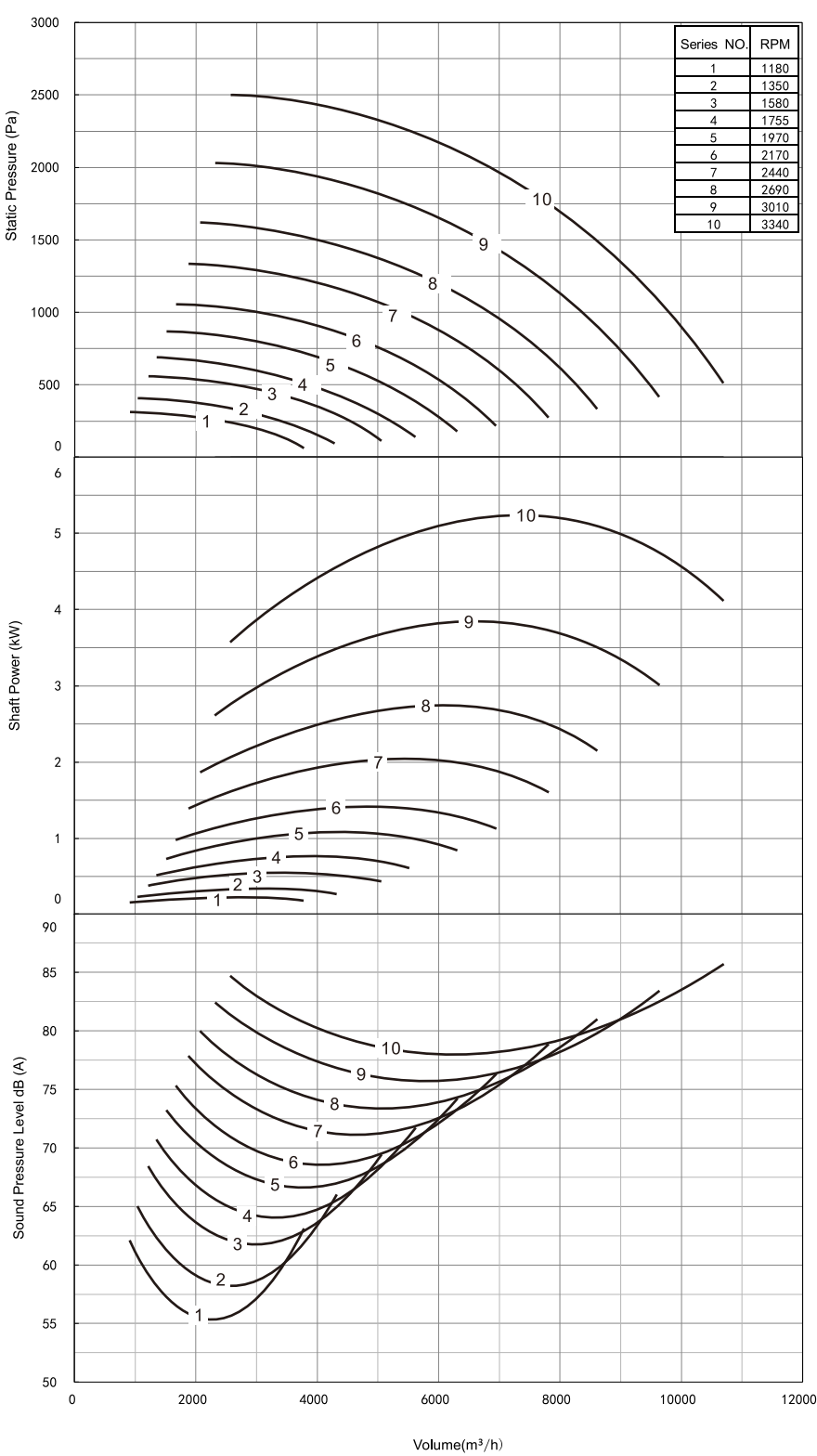
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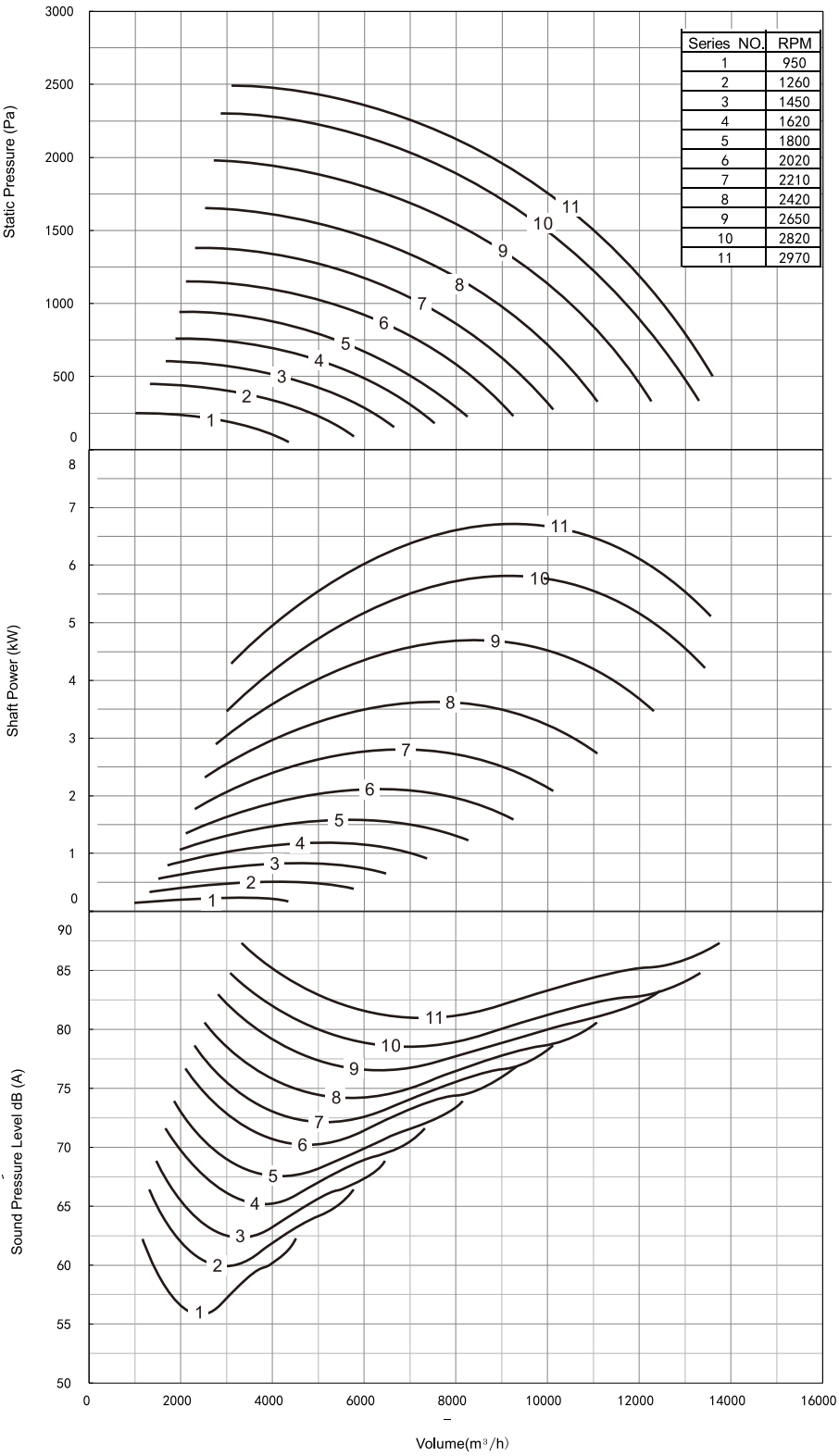
YFBCQQ-355



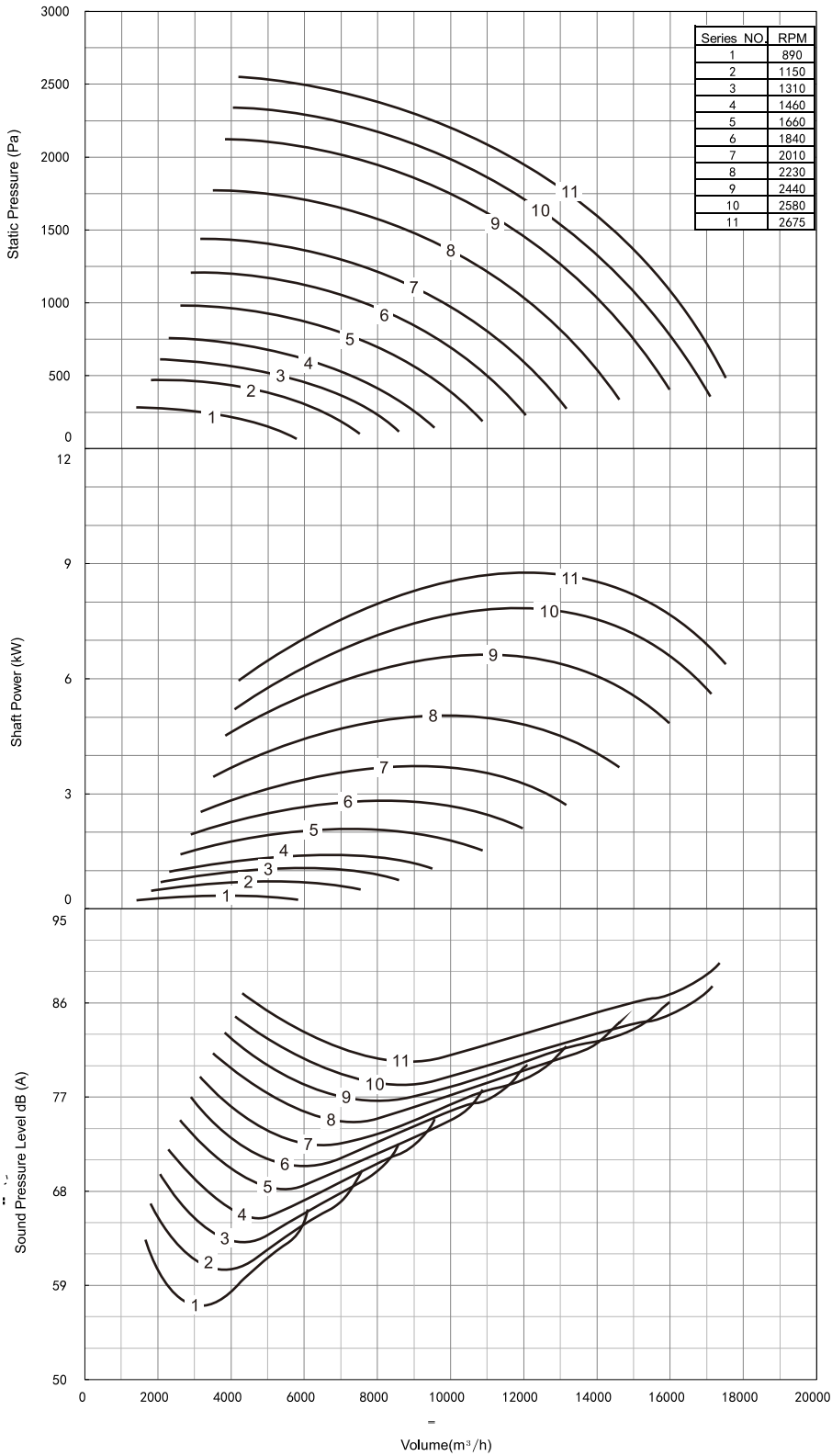
YFBCQQ-400



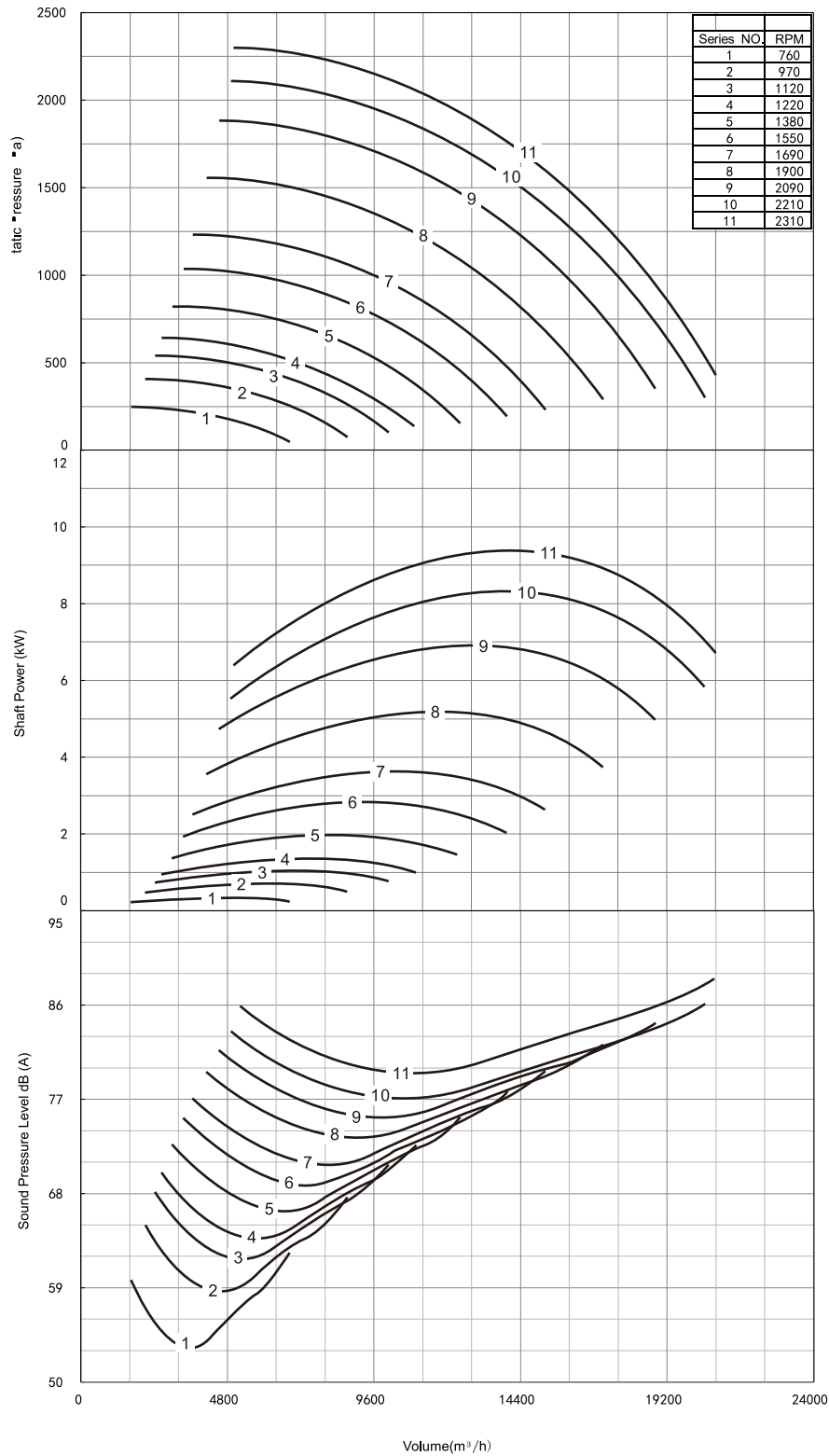
YFBCQQ-450



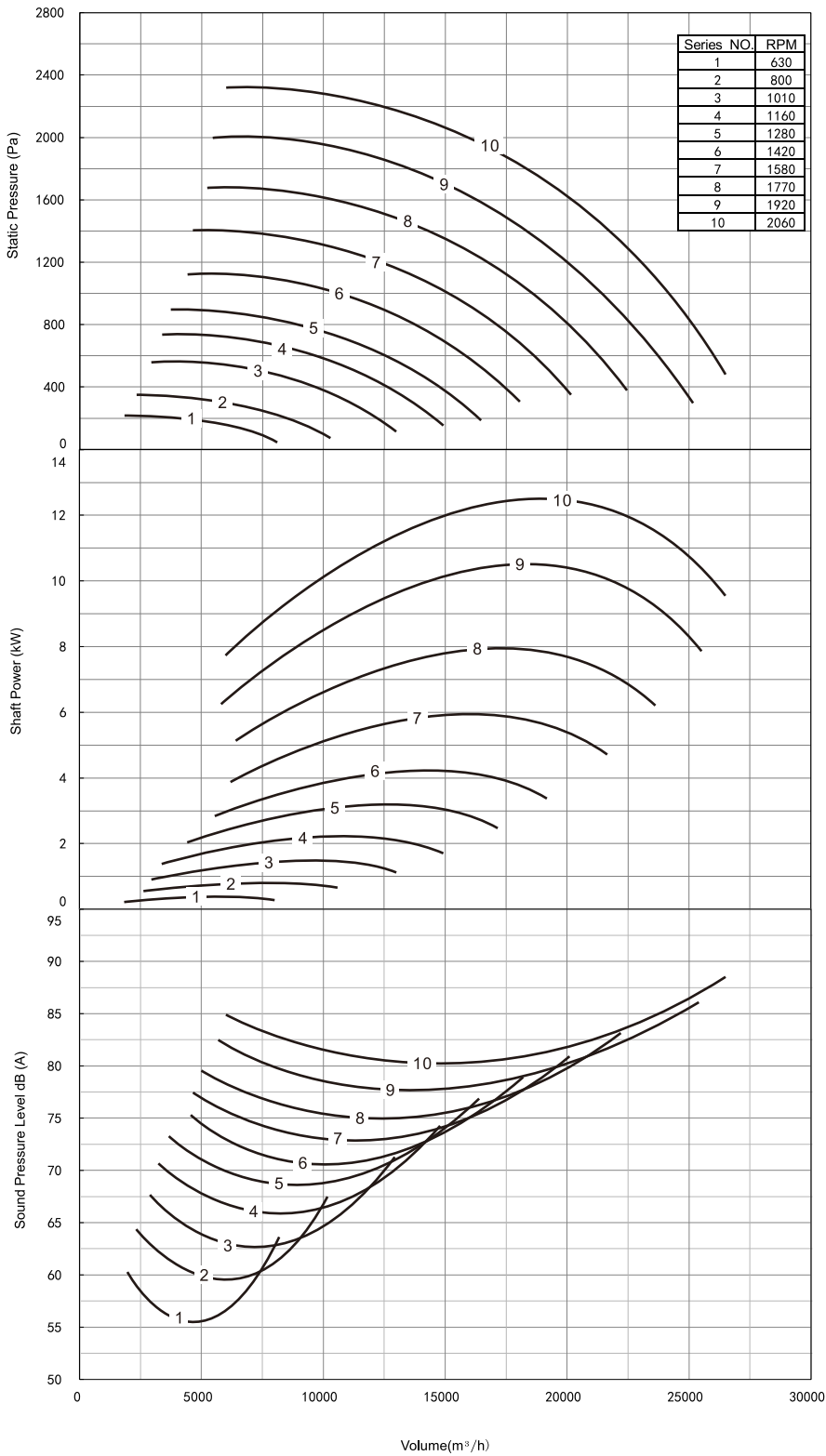
YFBCQQ-500



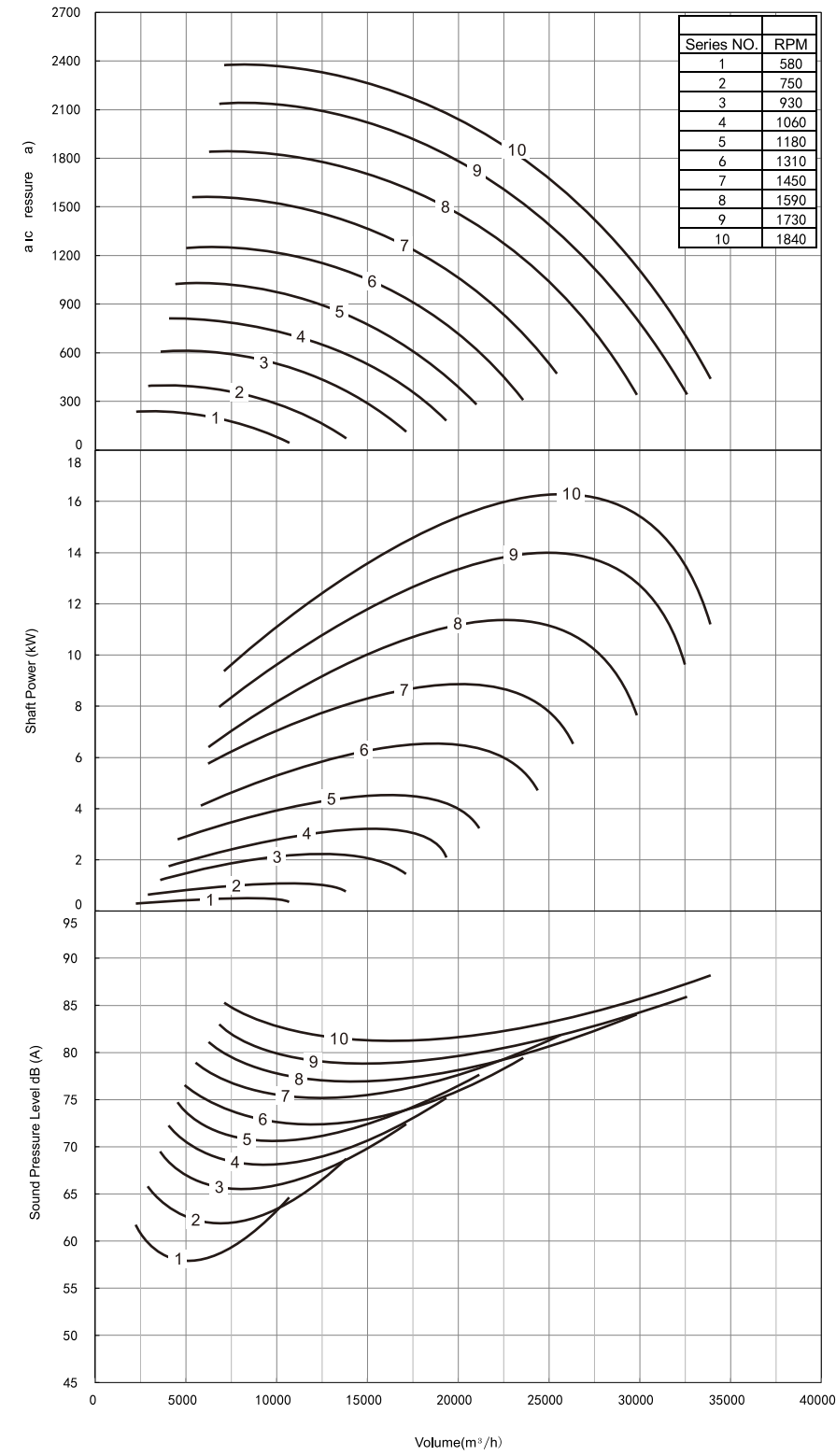
YFBCQQ-560



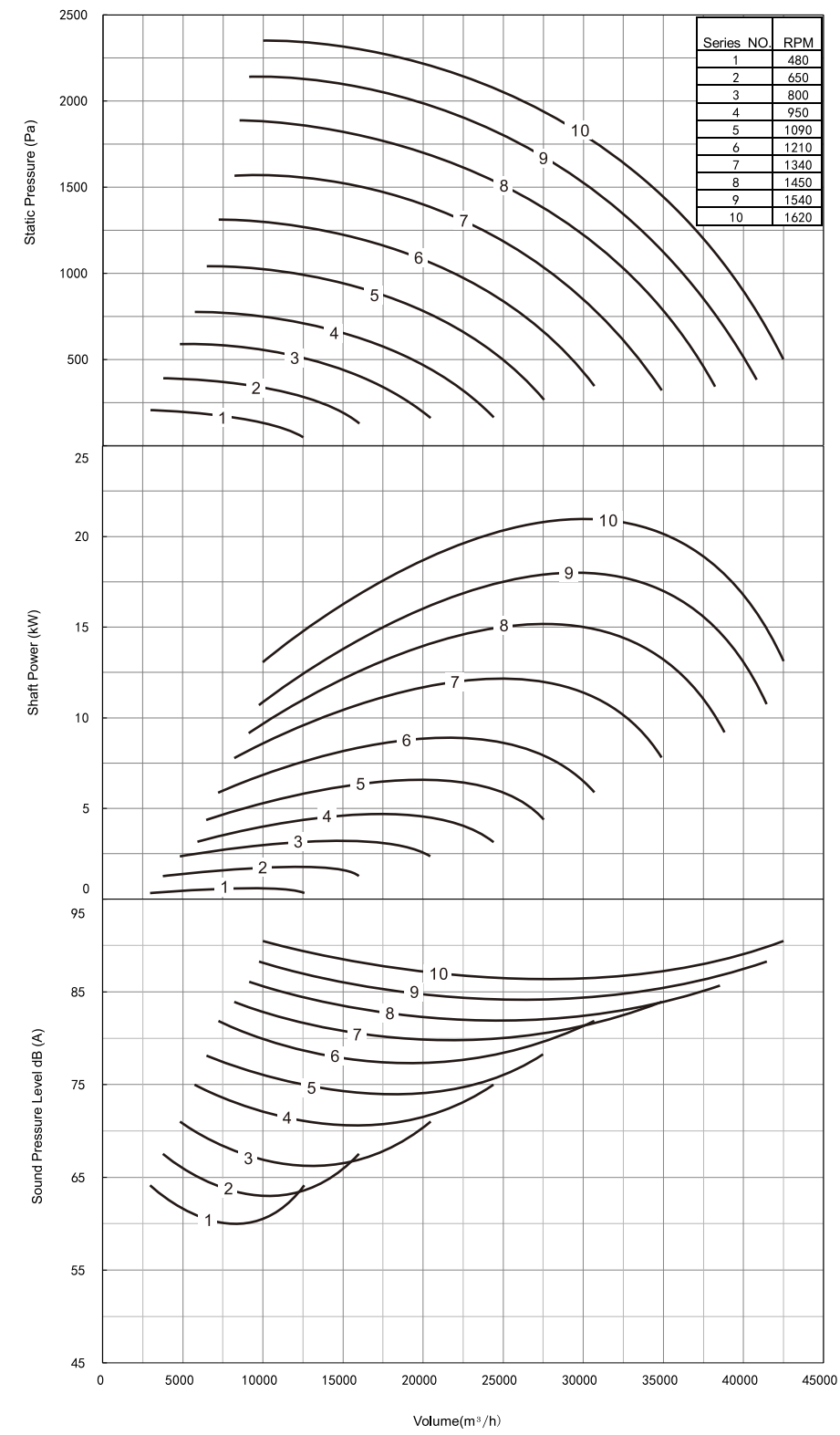
YFBCQQ-630



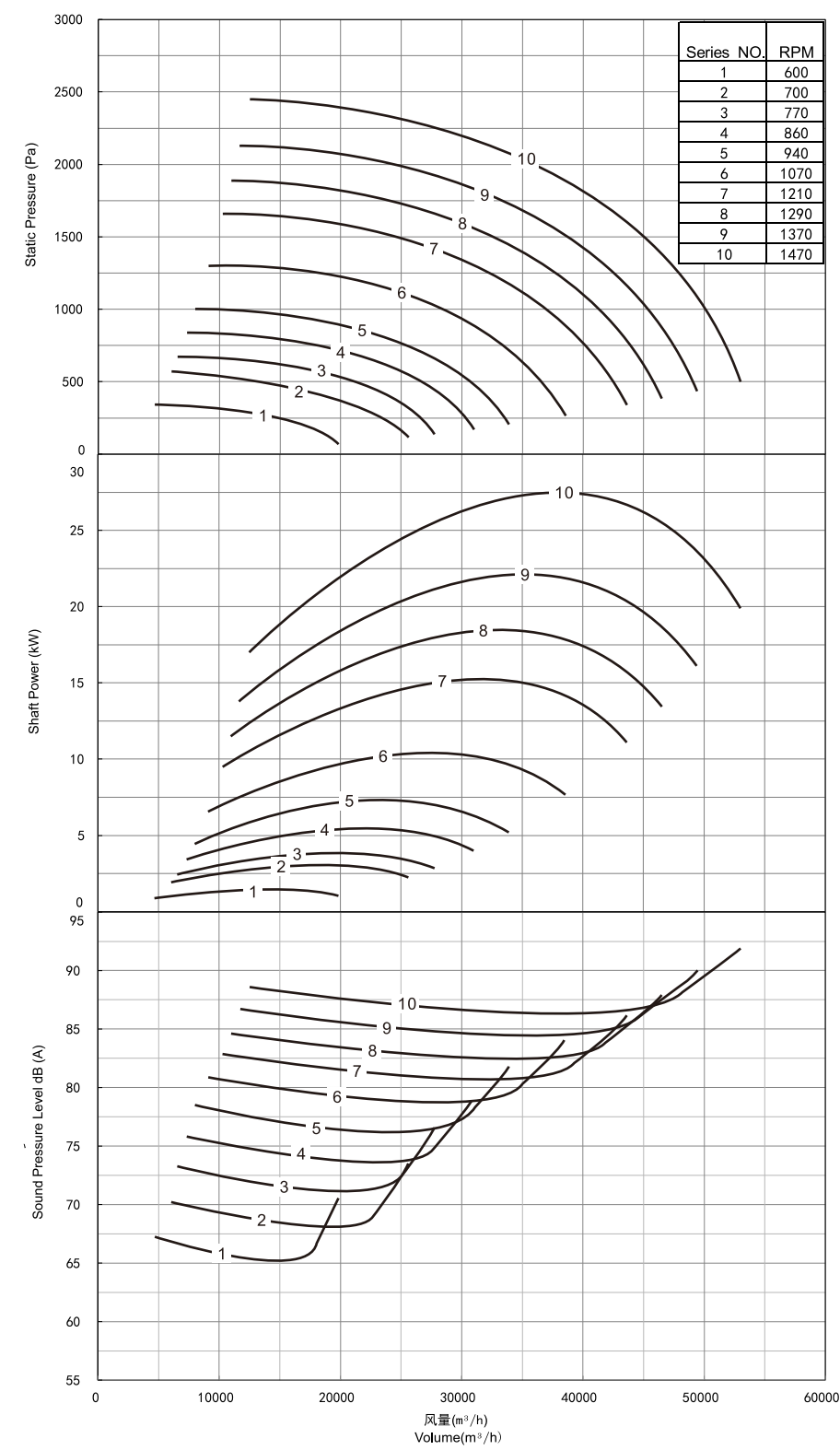
YFBCQQ-710



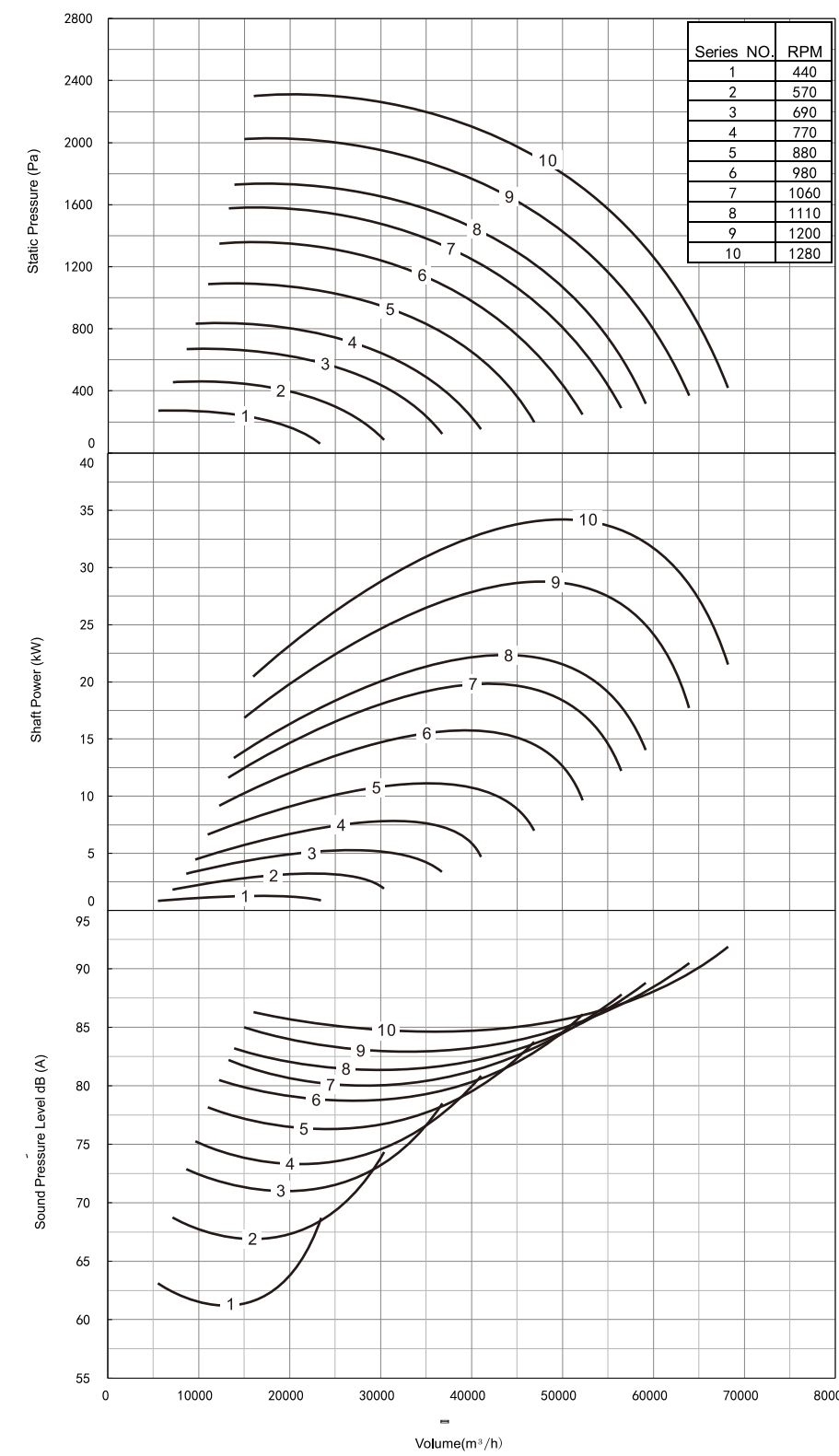
YFBCQQ-800



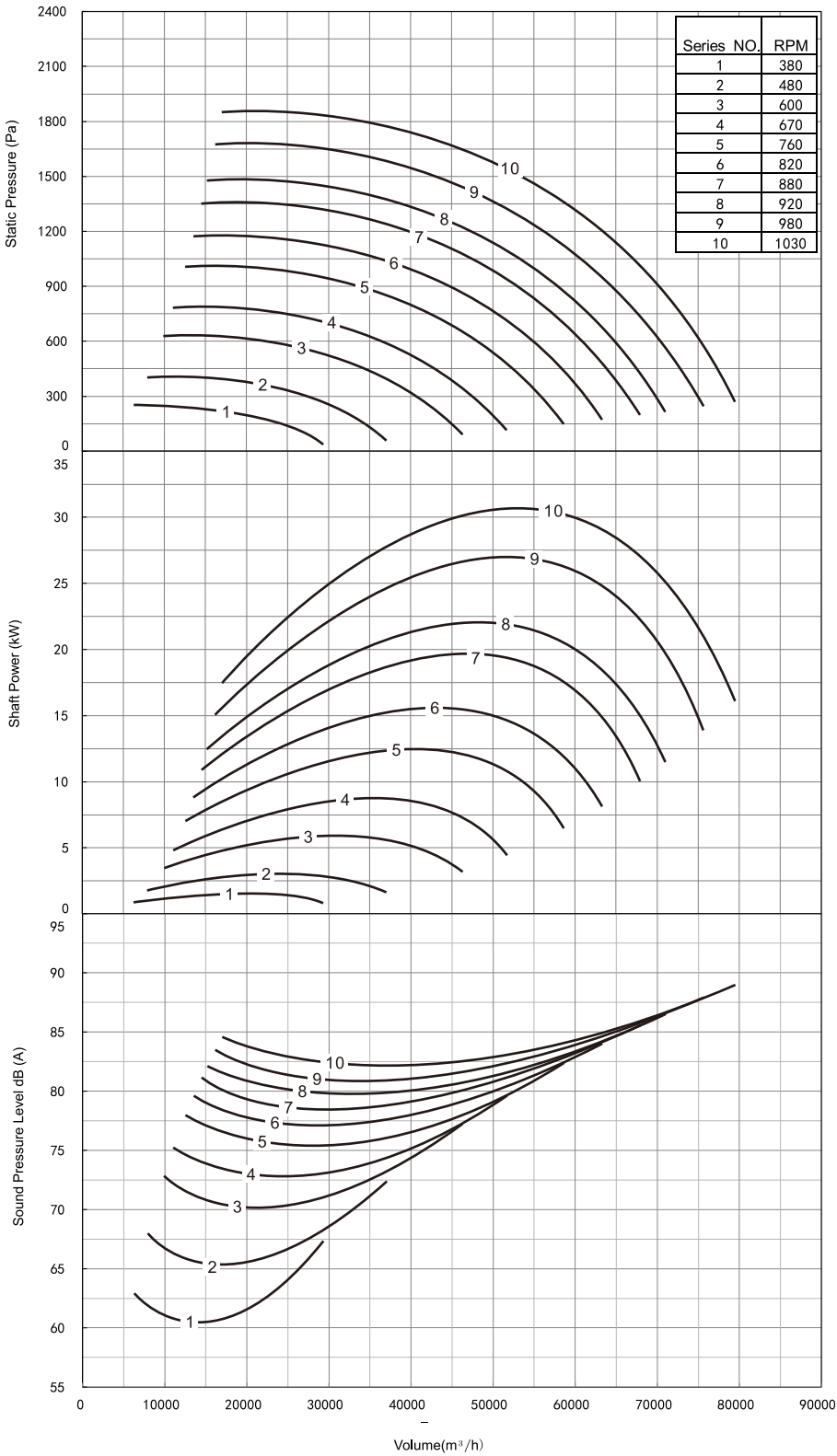
YFBCQQ-900



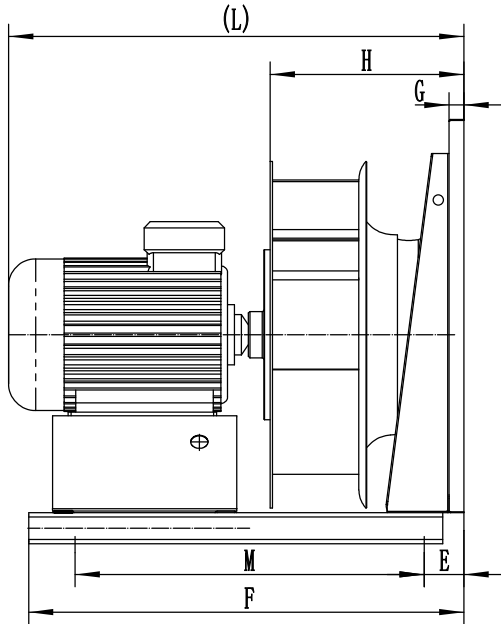
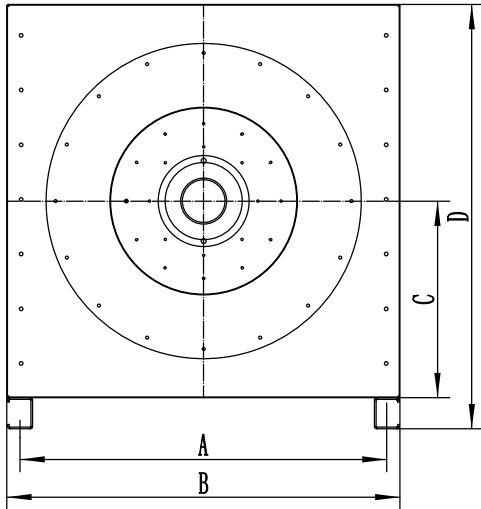
YFBCQQ-1000



YFBCQQ-1120



尺寸和重量



Model	Frame Size	A	B	C	D	E	F	G	H	M	L-TEFC	L-VFD	Weight(kg)
YFBCQQ-225	80	305	350	175	400	100	480	20	148.5	360	450	500	16.5
YFBCQQ-250	80	345	390	195	440	100	480	20	163.5	360	500	540	19
	90S										530	550	
	90L										560	600	
YFBCQQ-280	80	390	435	217.5	485	100	480	20	180.5	360	510	560	22
	90S						550				570		
	90L						580				620		
	100L						570			450	650	650	
YFBCQQ-315	802	445	490	245	540	100	480	20	201.5	360	530	580	27
	90S						570				590		
	90L						600				640		
	100L						670			670			
	112M						650			720			
YFBCQQ-355	90S	505	550	275	600	150	570	20	224.5	380	600	610	30
	90L										620	660	
	90L										620	660	
	100L										690	690	
	112M										680	740	
YFBCQQ-400	90S	575	620	310	670	150	570	20	250.5	380	620	640	36
	90L						650				690		
	100L						720				720		
	112M						510			700	770		
	132S									770	820		
YFBCQQ-450	90S	605	650	325	700	150	570	20	279.5	380	650	660	43
	90L						680				710		
	100L						740				750		
	112M						510			730	800		
	132S									800	840		
YFBCQQ-500	90L	655	720	360	790	155	700	25	313.5	510	710	750	66
	100L						780				780		
	112M						770				830		
	132S						830				880		
	132M						880				900		
	160M						800			610	930	980	
YFBCQQ-560	100L	745	810	405	880	155	700	25	348.5	510	810	820	81
	112M						800				870		
	132S						870				910		
	132M						910			940			
	160M						970			1010			

Notes:
Dimensional data is for reference only; subject to factory-confirmed drawings.

The fan weights listed above do not include the motor. Please refer to the attached table for motor weights and power ratings.

Model	Frame Size	A	B	C	D	E	F	G	H	M	L-TEFC	L-VFD	Weight(kg)		
YFBCQQ-630	100L	845	910	455	980	155	800	25	389.5	610	850	860	106		
	112M										840	910			
	132S										910	950			
	132M						900			710	950	980			
	160M										1010	1050			
	160L										1070	1140			
YFBCQQ-710	112M	955	1020	510	1090	155	900	25	436.5	710	890	960	128		
	132S										960	1000			
	132M										1000	1030			
	160M						1000			810	1060	1100			
	160L										1120	1190			
	180M										1160	1230			
YFBCQQ-800	160M	1085	1150	575	1220	155	1000	25	488	810	1110	1150	174		
	160L						1100			910	1170	1240			
	180M										1210	1280			
	180L										1250	1310			
YFBCQQ-900	160M	1070	1150	575	1250	160	1100	30	552	910	1170	1220	244		
	160L						1200			1010	1230	1300			
	180L										1320	1370			
	200L										1360	1410			
YFBCQQ-1000	180L	1190	1270	635	1370	200	1200	30	610	950	1370	1430	318		
	200L						1350			1100	1420	1470			
	225M										1490	1550			
	250M										1580	1670			
YFBCQQ-1120	200L	1340	1420	710	1520	200	1350	30	679	1100	1490	1530	423		
	225S						1400			1150	1530	1580			
	225M										1560	1610			
	250M										1650	1730			
	280S						1500			1250	1680	1780			
	280M										1730	1830			

Notes:
Dimensional data is for reference only; subject to factory-confirmed drawings.

The fan weights listed above do not include the motor. Please refer to the attached table for motor weights and power ratings.

Motor Reference Weight and Power

(kW)	2P		4P		6P		8P	
	Frame Size	(kg) Weight	Frame Size	(kg) Weight	Frame Size	(kg) Weight	Frame Size	(kg) Weight
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		

Note: Due to weight variations among different motor brands, the motor weights in this table are for reference only.

YFBCQQ Technical Specifications

- Fan Type
The fan type shall be a plug centrifugal fan, and the structure shall adopt a direct-drive arrangement.
- Quality Standards
Fan performance shall be tested in accordance with AMCA Standard 210 and 300. The manufacturer shall be certified under ISO 9001, ISO 14001, and ISO 45001 systems issued by SGS.
- Fan Structure
The fan shall consist of six main components: impeller, venturi inlet cone, panel, motor, motor base, and vibration isolation base. The impeller shall be driven directly by the motor shaft. The motor base shall be equipped with lifting holes positioned through the fan's center of gravity to facilitate handling and on-site installation.
- Fan Impeller
The impeller shall be a steel backward-curved centrifugal impeller, fully welded. The impeller shall undergo static and dynamic balancing to reach G4.0 level according to AMCA Standard 204. When operating at the maximum allowable speed, the impeller shall maintain stable airflow and low noise levels. The impeller characteristics shall effectively prevent performance degradation caused by shifting of the operating point.
- Venturi Inlet Cone
The streamlined design of the fan inlet shall conform to venturi curve characteristics and be formed through integrated mold processing to ensure precision and consistency. The surface shall be smooth and rounded to provide a good flow-rectifying effect, effectively reducing turbulence, increasing fan efficiency, and lowering noise.
- Surface Treatment
The fan surface shall first be cleaned and sanded to remove protrusions, weld spatter, burrs, sharp edges, iron filings, and oil stains, followed by an electrostatic epoxy resin coating. After coating, the surface shall be free of pits, runs, cracks, wrinkles, or peeling. Under allowable operating conditions, it shall remain corrosion-free and rust-free for at least 10 years.
- Motor
The motor shall be closely matched to the fan load, with an IP55 protection rating and Class F insulation. The motor shaft bearings shall be ball bearings and be lubricatable. The fan may optionally be equipped with a variable frequency motor or a motor meeting variable frequency control requirements to facilitate adjustments based on site conditions.
- Nameplate
A permanently fixed stainless steel nameplate shall clearly display the fan number, model, and product serial number (providing a unique identity for each unit). This ensures customers can easily query the history of spare parts.
- Acceptable Suppliers
Acceptable suppliers shall have a credit rating of AAA. Acceptable brands include Infinair or equivalent products. The design is based on the Infinair YFBCQQ model..

INFINAIR Intelligent Ventilation Technology

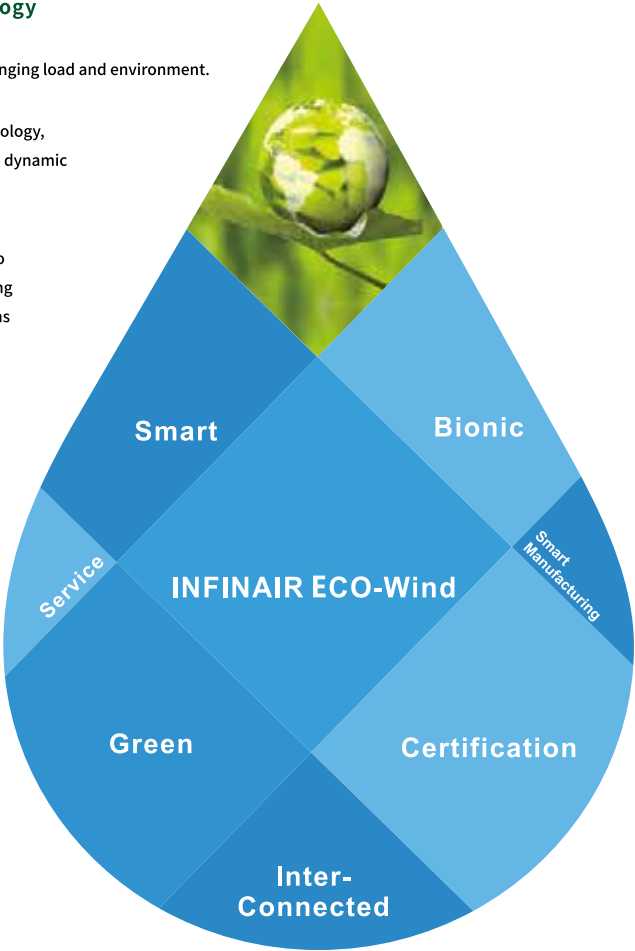
- Smart Needs Identification
Dynamically adjusting the operation target to the changing load and environment.
- Intelligent Adjustment
Utilizing variable frequency or EC smart control technology, performance is finely tuned to actual needs under the dynamic control of intelligent speed regulation software.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

