HEINEN & HOPMAN

AXIAL FANS - WMOR AND WMOD

Products

Heating Ventilation Air Conditioning Refrigeration

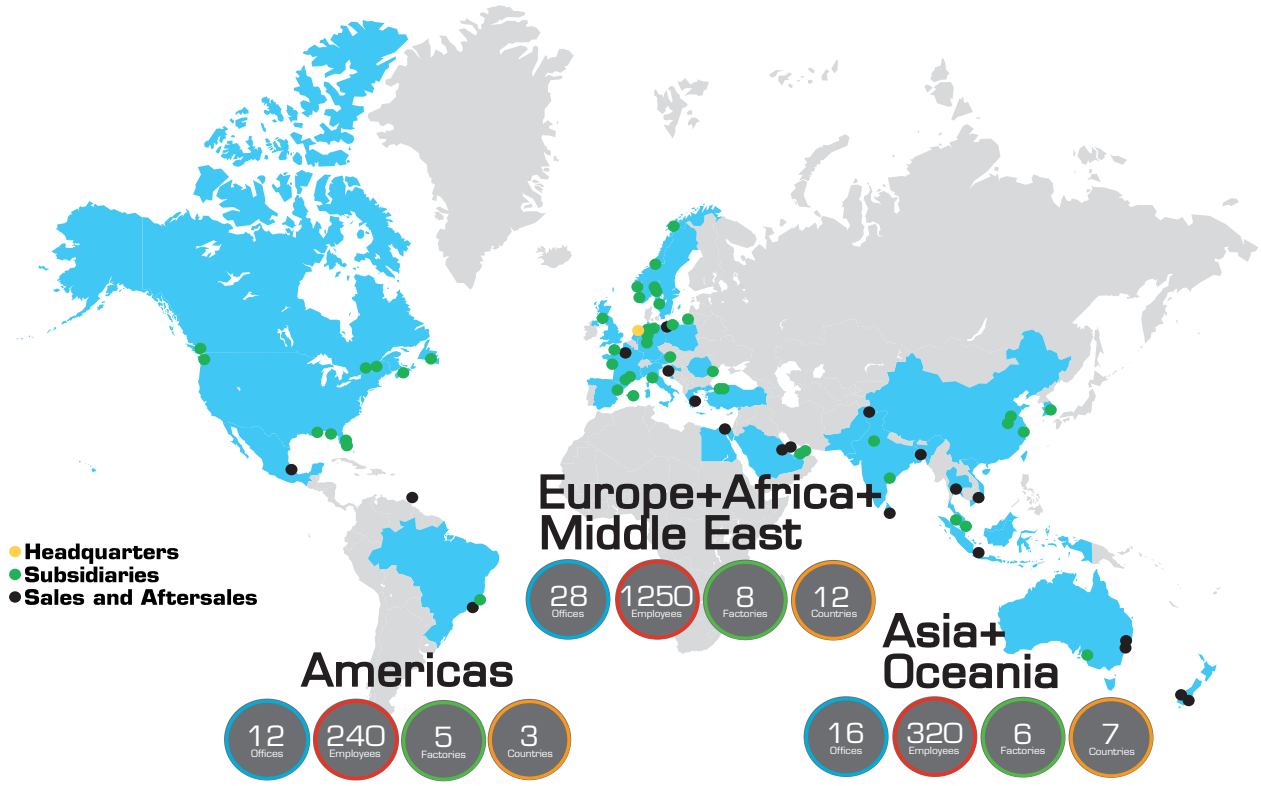
COMPANY INTRODUCTION

Heinen & Hopman is a reliable partner in the global maritime sector, offering top quality products and service in the field of climate control (HVAC & Refrigeration). The no-nonsense and entrepreneurial character of the founders who established the company in 1965 is still one of the main cornerstones of Heinen & Hopman. We support our clients using our knowledge and experience by realising the best possible climate control solutions; either fully customised or with varying degrees of standardisation. Like our clients, we are continuously active on a global scale to ensure that we can always be of service. We are also constantly searching for sustainable innovations as we aim for the best and very latest solutions in collaboration with our clients. Heinen & Hopman is critically aware that a company's greatest asset is its employees – it is they who represent the added value of our business. Our goal is to continue to expand in the global market for maritime climate control solutions in a future-proof way.

In short, you can rely on Heinen & Hopman to deploy the know-how and expertise required to solve any heating, ventilation, air conditioning and refrigeration issue onboard ships. We see complexity as a challenge, no matter where your vessel may be.

OPERATING GLOBALLY

Global networking is crucial in every line of business and the shipping industry is certainly no exception. Being able to offer the highest quality of service and products to our clients at all times and in all places is of enormous importance to us. This is why Heinen & Hopman aims to keep expanding our network and know-how and ensure we are exactly where our clients need us to be.



AXIAL FANS

With our wide range of fans, we can offer you the ultimate ventilation system for each situation. Our high quality fans are designed to withstand all climate conditions. The fans comply with all requisite class and government regulations.

Options
The axial fans are available in different materials:
- galvanized steel (standard)
- primed and painted steel
- marine corrosion-resistand aluminium
- stainless steel

The axial fans are used for the mechanical ventilation or areas such as engine rooms, cargo holds and pump rooms. The fans are available for both indoor and outdoor installations in standard formats or in special designs.

The fans can optionally be supplied in explosion-proof (ATEX) design.

Classification
- RMRS
- LES
- DNV-GL
- ABS
- BV
- RINA

WMOR AND WMOD FANS

Application
The WMOR and The WMOR and WMOD marine axial fans are
for operation in ventilation systems of seagoing ships with unrestricted cruising area as well as offshore objects. The fans can be used as supply or exhaust fans. The fans can be installed inside the compartments or on weather decks.

Casing
Made of steel pipe ended with drilled flanges, welded. The casing has an air guide, to which an electric motor-impeller set is screwed. Optimal surface protection thanks to hot-dip galvanizing. Special coatings with marine paints are available on request. WMOD fans have a hinged door to which the air guide with motor-impeller set is fastened.

Casing orientation and direction of air delivery
The standard direction of air delivery is impeller-motor. On request, the direction of air delivery for the fans can be changed in motor-impeller.

Impeller
Made of aluminum alloys. Sea-water-resistant. Impeller blades screwed to the hub. Impeller dynamically balanced.

Drive
3-phase motor, in marine execution, induction, squirrel cage. The motors are available with mains supply at 50 Hz and 60 Hz.

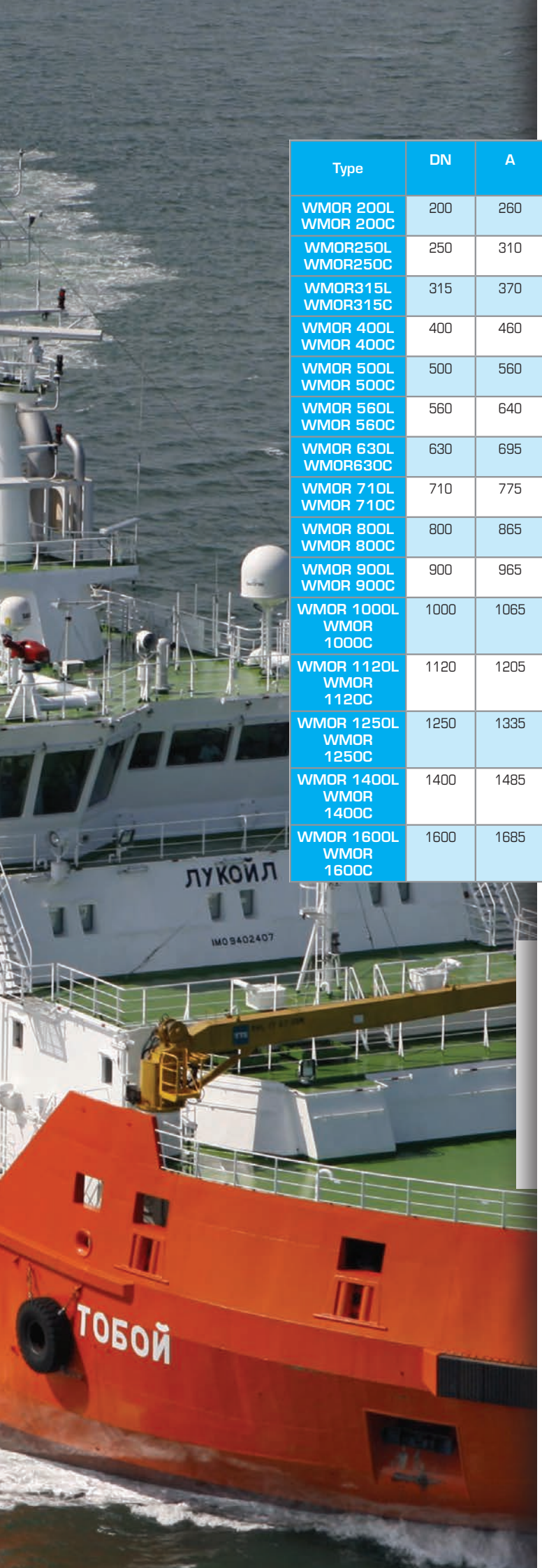
Electric protection
The electric protection can be found at the motor terminal box and fan terminal box. Protection class IP55.

Tolerances
Allowable tolerances of working parameters of fans (air displacement, pressure, power consumption and efficiency) are in accordance with standard PN-77/M-43021.

ATEX
As an option, the fans are available in an explosion-proof design.

Dimensions
All dimensions are in millimeters (mm). All weights are in kilograms (kg).

Air performance curves and sound level information are available on request.

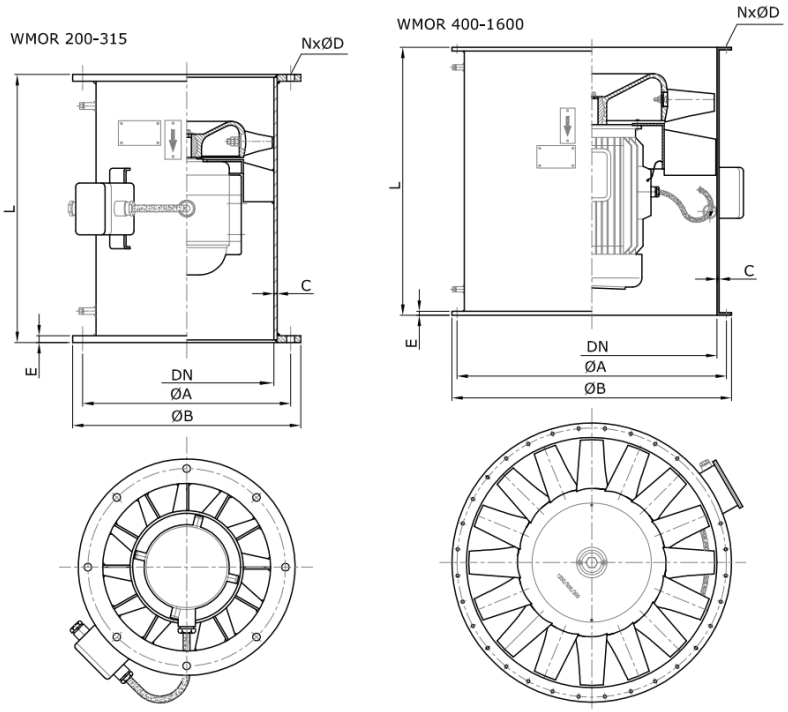


SPECIFICATIONS WMOR SERIES

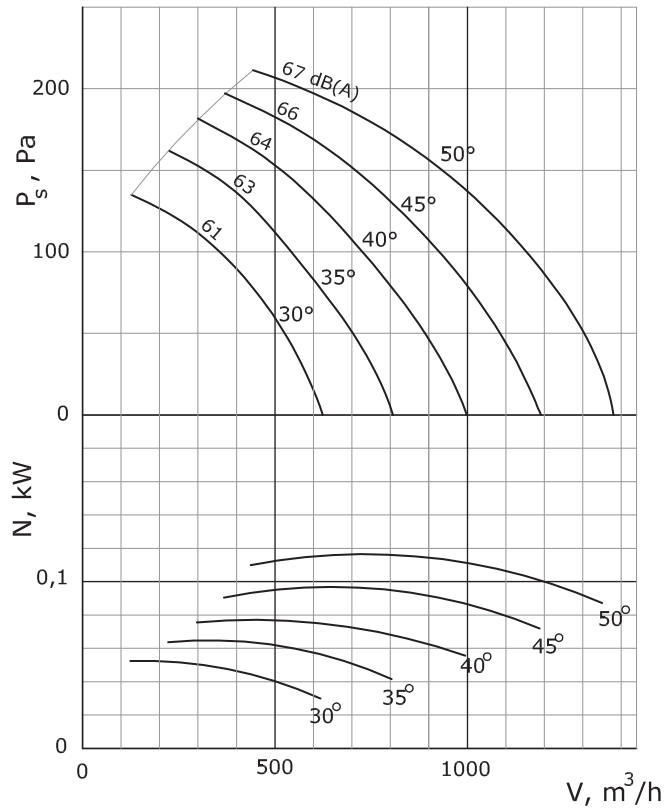
Type	DN	A	B	L	N	D	C	E	Weight (kg)
WMOR 200L WMOR 200C	200	260	290	350	8 16	12	3 5	5 10	19.3 33.6
WMOR250L WMOR250C	250	310	340	400	8 16	12	3 8	5 10	23 42.8
WMOR315L WMOR315C	315	370	405	400	12 24	12	3 10	5 10	30 56
WMOR 400L WMOR 400C	400	460	490	500	12 24	12	4 10	5 10	58.5 92.5
WMOR 500L WMOR 500C	500	560	590	650	16 32	12	6 10	8 12	162 199
WMOR 560L WMOR 560C	560	640	690	700	16 32	14	6 10	8 12	136 186
WMOR 630L WMOR630C	630	695	730	650	16 32	14	6 10	8 12	172 190
WMOR 710L WMOR 710C	710	775	810	750	24 48	14	6 10	8 12	212 300
WMOR 800L WMOR 800C	800	865	900	750	24 48	14	6 10	8 12	308 340
WMOR 900L WMOR 900C	900	965	1000	850	32 64	14	6 10	10 12	405 435
WMOR 1000L WMOR 1000C	1000	1065	1100	950	32 64	14	6 10	10 12	426 520
WMOR 1120L WMOR 1120C	1120	1205	1250	1200	32 64	14	6 10	10 12	680 720
WMOR 1250L WMOR 1250C	1250	1335	1380	1200	32 64	14	6 10	10 12	722 870
WMOR 1400L WMOR 1400C	1400	1485	1530	1300	32 64	14	6 10	10 12	980 1160
WMOR 1600L WMOR 1600C	1600	1685	1730	1400	32 64	14	6 10	10 12	1280 1460

Dimensions in mm

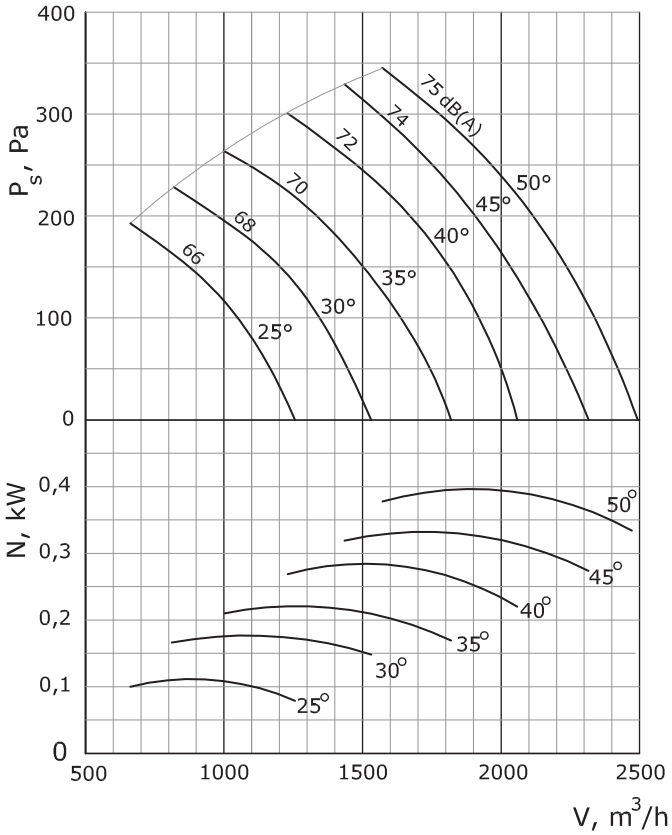
Weight depending on motor size



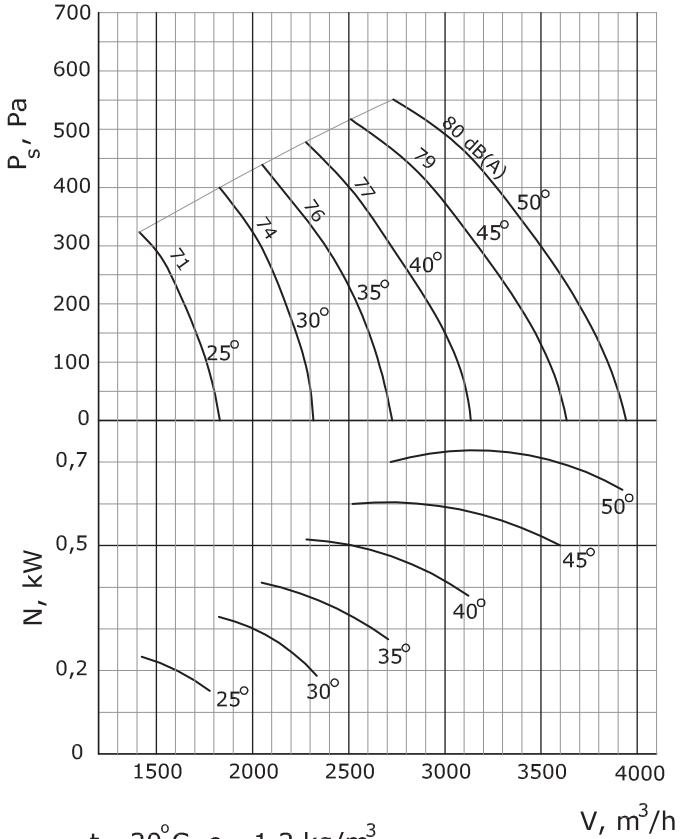
WMOR 200/110
2810 min^{-1} 50Hz



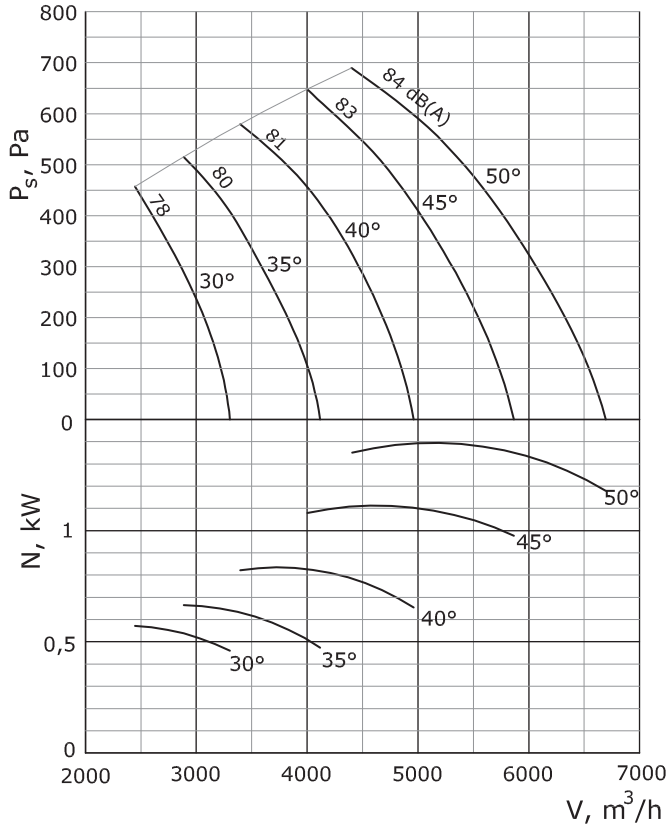
WMOR 250/175
2810 min^{-1} 50Hz



WMOR 315/220
2890 min^{-1} 50Hz



WMOR 355/250
2850 min^{-1} 50Hz



t =20°C, ϱ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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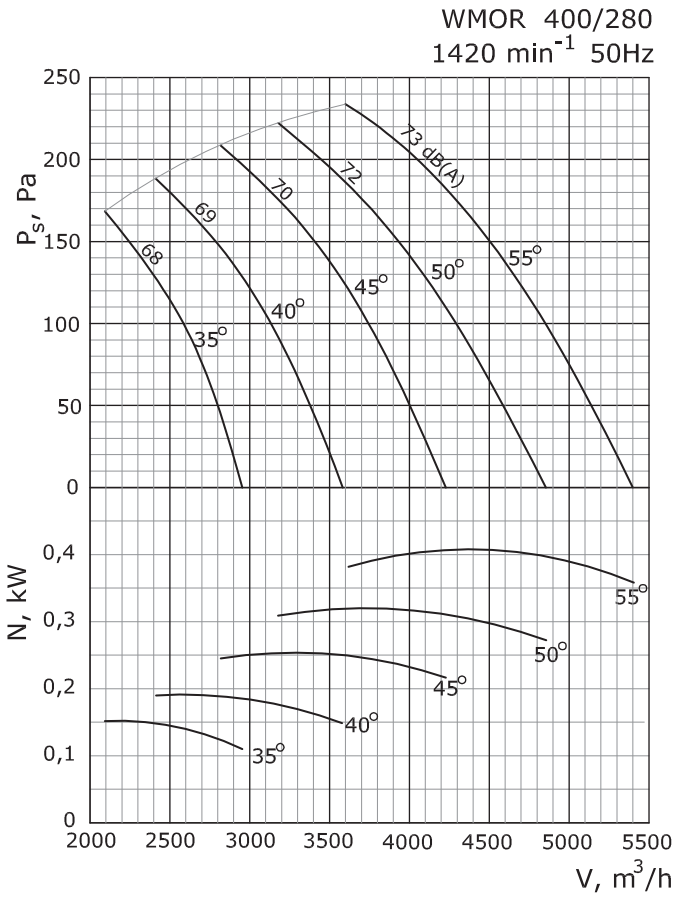

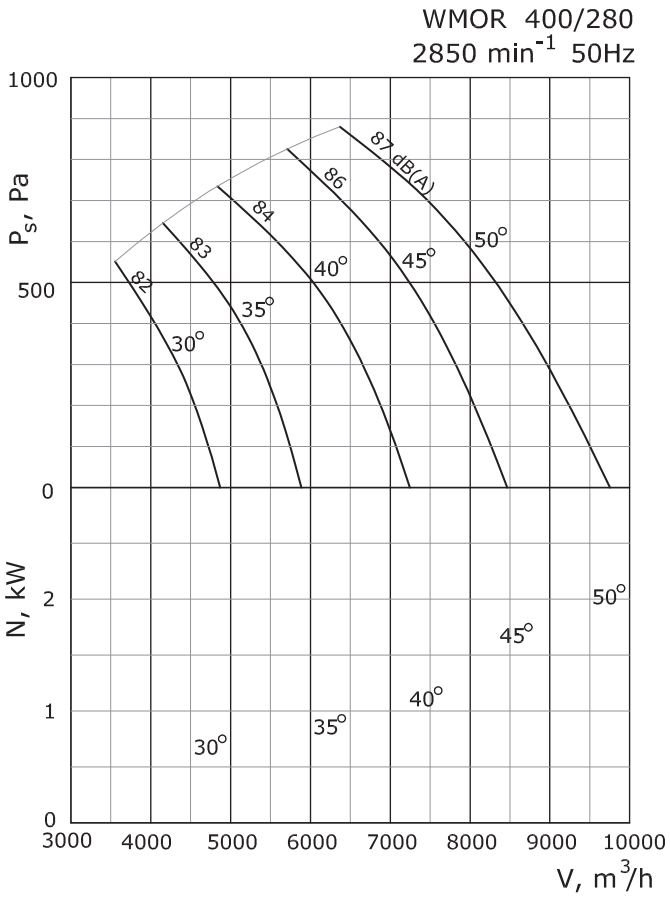

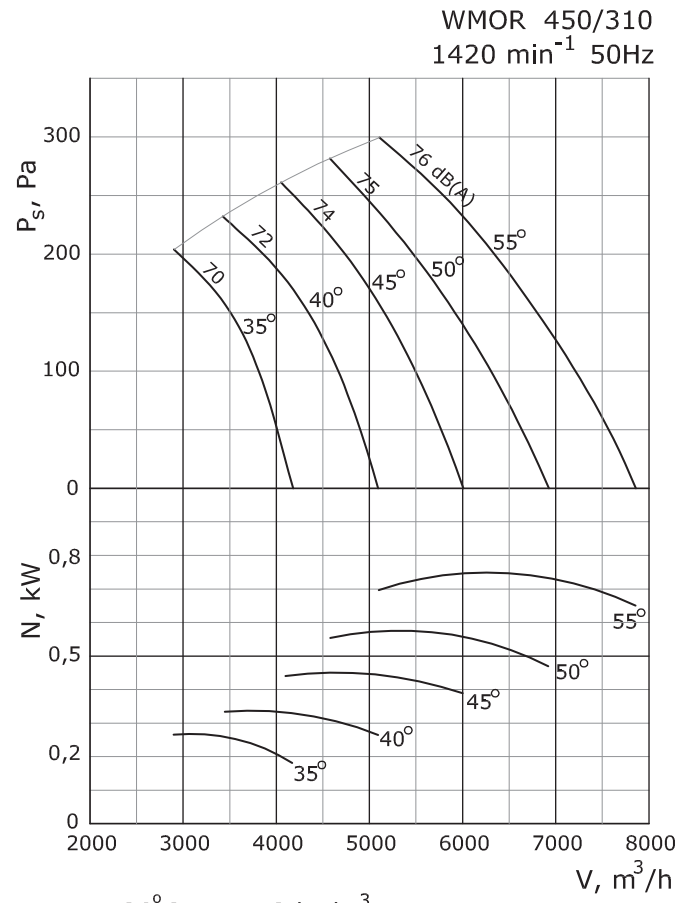

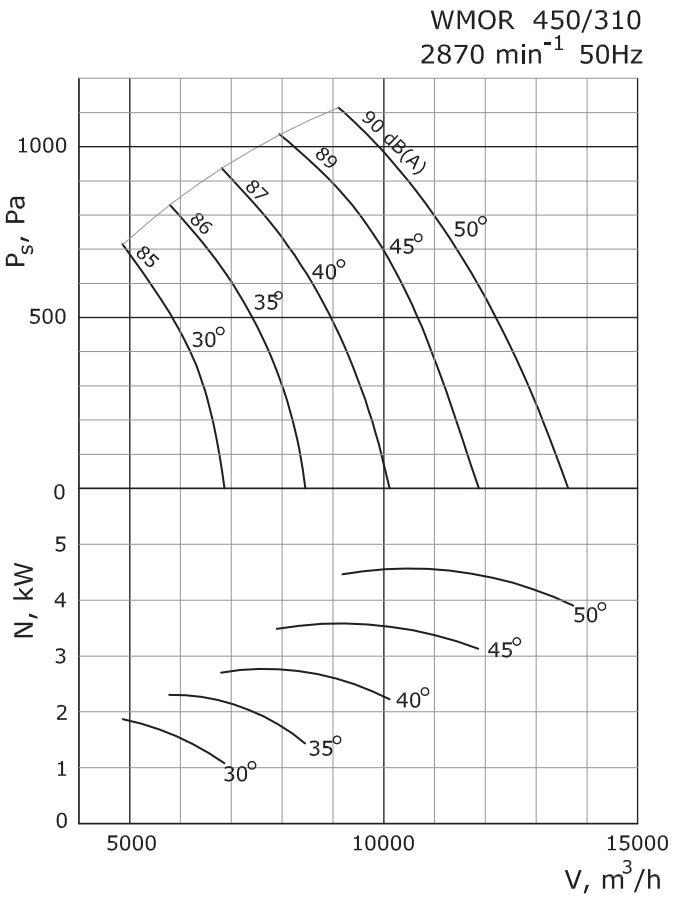

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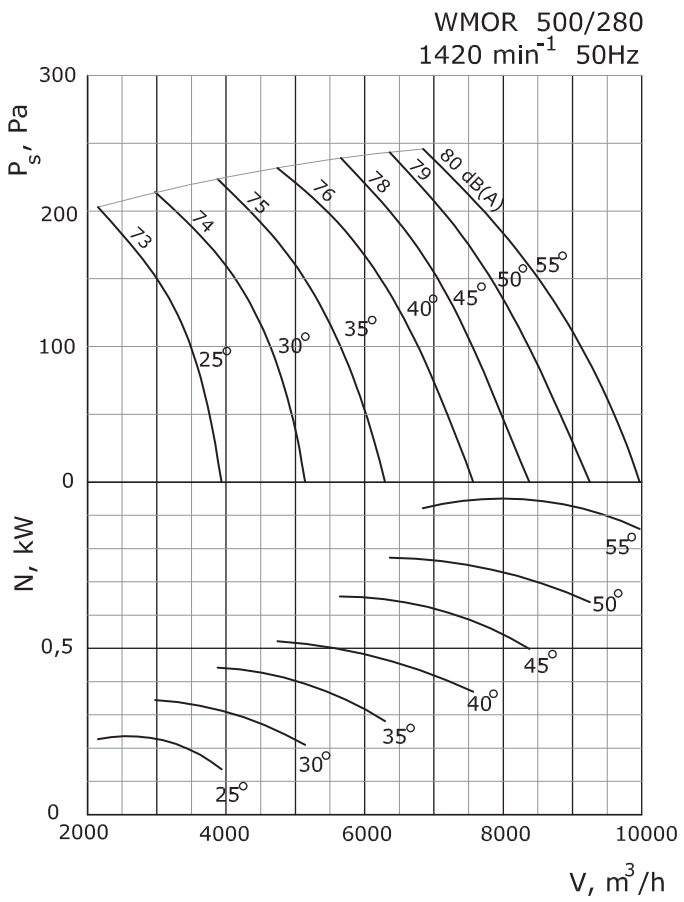

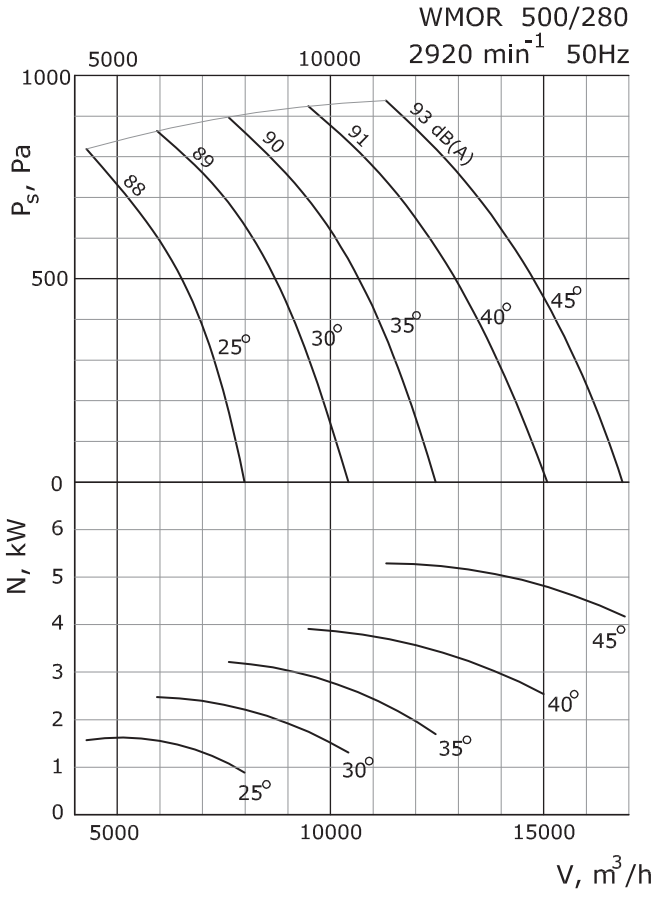

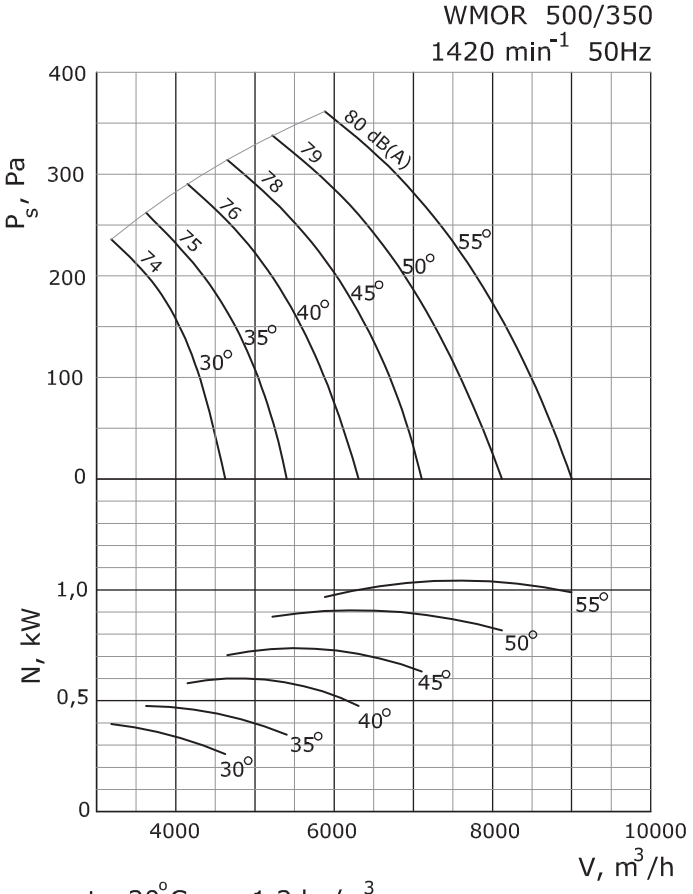

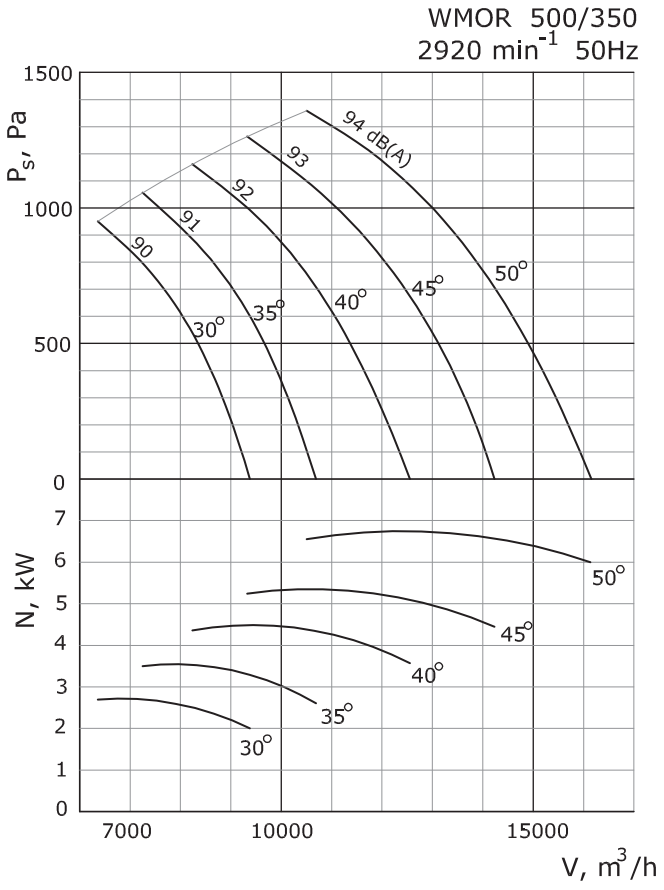

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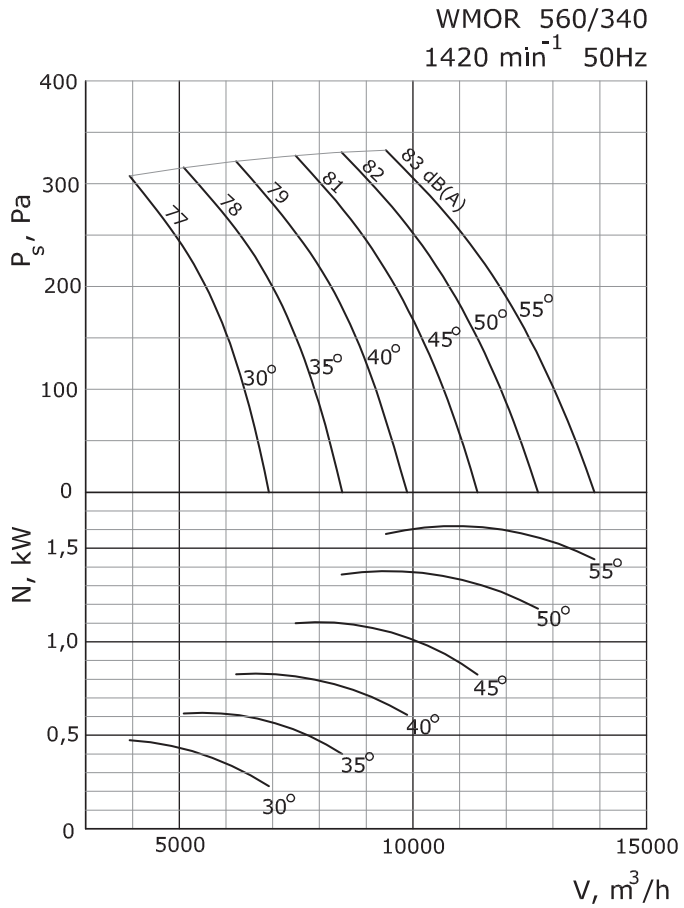

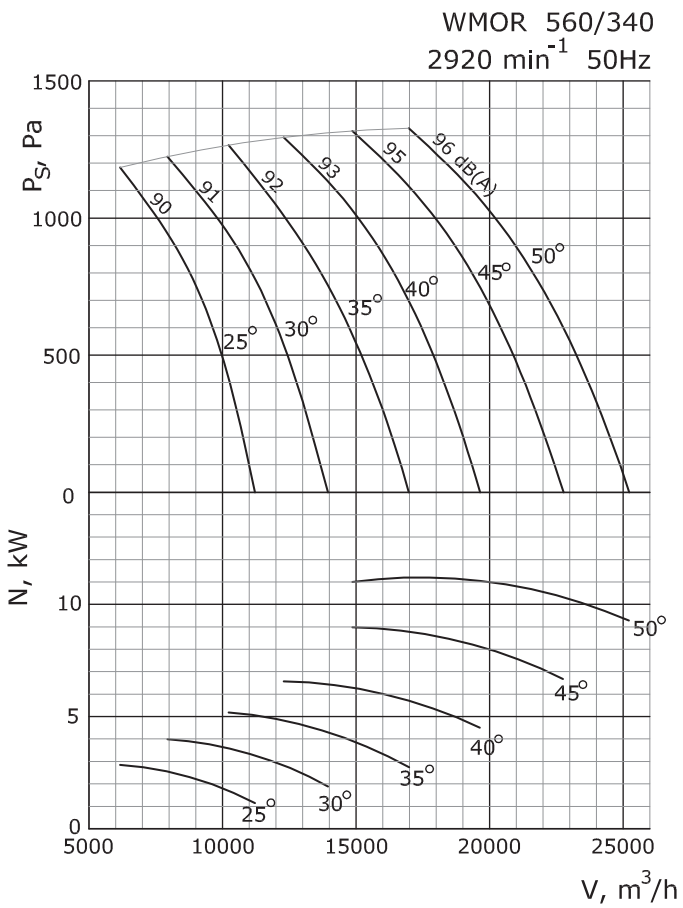

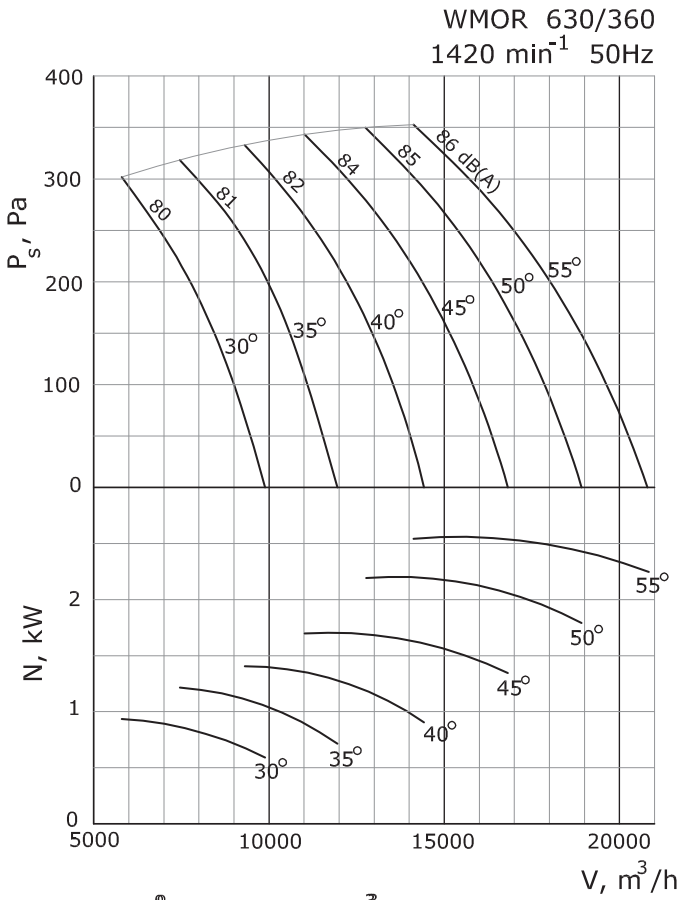

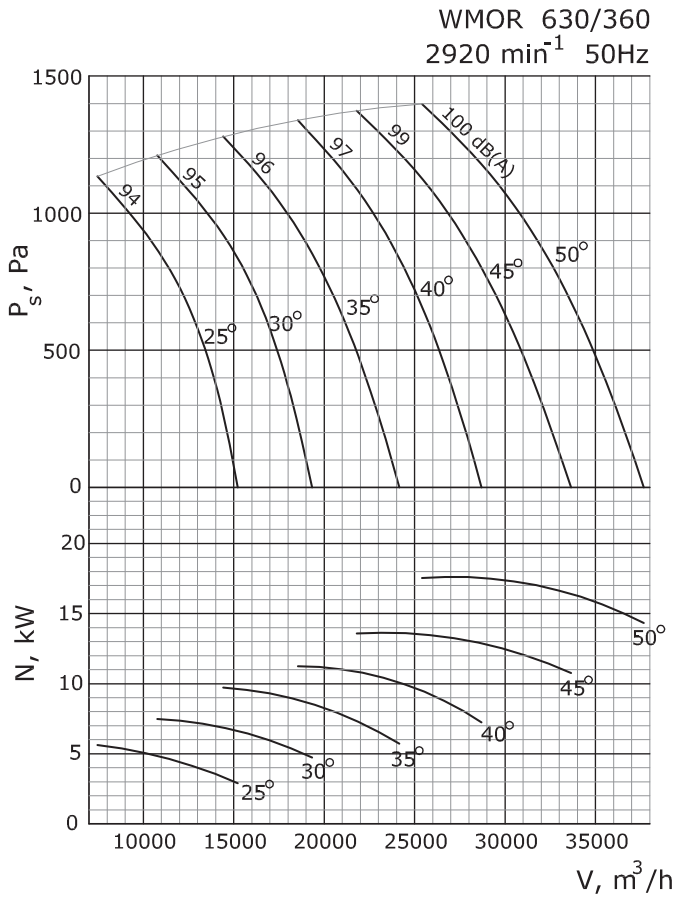

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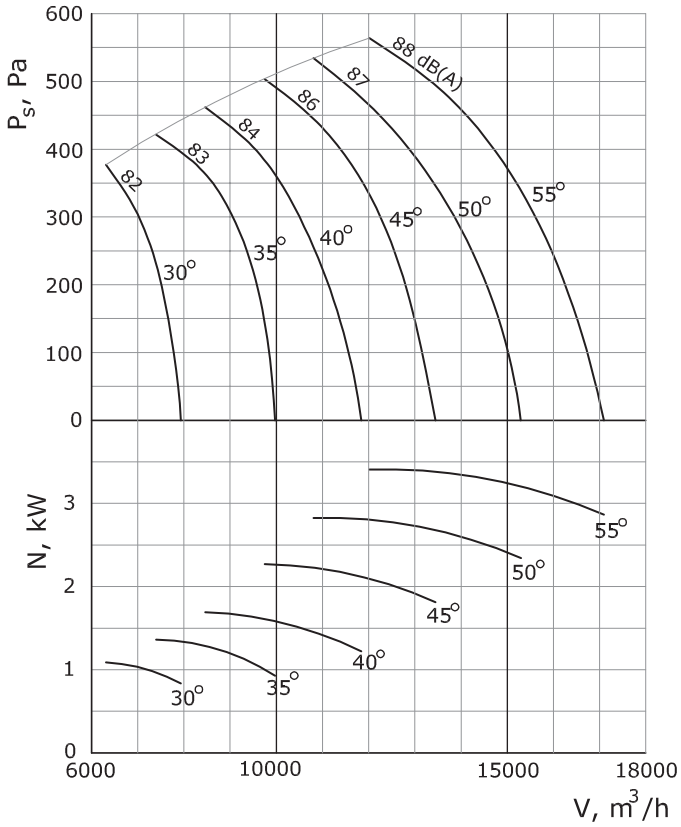
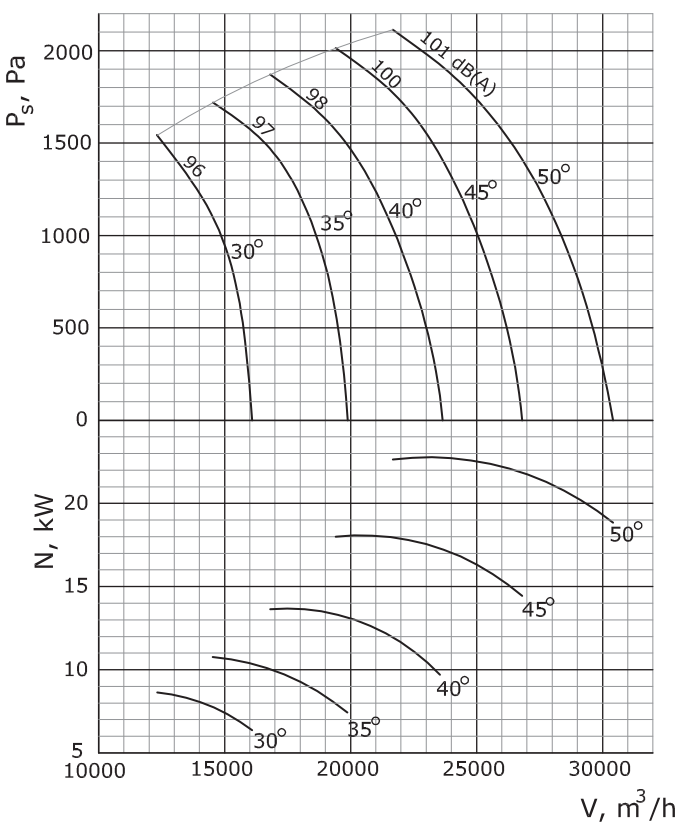
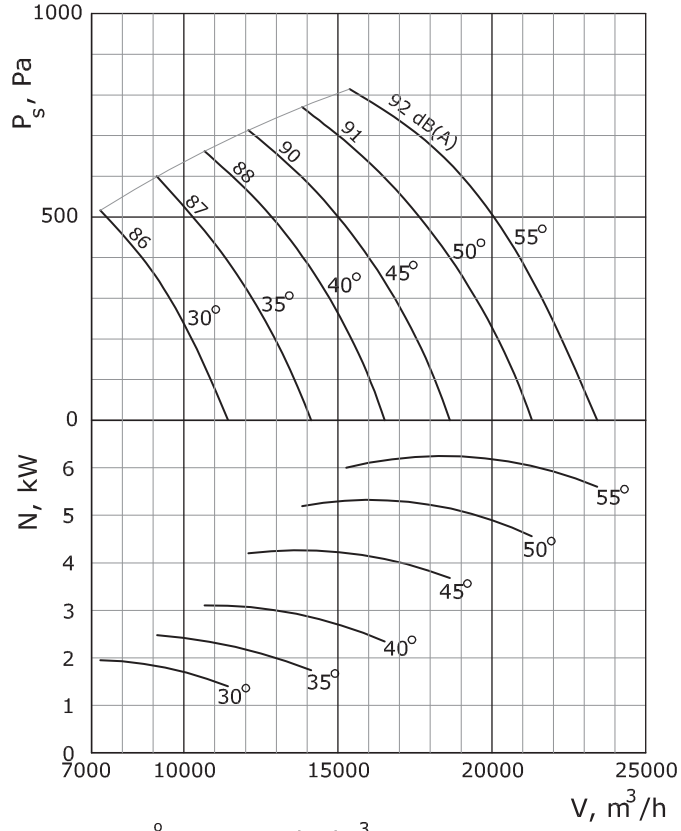
WMOR 630/440
1420 min^{-1} 50Hz



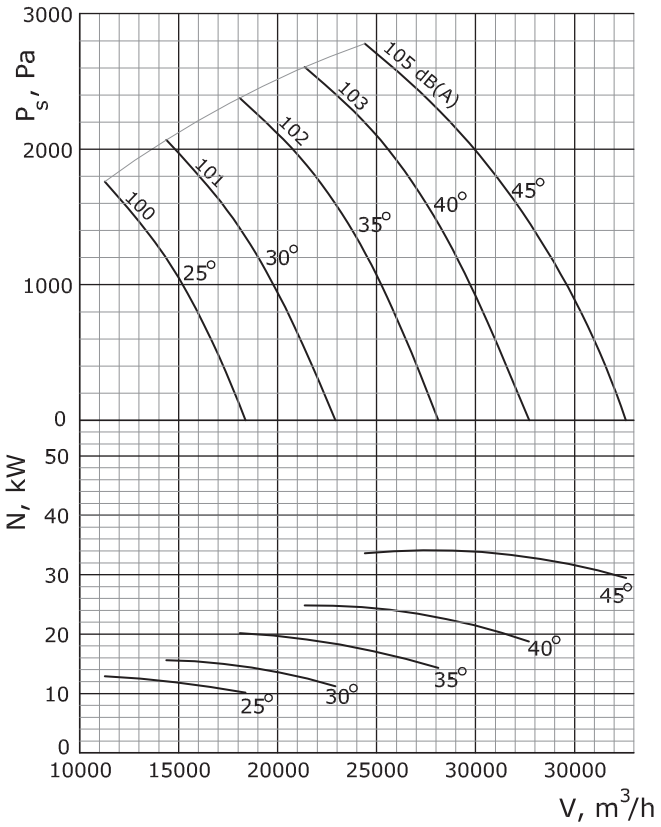
WMOR 630/440
2920 min^{-1} 50Hz



WMOR 710/470
1420 min^{-1} 50Hz



WMOR 710/470
2920 min^{-1} 50Hz



t =20°C, ϱ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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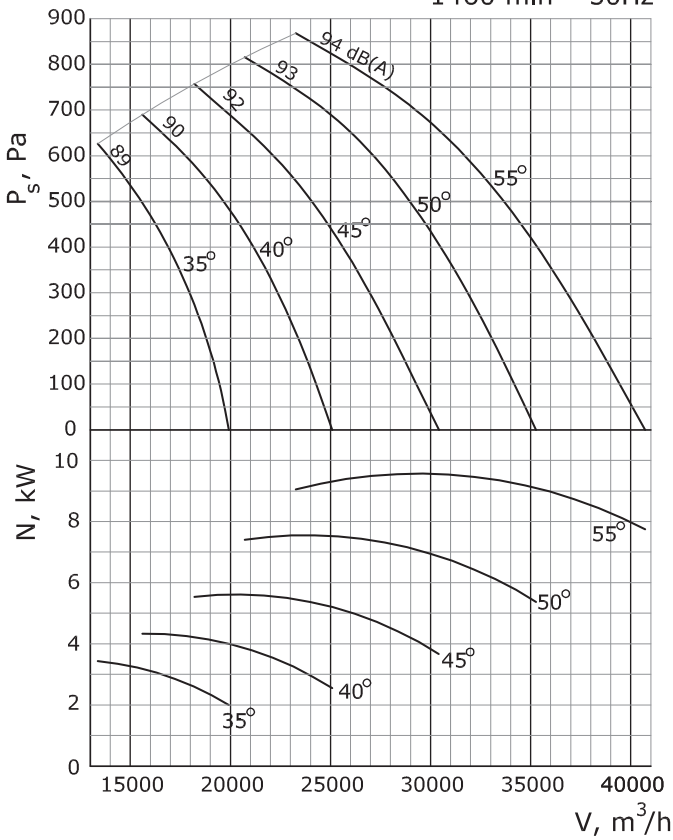
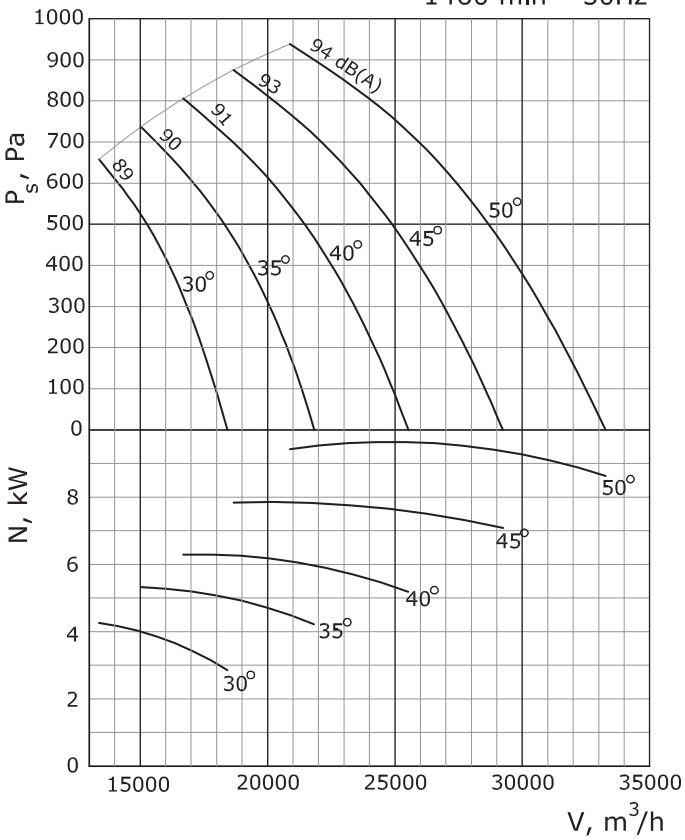
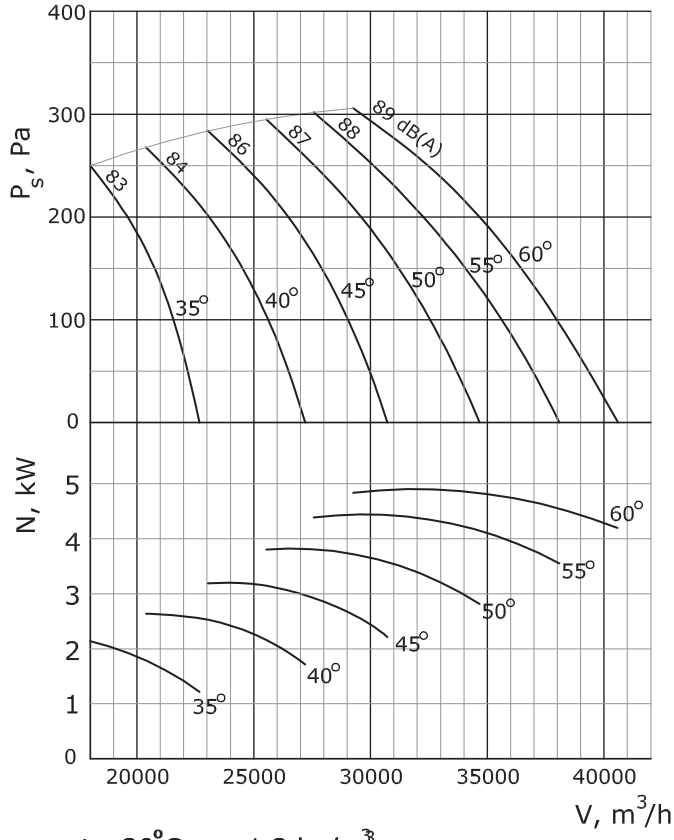
WMOR 800/480
1460 min^{-1} 50Hz



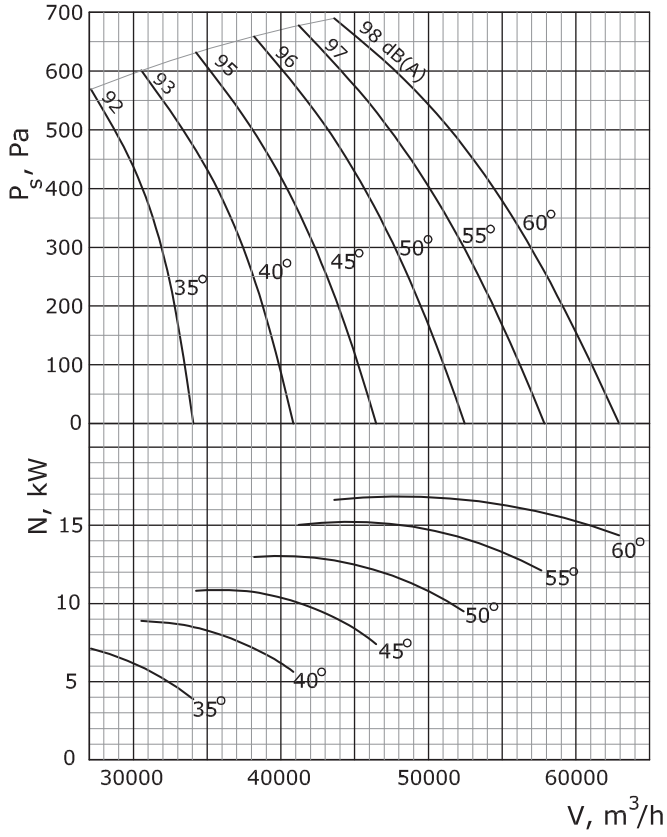
WMOR 800/560
1460 min^{-1} 50Hz



WMOR 900/450
980 min^{-1} 50Hz



WMOR 900/450
1480 min^{-1} 50Hz



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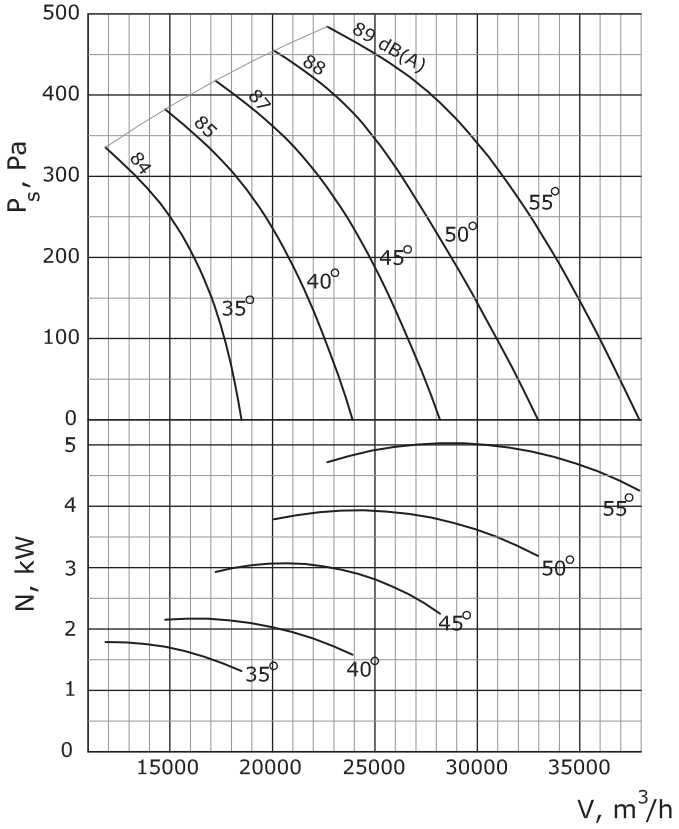
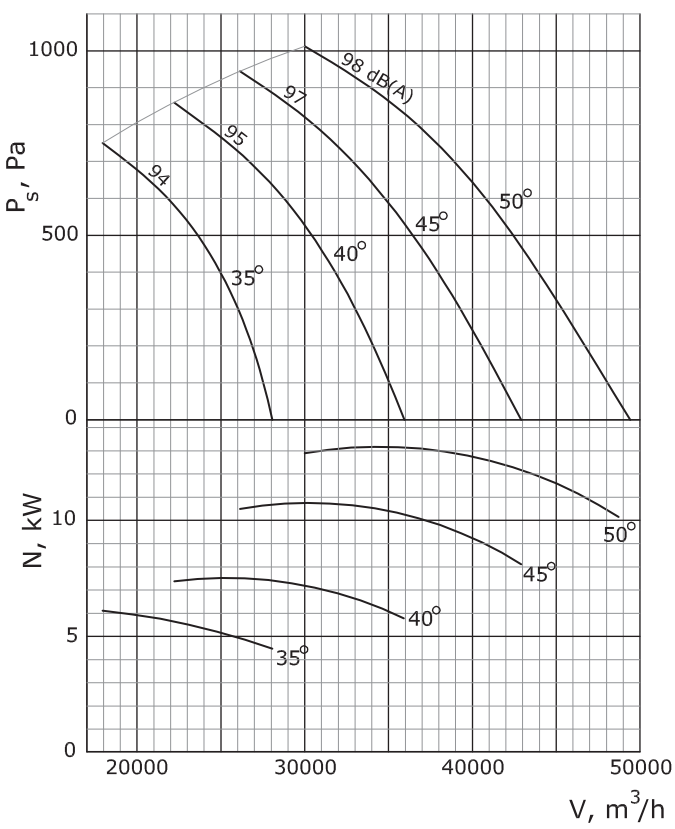
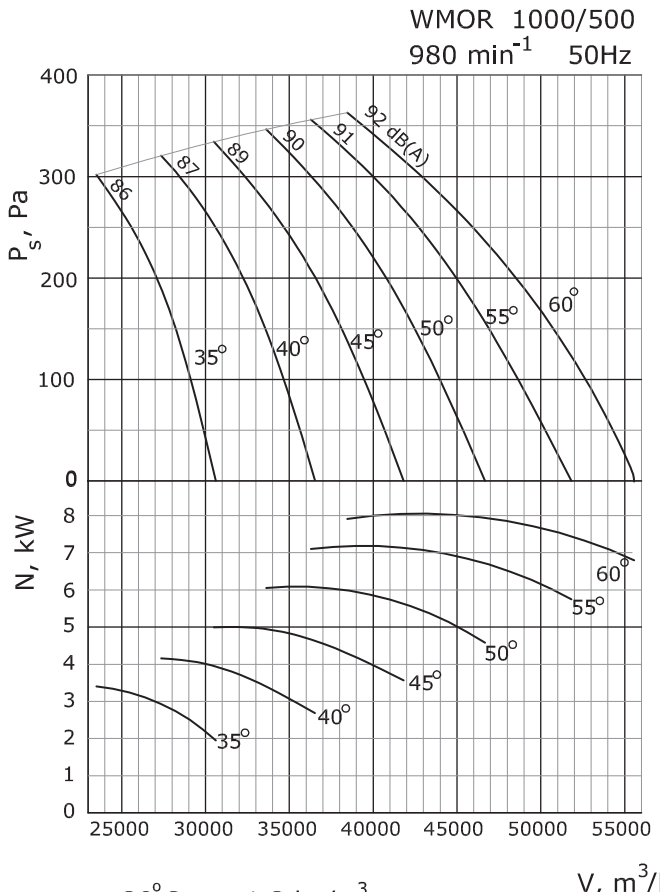
WMOR 900/540
980 min^{-1} 50Hz



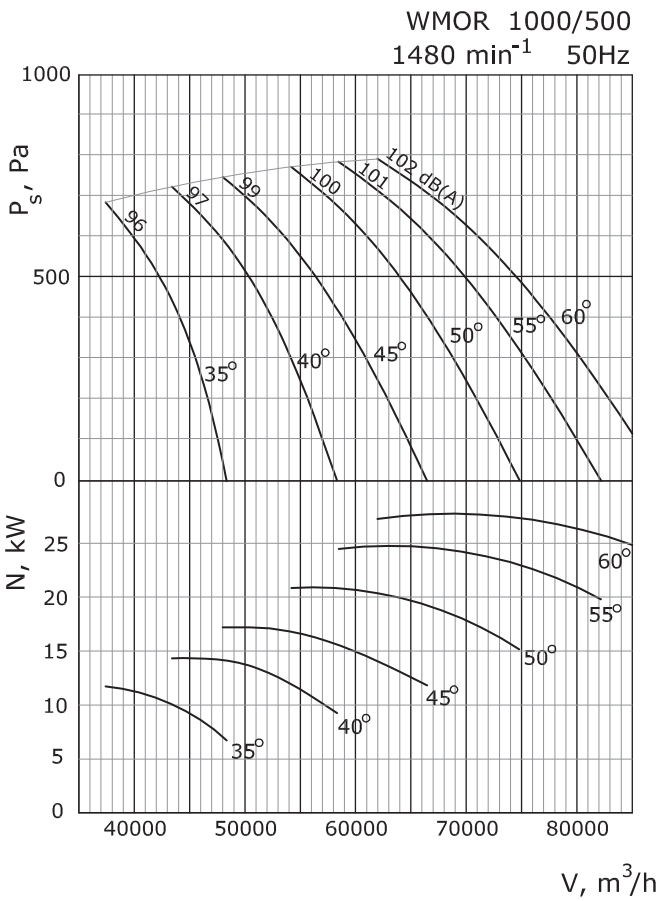
WMOR 900/540
1480 min^{-1} 50Hz



WMOR 1000/500
980 min^{-1} 50Hz



WMOR 1000/500
1480 min^{-1} 50Hz



t =20°C, ϱ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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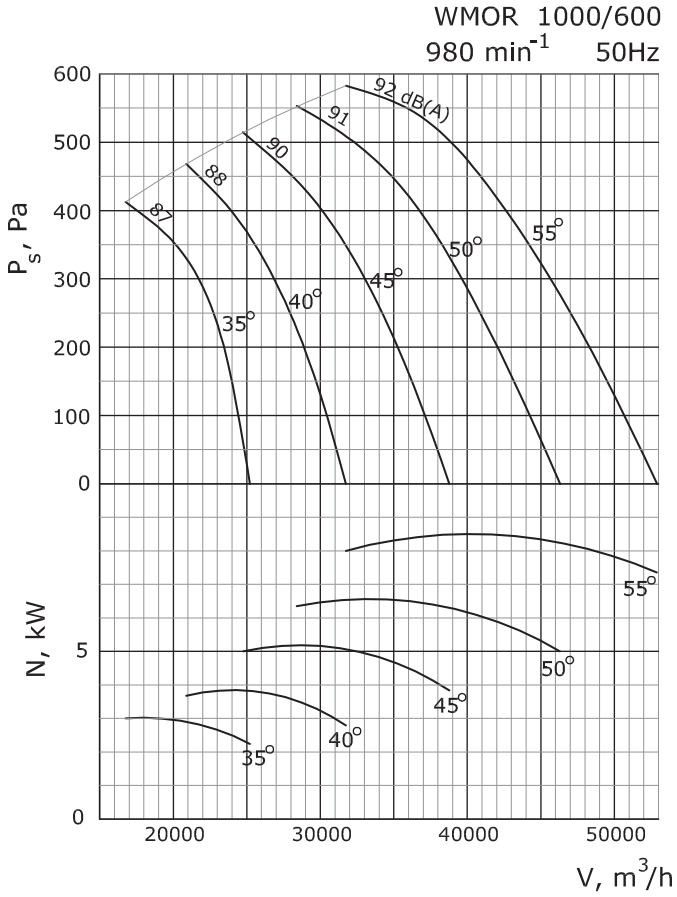

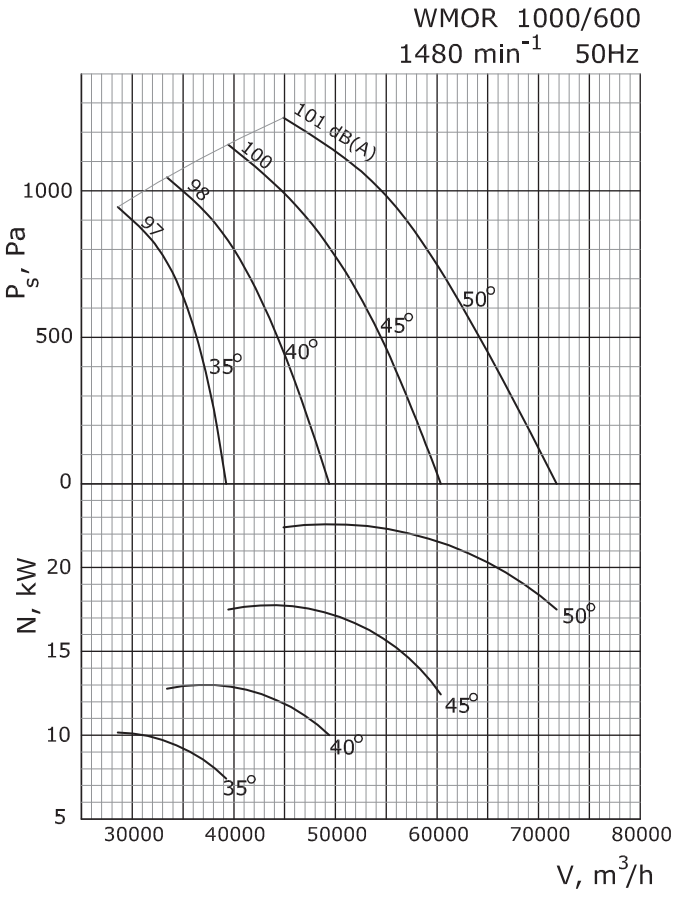

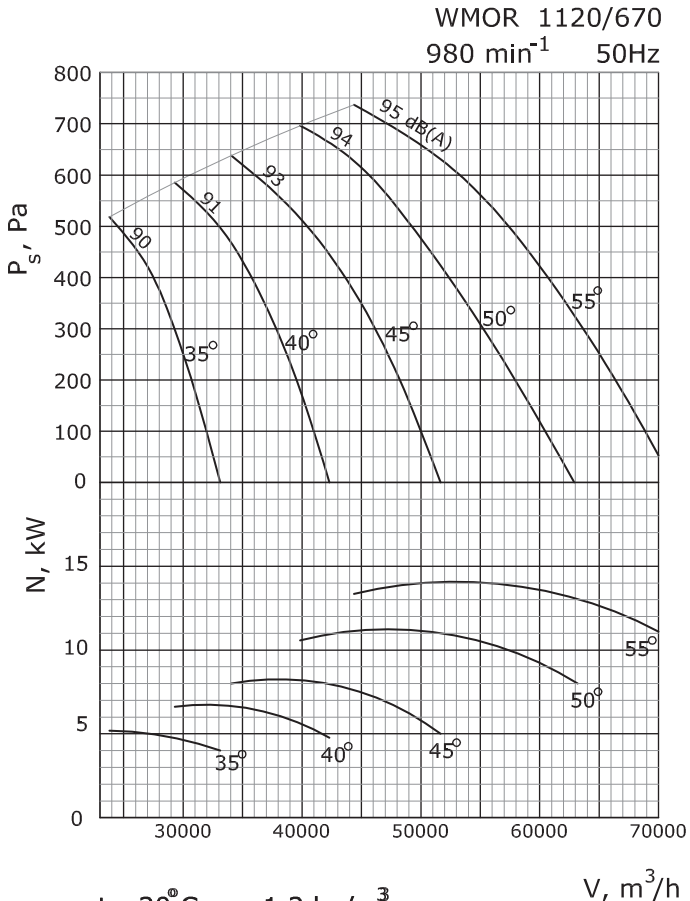

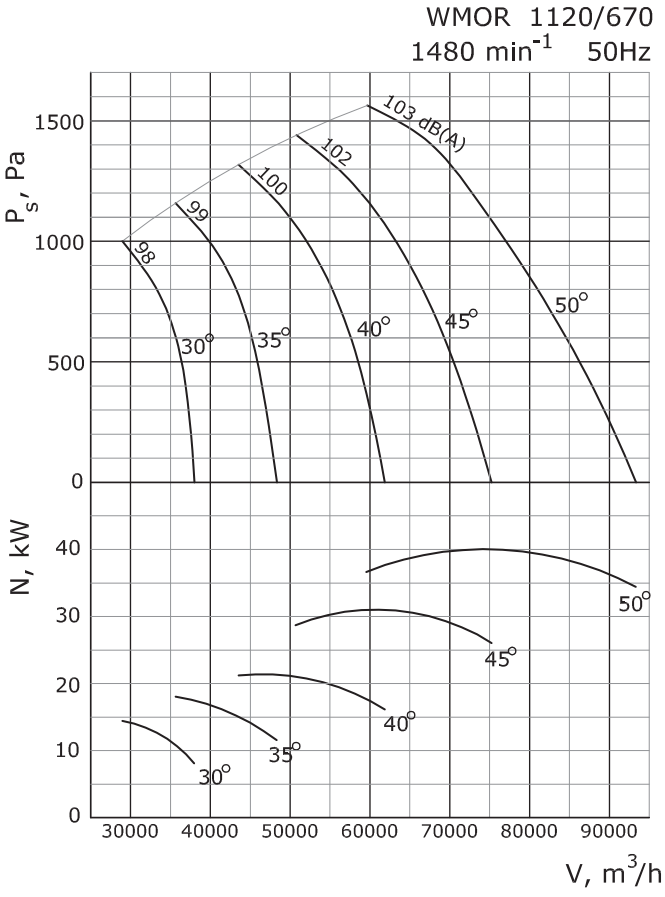

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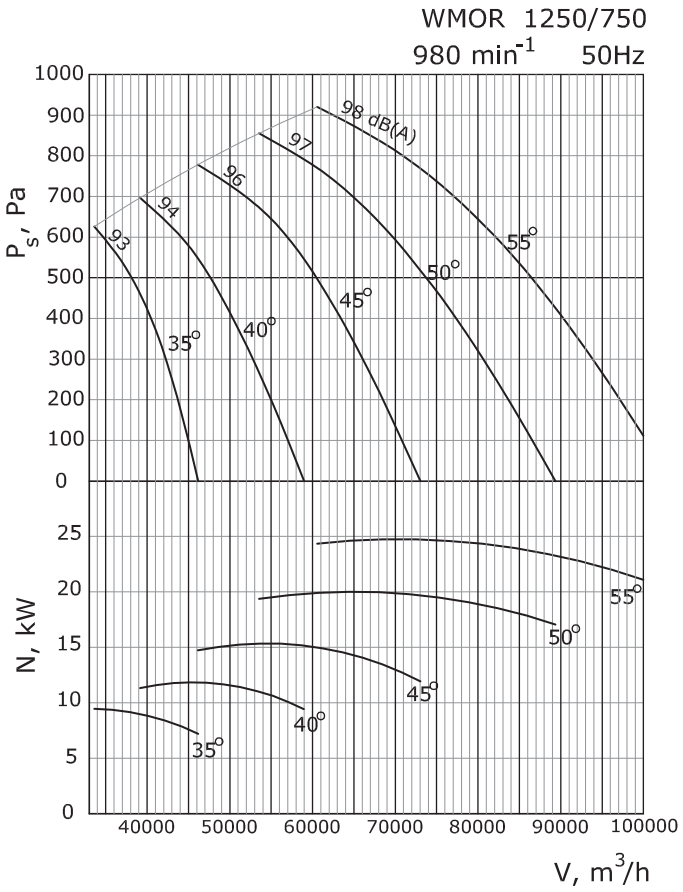

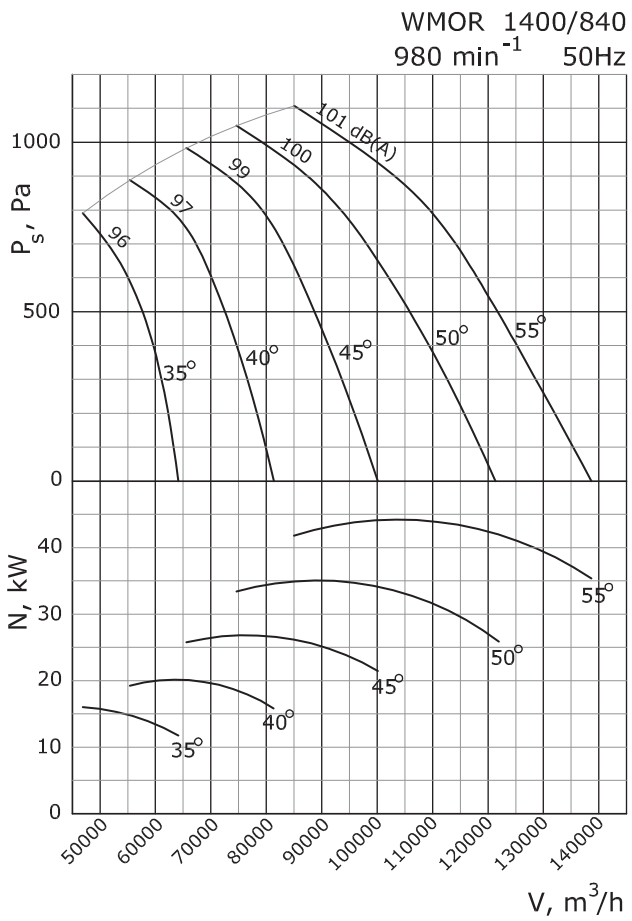

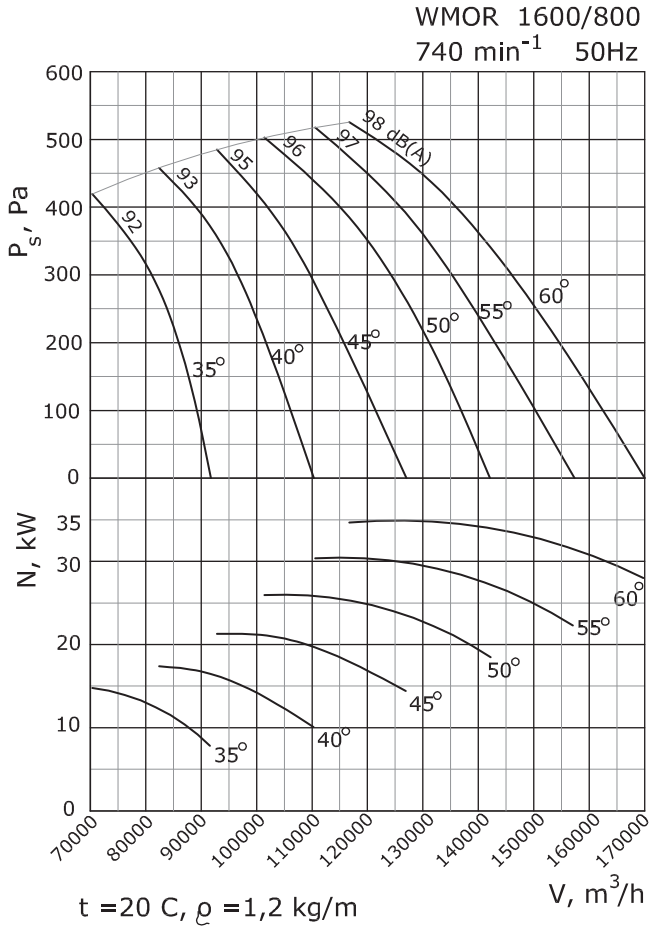

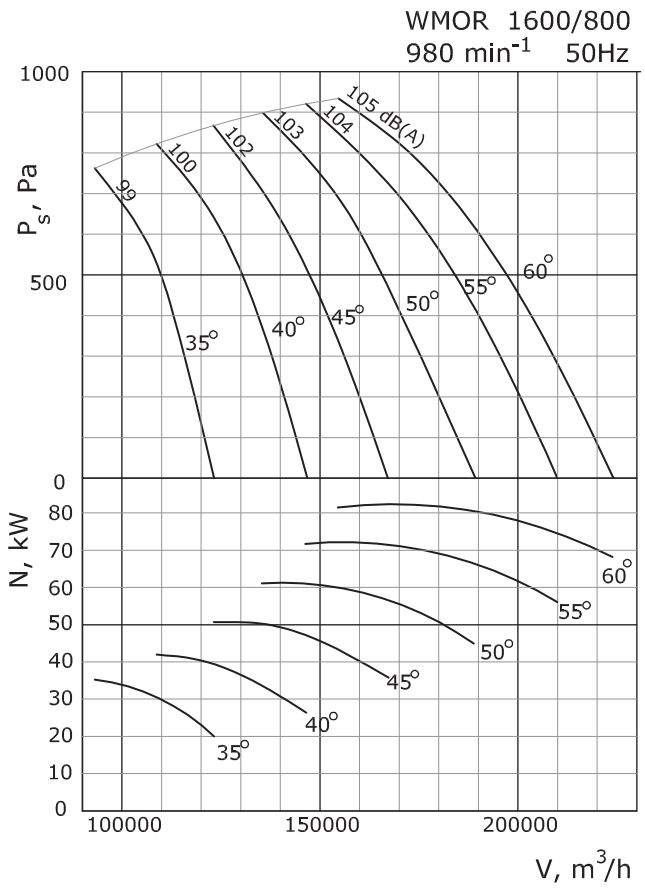

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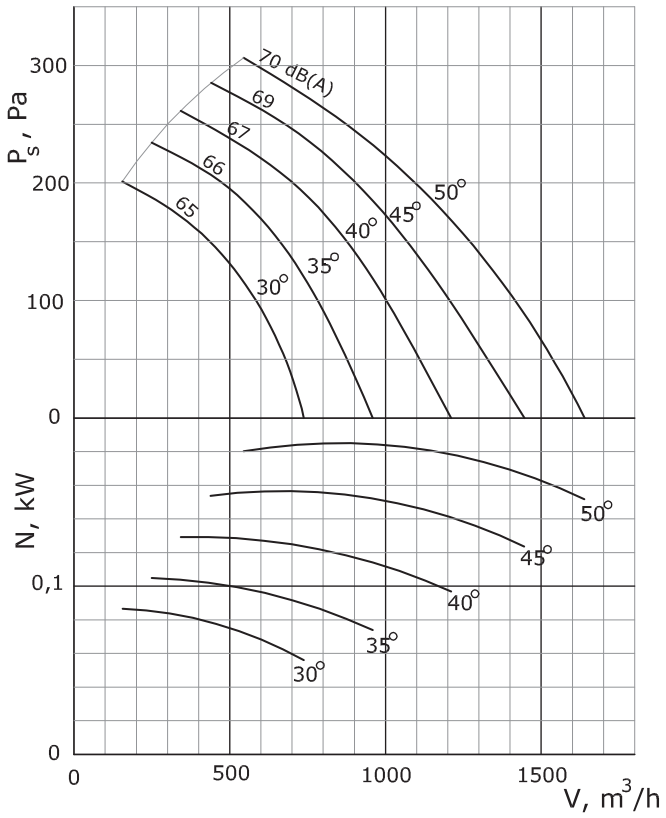
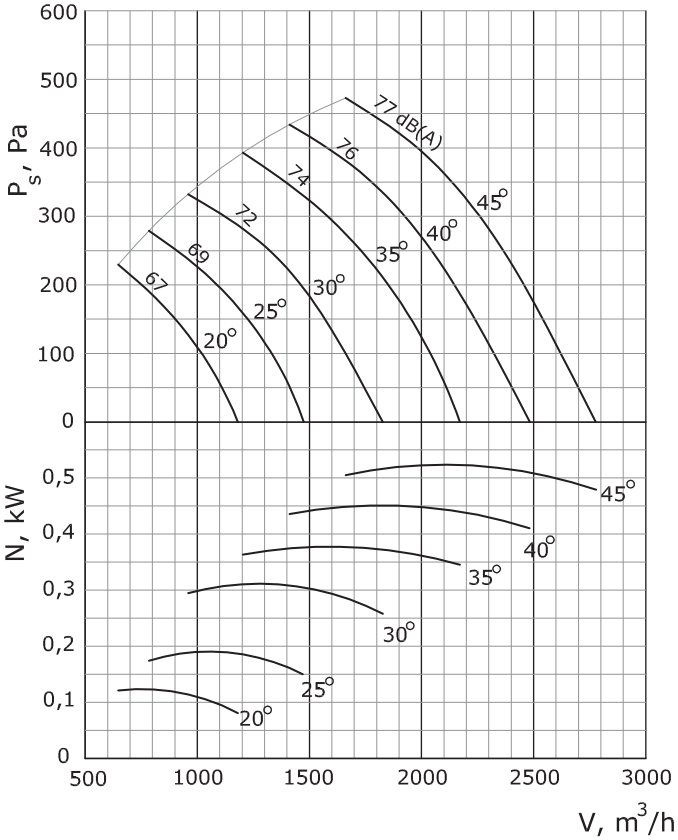
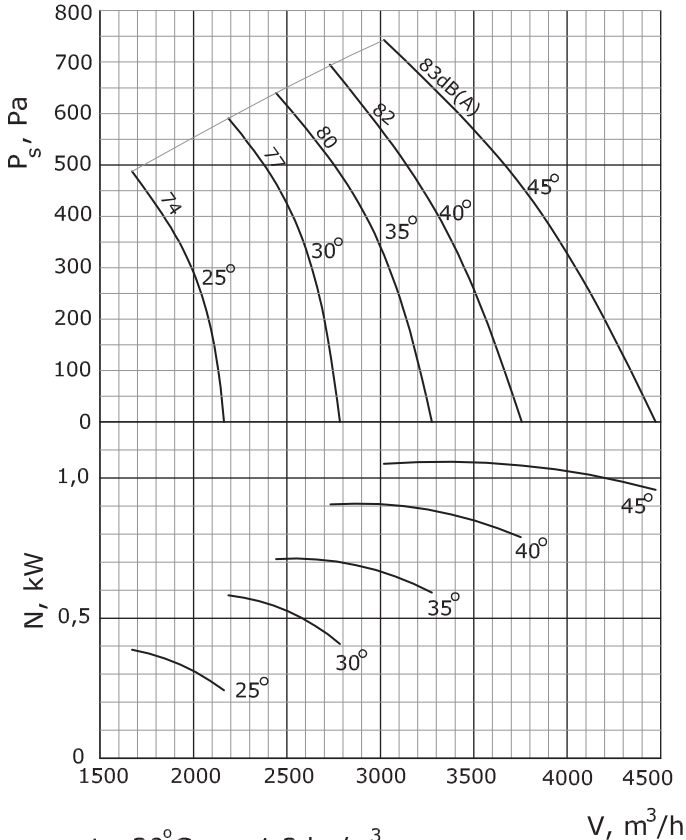
WMOR 200/110
3420 min^{-1} 60Hz



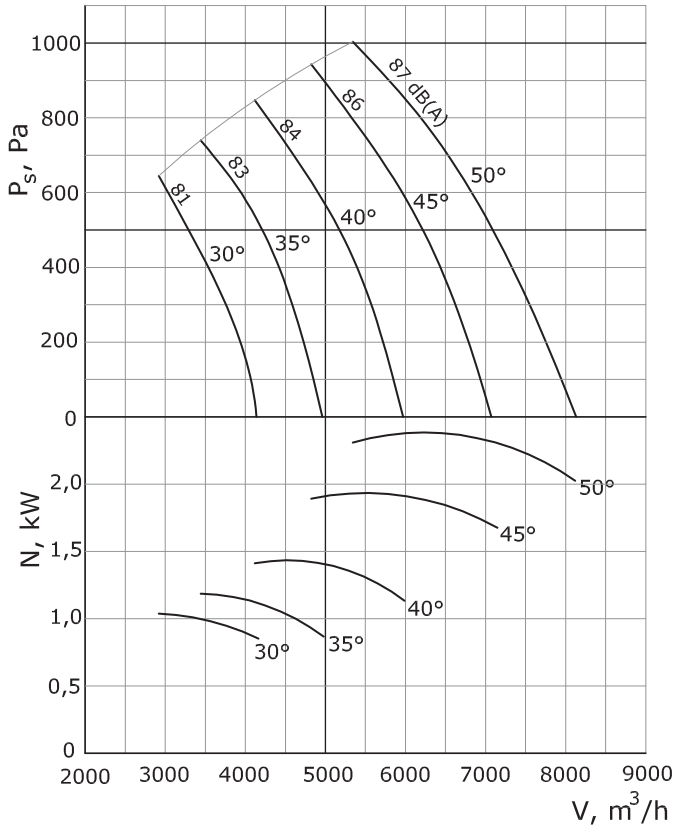
WMOR 250/175
3420 min^{-1} 60Hz



WMOR 315/220
3480 min^{-1} 60Hz



WMOR 355/250
3450 min^{-1} 60Hz



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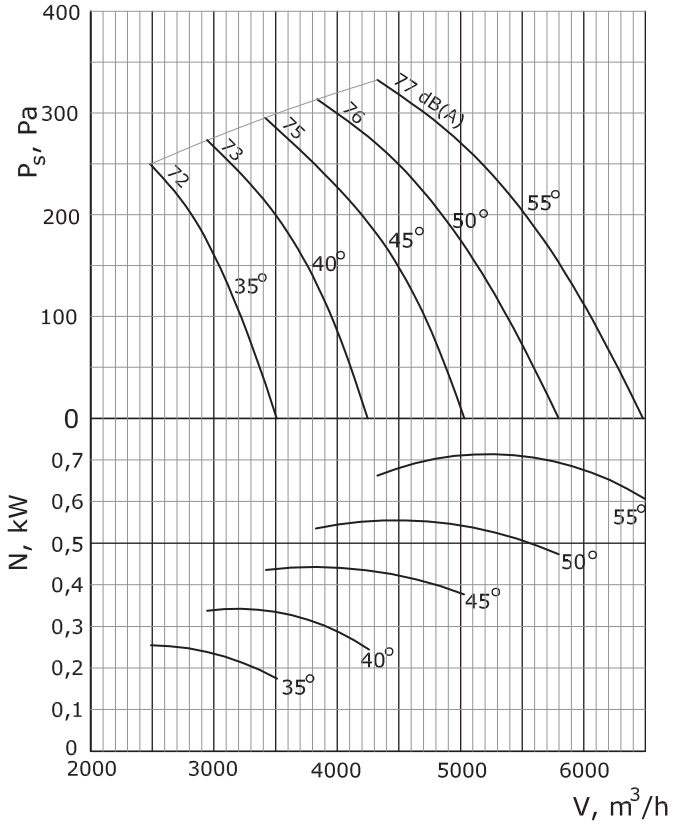
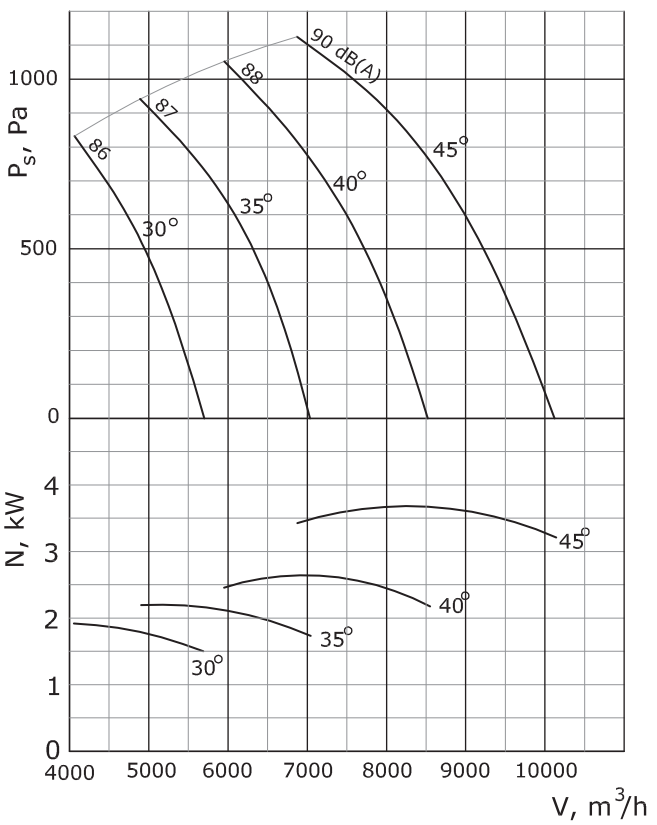
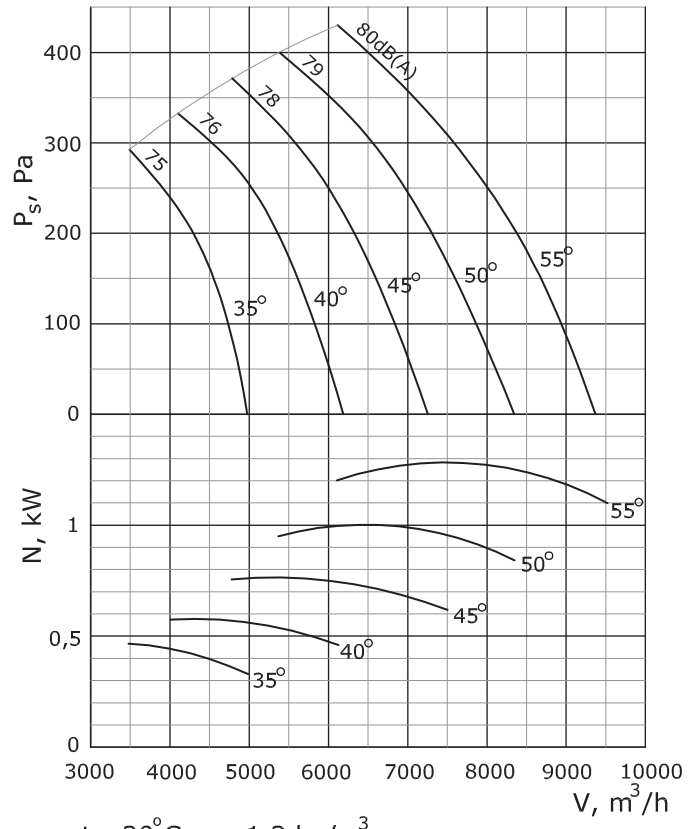
WMOR 400/280
1710 min^{-1} 60Hz



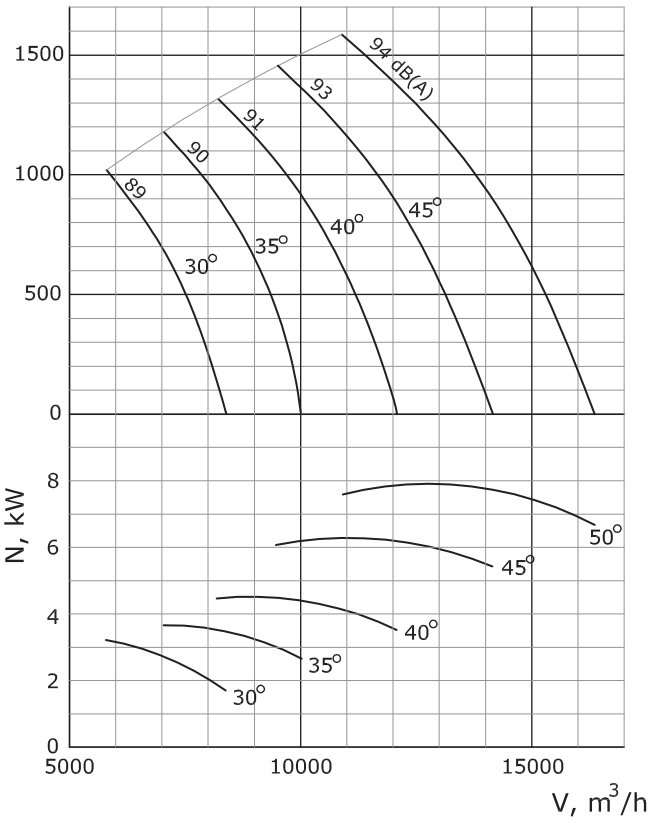
WMOR 400/280
3450 min^{-1} 60Hz



WMOR 450/310
1710 min^{-1} 60Hz



WMOR 450/310
3450 min^{-1} 60Hz



t =20°C, ϱ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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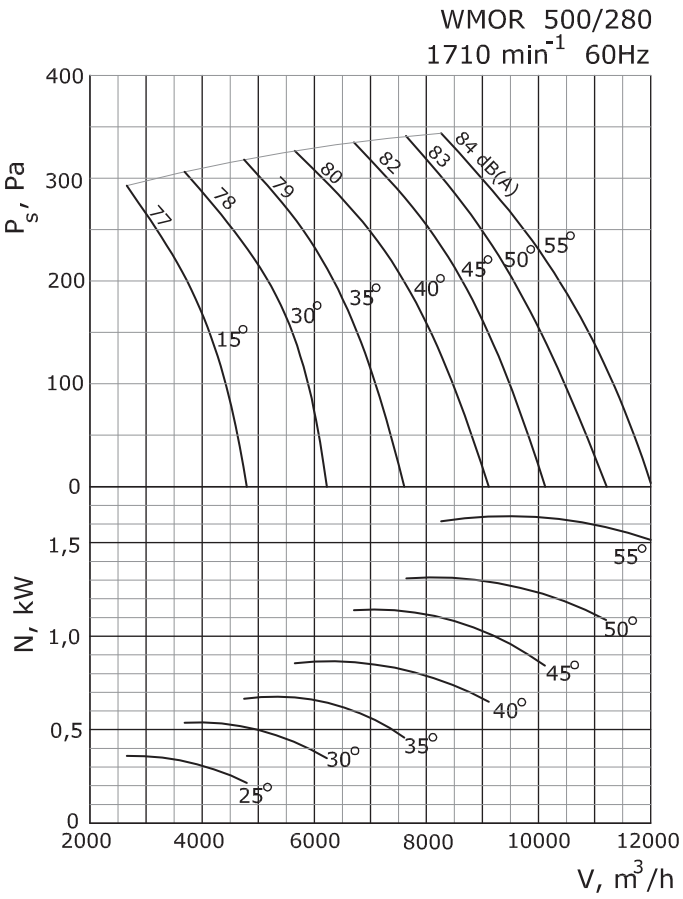

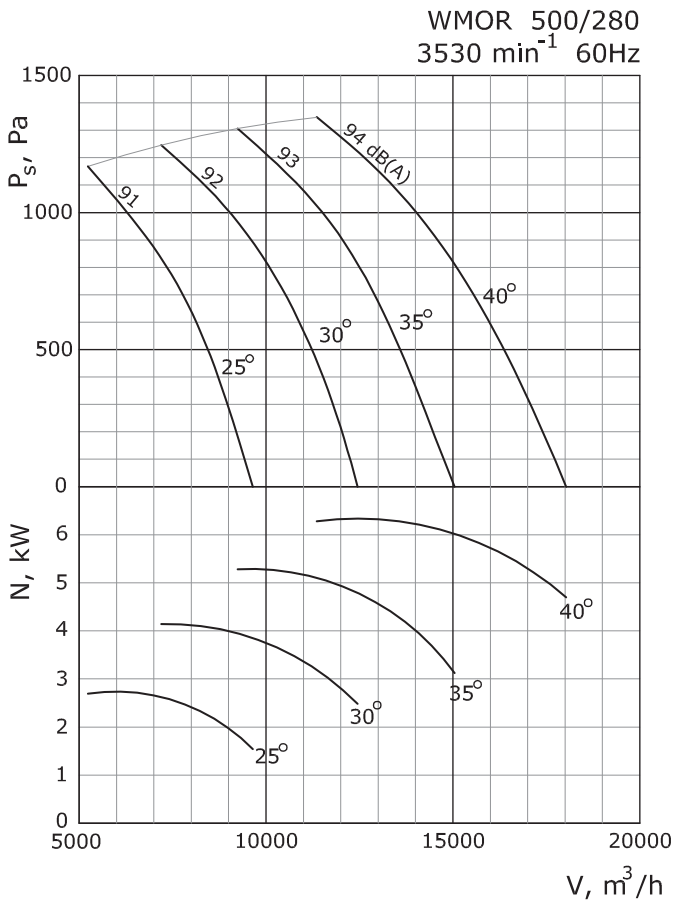

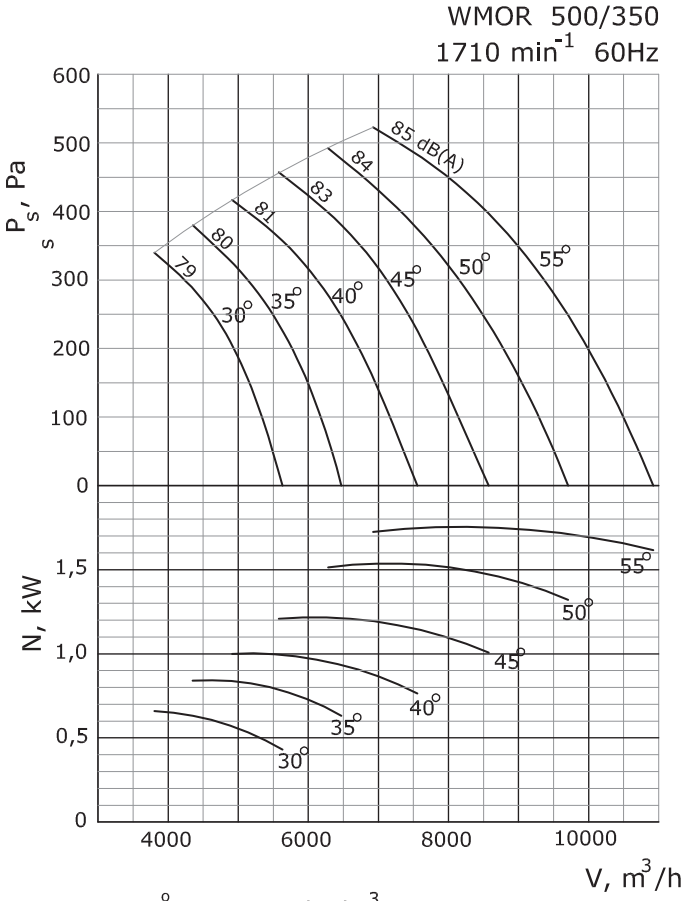

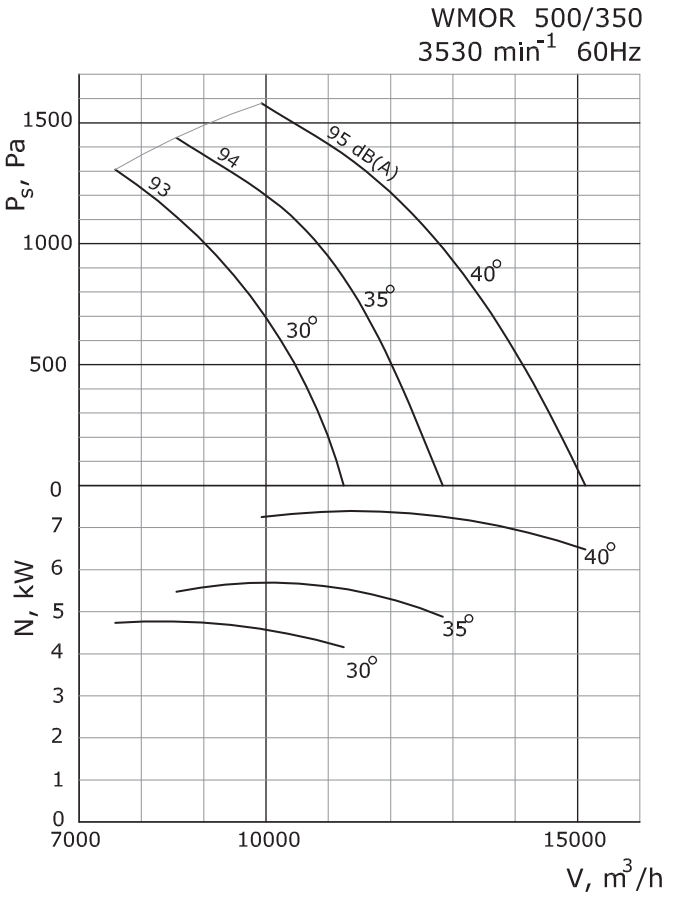

t =20°C, ϱ =1,2 kg/m3

Fan sound level L_{pA} 1 m

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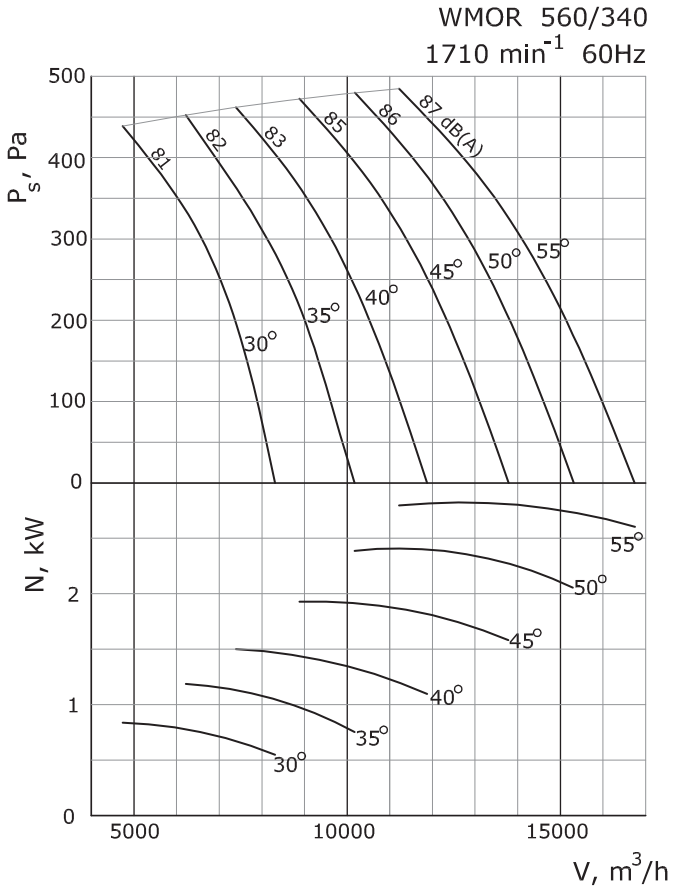

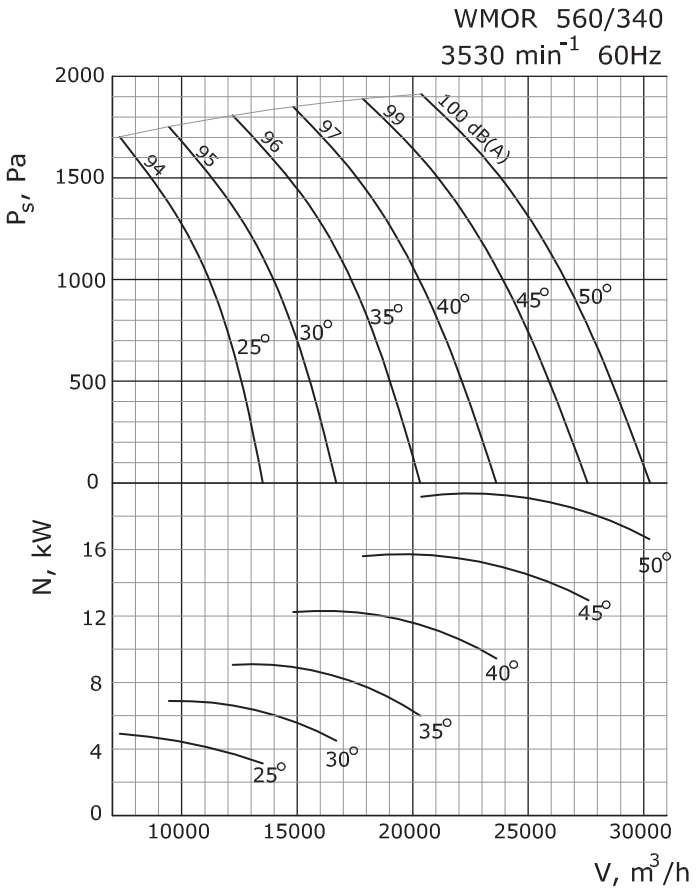

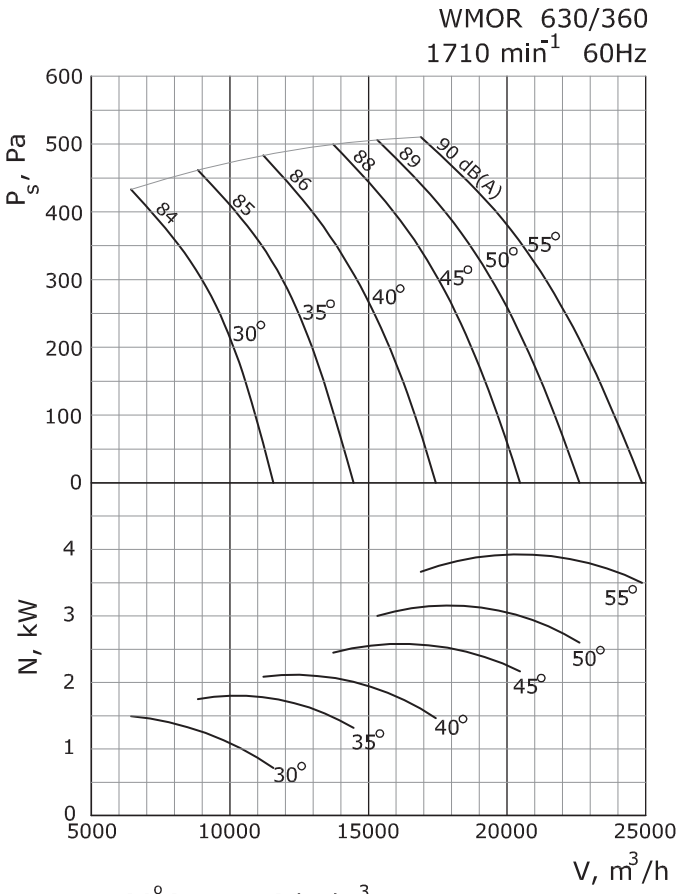

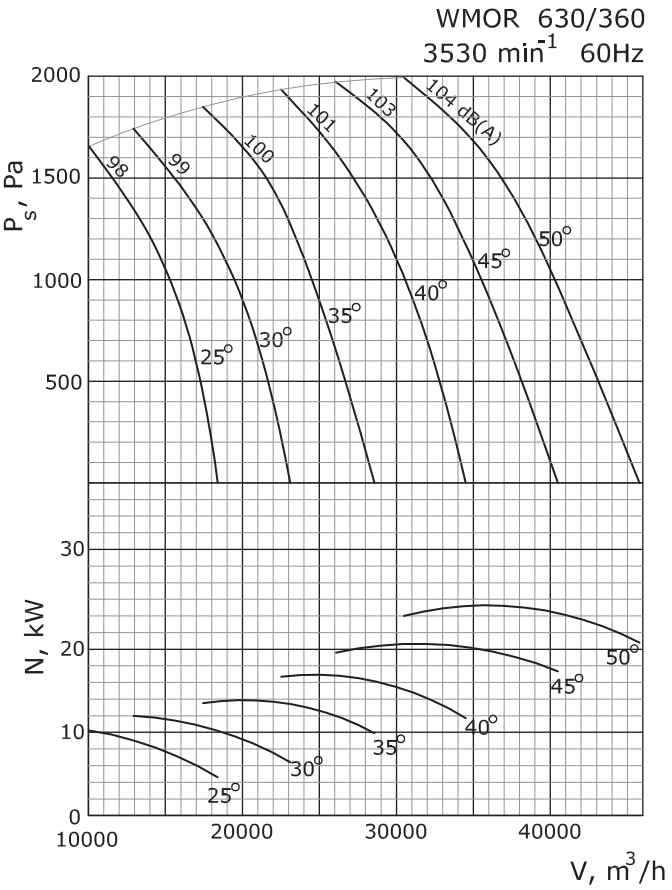

t =20°C, ρ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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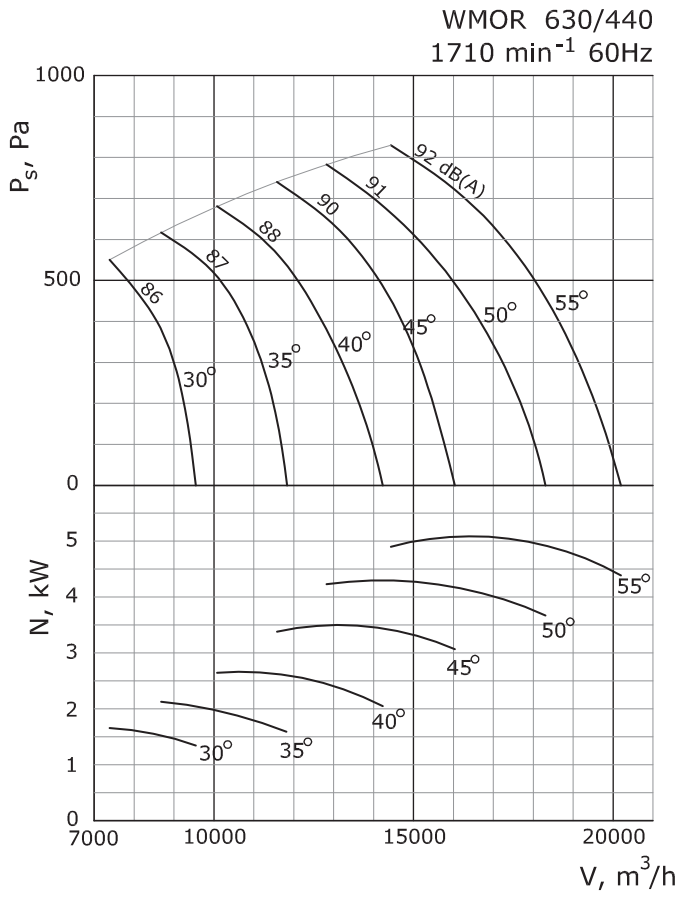

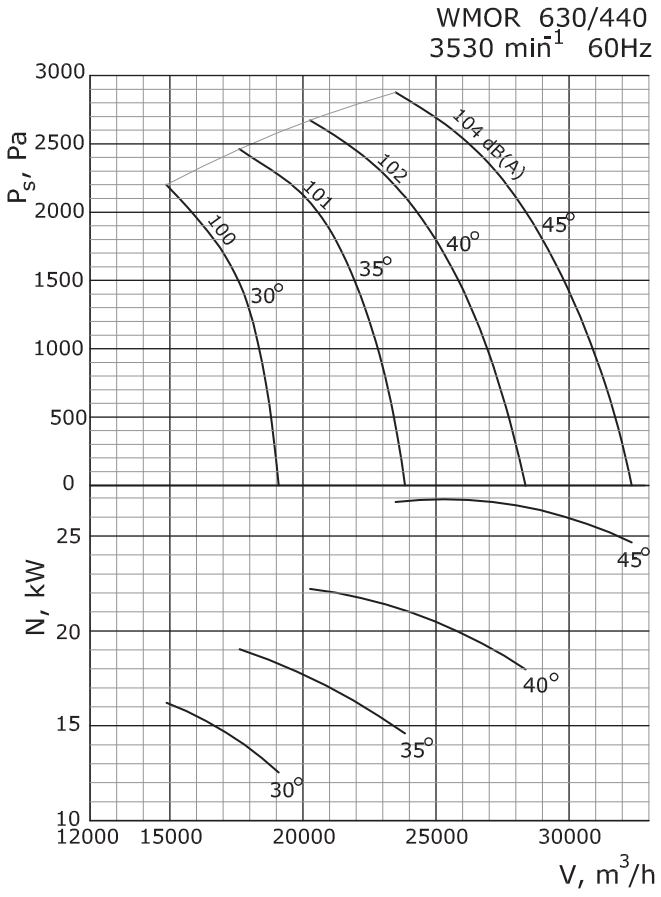

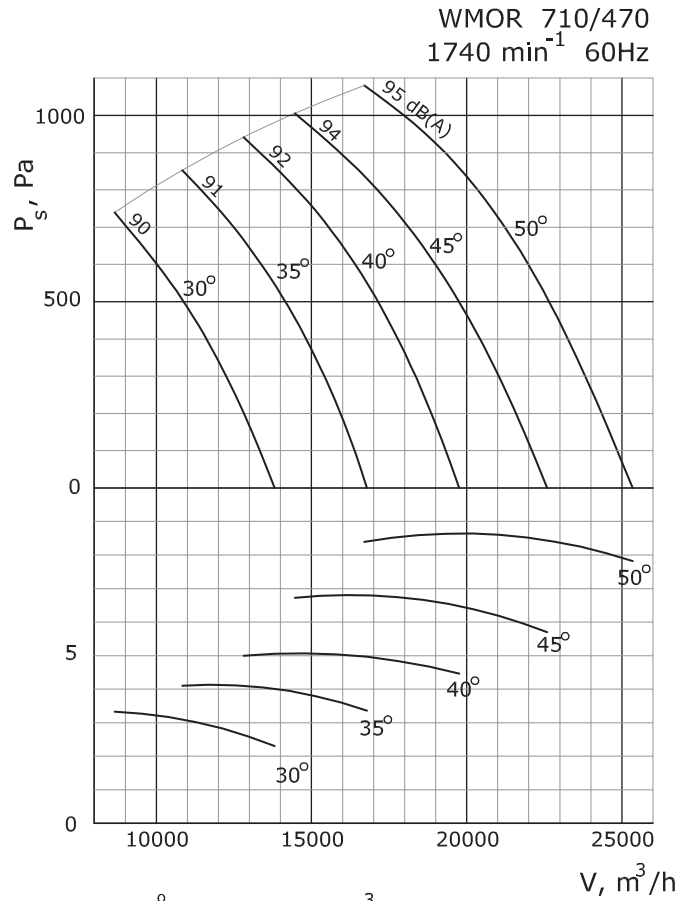

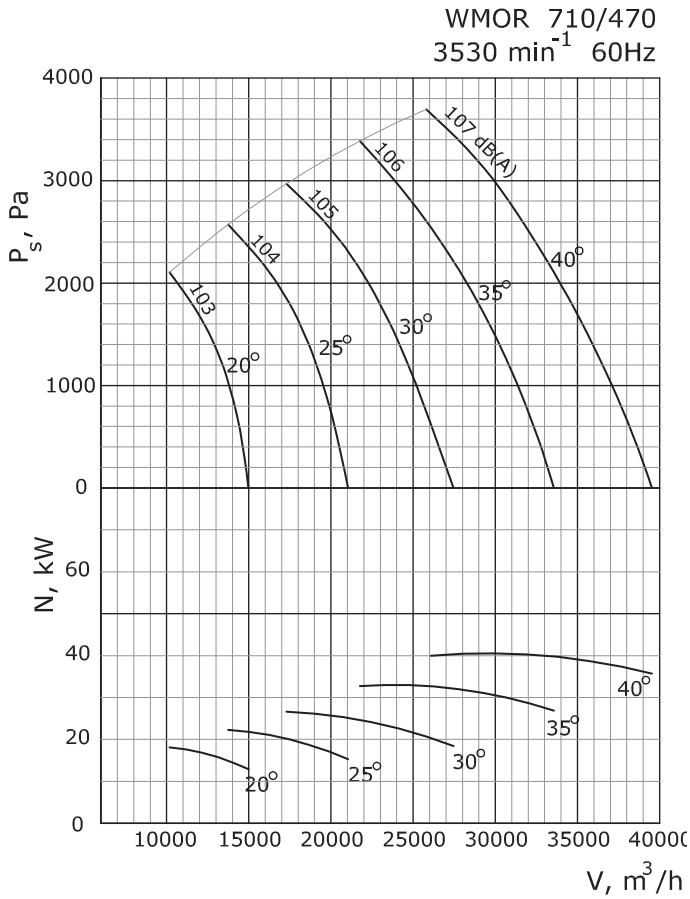

t =20°C, ρ =1,2 kg/m³

Fan sound level L_{pA} 1 m

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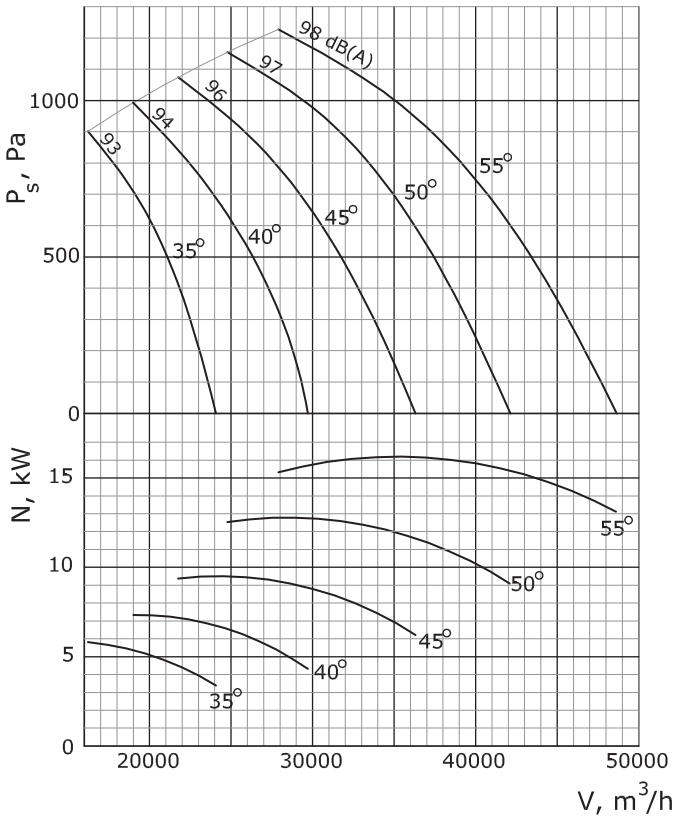
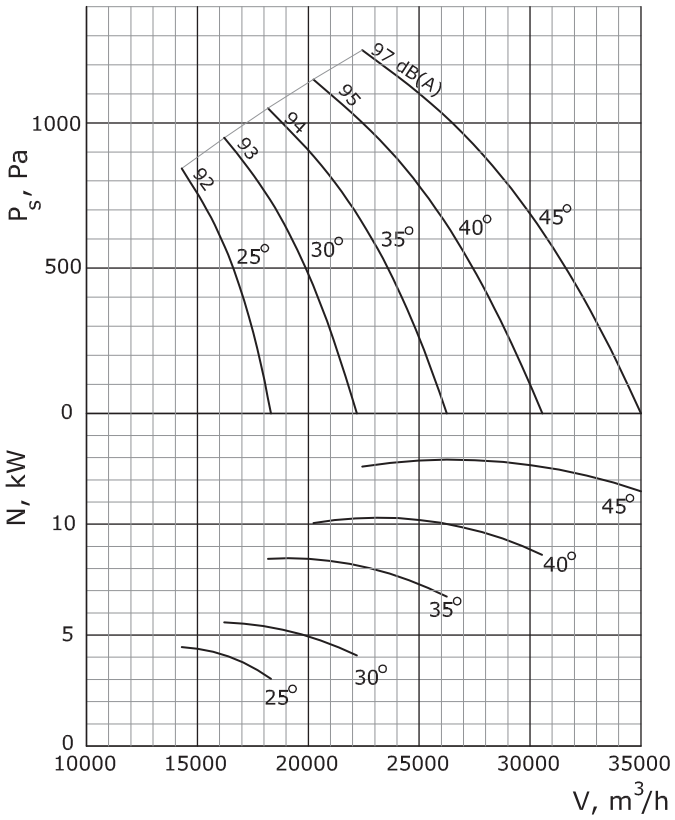
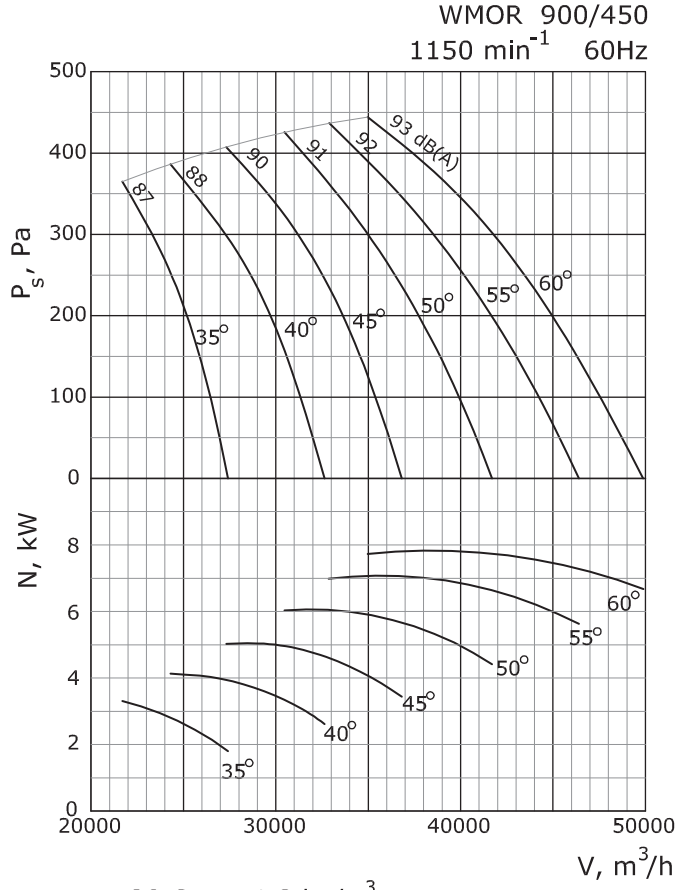
WMOR 800/480
1740 min^{-1} 60Hz



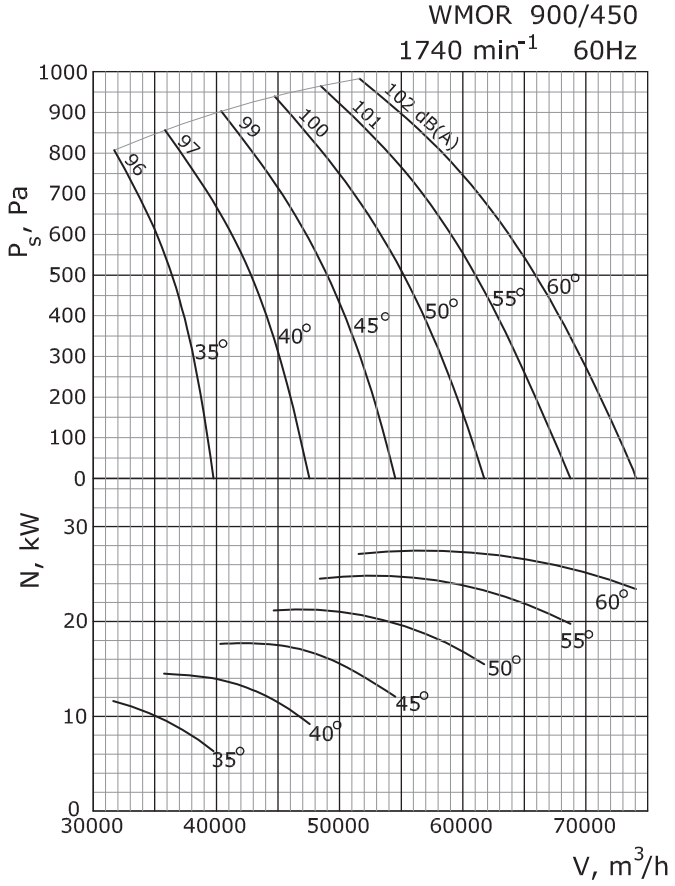
WMOR 800/560
1740 min^{-1} 60Hz



WMOR 900/450
1150 min^{-1} 60Hz



WMOR 900/450
1740 min^{-1} 60Hz



t =20 C, ϱ =1,2 kg/m^3
Fan sound level L_{pA} 1 m

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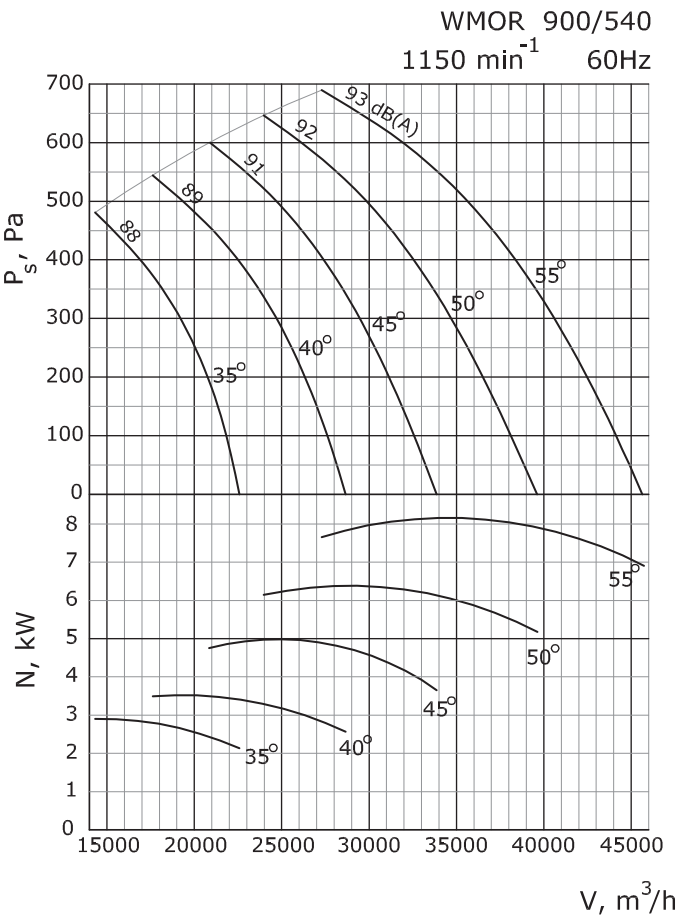

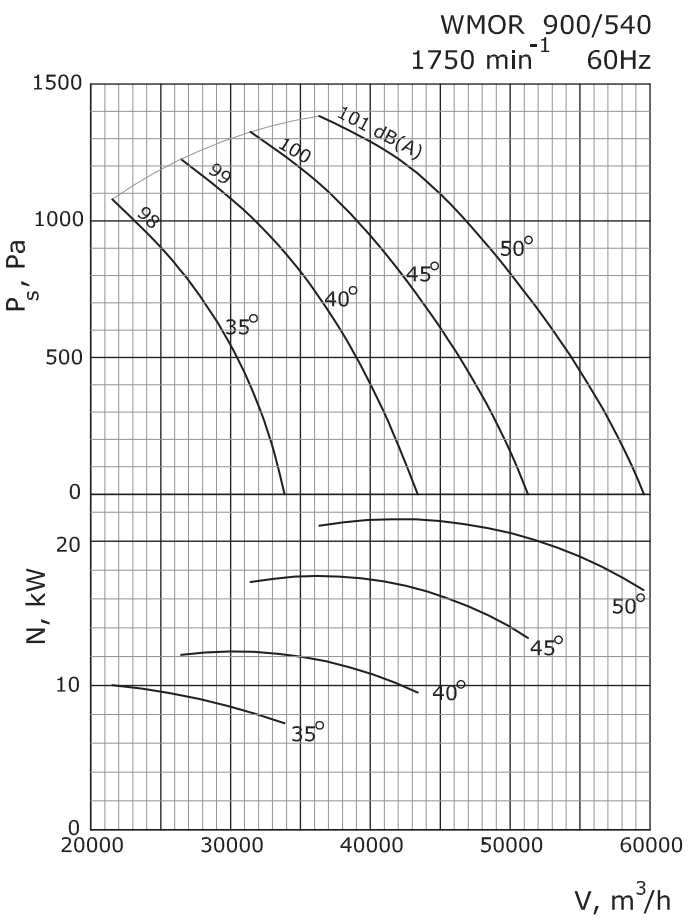

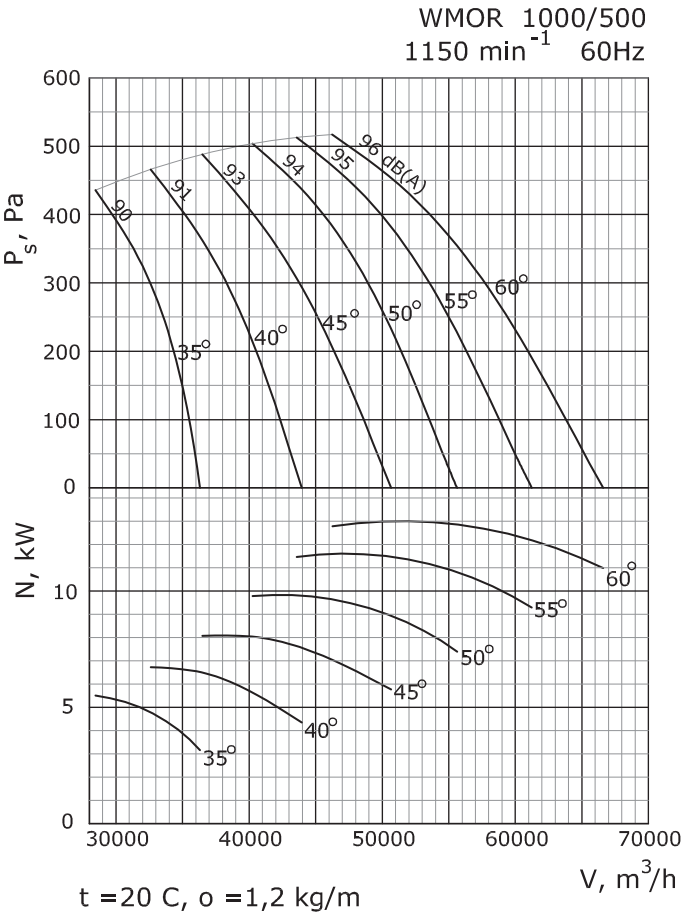

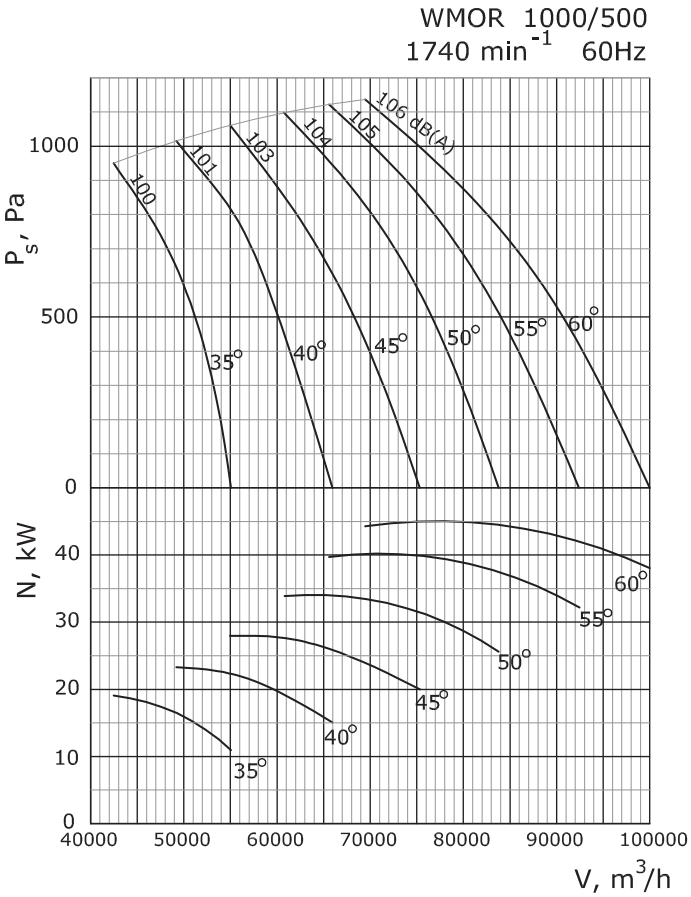

t =20 C, o =1,2 kg/m

Fan sound level L_{pA} 1 m

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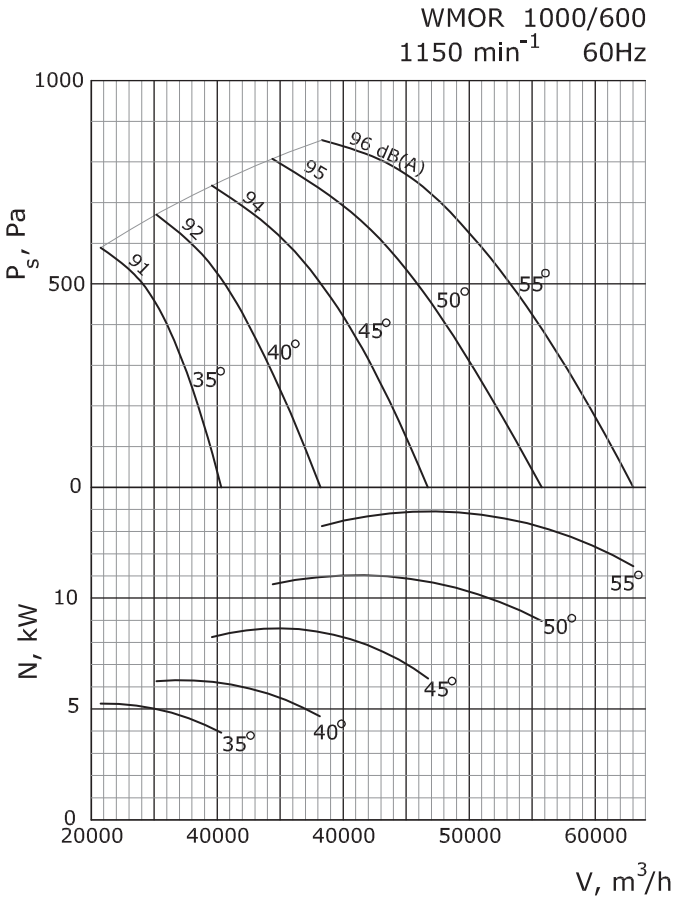

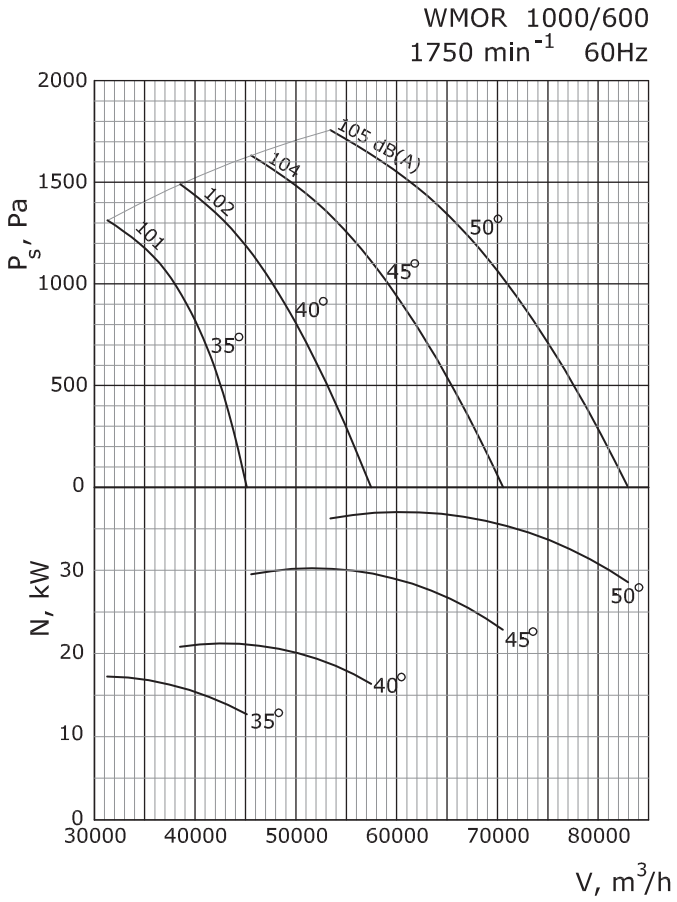

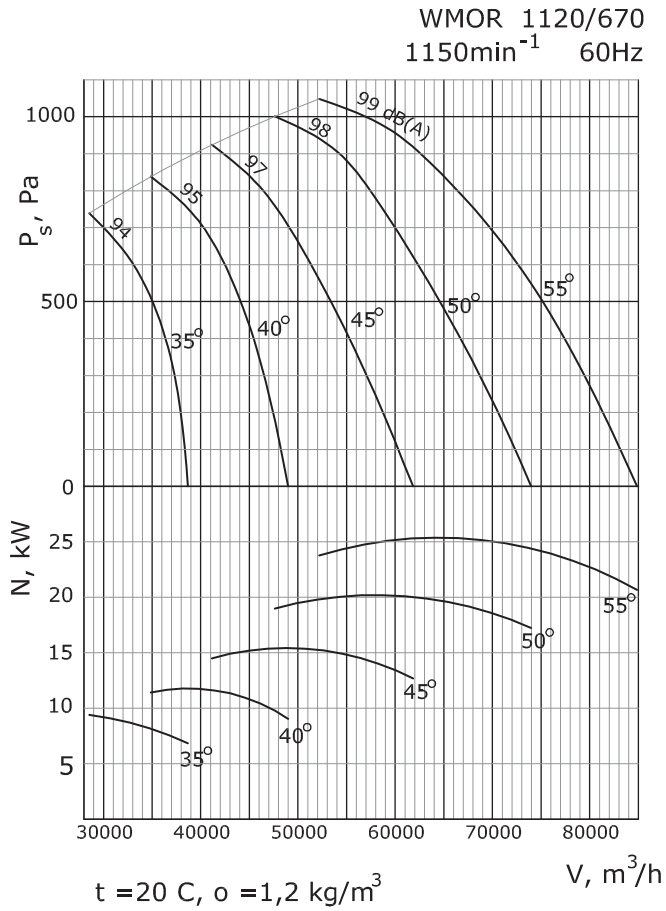

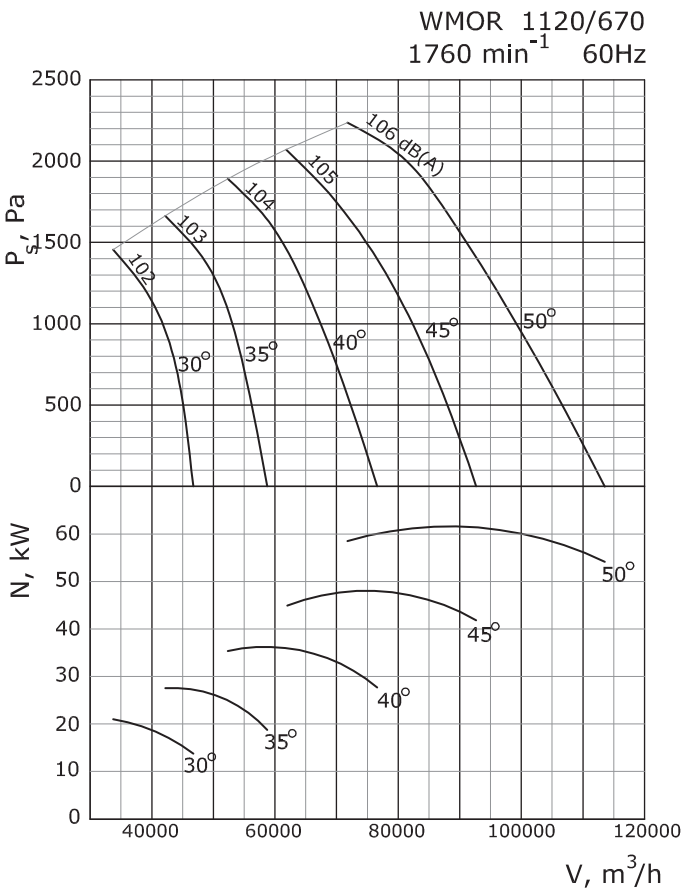

t =20 C, o =1,2 kg/m^3

Fan sound level L_{pA} 1 m

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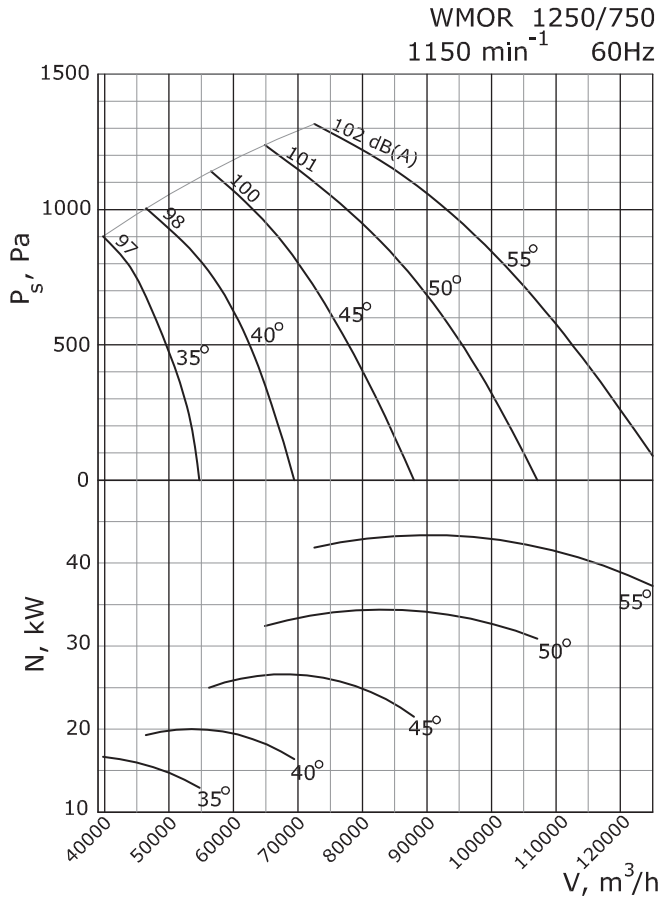

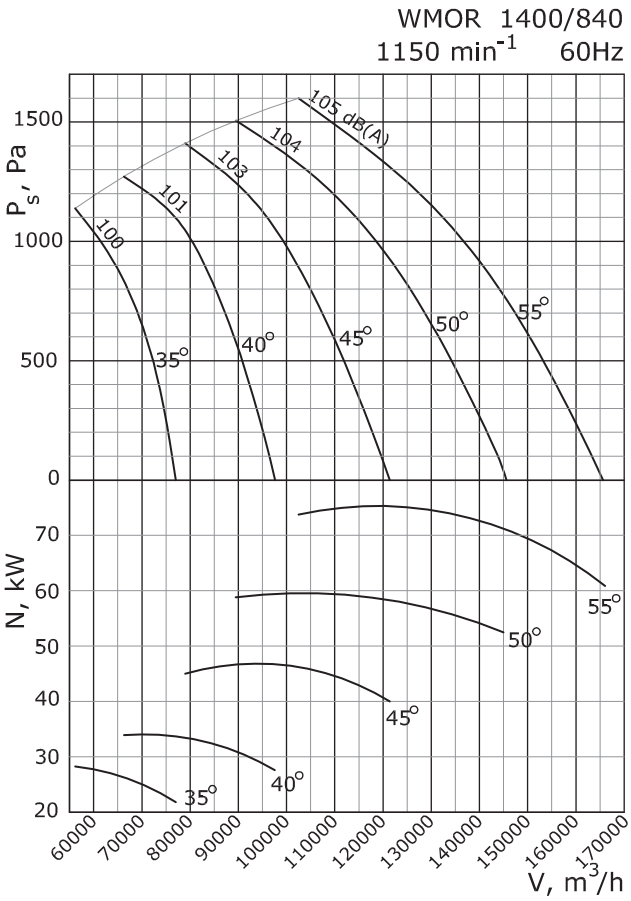

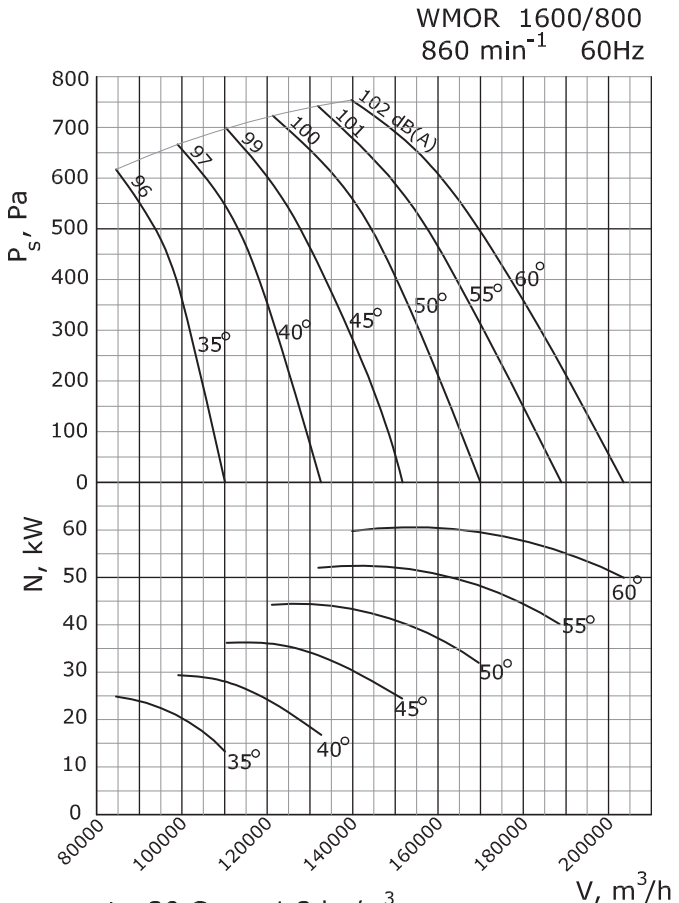

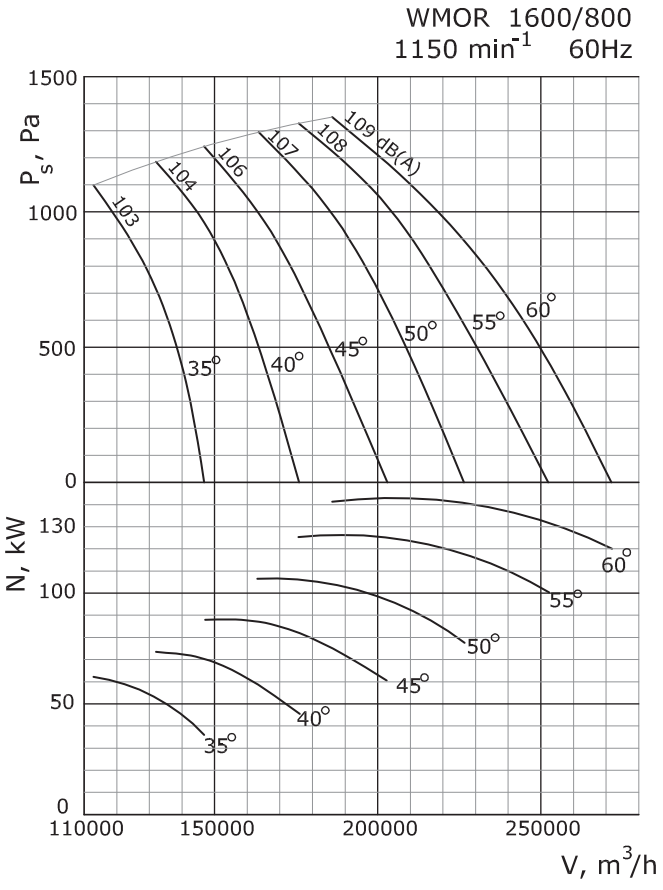

t =20 C, o =1,2 kg/m^3

Fan sound level L_{pA} 1 m

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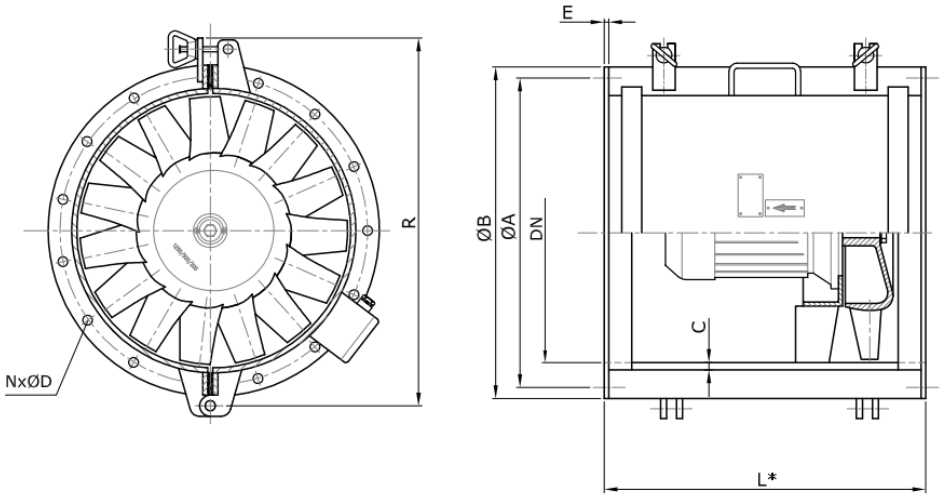
SPECIFICATIONS WMOD SERIES (FANS WITH HINGED DOOR FOR ACCESS TO MOTOR-IMPELLER)

Type	DN	A	B	L	N	D	C	E	R	Weight (kg)
WMOD 400L WMOD 400C	400	460	490	500	12 24	12	10	10	540	105
WMOD 500L WMOD 500C	500	560	590	650	16 32	12	10	12	660	218
WMOD 560L WMOD 560C	560	640	690	700	16 32	14	10	12	740	186
WMOD 630L WMOD 630C	630	695	730	650	16 32	14	10	12	800	195
WMOD 710L WMOD 710C	710	775	810	750	24 48	14	10	12	900	310
WMOD 800L WMOD 800C	800	865	900	750	24 48	14	10	12	1000	370
WMOD 900L WMOD 900C	900	965	1000	850	32 64	14	10	12	1100	460
WMOD 1000L WMOD 1000C	1000	1065	1100	950	32 64	14	10	12	1200	535
WMOD 1120L WMOD 1120C	1120	1205	1250	1200	32 64	14	10	12	1350	750
WMOD 1250L WMOD 1250C	1250	1335	1380	1200	32 64	14	10	12	1500	900
WMOD 1400L WMOD 1400C	1400	1485	1530	1300	32 64	14	10	14	1700	1190
WMOD 1600L WMOD 1600C	1600	1685	1730	1400	32 64	14	10	14	1880	1520

Dimensions in mm
Weight depending on motor size

** Length may vary depending on the motor size.*



Alternatives available on request. Due to continuous product development, Heinen & Hopman reserves the right to introduce alterations without prior notice.

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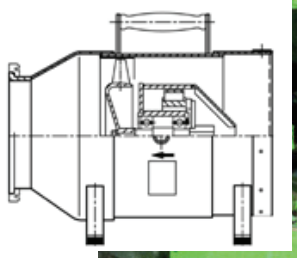
Special fans
A regular fan may sometimes not be appropriate, e.g. in gas-dangerous areas or in situations where easy maintenance must be carried out on a fan. Heinen & Hopman also supplies special fans as described below. Please contact us for more information.

Gas-freeing fans
Gas-freeing fans are used in gas-dangerous areas classified as zone 0 according to IEC 79-10, where electric motors are not allowed. Fans can be applied for gas-freeing from tanks and holds of oil, gas and chemical carriers.
The casing is made of carbon steel or hot-dip galvanized steel. The impeller is made of sea-water-resistant aluminum, statically and dynamically balanced. The water turbine fan drive is made of bronze.

Portable fans
Portable fans are used in areas with chemically active vapors and gases. The portable fans are mostly used on seagoing ships of unrestricted cruising area and on off-shore objects.
The fans are explosion-proof and made of sea-water-resistant aluminum, with a flexible hose connection. The aluminum fans are pneumatically driven. The air turbine must be supplied with dry and clean compressed air at a working pressure of 4-6 bar. The fan inlet has a protective brass-wire guard.

Explosion-proof fans
Explosion-proof fans extract air-containing explosive vapors or dust from hazard spaces of seagoing ships of unrestricted cruising area. The fans have flame-proof EExd-class motors. The casing has a drilled flange and a wire mesh on top. The impeller is made of sea-water-resistant aluminum.



HEINEN & HOPMAN

Heinen & Hopman encourages a more sustainable world. By providing eco-friendly solutions and services we offer our clients the option of reducing energy consumption and thus CO2 emissions.

HEINEN & HOPMAN MANIFESTO APPROVED

"Do you require more information about our products or do you require advice? I am keen to help you further!"

Eric Stoffelsen
- Sales Manager
sales@heinenhopman.com

OUTSIDE HUMIDITY
35°C 90%
45°C 40%
22°C Inside
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