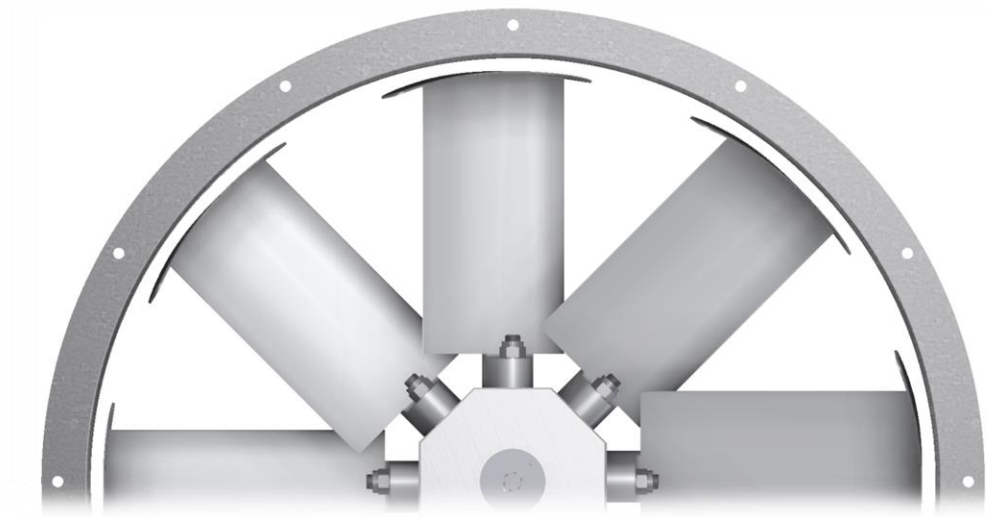
Technical Catalogue

AF Series

- Construction and Features
- Installation Tips
- Dimensions
- Performance Curves

COMETFANS

AF SERIES
Axial Fans



CometFans medium performance “AF” fan series are conceived to meet the majority of the cooling and ventilation requirements typical of industrial applications, providing the best mix of reliability, versatility, performance, quality, environmental impact and cost.

The characteristics of these products make them easily compliant with the most common technical specifications while allowing an high degree of customization when necessary.

The “AF” series is extremely versatile. Impellers are available in several materials, with number of blades varying between 3 and 12 blades. The impeller can be directly coupled with motors from 2 to 12 poles (16 poles upon request).

AF units are among Comet Fans’ most successful products, proving their efficiency every day in over 70 countries worldwide, in extreme climates and harsh environments and for the most demanding operations.

CONSTRUCTION AND FEATURES

Impellers
High-efficiency, low-noise aerofoil type blades, in extruded aluminum alloy, polypropylene or glass fiber, suitable for marine environment.
Variable pitch from stationary, for performance setting, optimized for each application

Motors
Three-phase squirrel cage TEFC suitable for inverter operation and variable speed service
Protection degree : IP55 min. Insulation class : F min.
Heating class : F min. Standard frequencies : 50Hz / 60Hz
Standard voltages : 220V / 380V / 400V / 440V / 460V / 690V / 760V
Surface protection : epoxy paint for industrial environment
Tropicalization, Vacuum Impregnation, High-Temperature Insulation and other features are also available.

Casings
In carbon steel, electro-welded, with anti-corrosive finishing by hot-dip galvanization.
Stainless steel versions (AISI 304, AISI 316) available upon request.

Size
Diameters ranging from 400 mm to 2155 mm. Metric and Imperial sizes available.

Performance
Flow rates up to 380'000 m^3/h. Static pressure up to 1500 Pa

Noise
Noise levels measured according to ISO 13347

Temperature
Standard operation from -20°C to 90°C
Special versions suitable for low (-50°C) or high (+130°C) temperature are available upon request

Corrosion resistance
Materials of standard AF fans are suitable for operation in harsh industrial and marine environment.
Painting cycles certified for 500 or 1000 hours salt mist resistance are available upon request.

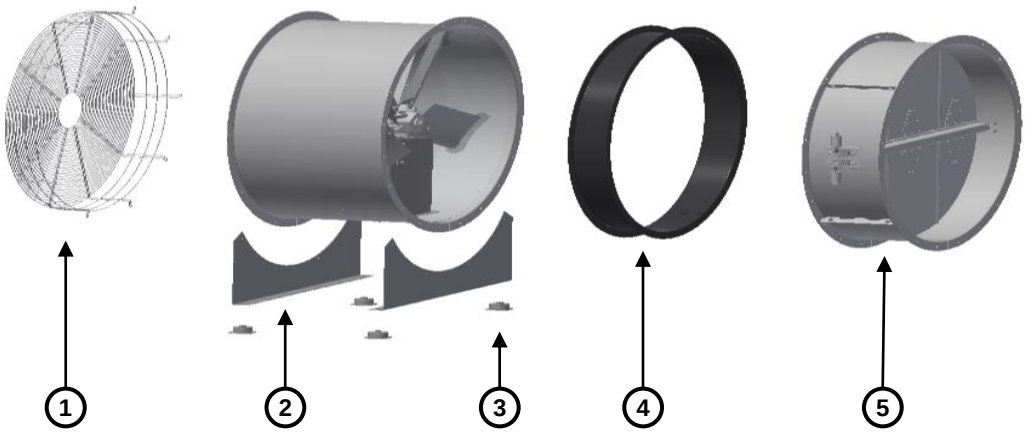
Railway application
AF fans for Rail market are tested according to IEC 61373 (Shock & Vibration test)
Welding is according to EN15085 Class 1, and all materials comply with latest Fire & Smoke std. EN45545

Hazardous area application
ATEX certified versions are available (directive 94/9/EC), group II, category 2D, 2G, 3D, 3D

Marine application
AF fans for Marine market are available in the Safe Area and ATEX versions.
Heavy-Duty design to withstand critical mechanical loads. Specific test procedures and material/components certifications are available upon request (Ri.Na., Lloyds, BV, DSV)

ACCESSORIES

Several ancillary parts can be provided to complete an AF unit.
For more detailed technical information about fan accessories please contact our sales or technical department.

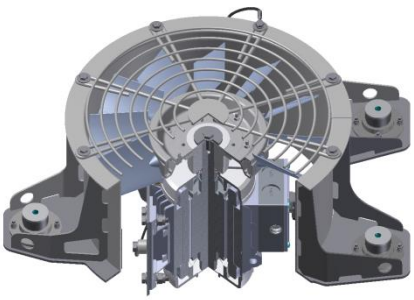


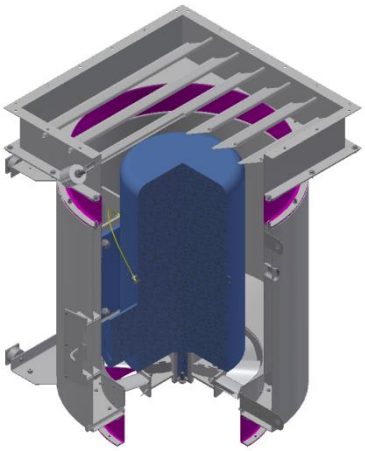
Item	Description
1	Protection Guard
2	Mounting Feet
3	Vibration Isolators
4	Flexible Joint
5	Gravity Damper

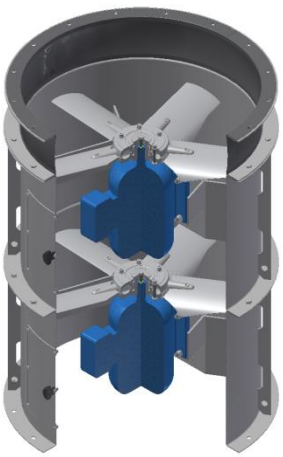
Extra Accessories
Feet for vertical mounting
Auxiliary (duct) terminal box
External grease lines
Silencers
Noise insulation
Vibration sensors
Speed sensors
Temperature sensors
Diffuser
Inspection Door
Inlet Bell

CUSTOMIZED VERSIONS

Customized versions with special materials, special dimension, motors according to customer's specifications, are available upon request.







ErP DIRECTIVE

The European Directive 2009/125/EC associated to “Energy-related Products” [ErP] encourages the use of environmentally friendly designs (“Eco Design”) with the objective to increase energy efficiencies and reduce greenhouse gas emissions.
Within the main directive, specific applicable standards have been developed for each product group.
Fans driven by electric motors with electrical input power between 125W and 500kW are subject to the requirements of Regulation 327/2011.
The combined motor+impeller efficiency, referred to as “N” grade, determines whether the product meets the target efficiency defined by the 327/2011 Regulation.
Every fan unit of our AFH Series fully complies with the ErP Directive.

It must be noted that some specific units are exempted from complying with the ErP Directive, e.g. ATEX fans, high temperature fans, units installed on transport means, smoke extract or emergency units.

ATEX

The whole range of AF units is available in the ATEX Certified version.
This version of the units is fully compliant to the requirements ATEX Directive and EN14986.
It includes :

- Anti-spark track in aluminium alloy or naval brass
- Positive locking of the impeller
- Selected and certified ATEX / IECEx components

Electrical motors of the best brands are used, often completed by a range of extra features like heaters and thermistors protection.
Certified junction boxes, cable glands and conduits are also available both in steel/cast iron and stainless steel.

Every unit undergoes a specific routine test before delivery, including overspeed and electrical tests.
The full traceability of every component is also guaranteed, according to the requirements of ATEX Directive.

The AF-Ex (ATEX) units are suitable for the following Groups and Categories :

ATEX Group	ATEX Category	
II	2G	3G
	2D	3D

Typical inland and offshore application of ATEX AF-Ex units :

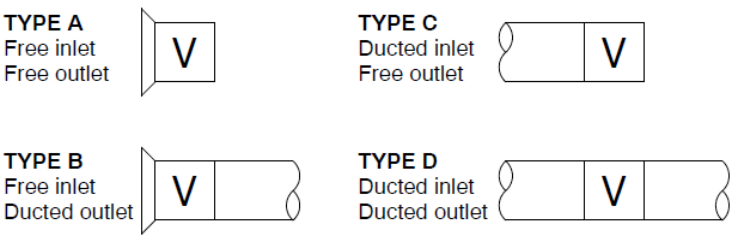
- Marine and offshore oil & gas sites
- Refineries
- Painting facilities
- Battery room ventilation
- Chemical plants
- Gas turbine enclosures
- Engine enclosures
- Power stations

FORM OF RUNNING

AF Fans are available in different form of running. Preferred Forms are B / BU and BD.
Perfomance tests to obtain the curves of this catalogue were conducted on units in Form B.

TEST STANDARDS

The ISO 5801 standard defines the test procedures and the typical fan installation types. Fan performance charts shall refer to one of these arrangements and this must be also shown on the technical documents.
The installation Types are defined by the way the fan is connected to the test chamber which simulates the actual installation on a duct or system.



TOLERANCE GRADES

The ISO 13348 standard defines the tolerance grades of performances (pressure, airflow, power, efficiency) and noise levels to be guaranteed by the manufacturer. Each curve in this catalogue shows the applicable tolerance grade.

Grade	AN3	AN4
Flow rate	± 5%	± 10%
Pressure	± 5%	± 10%
Power	± 8%	± 16%
Noise	+ 4dB	+6 dB

PERFORMANCE VARIATION

The actual performances can differ from the test performances shown in the charts due to two main effects :

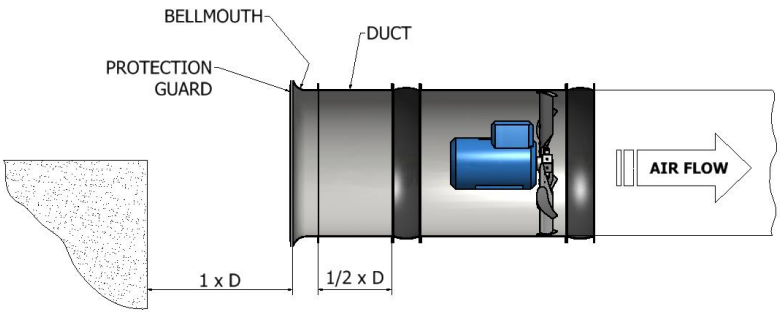
1) presence of abrupt changes of section or system irregularities close to the fan. Some installation tips are shown in the next pages which will assist in avoiding performance reductions. The tips do not cover all possible cases, but the general rule is that the fan should receive a nearly uniform airflow into its inlet, and discharge the airflow in an almost ideal pattern.

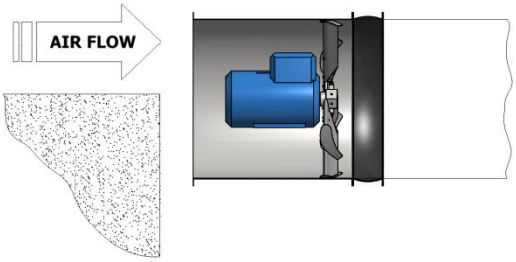
2) Change of internal elements of the fan, such as large terminal boxes on motors (e.g. ATEX), very tight protection guards, belt drive stacks, large cable conduits

INSTALLATION TIPS

WITH FREE INLET :

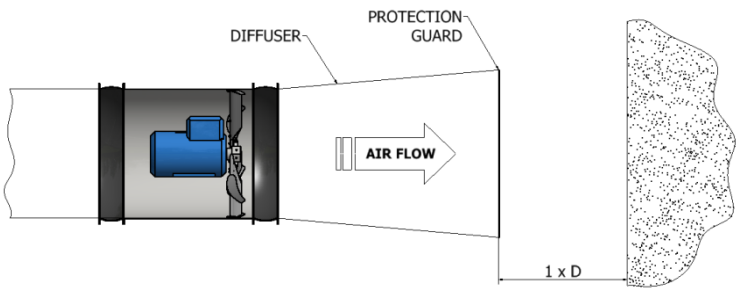
- Use a bellmouth
- Install a protection guard (necessary for safety reasons [injuries, fan damage])
- Obstructions at inlet must be at least 1D away from fan inlet
- Install a ½ D Duct length at inlet

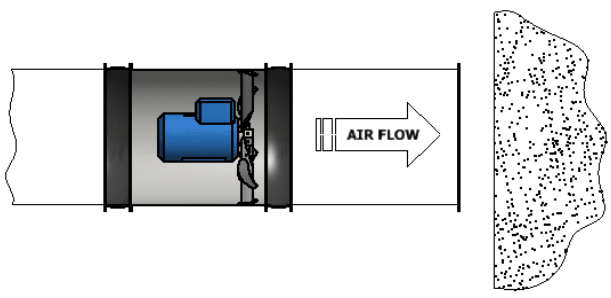




WITH FREE OUTLET :

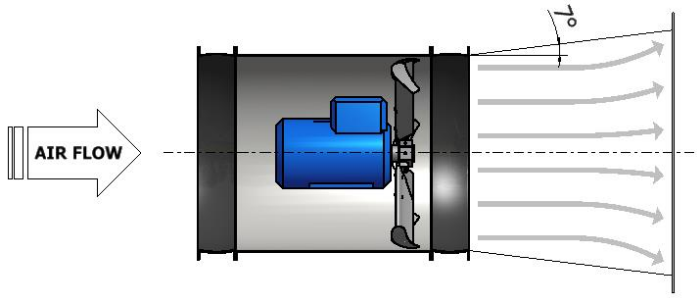
- Use a diffuser
- Install a protection guard (necessary for safety reasons [injuries, fan damage])
- Obstructions at outlet must be at least 1D away from fan inlet

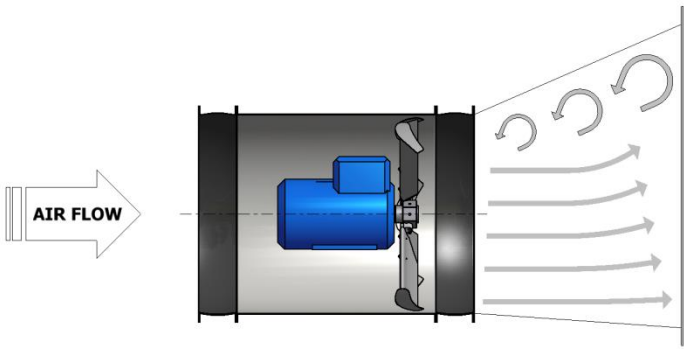




INSTALLATION NEAR TO LARGE SECTIONS

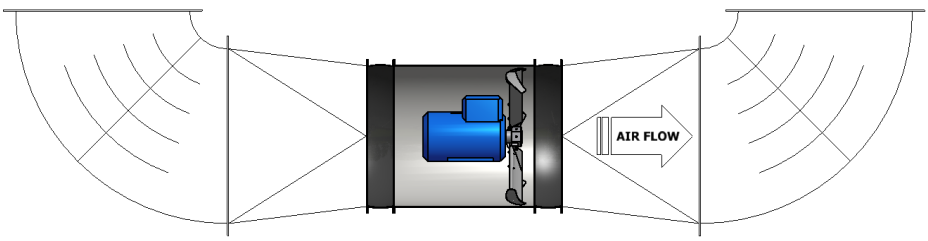
- The use of diffusers is recommended
- Asymmetric shapes must be avoided

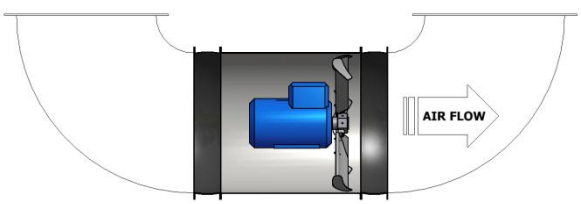




INSTALLATION NEAR TO ELBOWS

- The use of duct guide vanes is recommended
- A minimum 1D distance from the elbows is recommended at both inlet and outlet
- Diffusers are necessary in case of large duct section





HOW TO SELECT A FAN

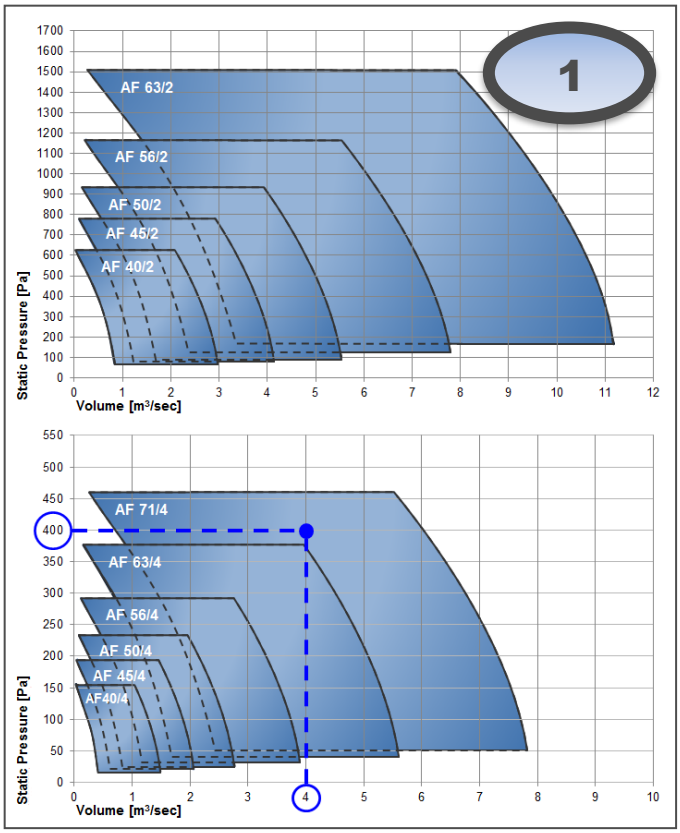
1) **USE THE QUICK SELECTION CURVES** to determine the fan diameter and speed which meet a specified duty

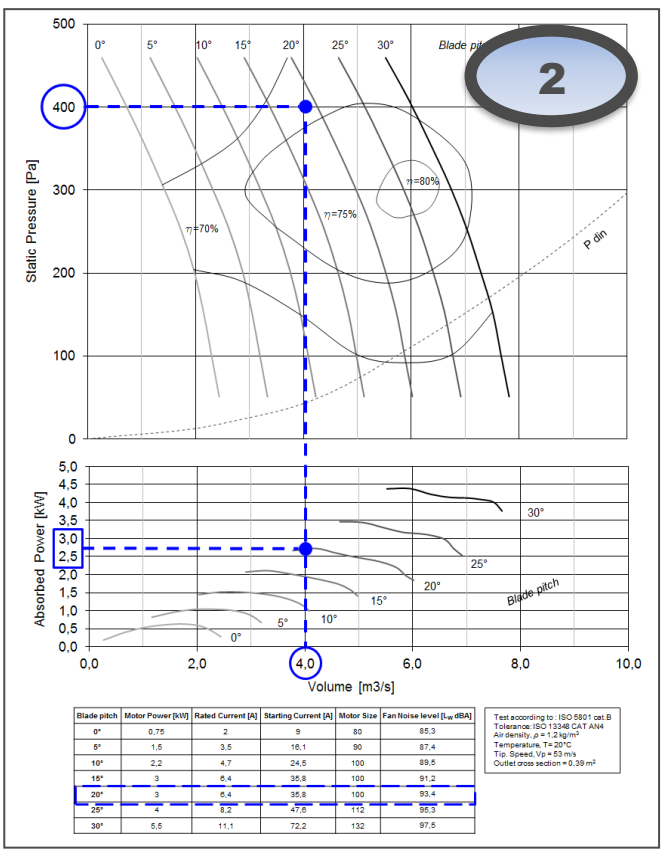
2) **REFER TO THE CORRESPONDENT FAN CURVE** which provides detailed information on the specific product, including Blade Pitch, Efficiency, Power, Noise Level and Motor Size

3) **DIMENSIONS** are shown on the following tables. Reference input data are the fan and motor size of the selected unit.

Example :
Specified performances :
- *Volume flow: 4 m3/s*
- *Static Pressure: 400*

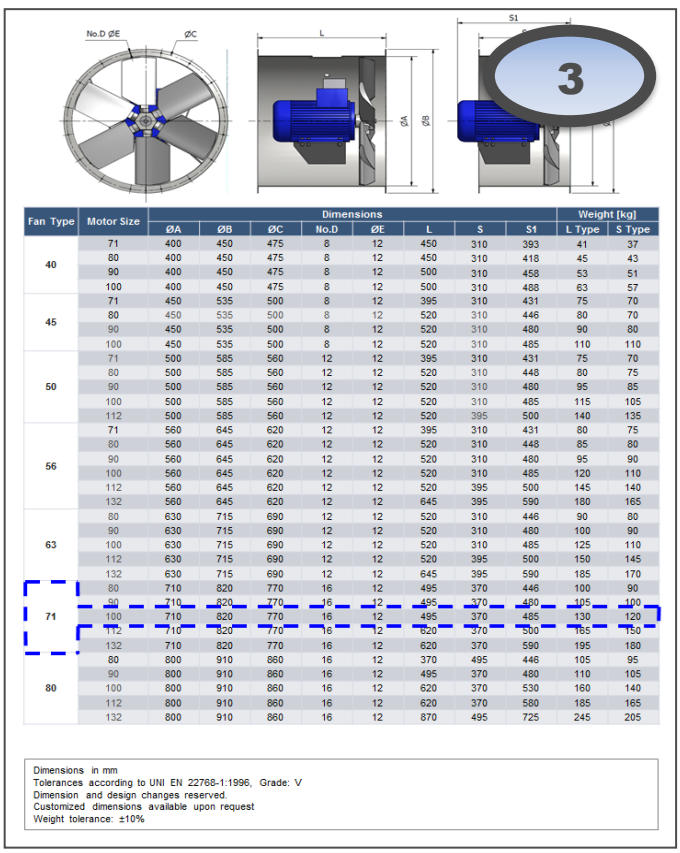
1 >> Selected Fan Size and Speed : AF 71/4
2 >> Blade Pitch : 20°
Absorbed Power: 2,8kW
Motor size : 100
*3 >> Dimensions from ref. : **AF 71/4-100***





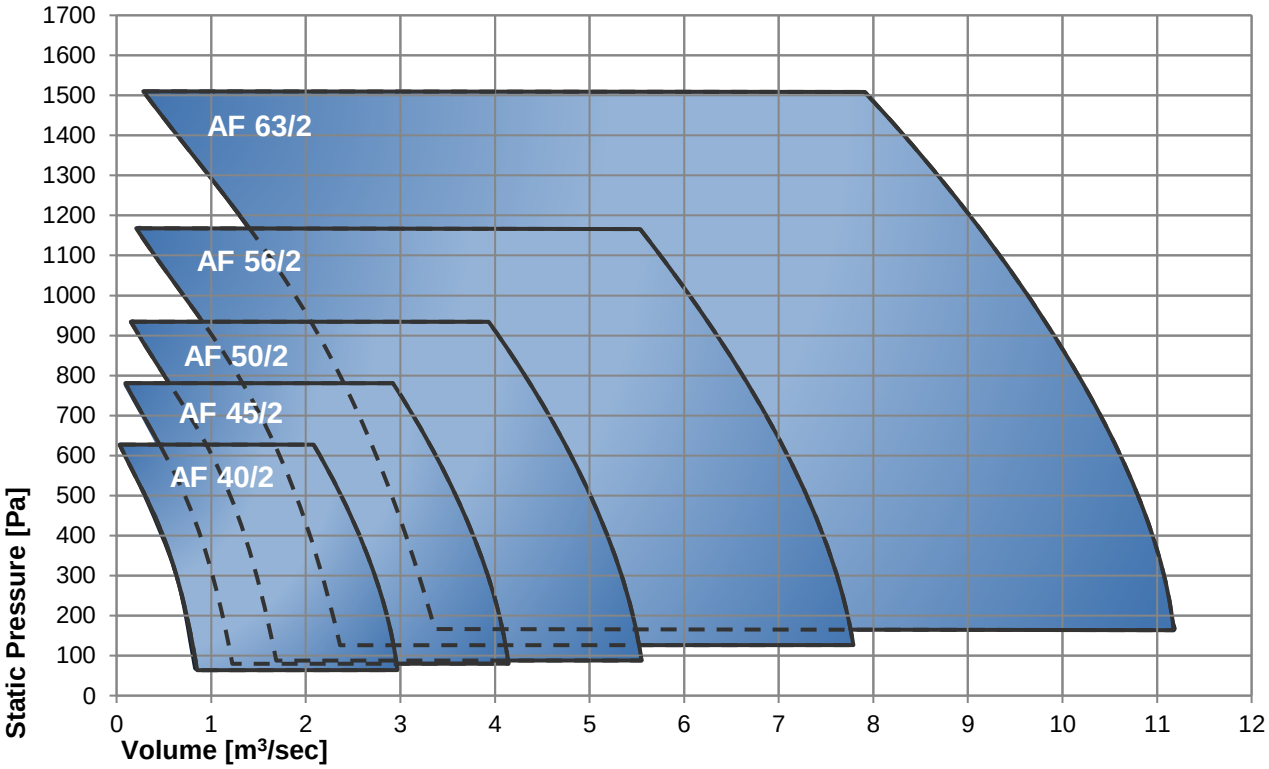
Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_{WA} dBA]
0°	0,75	2	9	80	85,3
5°	1,5	3,5	16,1	90	87,4
10°	2,2	4,7	24,5	100	89,5
15°	3	6,4	35,8	100	91,2
20°	3	6,4	35,8	100	93,4
25°	4	8,2	47,6	112	95,3
30°	5,5	11,1	72,2	132	97,5

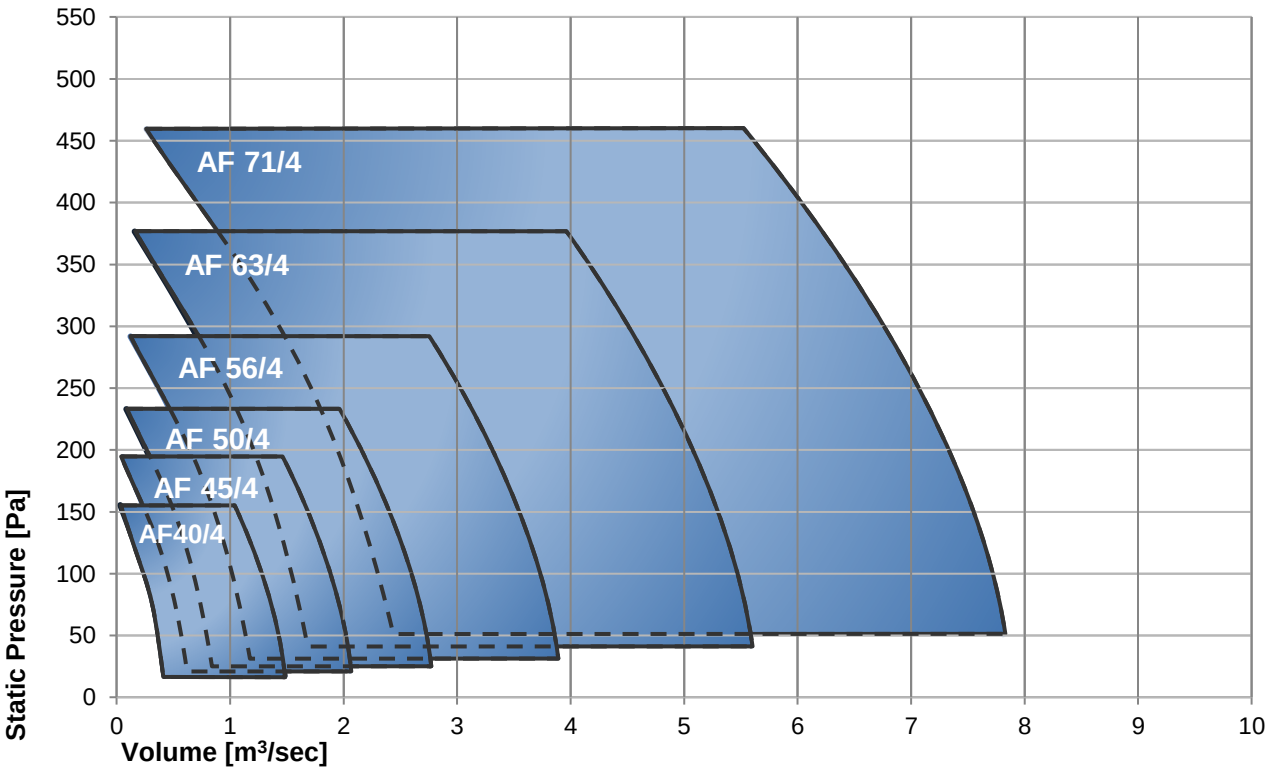
Test according to : ISO 5801 cat. B
Tolerance: ISO 13348 CAT.AN4
Air density, ρ = 1,2 kg/m³
Temperature, T= 20°C
Tip. Speed, Vp = 53 m/s
Outlet cross section = 0,39 m²



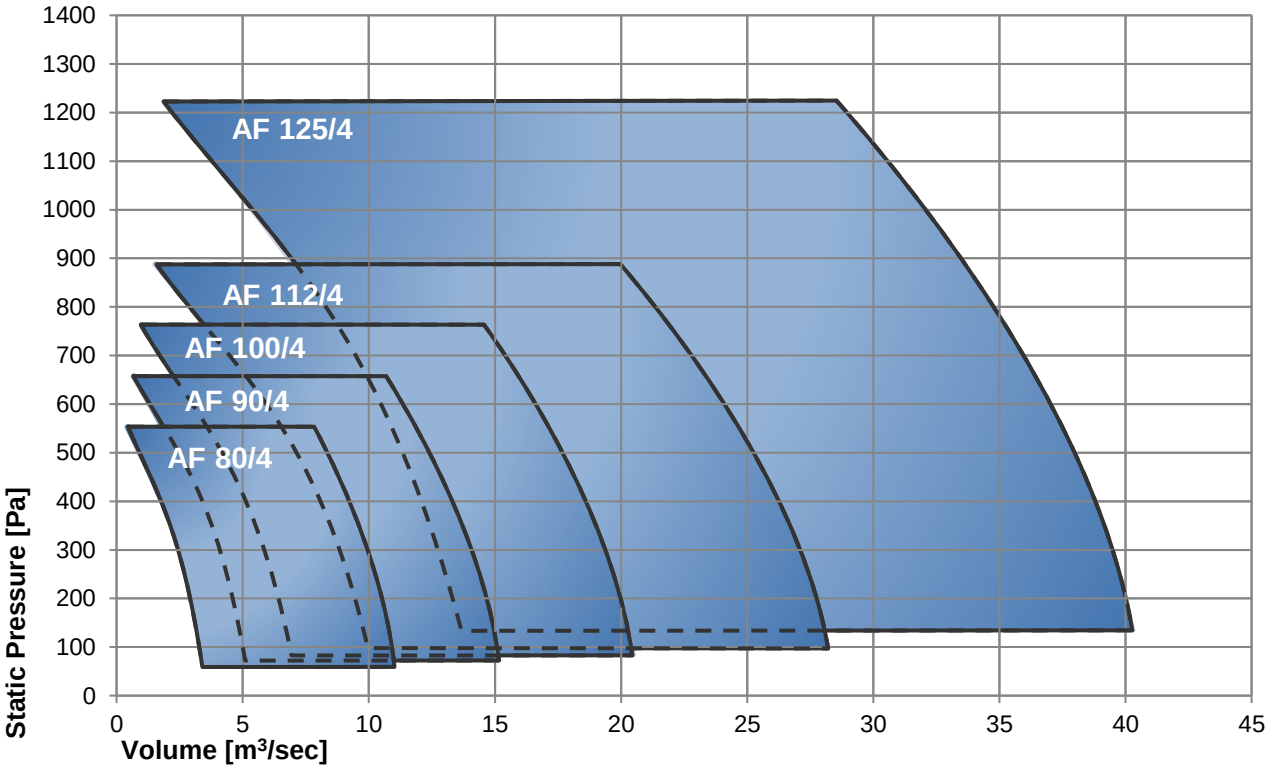
Fan Type	Motor Size	Dimensions							Weight [kg]	
		ØA	ØB	ØC	No.D	ØE	L	S	S1	L Type	S Type
40	71	400	450	475	8	12	450	310	393	41	37
	80	400	450	475	8	12	450	310	418	45	43
	90	400	450	475	8	12	500	310	458	53	51
	100	400	450	475	8	12	500	310	488	63	57
45	71	450	535	500	8	12	395	310	431	75	70
	80	450	535	500	8	12	520	310	446	80	70
	90	450	535	500	8	12	520	310	480	90	80
	100	450	535	500	8	12	520	310	485	110	110
50	71	500	585	560	12	12	395	310	431	75	70
	80	500	585	560	12	12	520	310	448	80	75
	90	500	585	560	12	12	520	310	480	95	85
	100	500	585	560	12	12	520	310	485	115	105
	112	500	585	560	12	12	520	395	500	140	135
56	71	560	645	620	12	12	395	310	431	80	75
	80	560	645	620	12	12	520	310	448	85	80
	90	560	645	620	12	12	520	310	480	95	90
	100	560	645	620	12	12	520	310	485	120	110
	112	560	645	620	12	12	520	395	500	145	140
	132	560	645	620	12	12	645	395	590	180	165
63	80	630	715	690	12	12	520	310	446	90	80
	90	630	715	690	12	12	520	310	480	100	90
	100	630	715	690	12	12	520	310	485	125	110
	112	630	715	690	12	12	520	395	500	150	145
	132	630	715	690	12	12	645	395	590	185	170
71	80	710	820	770	16	12	495	370	446	100	90
	90	710	820	770	16	12	495	370	480	105	100
	100	710	820	770	16	12	495	370	485	130	120
	112	710	820	770	16	12	620	370	500	155	150
	132	710	820	770	16	12	620	370	590	195	180
80	80	800	910	860	16	12	370	495	446	105	95
	90	800	910	860	16	12	495	370	480	110	105
	100	800	910	860	16	12	620	370	530	160	140
	112	800	910	860	16	12	620	370	580	185	165
	132	800	910	860	16	12	870	495	725	245	205

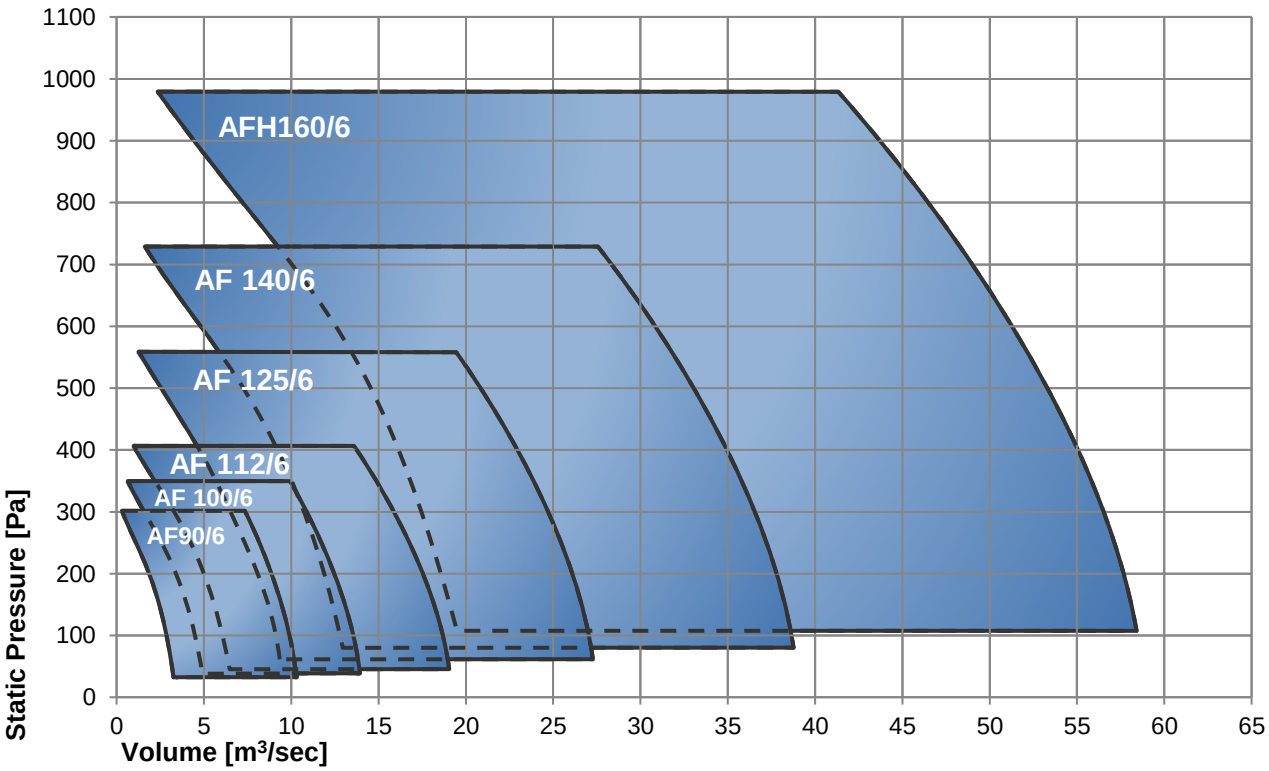
Dimensions in mm
Tolerances according to UNI EN 22768-1:1996, Grade: V
Dimension and design changes reserved.
Customized dimensions available upon request
Weight tolerance: ±10%





Fan selection info:
Use the above diagram to pre-select the fan according to the air volume and static pressure needed.
Then consult the detailed performance curves of the selected fan type to check the motor power installed and the noise levels.
Fan size is indicated in cm (e.g.: AFH45 correspond to 450mm of internal diameter), all the general dimensions are listed in the table below.
In case of higher performances. speed, size, or for any further info please contact our sales department.





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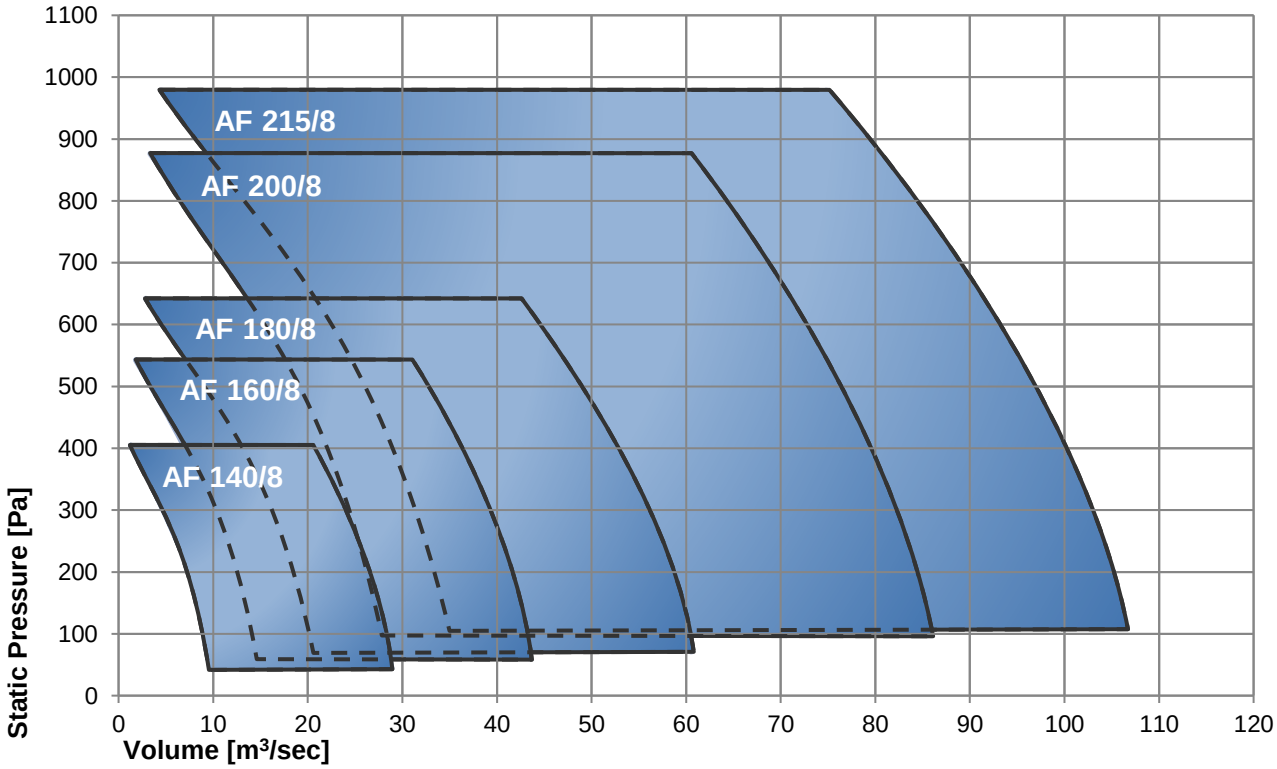

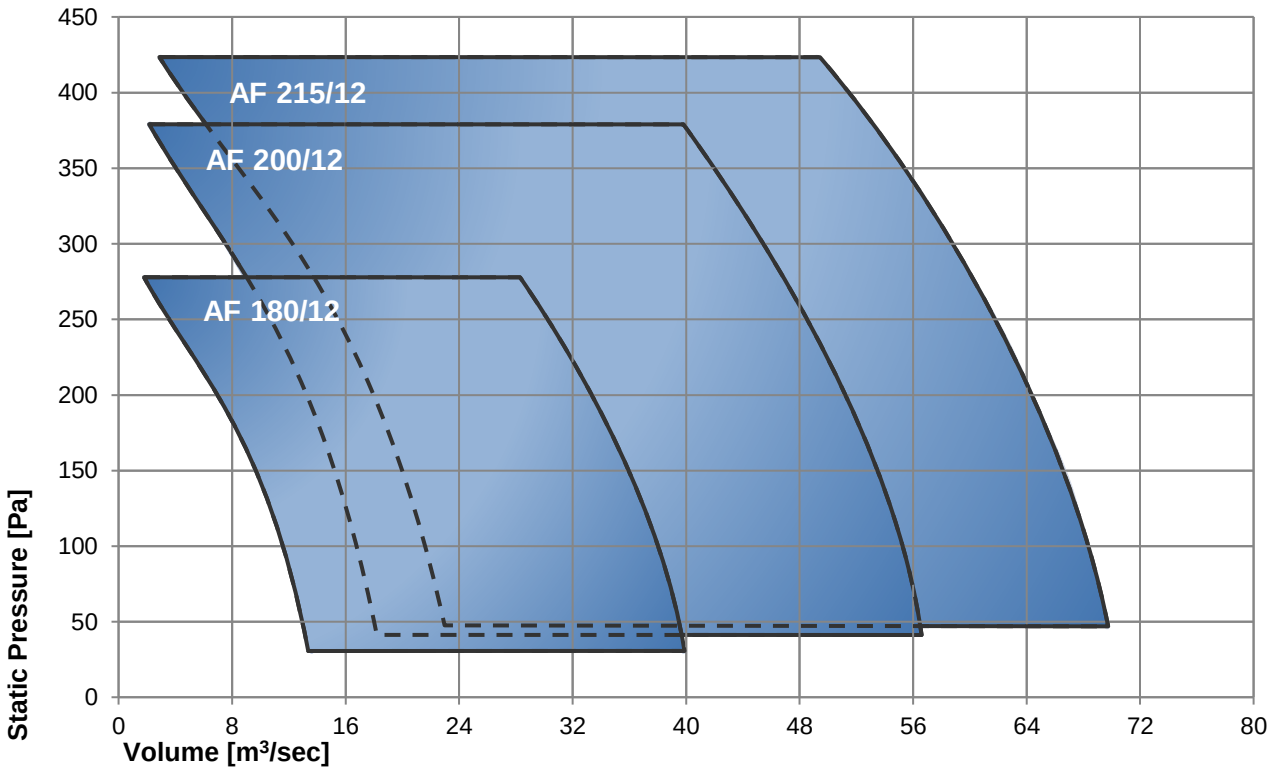

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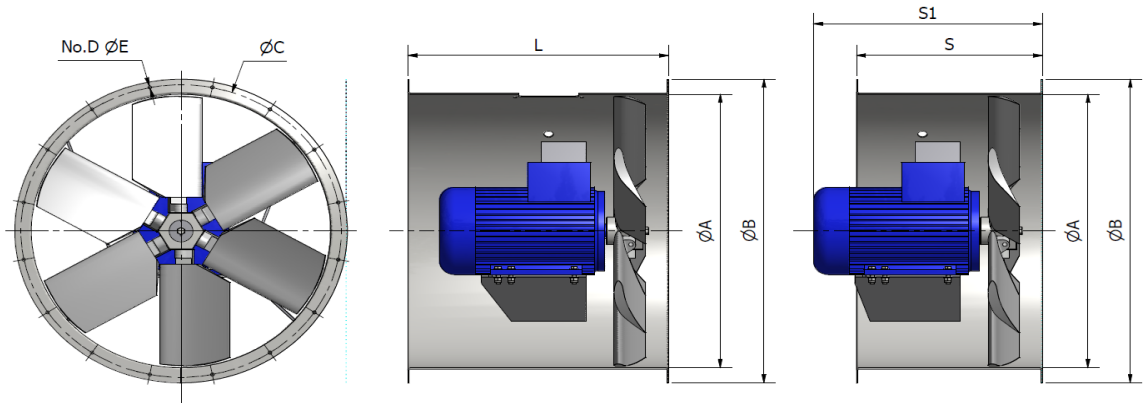

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		ØA	ØB	ØC	No.D	ØE	L	S	S1	L Type	S Type
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	100	400	475	450	8	12	500	310	488	63	57
45	71	450	535	500	8	12	395	310	431	75	70
	80	450	535	500	8	12	520	310	446	80	70
	90	450	535	500	8	12	520	310	480	90	80
	100	450	535	500	8	12	520	310	485	110	110
50	71	500	585	560	12	12	395	310	431	75	70
	80	500	585	560	12	12	520	310	448	80	75
	90	500	585	560	12	12	520	310	480	95	85
	100	500	585	560	12	12	520	310	485	115	105
	112	500	585	560	12	12	520	395	500	140	135
56	71	560	645	620	12	12	395	310	431	80	75
	80	560	645	620	12	12	520	310	448	85	80
	90	560	645	620	12	12	520	310	480	95	90
	100	560	645	620	12	12	520	310	485	120	110
	112	560	645	620	12	12	520	395	500	145	140
	132	560	645	620	12	12	645	395	590	180	165
63	80	630	715	690	12	12	520	310	446	90	80
	90	630	715	690	12	12	520	310	480	100	90
	100	630	715	690	12	12	520	310	485	125	110
	112	630	715	690	12	12	520	395	500	150	145
	132	630	715	690	12	12	645	395	590	185	170
71	80	710	820	770	16	12	495	370	446	100	90
	90	710	820	770	16	12	495	370	480	105	100
	100	710	820	770	16	12	495	370	485	130	120
	112	710	820	770	16	12	620	370	500	165	150
	132	710	820	770	16	12	620	370	590	195	180
80	80	800	910	860	16	12	370	495	446	105	95
	90	800	910	860	16	12	495	370	480	110	105
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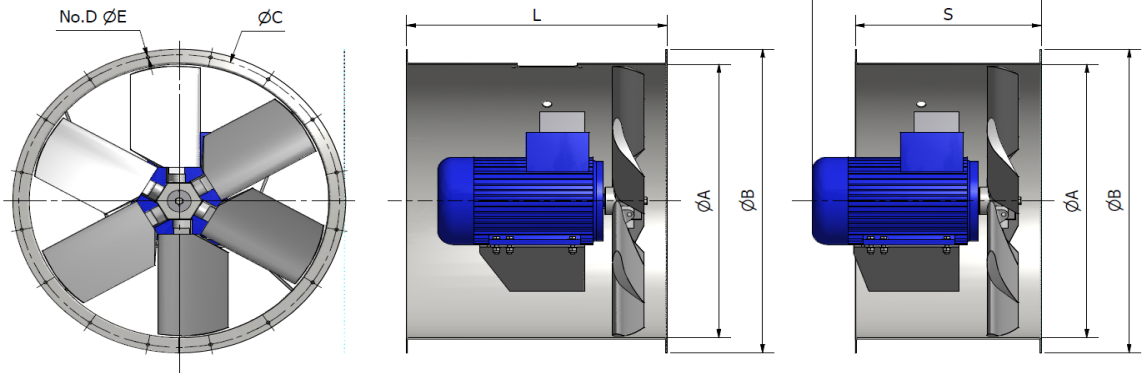
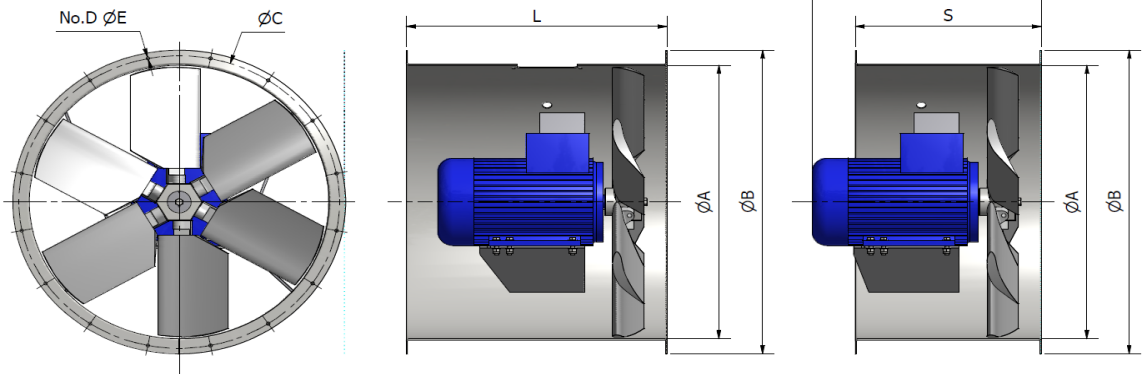
	132	800	910	860	16	12	870	495	725	245	205

Dimensions in mm
Tolerances according to UNI EN 22768-1:1996, Grade: V
Dimension and design changes reserved.
Customized dimensions available upon request
Weight tolerance: ±10%



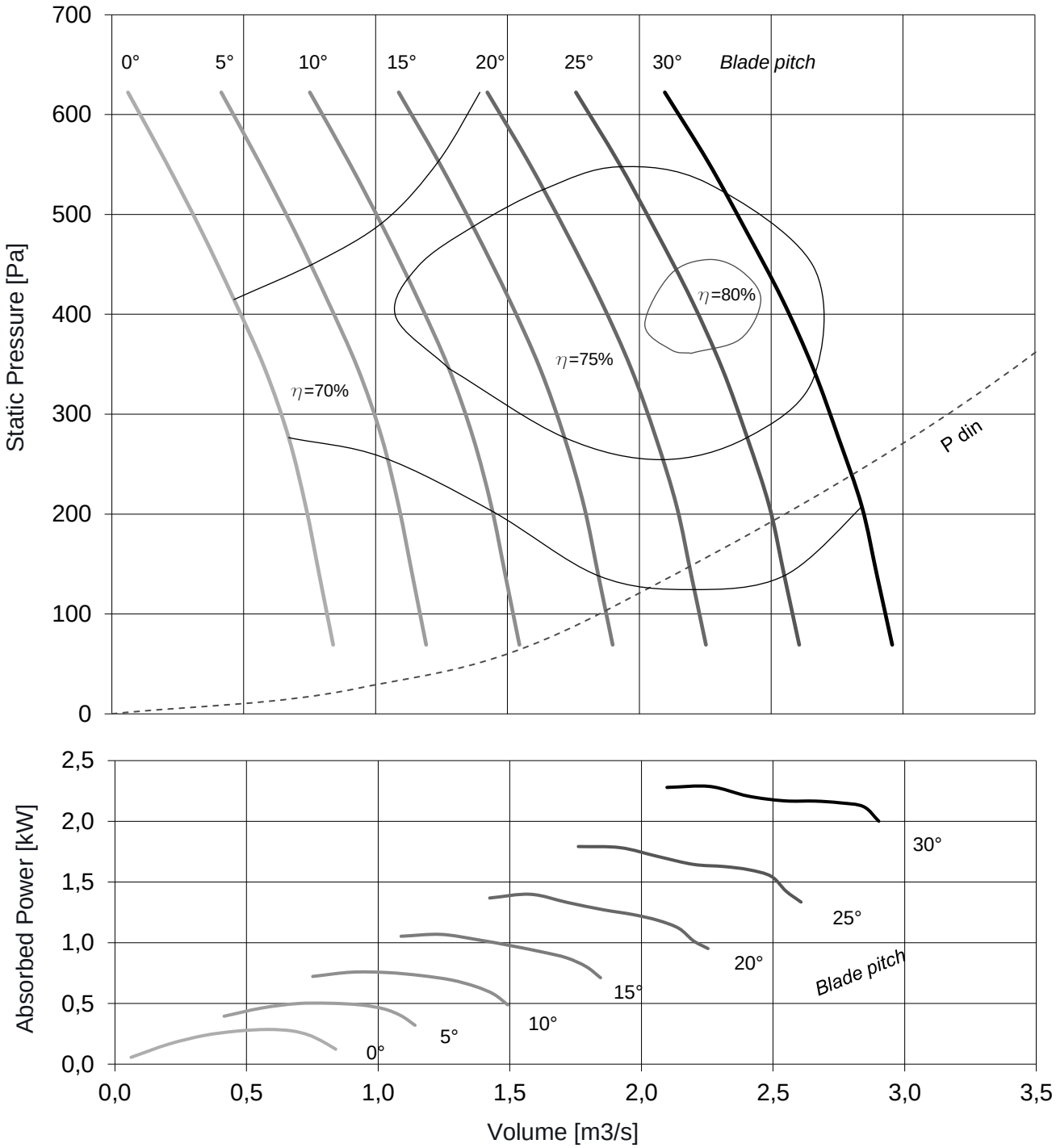
Fan Type	Motor Size	Dimensions								Weight [kg]	
		ØA	ØB	ØC	No.D	ØE	L	S	S1	L Type	S Type
90	90	900	1010	970	16	15	495	370	480	120	110
	100	900	1010	970	16	15	620	370	530	165	150
	112	900	1010	970	16	15	620	370	580	190	175
	132	900	1010	970	16	15	870	495	725	245	215
	160	900	1010	970	16	15	870	620	780	365	340
100	90	1000	1110	1070	16	15	495	370	480	125	125
	112	1000	1110	1070	16	15	620	370	580	200	200
	132	1000	1110	1070	16	15	870	495	725	250	255
	160	1000	1110	1070	16	15	870	620	780	380	380
	180	1000	1110	1070	16	15	870	620	920	425	425
112	112	1120	1230	1190	20	15	620	370	580	230	205
	132	1120	1230	1190	20	15	870	495	780	285	250
	160	1120	1230	1190	20	15	870	620	835	415	385
	180	1120	1230	1190	20	15	1120	620	920	500	440
	200	1120	1230	1190	20	15	1120	620	960	590	530
125	132	1250	1360	1320	20	15	870	495	780	300	260
	160	1250	1360	1320	20	15	870	620	835	435	400
	180	1250	1360	1320	20	15	1120	620	920	525	455
	200	1250	1360	1320	20	15	1120	620	960	615	545
140	132	1400	1530	1470	20	15	850	600	800	383	325
	160	1400	1530	1470	20	15	1100	600	870	503	427
	180	1400	1530	1470	20	15	1100	700	980	560	500
	200	1400	1530	1470	20	15	1100	700	1030	649	588
	225	1400	1530	1470	20	15	1100	850	1105	843	805
	250	1400	1530	1470	20	15	1100	850	1140	969	931
160	160	1600	1730	1680	24	18	1100	600	870	565	450
	180	1600	1730	1680	24	18	1100	700	980	625	530
	200	1600	1730	1680	24	18	1100	700	1030	715	620
	225	1600	1730	1680	24	18	1100	850	1105	905	835
	250	1600	1730	1680	24	18	1100	850	1140	1035	965

Dimensions in mm
Tolerances according to UNI EN 22786-1:1996, Grade: V
Dimension and design changes reserved.
Customized dimensions available upon request
Weight tolerance: ±10%



Fan Type	Motor Size	Dimensions								Weight [kg]	
		ØA	ØB	ØC	No.D	ØE	L	S	S1	L Type	S Type
180	160	1800	1930	1880	24	18	1100	760	870	569	415
	180	1800	1930	1880	24	18	1100	830	980	631	578
	200	1800	1930	1880	24	18	1100	860	1030	721	674
	225	1800	1930	1880	24	18	1100	900	1105	915	876
	250	1800	1930	1880	24	18	1100	950	1140	1043	1013
	280	1800	1930	1880	24	18	-	-	-	-	-
200	180	2000	2130	2080	24	18	1100	830	980	666	607
	200	2000	2130	2080	24	18	1100	860	1030	756	704
	225	2000	2130	2080	24	18	1100	900	1105	950	907
	250	2000	2130	2080	24	18	1100	950	1140	1079	1047
	280	2000	2130	2080	24	18	-	-	-	-	-
215	180	2155	2285	2235	24	18	1100	830	980	700	630
	200	2155	2285	2235	24	18	1100	860	1030	790	730
	225	2155	2285	2235	24	18	1100	900	1105	980	930
	250	2155	2285	2235	24	18	1100	950	1140	1110	1080
	280	2155	2285	2235	24	18	-	-	-	-	-

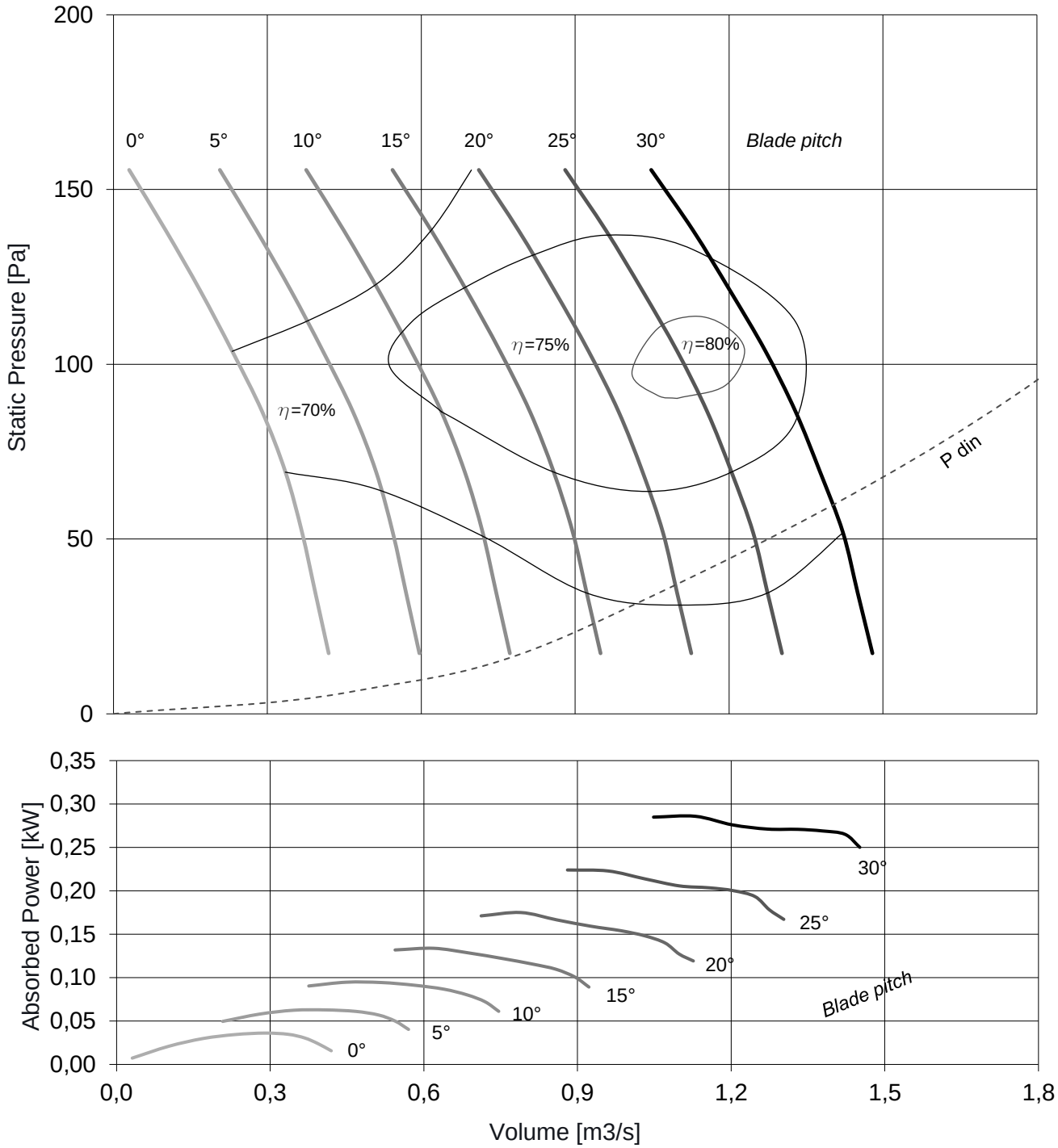
Dimensions in mm
Tolerances according to UNI EN 22786-1:1996, Grade: V
Dimension and design changes reserved.
Customized dimensions available upon request
Weight tolerance: ±10%



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,55	1,3	6,1	71	87,1
5°	0,75	1,7	9,2	80	88,6
10°	1,1	2,4	13,2	80	90,1
15°	1,5	3,1	18,6	90	91,9
20°	2,2	4,5	27	90	94,2
25°	2,2	4,5	27	90	96,6
30°	3	5,9	40,1	100	98,1

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 60 m/s
Outlet cross section = 0,12 m^2

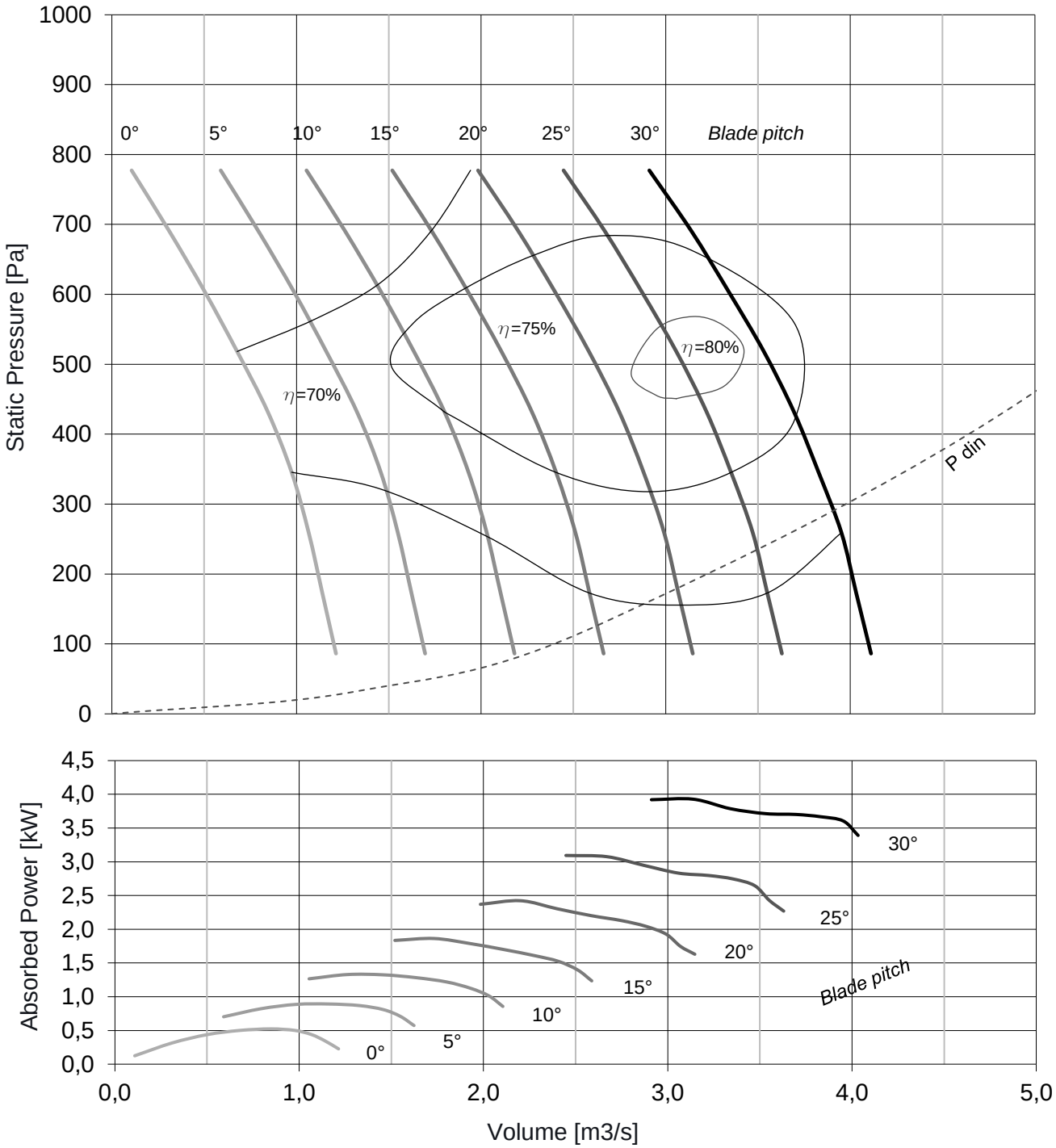
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,37	1,2	4,3	71	68,4
5°	0,37	1,2	4,3	71	70,5
10°	0,37	1,2	4,3	71	72,6
15°	0,37	1,2	4,3	71	74,2
20°	0,37	1,2	4,3	71	77
25°	0,37	1,2	4,3	71	78
30°	0,37	1,2	4,3	71	80,1

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 30 m/s
Outlet cross section = 0,12 m^2

Lw Tolerance : ± 2dB

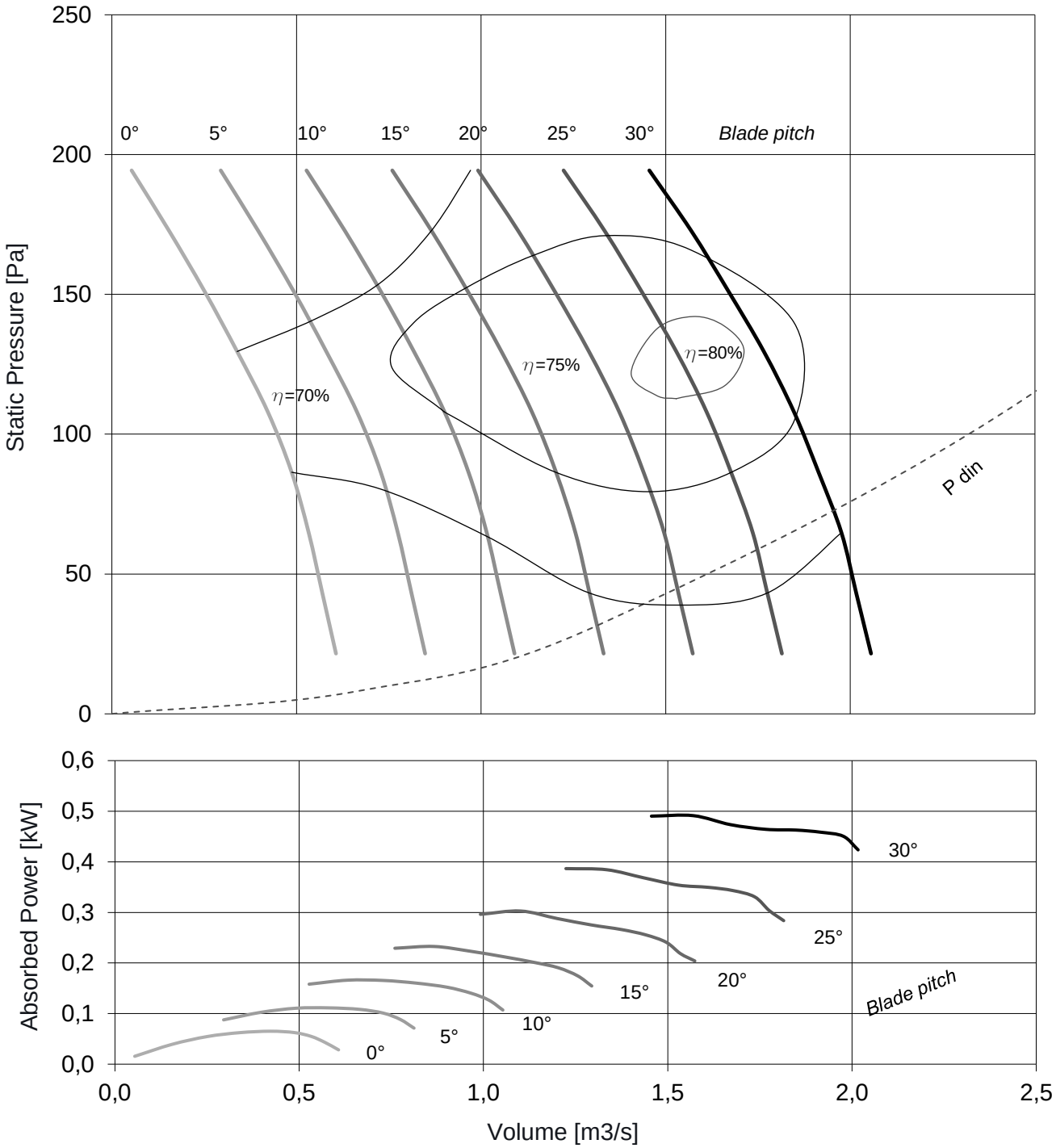


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,75	1,7	9,2	80	90,3
5°	1,1	2,4	13,2	80	92
10°	1,5	3,1	18,6	90	93,7
15°	2,2	4,5	27	90	95,6
20°	3	5,9	40,1	100	97,7
25°	4	7,4	51	112	100
30°	4	7,4	51	112	101,7

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 68 m/s
Outlet cross section = 0,15 m^2

Not standard version - Please contact Comet for details

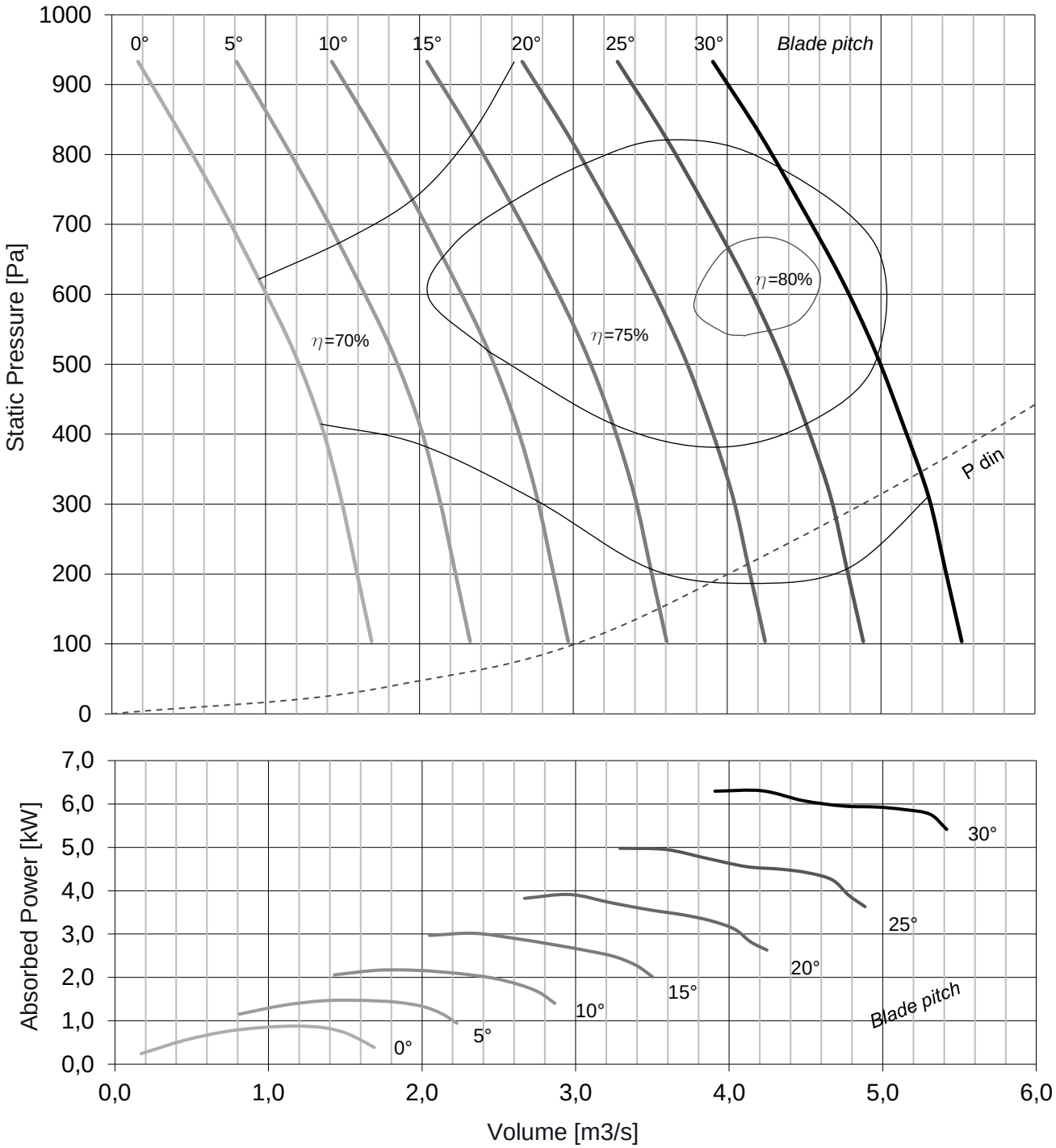
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,37	1,2	4,3	71	71,8
5°	0,37	1,2	4,3	71	73,9
10°	0,37	1,2	4,3	71	76
15°	0,37	1,2	4,3	71	77,7
20°	0,55	1,5	6,9	80	80,2
25°	0,55	1,5	6,9	80	81,6
30°	0,75	2	9	80	83,7

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 34 m/s
Outlet cross section = 0,15 m^2

Lw Tolerance : ± 2dB

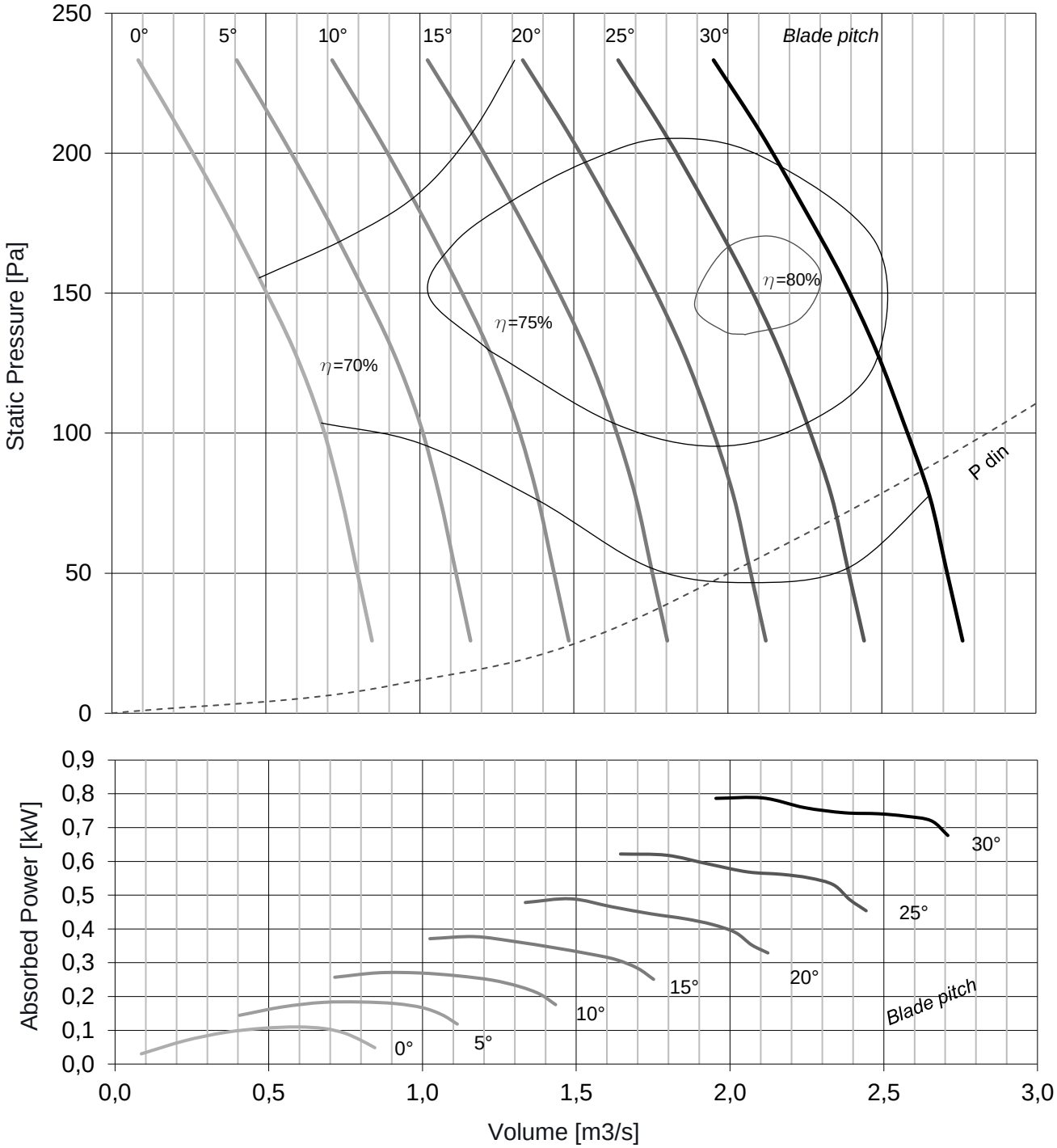


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	1,1	2,4	13,2	80	93,5
5°	2,2	4,5	27	90	95,4
10°	3	5,9	40,1	100	97,3
15°	4	7,4	51,1	112	99,3
20°	5,5	10,1	70,7	132	101,2
25°	5,5	10,1	70,7	132	103,4
30°	7,5	13,8	95,2	132	105,3

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 75 m/s
Outlet cross section = 0,19 m^2

Not standard version - Please contact Comet for details

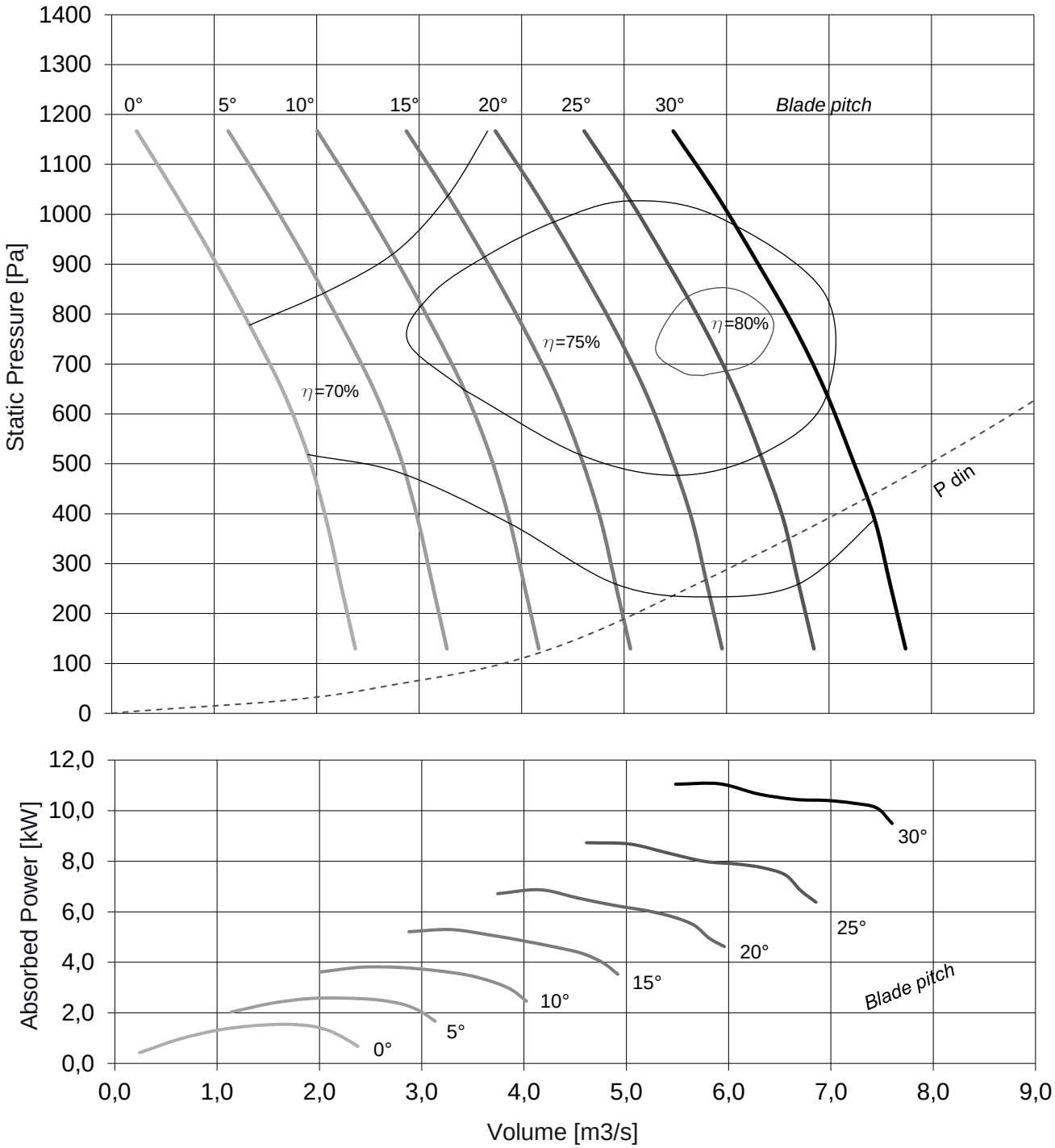
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,37	1,22	4,3	71	75,2
5°	0,37	1,22	4,3	71	77,3
10°	0,37	1,22	4,3	71	79,4
15°	0,55	1,5	6,9	80	81,2
20°	0,75	2	9	80	83,4
25°	1,1	2,6	10,9	90	85,2
30°	1,1	2,6	10,9	90	87,3

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 37 m/s
Outlet cross section = 0,19 m^2

Lw Tolerance : ± 2dB

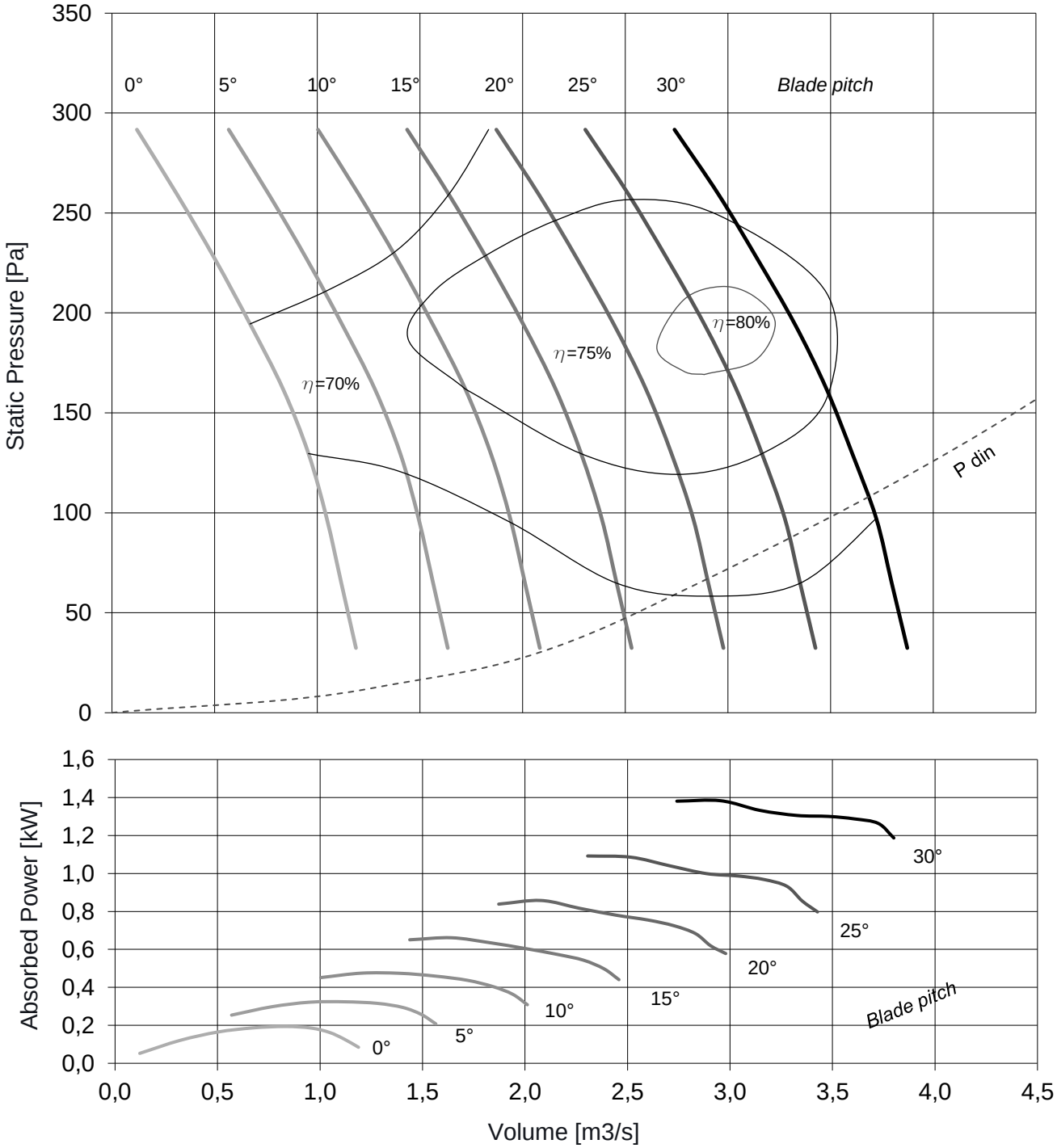


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	2,2	4,5	27	90	96,7
5°	3	5,9	40,1	100	98,8
10°	4	7,4	51,1	112	100,9
15°	5,5	10,1	70,7	112	103
20°	7,5	13,8	95,2	132	104,7
25°	11	19,9	135,3	132	106,8
30°	15	26,5	188,2	160	108,9

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 85 m/s
Outlet cross section = 0,24 m^2

Not standard version - Please contact Comet for details

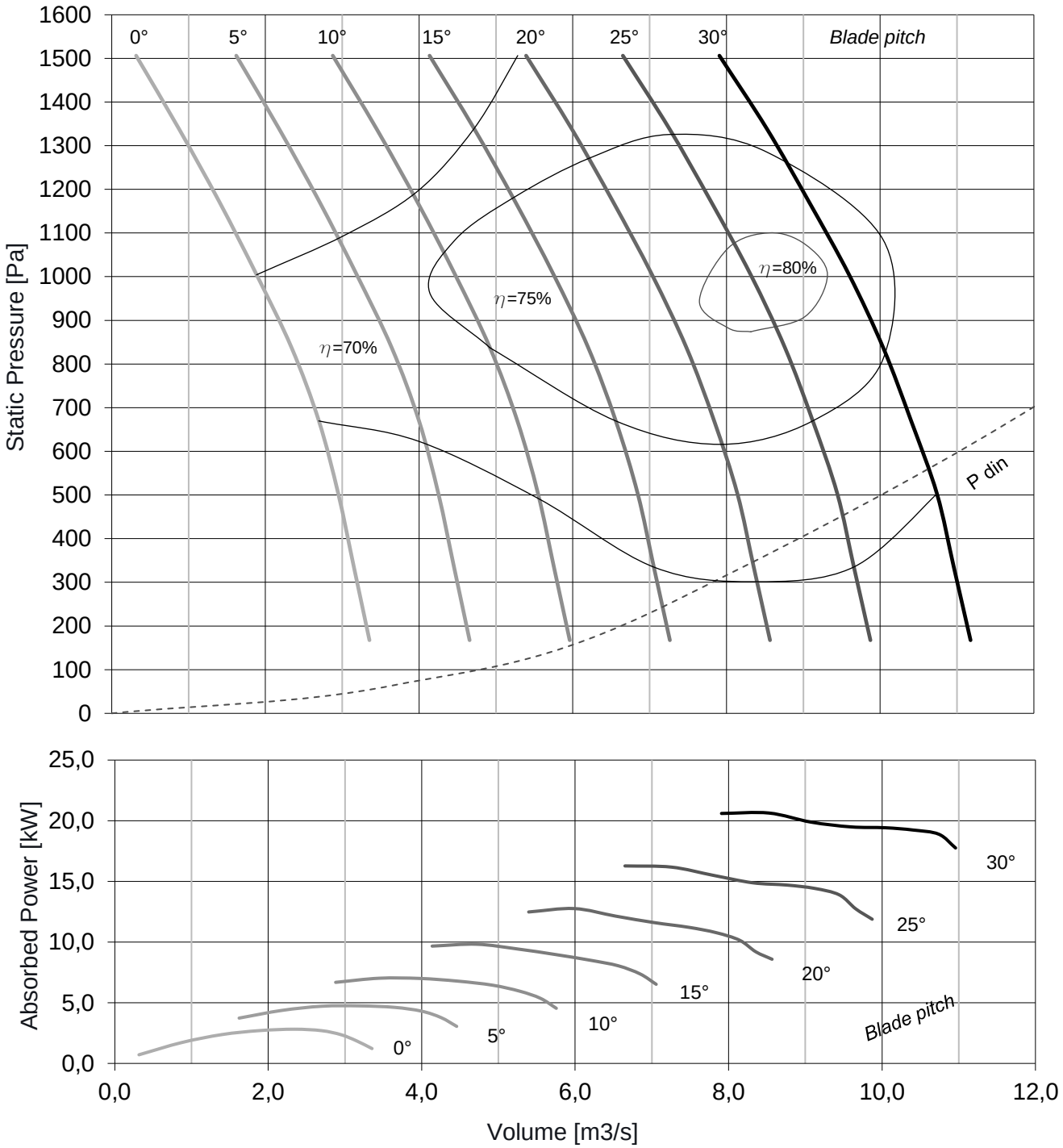
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,37	1,2	4,3	71	78,6
5°	0,55	1,5	6,9	80	80,7
10°	0,75	2	9	80	82,8
15°	1,1	2,6	10,9	90	84,7
20°	1,1	2,6	10,9	90	86,6
25°	1,5	3,5	16,1	90	88,8
30°	2,2	4,7	24,5	100	90,9

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 42 m/s
Outlet cross section = 0,24 m^2

Lw Tolerance : ± 2dB

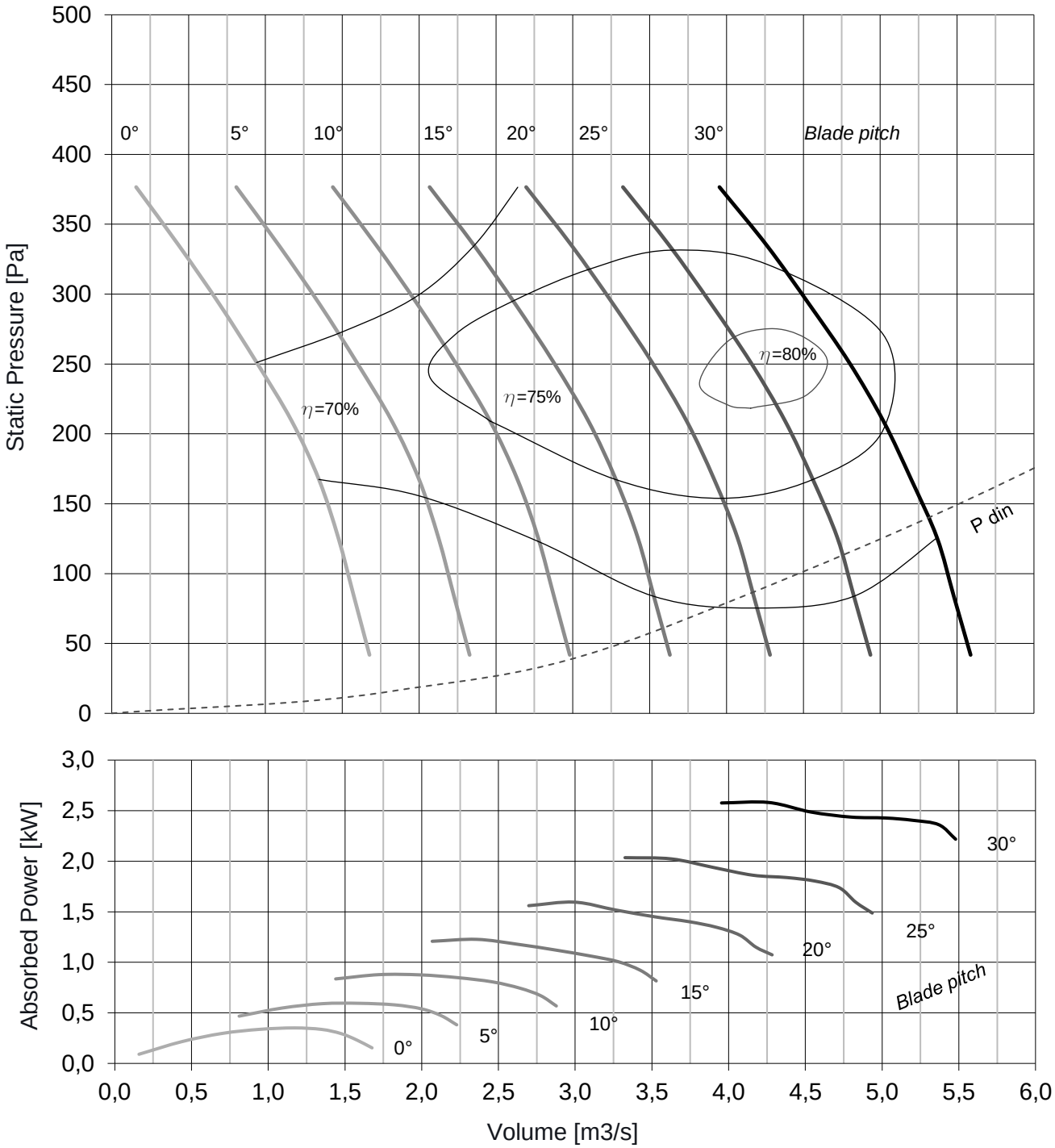


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	3	5,9	40,1	100	100,24
5°	5,5	10,1	72,7	132	102,04
10°	7,5	13,8	95,2	132	103,84
15°	11	19,5	132,6	160	106,14
20°	15	26,5	188,2	160	108,04
25°	18,5	32,4	220,3	160	110,14
30°	22	38,8	287,1	180	111,94

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 94 m/s
Outlet cross section = 0,31 m^2

Not standard version - Please contact Comet for details

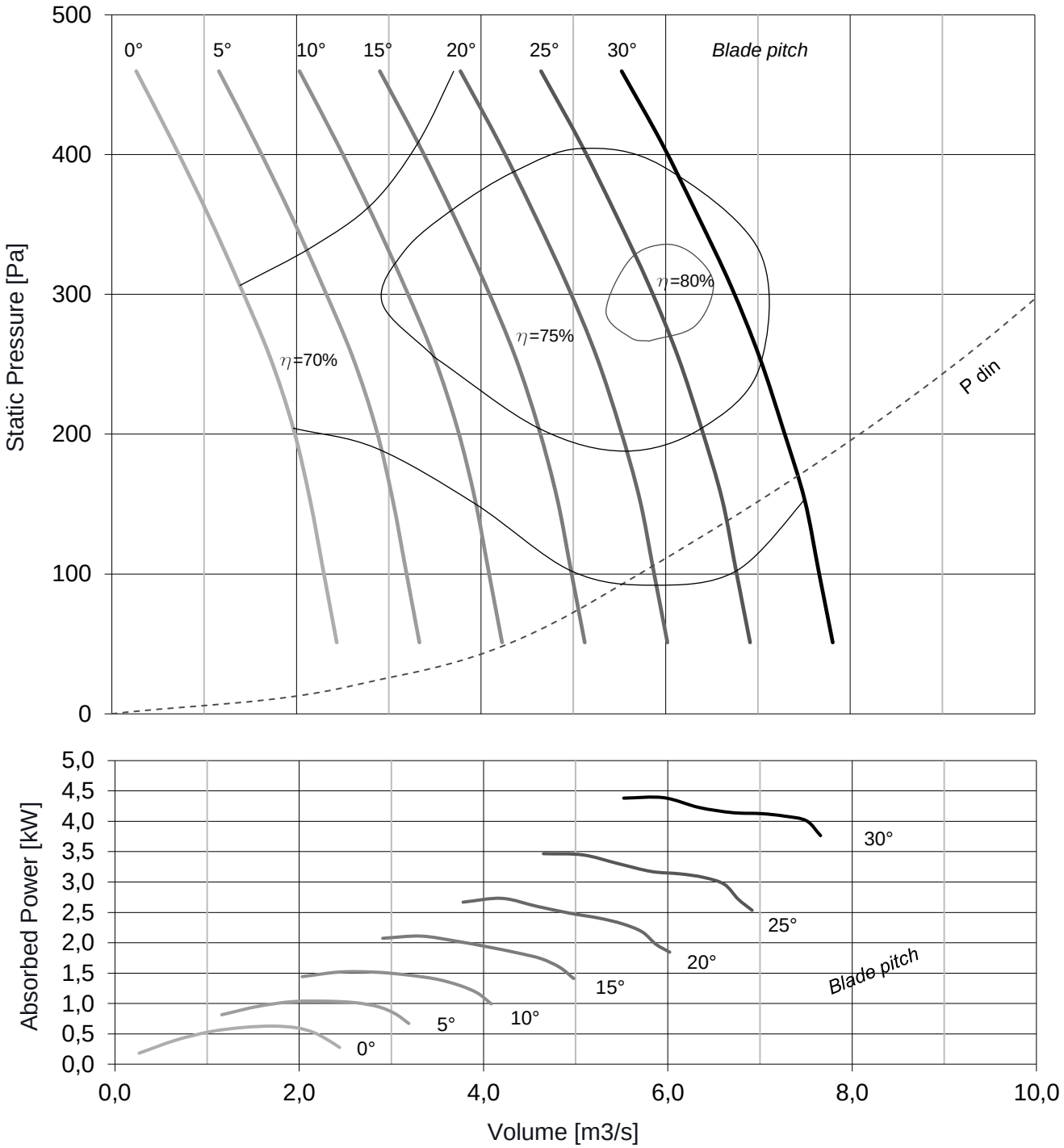
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,55	1,5	6,9	80	82,24
5°	0,75	2	9	80	84,04
10°	1,1	2,6	10,9	90	85,84
15°	1,5	3,5	16,1	90	88,14
20°	2,2	4,7	24,5	100	90,04
25°	3	6,4	35,8	100	92,14
30°	3	6,4	35,8	100	93,94

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 48 m/s
Outlet cross section = 0,31 m^2

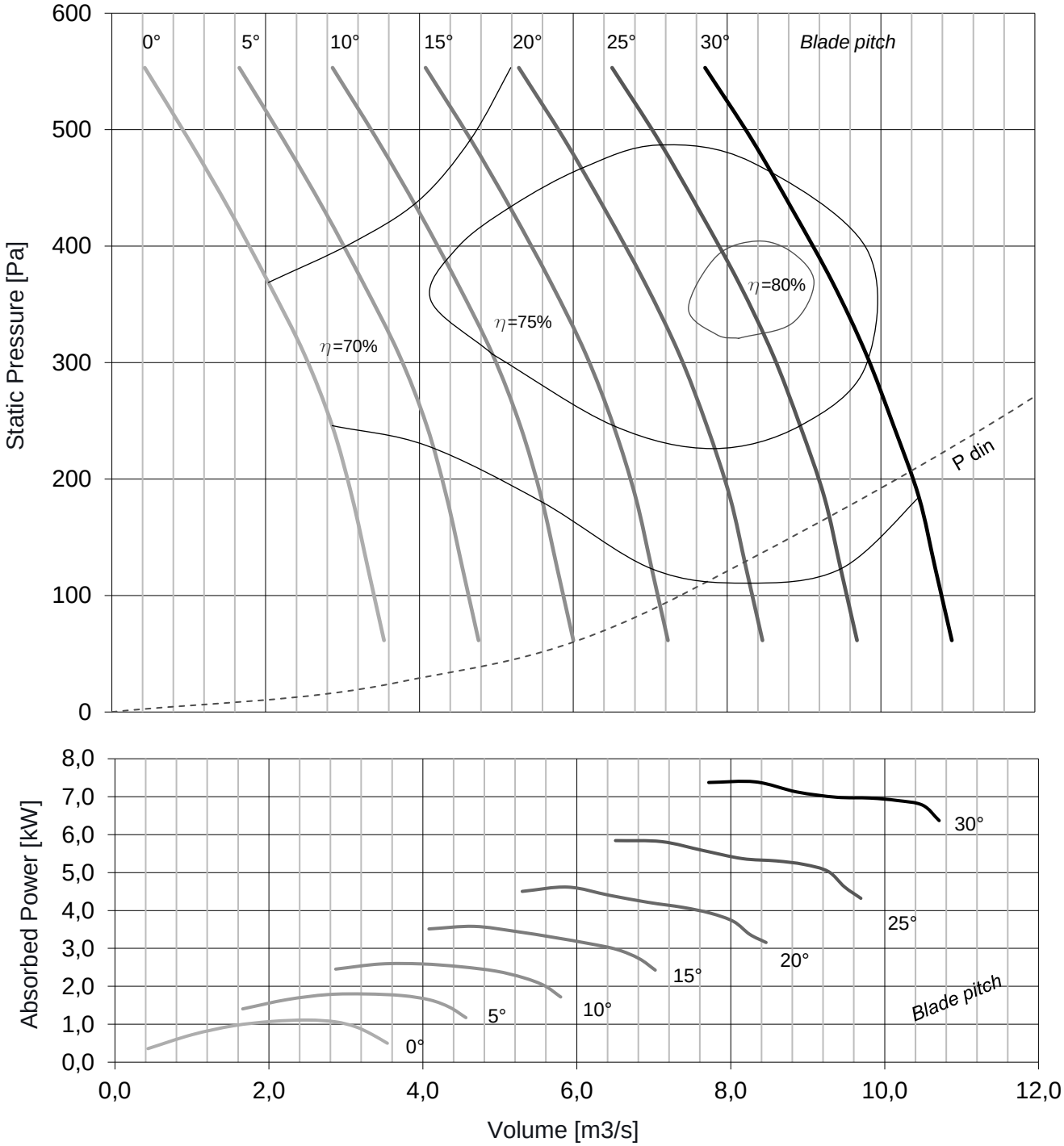
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,75	2	9	80	85,3
5°	1,5	3,5	16,1	90	87,4
10°	2,2	4,7	24,5	100	89,5
15°	3	6,4	35,8	100	91,2
20°	3	6,4	35,8	100	93,4
25°	4	8,2	47,6	112	95,3
30°	5,5	11,1	72,2	132	97,5

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 53 m/s
Outlet cross section = 0,39 m^2

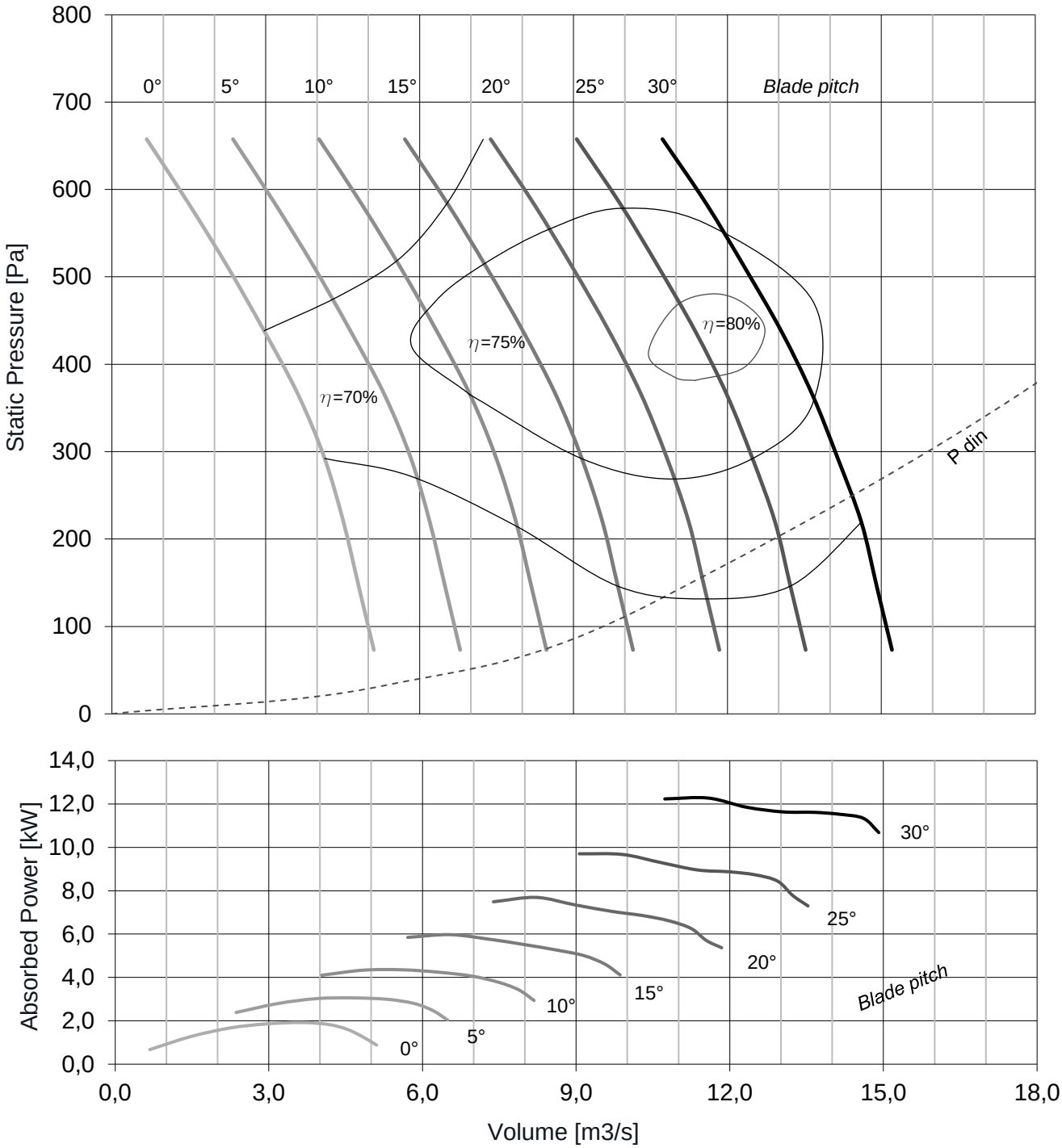
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	1,5	3,5	16,1	90	88,7
5°	2,2	4,7	24,5	100	90,8
10°	3	6,4	35,8	100	92,9
15°	4	8,2	47,6	112	94,7
20°	5,5	11,1	72,2	132	97
25°	7,5	14,3	97,2	132	98,8
30°	7,5	14,3	97,2	132	100,9

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 60 m/s
Outlet cross section = 0,50 m^2

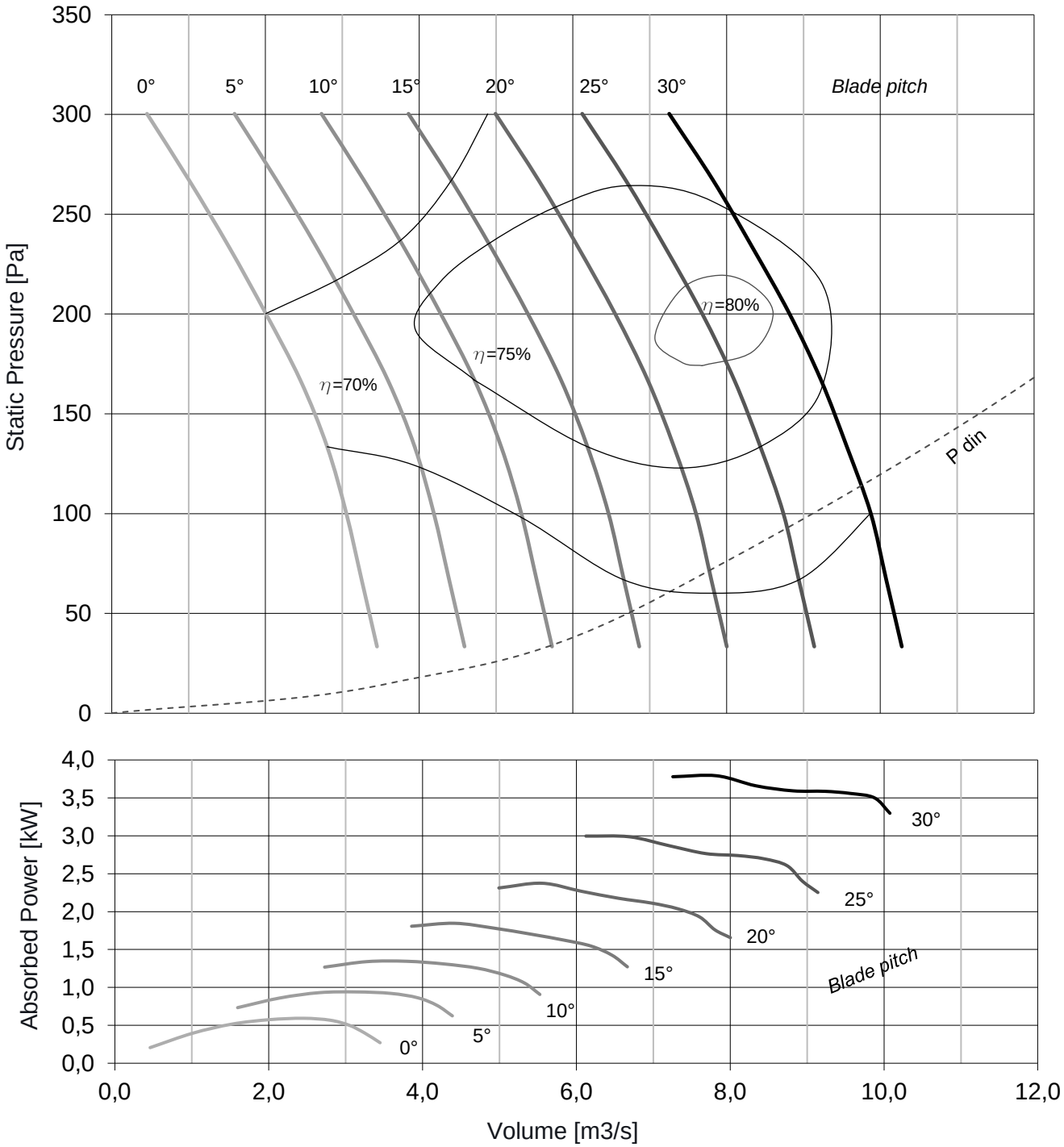
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	2,2	4,7	24,5	100	92
5°	4	8,2	47,6	112	94,1
10°	5,5	11,1	72,2	132	96,2
15°	7,5	14,3	97,2	132	98
20°	11	21,1	143,5	160	100,2
25°	11	21,1	143,5	160	102,1
30°	15	28,3	203,8	160	104

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 68 m/s
Outlet cross section = 0,63 m^2

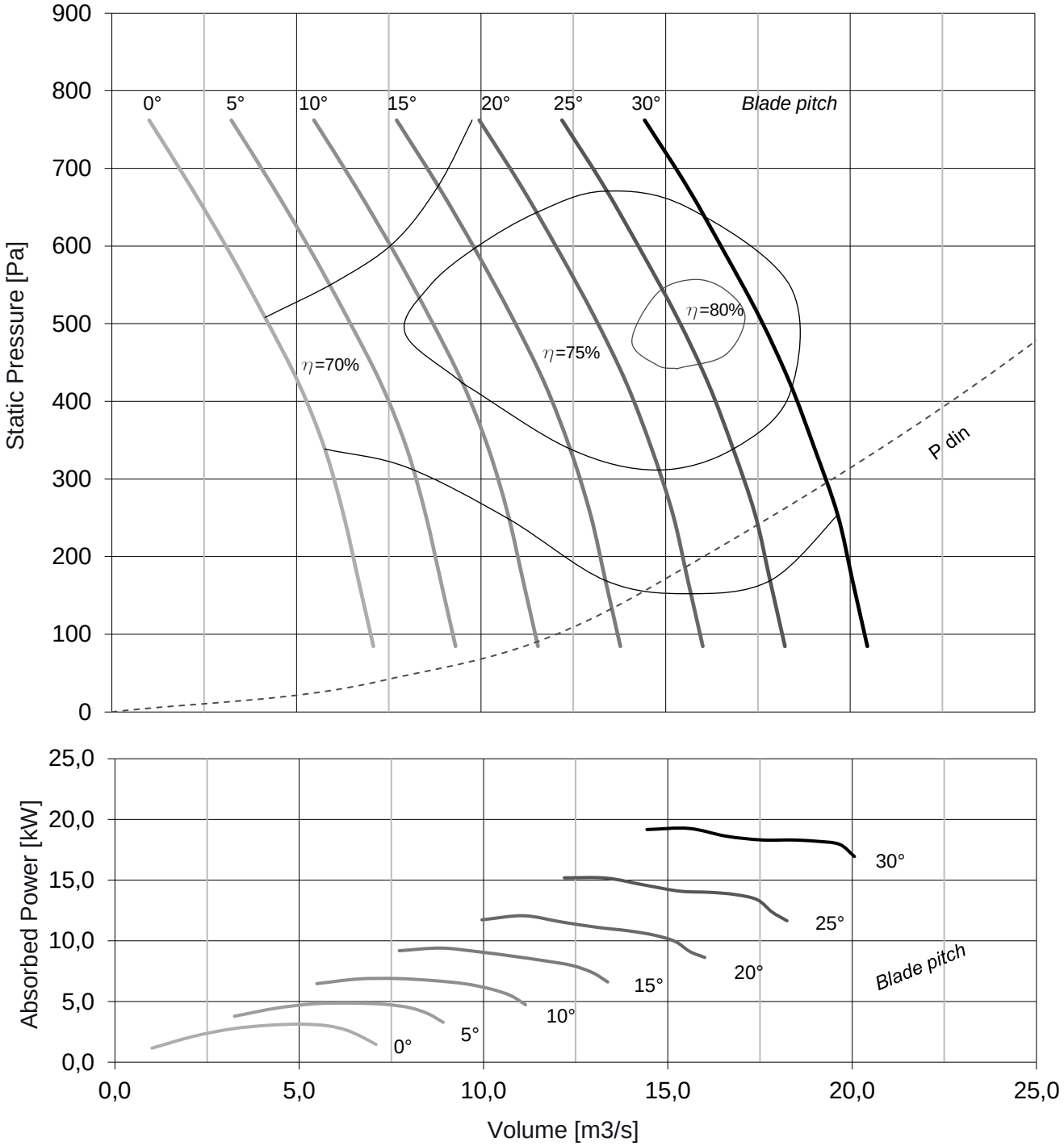
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	0,75	2,1	7,1	90	82,1
5°	1,1	3	10,5	90	83,9
10°	1,5	3,9	16,8	100	85,7
15°	2,2	5,3	23,3	112	87,8
20°	3	6,9	37,3	132	89,9
25°	4	8,8	48,4	132	91,7
30°	4	8,8	48,4	132	93,9

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 46 m/s
Outlet cross section = 0,63 m^2

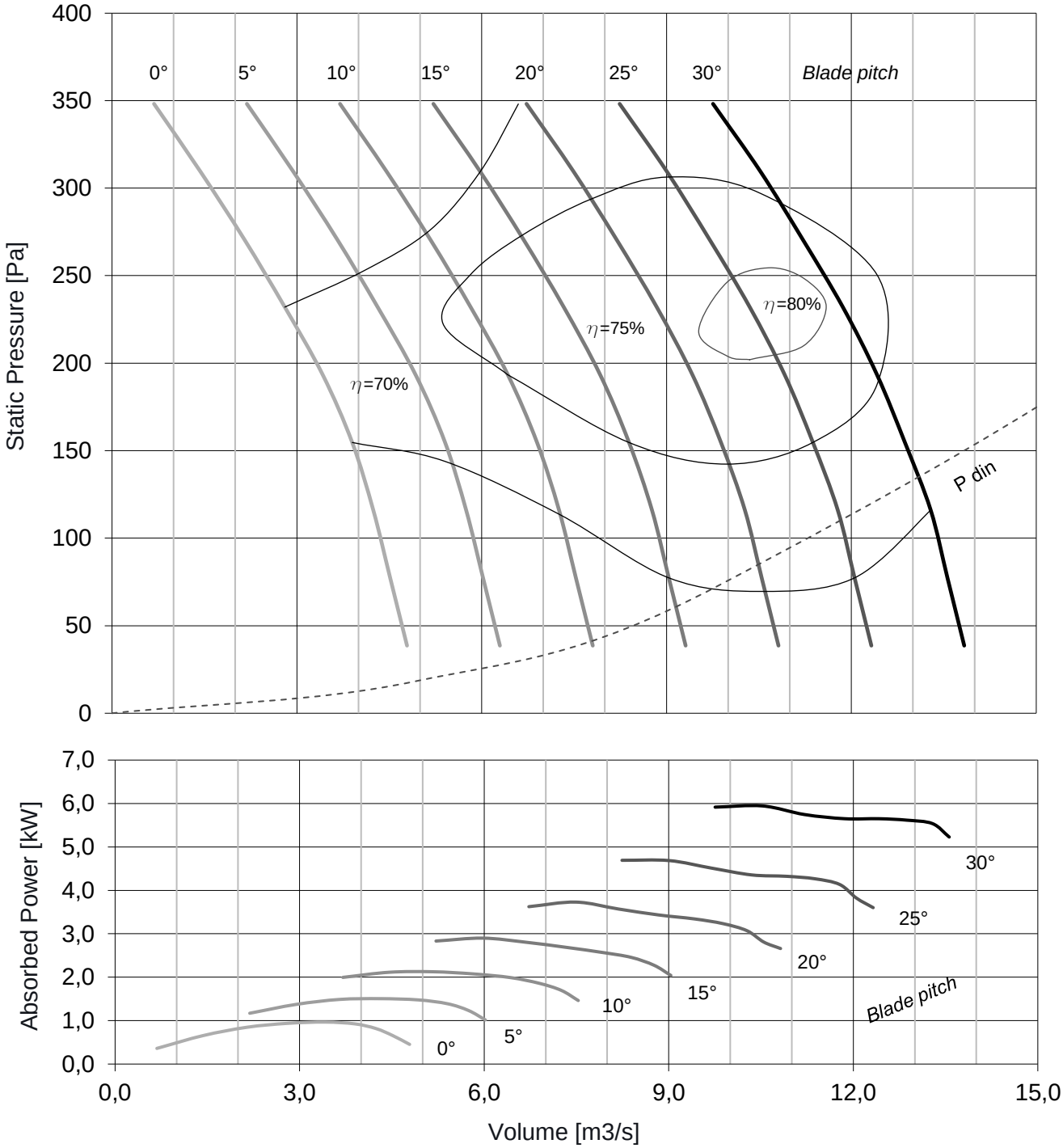
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	4	8,2	47,6	112	95,2
5°	5,5	11,1	72,2	132	97,1
10°	7,5	14,3	97,2	132	99
15°	11	21,1	143,5	132	101,1
20°	15	28,3	203,8	160	102,9
25°	18,5	33,6	231,8	180	104,9
30°	22	39,4	271,9	180	107

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 75 m/s
Outlet cross section = 0,78 m^2

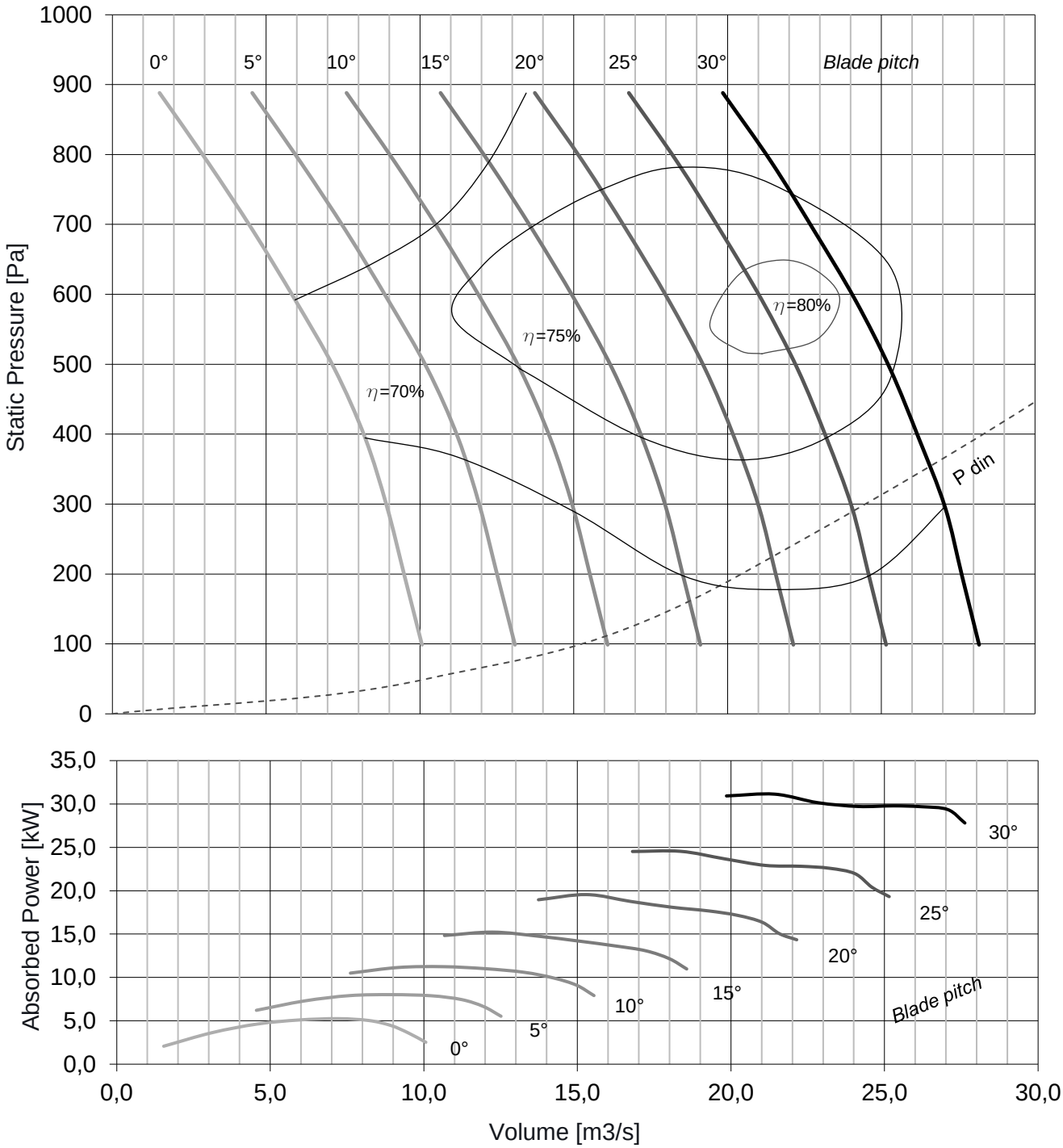
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	1,1	3	10,5	90	85
5°	2,2	5,3	23,3	112	86,9
10°	3	6,9	37,3	132	88,8
15°	4	8,8	48,4	132	91
20°	4	8,8	48,4	132	92,7
25°	5,5	12	74,4	132	94,8
30°	7,5	15,9	84,3	160	96,9

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 51 m/s
Outlet cross section = 0,78 m^2

Lw Tolerance : ± 2dB

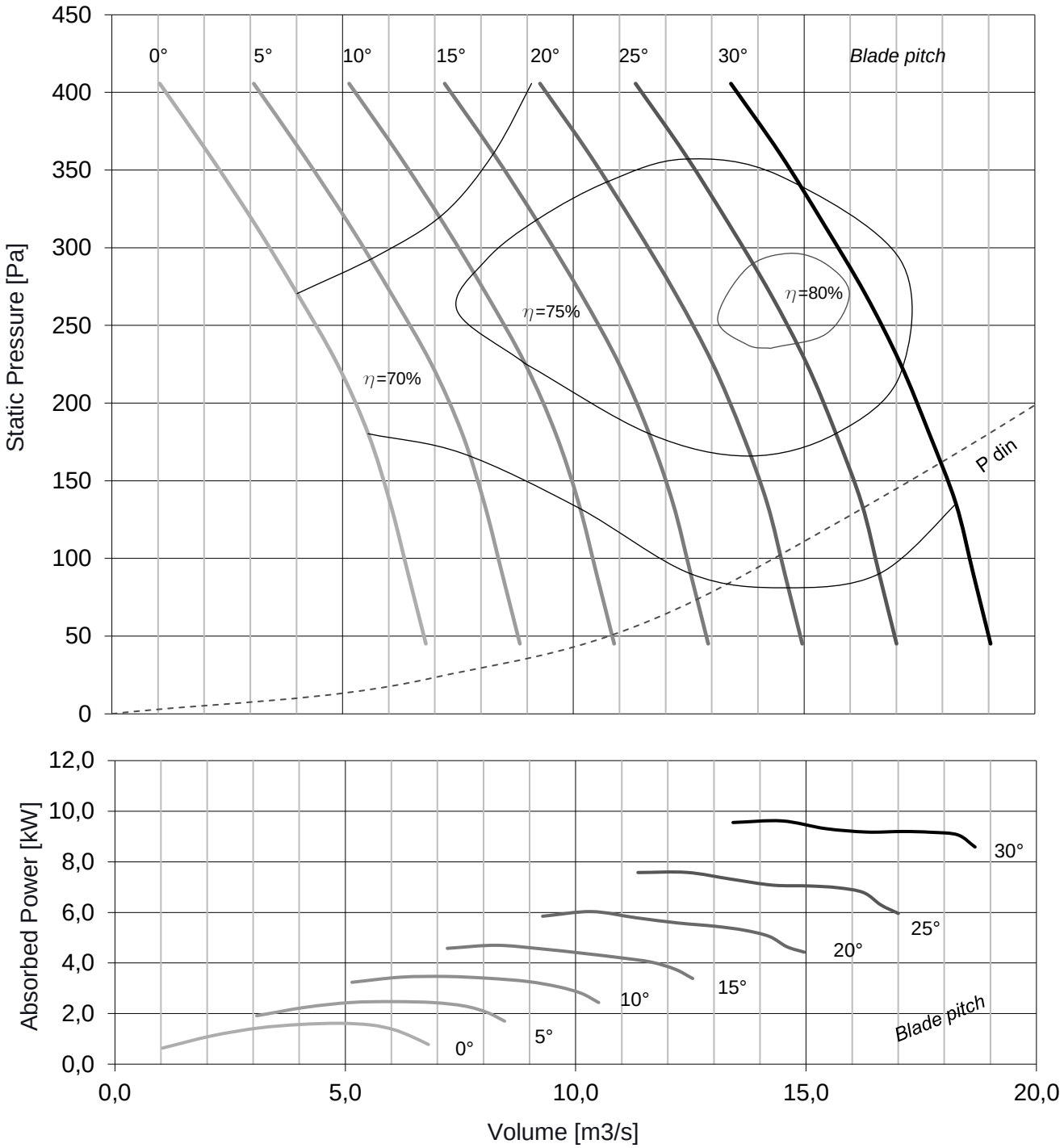


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	5,5	11,1	72,2	132	99,3
5°	11	21,1	143,5	160	101,5
10°	15	28,3	203,8	160	103,7
15°	18,5	33,6	231,8	180	105,3
20°	22	39,4	271,9	180	107,4
25°	30	52,8	332,6	200	109,5
30°	37	65	468	225	111,7

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 84 m/s
Outlet cross section = 0,98 m^2

Not standard version - Please contact Comet for details

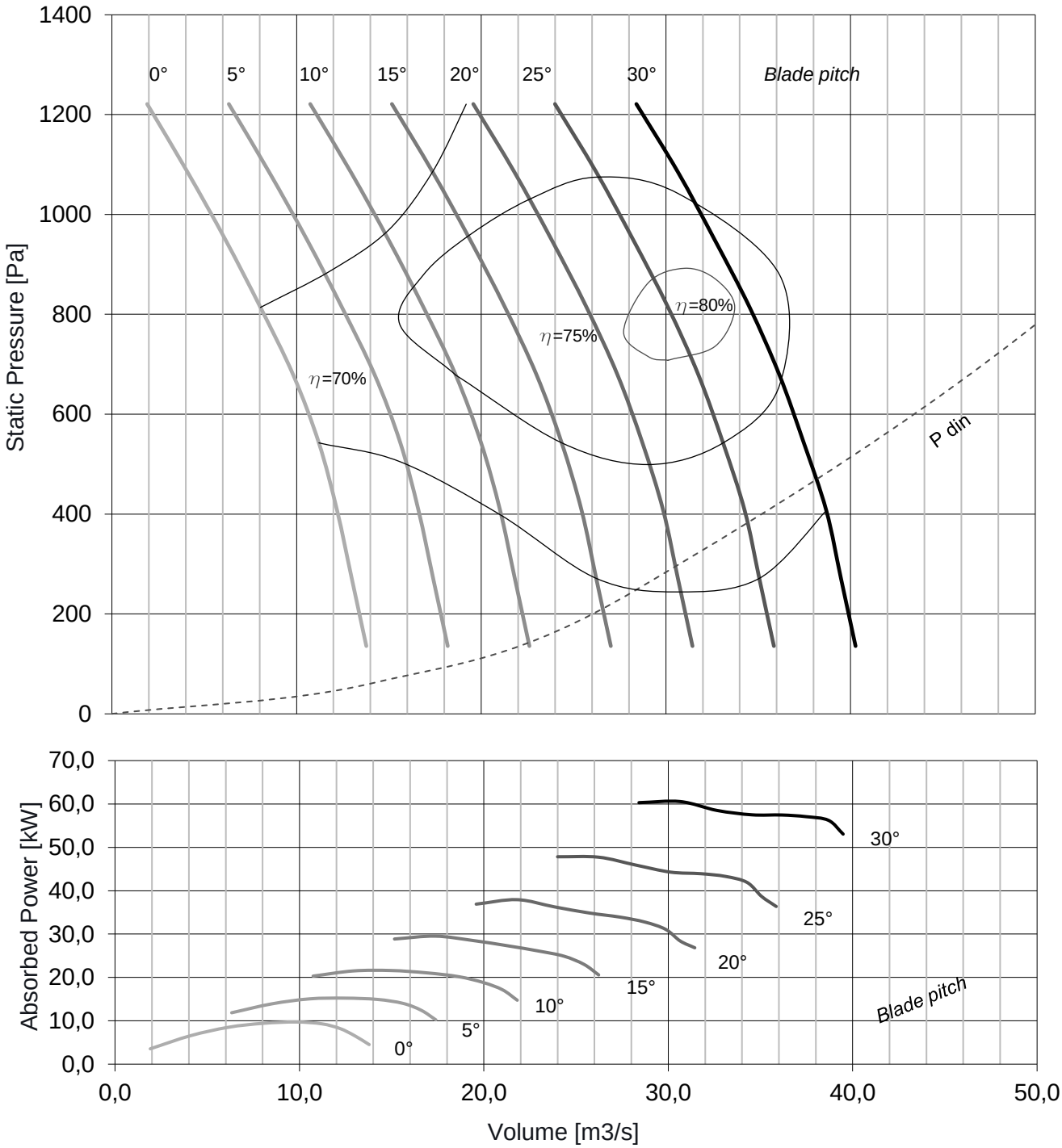
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	2,2	5,3	23,3	112	89,1
5°	3	6,9	37,3	132	91,3
10°	4	8,8	48,4	132	93,5
15°	5,5	12	74,4	132	95,2
20°	7,5	15,9	84,3	160	97,4
25°	11	22,8	127,7	160	99,5
30°	11	22,8	127,7	160	101,3

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 57 m/s
Outlet cross section = 0,98 m^2

Lw Tolerance : ± 2dB

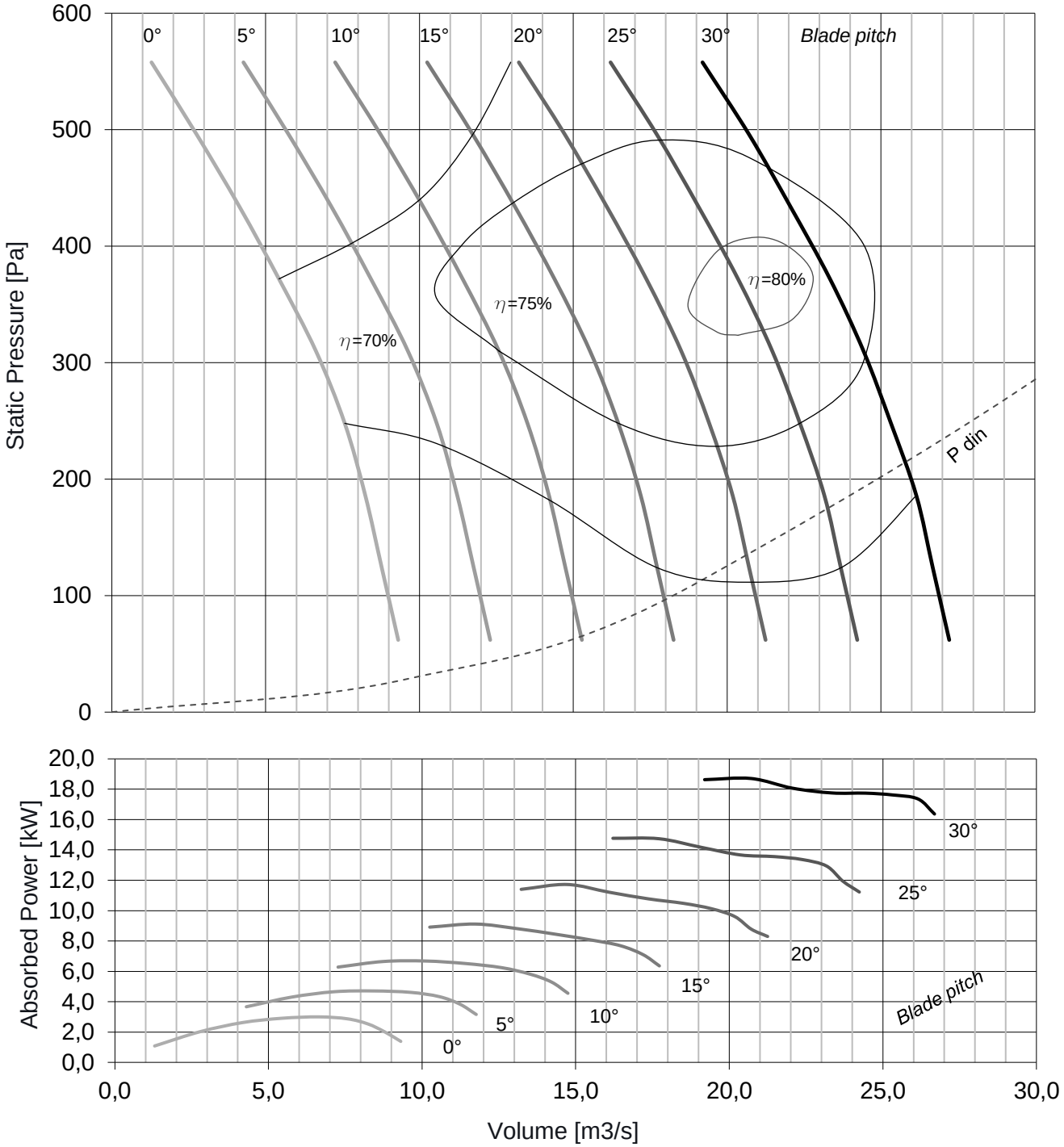


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	11	21,1	143,5	160	101,5
5°	18,5	33,6	231,8	180	103,4
10°	22	39,4	271,9	180	105,3
15°	30	52,8	332,6	200	107,4
20°	37	65	468	225	109,5
25°	45	78,6	510,9	225	101,3
30°	75	128,8	747	280	113,4

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 94 m/s
Outlet cross section = 1,22 m^2

Not standard version - Please contact Comet for details

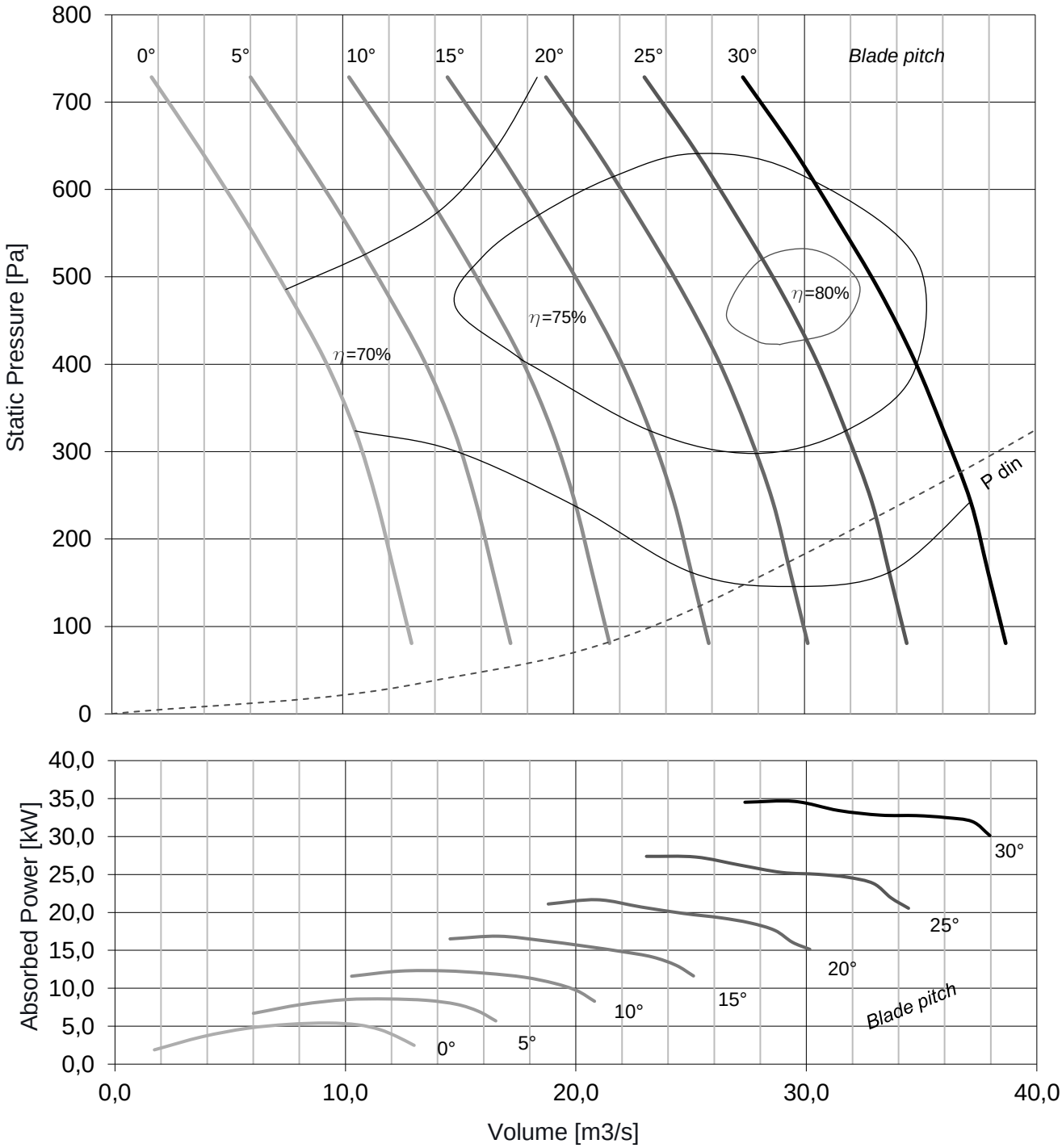
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	4	8,8	48,4	132	91,3
5°	5,5	12	74,4	132	93,2
10°	7,5	15,9	84,3	160	95,1
15°	11	22,8	127,7	160	97,1
20°	15	31,3	172,2	180	99,3
25°	15	31,3	172,2	180	101,4
30°	18,5	39,6	221,8	200	103,2

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 64 m/s
Outlet cross section = 1,22 m^2

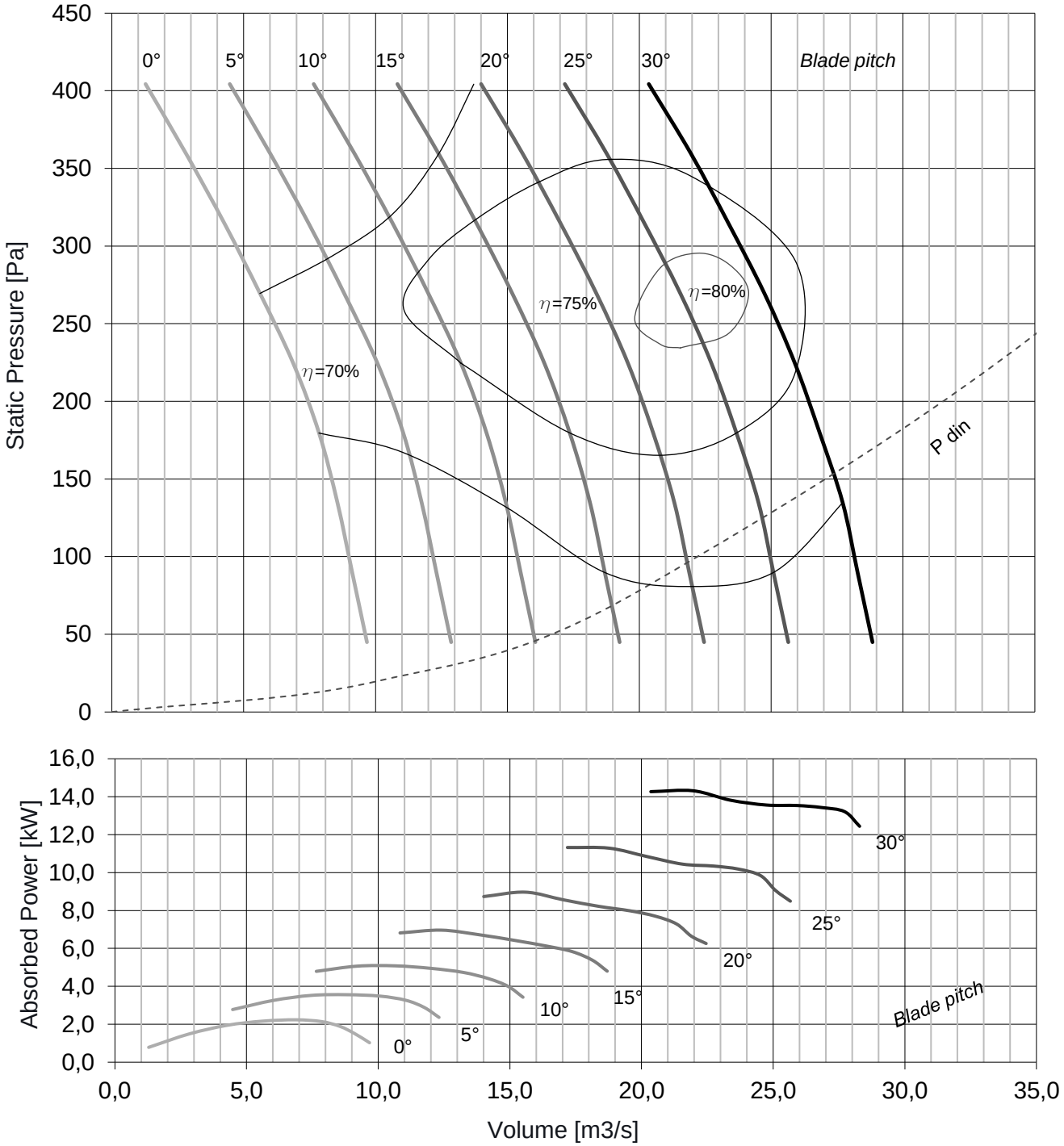
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	5,5	12	74,4	132	94,55
5°	11	22,8	127,7	160	96,45
10°	15	31,3	172,2	180	98,35
15°	18,5	39,6	221,8	200	100,25
20°	22	40,9	237,2	200	102,45
25°	30	56,2	309,1	225	104,15
30°	37	65,6	406,7	250	108,45

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 71 m/s
Outlet cross section = 1,53 m^2

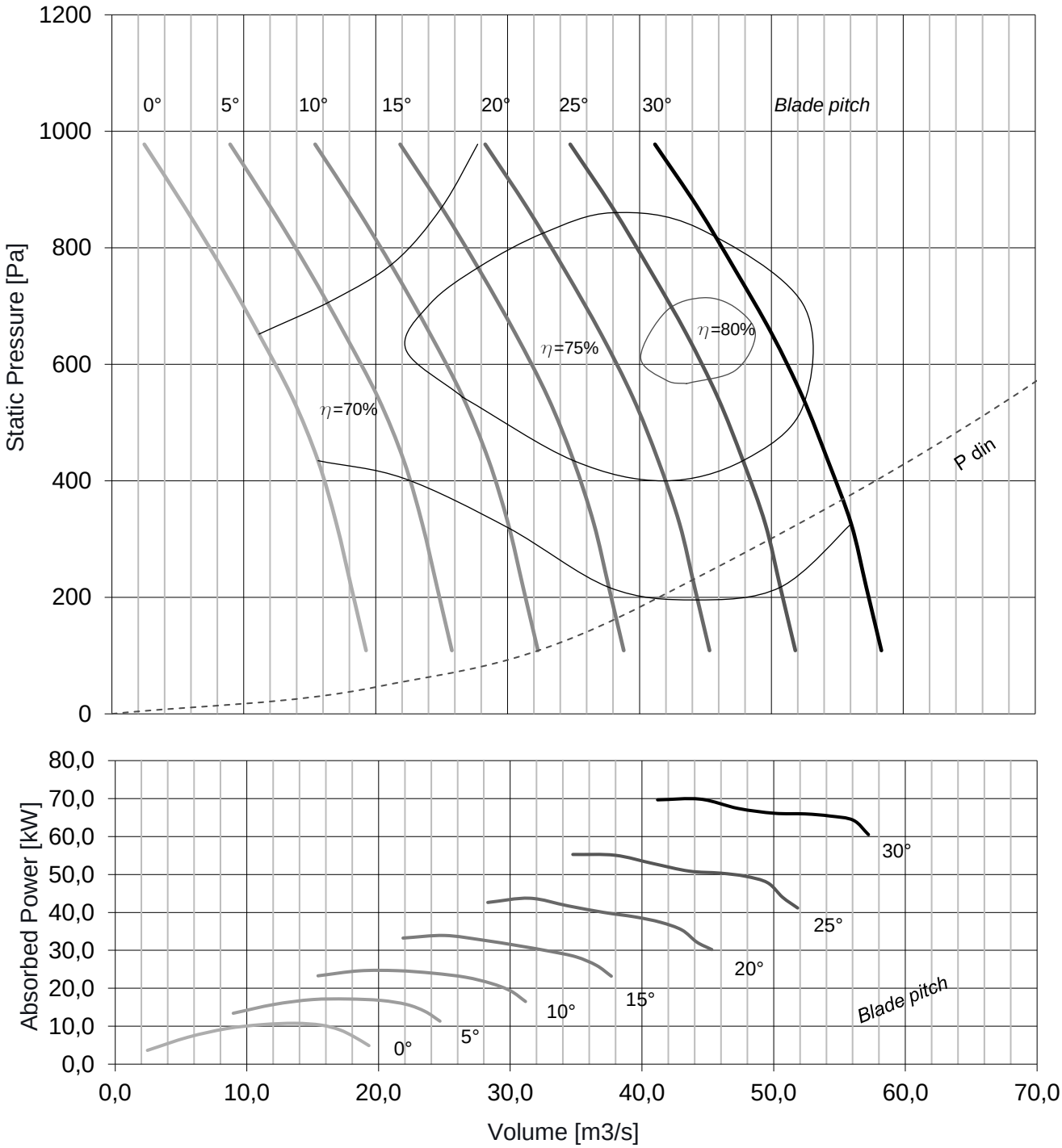
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	3	7,2	31,7	132	86,55
5°	4	9,5	41,8	160	88,75
10°	5,5	12,5	62,5	160	90,95
15°	7,5	16,6	94,6	160	92,85
20°	11	23,8	133,3	180	94,75
25°	11	23,8	133,3	180	96,95
30°	15	31,3	172,2	200	98,95

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 53 m/s
Outlet cross section = 1,53 m^2

Lw Tolerance : ± 2dB

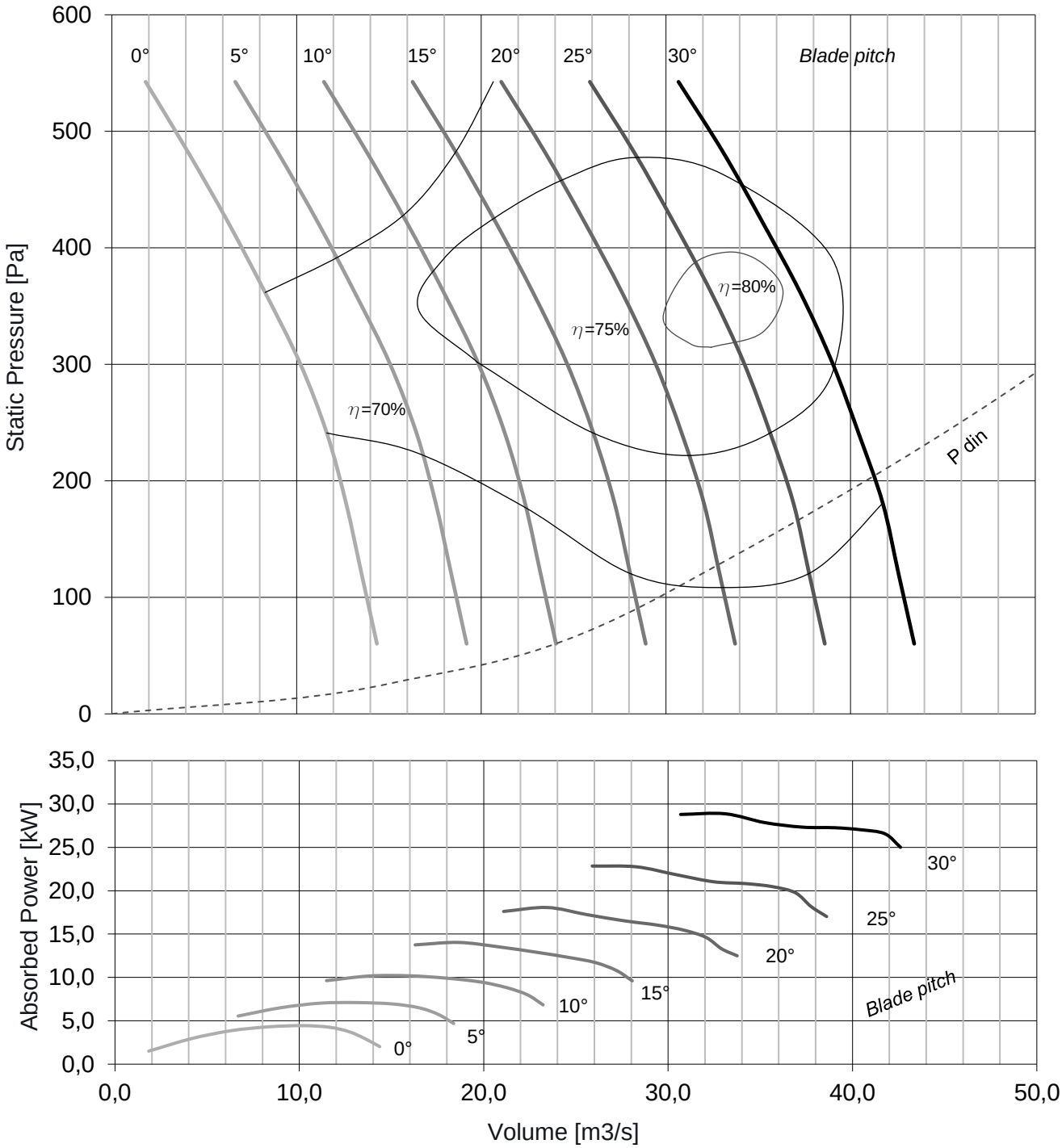


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	11	22,8	127,7	160	98,1
5°	18,5	39,6	221,8	200	100,2
10°	30	56,2	309,1	225	102,3
15°	37	65,6	406,7	250	104,4
20°	45	80,8	509	280	106,2
25°	55	96,9	581	280	108,4
30°	75	133,8	869,7	315	110,4

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 82 m/s
Outlet cross section = 2,0 m^2

Not standard version - Please contact Comet for details

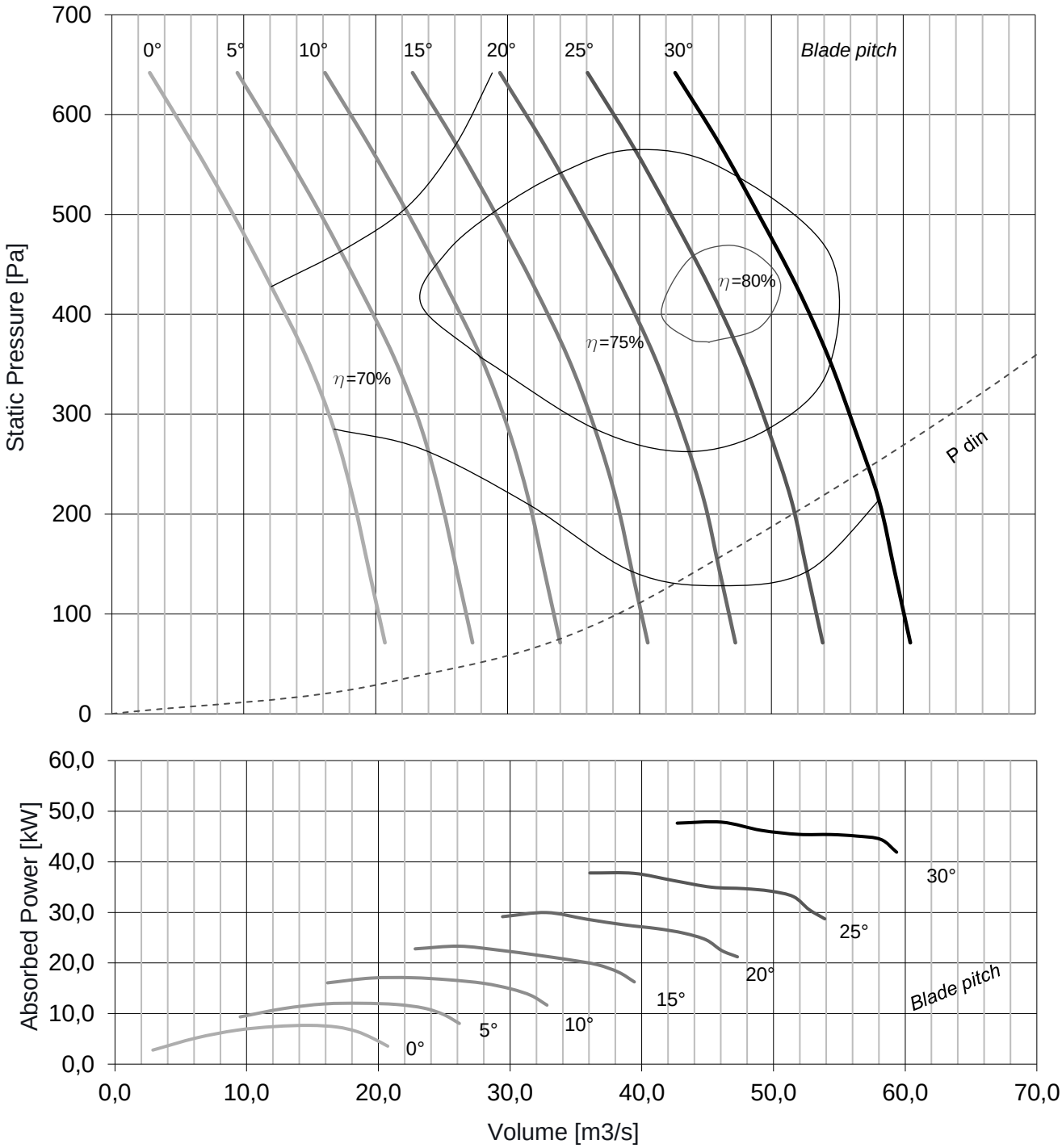
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	5,5	12,5	62,5	160	90,4
5°	7,5	16,6	94,6	160	92,5
10°	11	23,8	133,3	180	94,6
15°	15	31,3	172,2	200	96,4
20°	18,5	39,6	221,8	225	98,5
25°	22	44,9	242,5	225	100,7
30°	30	59,4	314,8	250	101,4

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Lw Tolerance : ± 2dB

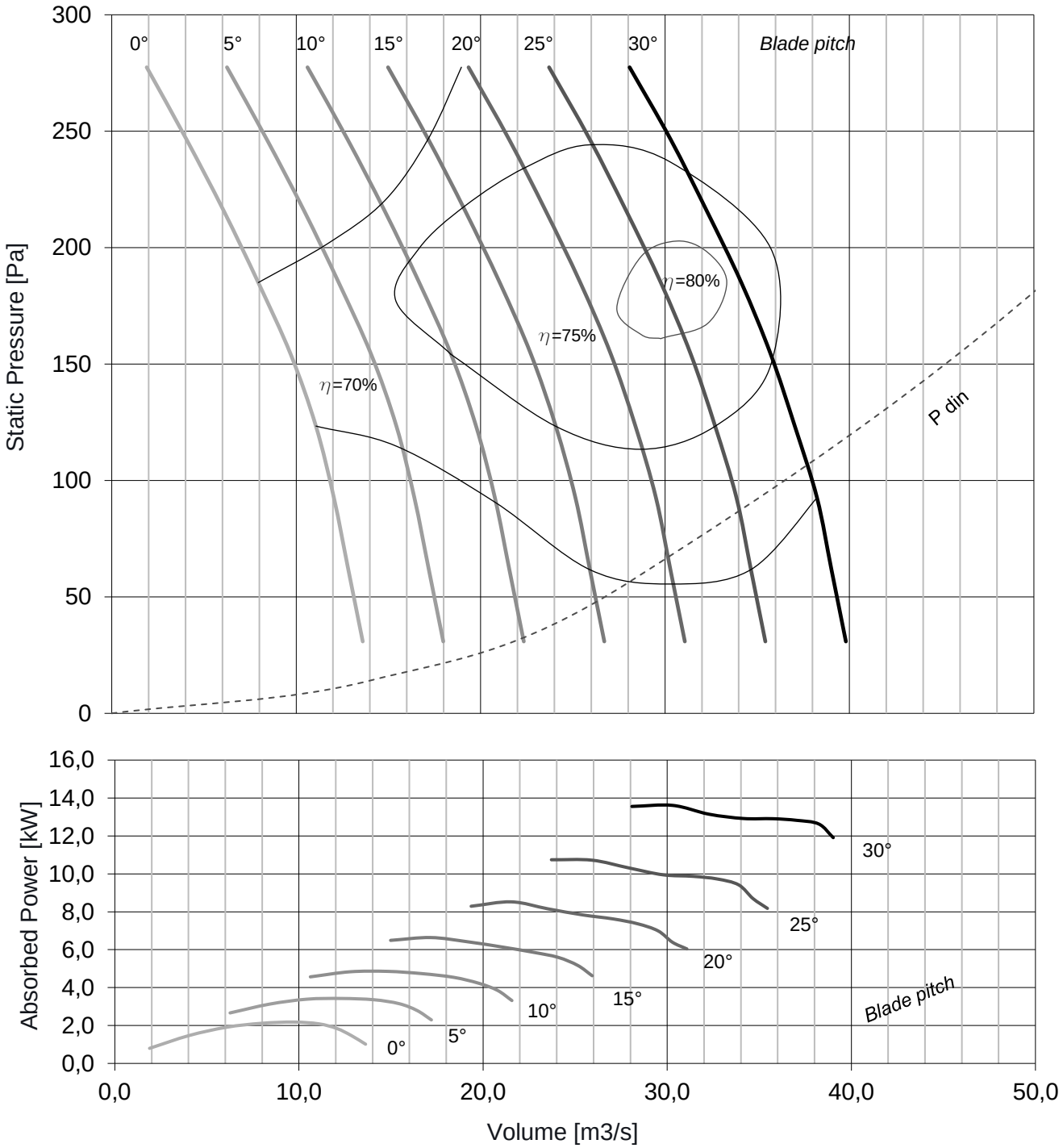


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	11	23,8	133,3	180	93,3
5°	15	31,3	172,2	200	95,3
10°	18,5	39,6	221,8	225	97,3
15°	30	59,4	314,8	250	99,3
20°	30	59,4	314,8	250	101,3
25°	37	71,2	398,7	280	103,3
30°	55	102,9	586,5	315	105,3

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Not standard version - Please contact Comet for details

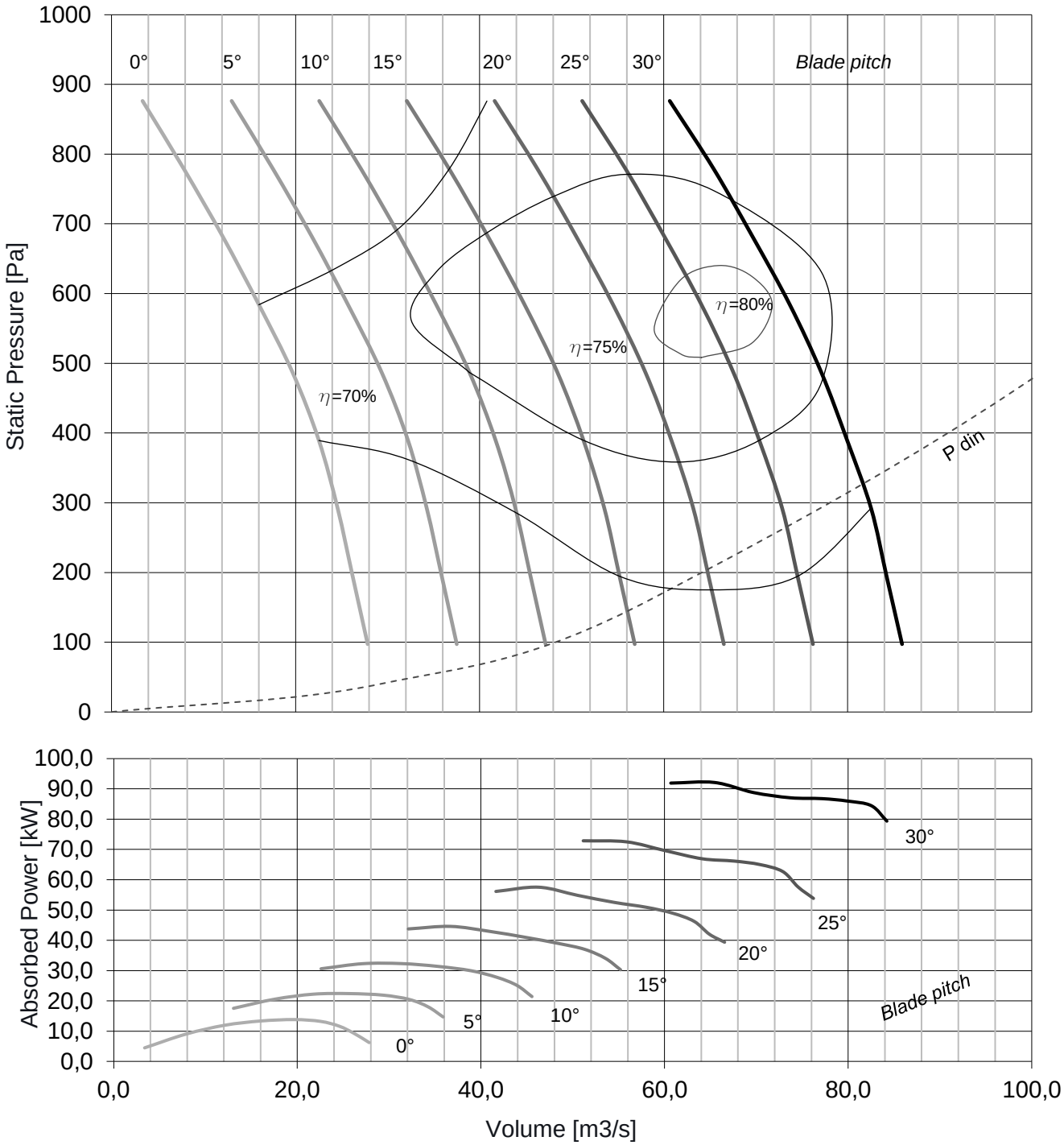
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	2,2	8	48	160	82,5
5°	5,5	18,7	56,1	180	84,5
10°	5,5	18,7	56,1	180	86,5
15°	9	28,4	84,1	200	88,5
20°	9	28,4	84,1	200	90,5
25°	13	39,2	117,6	225	92,5
30°	13	39,2	117,6	225	94,5

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Lw Tolerance : ± 2dB

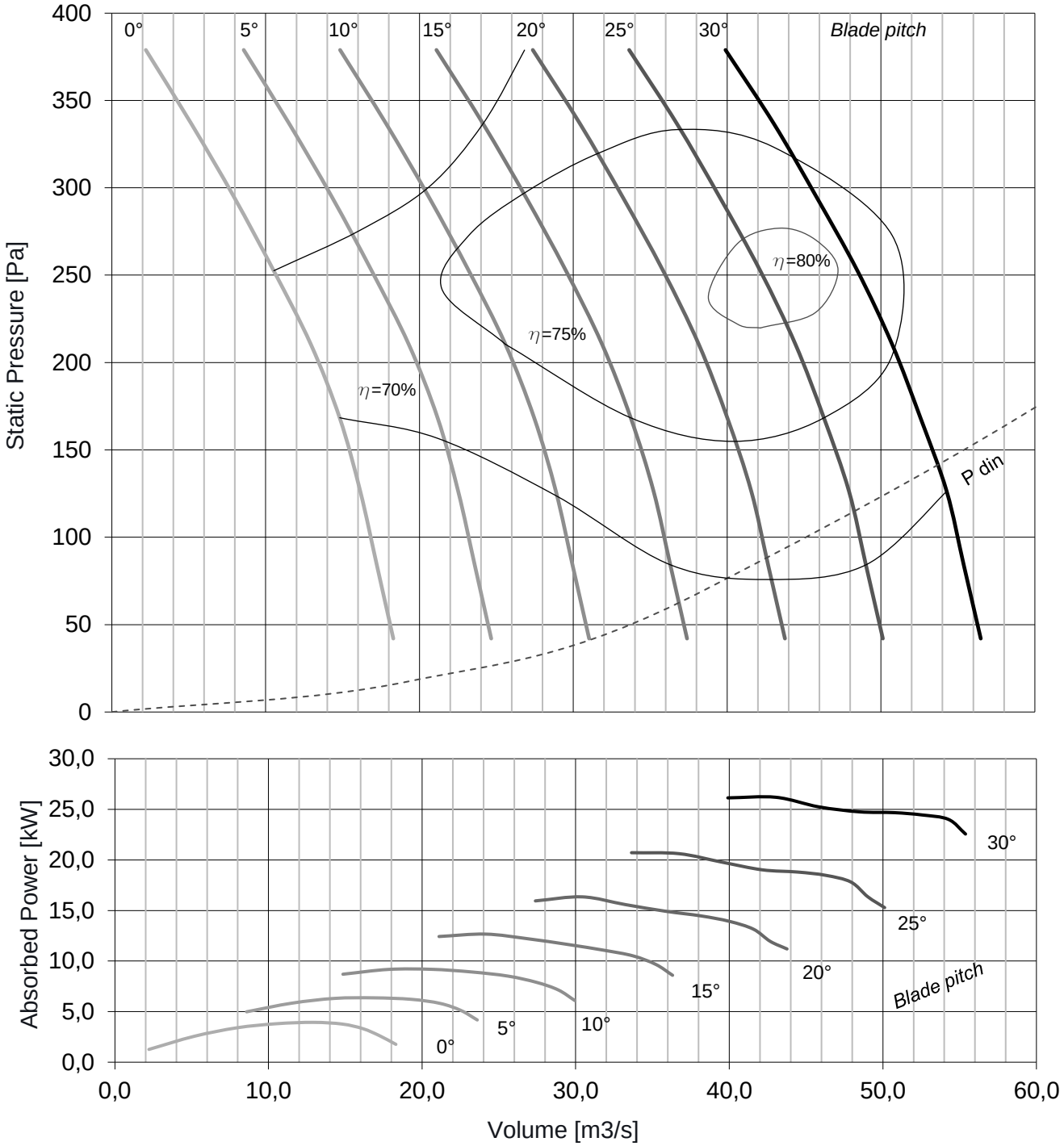


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	15	31,3	172,2	200	96,4
5°	22	44,9	242,5	225	98,4
10°	37	71,2	398,7	280	100,4
15°	45	87,3	454	280	102,4
20°	55	102,9	586,5	315	104,4
25°	75	139,6	823,6	315	106,4
30°	110	204,8	1228,8	315	108,4

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Not standard version - Please contact Comet for details

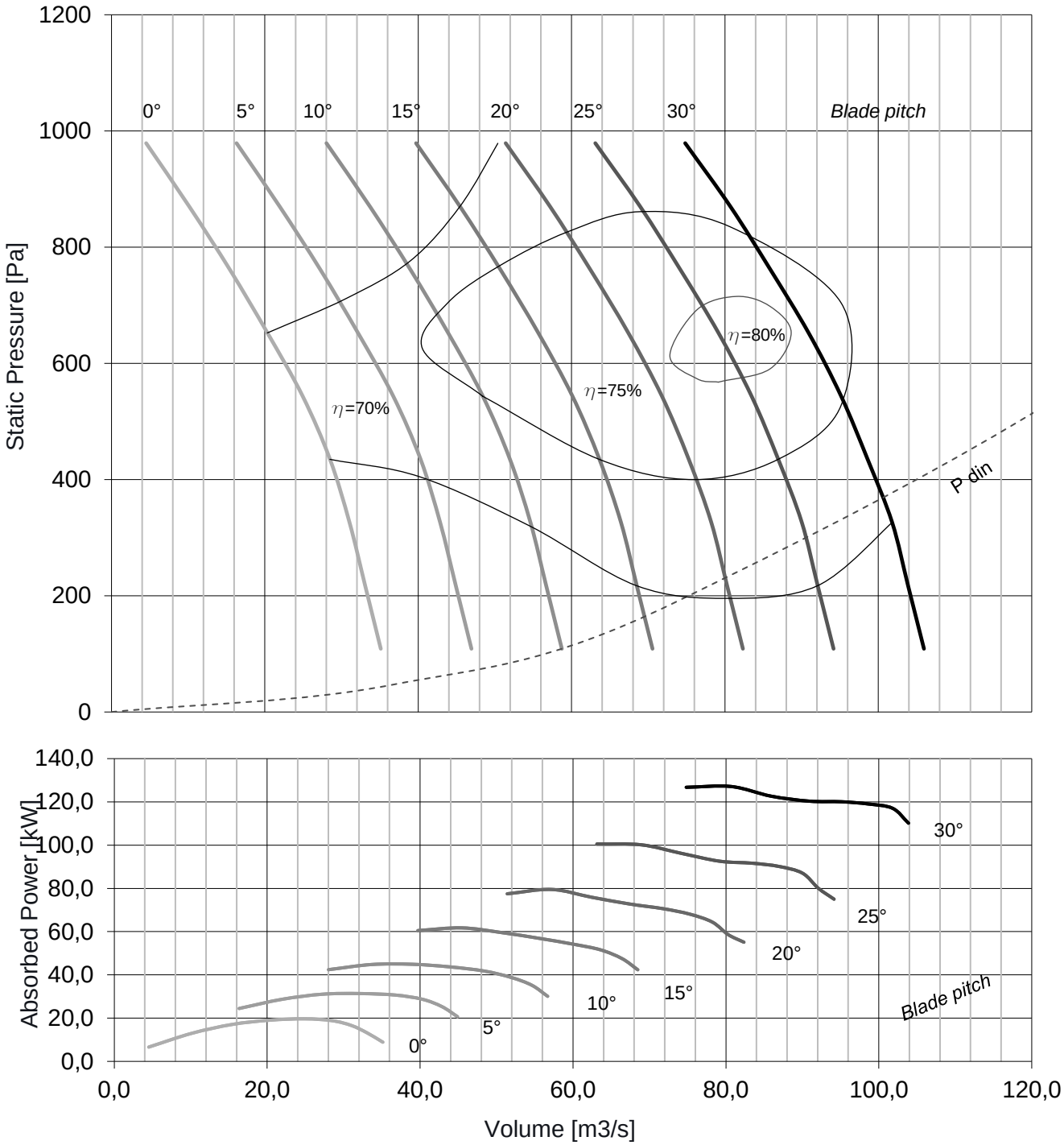
Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	5,5	18,7	56,1	180	85,7
5°	9	28,4	84,1	200	87,7
10°	9	28,4	84,1	200	89,7
15°	13	39,2	117,6	225	91,7
20°	17	51,3	153,8	250	93,7
25°	30	81,3	471,5	280	95,7
30°	30	81,3	471,5	280	97,7

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Lw Tolerance : ± 2dB

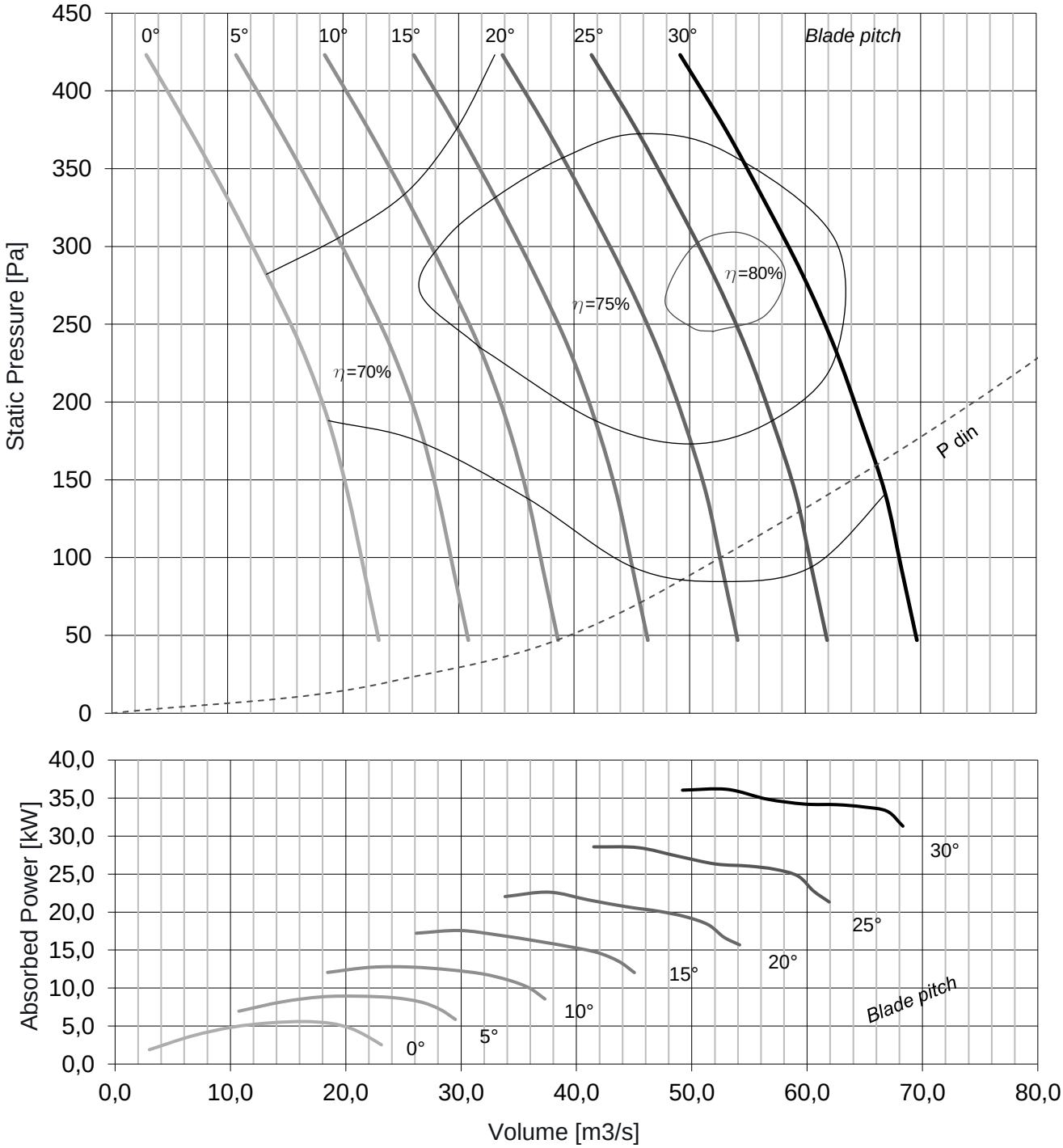


Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	22	44,9	242,5	225	99
5°	37	71,2	398,7	280	101
10°	45	87,3	454	280	103
15°	75	139,6	823,6	315	105
20°	90	166,6	1032,9	315	107
25°	110	204,8	1228,8	315	109
30°	132	237,7	1402,4	355	111

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Not standard version - Please contact Comet for details

Lw Tolerance : ± 2dB



Blade pitch	Motor Power [kW]	Rated Current [A]	Starting Current [A]	Motor Size	Fan Noise level [L_w dBA]
0°	5,5	18,7	56,1	180	88,4
5°	9	28,4	84,1	200	90,4
10°	13	39,2	117,6	225	92,4
15°	17	51,3	153,8	250	94,4
20°	30	81,3	471,5	280	96,4
25°	30	81,3	471,5	280	98,4
30°	30	81,3	471,5	280	100,4

Test according to : ISO 5801 cat.B
Tolerance: ISO 13348 CAT AN4
Air density, ρ = 1,2 kg/m^3
Temperature, T= 20°C
Tip. Speed, Vp = 61 m/s
Outlet cross section = 2,0 m^2

Lw Tolerance : ± 2dB

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