

INFINAIR™

YFFCDH/YFBCDH DWDI Centrifugal Fan

- Forward-curved centrifugal fan: Large airflow, low noise
- Backward-inclined centrifugal fan: High efficiency, no overload
- “Seamless welding” process: Air leakage rate = 0
- Balance grade up to G2.5



Metropolitan Series Product

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



Feature of the forward/backward inclined DWDI fan

The forward inclined DWDI wheel has good ability of low noise and reliable running

- The forward curved wheel has bigger volume comparing with backward curved wheel in the same speed
- The forward curved wheel has lower speed and lower noise comparing with backward curved wheel in the same working condition
- Spinning precisely matched Venturi inlets and wheel cones assuring smooth, which further results well rectification effect and low noise



Forward curved wheel



Reinforcing threaded rod for forward curved wheel



DWDI fan inside: forward curved type



DWDI fan inside: backward inclined type



Backward inclined wheel with V-type performance baffle

The backward inclined DWDI wheel has good ability of high efficiency and high energy savings

- The backward curved wheel has higher efficiency comparing with axial wheel, mixed flow wheel and forward curved wheel
- Accurately sized V-type performance baffle effectively reduced turbulence which results low noise and high efficiency
- The backward curved wheel has repeatedly optimized performance cures results safer running

Advanced technology ensure accuracy

- The fan housing is "Pittsburgh" method joined, which results 0 air leakage
- The two pieces of housing side joint at the same one time procedure to improve the accuracy and reduce the dimension of assembly error
- The blades are made by once punch forming, and dedicated fixture to ensure precise install



"Pittsburgh" method joint panels

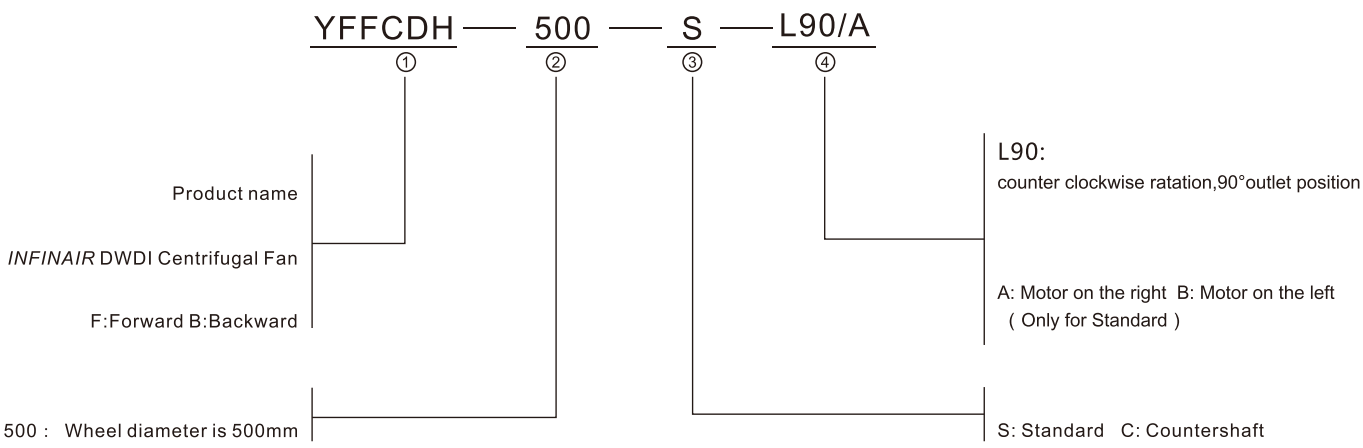
More reliable physical design

- The forward curved wheel precisely designed reinforcing threaded rod make sure long time reliable running
- The backward curved wheel reinforcing rod set on exact position to ensure long-term secure operation
- The fan is supported by stable channel steel frame, so that stable running of the fan is ensured

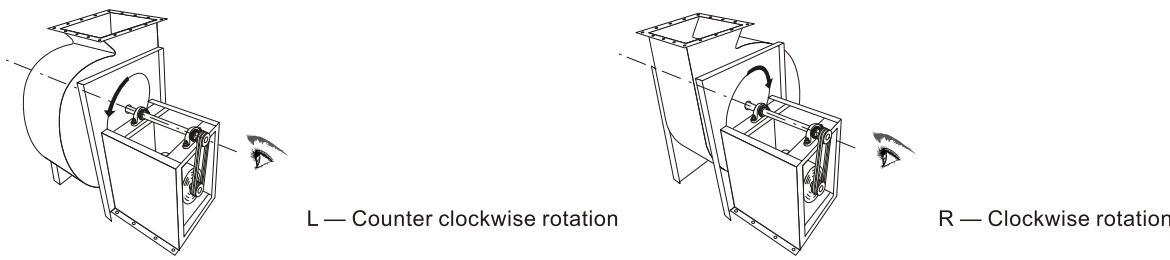
High balancing level

- Balance level up to G2.5 (Typical products are balanced to G6.3 only)
- To reduce the vibration of the fan, to improve reliability
- To reduce the running noise effectively

Naming convention

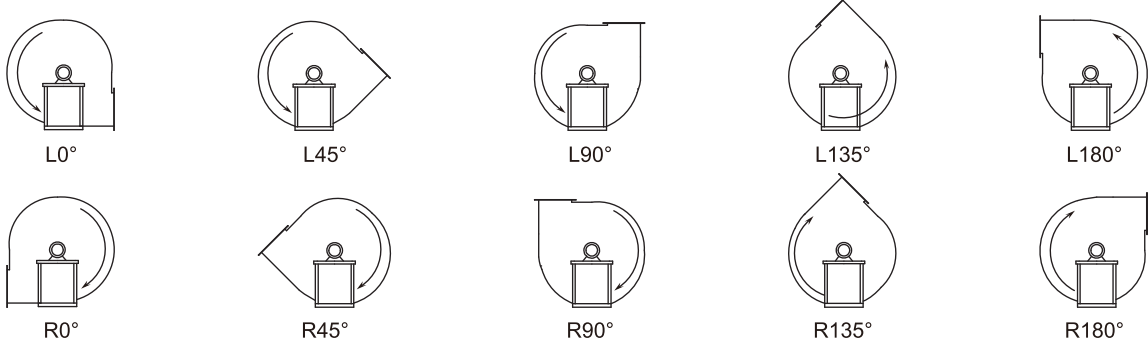


Designation for rotation



Note:The rotation is identified from the view of fan drive (as shown in the above figure)

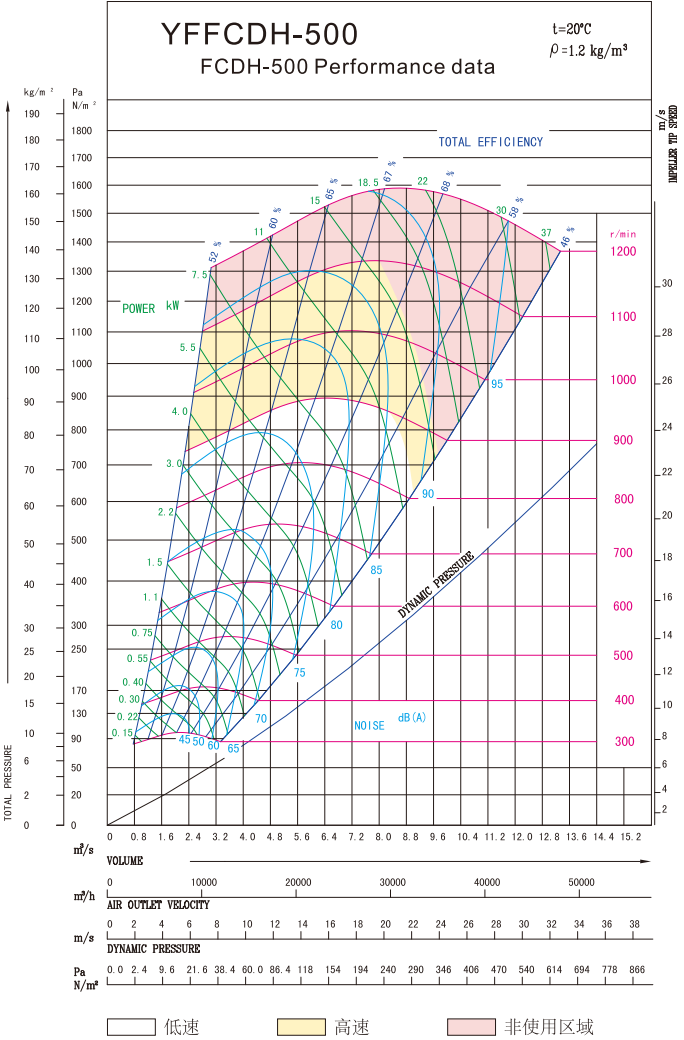
Designation of outlet position



INFINAIR® standard	L	L0	L45	L90	L135	L180
China national standard		0°	45°	90°	135°	180°
ISO standard	LG	LG 270	LG 315	LG 0	LG 45	LG 90
AMCA standard	CCW	CCW270	CCW315	CCW360	CCW 45	CCW 90
INFINAIR® standard	R	R0	R45	R90	R135	R180
China national standard		0°	45°	90°	135°	180°
ISO standard	RD	RD 270	RD 315	RD 0	RD 45	RD 90
AMCA standard	CW	CW 270	CW 315	CW 360	CW 45	CW 90

Examp for selecting fan

- Air volume16500 (4.65) m³/h(m³/s)
- Total pressure838Pa
- Air outlet velocity11.1 (m/s)
- Velocity pressure74Pa
- Static pressure=total pressure-velocity pressure828-74=764Pa
- Impeller rotating speed870r/min
- Total pressure efficiency67kW
- Inner power of fan axis5.64kW
- Noise level LP78.4dB(A)



Motor selection

From the performance curve inner power by "kW" must be consider to make correction

$\leq 10\text{kW} \times 1.20$

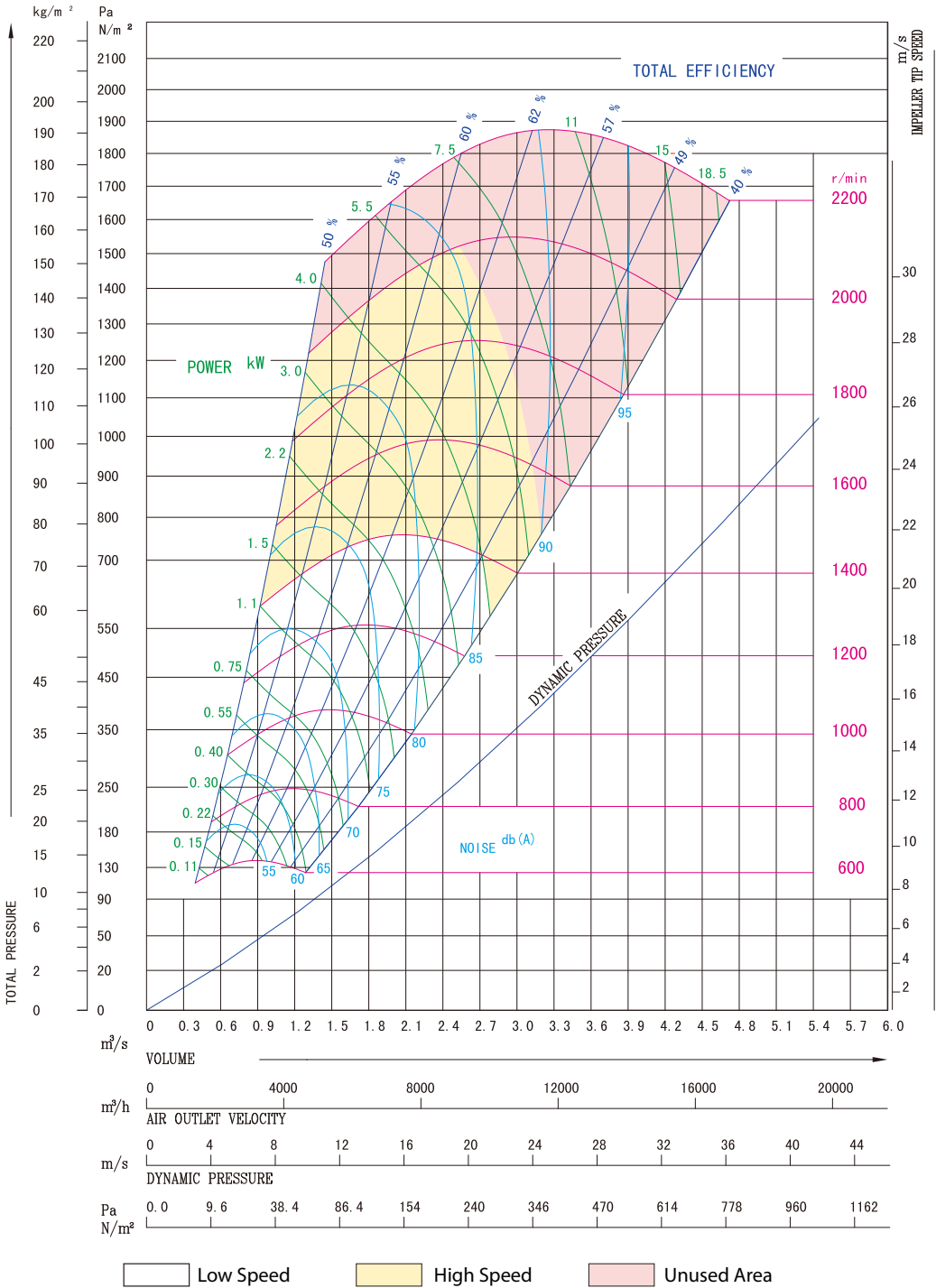
$\geq 10\text{kW} \times 1.15$

Adapting power of motor

$5.64 \times 1.2 = 6.77$ take 7.5kW

For the serial FCDH fan on the widerrole of rate the change of total pressuremore less as it wold be caused the over load of motor easily please pay more attentionto select the specifcation of motor and on fan operation. Each page of the paper shows types perform ance curves and sizes of every fan.

FCDH-280 Performance data

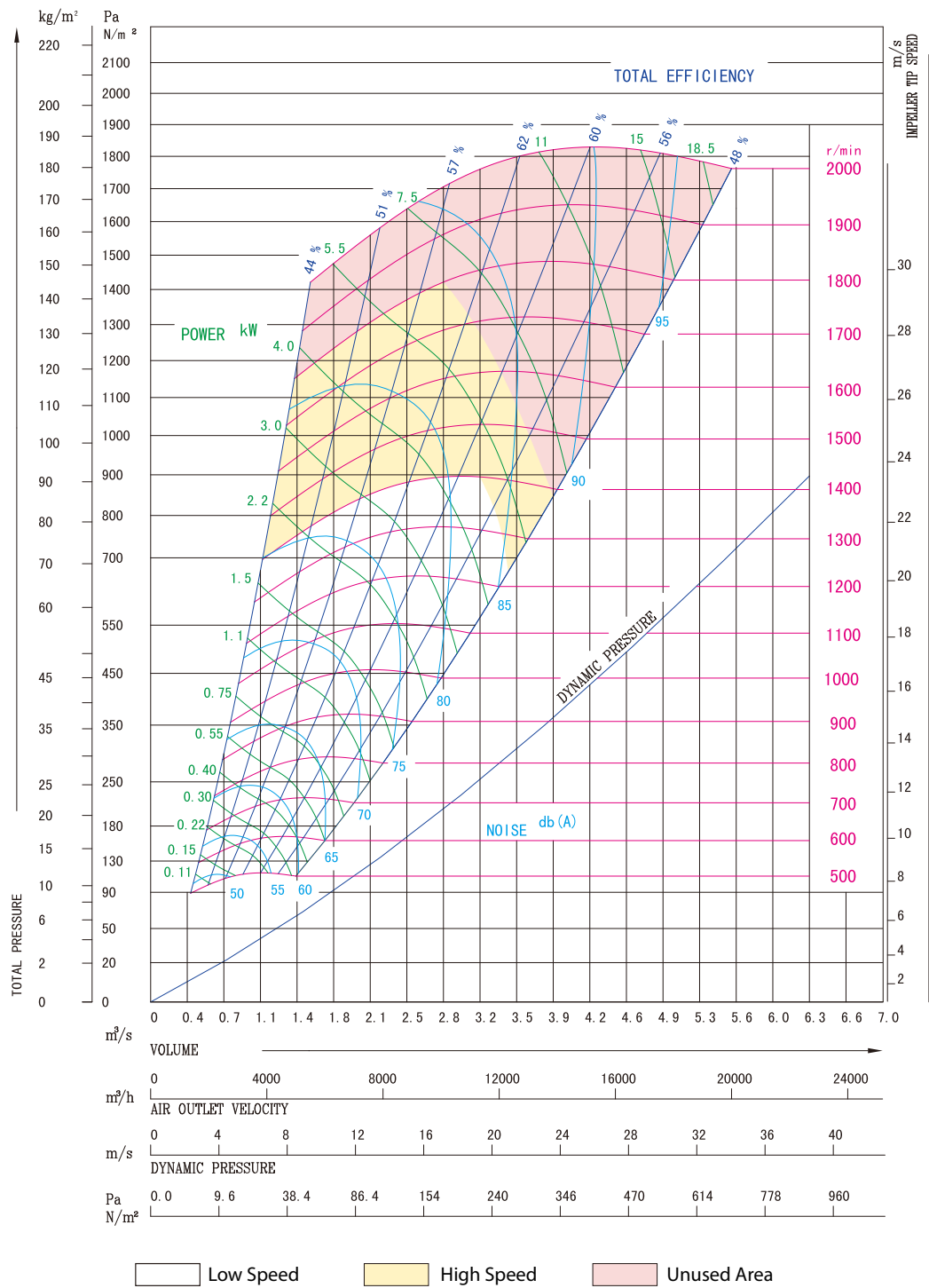


t=20°C
ρ=1.2 kg/m³

1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

FCDH-315 Performance data

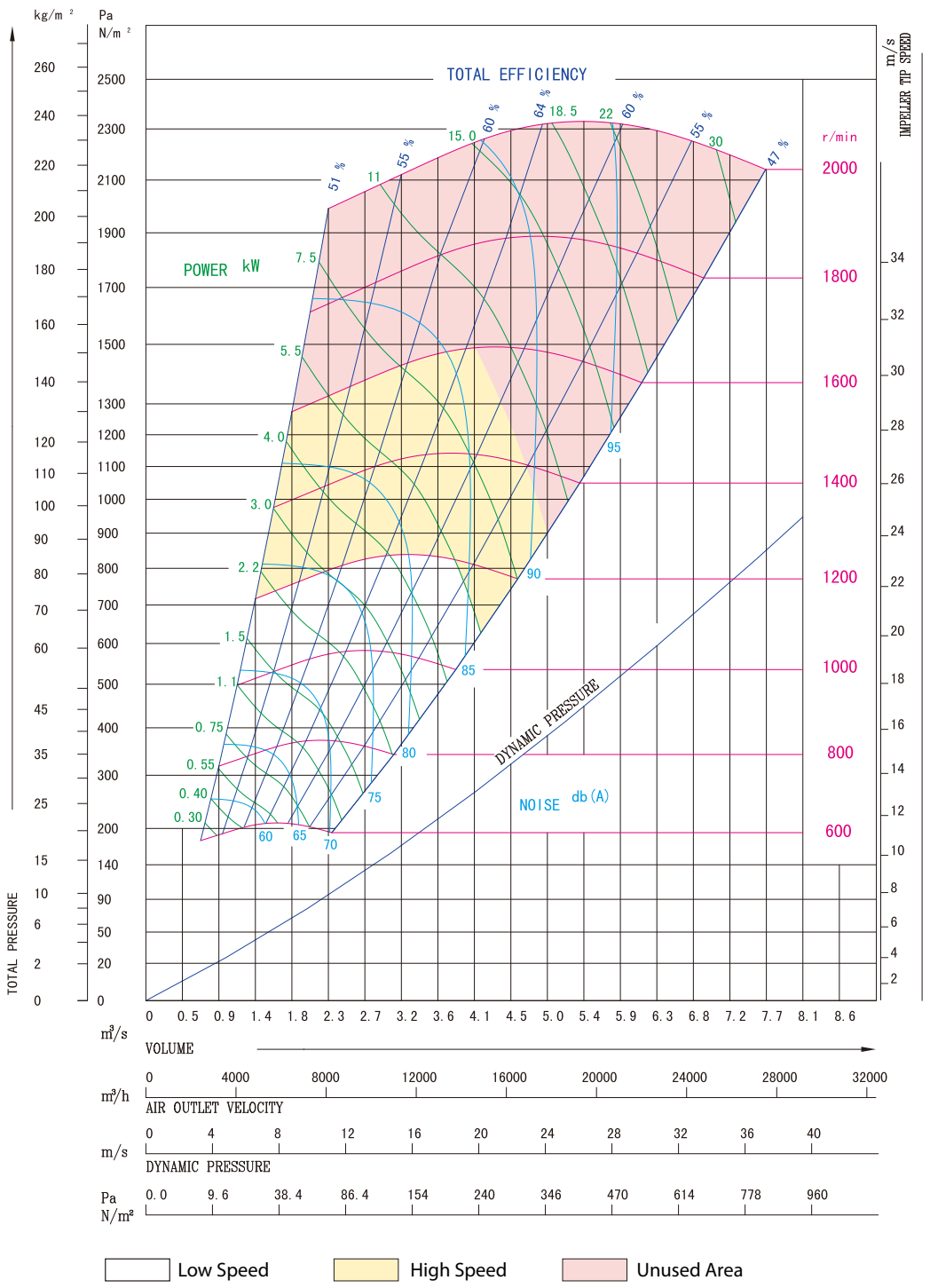
t=20°C
ρ =1.2 kg/m³



1.Performance certified is for installation type B-Free inlet, Ducted outlet.Power rating(kW)does not include transmission losses.Performance ratings do not include the effects of appurtenances(accessories).
2.The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.Value shown are for inlet sound power levels for installation type B- free inlet,ducted outlet.

FCDH-355 Performance data

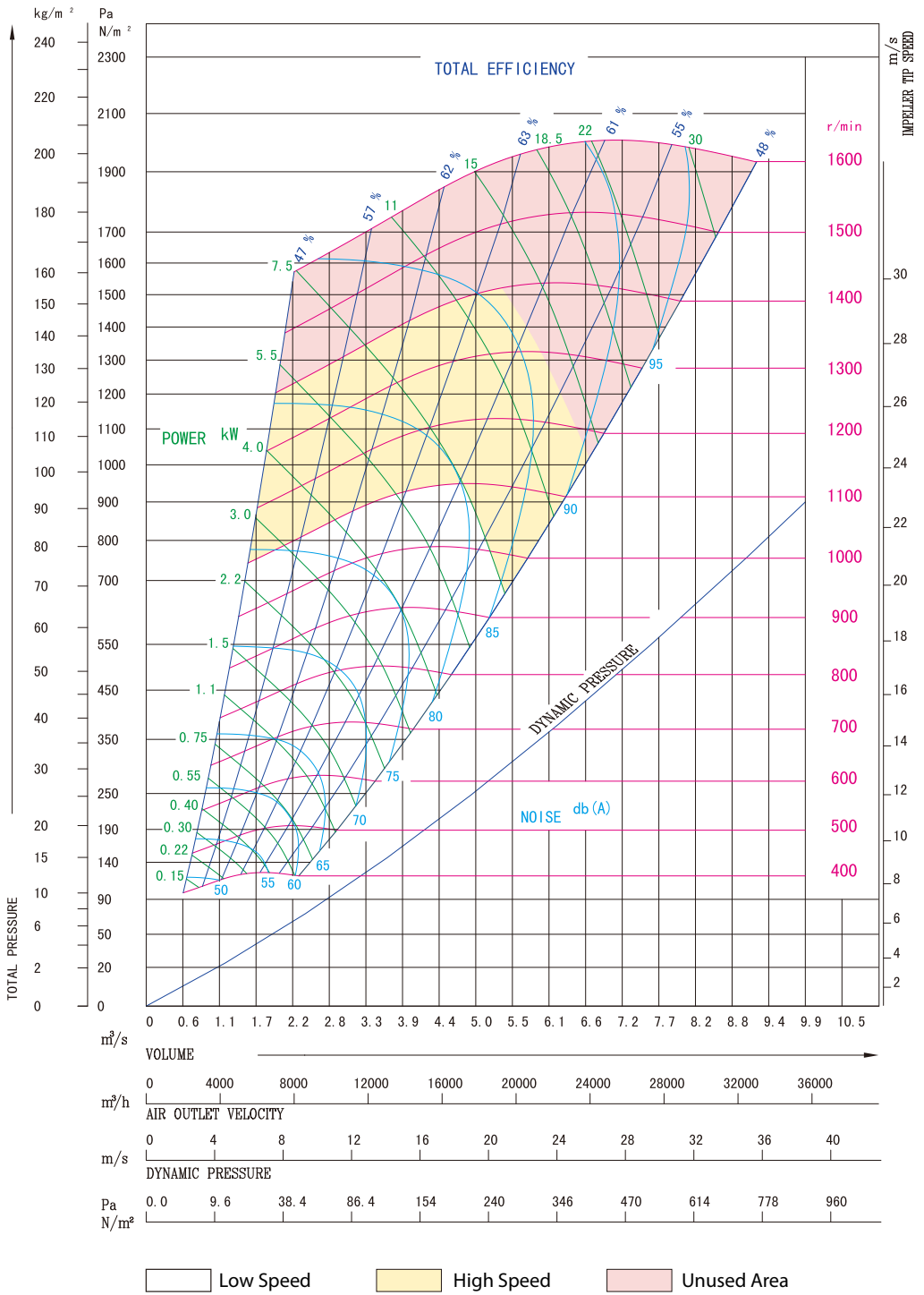
t=20°C
ρ =1.2 kg/m³



1.Performance certified is for installation type B-Free inlet, Ducted outlet.Power rating(kW)does not include transmission losses.Performance ratings do not include the effects of appurtenances(accessories).
2.The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.Value shown are for inlet sound power levels for installation type B- free inlet,ducted outlet.

FCDH-400 Performance data

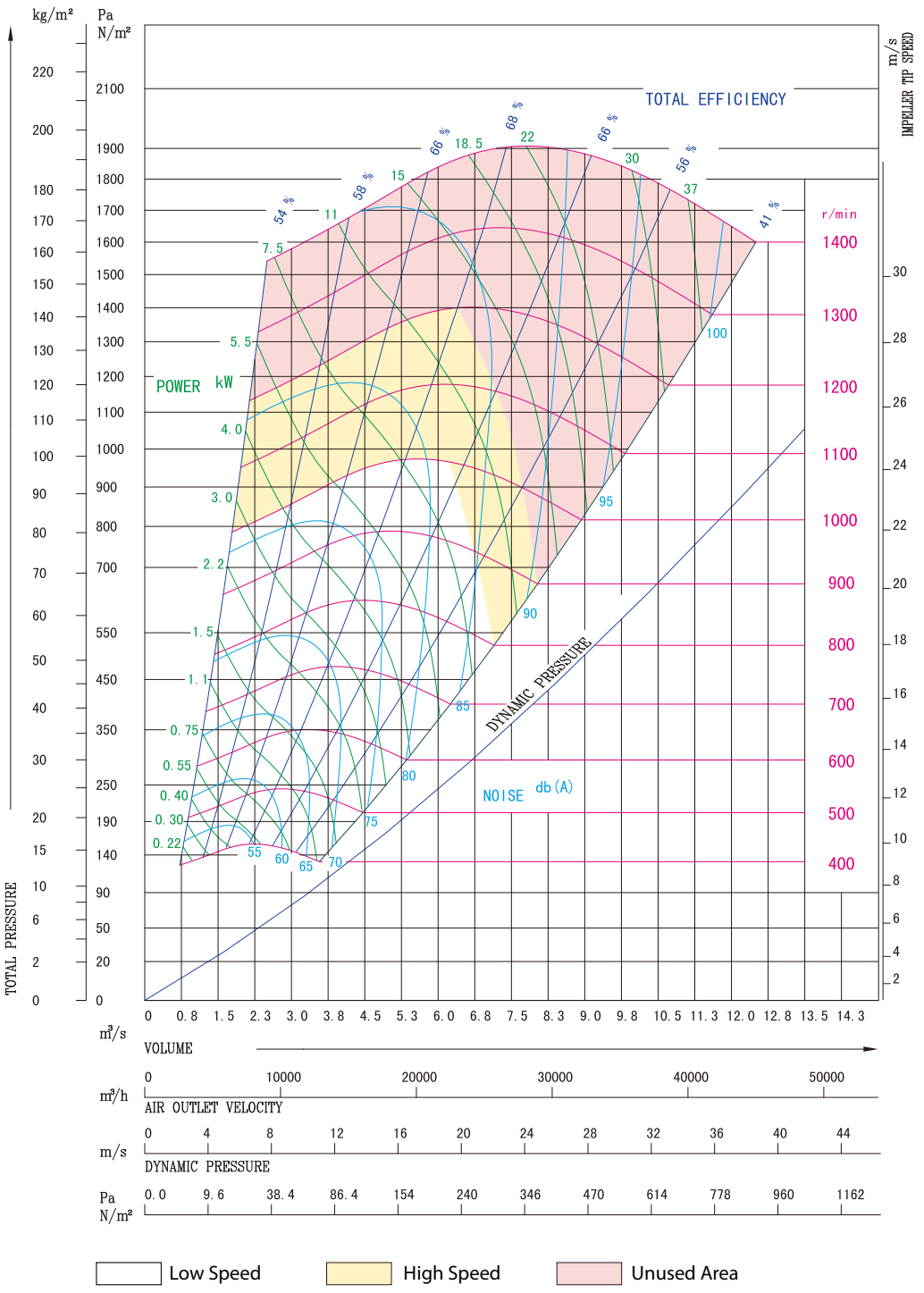
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

FCDH-450 Performance data

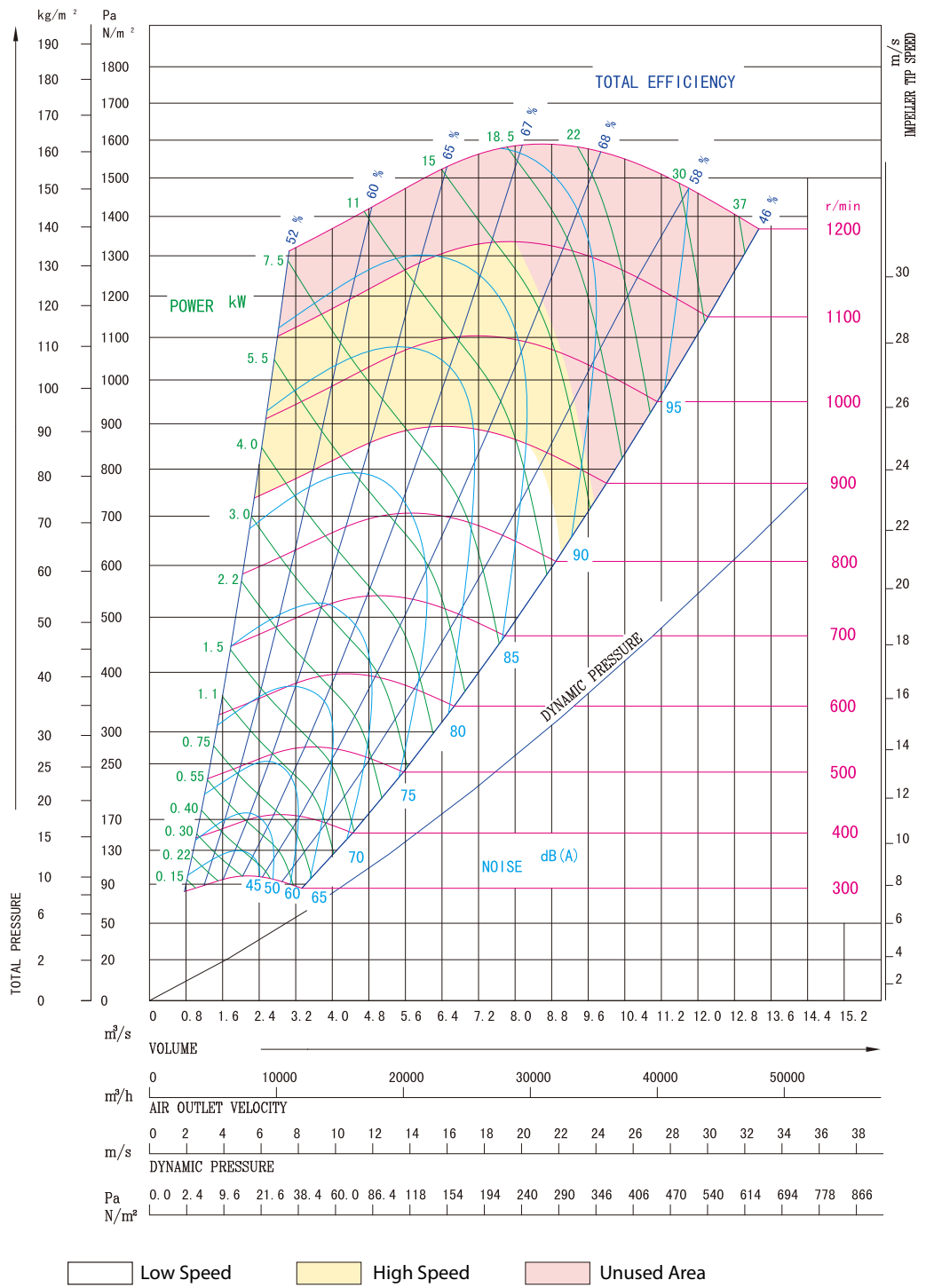
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

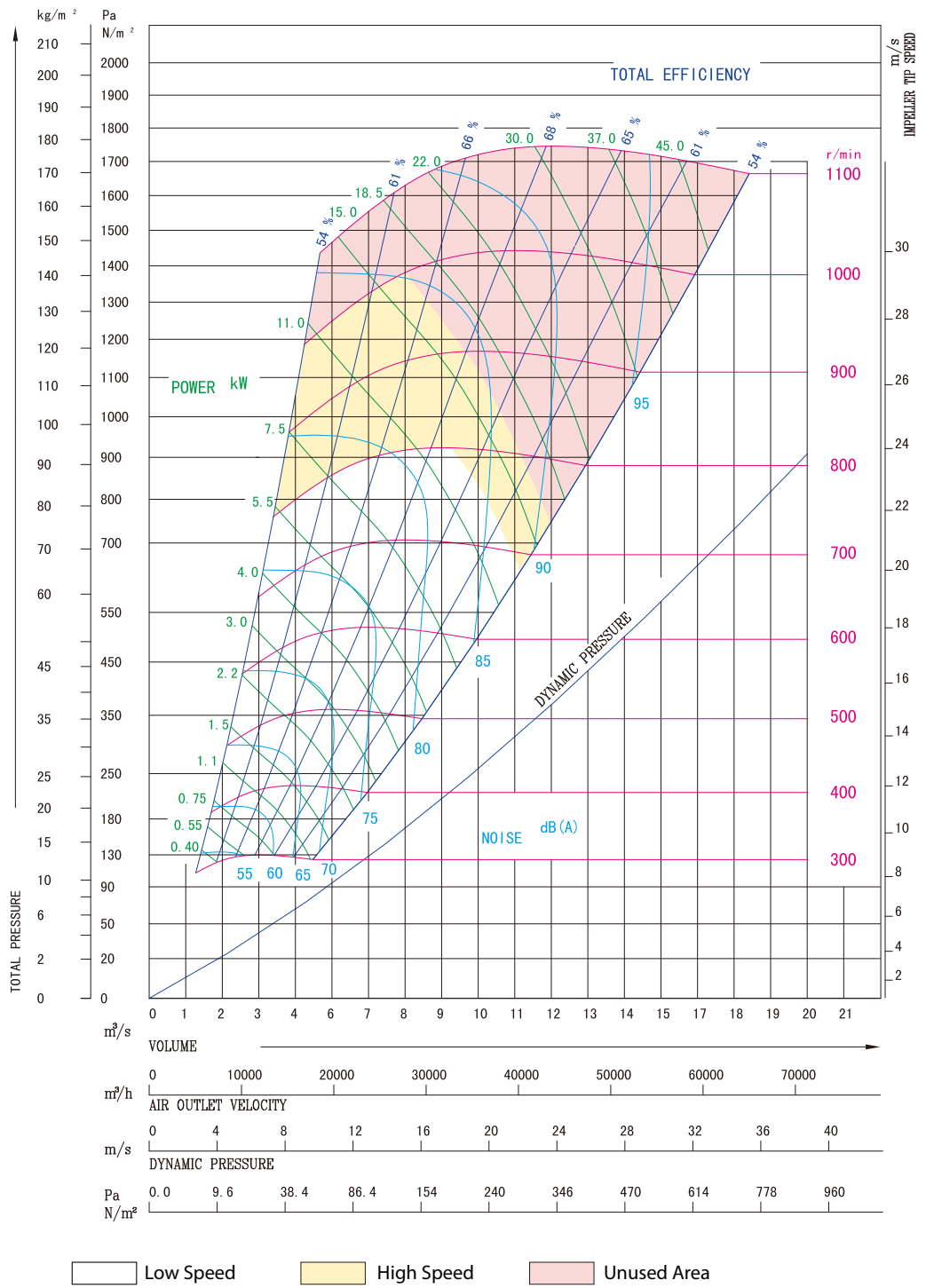
FCDH-500 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

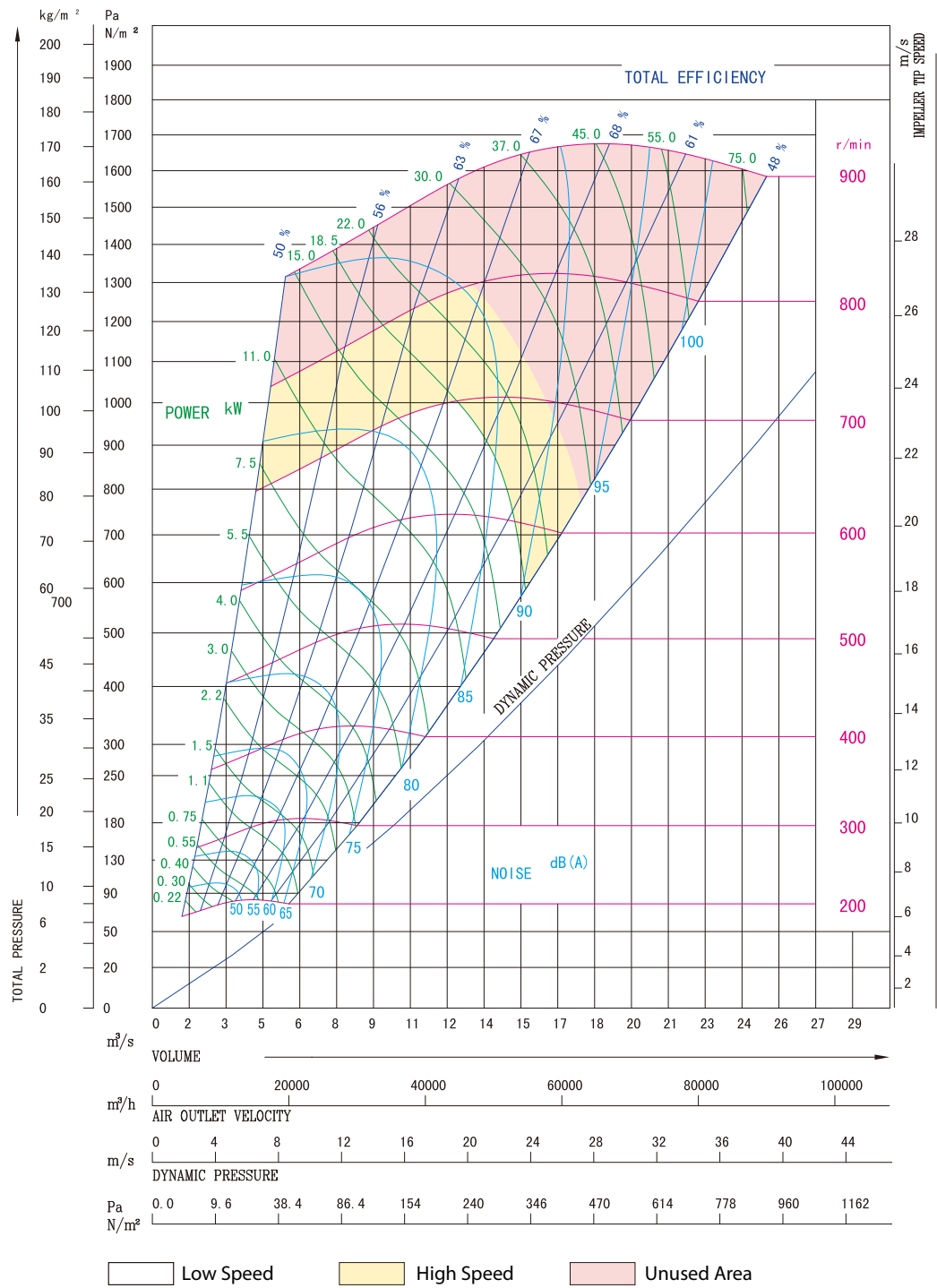
FCDH-560 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

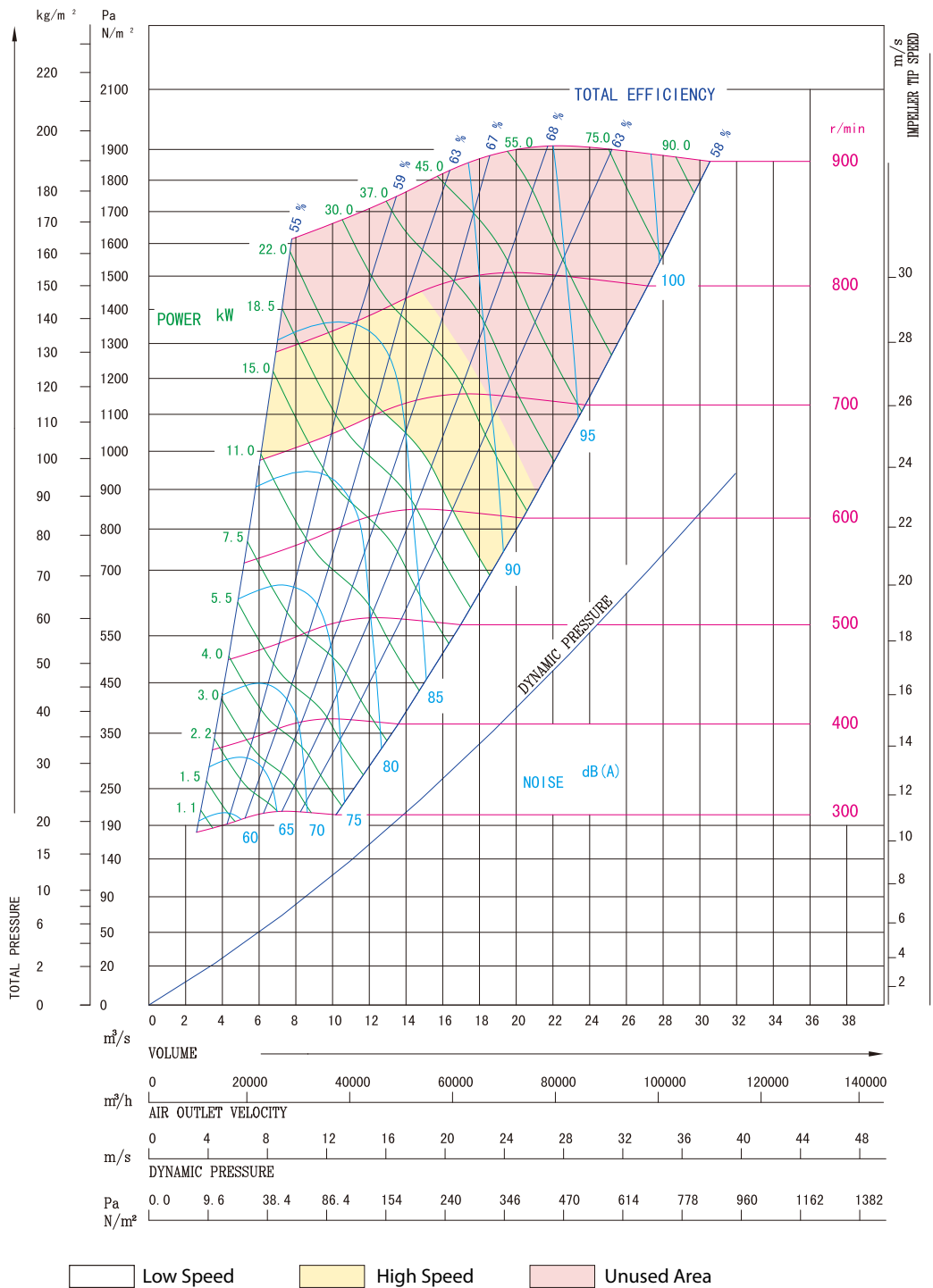
FCDH-630 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

FCDH-710 Performance data

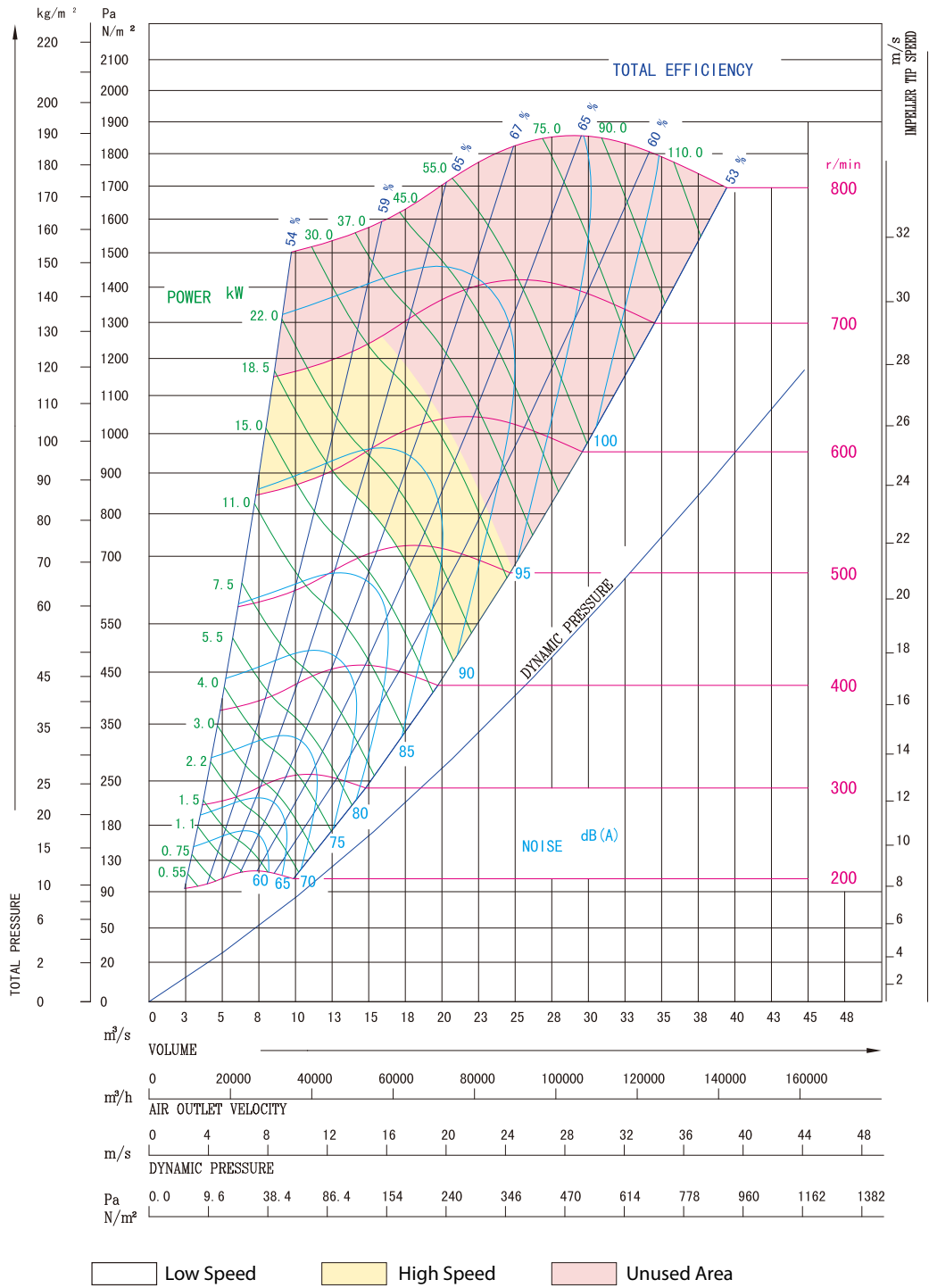
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

FCDH-800 Performance data

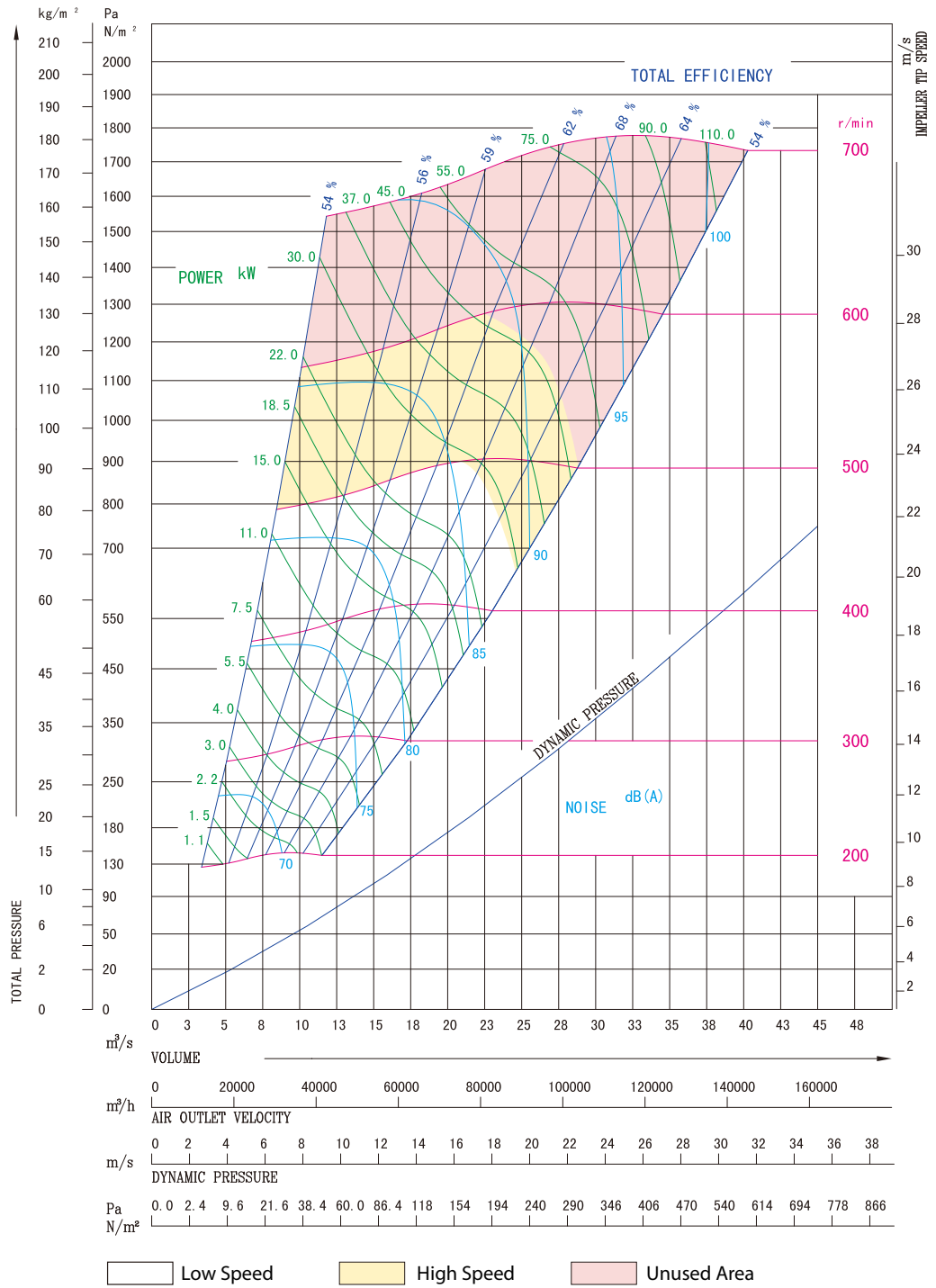
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

FCDH-900 Performance data

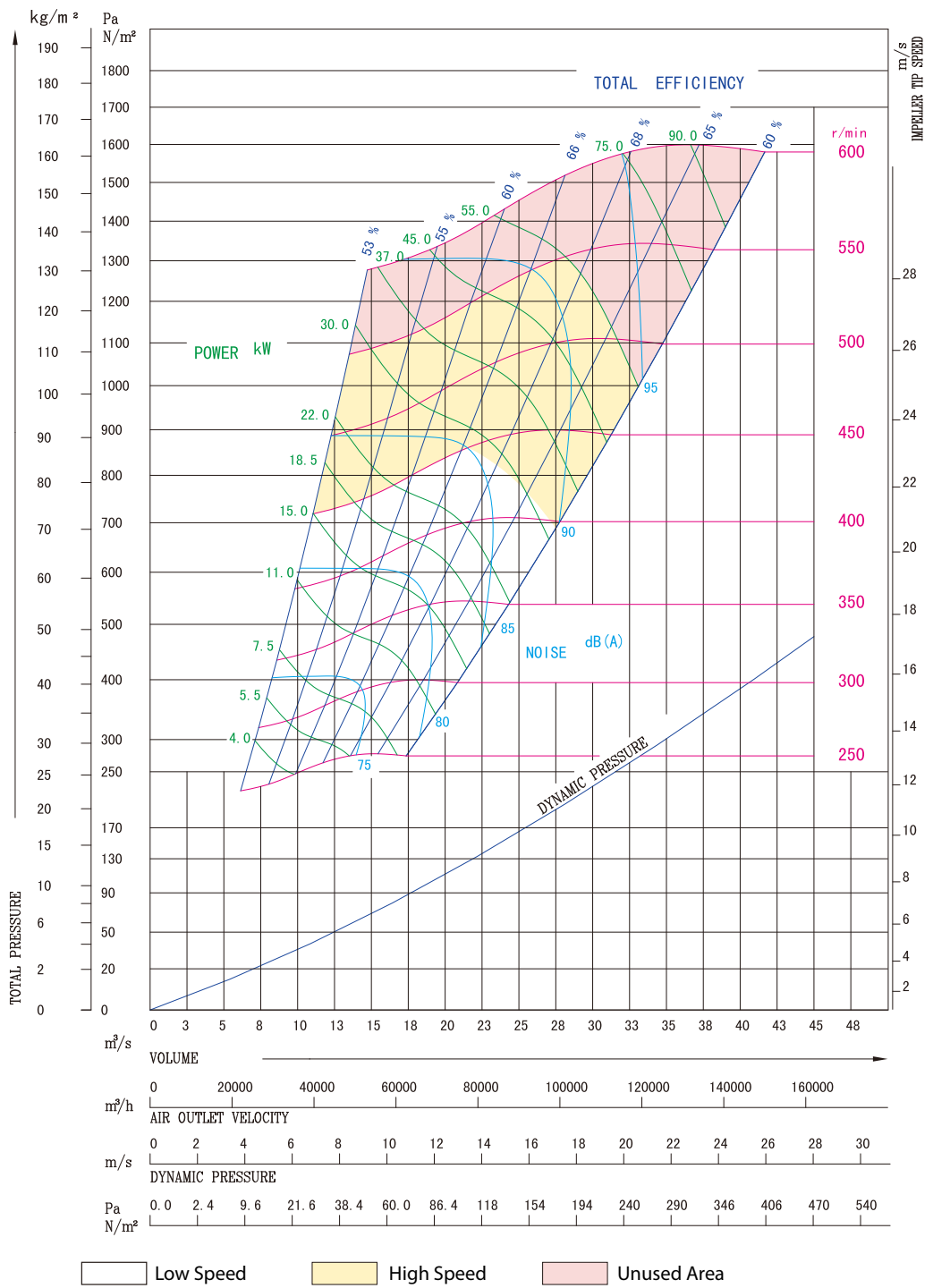
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

FCDH-1000 Performance data

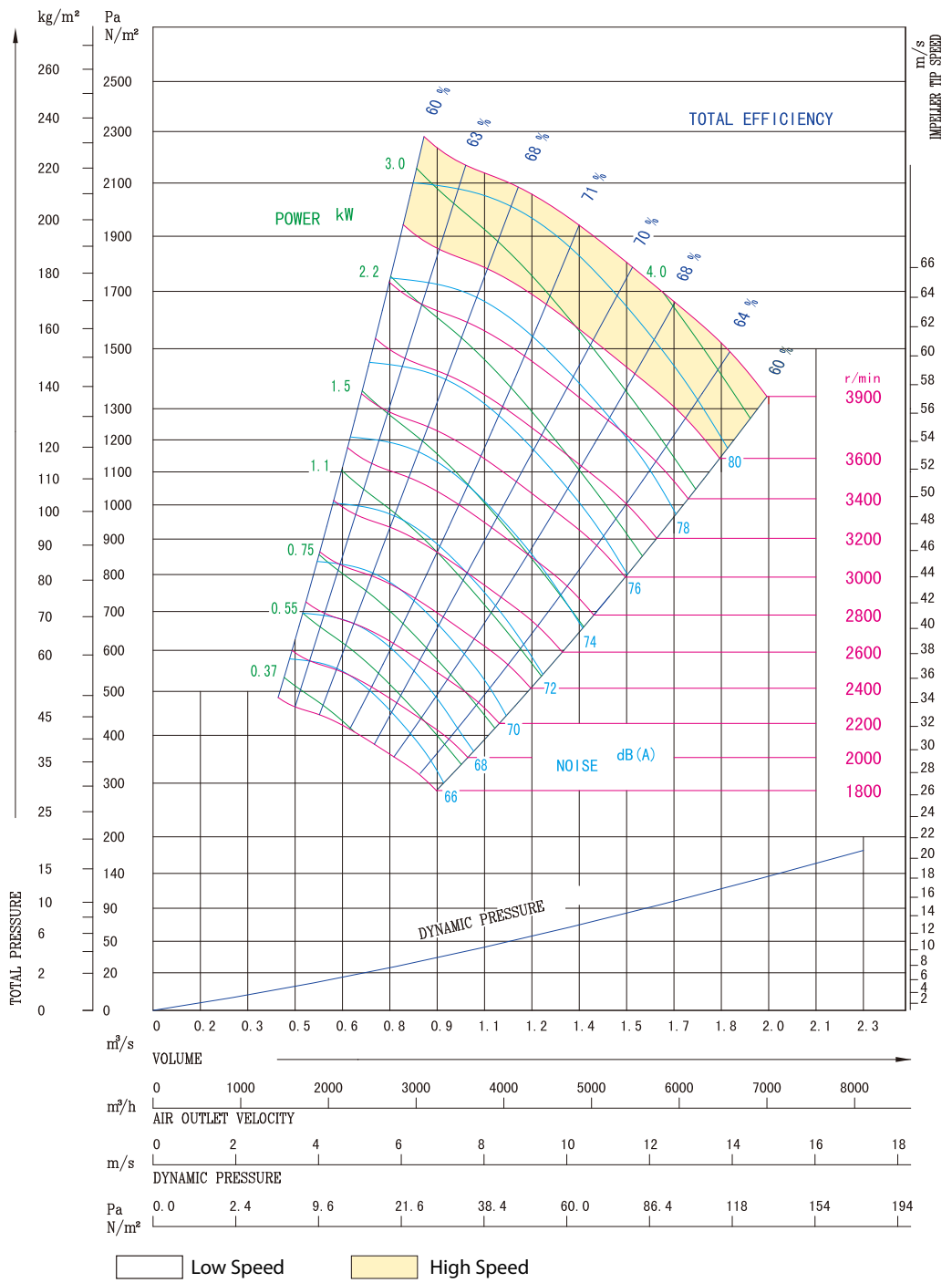
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

BCDH-280 Performance data

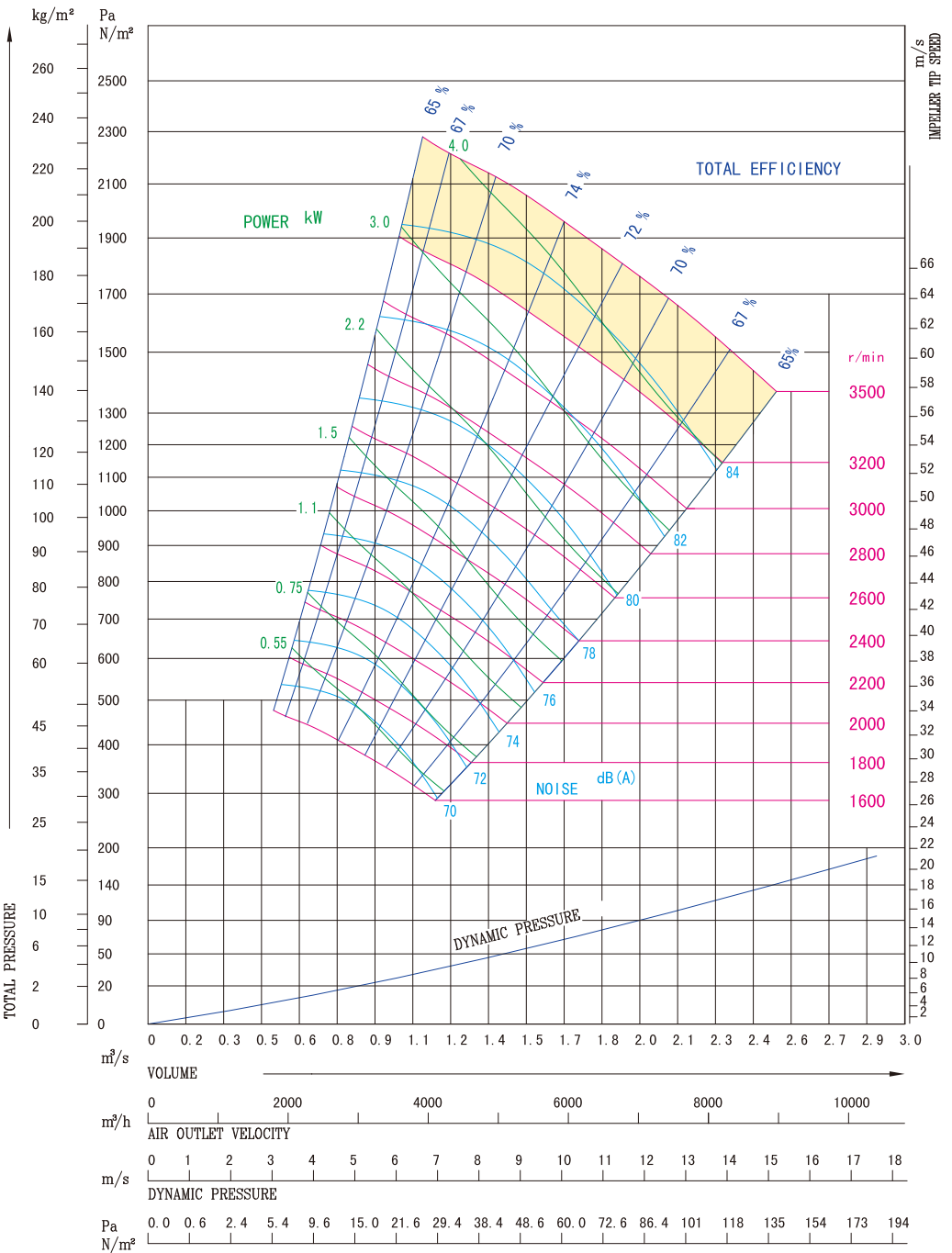
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

BCDH-315 Performance data

t=20°C
ρ=1.2 kg/m³

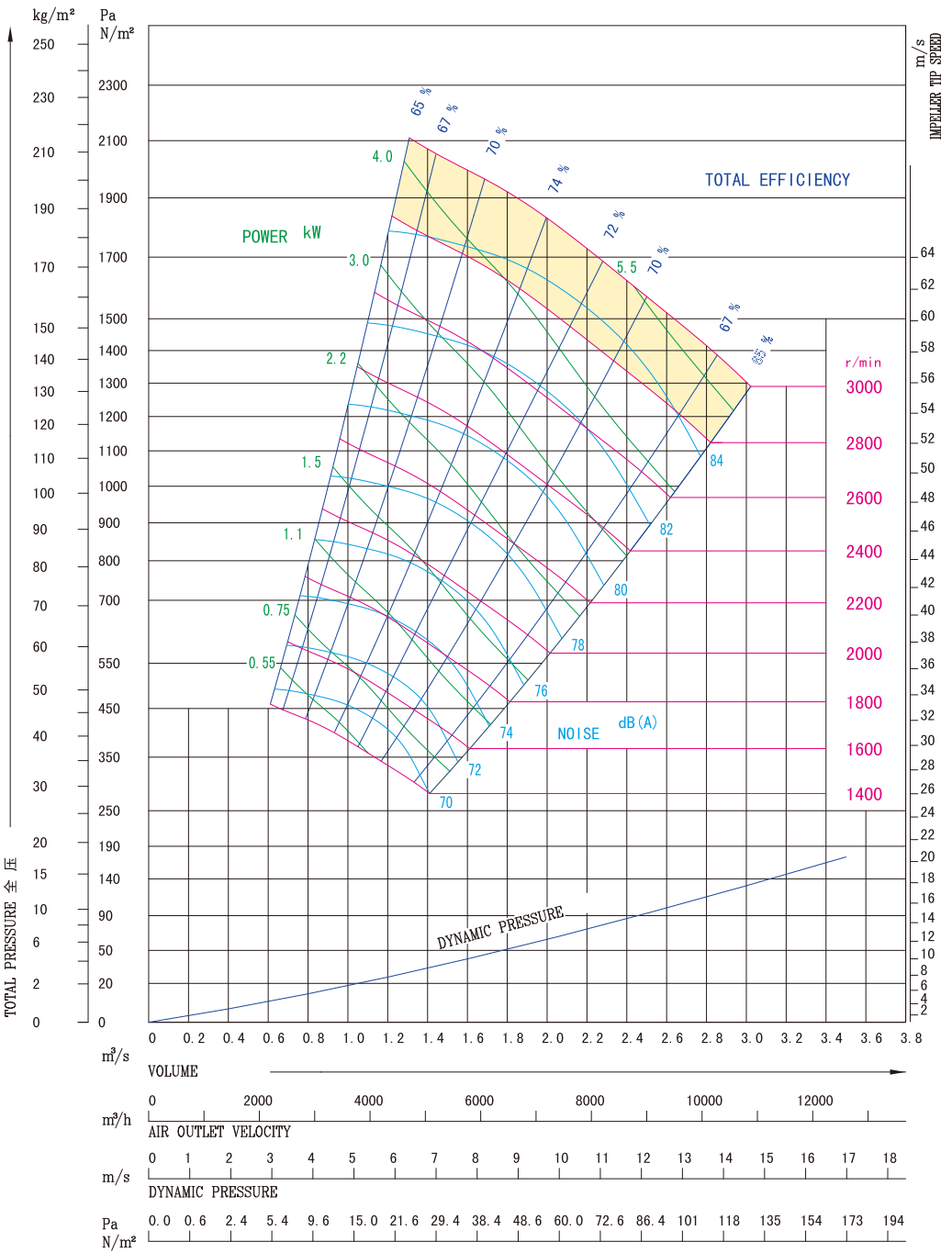


Low Speed High Speed

1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

BCDH-355 Performance data

t=20°C
ρ=1.2 kg/m³

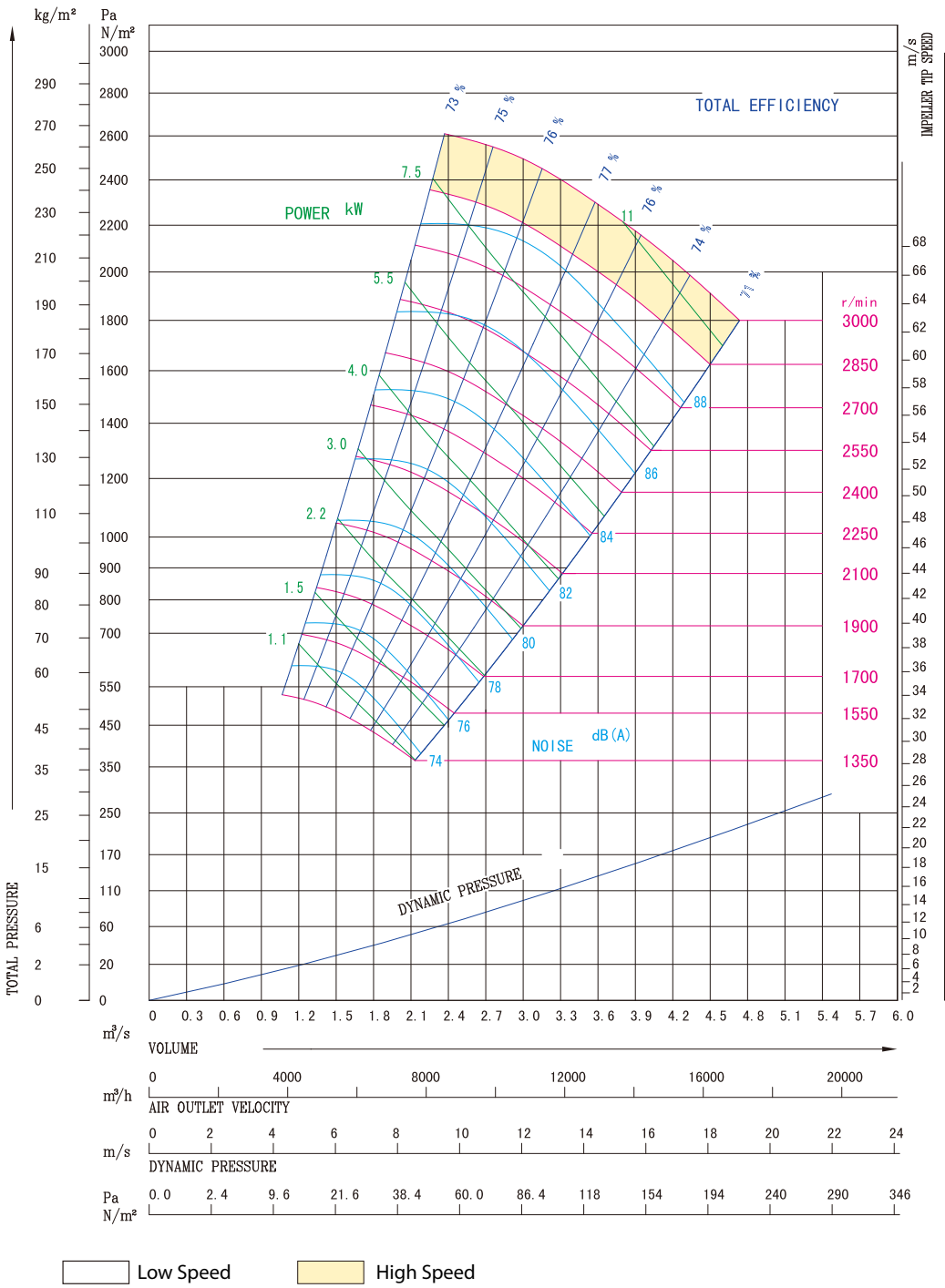


Low Speed High Speed

1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

BCDH-400 Performance data

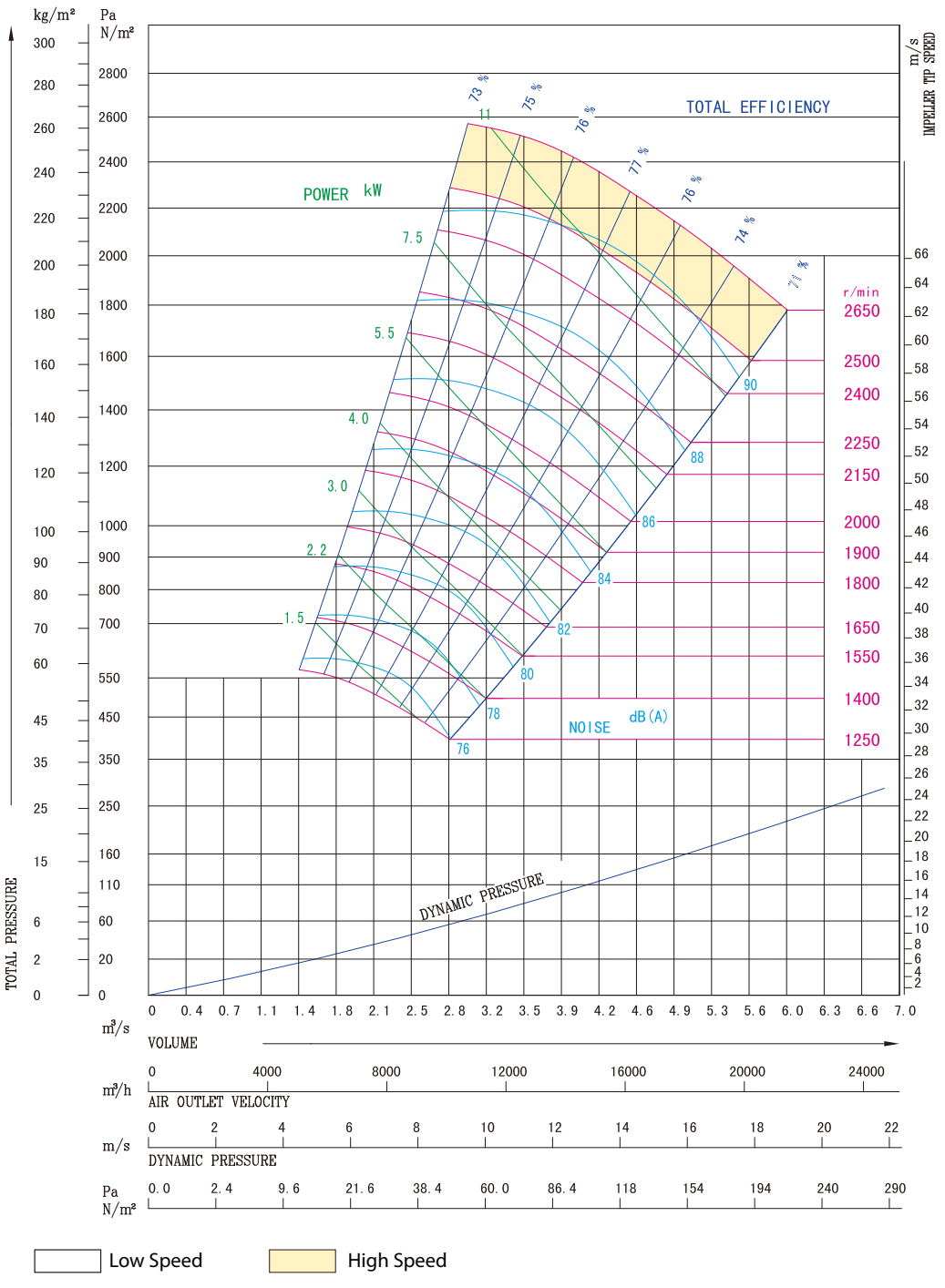
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

BCDH-450 Performance data

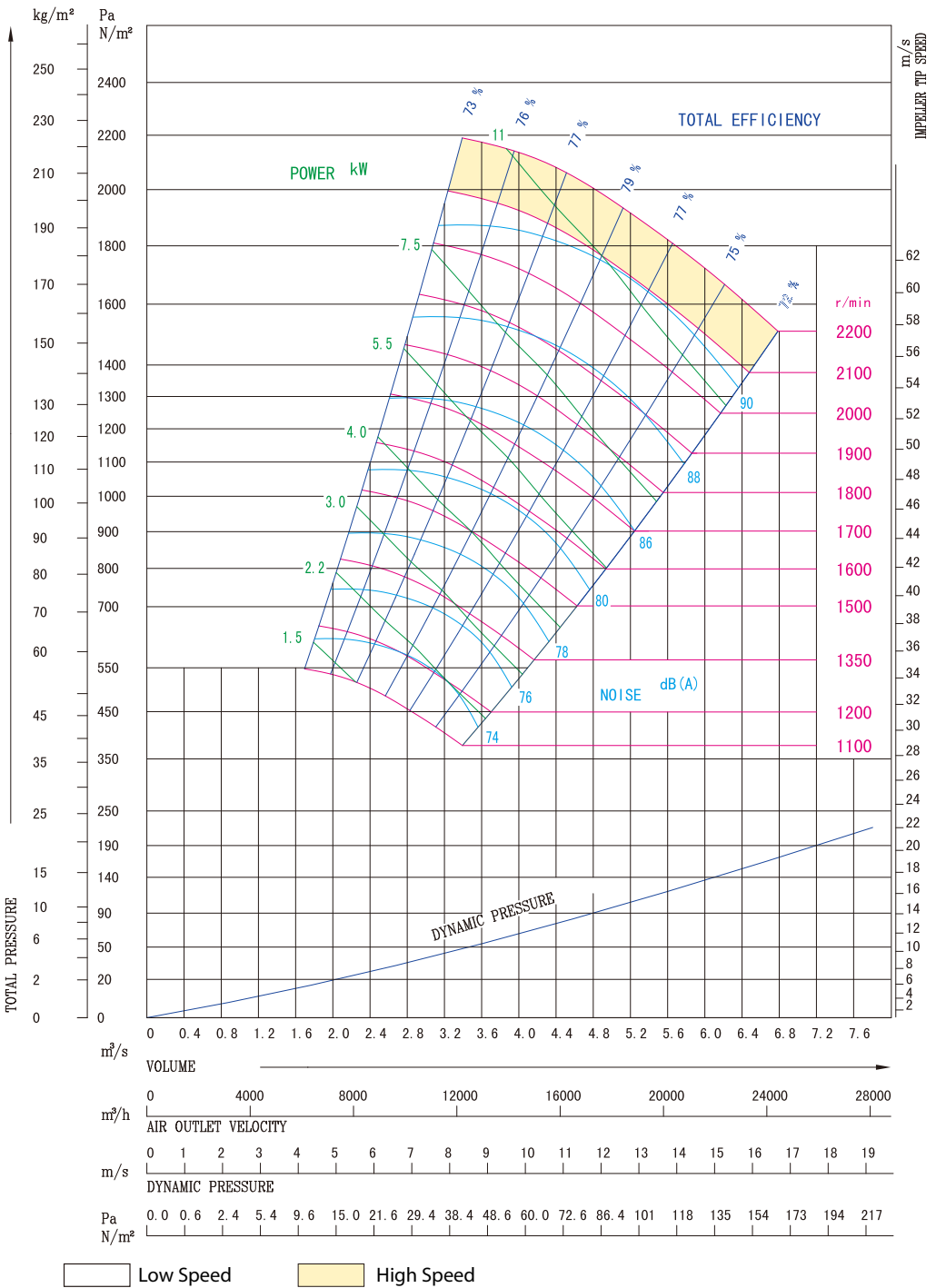
t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating (kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

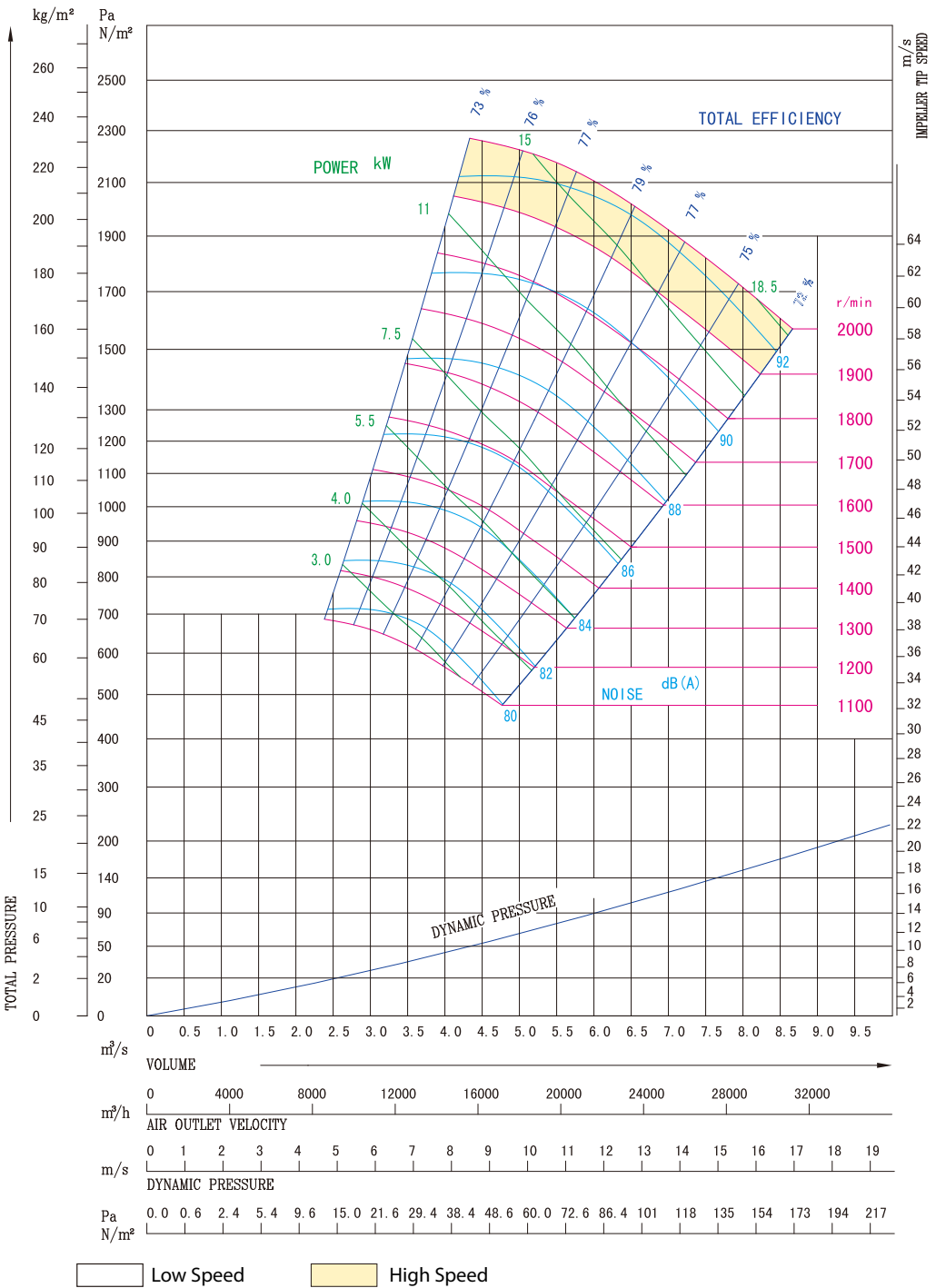
BCDH-500 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

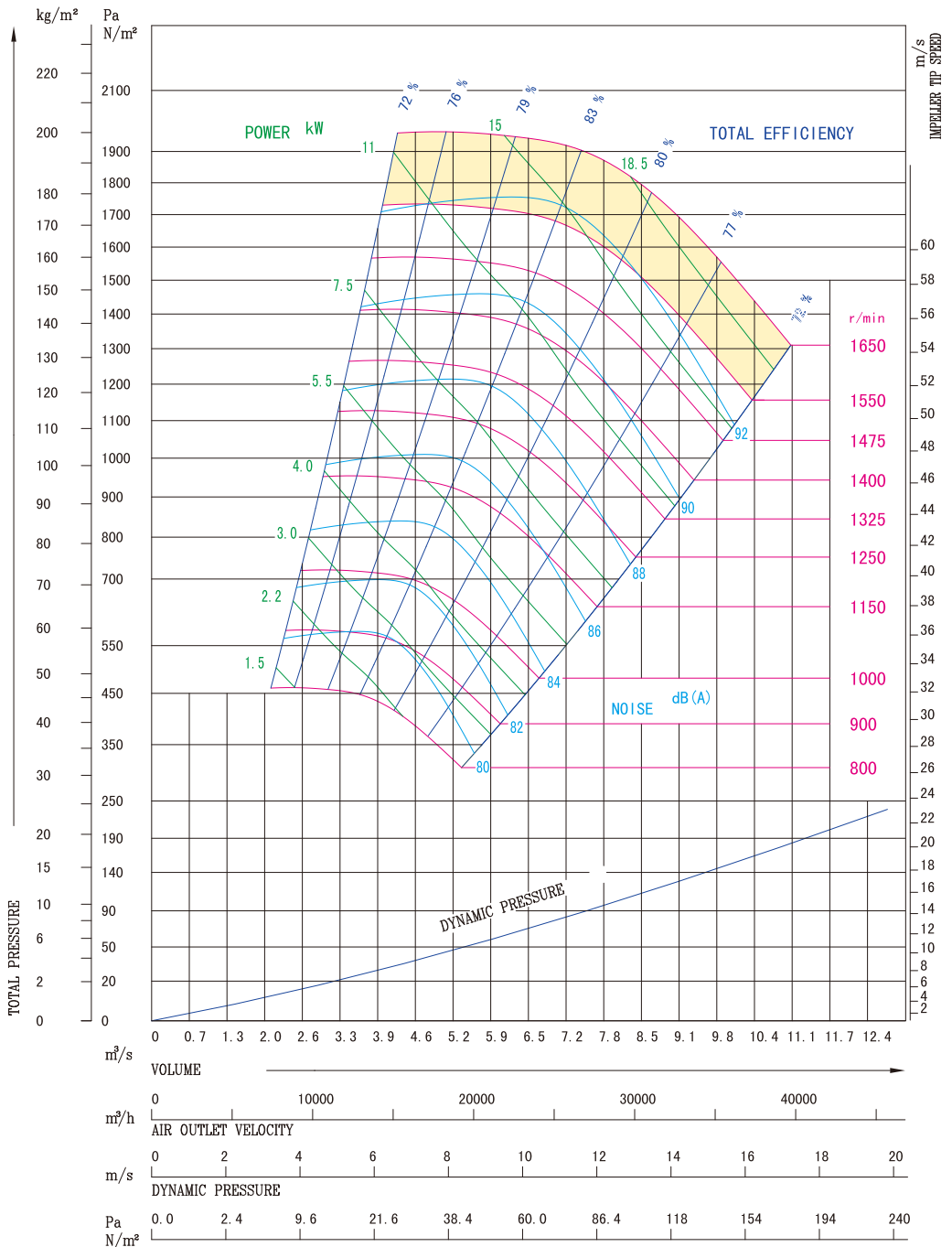
BCDH-560 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B-free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

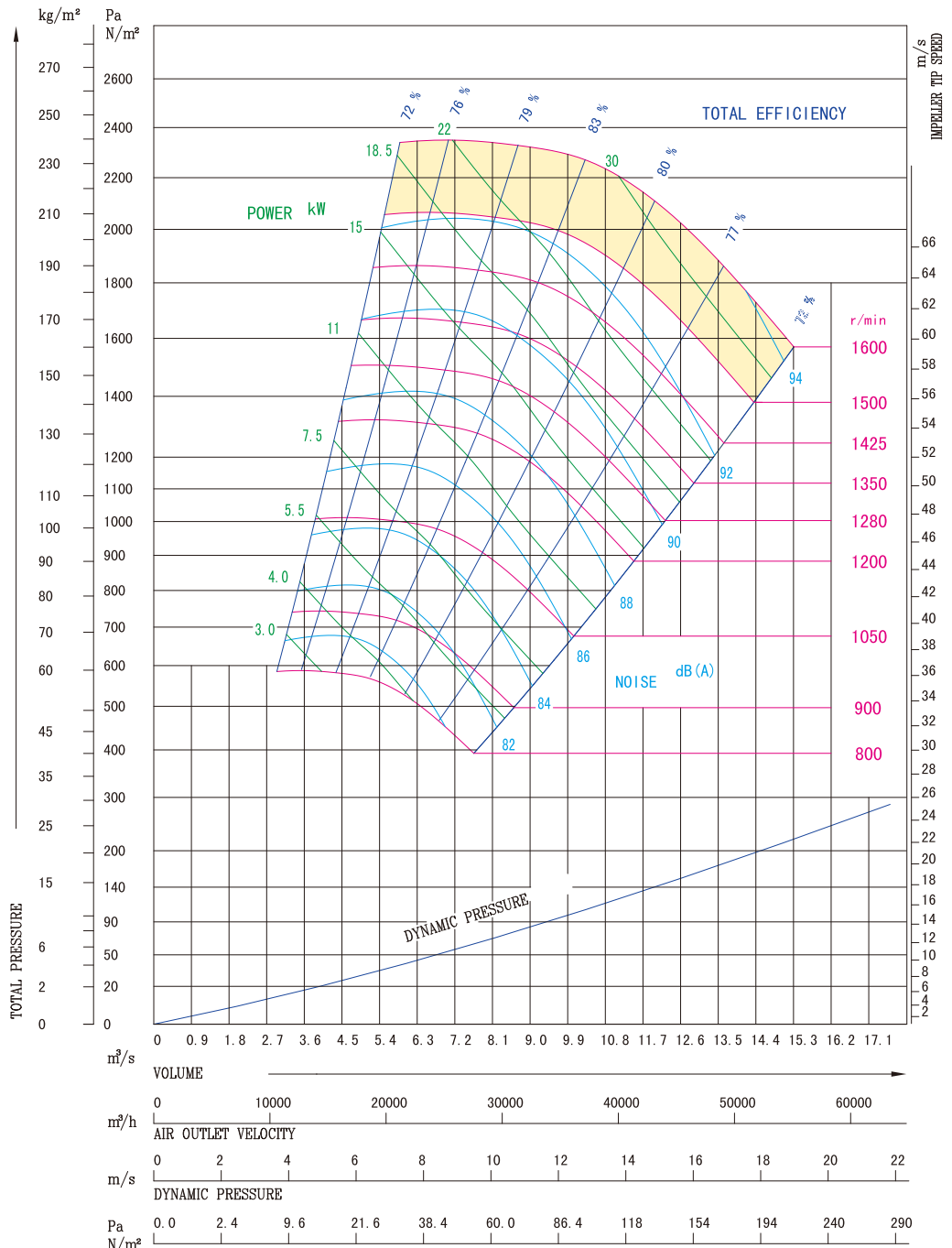
BCDH-630 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

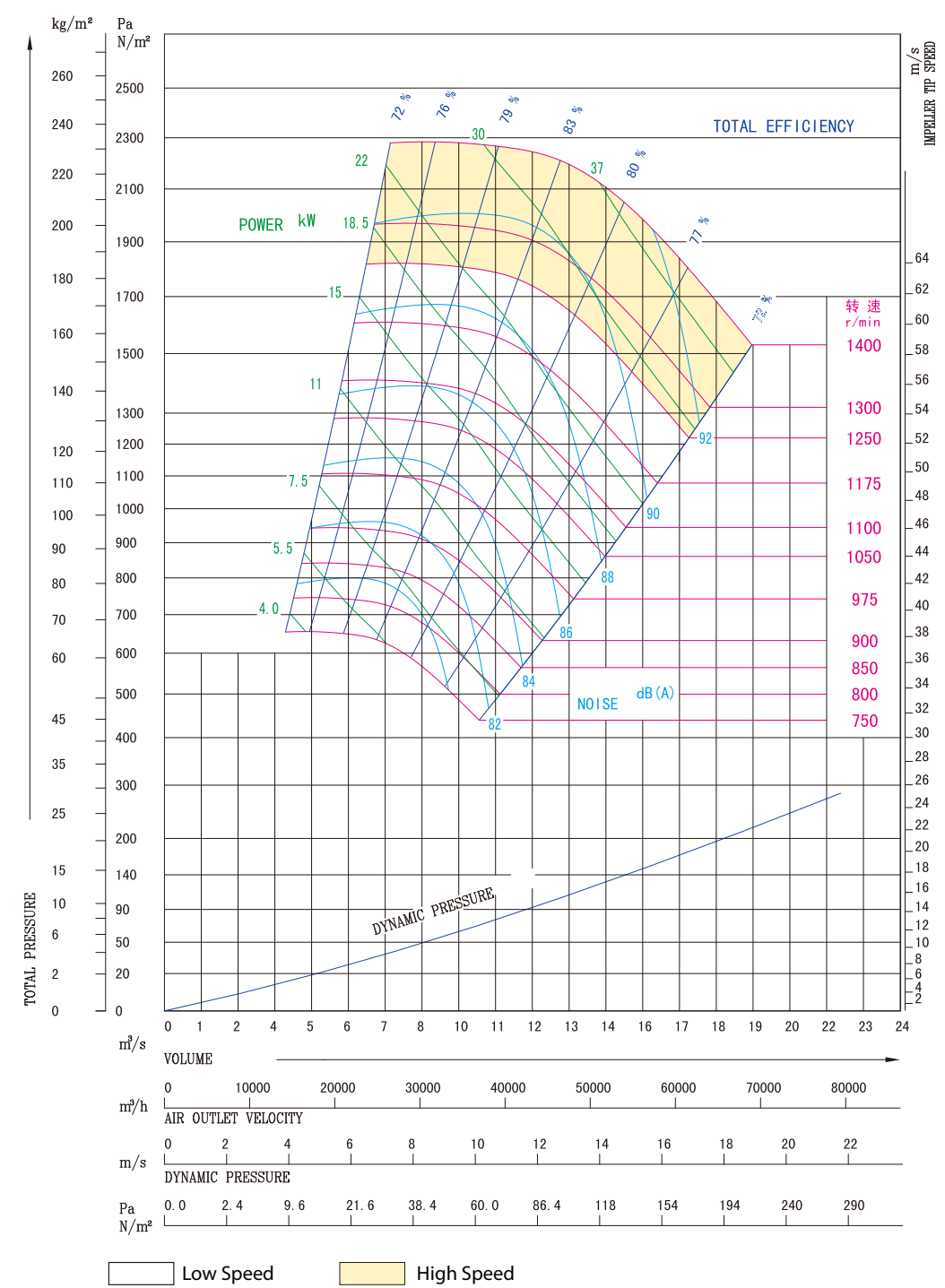
BCDH-710 Performance data



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

t=20°C
ρ=1.2 kg/m³

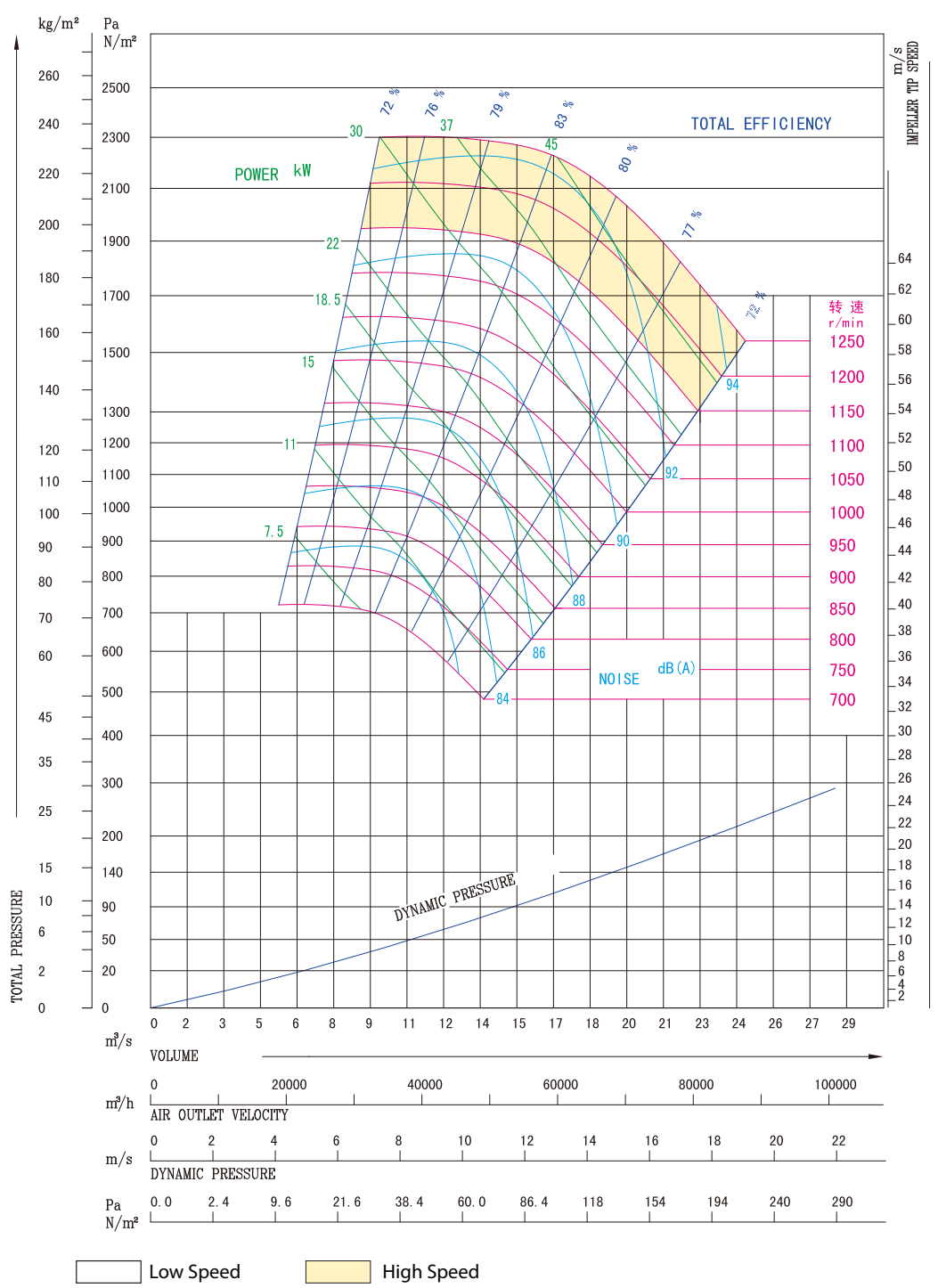
BCDH-800 Performance data



1.Performance certified is for installation type B-Free inlet, Ducted outlet.Power rating(kW)does not include transmission losses.Performance ratings do not include the effects of appurtenances(accessories).
2.The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.Value shown are for inlet sound power levels for installation type B- free inlet,ducted outlet.

t=20°C
ρ=1.2 kg/m³

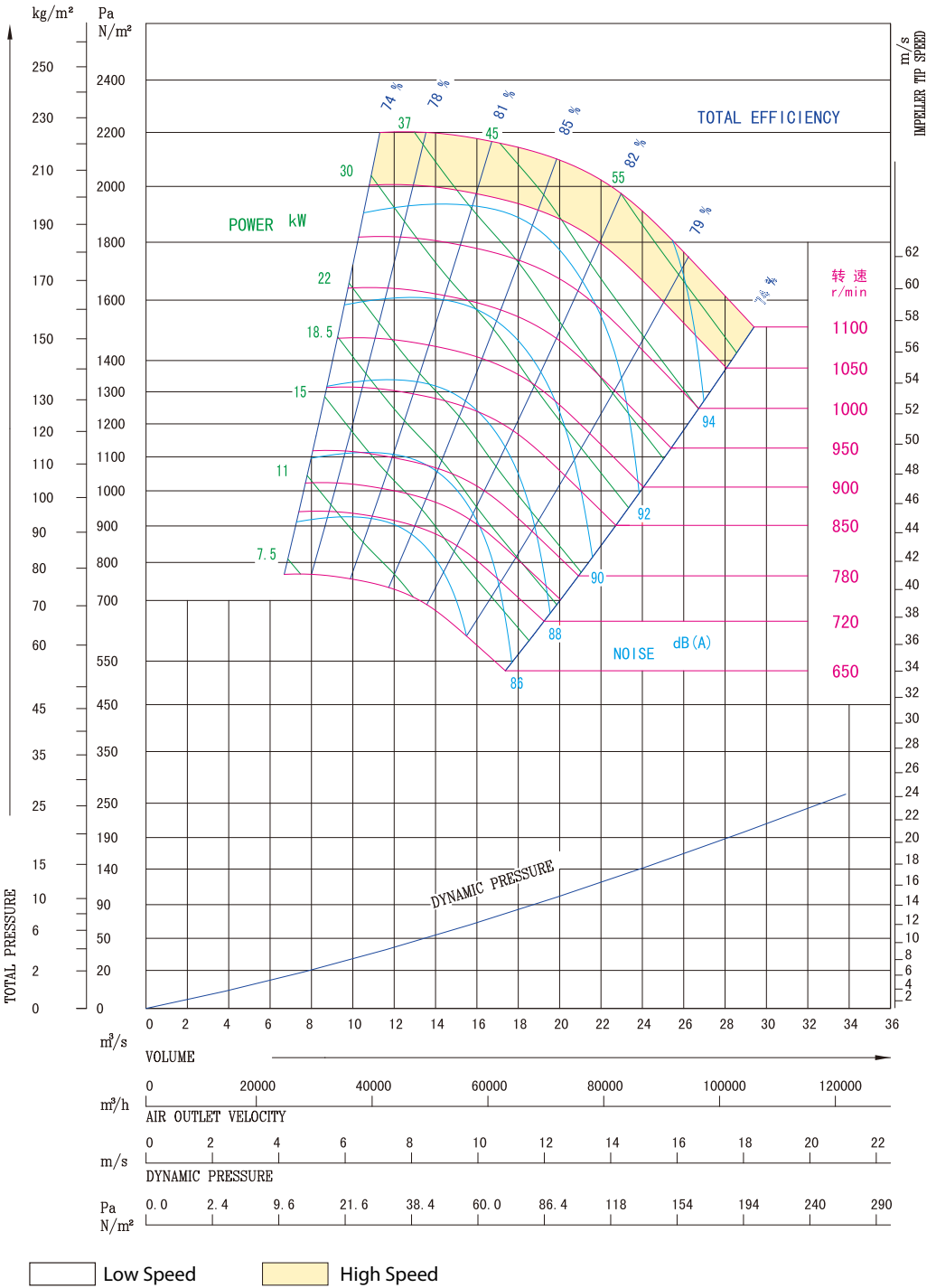
BCDH-900 Performance data



1.Performance certified is for installation type B-Free inlet, Ducted outlet.Power rating(kW)does not include transmission losses.Performance ratings do not include the effects of appurtenances(accessories).
2.The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.Value shown are for inlet sound power levels for installation type B- free inlet,ducted outlet.

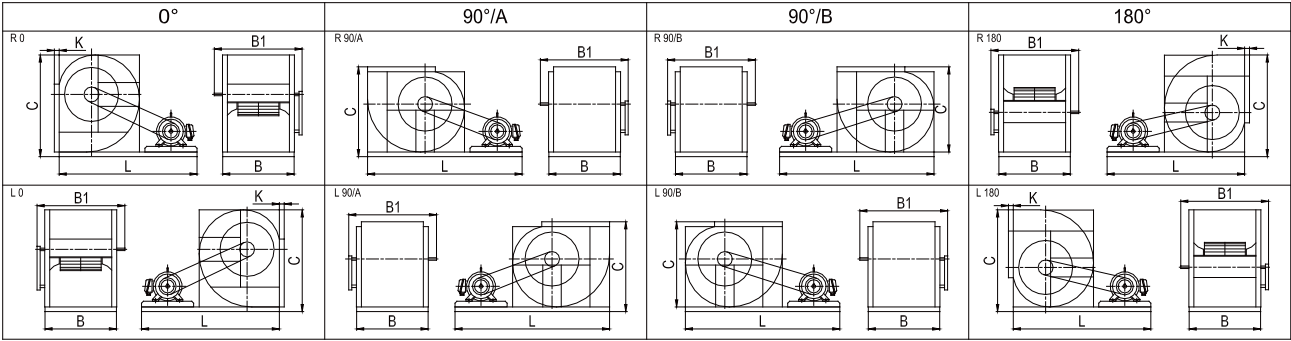
BCDH-1000 Performance data

t=20°C
ρ=1.2 kg/m³



1. Performance certified is for installation type B-Free inlet, Ducted outlet. Power rating(kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories).
2. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301. Value shown are for inlet sound power levels for installation type B- free inlet, ducted outlet.

FCDH/BCDH Standard dimension



F. Size	M. Size	L			B	B1	C			K	Weight(kg)
		0°/180°	90°/A	90°/B			0°	90°	180°		
280	80~90	910	1010	1010	425	630	581	522	581	35	70
	100~132	1010	1110	1110							118
315	80~90	970	1070	1070	470	675	646	573	646	35	80
	100~132	1070	1170	1170							128
355	80~90	1020	1140	1140	535	735	715	629	715	35	90
	100~132	1120	1240	1240							138
	160	1240	1360	1360							186
400	80~90	1090	1220	1220	580	800	793	695	793	35	150
	100~132	1190	1320	1320							180
	160	1330	1460	1460							280
450	90	1160	1310	1310	645	900	887	771	887	35	178
	100~132	1260	1410	1410							220
	160	1400	1550	1550							300
500	90	1230	1400	1400	720	970	989	870	989	53	253
	100~132	1330	1500	1500							285
	160~180	1470	1640	1640							380
560	112~132	1430	1630	1630	810	1110	1113	971	1113	53	340
	160~180	1570	1770	1770							400
630	132	1530	1750	1750	895	1200	1240	1078	1240	67	380
	160~180	1660	1890	1890							510
	200~225	1850	2080	2080							590
	250	2060	2330	2330							768
710	132	1650	1910	1910	995	1340	1411	1225	1411	79	490
	160~180	1780	2050	2050							640
	200~225	1960	2230	2230							680
	250	2060	2330	2330							768
800	132	1790	2080	2080	1100	1500	1551	1334	1551	78	550
	160~180	1910	2200	2200							710
	200~225	2090	2390	2390							801
	250	2190	2490	2490							885
900	160~180	2050	2380	2380	1230	1620	1768	1520	1768	83	835
	200~225	2230	2570	2570							940
	250	2330	2670	2670							1060
	280	2430	2770	2770							1158
1000	160~180	2190	2550	2550	1370	1750	1930	1664	1930	93	1030
	200~225	2370	2730	2730							1100
	250	2470	2830	2830							1220
	280	2570	2930	2930							1460
	315	2670	3030	3030							1580

Note: 1. Dimension date is for reference only, subject to drawings confirmation with factory technical confirmation.
2. Weight does not include motor's.

FCDH/BCDH Countershaft Dimension

0°												90°												180°											
R 0												R 90												R 180											
L 0												L 90												L 180											
F. Size	M. Size	A	B			C			K	D	E	Weight(kg)	F. Size	M. Size	A	B			C			K	D	E	Weight(kg)										
			0°	90°	180°	0°	90°	180°								0°	90°	180°	0°	90°	180°														
280	80	750									7	70	630	132	1380									50	350										
	90										27	70		160	1520	1050	1200	1050	1240	1078	1240	67	130	60	485										
	100	830	700	700	700	581	522	581	35	77	7	118		180										115	485										
	112										27	118		200	1650	1250	1400	1250	1240	1078	1240	67	130	50	540										
	132										97	118		225										120	540										
315	80	790									5	80	710	132	1500									55	440										
	90										25	80		160	1630									70	610										
	100	870	730	730	730	646	573	646	35	78	5	128		180	1280	1350	1280	1411	1225	1411	79	148		90	610										
	112										25	128		200										125	610										
	132										95	128		225	1700									165	680										
355	80	870									/	90	800	132	1650									75	500										
	90										35	90		160	1800									30	660										
	100	950	730	730	730	715	629	715	35	73	/	138		180	1300	1500	1300	1551	1334	1551	78	175		90	660										
	112										10	138		200										110	720										
	132										85	138		225	1850									155	720										
400	80	920									/	145	900	160	1950									75	500										
	90										35	145		180	1300	1500	1300	1551	1334	1551	78	175		90	660										
	100	1000	840	840	840	793	695	793	35	85	/	180		200	2000									75	500										
	112										26	210		225										110	720										
	132										96	210		250	2180	1680	1680	1680	1768	1520	1768	83	171	29	960										
450	80	1030									/	180	1000	160	2050									45	975										
	90										6	210		180										105	975										
	100	1060	840	840	840	887	771	887	35	104	26	210		200	2150	1600	1850	1600	1930	1664	1930	93	165	65	1060										
	112										96	210		225										105	1060										
	132										96	300		250	2200									155	1180										
500	80	1100									/	250	1000	160	2300									175	1180										
	90										120	380		180	2450	1850	1850	1850	1930	1664	1930	93	165	315	1250										
	100	1180	850	950	850	989	870	989	53	100	50	270		200																					
	112										110	365		225																					
	132										130	365		250																					
560	80	1300									/	324	1000	160	2300									175	1180										
	90										80	324		180	2450	1850	1850	1850	1930	1664	1930	93	165	315	1250										
	100	1400	900	1050	900	1113	971	1113	53	130	80	380		200																					
	112										120	380		225																					
	132										120	380		250																					

Note: 1. Dimension date is for reference only, subject to drawings confirmation with factory technical confirmation.
2. Weight does not include motor's.

Eagle Service

