

DESCRIPTION

Marine axial-flow WMOR and WMOD fans are destined for operation in ventilation systems of seagoing ships with unrestricted cruising area as well as offshore objects. They may be used as exhaust or supply fans and be installed inside the compartments or on weather decks.

Working parameters of fans are shown on enclosed performance curves $P = f(V)$ with respect to inert gas of specific density $\rho = 1,2 \text{ kg/m}^3$ and temperature $t = 20^\circ\text{C}$, where:

P_s (Pa) – fan static pressure,

V (m^3/s) – air displacement.

Allowable tolerances of working parameters of fans (air displacement, pressure, power consumption and efficiency) are in accordance with standard PN-77/M-43021. Temperature of conveyed medium should not exceed $+45^\circ\text{C}$, dust contents 0.3 g/m^3 . Surface of this unit is hot-dip galvanized.

Housing is made of steel pipe ended with drilled flanges, welded. On the housing a terminal box with cable gland for supply connection cable is mounted. Sizes of cable glands:

DN=200-315 PG20

DN=400, 500 PG27

DN=560-800 PG33

DN=1000-1600 PG42

Housing of fan is provided with air-guide, to which electric motor-impeller set is screwed. WMOD-type fans are provided with hinged door to which the air guide with motor-impeller set is fastened. Fans in explosion-proof execution are fitted with brass lining on inner surface of housing in way of impeller. Air guide is made of welded steel sheet. This element straightens the air flow and is also the supporting bracket of electric motor. Impeller is made of aluminum alloys sea-water resistant. Impeller blades are screwed to the hub, impeller is dynamically balanced. Electric motor is executed as induction and squirrel-cage type. Moreover, it is made as three-phase, in marine execution, suitable for 50 or 60Hz electric installation.

MARKING

Example: WMOD type fan of nominal diameter DN=500mm, with impeller hub diameter 280mm, of light execution L, exhaust type W, with door opening to the left – l, with impeller blades pitch 30° , in standard execution: WMOD 500/280-L-W-30°-l

TECHNICAL SPECIFICATION & DIMENSIONS

Executions:

L – light, made of steel sheet 3-10mm and with flanges of normal number of holes

C – heavy, made of steel sheet 10mm and with flanges of double number of holes

Types:

N – supply

W – exhaust

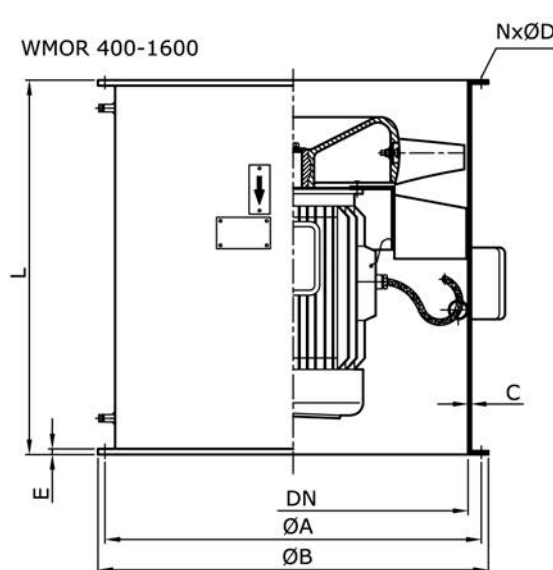
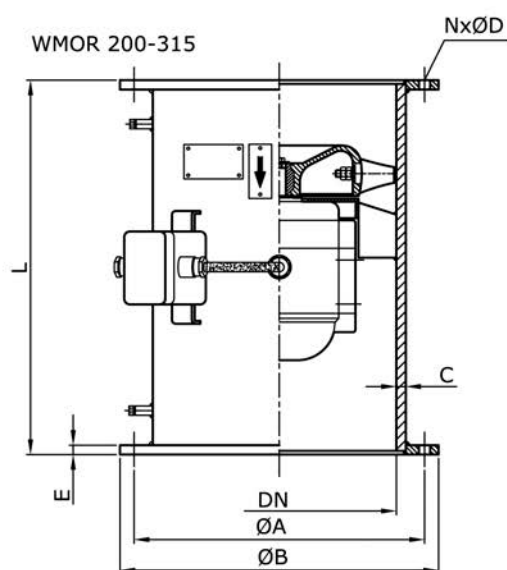
Door opening:

l – to the left

p – to the right

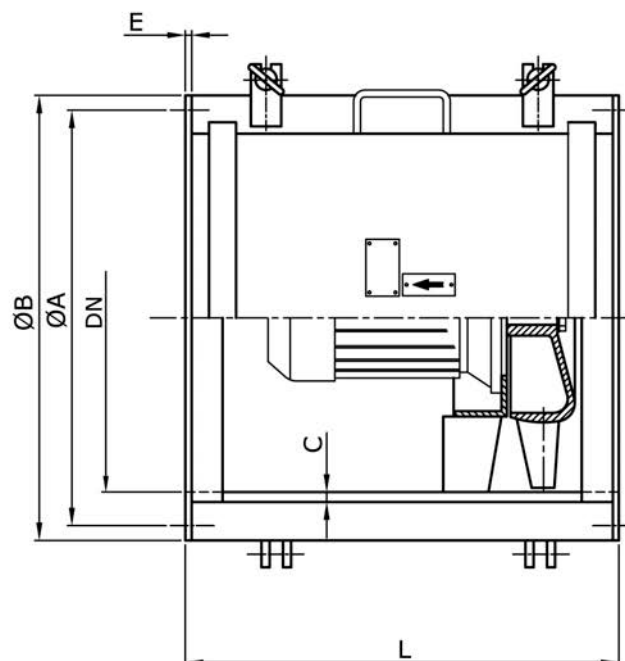
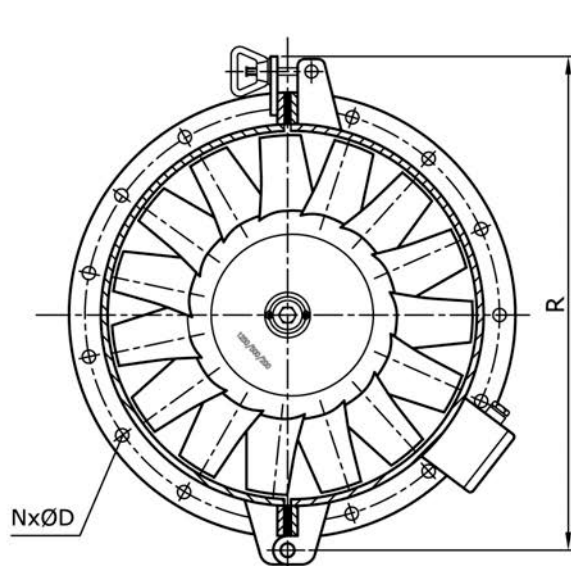
WMOR

Fan type	Dimensions [mm]								Weight [kg]
	DN	ØA	ØB	L	N	ØD	C	E	
200L	200	260	290	350	8	12	3	5	19.3
200C					16		8	10	33.6
250L	250	310	340	400	8	12	3	5	23
250C					16		8	10	42.8
315L	315	370	405	400	12	12	3	5	30
315C					24		10	10	56
355L	355	410	445	400	12	12	3	5	38
355C					24		10	10	78
400L	400	460	490	500	12	12	4	5	58.5
400C					24		10	10	92.5
500L	500	560	590	650	16	12	6	8	162
500C					32		10	12	199
560L	560	640	690	700	16	15	6	8	136
560C					32		10	12	186
630L	630	695	730	650	16	15	6	8	172
630C					32		10	12	190
710L	710	775	810	750	24	15	6	8	212
710C					48		10	12	300
800L	800	865	900	750	24	15	6	8	308
800C					48		10	12	340
900L	900	965	1000	850	32	15	6	10	405
900C					64		10	12	435
1000L	1000	1065	1100	950	32	15	6	10	426
1000C					64		10	12	520
1120L	1120	1205	1250	1200	32	15	6	10	680
1120C					64		10	12	720
1250L	1250	1335	1380	1200	32	15	6	12	722
1250C					64		10	12	870
1400L	1400	1485	1530	1300	32	15	6	12	980
1400C					64		10	12	1160
1600L	1600	1685	1730	1400	32	15	6	12	1280
1600C					64		10	12	1460



WMOD

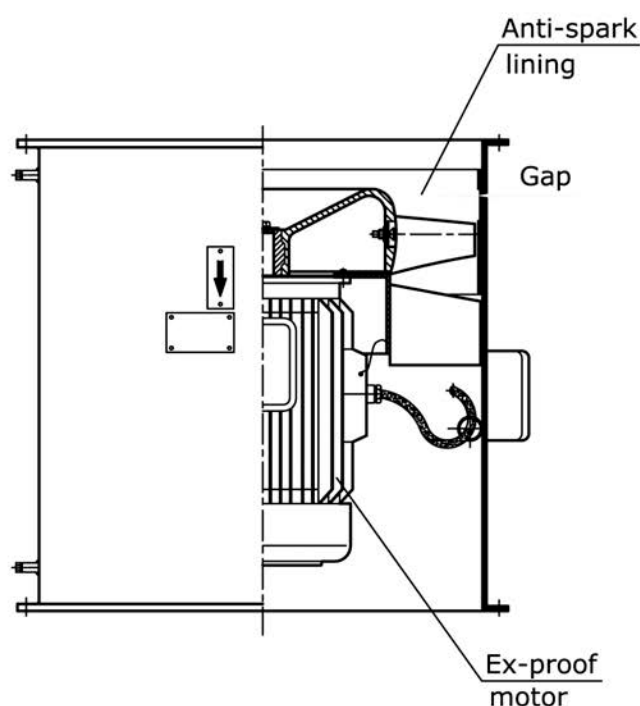
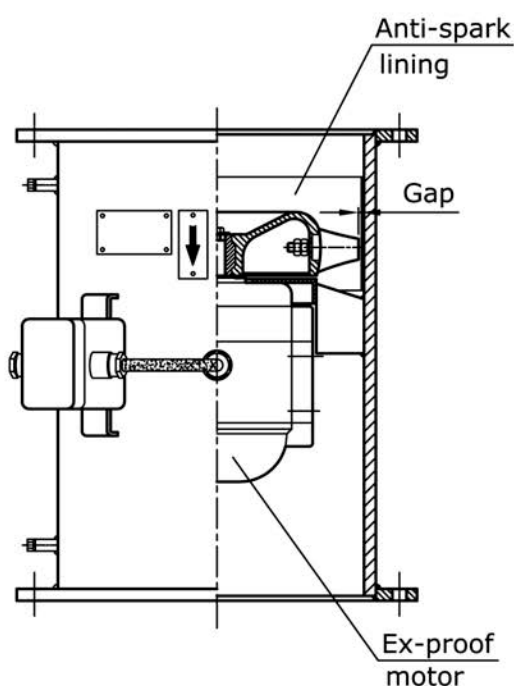
Fan type	Dimensions [mm]									Weight [kg]
	DN	ØA	ØB	L	N	ØD	C	E	R	
400L	400	460	490	500	12	14	10	10	540	105
400C					24					
450L	450	510	540	500	12	12	10	10	600	145
450C					24					
500L	500	560	590	650	16	14	10	12	660	186
500C					32					
560L	560	640	690	700	16	14	10	12	740	195
560C					32					
630L	630	695	730	650	16	14	10	12	800	310
630C					32					
710L	710	775	810	750	24	14	10	12	900	370
710C					48					
800L	800	865	900	750	24	14	10	12	1000	460
800C					48					
900L	900	965	1000	900	32	14	10	12	1100	535
900C					64					
1000L	1000	1065	1100	950	32	14	10	12	1200	750
1000C					64					
1120L	1120	1205	1250	1200	32	14	10	12	1350	900
1120C					64					
1250L	1250	1335	1380	1200	32	14	10	12	1500	1190
1250C					64					
1400L	1400	1485	1530	1300	32	14	10	14	1700	1520
1400C					64					
1600L	1600	1685	1730	1400	32	14	10	14	1880	
1600C					64					



EXPLOSION-PROOF EXECUTION

Marine explosion-proof axial-flow fans WMOR Ex and WMOD Ex are destined for transport of air contaminated with vapors or dusts of explosion-dangerous substances, defined by SOLAS Chapter VII Part A (with conformity to IMO-IMDG Code). EExe or EExd safety class of used in Ex fans electrical motors or other electrical equipment is determined by IMO-class of dangerous substances, that may be expected in conveyed air. Electric motor safety class, as well as IP enclosure and temperature class (ignition class) must be defined by the Customer after agreement with the Classification Society.

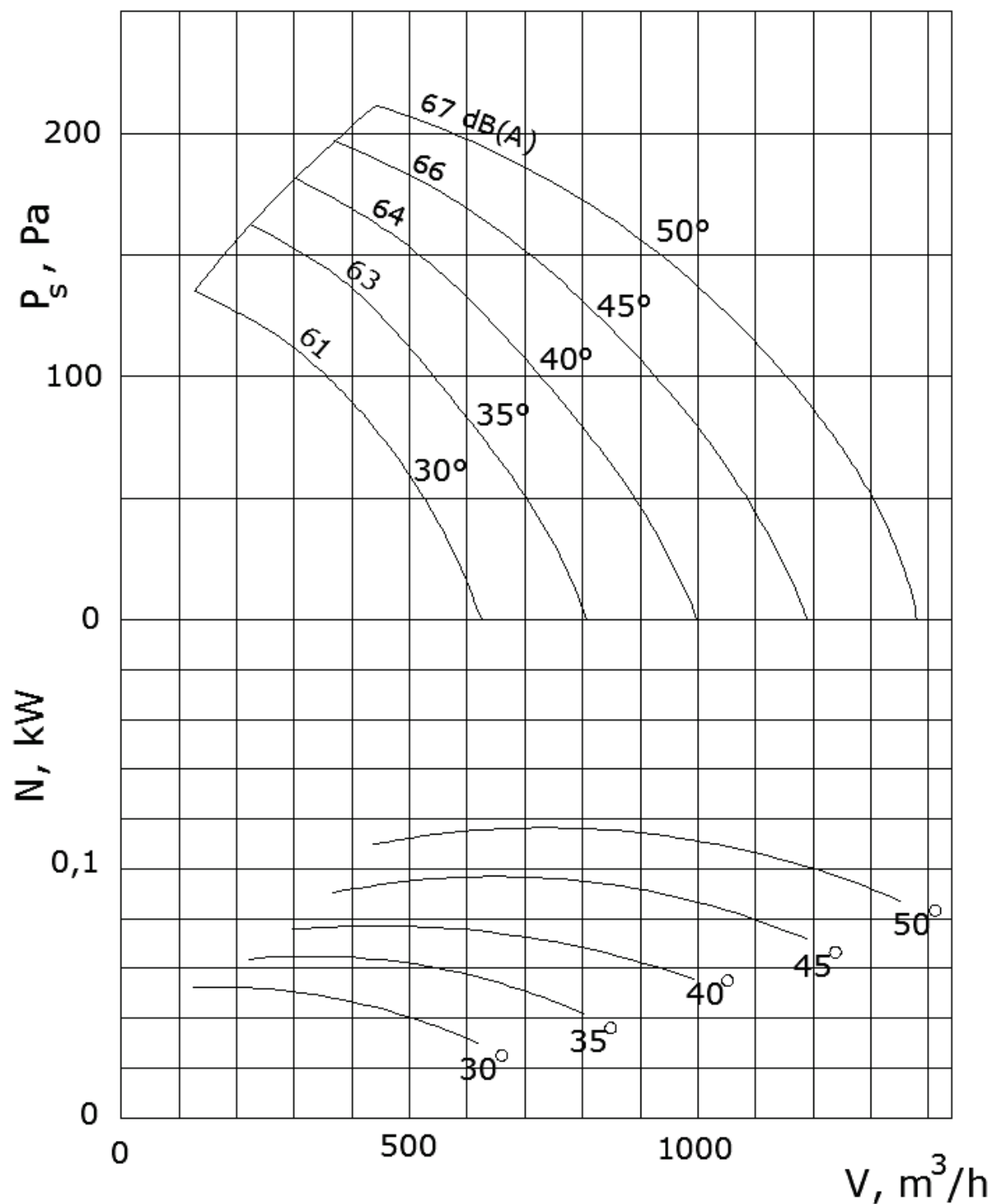
Housing is made of steel pipe ended with drilled flanges, welded. Inside the housing an air guide for air stream straightening and electric motor supporting is fastened. On the housing in way of impeller a brass ring of 2mm thickness is fitted as a protection against sparking in case of fan emergency is 2-13mm, depending on motor shaft bearing diameter. On the fan housing a cable gland and screwed cover enabling supply cable connection to electric motor terminal box are mounted. On request the fans are delivered with external terminal box in ordinary or ex-proof execution or with internal cable leaded in protective steel pipe. Impeller is made of sea-water resistant aluminum alloy – silumin (AK-11). Impeller blades are screwed to the hub. Impeller is dynamically balanced. Electric motor is executed as induction, squirrel-cage. Moreover, it is made as three-phase, totally enclosed, in marine execution, suitable for 50 or 60Hz electric installation, of EExe or EExd class.

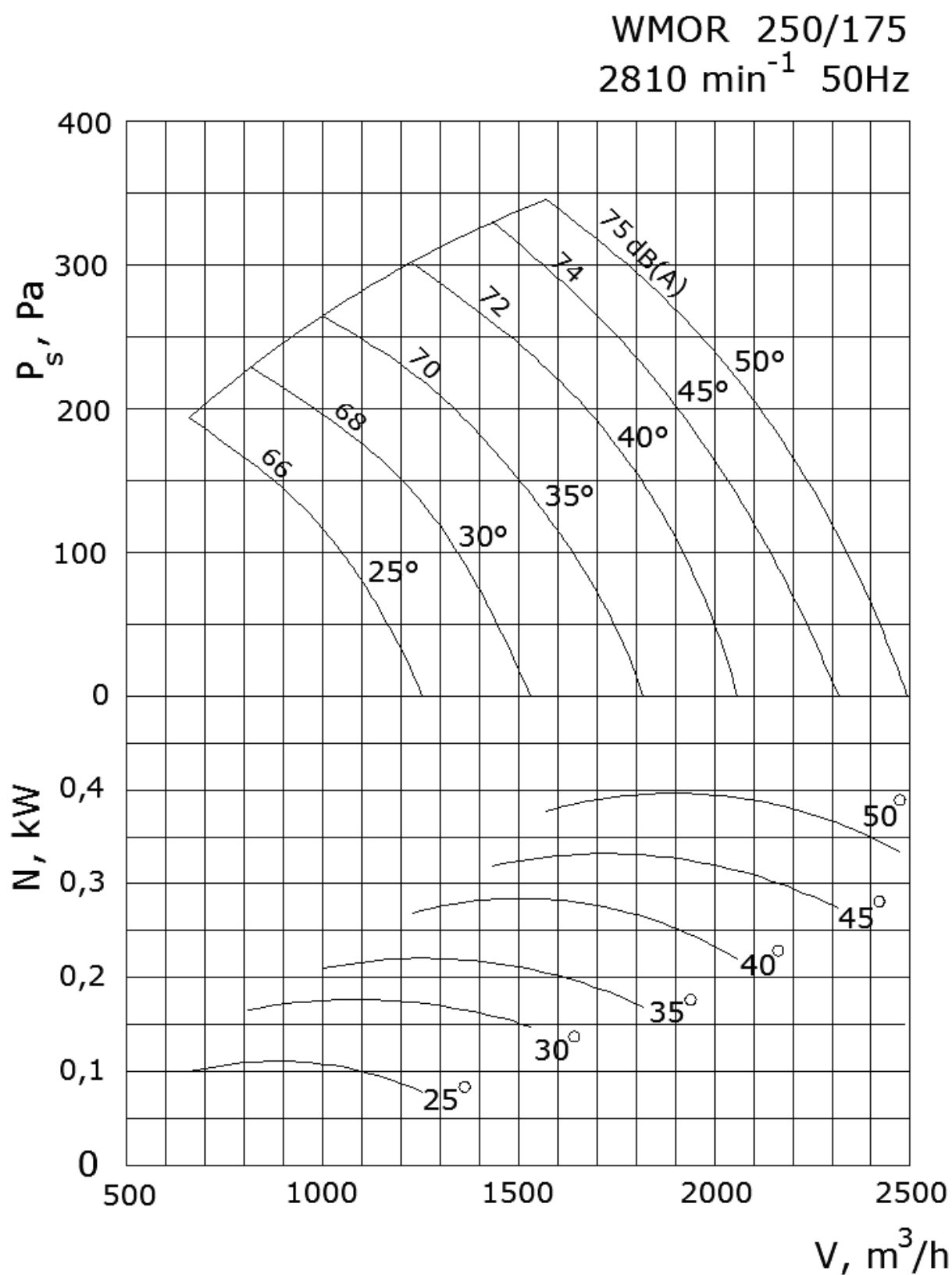


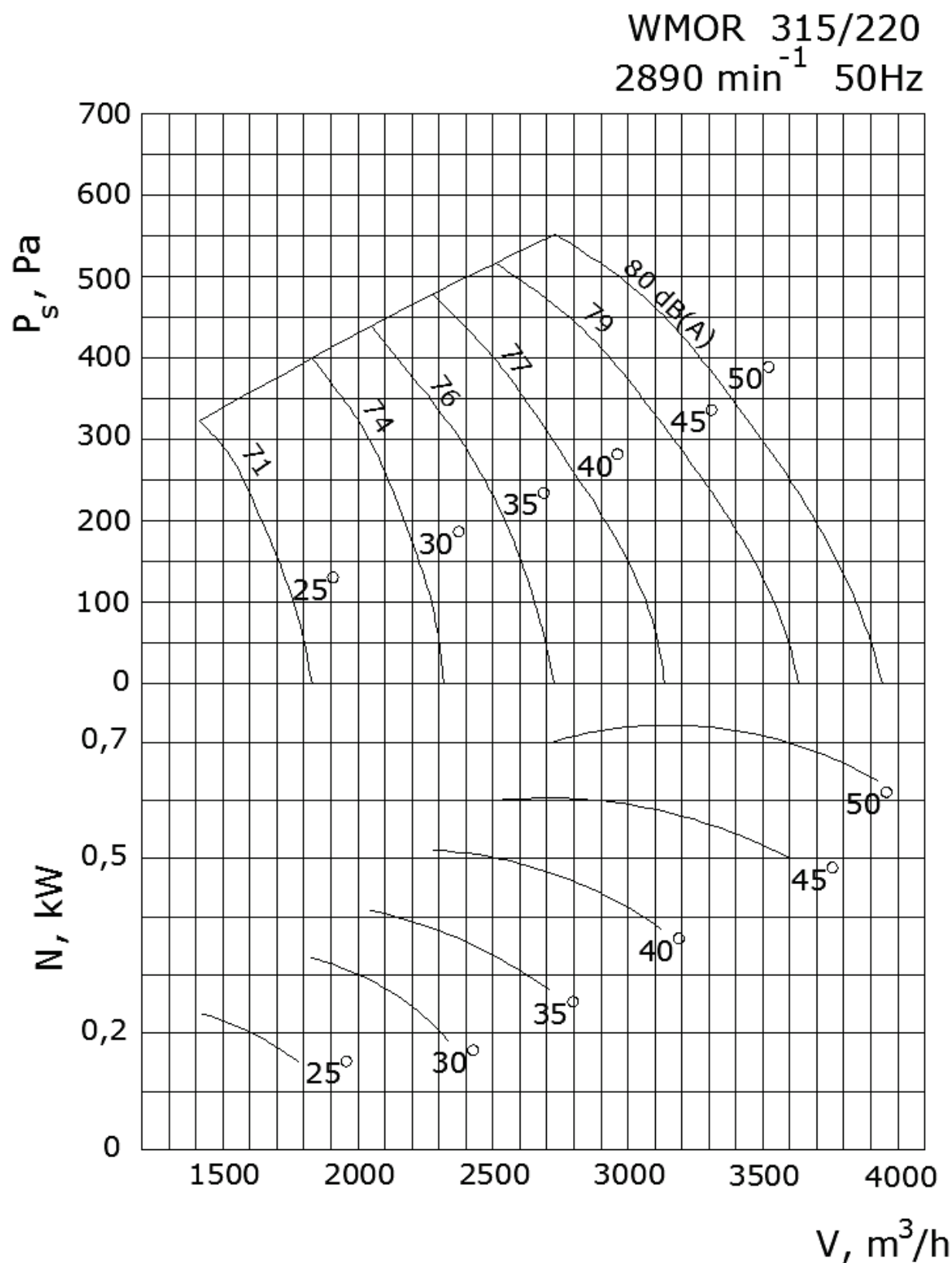


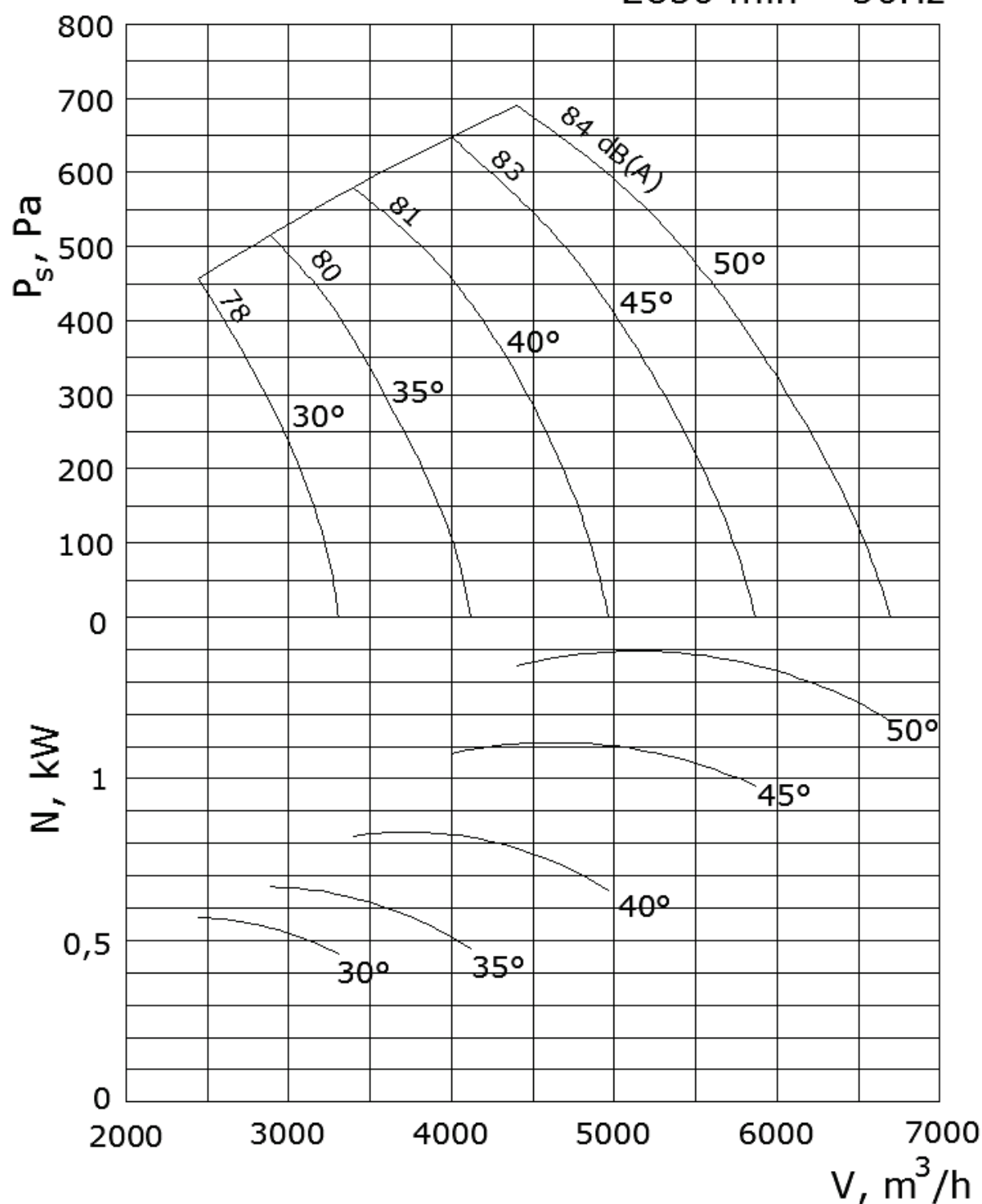
DIAGRAMS

WMOR 200/110
2810 min⁻¹ 50Hz

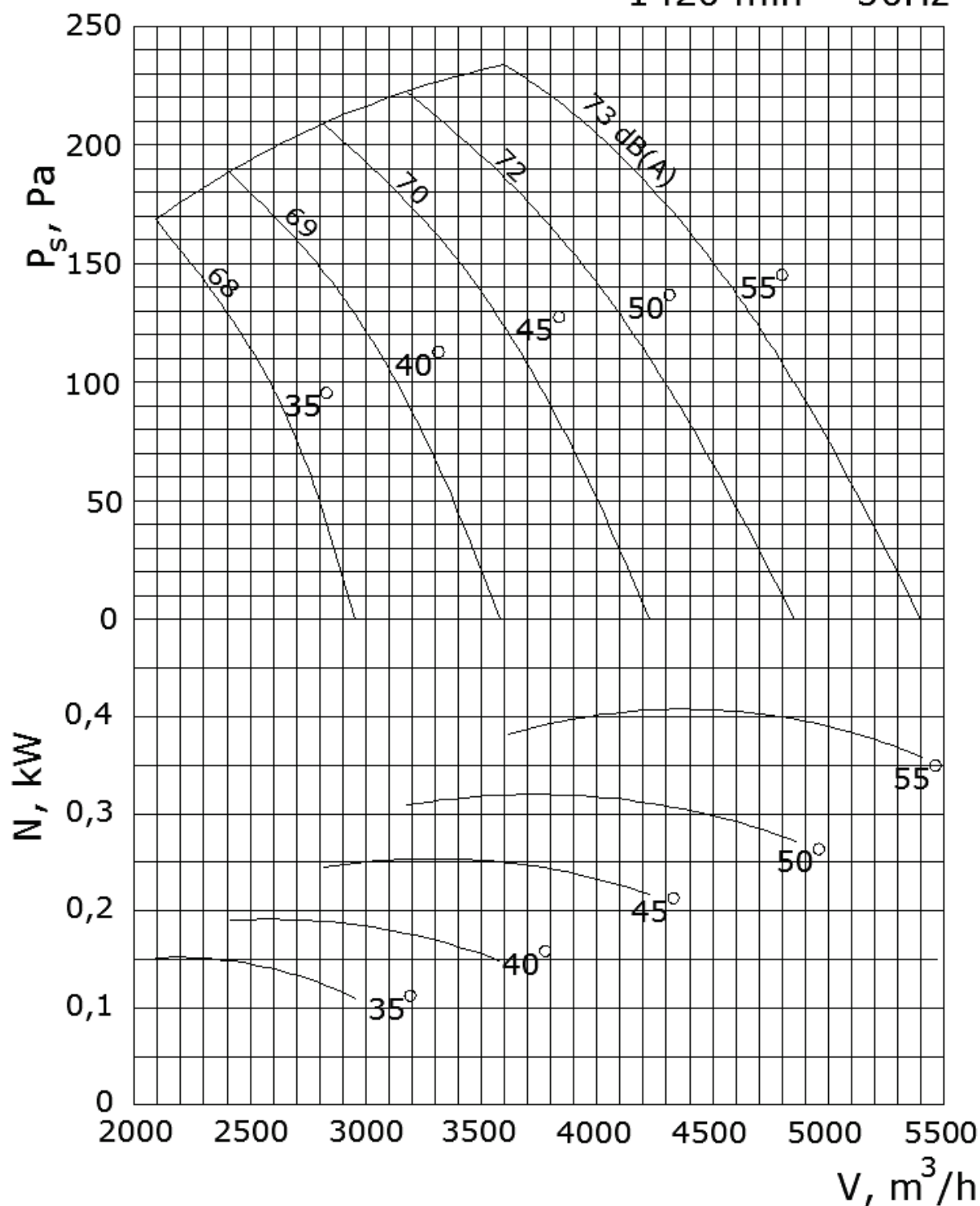




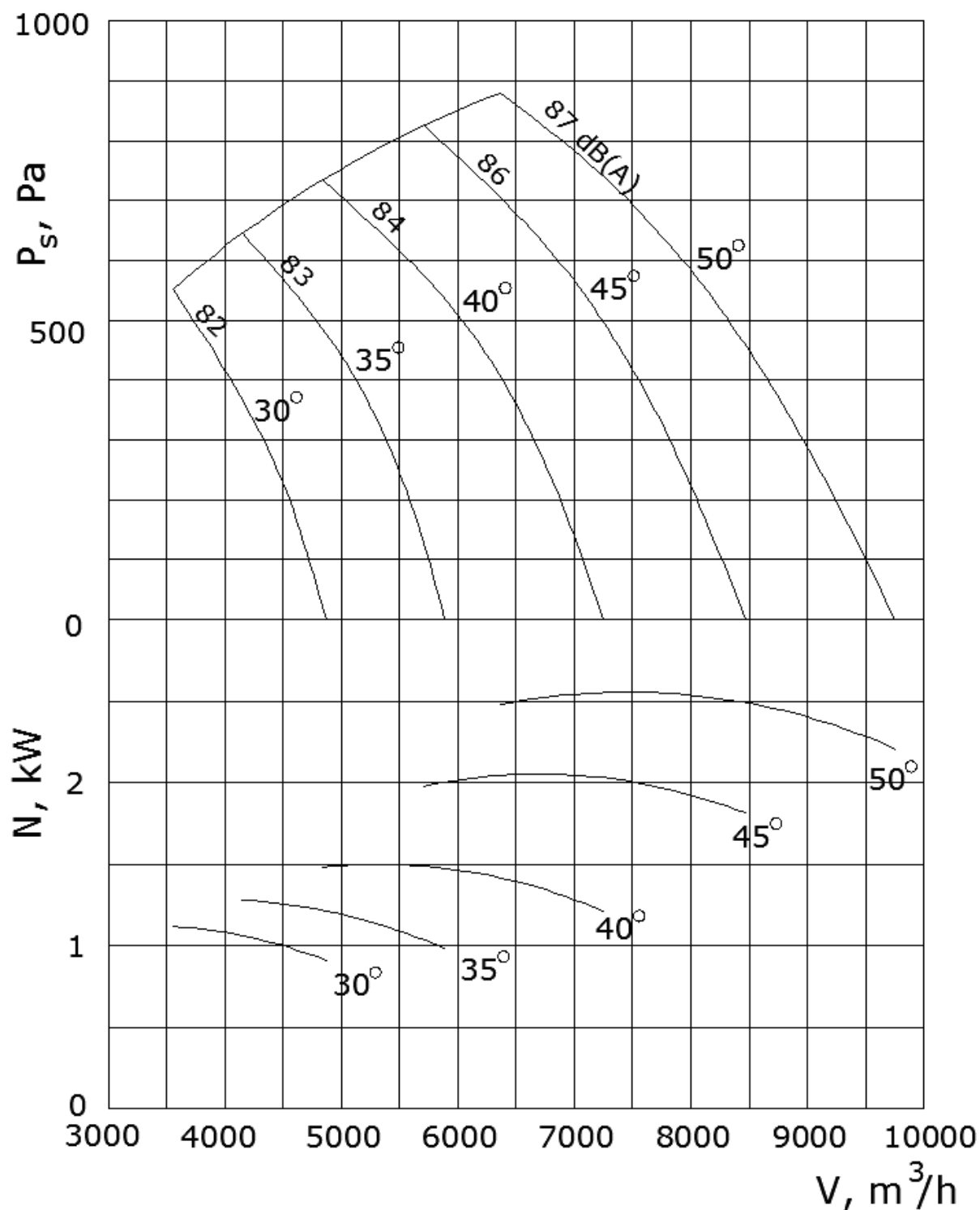


**WMOR 355/250**
2850 min⁻¹ 50Hz

WMOR 400/280
1420 min⁻¹ 50Hz

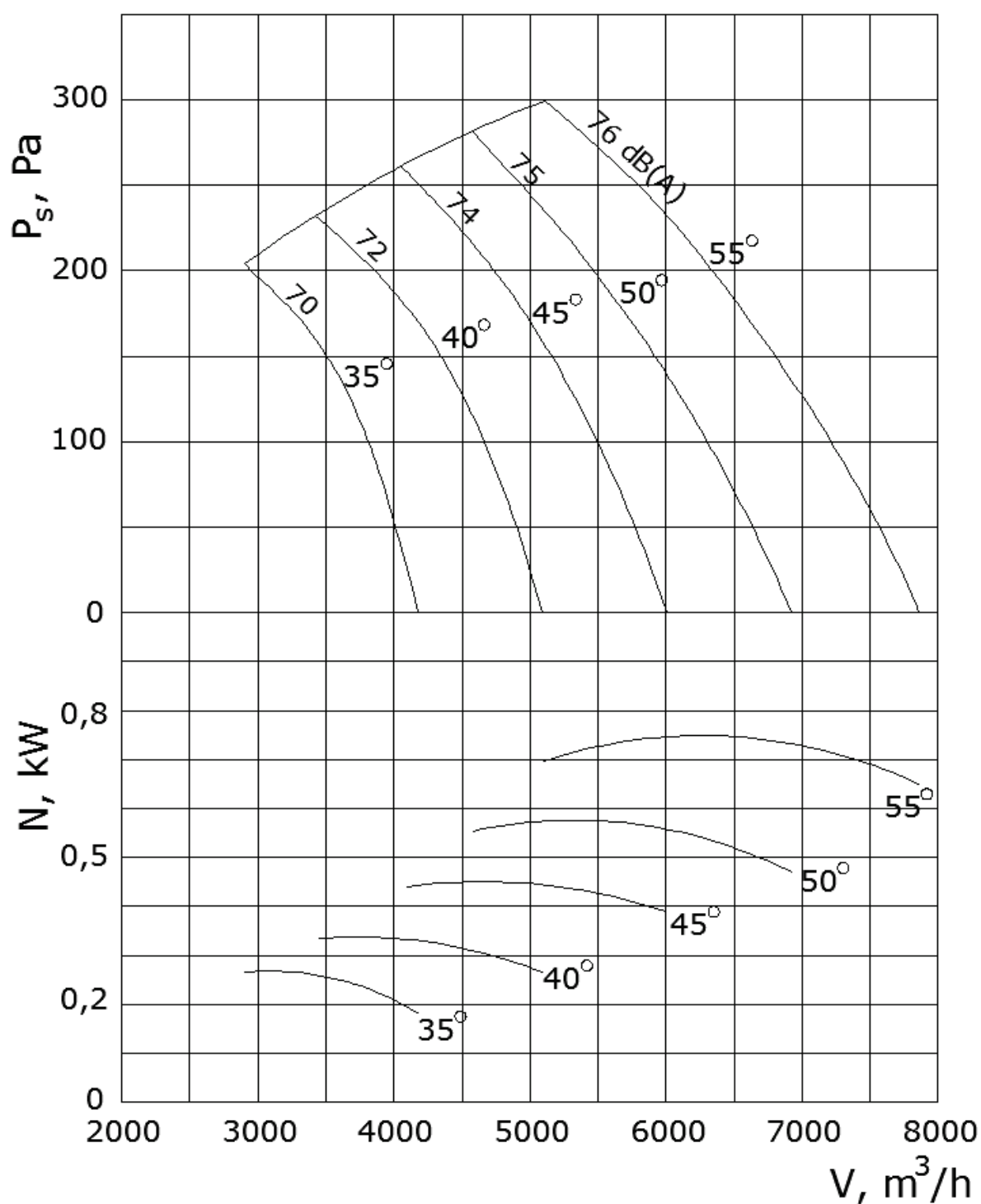


WMOR 400/280
2850 min⁻¹ 50Hz

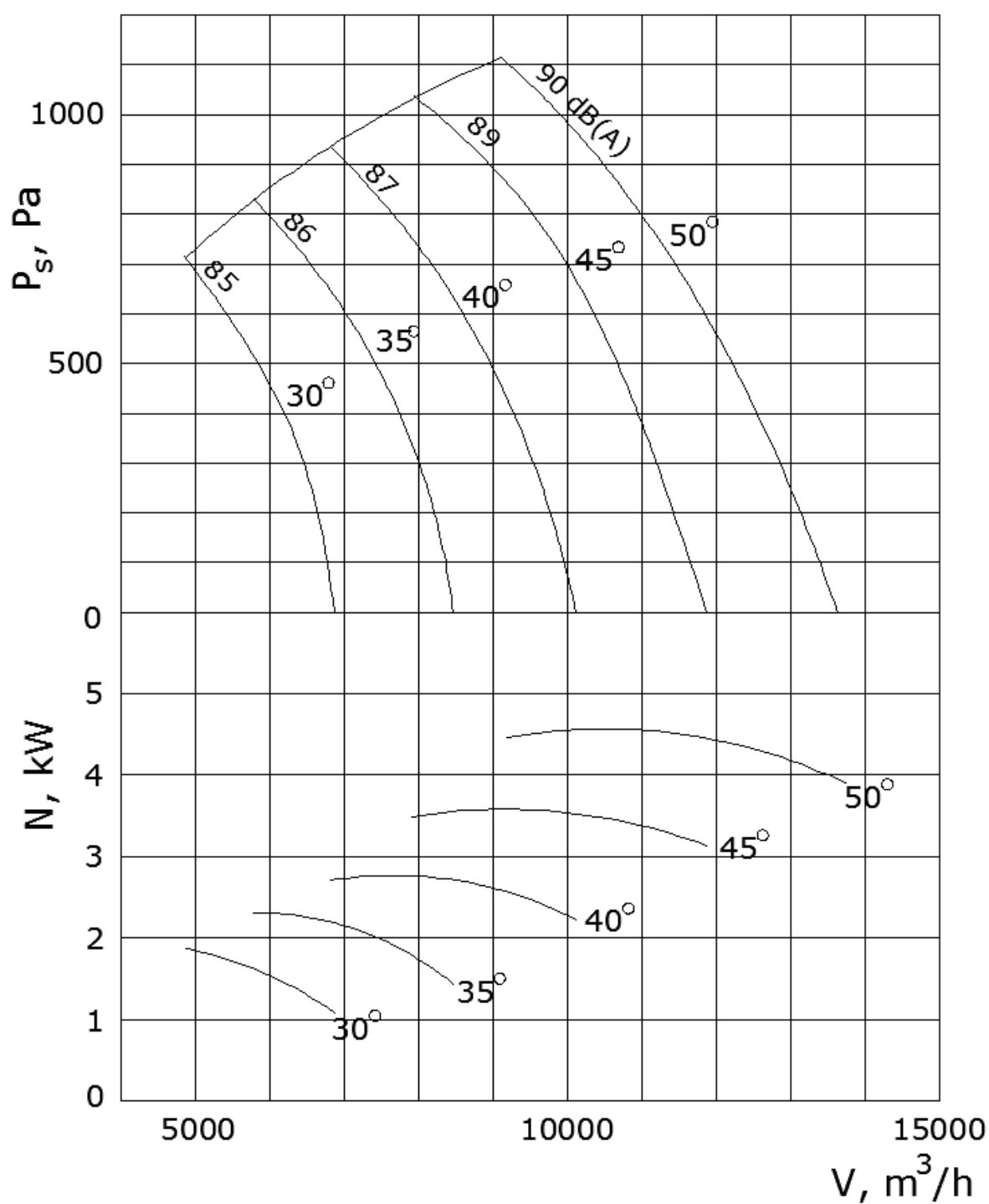


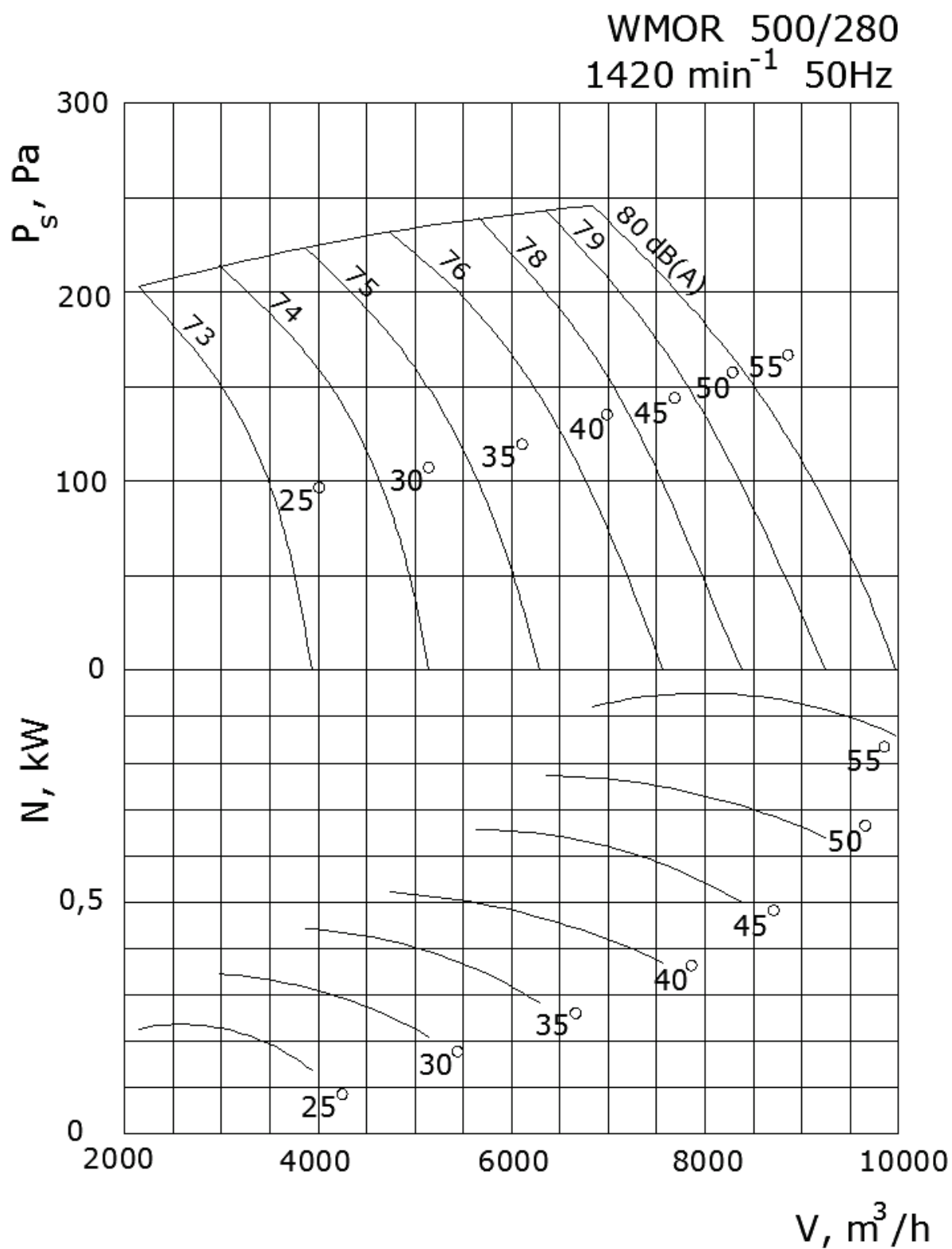


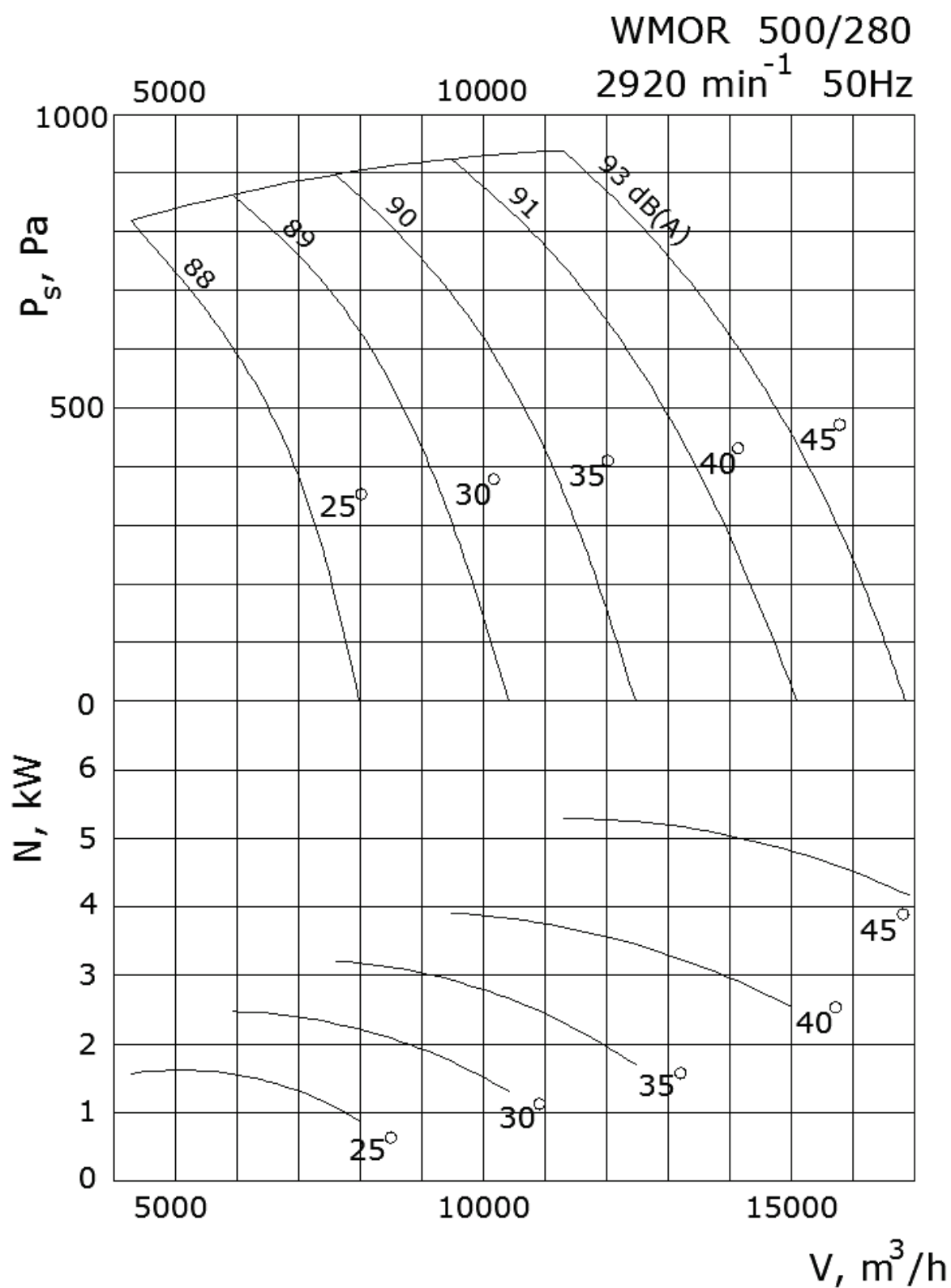
WMOR 450/310
 1420 min^{-1} 50Hz

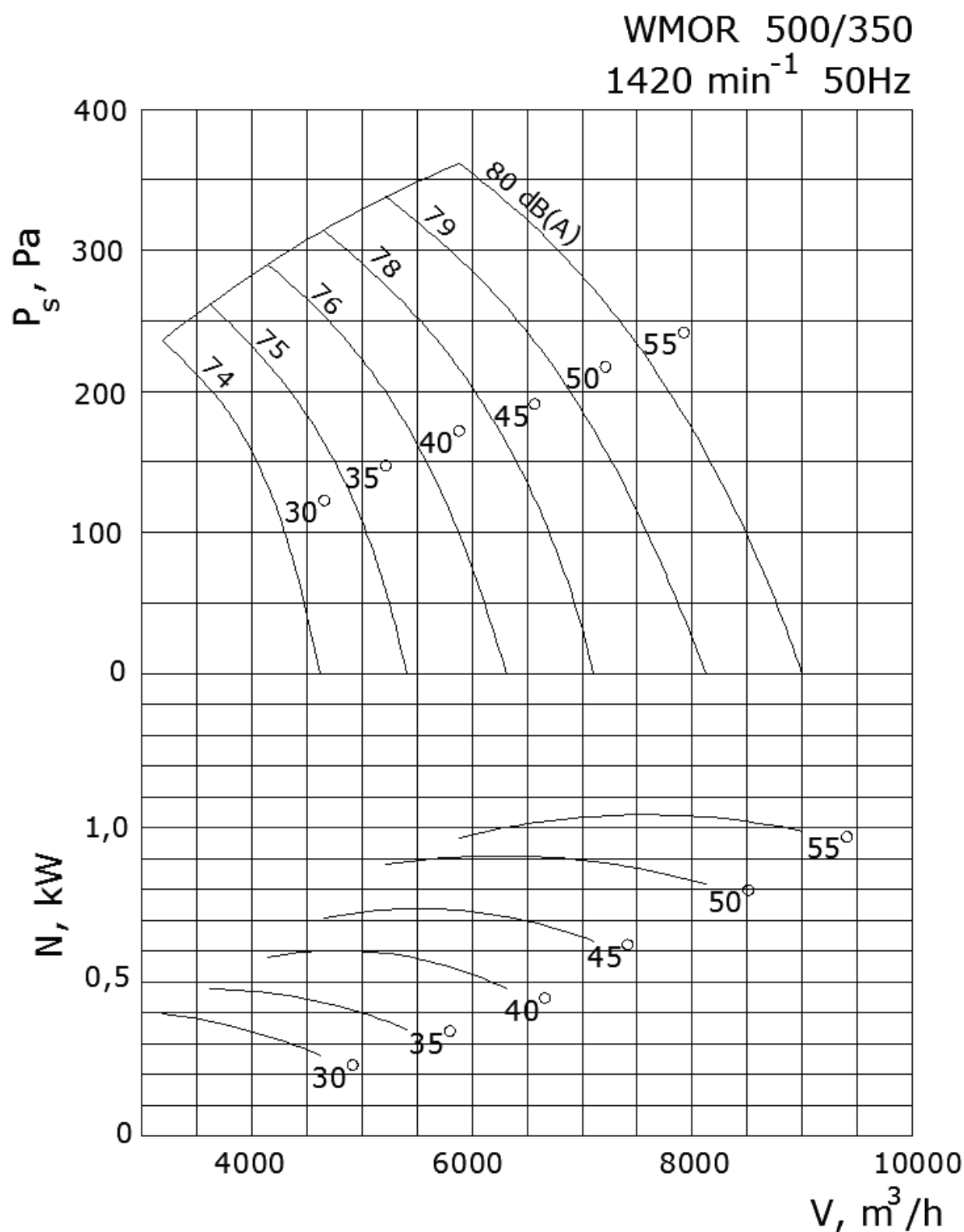


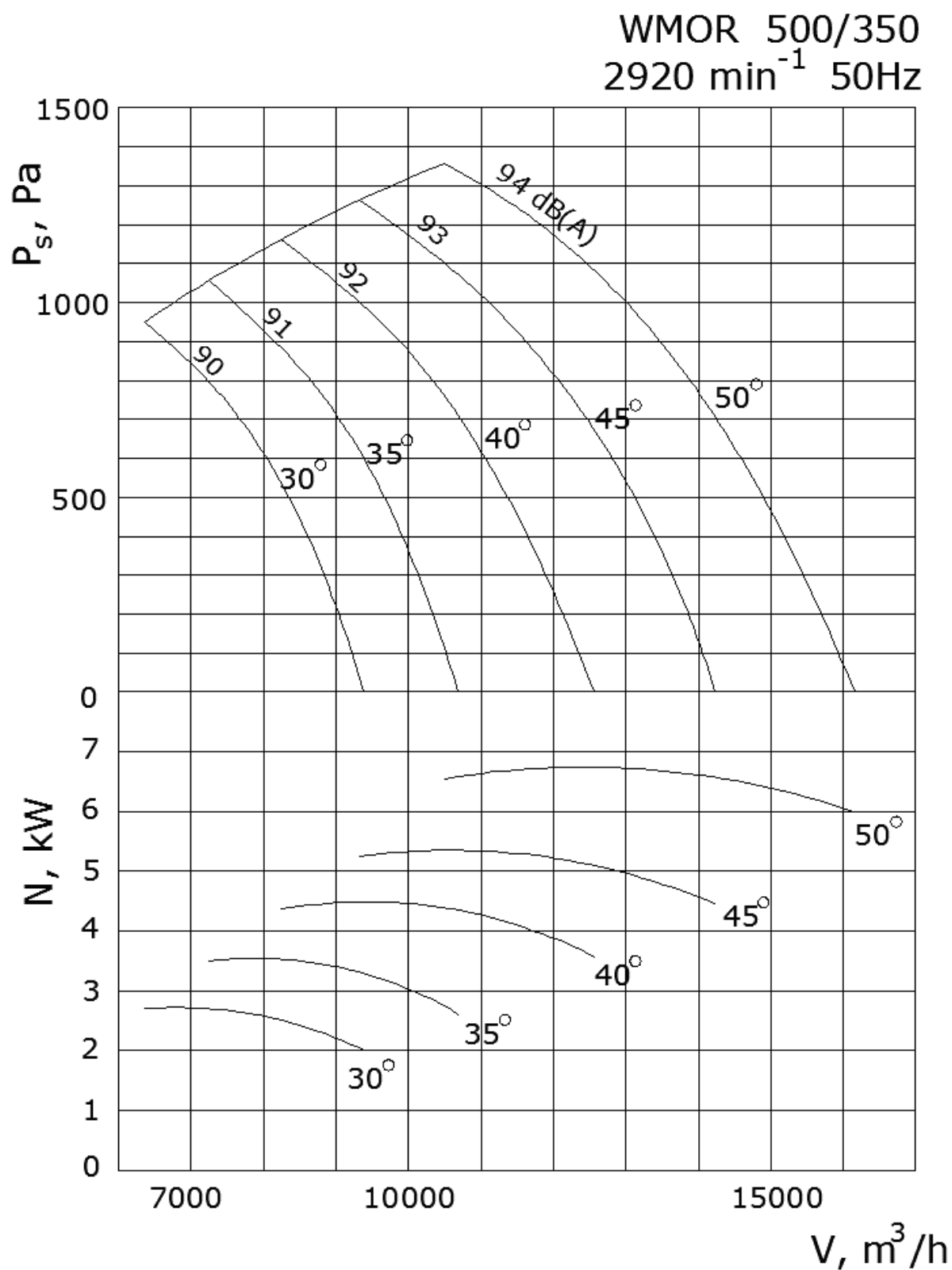
WMOR 450/310
2870 min⁻¹ 50Hz



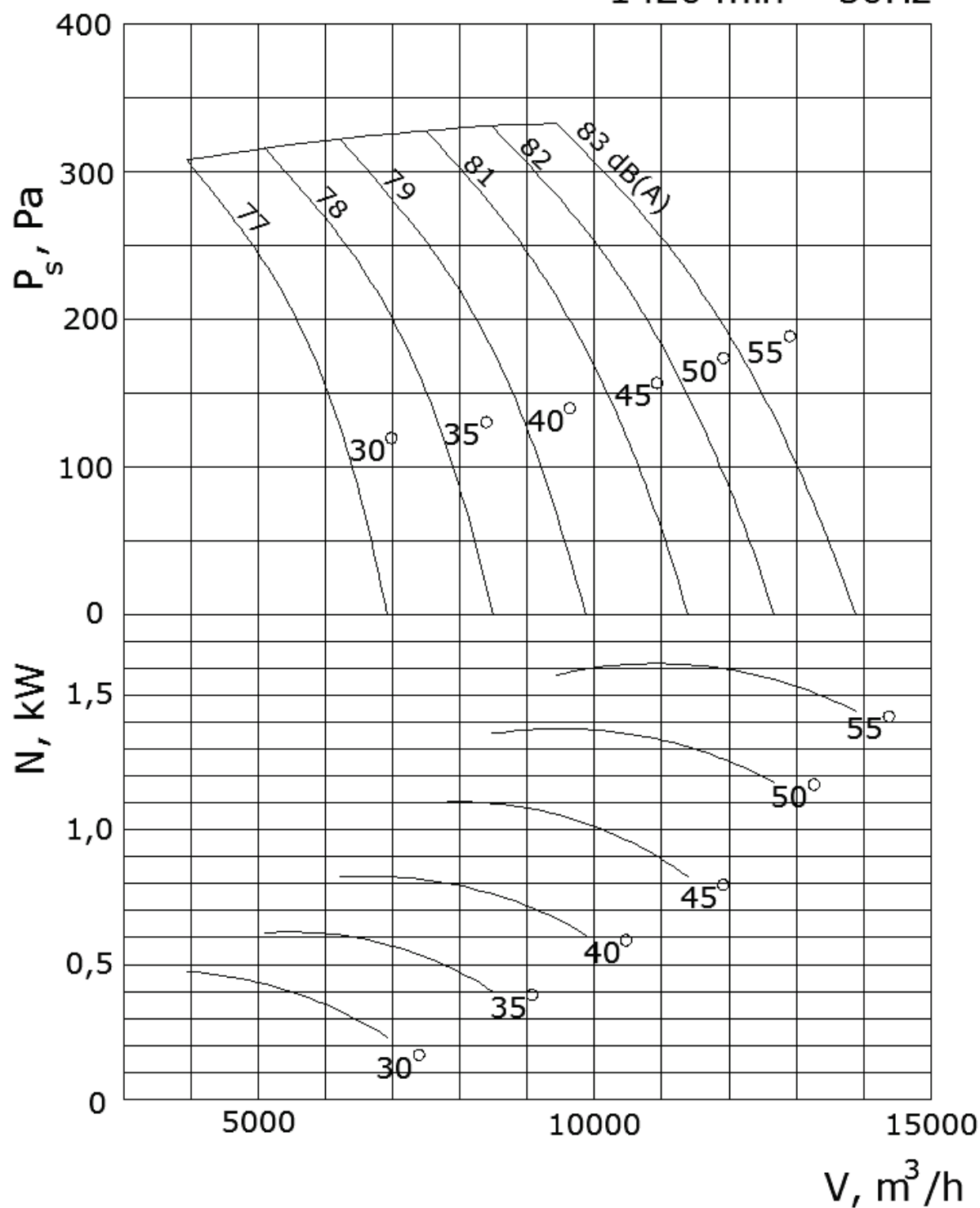


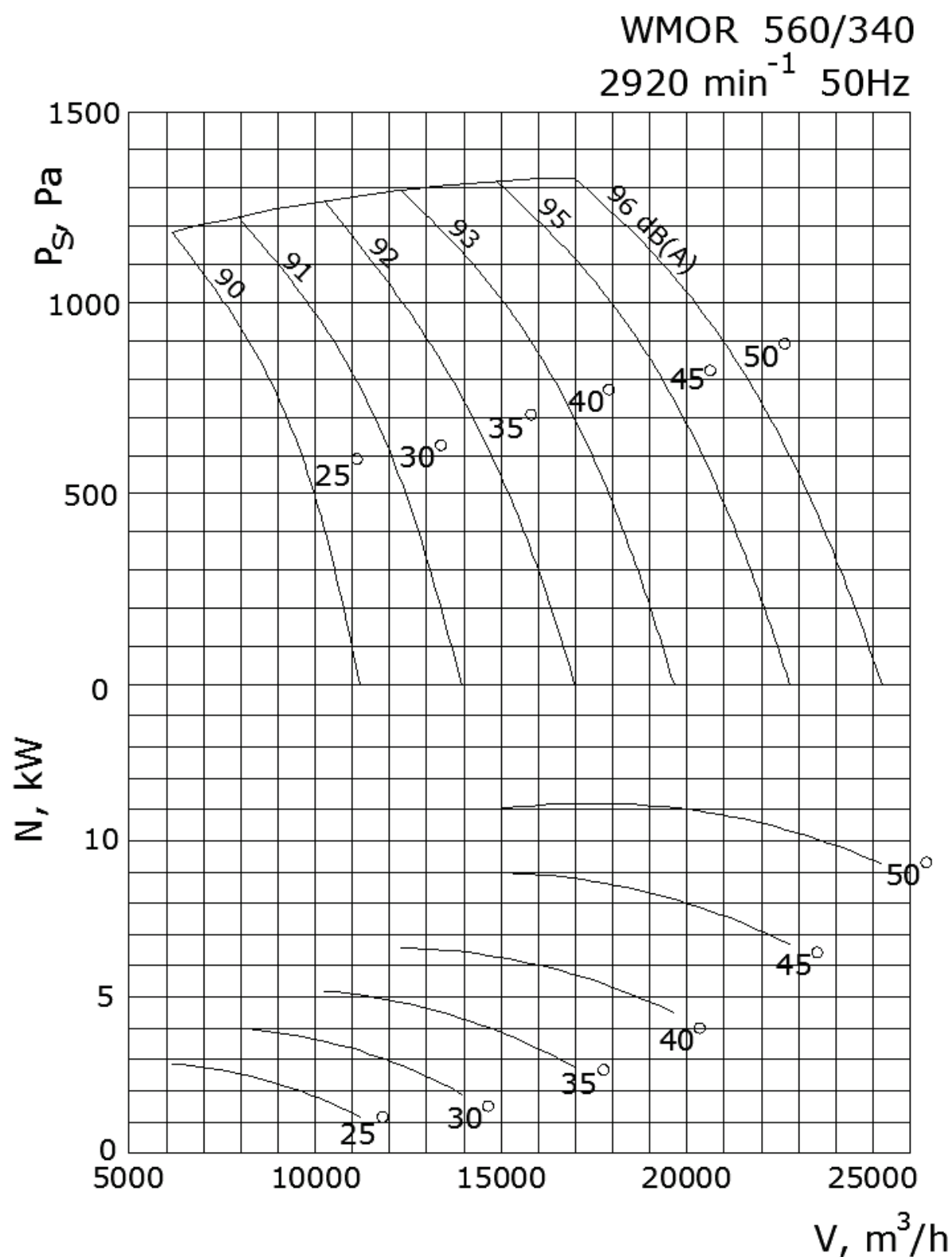


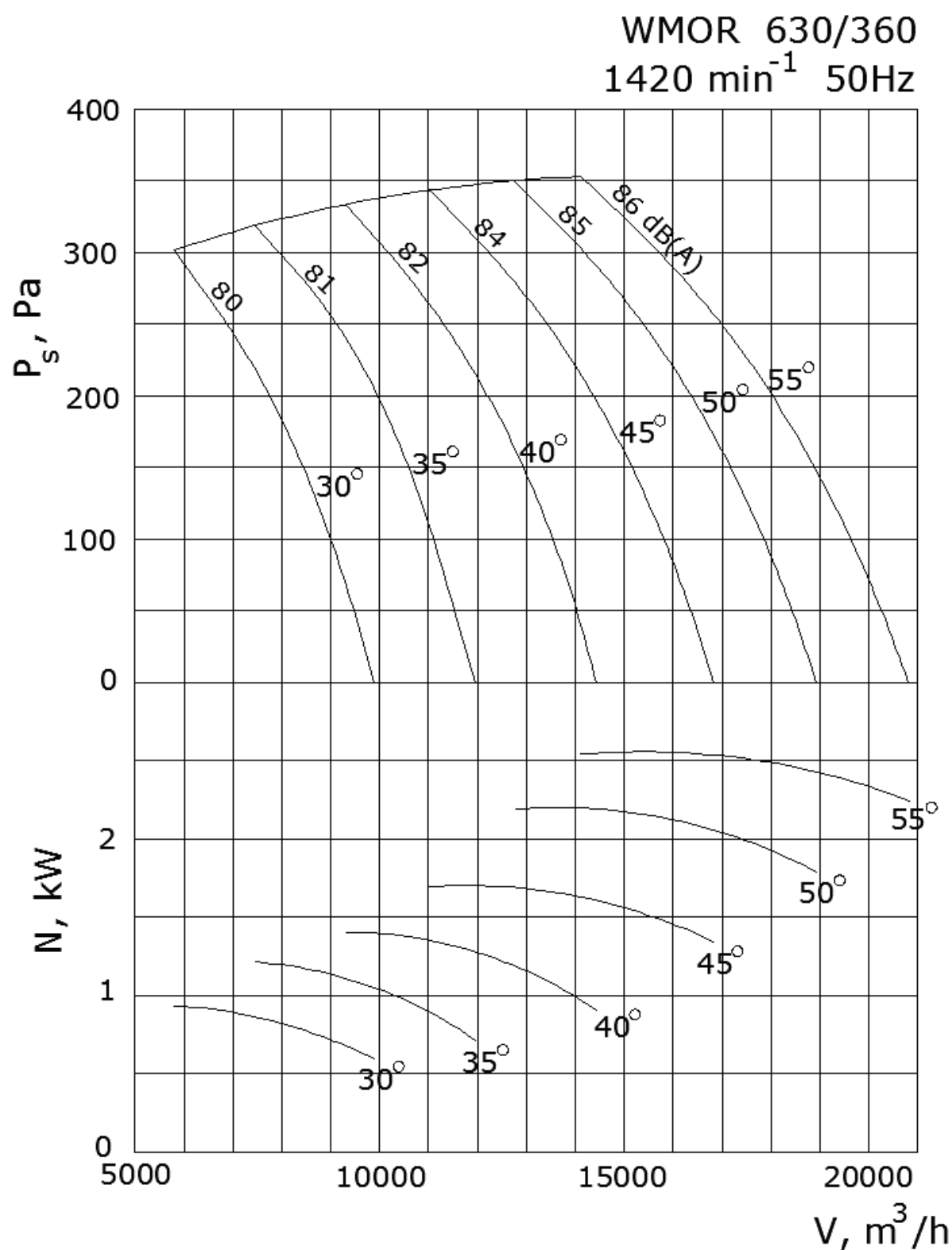


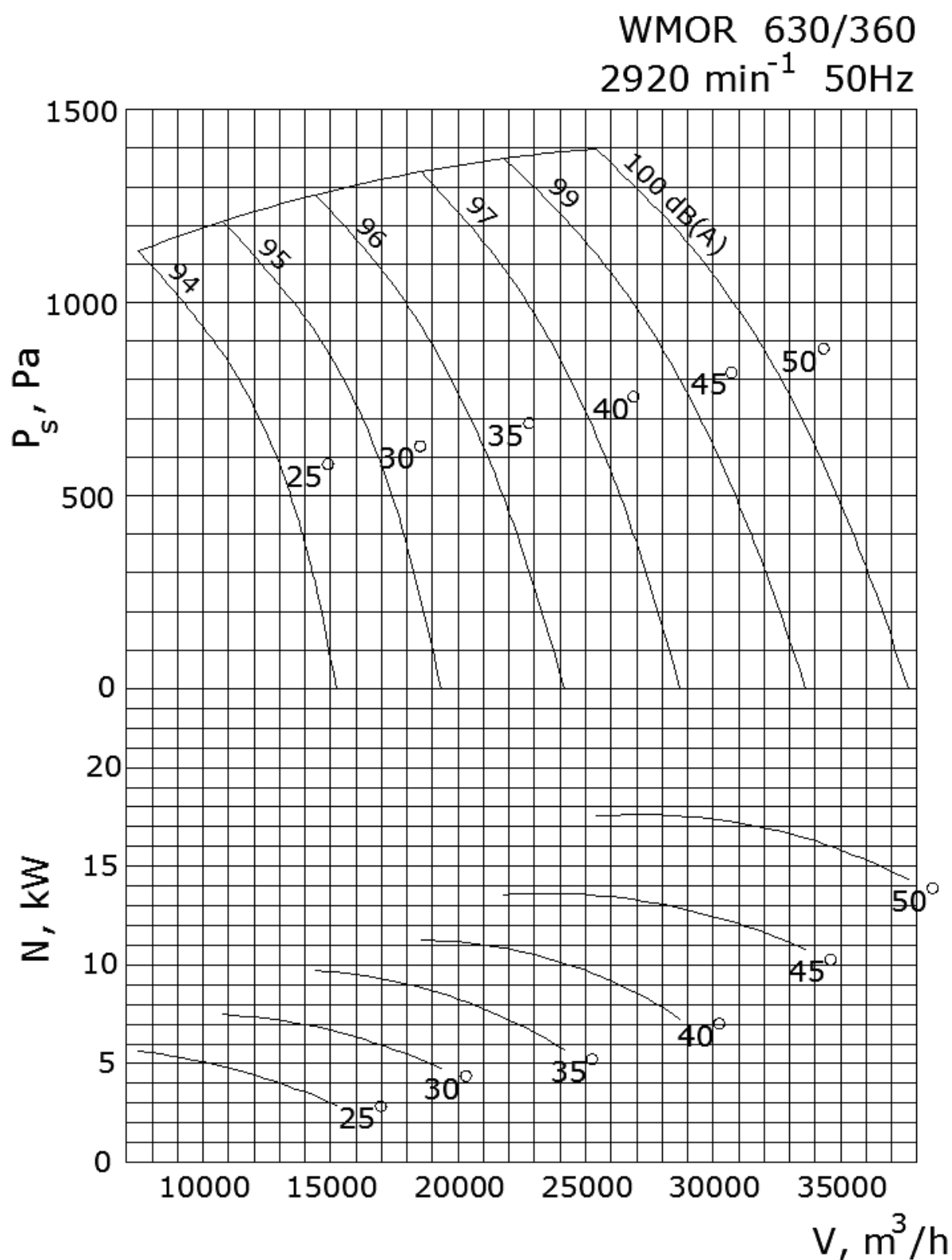


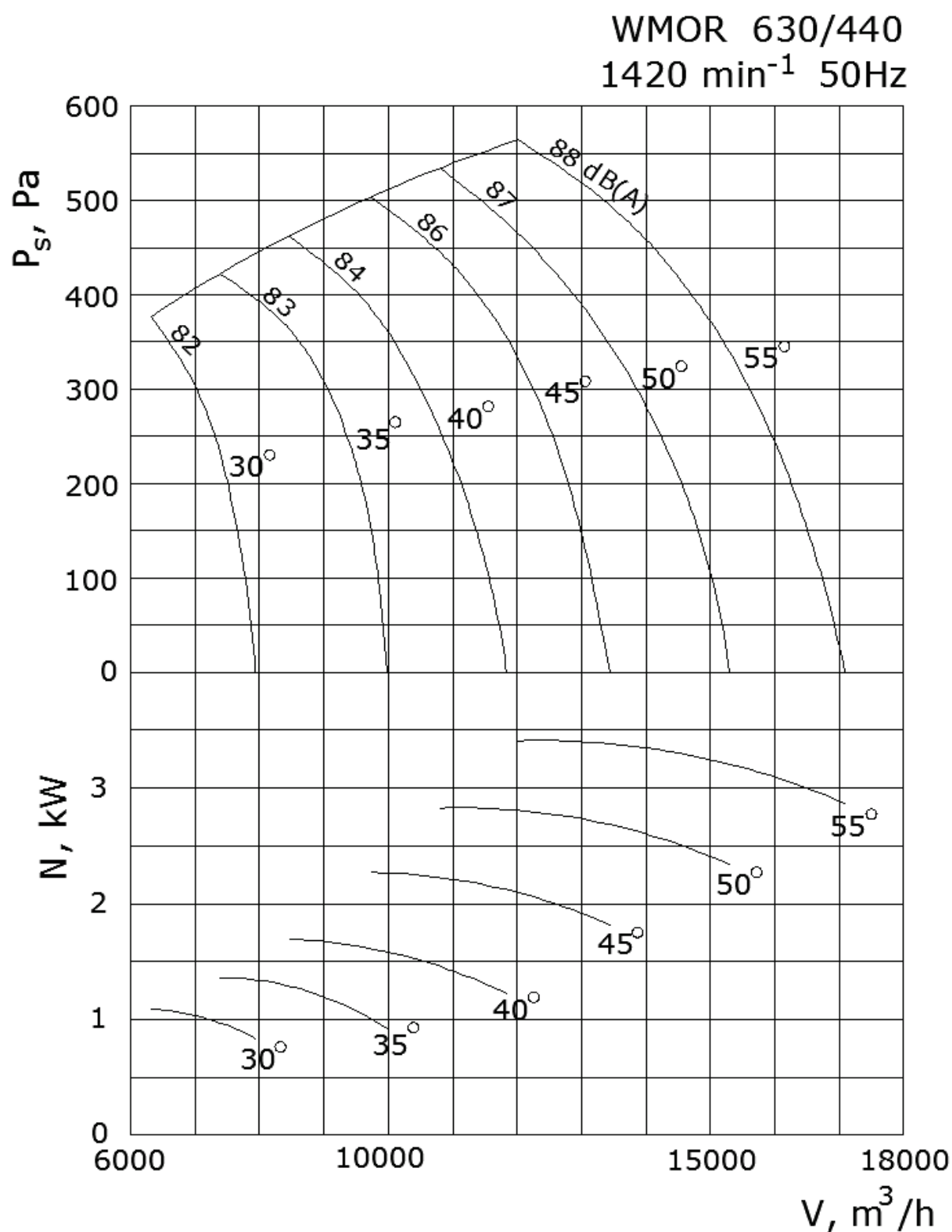
WMOR 560/340
1420 min⁻¹ 50Hz



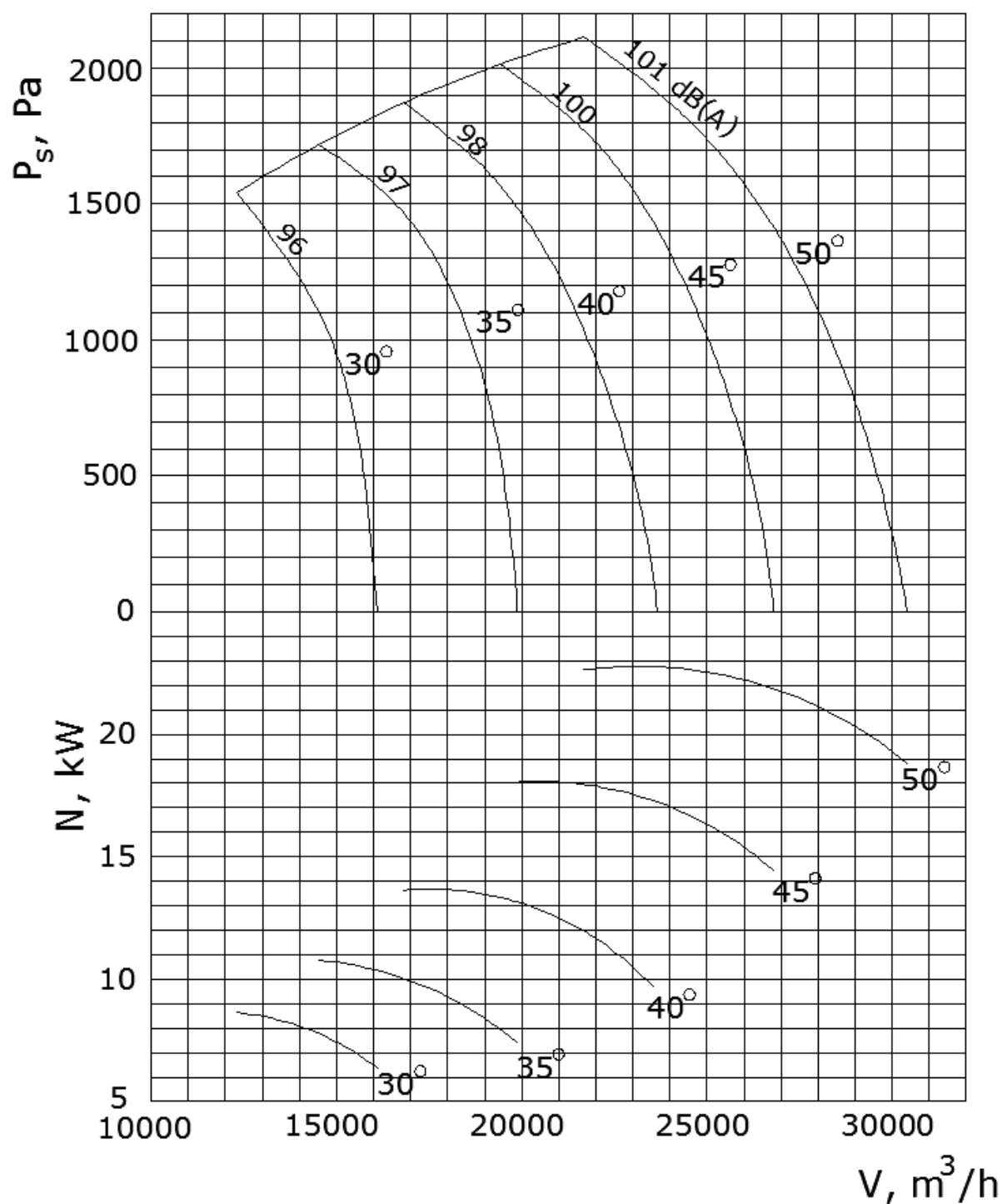




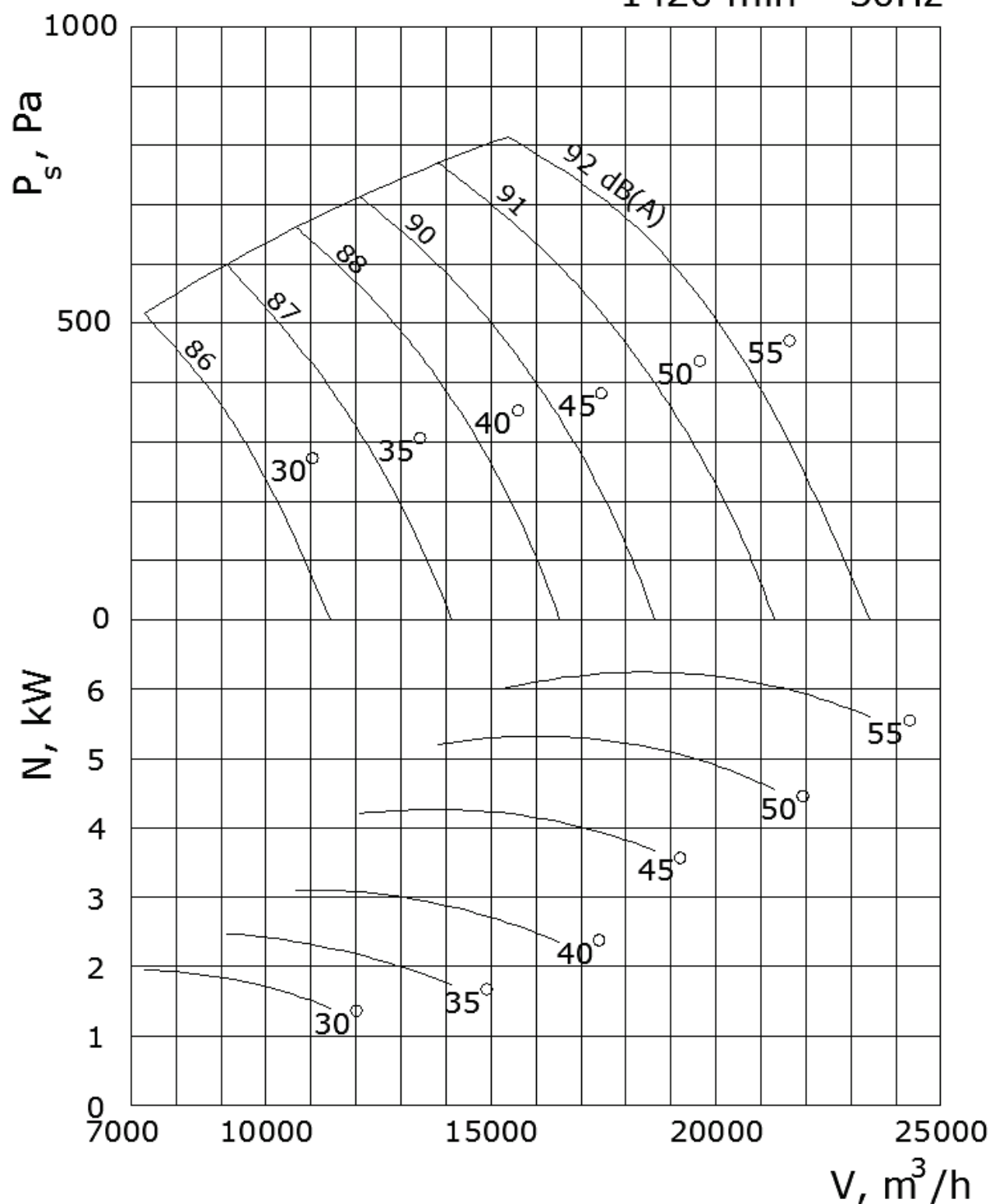




WMOR 630/440
2920 min⁻¹ 50Hz

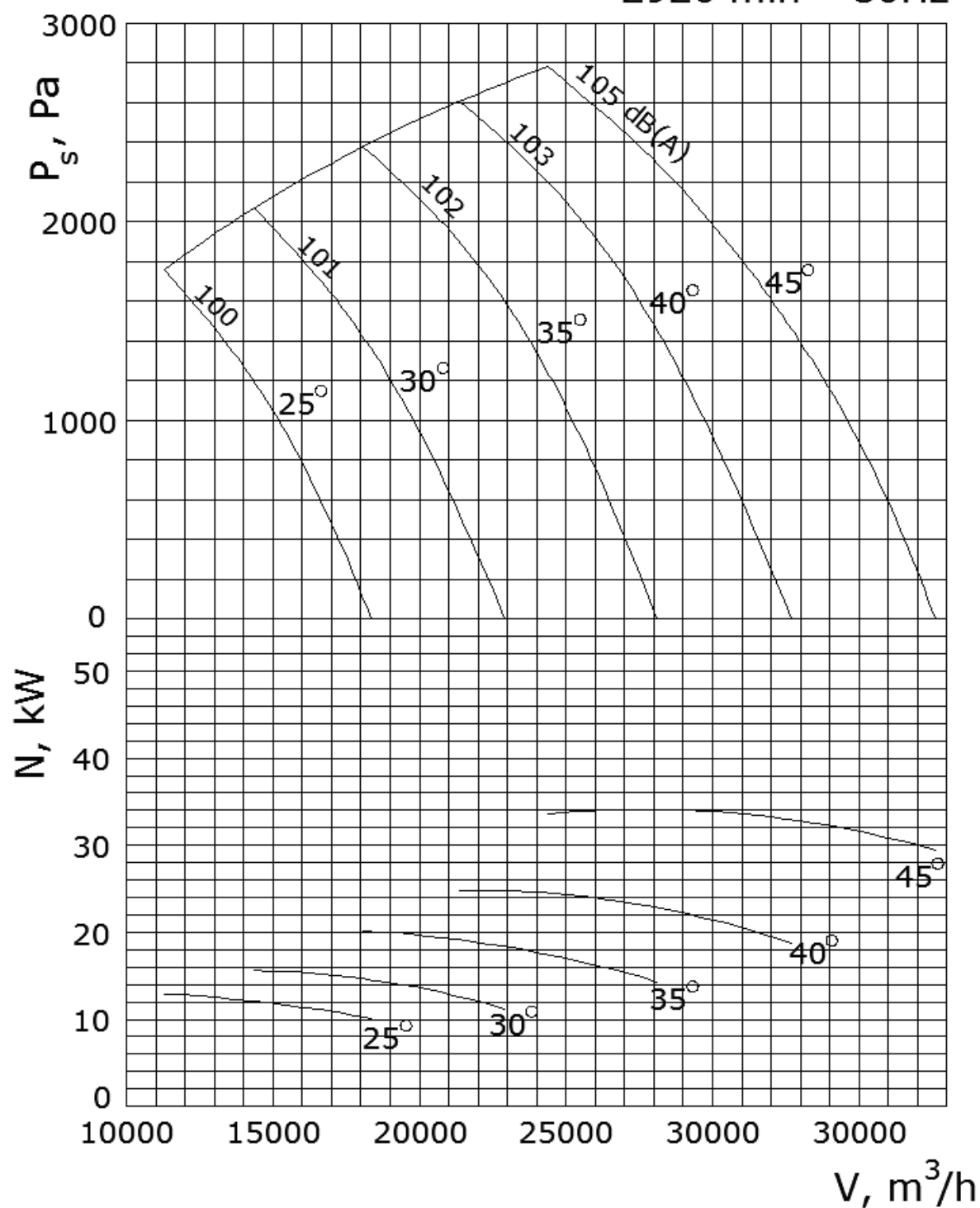


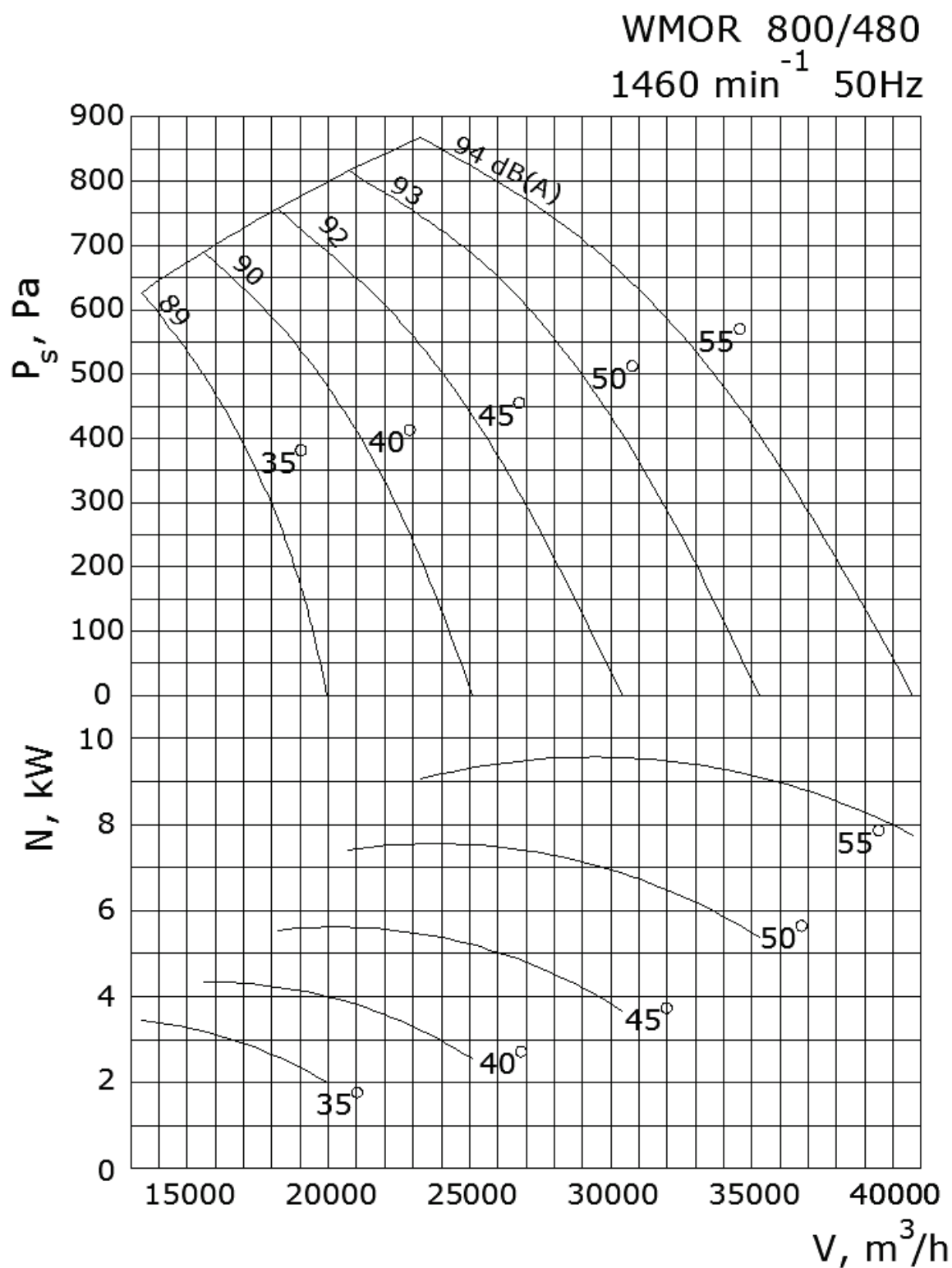
WMOR 710/470
1420 min⁻¹ 50Hz

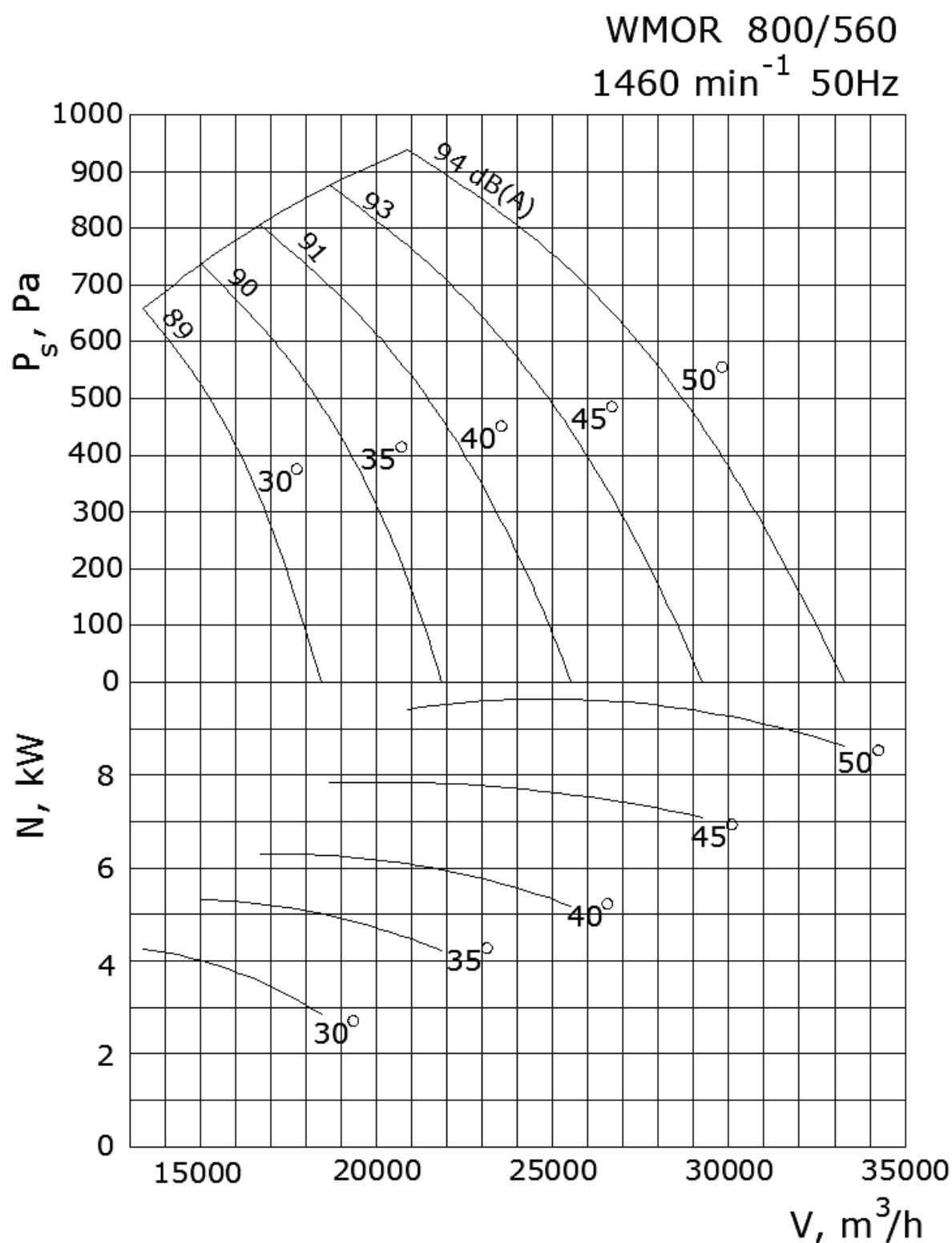




WMOR 710/470
2920 min⁻¹ 50Hz

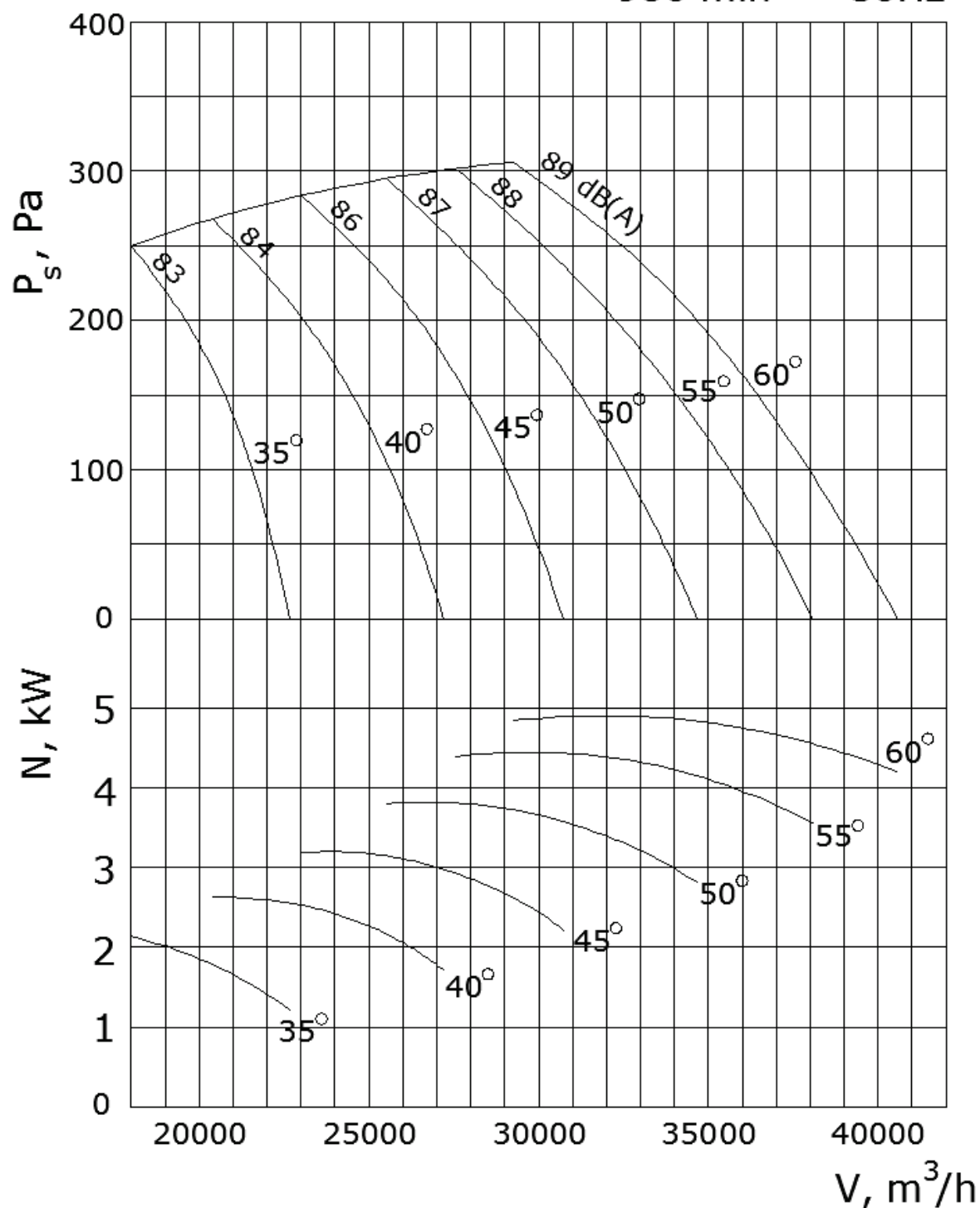




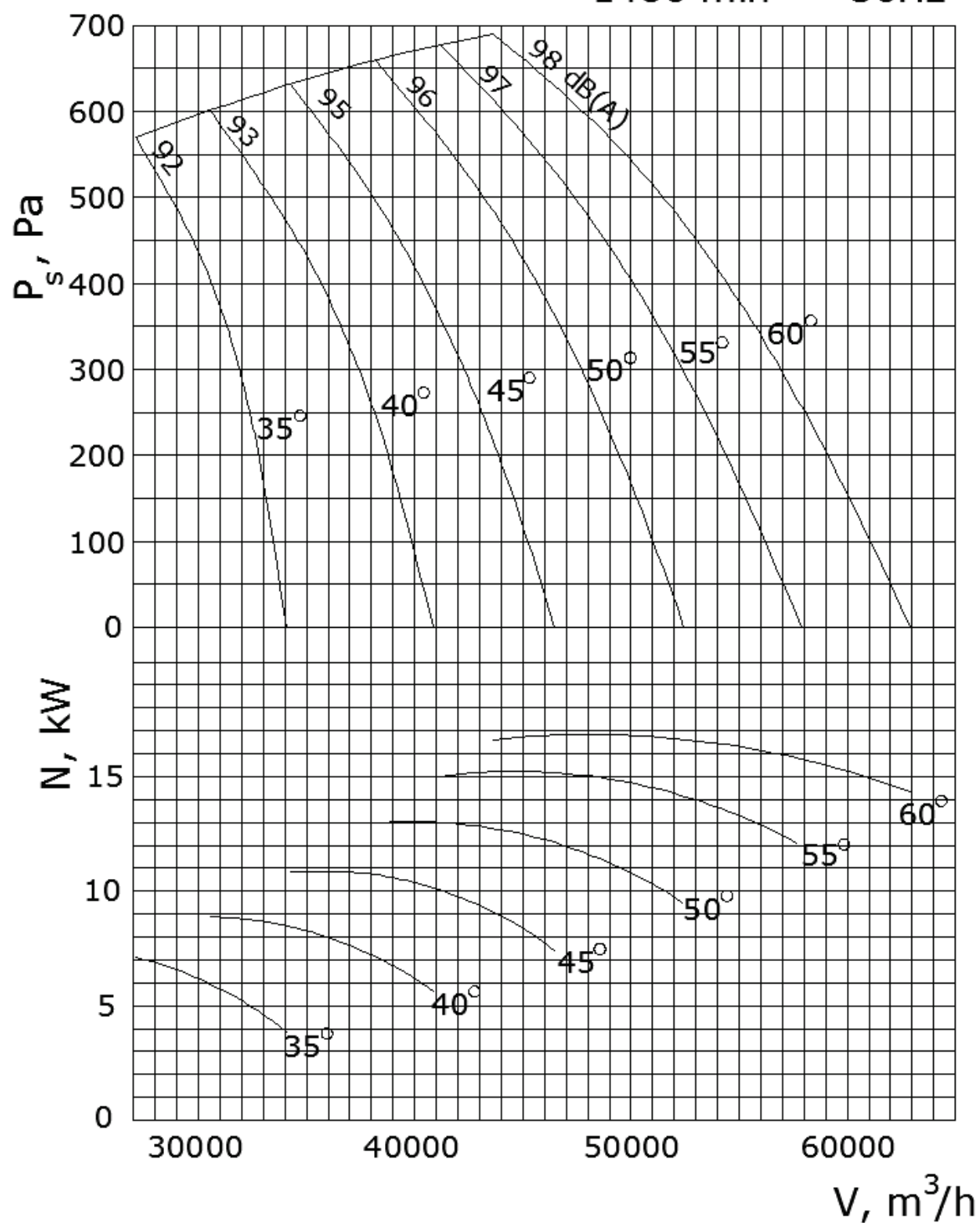


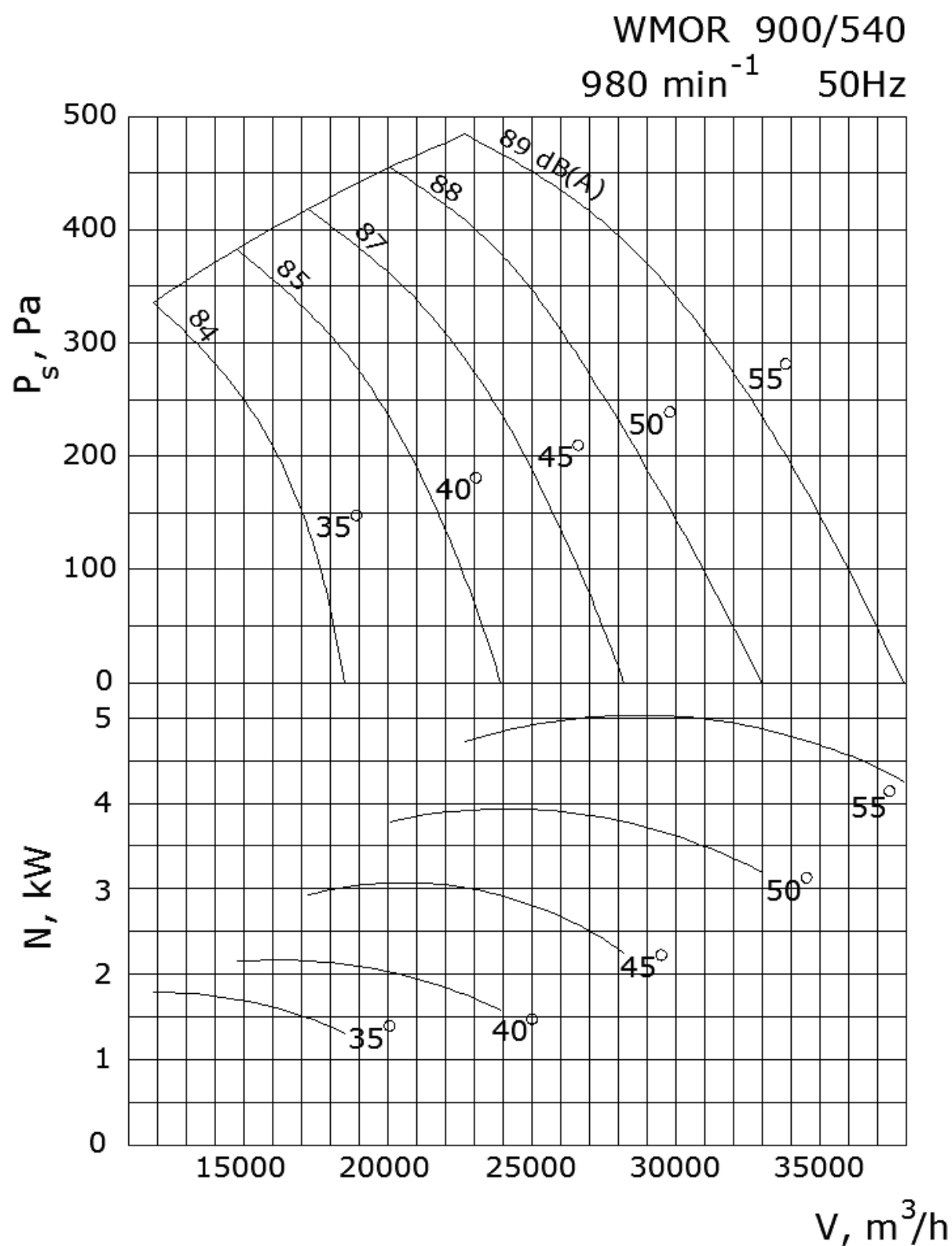


WMOR 900/450
980 min⁻¹ 50Hz



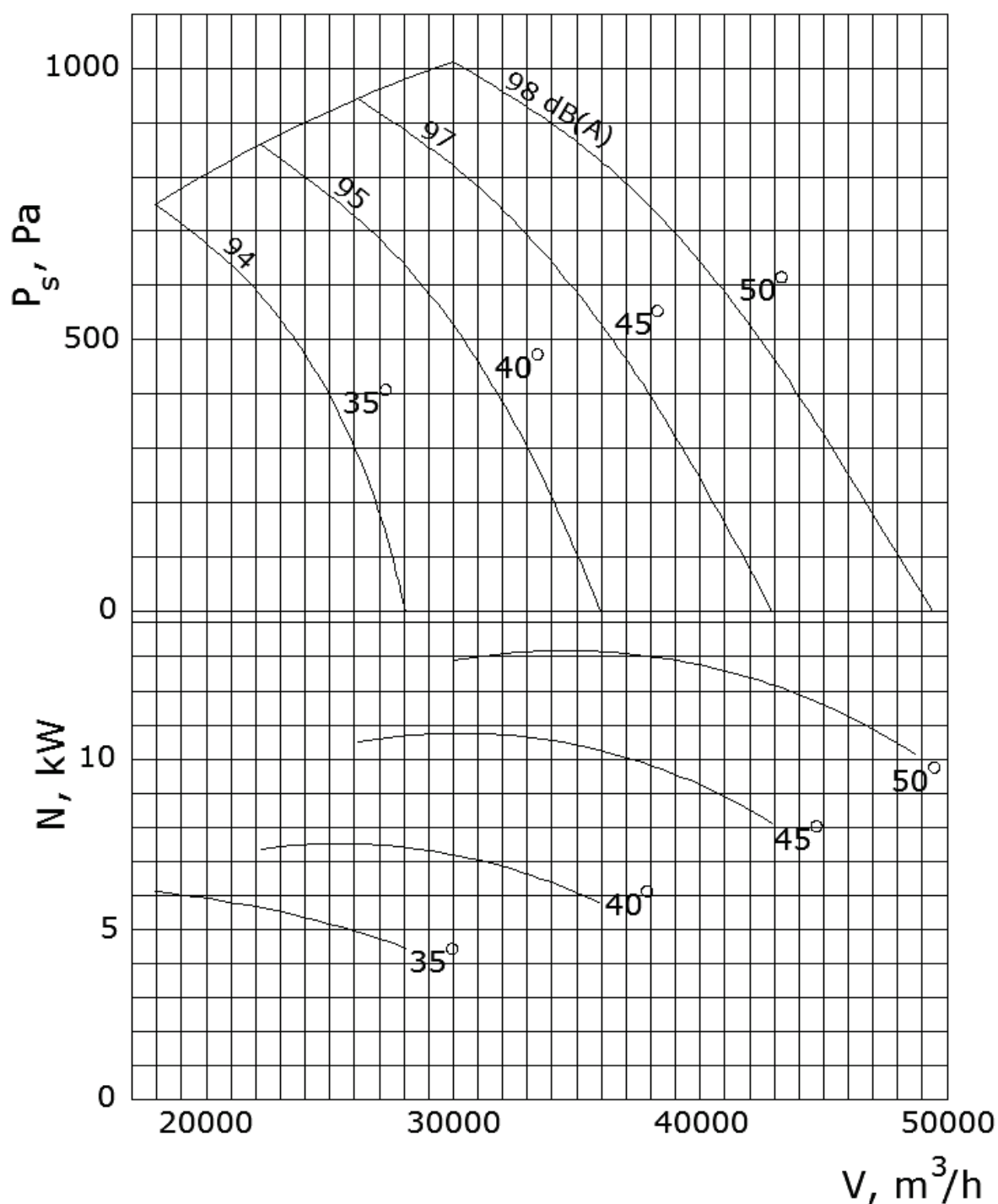
WMOR 900/450
1480 min⁻¹ 50Hz



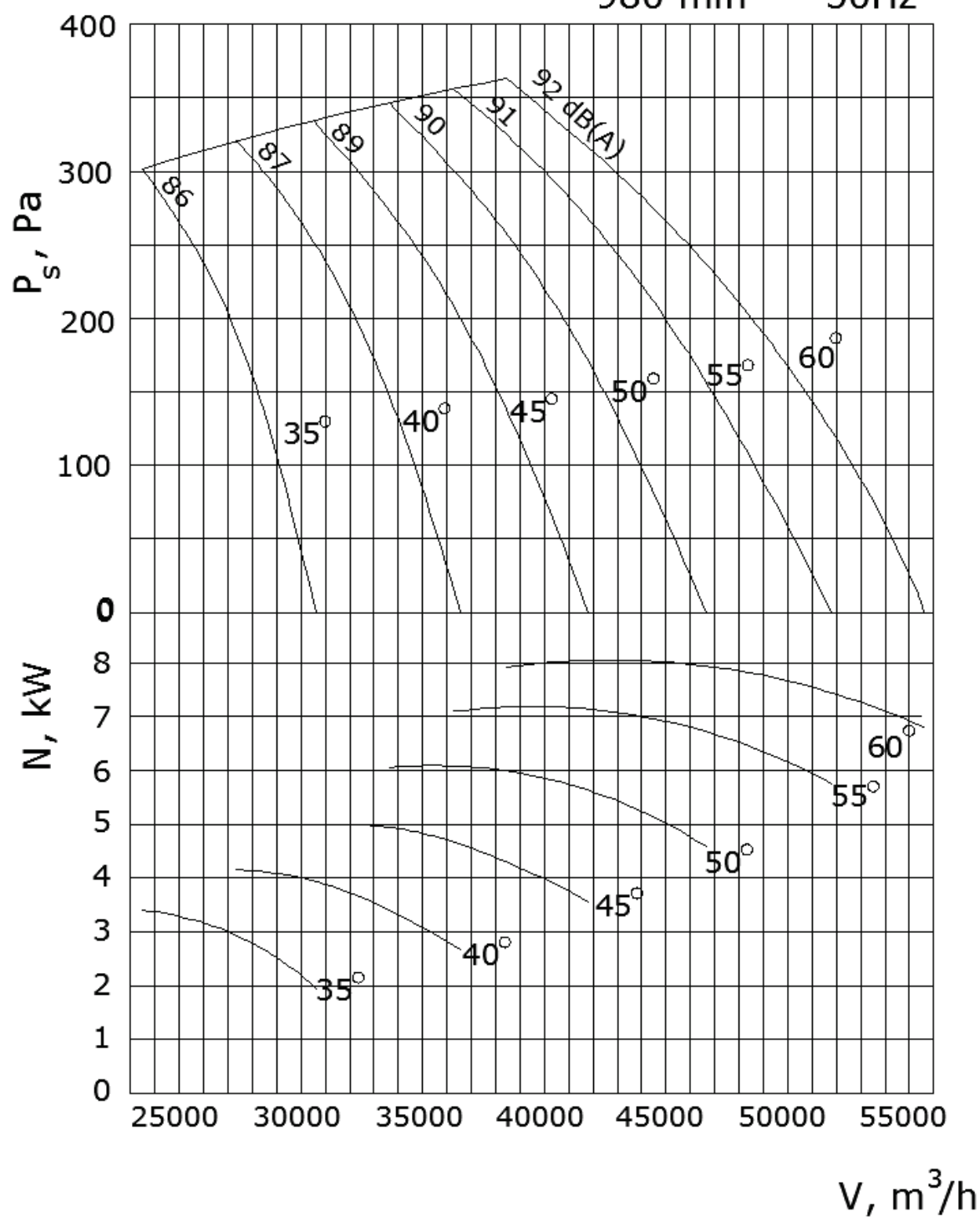


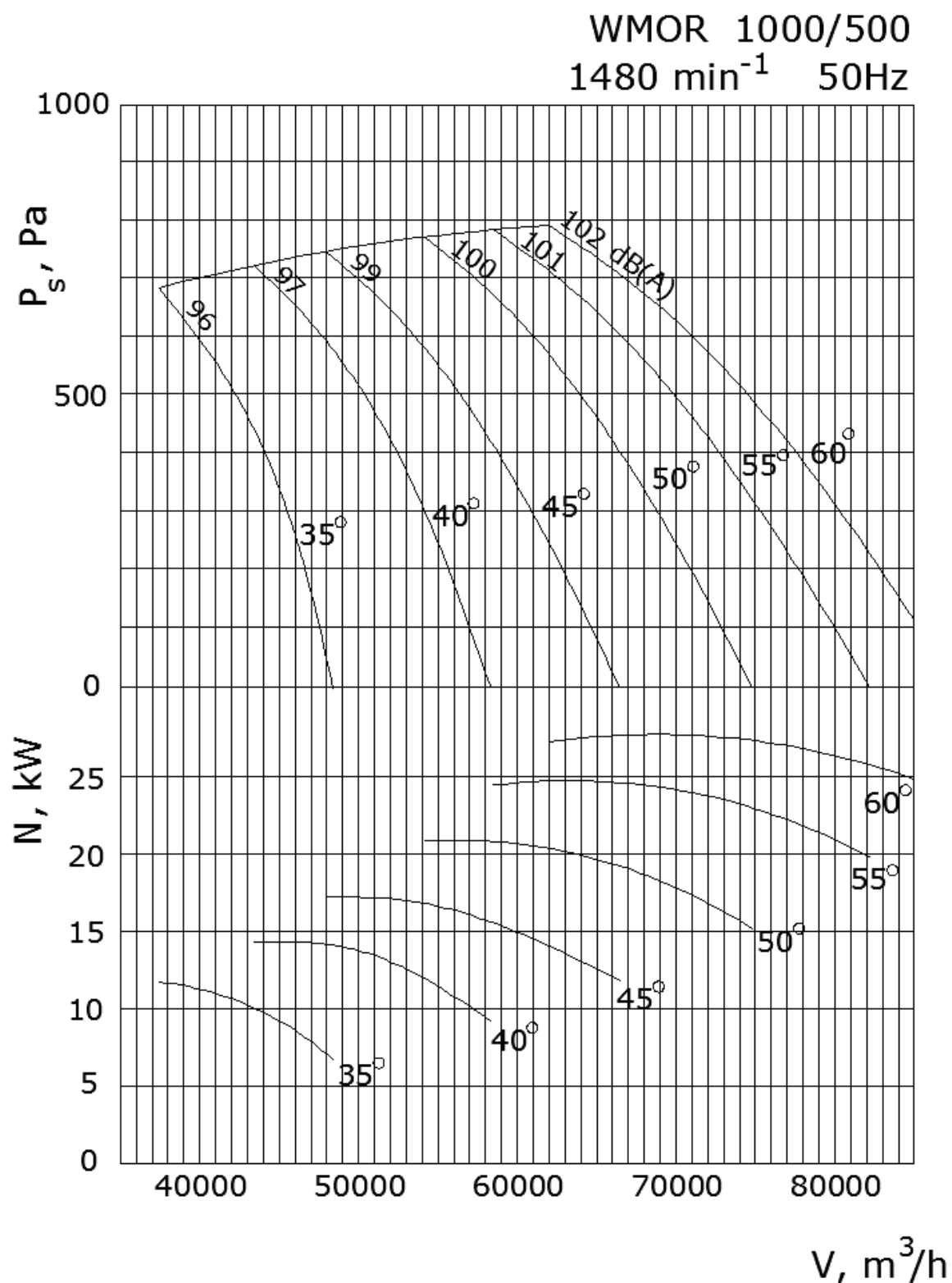


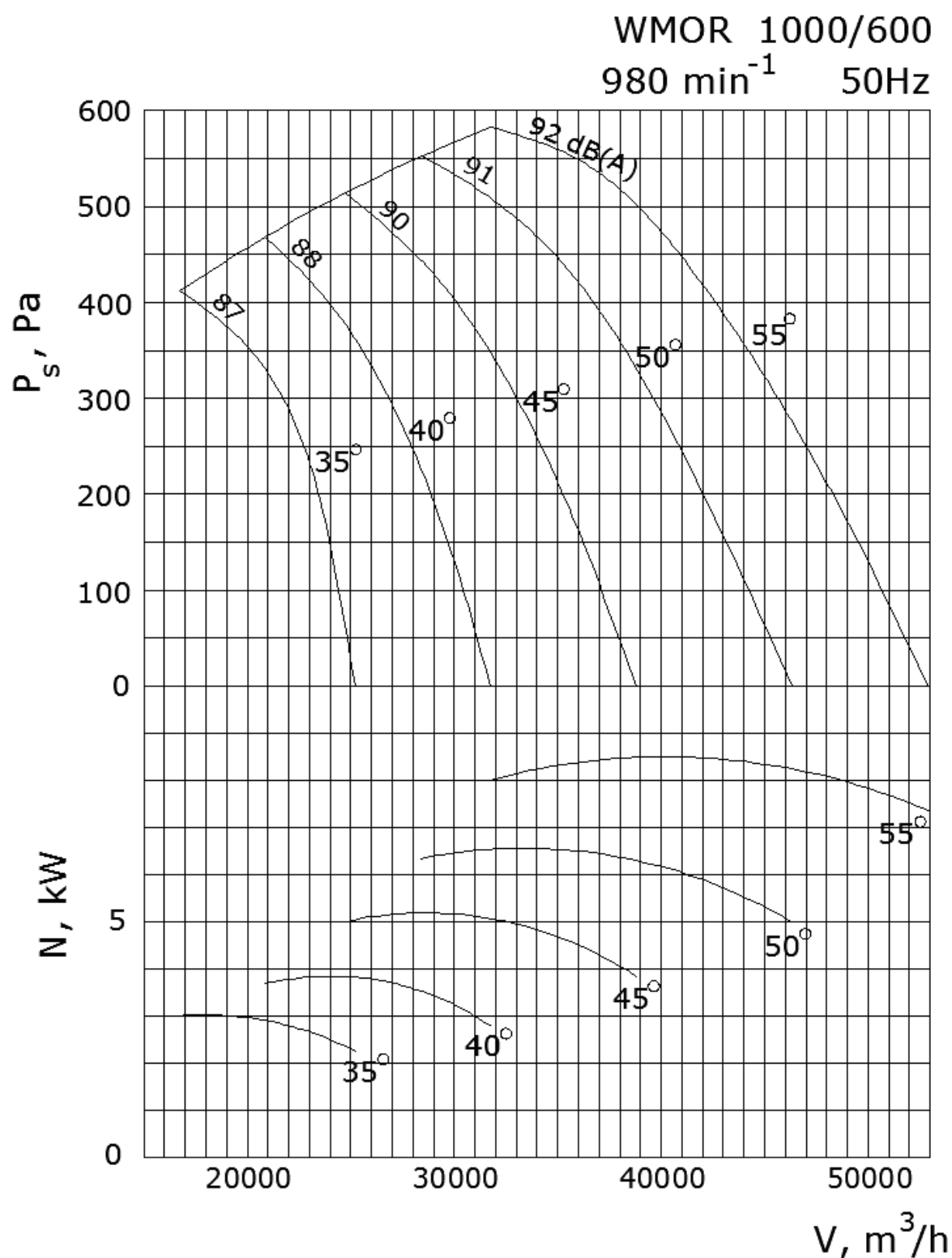
WMOR 900/540
 1480 min^{-1} 50Hz



WMOR 1000/500
980 min⁻¹ 50Hz

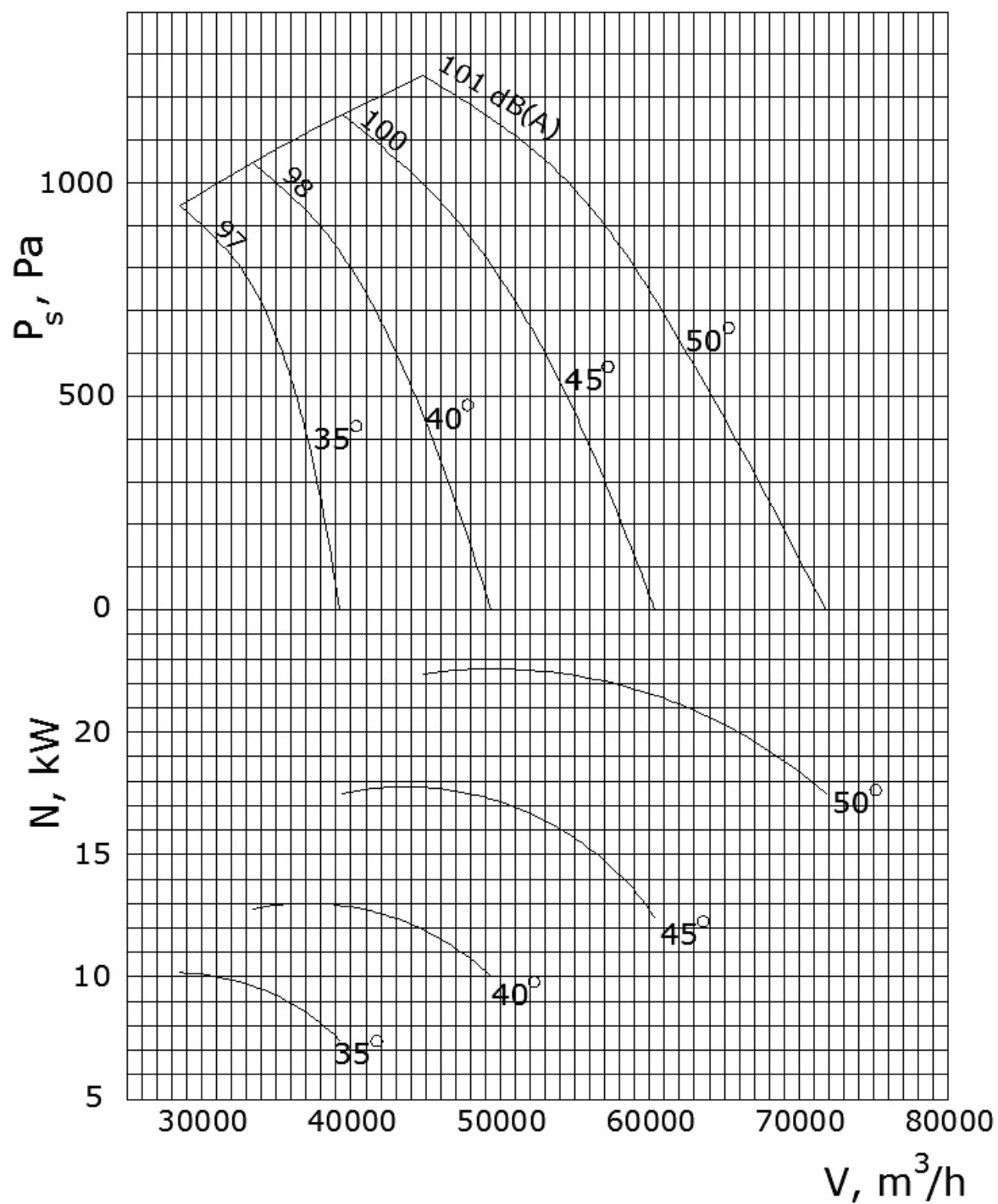






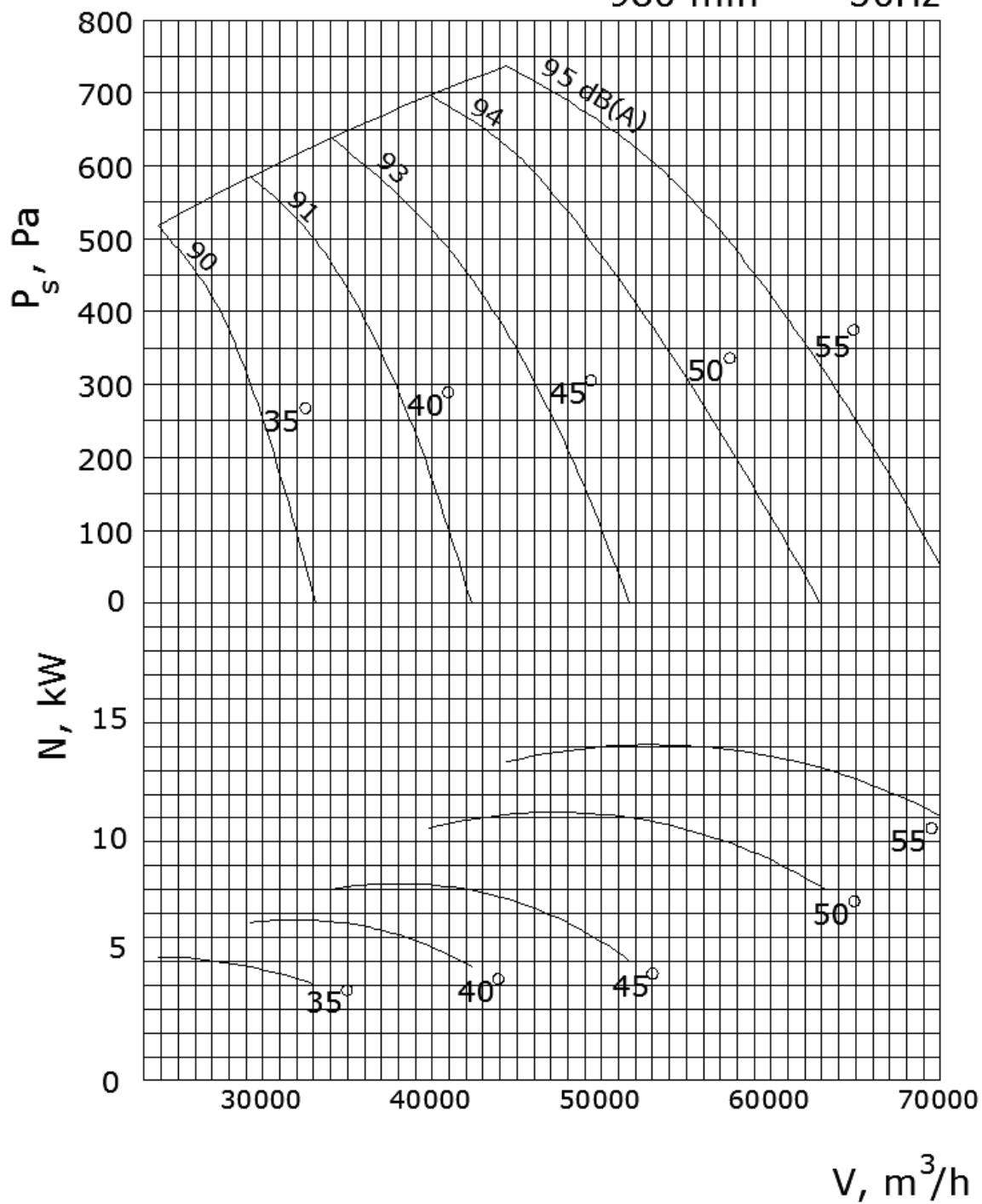


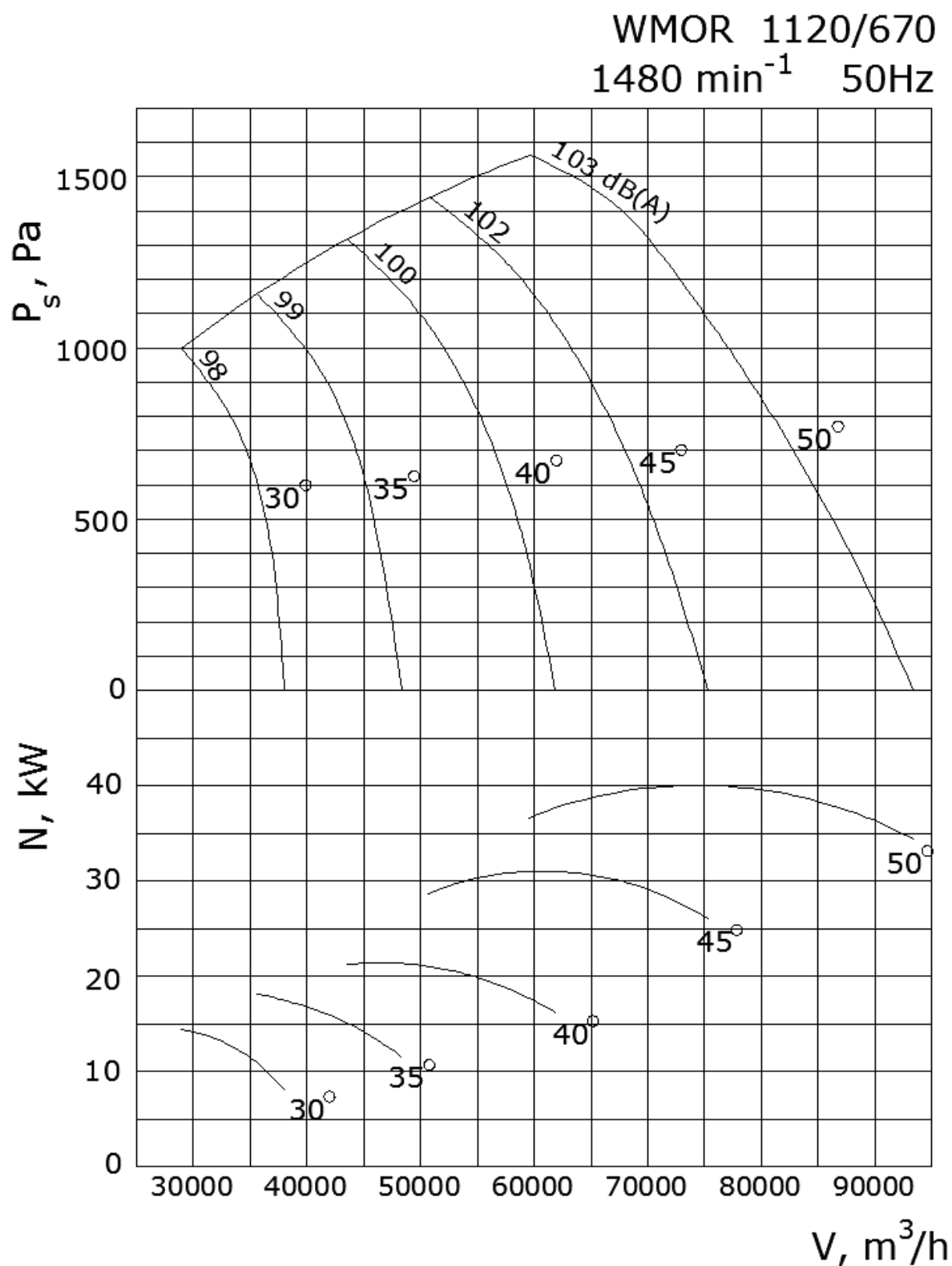
WMOR 1000/600
1480 min⁻¹ 50Hz

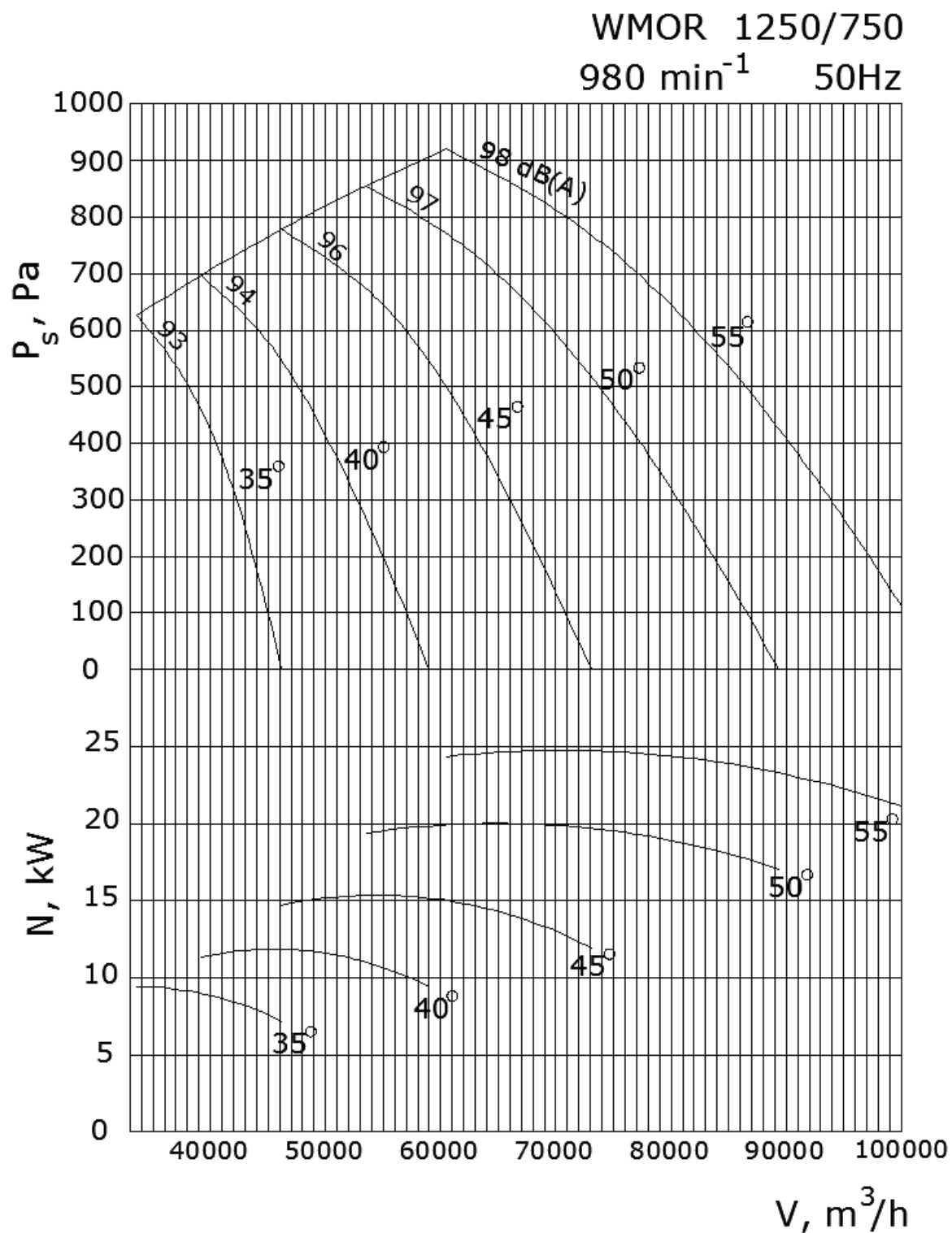




WMOR 1120/670
980 min⁻¹ 50Hz

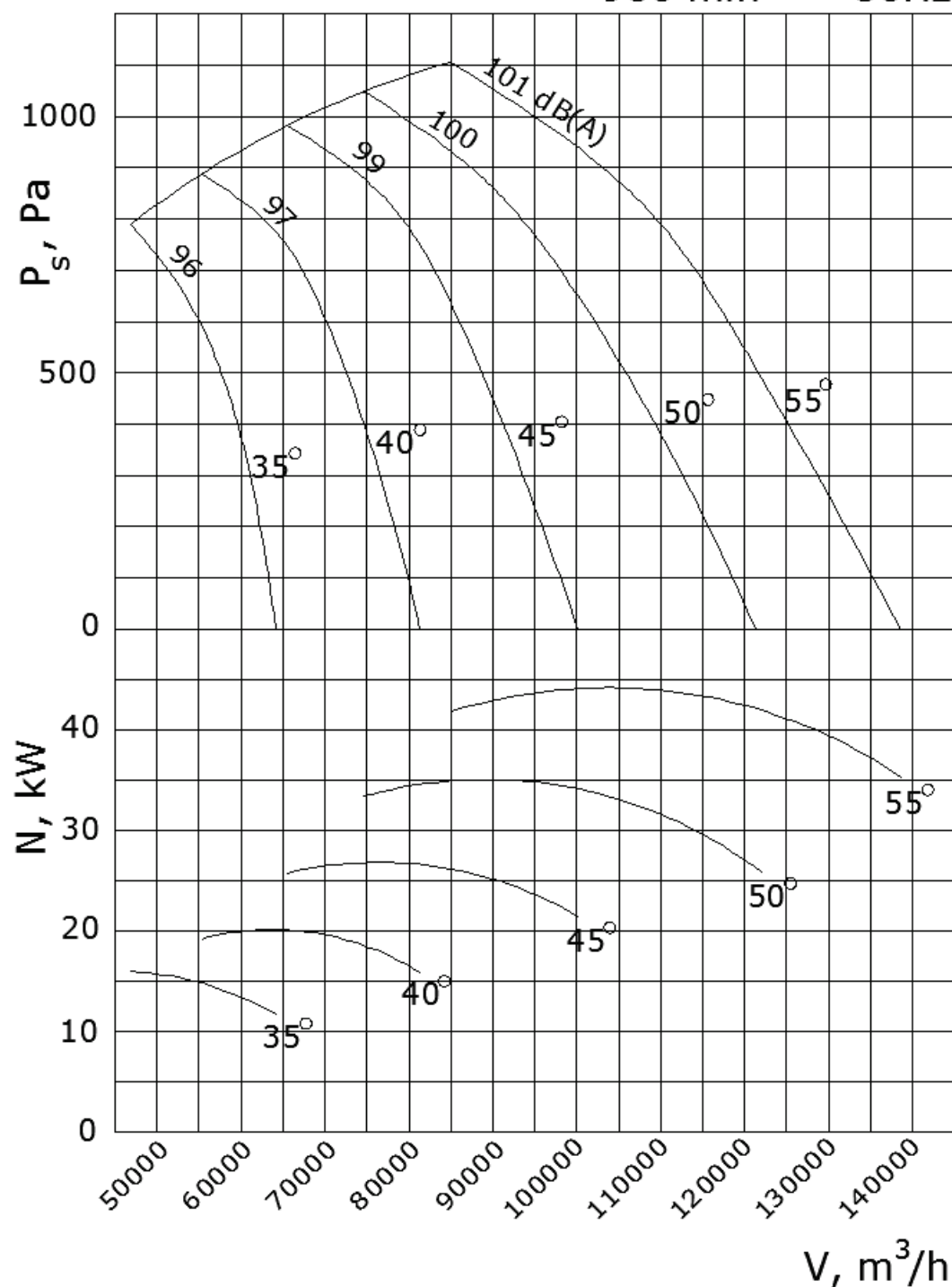






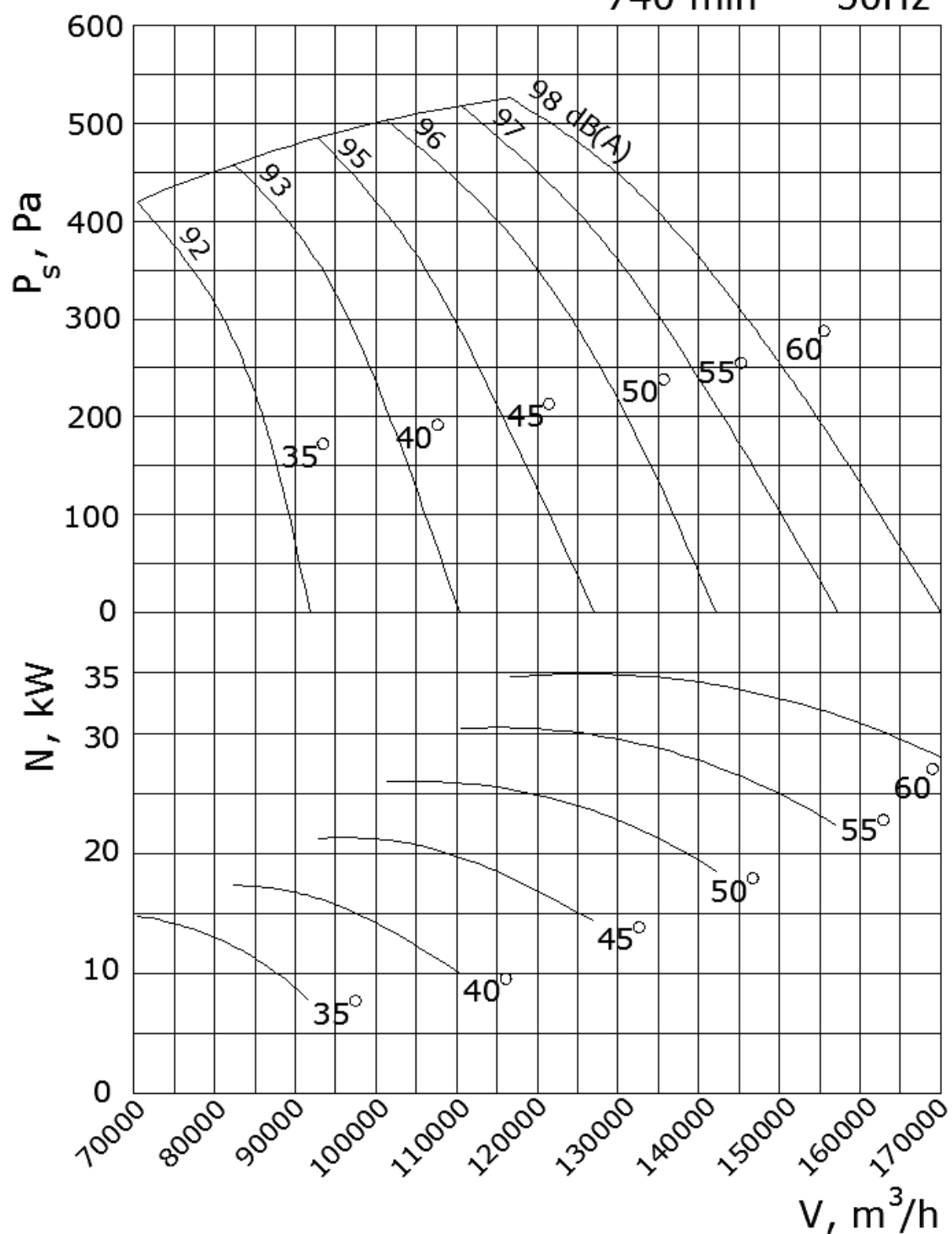


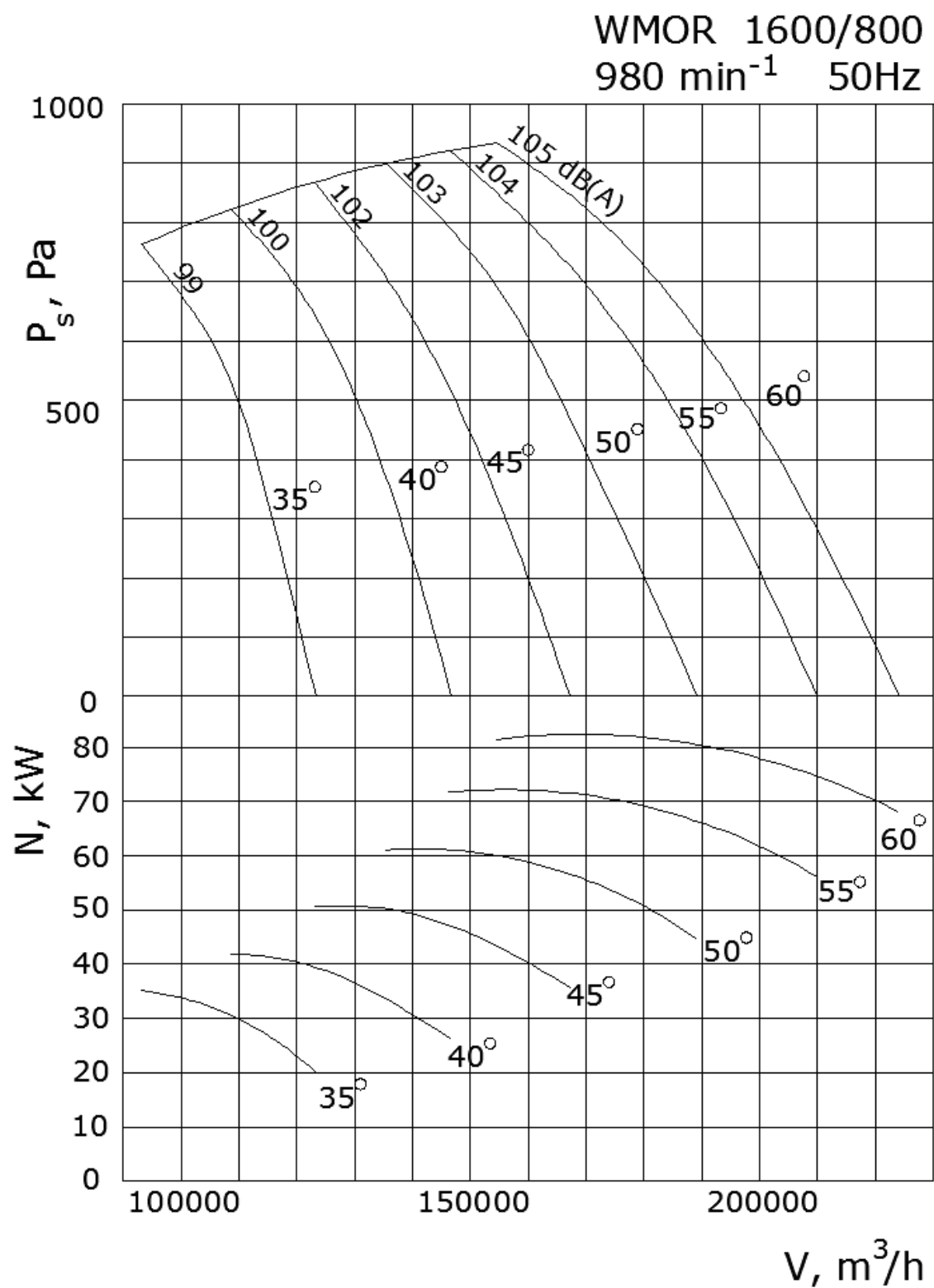
WMOR 1400/840
980 min⁻¹ 50Hz





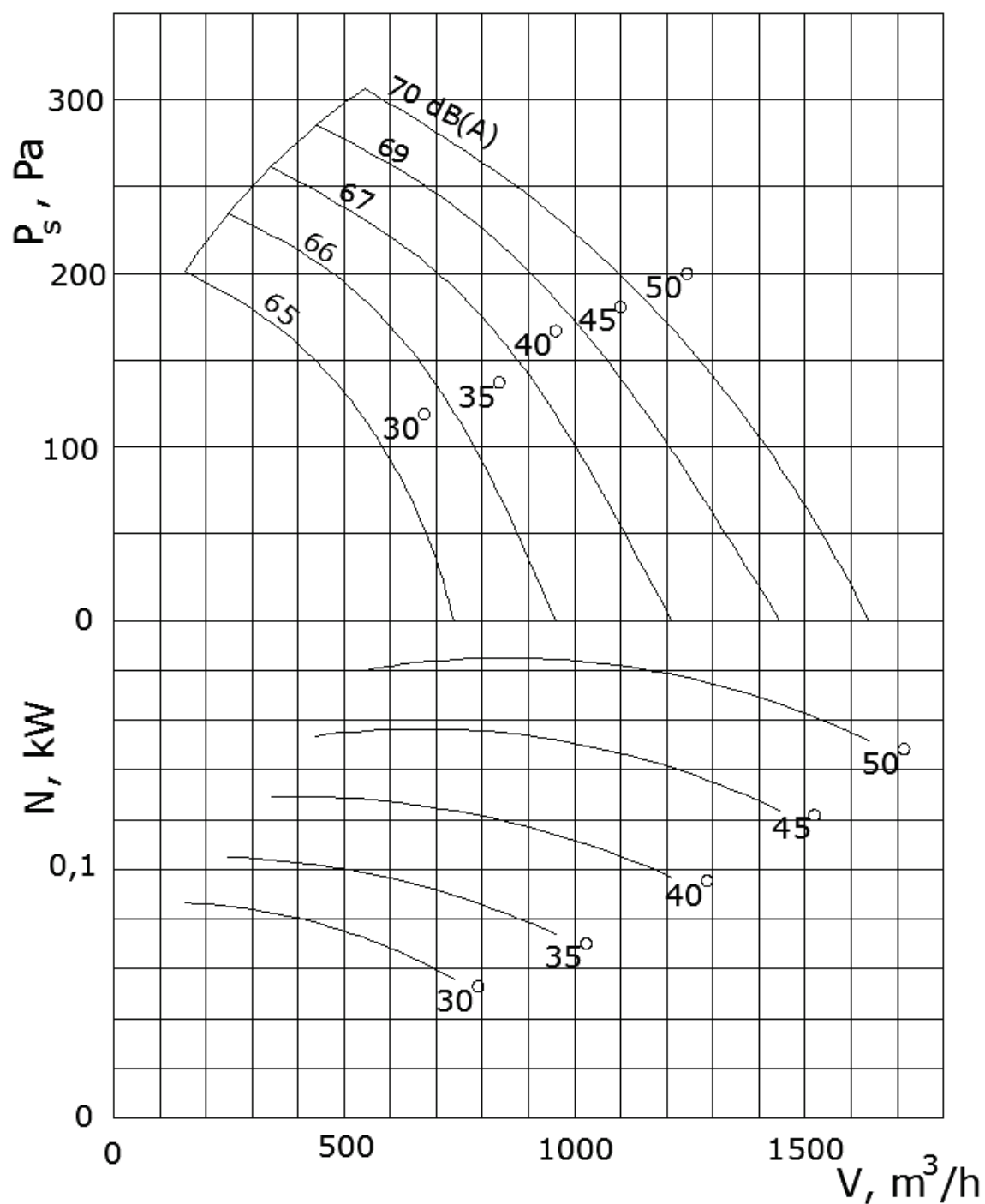
WMOR 1600/800
740 min⁻¹ 50Hz



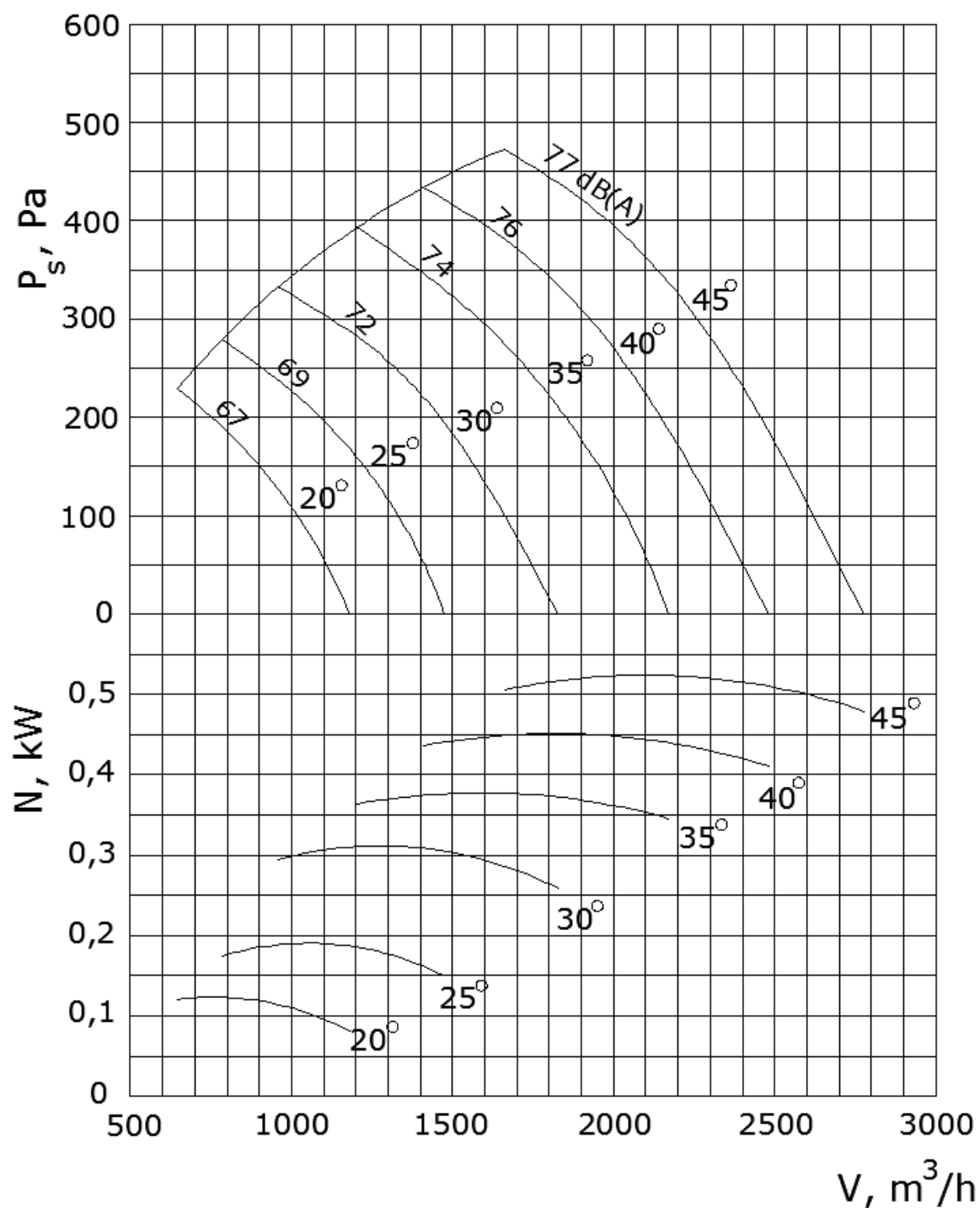




WMOR 200/110
3420 min⁻¹ 60Hz

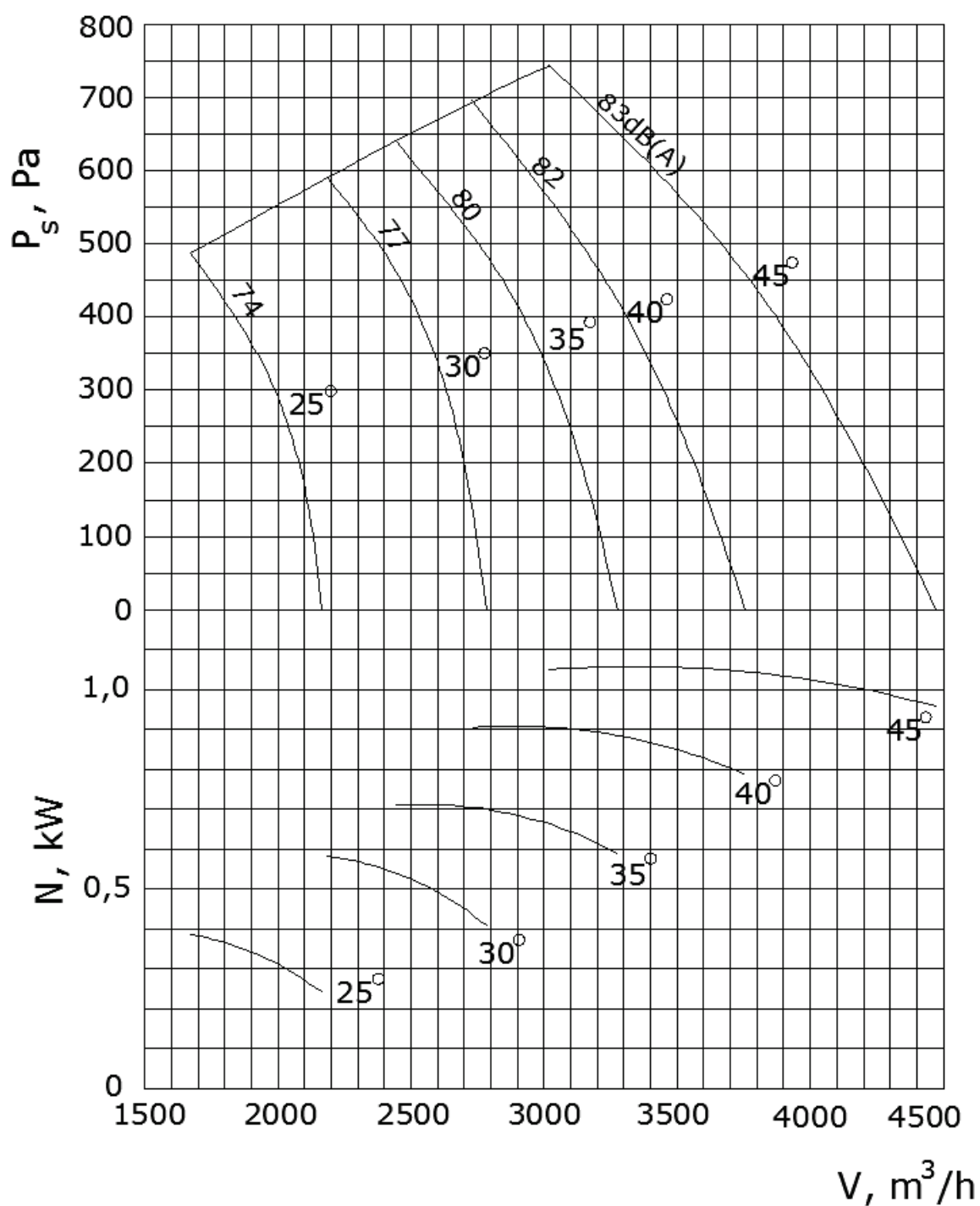


WMOR 250/175
3420 min⁻¹ 60Hz



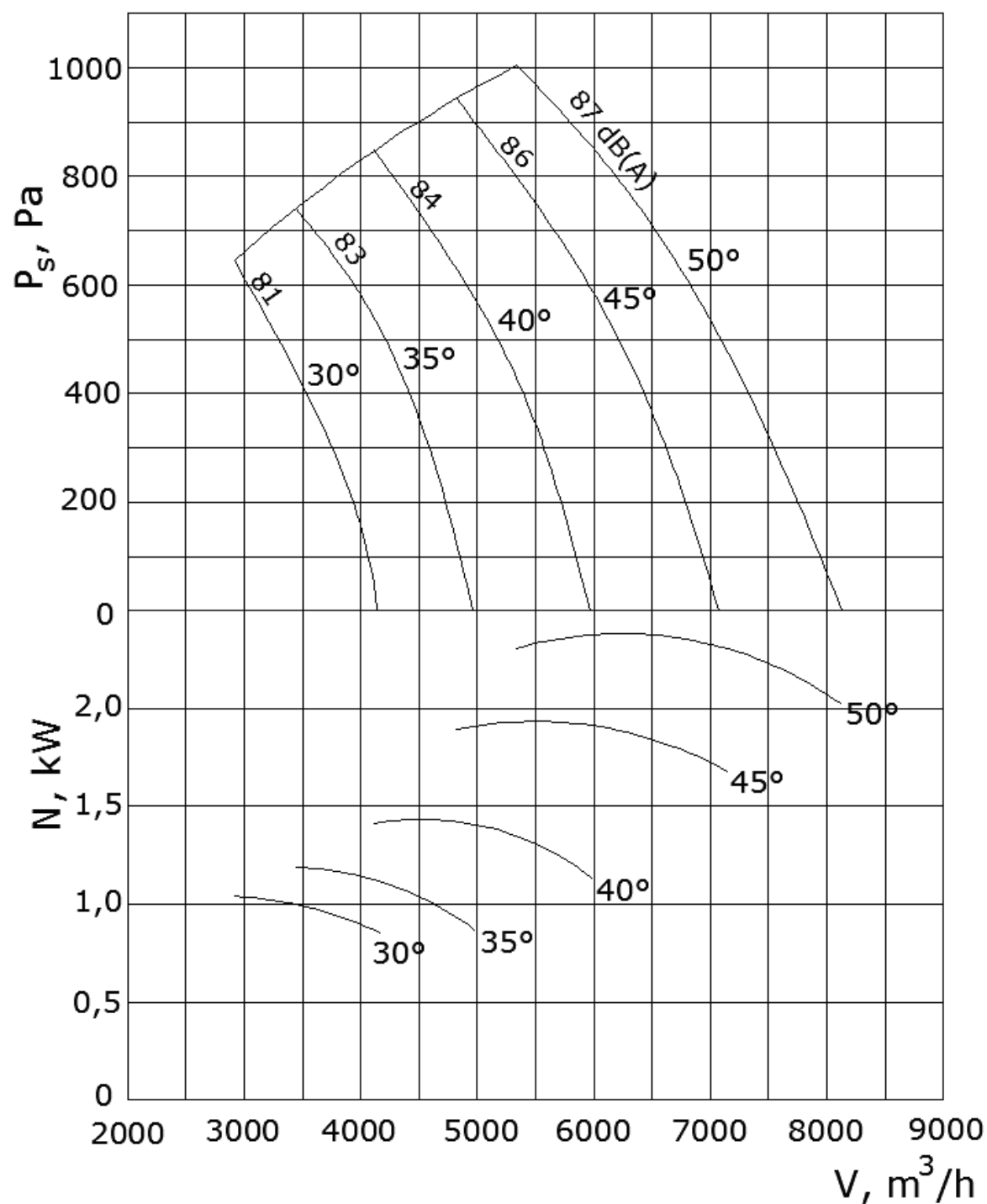


WMOR 315/220
3480 min⁻¹ 60Hz

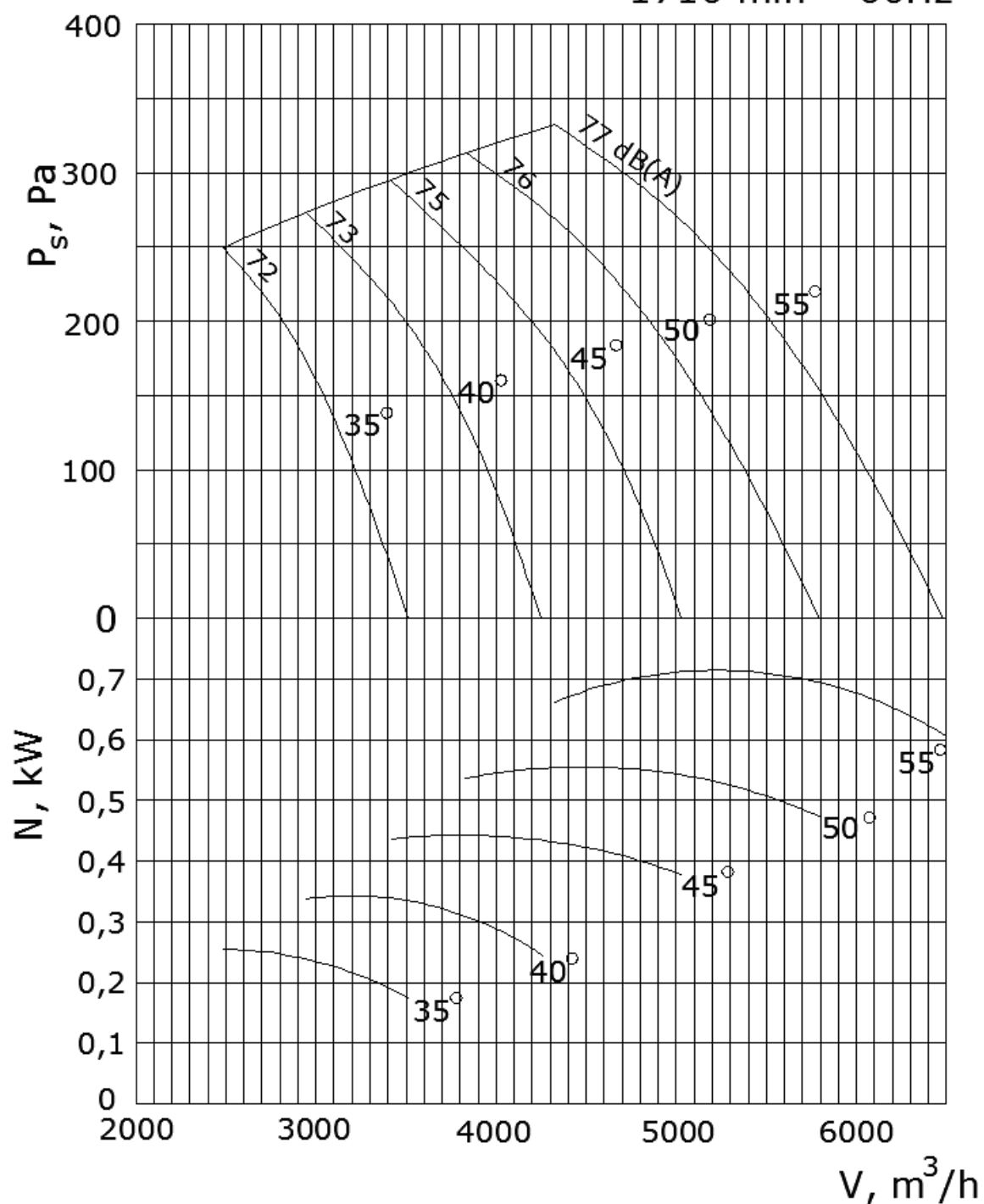




WMOR 355/250
3450 min⁻¹ 60Hz

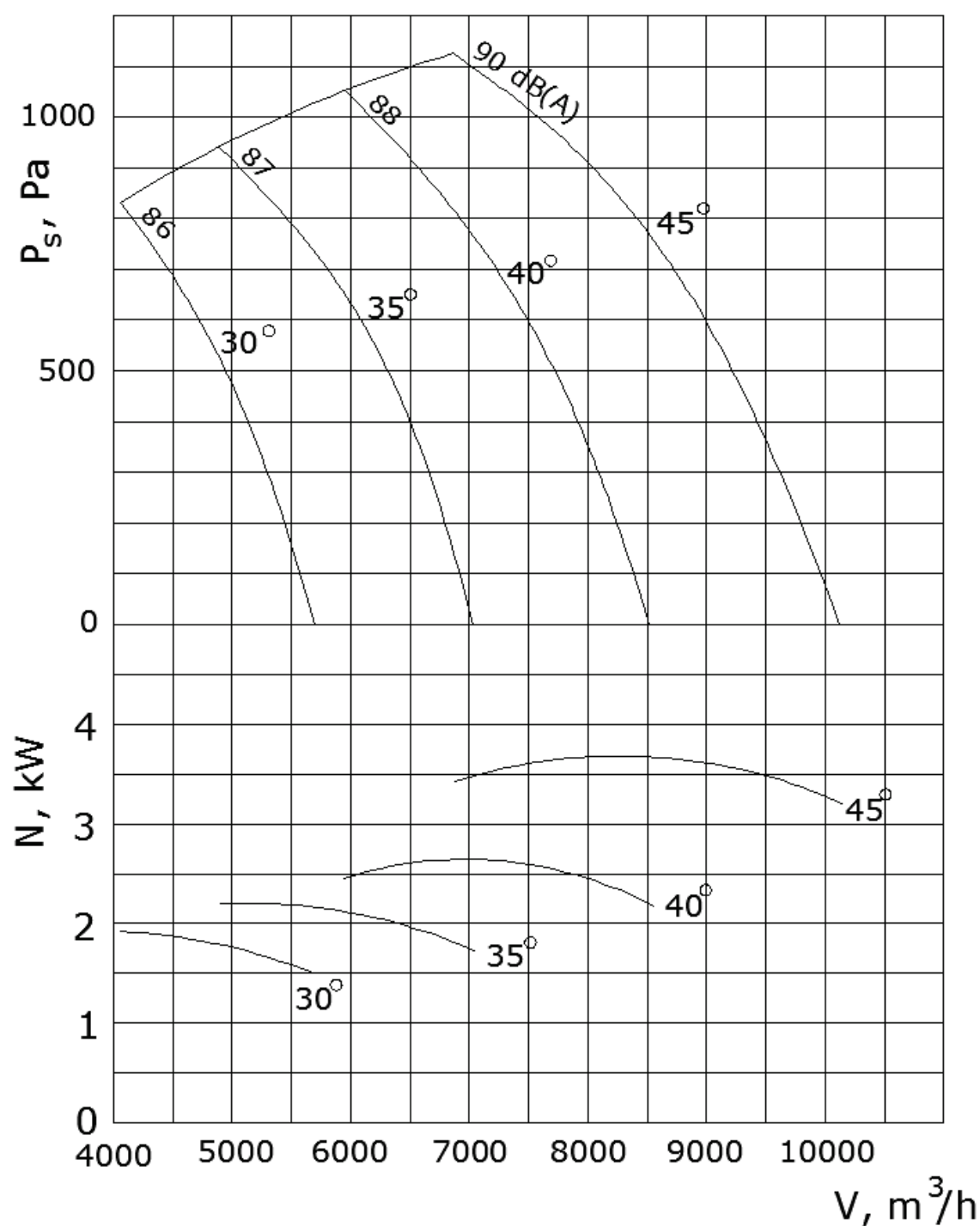


WMOR 400/280
1710 min⁻¹ 60Hz

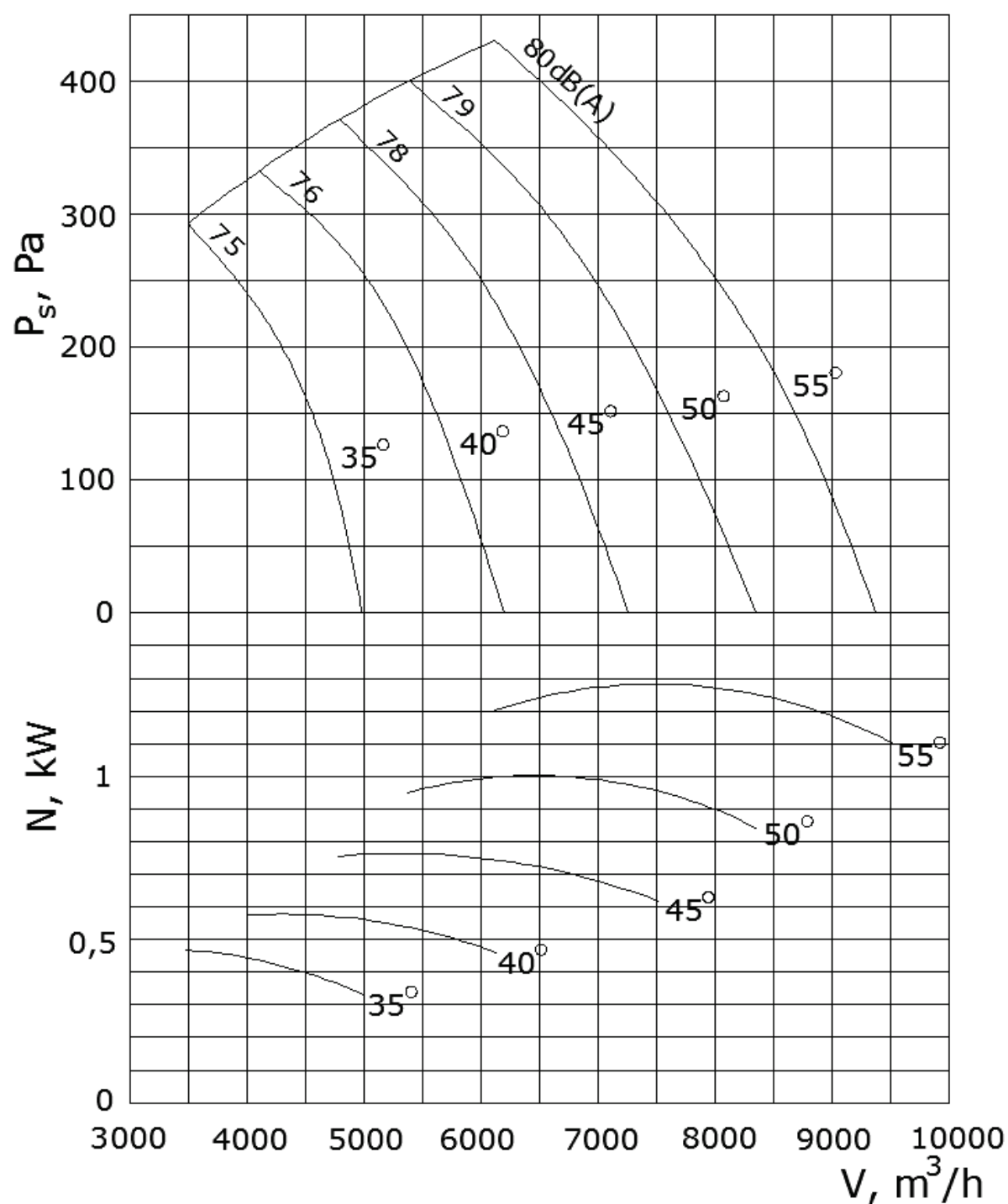




WMOR 400/280
 3450 min^{-1} 60Hz

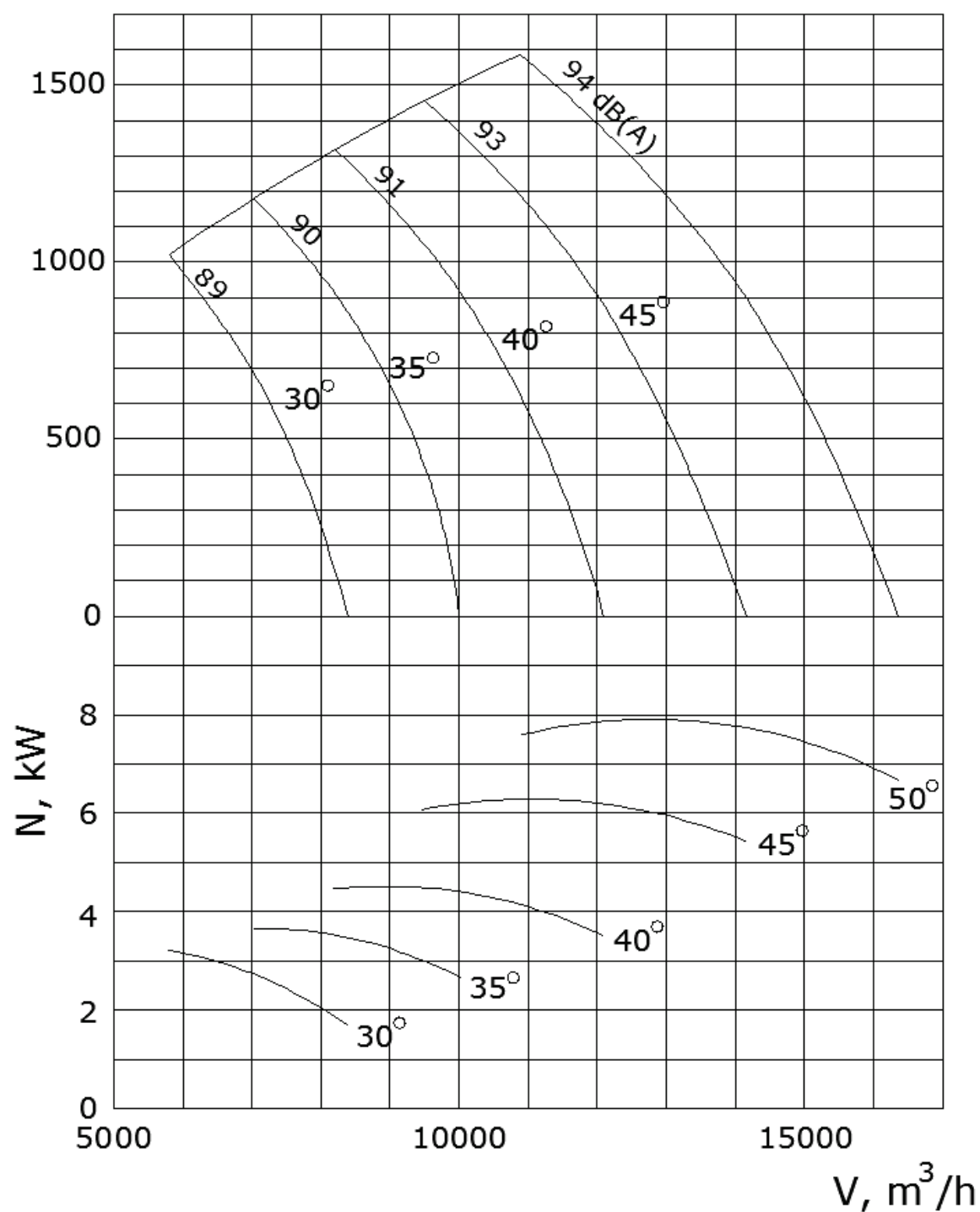


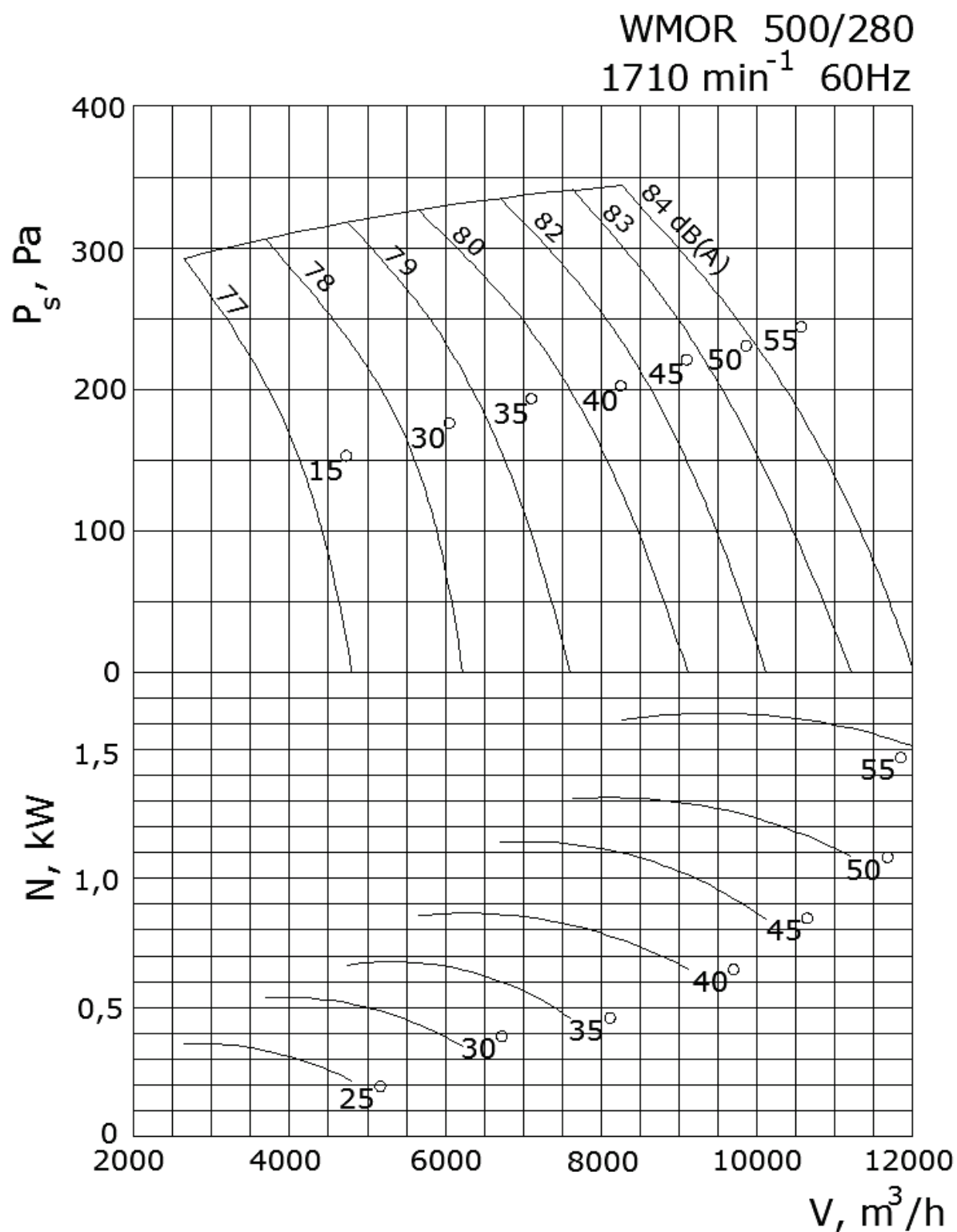
WMOR 450/310
1710 min⁻¹ 60Hz

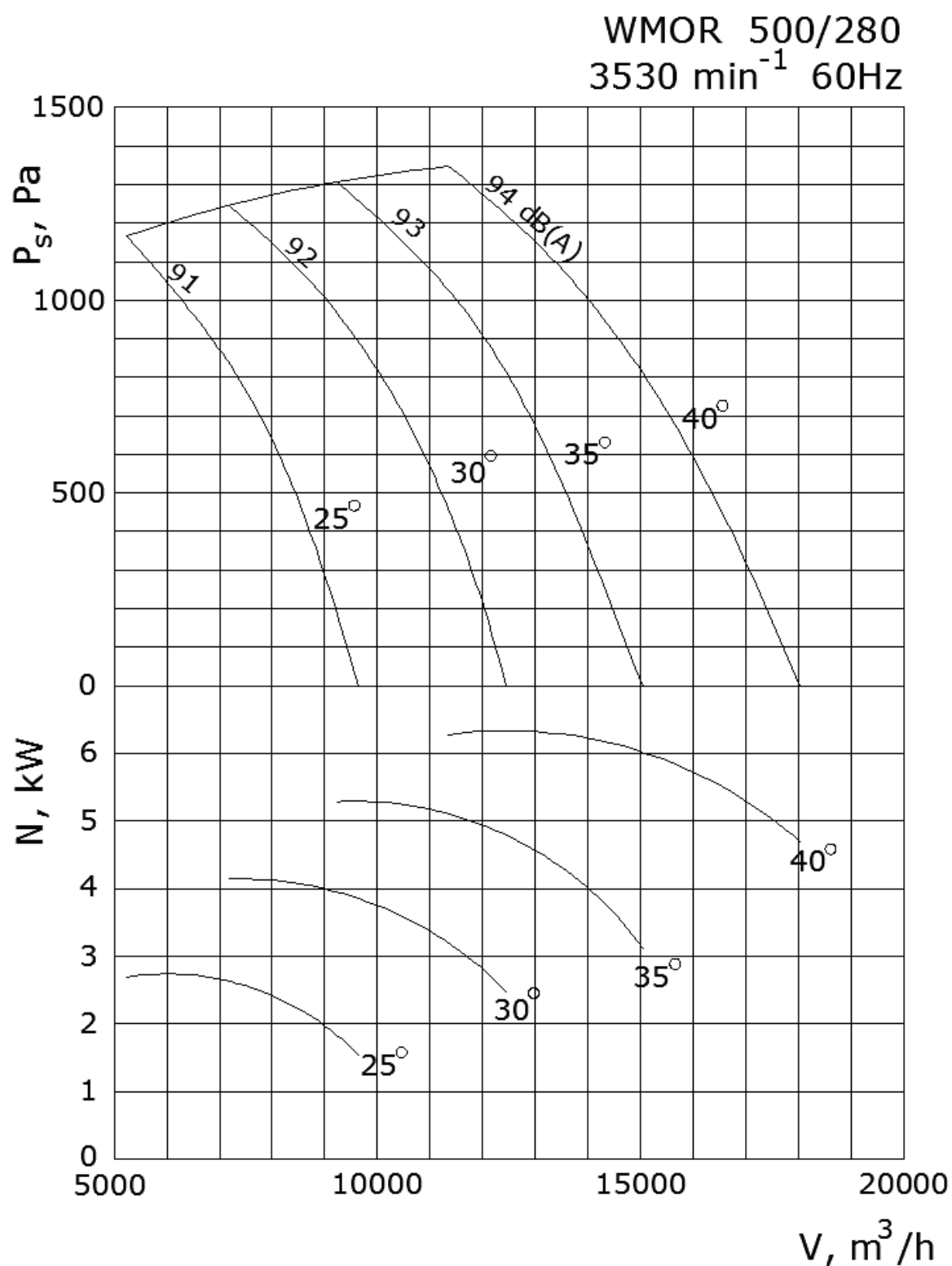


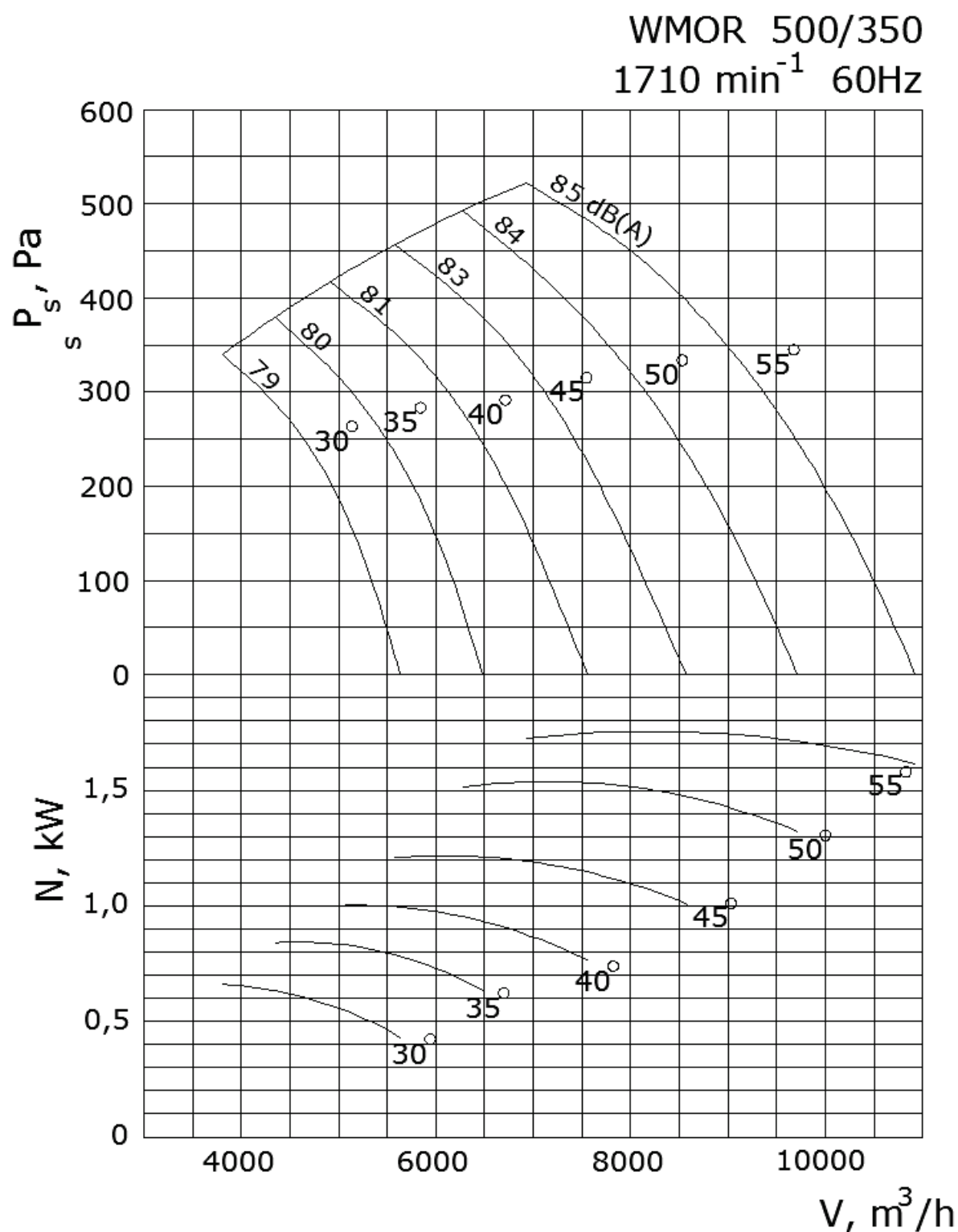


WMOR 450/310
3450 min⁻¹ 60Hz



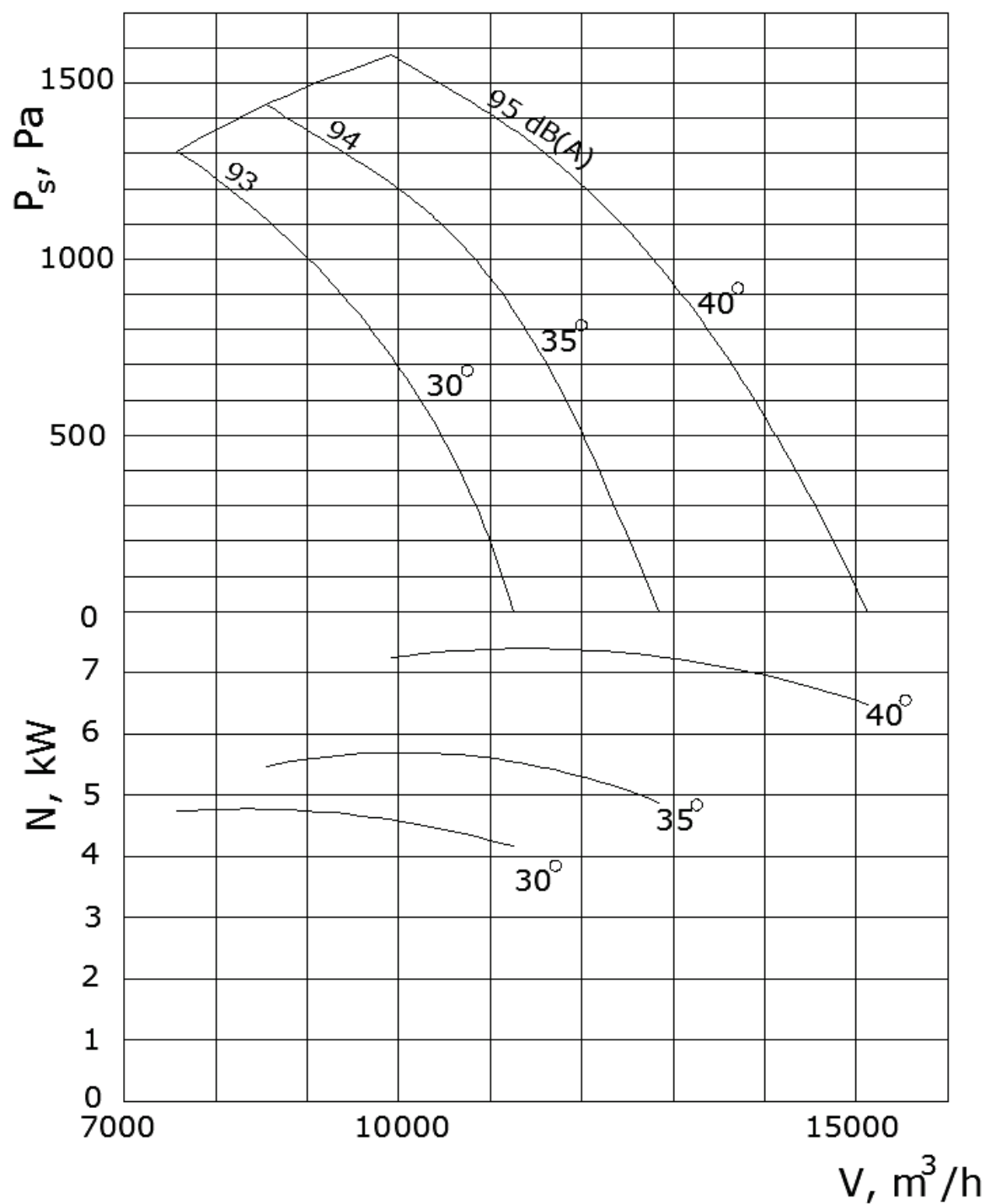


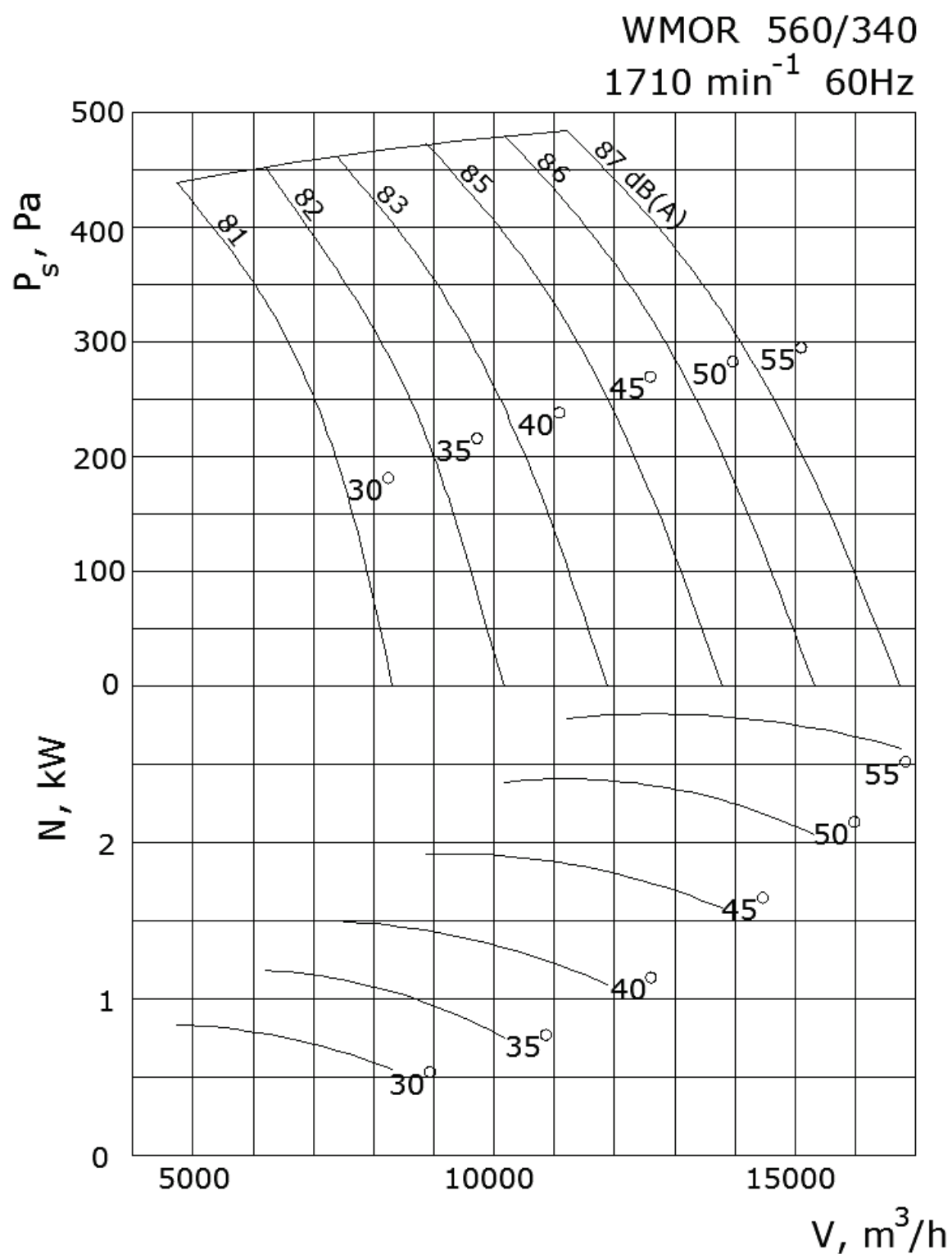


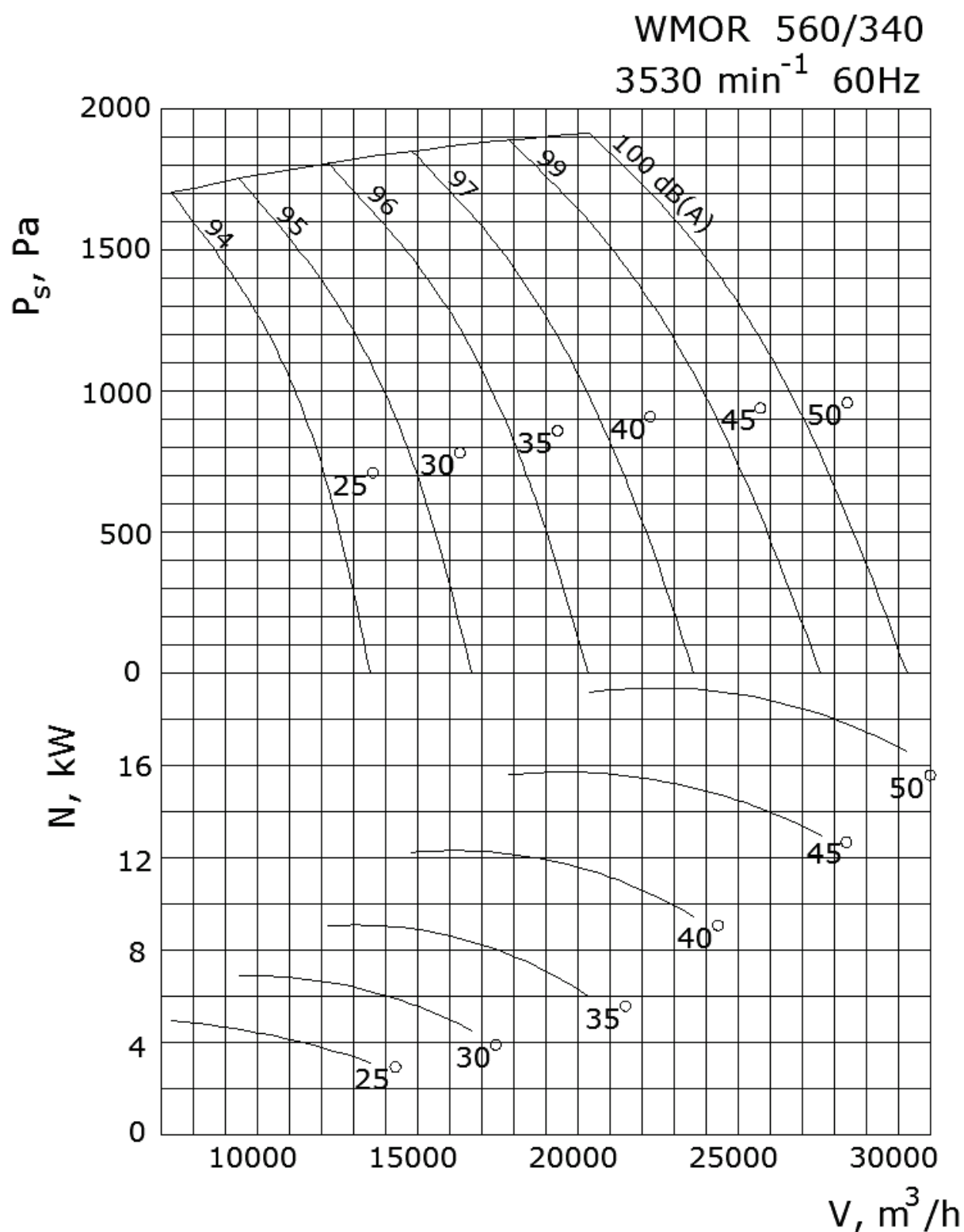


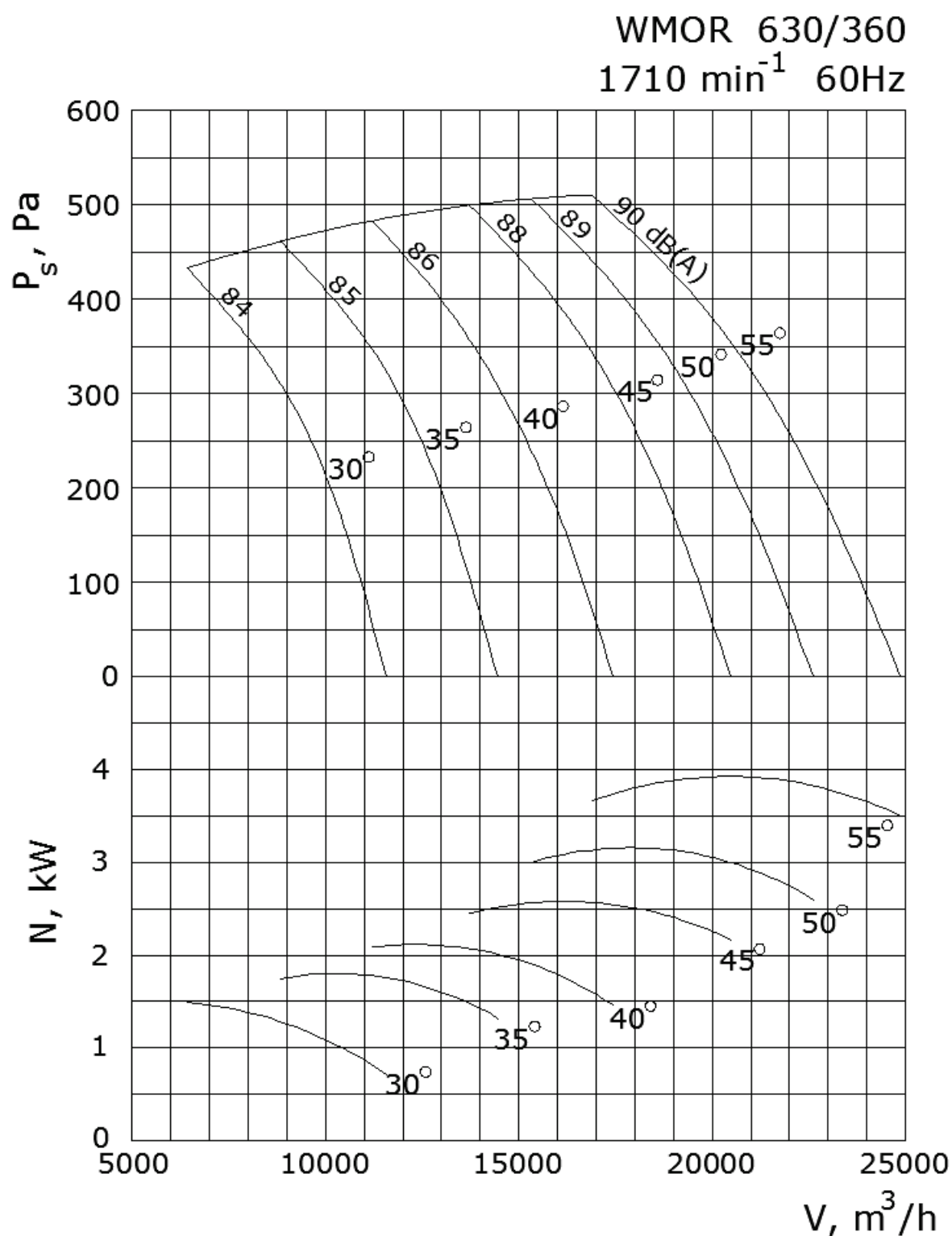


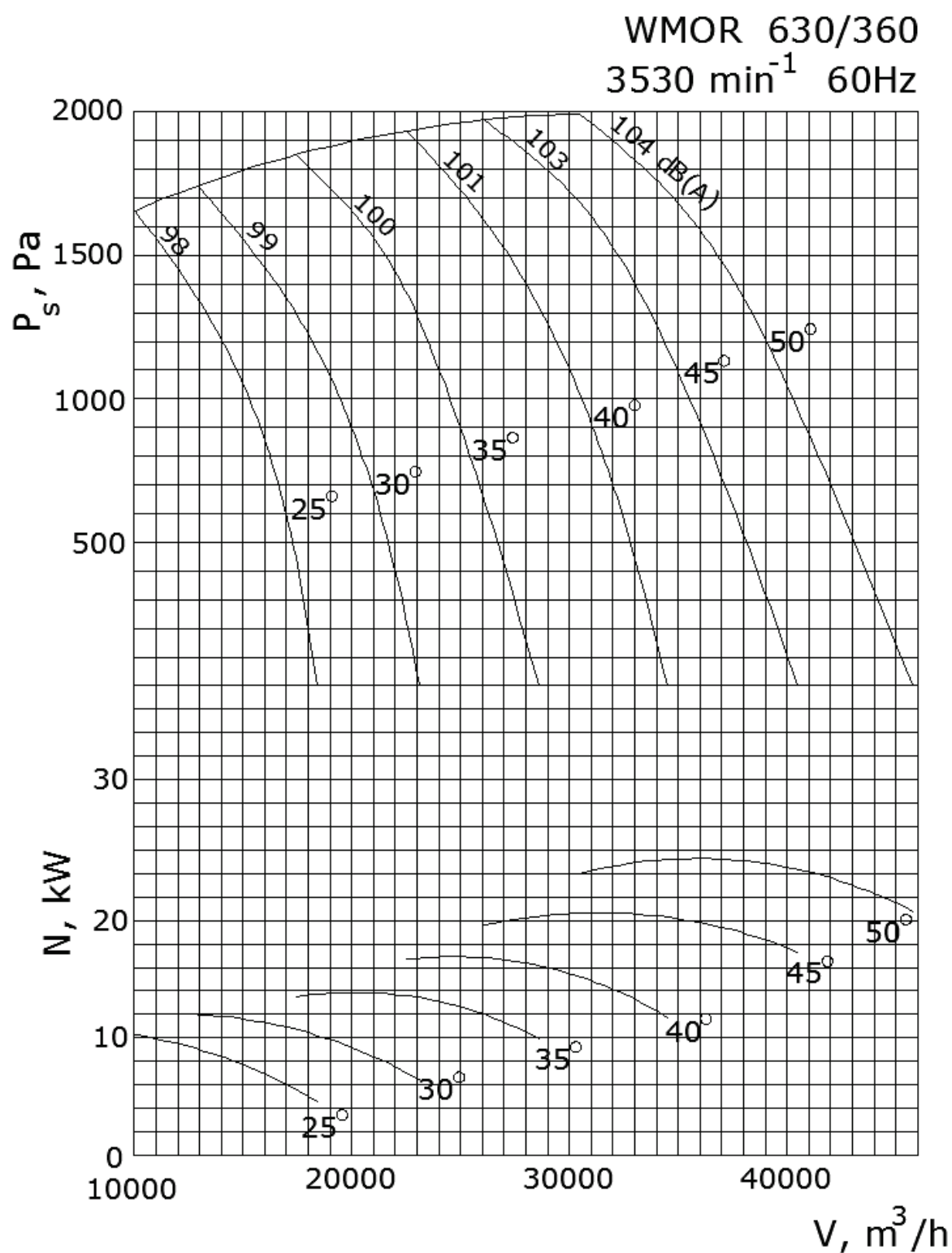
WMOR 500/350
3530 min⁻¹ 60Hz

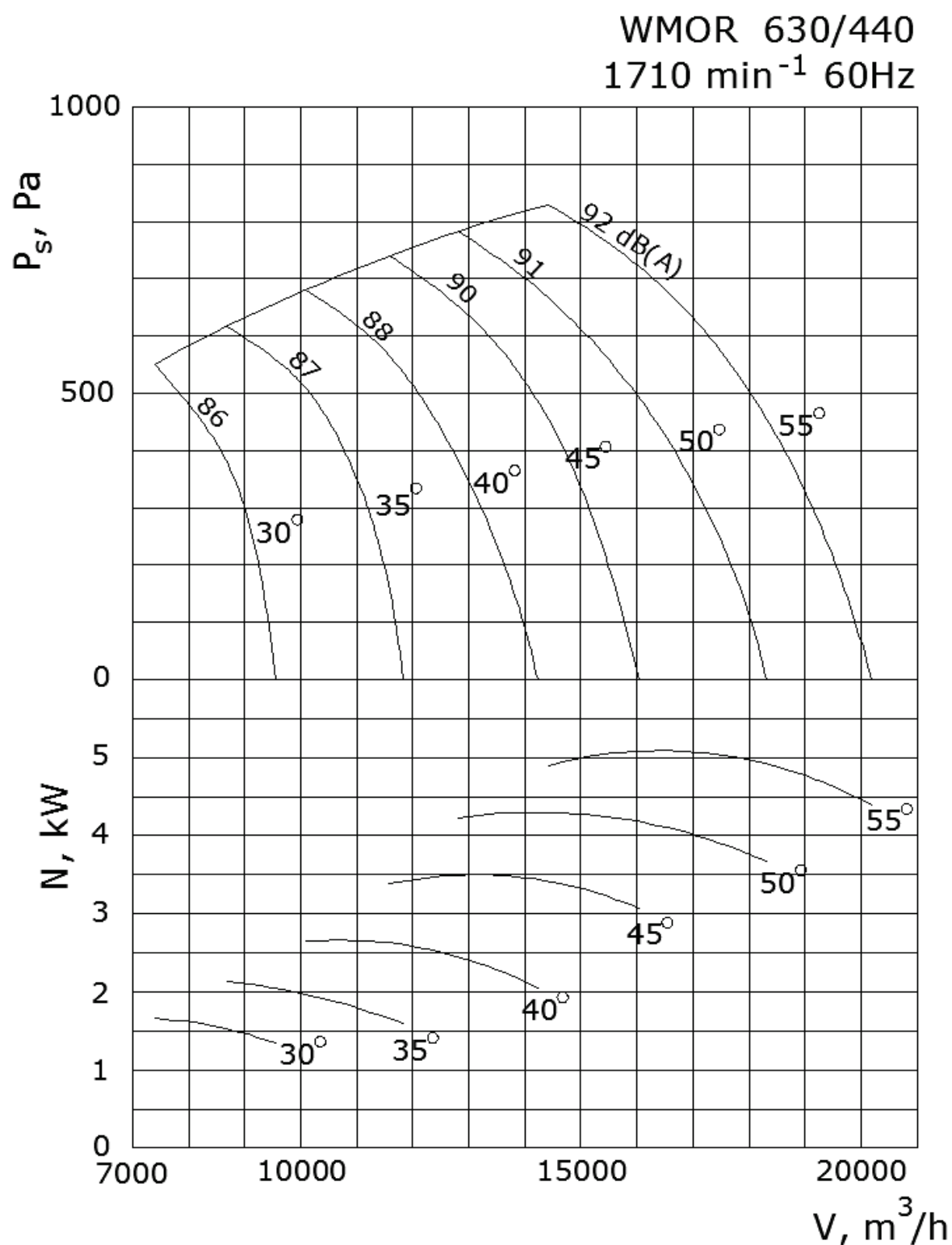


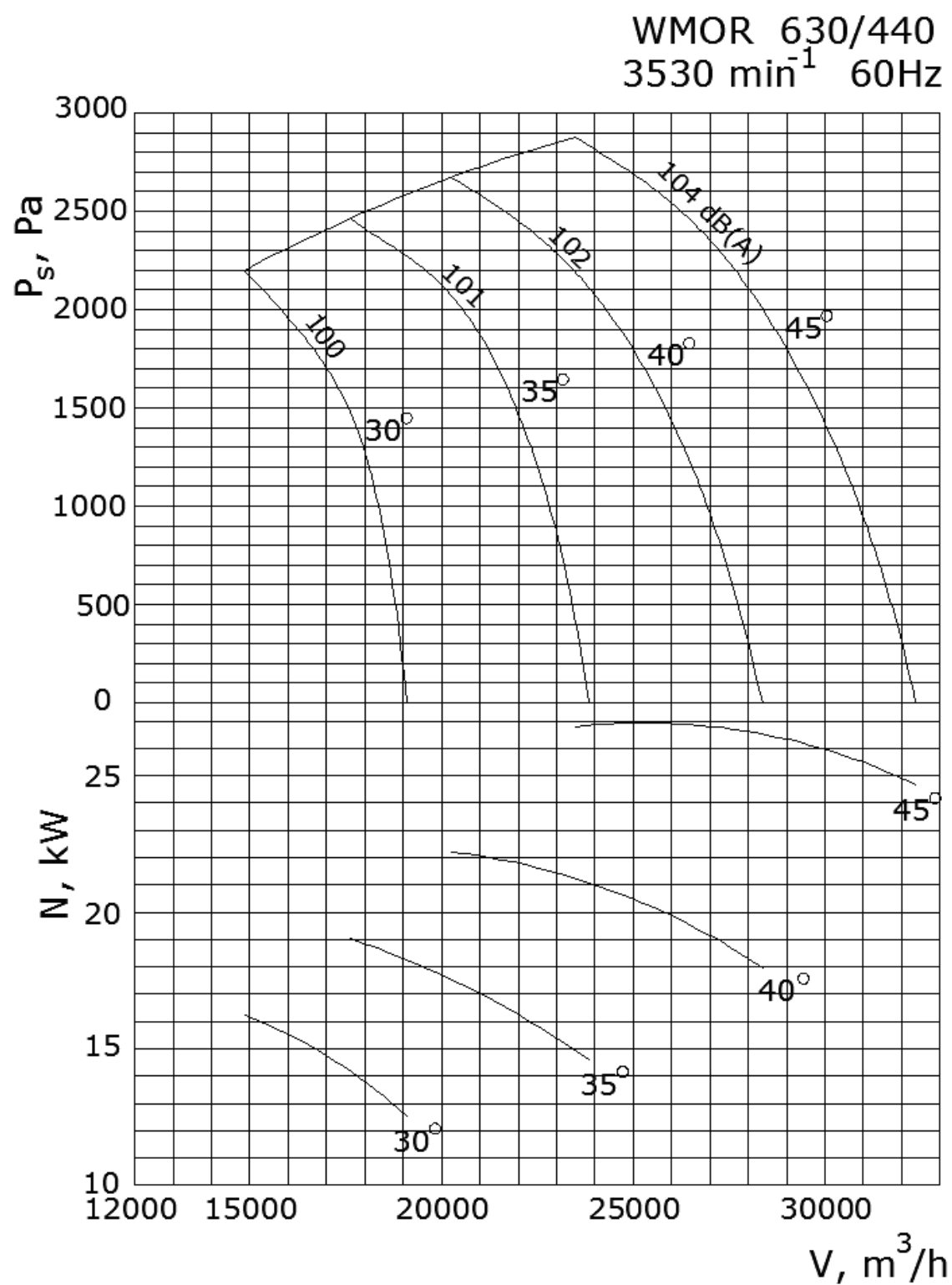






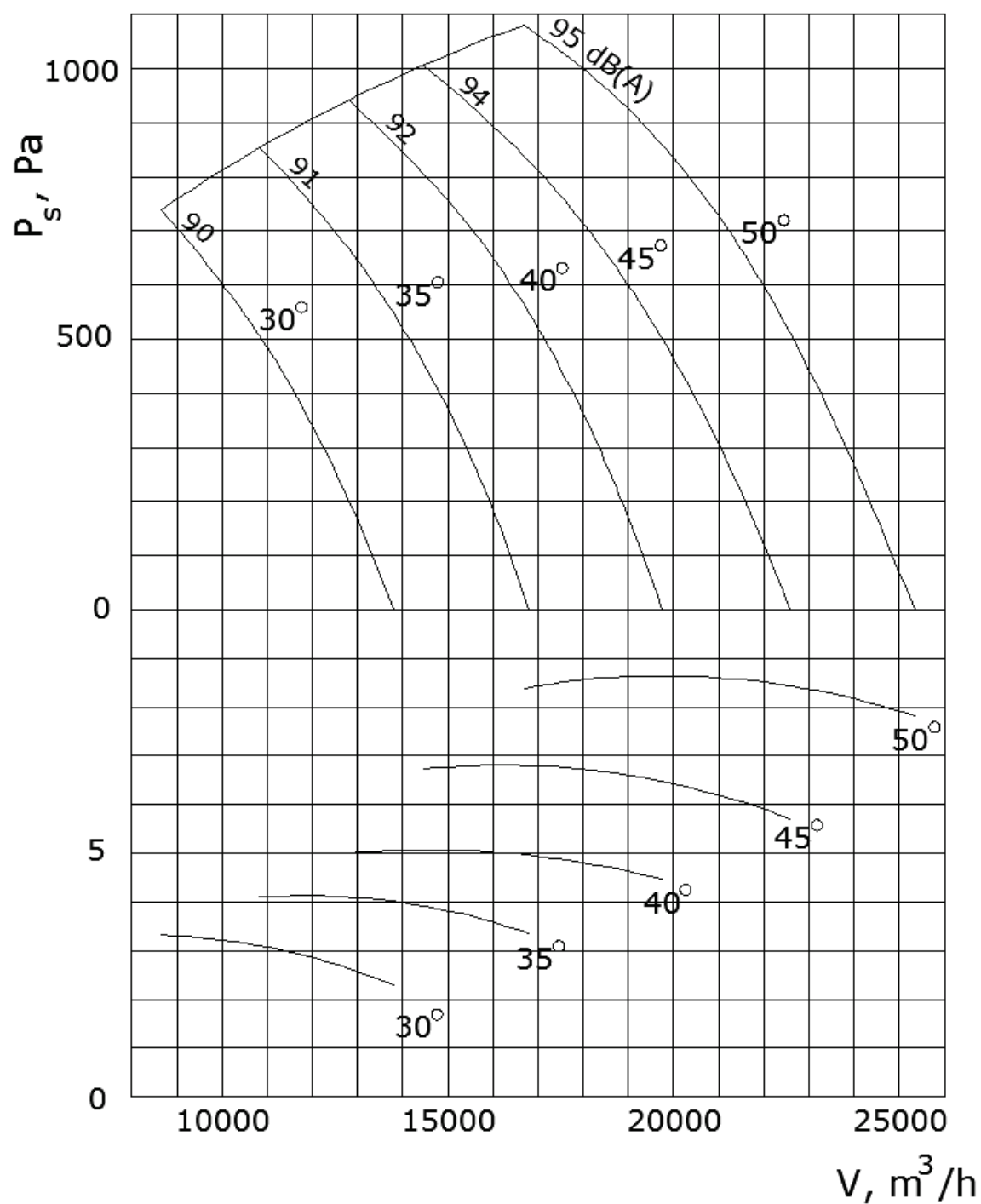


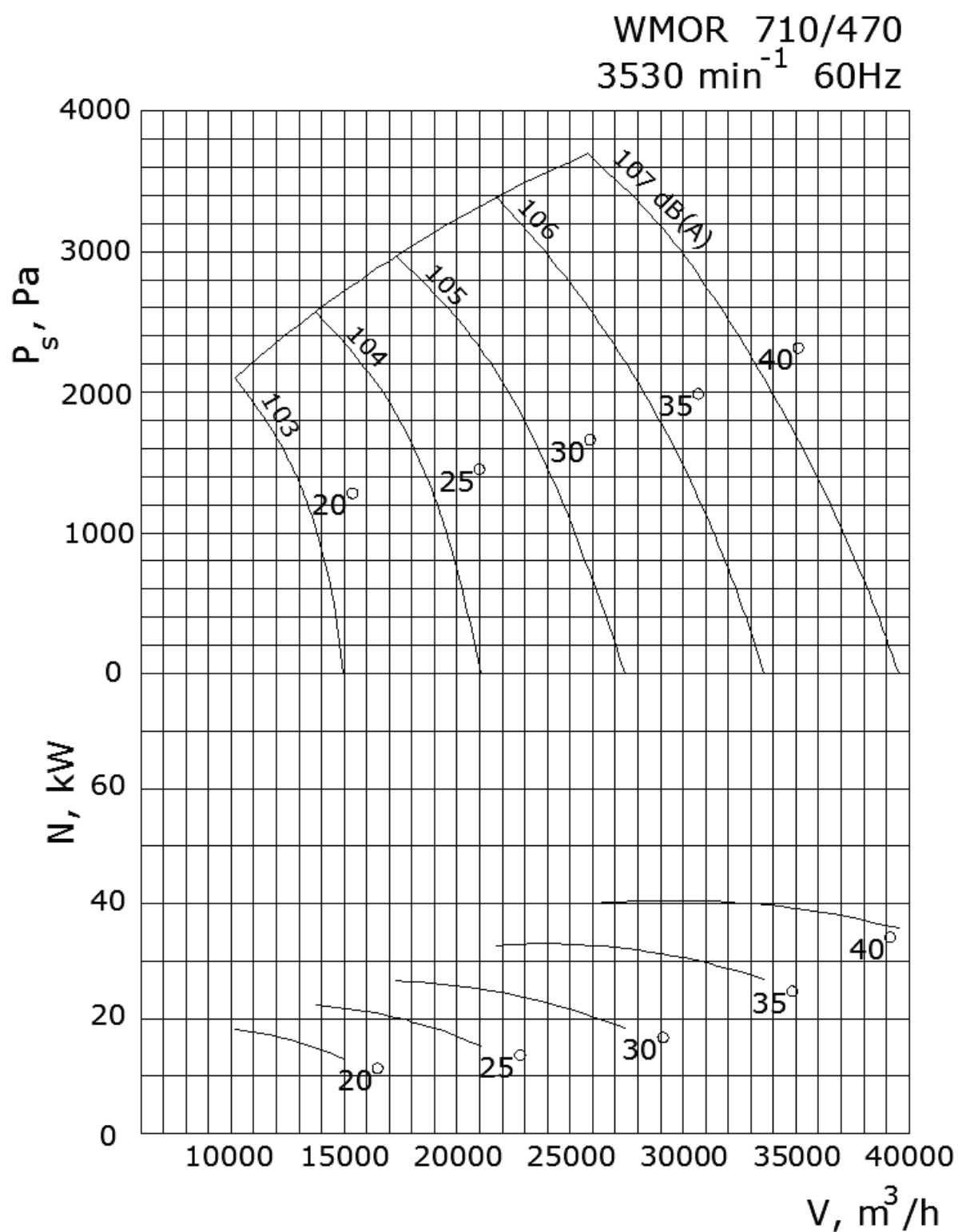






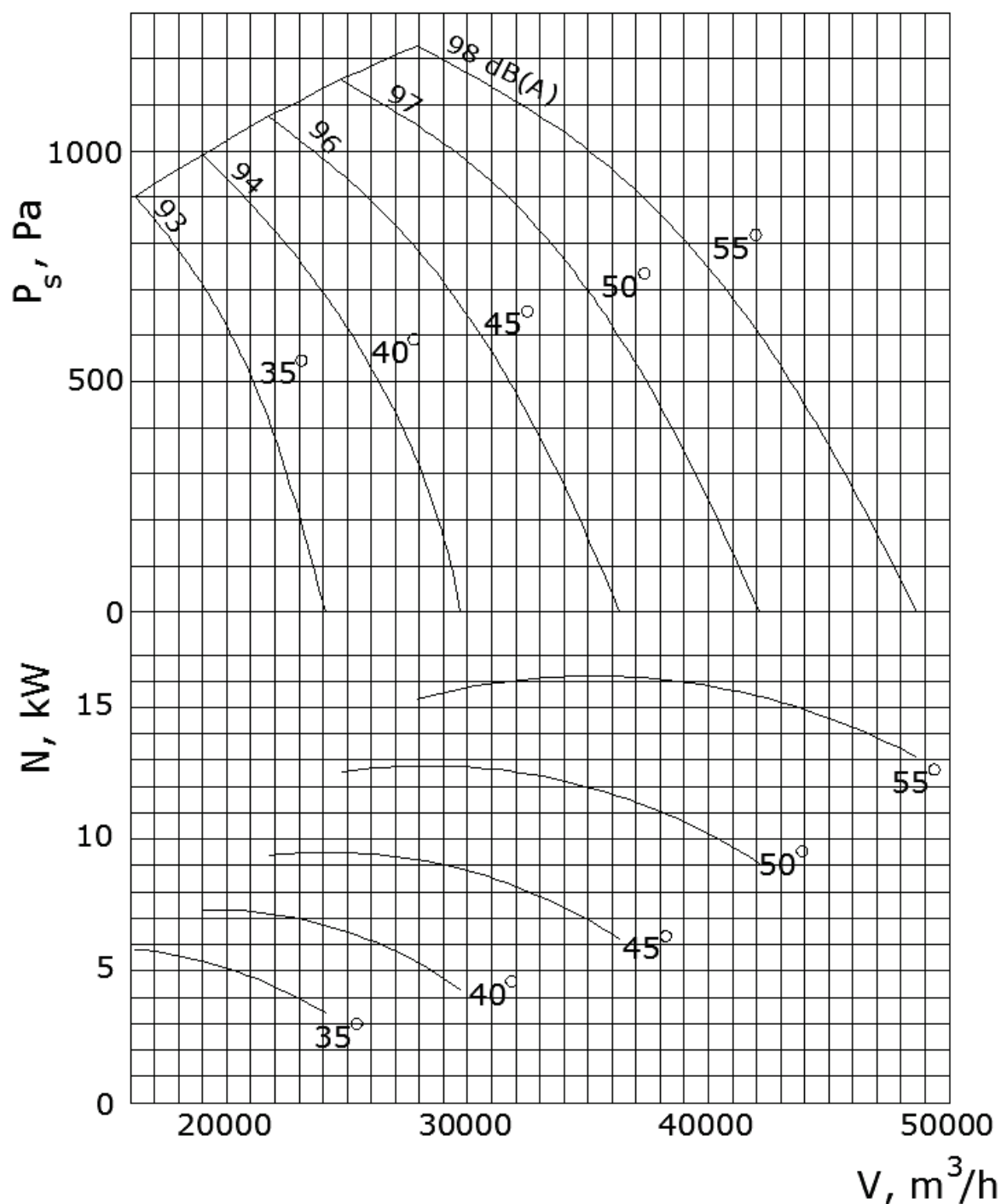
WMOR 710/470
 1740 min^{-1} 60Hz





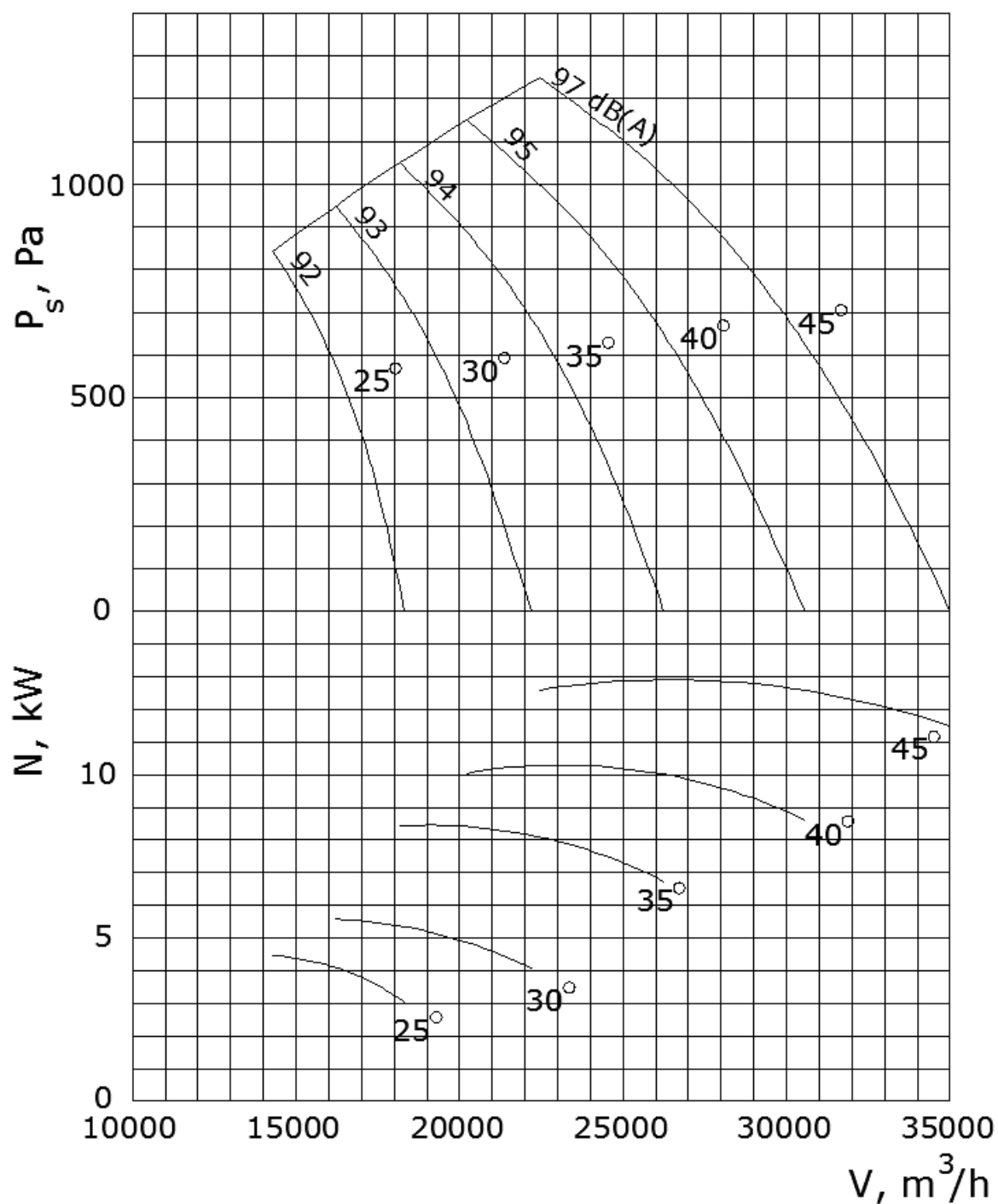


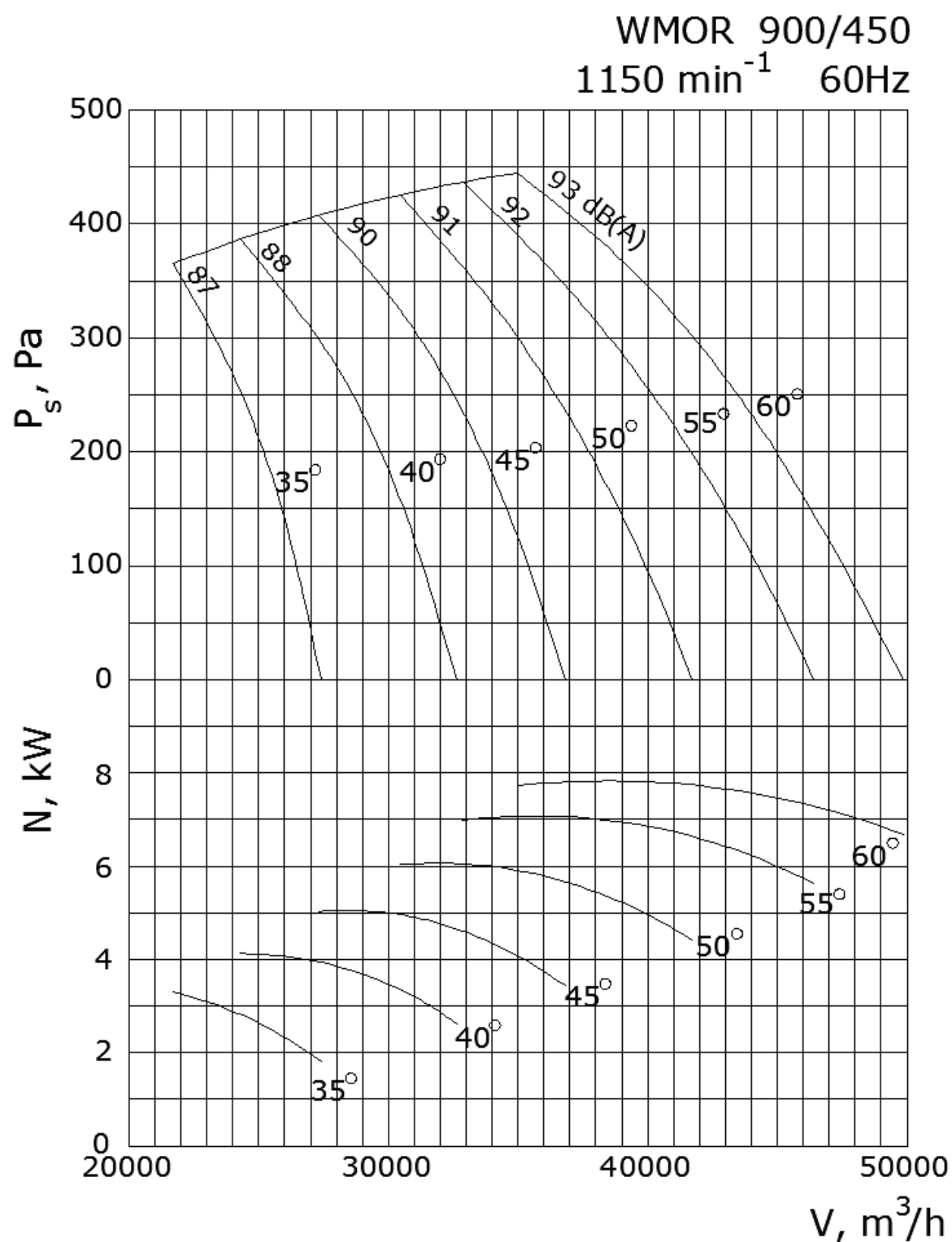
WMOR 800/480
 1740 min^{-1} 60Hz

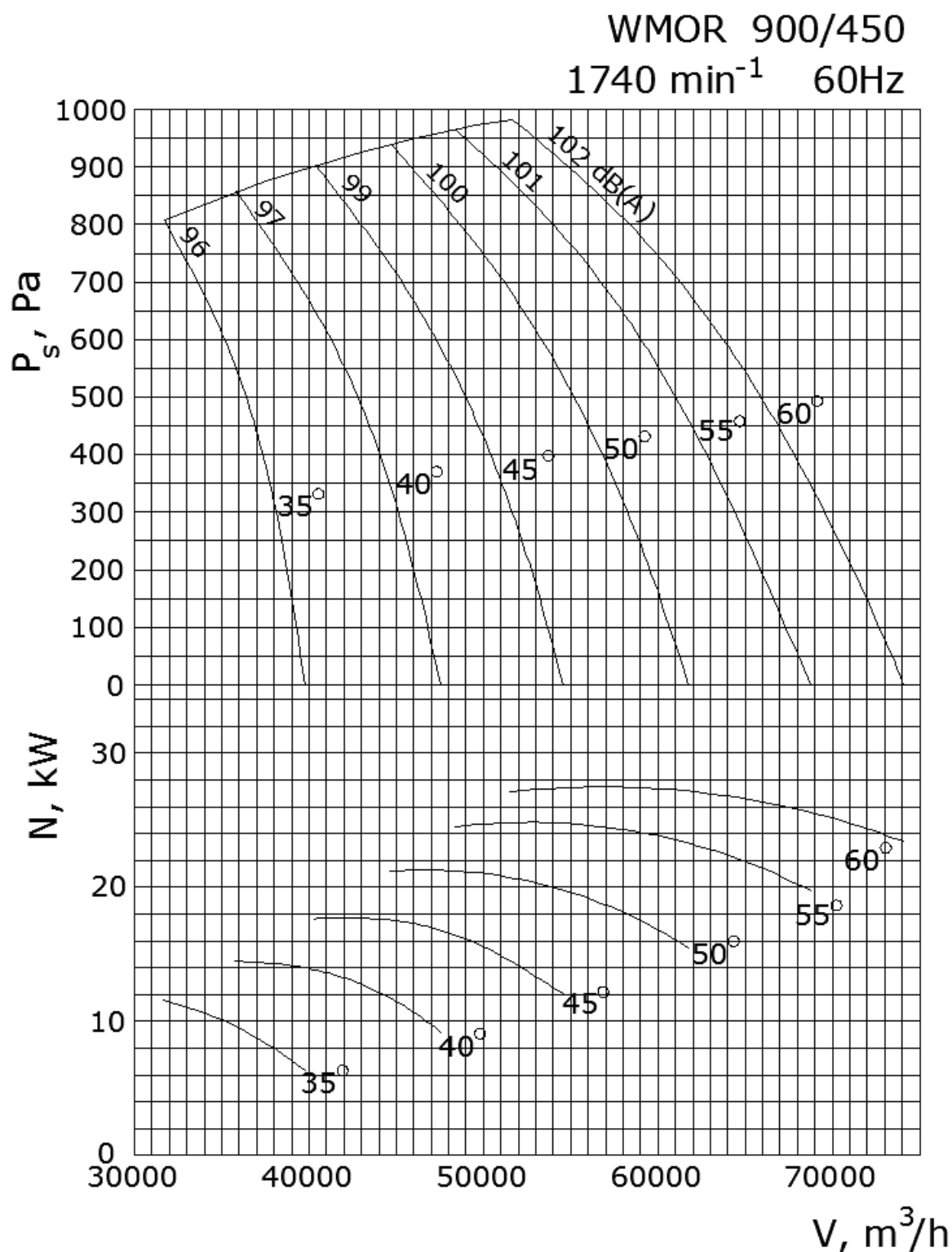


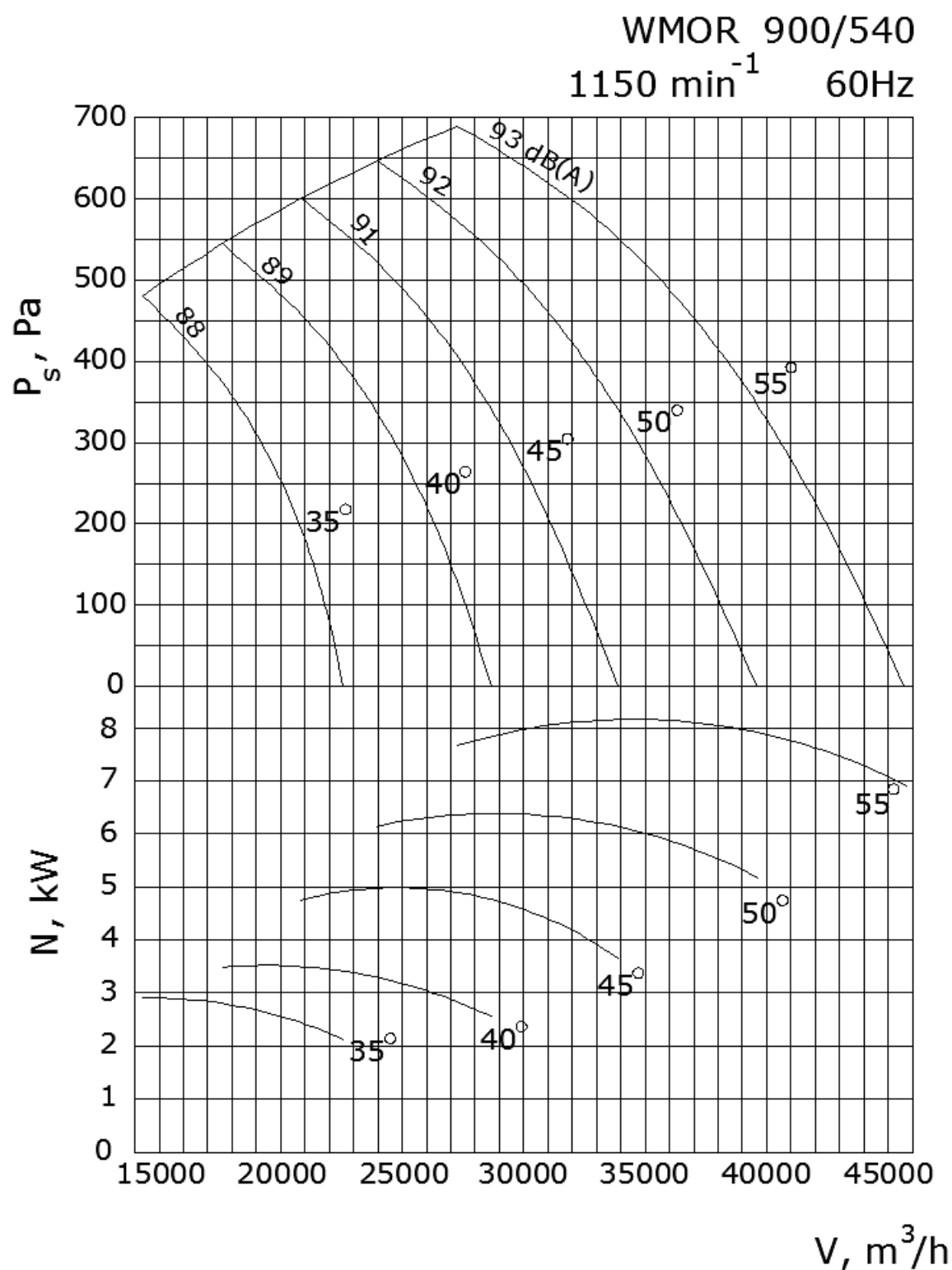


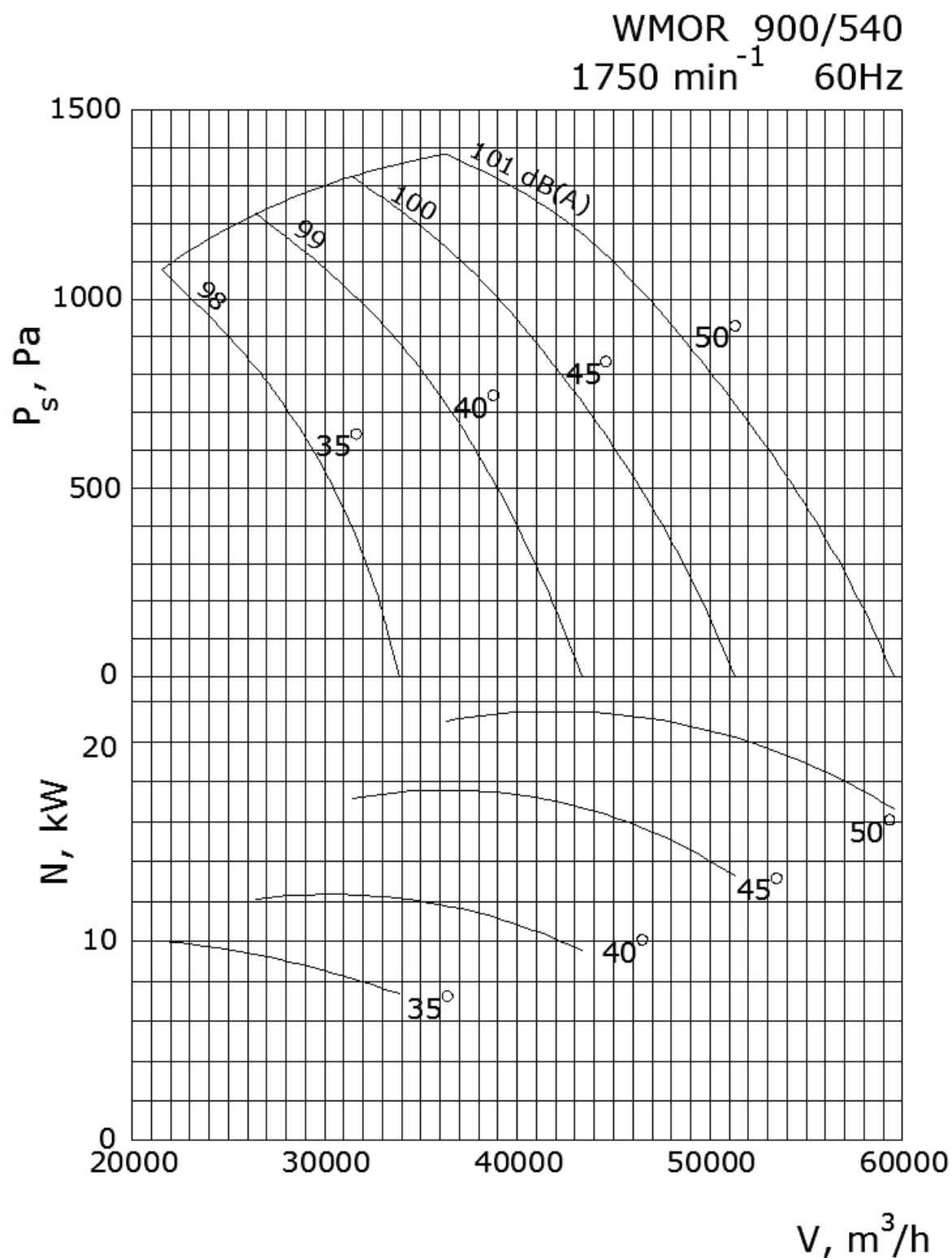
WMOR 800/560
 1740 min^{-1} 60Hz

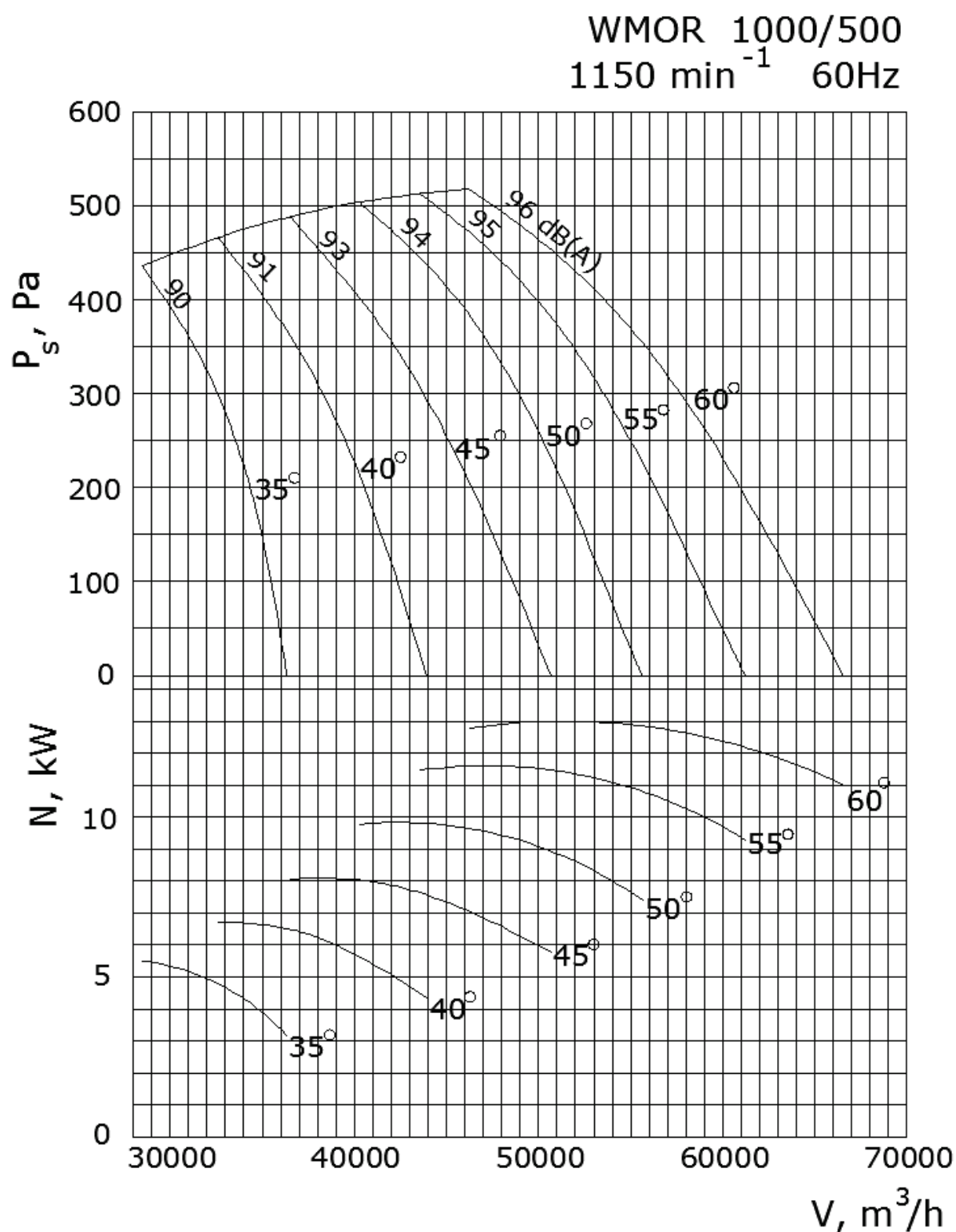




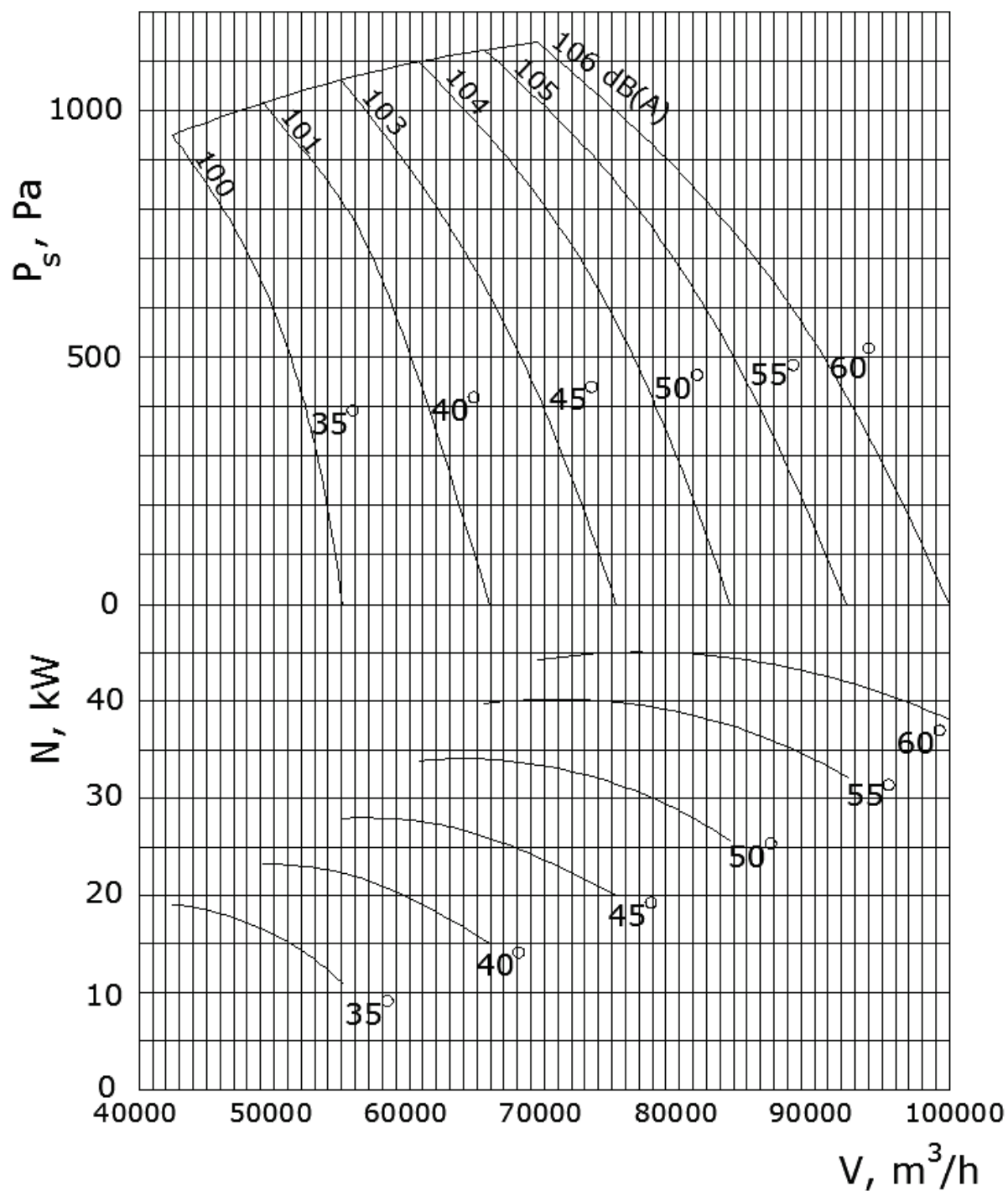


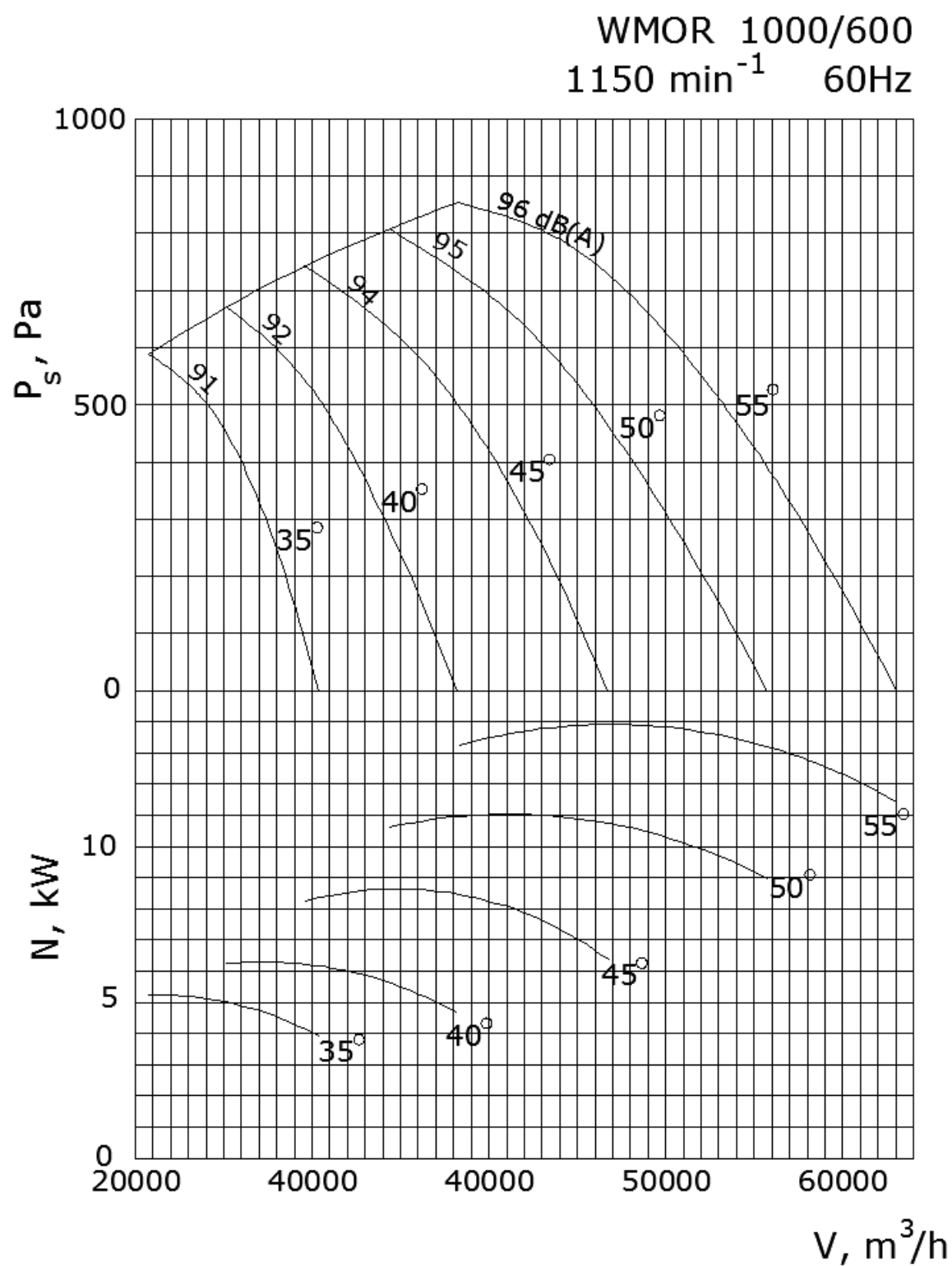




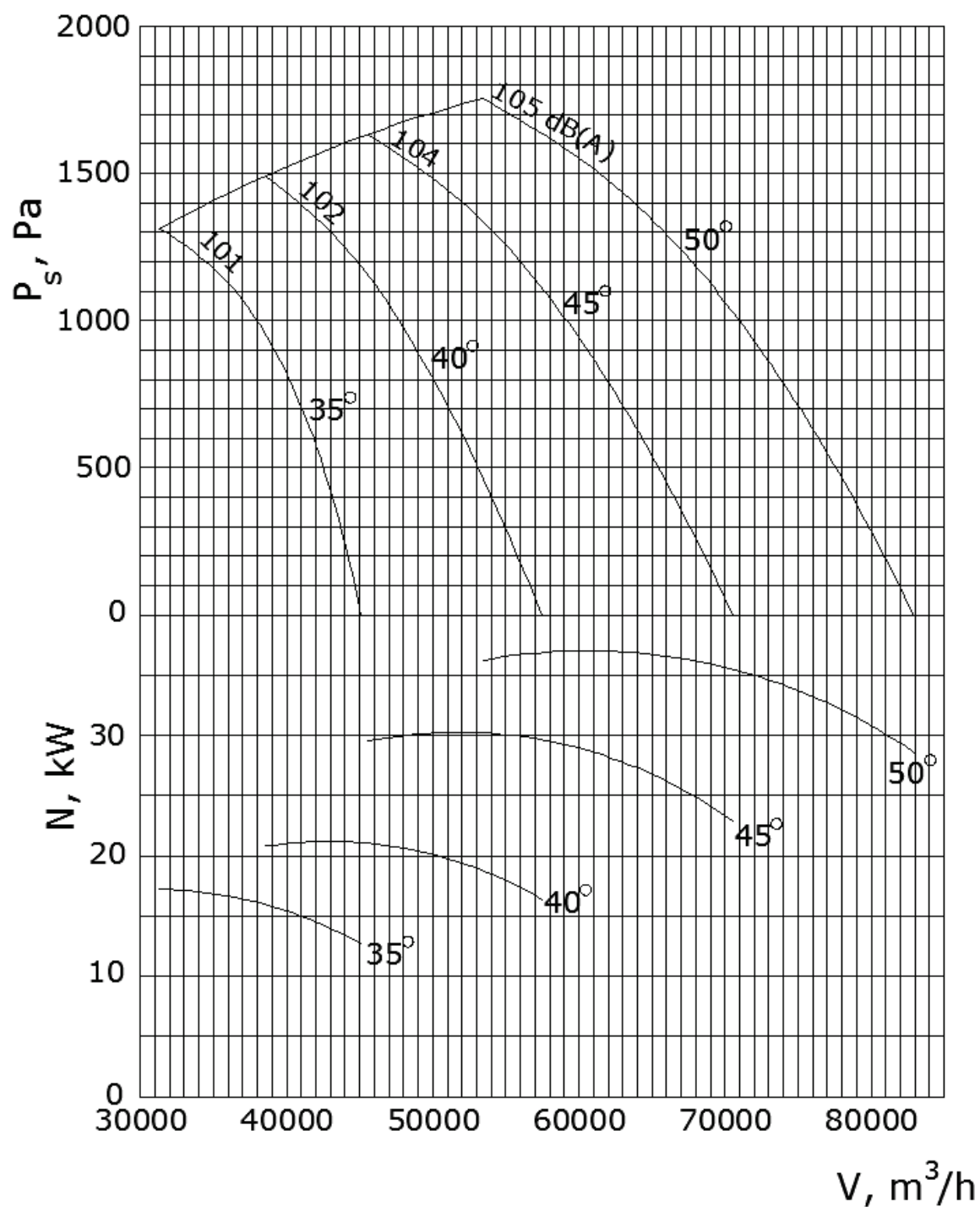


WMOR 1000/500
1740 min⁻¹ 60Hz



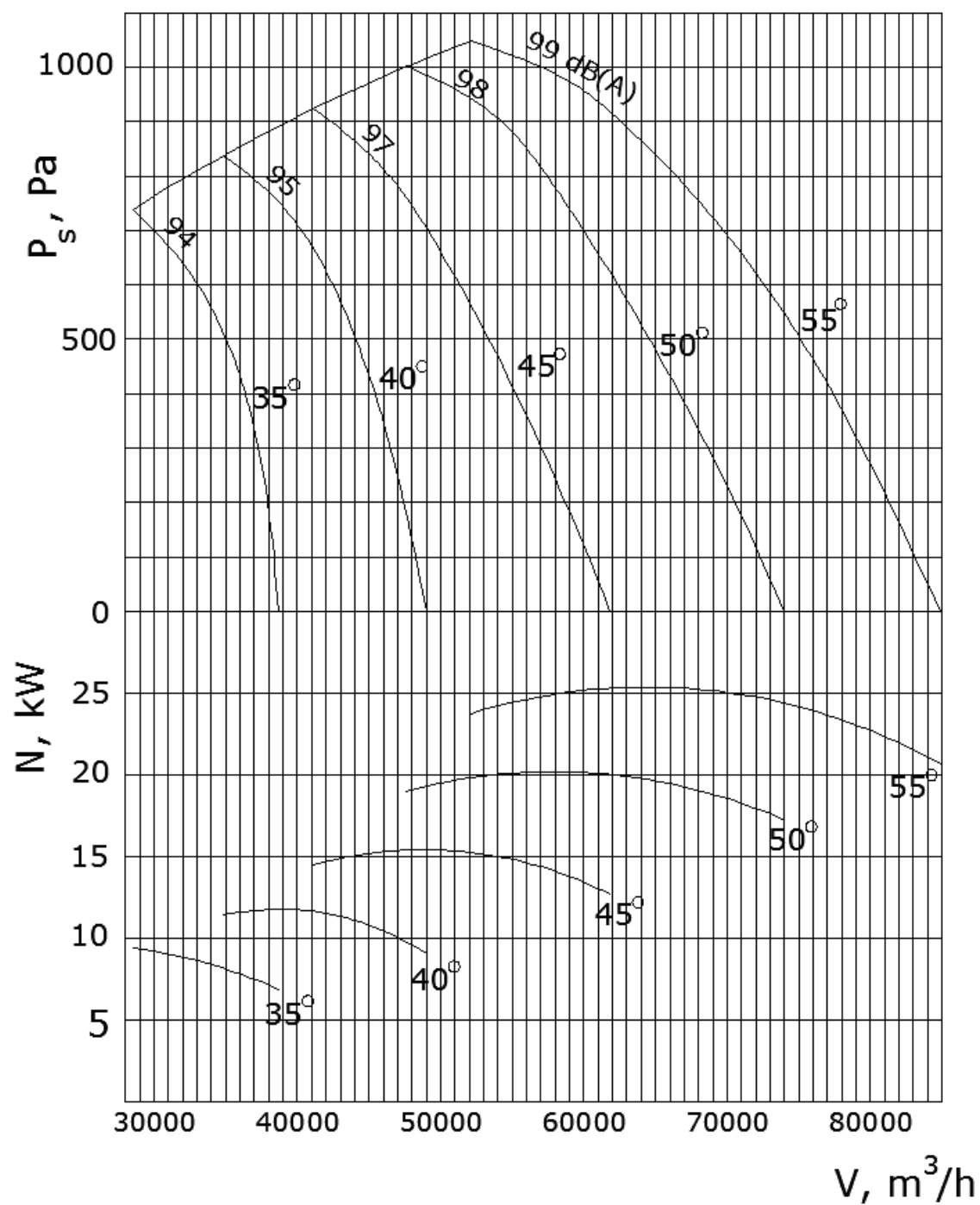


WMOR 1000/600
1750 min⁻¹ 60Hz



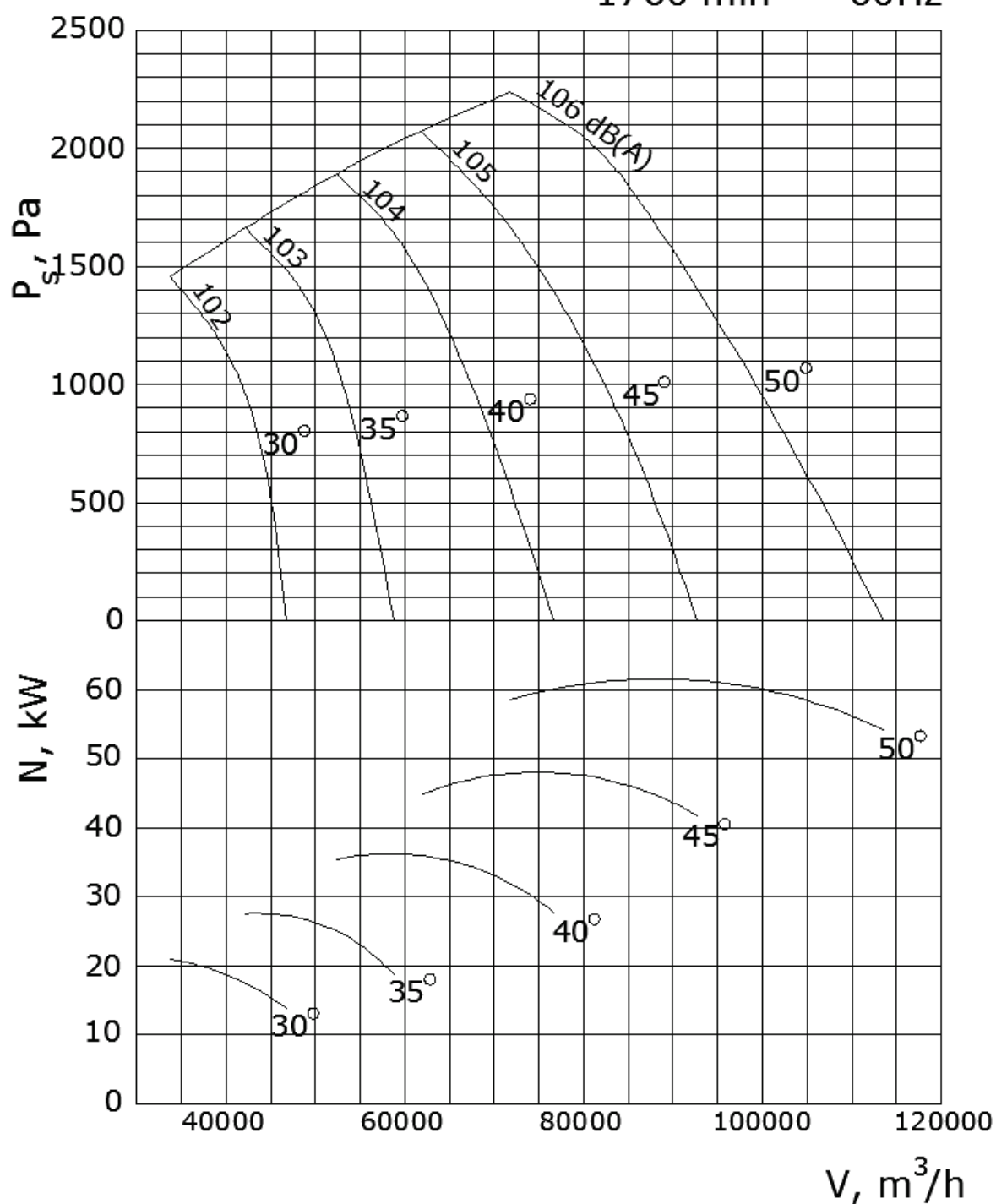


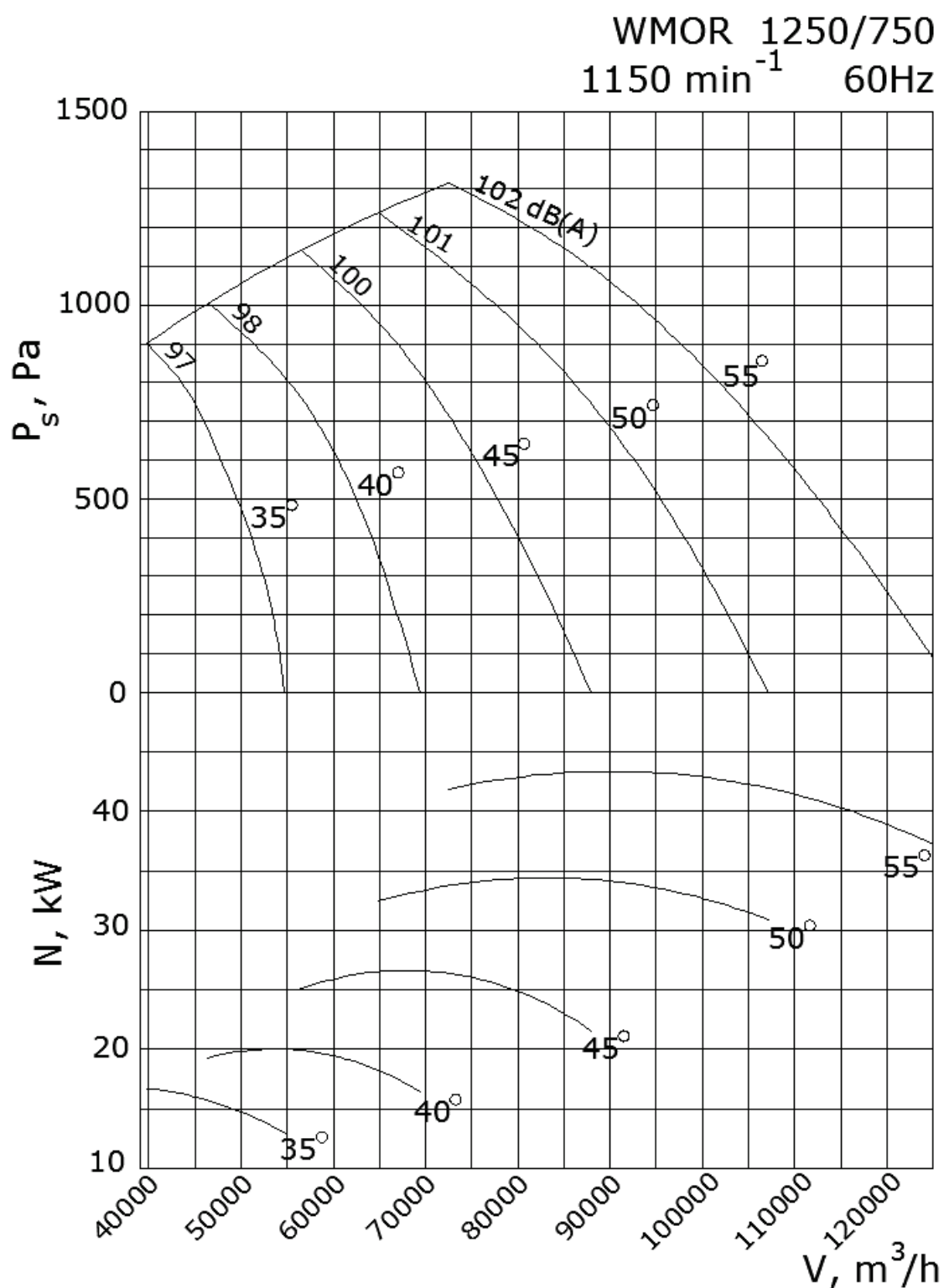
WMOR 1120/670
 1150min^{-1} 60Hz





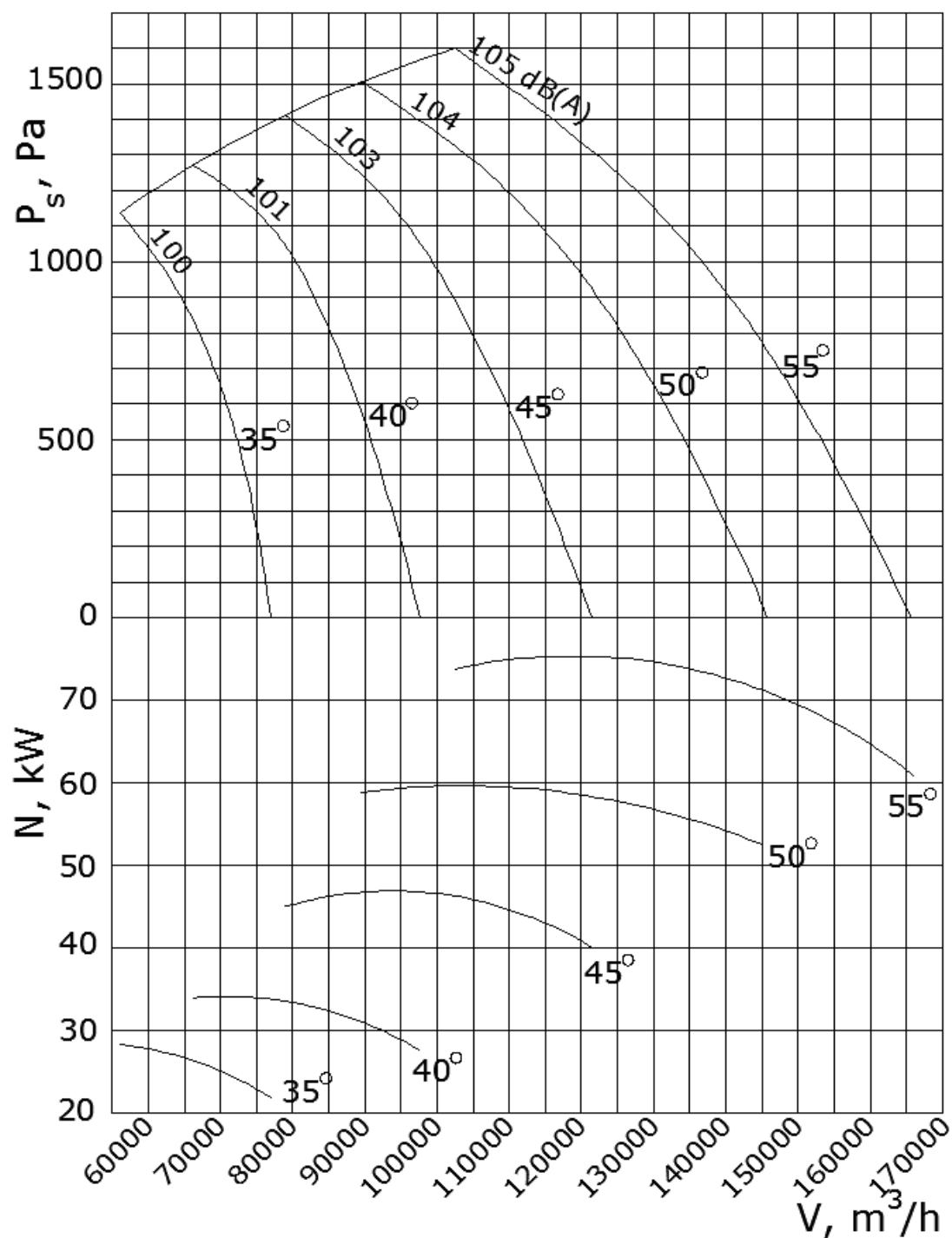
WMOR 1120/670
 1760 min^{-1} 60Hz



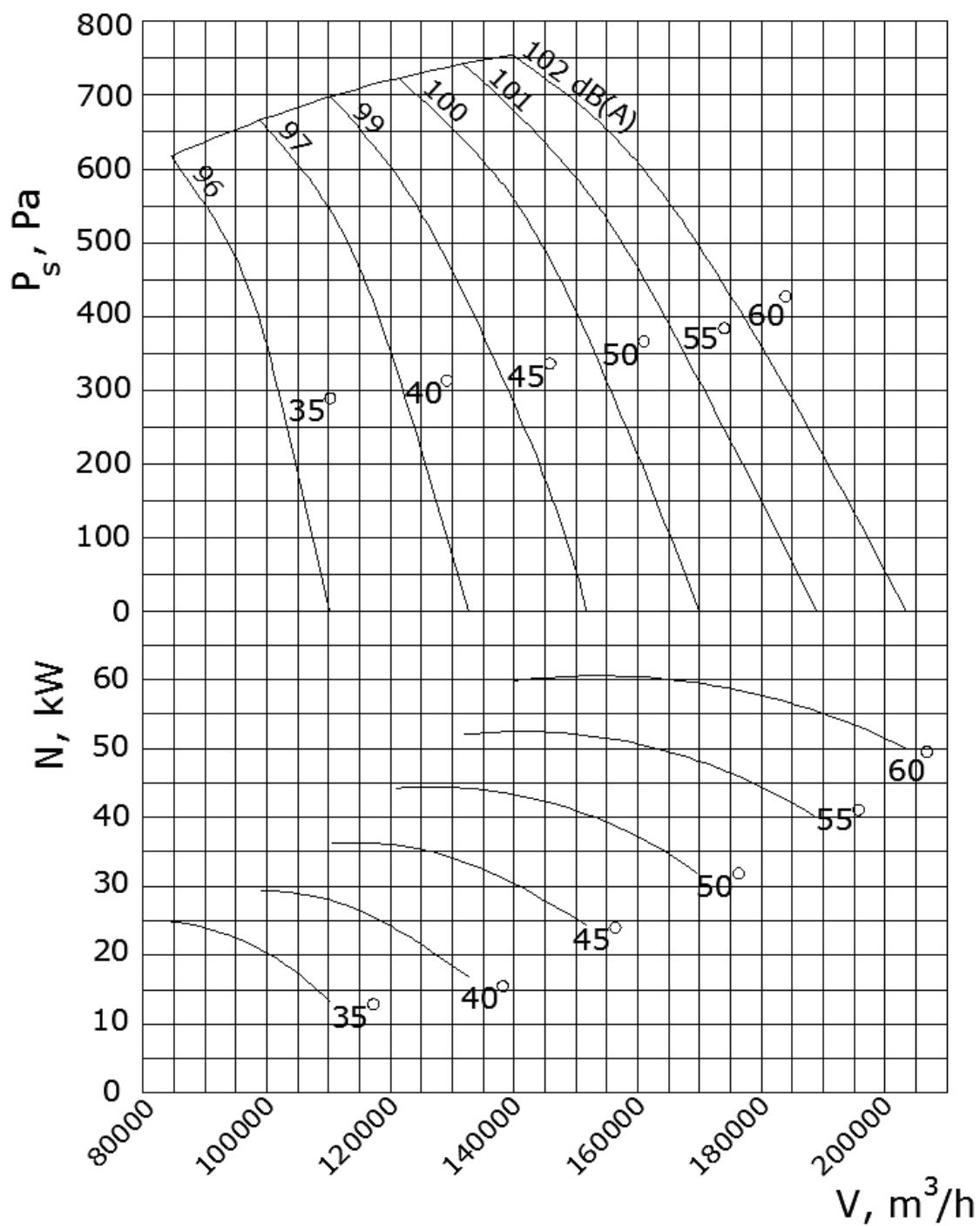




WMOR 1400/840
1150 min⁻¹ 60Hz



WMOR 1600/800
860 min⁻¹ 60Hz





WMOR 1600/800
1150 min⁻¹ 60Hz

